Durham County
Community Health Assessment 2020

Photo Courtesy of Discover Durham

DURHAM COUNTY DCO NC 1881 Public Health

DukeHealth

Partnership for a Healthy Durham

March 2021

Public Health

Dear Durham County Residents:

We are proud to share the 2020 Durham County Community Health Assessment (CHA) – a document produced during an unprecedented public health crisis and amidst mass calls for equity across our community, nation, and the globe. Every three years, Durham County Department of Public Health, Partnership for a Healthy Durham and Duke Health conduct an assessment to identify the unique needs and assets of Durham County. This edition does not disappoint as it offers a valuable snapshot of the county during a pivotal point in our history.

Like previous editions, the 2020 CHA addresses a variety of health issues including environmental, social, and systemic factors such as housing, education, prejudice, and pollution. For this year's assessment, there is an additional emphasis on equity. Disparities are highlighted throughout each chapter, providing an intentional evaluation of where we need to work harder to become a more just and equitable county.

The CHA was compiled and completed during the COVID-19 pandemic, which greatly influenced the content and the circumstances in which our authors were writing. COVID-19 is mentioned throughout the document, as well as its initial impact on the health and well-being of our county's residents. There is no doubt about its long-term effects which will be a key feature of the 2023 Community Health Assessment.

Partnership for a Healthy Durham has continued to virtually facilitate committees centered on the health priorities outlined after the conclusion of the 2017 CHA, and many of those committees produced content shared here. Committees include: Access to Healthcare, Communications, Mental Health, Obesity, and Poverty. Additionally, after the 2017 CHA, the Partnership created Health and Housing committee.

I look forward to continuing the great work with this community as we endeavor to make Durham County a healthier and more equitable place to live, work, and play.

Sincerely,

Rodney E. "Rod" Jenkins, Sr., MHA
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Duke Regional Hospital
Serving our community since 1976

2020 Duke Regional Hospital President Katie Galbraith

Dear Durham County Residents,

Duke Regional Hospital is proud to be a partner in the production of the 2020 Community Health Assessment (CHA). This document is the culmination of countless hours of data collection, analysis, community meetings, writing and editing – much of which took place during a pandemic that turned our world upside down and further illuminated the disparities that have long existed in our community. Its completion is due to excellent collaborations and resilient community members; a true testament to the importance of the data, narrative and action-items presented in the pages that follow.

One of the things that makes me most proud to be part of the Durham community is our sense of community… our commitment to community. The 2020 CHA outlines areas of community need and highlights efforts already in motion. While this document will operate as a guide for the next three years, we need to continue to harvest input from county residents, increase collaboration among local entities, and creatively advance the health and wellness of our community.

Our challenges ahead are great – much greater than any of us could have imagined 12 months ago – but we are Durham. We are resilient. We are committed. We are compassionate. We are Durham Strong. And together, we can and will make Durham the healthiest community in the nation for all our residents.

Sincerely,

Katie Galbraith
President, Duke Regional Hospital

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DukeHealth

Duke University Hospital
Duke University Health System

February 23, 2021

Dear Durham County Residents,

The 2020 Durham Community Health Assessment is the result of an extraordinary collaboration across Durham that includes local government entities, universities, non-profits, schools, faith communities, businesses, health care entities, and community members. Duke University Hospital is proud to be a partner in the assessment process and the creation of this document, particularly during such a critical moment in the health of our nation.

This publication comes as the county and nation are reeling from COVID-19 and only just starting to see hope through the arrival of a vaccine. The 2020 Community Health Assessment will be a critical tool as Durham County rebuilds and recovers from the pandemic. We look forward to developing collaborative, community-engaged strategies to address the priority areas identified through the assessment process.

To ensure a healthy future for the entire community we must continue to listen, learn from, and partner with our community to continuously enhance our collective strengths, eliminate barriers to health equity and build multi-sector responses that address our areas of need.

Regards,

Thomas A. Owens, MD
President, Duke University Hospital

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Table of Contents

DEDICATION

This document is dedicated to the residents of Durham County.

Thank you to all Durham County residents for your awareness of the community's health strengths and needs and your willingness to share your thoughts and opinions. It is our intention for the ideas, policies and solutions that evolve from this process to be driven by and with members of the Durham County community.

ACKNOWLEDGEMENTS

This assessment would not have been possible without the help and support of many individuals and groups of people who work and live in Durham County. The Durham County Department of Public Health, Duke Health and the Partnership for a Healthy Durham would like to thank the following individuals and groups for their assistance during the course of this assessment:

- The Community Health Assessment Leadership Team members, Durham County Department of Public Health staff, Duke University and Health System faculty and staff and the Partnership for a Healthy Durham partners and member agencies for their dedication and guidance in making the assessment a true community assessment.
- Duke Health for financially supporting the Community Health Assessment and allocating staff to assist with the health assessment.
- Gayle Harris, former Health Director and Tara Blackley, former Deputy Health Director at the Durham County Department of Public Health Department for supporting the involvement of health department staff in the Community Health Assessment process.
- Denver Jameson, former Epidemiologist with the Durham County Department of Public Health for leading the Community Health Assessment survey process by creating the surveys, designing the samples and training volunteers.
- John Killeen, Libby McClure and L'Tanya Durante with DataWorks for assisting with the Community Health Assessment Writers' Training.
- KC Buchanan with the LGBTQ Center of Durham for assisting with the Community Health Assessment survey volunteer training.
- East Durham Children's Initiative for providing space for Community Health Assessment survey operations.
- The many volunteers who helped conduct the Community Health Assessment surveys.
- The community members who agreed to be surveyed and provided valuable information about the health of Durham County.
- The Durham County Board of Health for their support.
- The North Carolina Institute for Public Health for providing expertise and technical assistance in carrying out the Community Health Assessment survey.
- Duke University and North Carolina Central University for their assistance throughout the process.

The Community Health Assessment process was led by Marissa Mortiboy with the Durham County Department of Public Health.

The following individuals were instrumental in editing this document:

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- Benay Hicks, MTS
- Marissa Mortiboy, MPH

Reviewers

- Rod Jenkins, MHA
- Michelle J. Lyn, MBA, MHA

WRITING CONTRIBUTORS

There were 117 individuals who contributed to this document, many of whom wrote more than one section. Thank you to the writers who put in many hours developing this document for the Durham County community.

The names of writing team leads in the table below are listed in bold.

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EXECUTIVE SUMMARY

Durham is recognized for its diversity, civic engagement, innovation and roots in the tobacco and textile industries. Durham is also known as the City of Medicine with healthcare, research and education as major industries.

A Community Health Assessment is a process by which community members and stakeholders gain an understanding of the health issues that affect their county by collecting, analyzing and sharing information about community assets and needs. The process results in the selection of community health priorities.

Vision Statement

The Community Health Assessment is rooted in the community and uses high-quality data to provide a clear and detailed picture of the health, assets and needs of Durham County residents in order to equitably guide decision-making, programs and policies to improve health outcomes.

Leadership

The Community Health Assessment was a multi-sectoral effort, supported by the leadership of the following organizations:

- Michelle Lyn, Chief, Duke Division of Community Health in the Department of Family Medicine and Community Health, Duke Health
- Rod Jenkins, Public Health Director, Durham County Department of Public Health
- Marissa Mortiboy, Population Health Division Director, Durham County Department of Public Health

Partnerships/Collaborations

This document was created as a collaboration among the Partnership for a Healthy Durham, the Durham County Department of Public Health and Duke Health. Durham's community survey was carried out by 243 community volunteers, Partnership members and staff from the Durham County Department of Public Health and Duke University. This Community Health Assessment has 117 authors, some of whom also assisted with the survey. Volunteers and writers represent local government, health care systems, colleges and universities, community-based organizations and non-profits in sectors of physical and mental health, transportation, education, housing, research, food access, planning, environment and more. See below for representatives involved with the Community Health Assessment process.

Organization	Number of Partners
Public Health Agency	2
Hospital/Health Care Systems	4
Health Care Providers	1

Behavioral Health Care Providers	1
Community Organizations (including non-profits	19
Educational Institutions	5
Government (at any level)	5
Public School System	1
Public Members (individuals)	35

Contracted Services

The North Carolina Institute for Public Health was contracted to provide technical assistance during the survey implementation process.

Theoretical Framework/Model

The Catholic Health Association of the United States Assessing and Addressing Community Health Needs model informed the Durham County Community Health Assessment. This framework focuses on collaboration, building on existing resources and using public health data

Collaborative Process Summary

The 2020 Community Health Assessment included 612 resident surveys in County wide and Hispanic or Latino neighborhood samples. Planning for the survey began in 2018 and the survey was carried out between May and September 2019. The writing of the 2020 Community Health Assessment report took place between September 2020 and January 2021. There are 15 chapters with 50 sections on various community health topics. Community listening sessions were originally planned in spring 2020 but were postponed due to the COVID-19 pandemic. Listening sessions are planned for spring 2021.

Key Findings

Key findings from the Community Health Assessment survey samples found:

- Racial and ethnic disparities exist across nearly all health outcomes.
- Structural racism and historical policies such as redlining, immigration laws and segregation are causes of health disparities.
- Issues are linked: for example, housing issues are also access to care and food insecurity issues.
- Top ways to better support communities such as transportation, crime reduction, physical activity infrastructure, affordable housing, access to care, education system improvements and stronger communication and outreach to community could also address some issues that impact quality of life and top health concerns.
- Majority of residents feel safe where they live in Durham.

Data points on the following page related to the top health priorities are included in the body of the 2020 Community Health Assessment document.

Affordable Housing

- In Durham, the fair market rent for a two-bedroom unit increased over 16% between 2016 and 2020, from $937 per month to $1088.
- Thirty-one percent of Durham households, nearly 40,000, are defined as cost-burdened (i.e., paying more than 30% of their monthly income for housing).
- The 2019 Community Health Assessment survey samples demonstrated that: 1) More than seven percent of respondents the sampled residents reported a history of eviction; 2) Whites were more likely than Blacks to own their homes; and 3) 40% of the County-wide and 12% of the Latino and Hispanic Neighborhood sample respondents indicated housing related issues were a priority to improve quality of life for people.

Access to Healthcare and Health Insurance

- The percentage of uninsured Durham residents decreased from 13.5% in 2015 to 10.8% in 2018. An estimated 40,573 Durham County residents were uninsured in 2019, which equates to 12.8%.
- Durham County residents in the 2019 Community Health Assessment survey identified cost as the primary barrier to getting health insurance followed by immigration status, lack of employer-based plans and unemployment.
- The 16.1% of the population in the 2019 Community Health Assessment survey who expressed difficulty acquiring care cited dental, primary care and pharmaceuticals as the most difficult.

Poverty

- In Durham County, white household median income in 2018 was $76,962, $44,004 for Hispanic households and $42,417 for Black households.
- The federal mortgage policies of the 1930s ("redlining") and urban renewal continue to influence home ownership, the quality of housing stock and accumulated familial wealth. This historical record suggests that it is no accident that people of color are under-represented in home ownership, overrepresented in the homeless population and disproportionately being gentrified out of long-standing communities.

Mental Health

- In the 2019 Community Health Assessment survey about 17% of respondents in the County wide sample reported they had experienced poor mental health days for 15 or more days out of the last 30. Most Hispanic or Latino Durham County residents reported in the 2019 Community Health Assessment survey they did not experience poor mental health for any days (56.4%) or only for one to two days (12.3%) during the past 30. However, about eleven percent (11.1%) of respondents in the Hispanic or Latino neighborhood sample reported that they experienced problems with their mental health for 15 or more days out of the last 30.
- Durham County had one mental health provider for every 180 Durham County residents in 2019.

Obesity, Diabetes and Food Access

- In the 2019 Community Health Assessment survey about one in 10 people (10.2%) reported skipping meals because they didn't have enough money to buy food. Black

residents (14.9%) were significantly more likely than white residents (6.6%) to have skipped a meal either sometimes or frequently in the past year. The likelihood of skipping meals for Hispanic or Latino residents was 12.6%.

- Data at the neighborhood level in Durham County show that in 2017, 12.9% of adults in Durham County had diabetes. Census tracts in central and north eastern Durham consistently had adult diabetes percentages over the county average with the highest rate of 21.6%.
- The U.S. Department of Agriculture (USDA) categorizes 20-30% of Durham residents as having low access to a grocery store (as of 2015).

Health Priorities

The community health priorities will remain the same as those selected during the 2017 Community Health Assessment cycle. The Community Health Assessment Leadership Team determined that three years was not enough time to respond to the priorities. Identification of health priorities will take place during the 2023 Community Health Assessment cycle.

The top five Durham County health priorities are listed below:

2020 Durham County Health Priorities

1. Affordable Housing
2. Access to Healthcare and insurance
3. Poverty
4. Mental Health
5. Obesity, diabetes and food access

Next Steps

The next steps are to:

- Allow a one-month period for Durham County residents to make comments on the substance of this report.
- Hold community listening sessions in spring 2021 which were postponed from 2020 due to COVID-19.
- Share findings with community members and organizations throughout Durham County.
- Develop Community Health Improvement Plans (CHIPs) to be submitted to the North Carolina Division of Public Health by September 2021.

Section 1.0 *Introduction*

Description of Durham County

Photo courtesy of Discover Durham

Spanning almost 300 square miles, Durham is a single-city county in the Piedmont region of North Carolina. Durham is known for its diversity, civic engagement, innovation and roots in the tobacco and textile industries. The Duke family managed one of the world's largest corporations which included companies such as American Tobacco, Liggett & Meyers, R.J. Reynolds, and P. Lorillard.[i] Historically, the African American community has been a driving force in the development of Durham in terms of business, education and health care. Some of the businesses best known include M&F Bank one of the nation's first African American owned and managed banks; North Carolina Mutual Life Insurance Company, the largest and oldest African American owned Life Insurance Company; and North Carolina Central University the nation's first publicly supported liberal arts college for African Americans.[ii] The once thriving business and residential district was dubbed "Black Wall Street." Following the collapse of the tobacco and textile industries, Durham has engaged in a community-driven revitalization in many sectors. Durham is now known as the City of Medicine, with healthcare as a major industry. Although Durham County is rich in resources, disparities between racial and ethnic groups as well as between lower income and higher income residents remain.

The demographics of Durham County residents have shifted dramatically over the last two decades. Since 2000, Durham County's population has grown over 64% to 311,848 in 2019.[iii] Estimates for 2019 show that non-Hispanic African Americans and non-Hispanic whites make up similar proportions of Durham's population: 36.5% and 51.9% respectively.[iv] Native American, Asian and other ethnicities make up the remaining 11.6%.[v] Hispanics make up an estimated 13.5% of the county population.[vi] In 2019 the proportion of residents who spoke a language other than English at home was 18.6%.[vii]

Durham's vibrantly diverse community has a history of both faith-based and politically oriented community organizing, as well as ongoing multi-sector collaboration to improve health. The Partnership for a Healthy Durham grew out of a local government and community collaboration on health initiatives and was formally organized in 2004. It is now a coalition of more than 500 community members and representatives of health care systems, universities, local government, schools, non-profits, faith-based organizations and community members. The Partnership for a Healthy Durham is responsible for the Community Health Assessment, sharing the results, and holding the discussions that set health priorities for the community. A 2017 study of health partnerships demonstrated that this well-respected coalition was one of the most-connected health partnerships in Durham.[viii]

Overview

A Community Health Assessment is a process by which community members and stakeholders gain an understanding of the health issues that affect their county by collecting, analyzing and sharing information about community assets and needs. The process results in the selection of community health priorities.

The 2020 assessment process included 612 resident surveys in County wide and Hispanic or Latino neighborhood samples. The County wide survey sample size was doubled in 2019 to analyze data by race and ethnicity. The 2020 Community Health Assessment report is the first to disaggregate data by race and ethnicity for Black and white residents. Community listening sessions were originally planned in spring 2020 but were postponed due to the COVID-19 pandemic. Listening sessions are planned for spring 2021.

This document was created as a collaboration among the Partnership for a Healthy Durham, the Durham County Department of Public Health and Duke Health. Durham's community survey was carried out by 243 community volunteers, Partnership members and staff from the Durham County Department of Public Health and Duke. The survey was conducted between May and September 2019. This Community Health Assessment has 117 authors. The next step in the Community Health Assessment process is to create three-year Community Health Improvement Plans (CHIPs) around Durham County's top health priorities. Data, community input and information from this document will be used to develop the CHIPs.

The Partnership for a Healthy Durham Coordinator and Durham County led all activities of the assessment. Various stakeholders in the Partnership and across the community guided the process. The Partnership for a Healthy Durham is the certified Healthy Carolinians program in Durham County and was the health workgroup of the Durham Results-Based Accountability Initiative until this initiative ended in July 2011. In 2018, the Partnership for a Healthy Durham restructured based on the 2017 Community Health Assessment results. The Partnership added a Health and Housing committee to address the top priority of affordable housing. Putting equity at the forefront, the Partnership formed a Racial Equity Task Force in 2018. This resulted in the creation of racial equity principles for the Partnership that were adopted in 2019. For more information on the Partnership for a Healthy Durham, please visit www.healthydurham.org, Twitter or Facebook.

The Community Health Assessment Writing Team, many of whom were Durham County Department of Public Health staff, Duke University faculty and staff and community partners with expertise in specific areas, gathered and reviewed data and produced chapters for the Community Health Assessment report covering 15 areas:

Community Health Assessment Topic Areas

1. Introduction	9. Injury and Violence
2. Community Priorities	10. Oral Health
3. Community Profile	11. Climate Change
4. Determinants of Health	12. Environmental Health
5. Health Promotion	13. Public Health Emergency Preparedness
6. Chronic Disease	14. Older Adults and Adults with Disabilities
7. Reproductive Health	15. LGBTQ+ Issues
8. Communicable Diseases	

The many hours volunteered by the Community Health Assessment Team, Partnership for a Healthy Durham members, community members as well as the input from hundreds of Durham County residents have assured that this assessment presents an accurate picture of issues needing attention and prioritization. This report provides a solid basis for the CHIPs for the Durham County community over the next three years. This document also focuses on Durham's many assets and rich history.

Goals

The primary goal of the 2020 Community Health Assessment was to provide a comprehensive set of valid and reliable information about the health of the Durham community - and to do this in way to make it easy for members of the Durham community to access and understand the information.

A secondary goal was to meet the standards related to Community Health Assessment established by (a) the *North Carolina Local Health Department Accreditation Board*. The March 2020 Durham County Community Health Assessment fulfills a requirement from the North Carolina State Division of Public Health to submit a comprehensive health assessment of the county every four years. Durham County Department of Public Health is required to meet these standards to become an accredited Local Health Department.

Another goal was to meet the requirements of the Federal Patient Protection and Affordable Care Act (ACA), one of which requires hospital systems to conduct a Community Health Assessment every three years. The Partnership for a Healthy Durham, Durham County Department of Public Health and Duke Health, which includes Duke University Hospital and Duke Regional Hospital have collaborated to conduct the Community Health Assessment for years. To meet the federal requirements, this and future Community Health Assessments will be conducted every three years.

Organization of Document

There are 15 chapters, with a total of 50 topics. See the table of contents for a full listing of each topic covered in this Community Health Assessment.

In each chapter, several health indicators are presented to better understand the context of the issue. Wherever possible, disaggregated data or data specific to sub-populations within Durham County (often racial or ethnic groups, age groups or gender) is shown. This data is sometimes in the form of a percentage of the population with a certain characteristic or behavior, or a rate (i.e. the number of people per 1,000 persons who have that condition). Note: the method of measurement and scale used –are often different for each indicator. For more information about margin of error or actual raw numbers (rather than percentages or rates), please see the original data source.

For context, Durham's rates are compared with those of the entire state of North Carolina. For this assessment Durham's rates are also compared with five North Carolina peer counties when possible- Cumberland, Forsyth, Guilford, Mecklenburg and Wake.

Most of the sections follow a template intended to make the document consistent and easy to follow. However, some sections may include additional information or exclude information based on the topic. In general, writers were asked to use an equity lens and provide an overview of the topic, related Healthy North Carolina 2030 objectives, the most critical and current primary and secondary data, disparities and context, gaps and emerging issues, recommended strategies to address the issue and current initiatives and resources. References appear at the end of each chapter.

Authors were asked to use the following template.

CHAPTER 1 INTRODUCTION

Overview of Topic
Brief overview or scope of the issue. Describe socioeconomic, educational and environmental factors that affect health.

Healthy NC 2030 Objective
There are 21 Healthy NC 2030 objectives. If a section relates to one of the objectives, it will be listed, in addition to the 2030 target and the most recent Durham County and North Carolina data.

Primary Data
For the purposes of this document, the majority of primary data has been collected locally, mainly through original surveys, interviews and listening sessions.

Secondary Data
For the purposes of this document, secondary data has been collected by someone else.

- Durham County and North Carolina data (often racial and ethnic groups, age groups, or gender)
- Peer county data – in some sections
- Trends

Interpretations: Disparities, gaps, emerging issues

- Data interpretation
- Populations most impacted highlighted
- Context for disparities
- Gaps, unmet needs and emerging issues identified

Recommended Strategies
Evidence-based, in addition to recommended strategies from the perspective of the writers as first steps to address the root causes and issues most effectively

Current Initiatives & Activities
This is meant to give the readers an idea of programs and initiatives locally available and how to find more information about local initiatives. The lists at the end of each sections are not exhaustive. It is possible that some of the programs mentioned have changed since this report was compiled.

References
The authors of each section were asked to provide endnotes and references for each data point. This is to help the readers identify the data source and find the data that was used.

Health Data Sources

Data for this Community Health Assessment came from many sources, which are referenced in endnotes at the end of each section. This report provides a summary of the topics included but is not meant to be comprehensive. Readers are encouraged to visit the original source for more details on data cited in this publication and contact the authors with content specific questions.

Both primary data and secondary data are presented in this report. Primary data are data collected using the Durham County Department of Public Health (DCoDPH) resources; secondary data are information collected and analyzed by other agencies. As an additional resource, the Partnership for a Healthy Durham keeps updated links to reports on Durham's health on a dedicated webpage (http://healthydurham.org/health-data).

Primary data came from the following sources:

1. *County Community Health Assessment Survey:* This anonymous survey, conducted between May and September 2019, used census data and Geospatial Information Systems (GIS) software to randomly select two samples of households in Durham County. In the first random sample, any household in Durham County was eligible to be selected. Only Latino and Hispanic residents were eligible to participate in the second random sample, and thus only households in census blocks with more than 50% Hispanic or Latino residents according to the 2010 Census were eligible to be selected. More details about the sampling methods are provided in Chapter 2.
2. *Youth Risk Behavior Survey* (YRBS): This biannual survey is anonymous and includes a random sample of middle and high schools in the Durham Public School system. Schools are randomly selected to participate. Data from the 2017 survey is included in this document; the most recent survey was conducted in 2019, but data are not released from the CDC until the spring of 2018 and thus could not be analyzed in time to include in this document.
3. *Community focus groups and listening sessions:* Community Health Assessment listening session were postponed to spring 2021 but local government departments have conducted listening sessions which are cited in this report.

Secondary data came from many sources:

The most common secondary data sources included in this document were the American Community Survey, a survey conducted through the U.S. Census, and the North Carolina State Center for Health Statistics (SCHS) of the North Carolina Division of Public Health. The NC SCHS website (http://www.schs.state.nc.us/data/) contains a compilation of many health data, including:

- Vital statistics (births, deaths, fetal deaths, pregnancies, marriage, and divorce)
- The Behavioral Risk Factor Surveillance Survey (health behaviors and risk factors and self-reported disease information)

- Basic Automated Birth Yearbook (BABY Book - summary of infant and maternal characteristics, such as prenatal visits and birth weight)
- Cancer surveillance data
- North Carolina Hospital Discharge Data

Community Health Assessment Strengths and Opportunities

The Community Health Assessment is an asset to DCoDPH and its partners as it provides an opportunity to engage multiple agencies and organizations, as well as community members in identifying and evaluating health issues across the county. The purpose of the assessment process is to continually assess the health of the community, identify key health priorities according to community members, develop action plans to address priority areas and ultimately improve the health of the community. We strive to make each assessment better than the last.

This year, we are particularly proud of:

- The intentional framing around equity. Each section provides context for disparities seen by race, ethnicity, gender, education, income, sexual orientation, ability and more. Past Community Health Assessments have provided data, but the leadership team felt that it is important to account for the ways historical policies and practices impact health outcomes today. The history section of this document has been rewritten to provide a more honest and inclusive account.
- The new chapter on climate change. This is an issue that requires more attention and solutions in coming years.
- The focus on the COVID-19 pandemic and impact on different populations. COVID-19 began in March 2020 as partners were preparing to write this document. Many sections in this Community Health Assessment illustrate how far reaching the impacts of COVID-19 are to the lives and health of residents.
- The community involvement in our health assessment process from beginning to end. The result was a survey and overall assessment that reflects the assets, wants and needs of people living and working in Durham County.
    - Volunteers from Durham and surrounding communities dedicated their time to surveying selected households door-to-door.
    - Community members and organizations helped write the report. Rather than having one or two people write the assessment, 117 people contributed to this document, providing content expertise and a rich, community perspective to health in Durham County.
- The continued use of a random sample and to survey Durham's Hispanic or Latino residents as well as the overall county's residents. Durham was the first county in North Carolina to conduct a random sample in neighborhoods with high proportions of Hispanic or Latino residents. Dedicating a separate sample to our Hispanic or Latino community continues to be an essential step in capturing the opinions and concerns of the Spanish speaking population in Durham.

CHAPTER 1 INTRODUCTION

Too often communities make critical decisions without adequate information and input. This Community Health Assessment provides insights about the state of Durham's health and will contribute to an environment for change.

References

[i] historicsitesnc.gov [Internet]. Cultivation of a tobacco empire. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Feb 6]. Available from: Available from: https://historicsites.nc.gov/all-sites/duke-homestead/history/cultivation-tobacco-empire
[ii] ncmutuallife.com [Internet]. Since 1898: a beacon on Black Wall Street. Durham (NC): North Carolina Mutual Life Insurance Company; 2017 Aug [cited 2021 Jan 10]. Available from: https://www.ncmutuallife.com/wp-content/uploads/2017/08/grandest_compan_printer2016-002.pdf
[iii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?g=0500000US37063
[iv] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?g=0500000US37063
[v]census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?g=0500000US37063
[vi] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?g=0500000US37063
[vii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?g=0500000US37063
[viii] Nowell B, Albrecht K, McCartha E, et al. Durham County Mapping Health Collaboration 2017. [Internet]. 2018 Jun [cited 2021 Feb 6]. Available from: www.healthydurham.org/cms/wp-content/uploads/2018/01/Durham-Community-report_FINAL_121717.pdf

Section 2.0 *Community priorities*

Survey Methods

Survey Development

The County wide sample survey development process for the 2020 Community Health Assessment (CHA) involved collaboration from multiple community organizations and community members. Prior to developing the survey, the Durham County Department of Public Health (DCoDPH) epidemiologist obtained feedback from the Durham County Rotary Club on topics and questions to include, assessed the survey needs of Partnership for a Healthy Durham members by collecting their input and contacted individual organizations for feedback on what survey data would be most helpful to include to help advance their work.

DCoDPH convened a survey development team to prioritize what questions to include in the 2019 survey. The team included representatives from the LGBTQ Center of Durham, Duke University, Durham Parks and Recreation, Senior PharmAssist, Alliance Health, Planned Parenthood and the Durham County Department of Public Health. The survey development team met three times.

DCoDPH convened a separate development team to prioritize what questions to include in the 2019 Hispanic or Latino neighborhood sample survey. The team included representatives from El Futuro, El Centro Hispano, Immaculate Conception Catholic Church, InStepp, Duke University and DCoDPH. The survey development team met three times.

Survey gaps for newly formed groups were discussed to include the Partnership for a Healthy Durham Health and Housing committee. The group identified topic areas where more information was needed. Validated questions were reviewed and considered for addition to the survey when available. Finally, the group reviewed all the questions that were suggested for addition or removal and voted on what to keep and take off. Then the survey was reviewed in its entirety by the team, tested in a pilot and finalized.

The Hispanic or Latino neighborhood sample survey team reviewed all the questions that were suggested for removal and addition to the survey. They voted on what to keep and eliminate. Then the group reviewed the entire survey and provided suggestions for language edits to improve the translation and appropriateness of the survey. Lastly, the survey was reviewed in its entirety by the team, tested in a pilot, and finalized.

Sampling Methods

The Durham County Department of Public Health collaborated with the North Carolina Institute for Public Health (NCIPH) to draw samples for the survey. A two-stage cluster sampling methodology was used, which involves randomly selecting census blocks and a set of random, interview starting points within the selected census blocks. Census blocks were selected with

probability proportionate to population size, accounting for census blocks with the highest populations with a greater chance of being selected.

Two-stage cluster sampling was used to select both a full county sample, in which any census block in Durham County was eligible to be selected into the sample and a high proportion Hispanic/Latino neighborhood sample. In order to be eligible for inclusion in the Hispanic/Latino neighborhood sample, at least 50% of residents living in the census block must have been Hispanic or Latino. Data on population size and ethnicity were obtained from the 2010 Census. Seventy-three census blocks and 525 households were included in the County wide sample. Twenty-three census blocks and 235 households were included in the Hispanic or Latino neighborhood sample. The county wide survey sample size was doubled in 2019 to be able to analyze data by race and ethnicity. Maps for both samples are displayed below in Figure 2.01(a) and Figure 2.01(b).

Figure 2.01(a) Full county sample

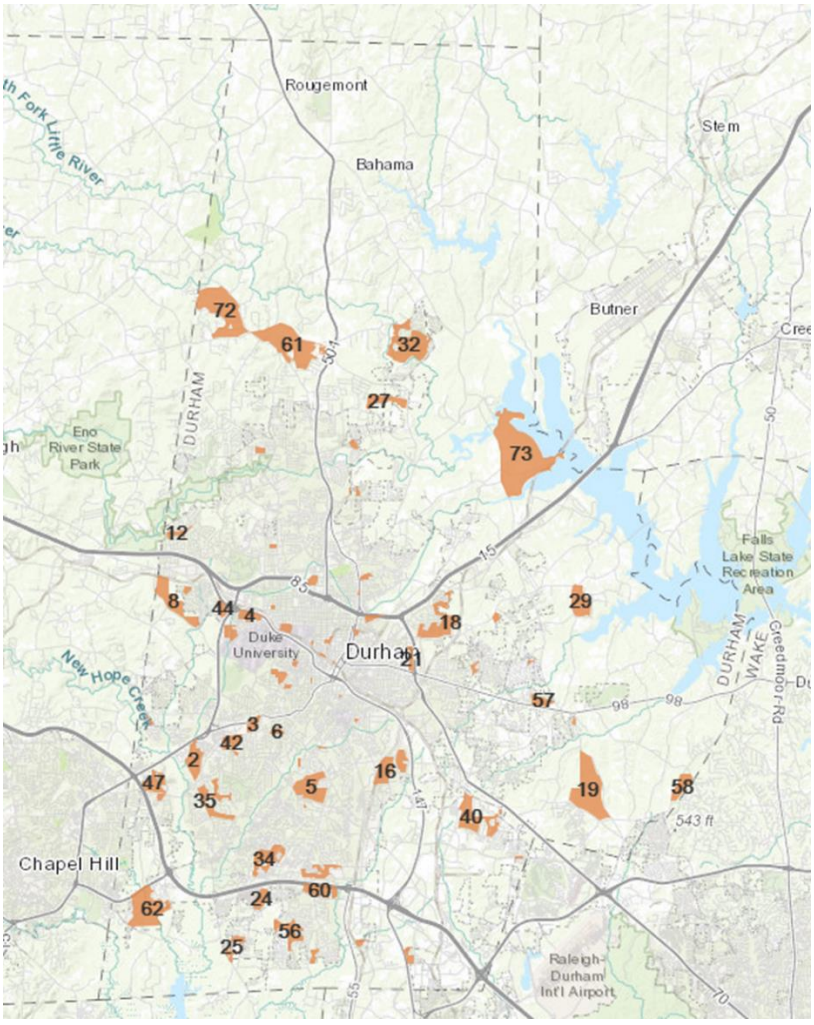
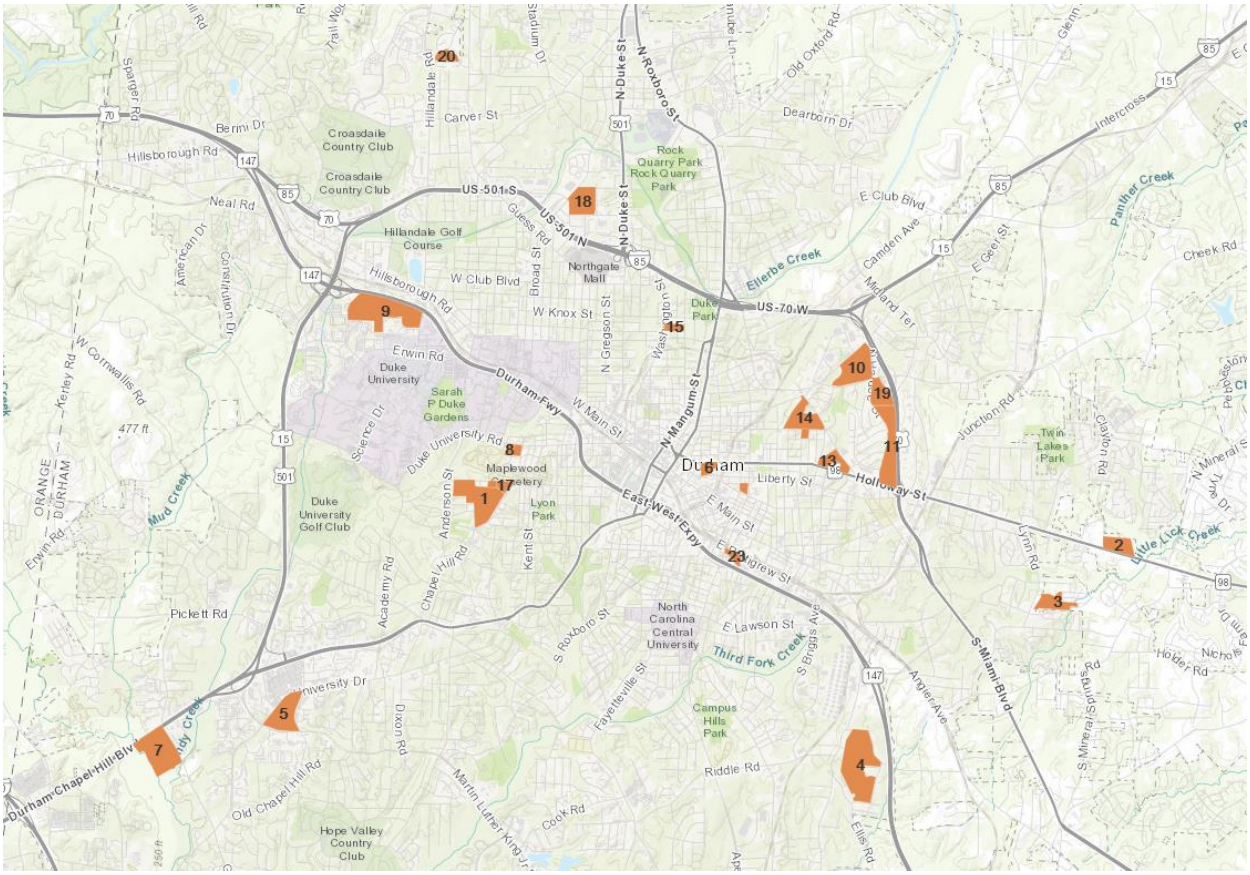


Figure 2.01(b) Hispanic or Latino neighborhood sample



Survey Administration

Volunteers were recruited from the Partnership for a Healthy Durham, colleges, universities, community organizations in the Triangle and the Durham County Department of Public Health. A total of 186 volunteers helped survey as part of the full county sample over the course of 35 survey days. The survey began in May and was finished in August of 2019. A total of 57 volunteers helped with the Hispanic or Latino sample over the course of 38 survey days. The survey began in May and was finished in September of 2019.

Two in person trainings were provided for volunteers in May 2019 and an online training was available on demand. The training covered survey best practices, survey methods, safety, cultural sensitivity, and hands-on practice giving the survey and recording answers.

For the Hispanic or Latino neighborhood sample, surveys were administered primarily in Spanish and occasionally in English when the survey participant did not speak Spanish. Volunteers were sent out to survey in teams of two and were asked to start at houses that were randomly selected. If no one answered the door at the address that was randomly selected or if the person who answered the door was not eligible to take the survey or did not want to take the survey, the teams were asked to go to the next closest house in the survey area. The teams continued going to the

next closest house until a survey was completed. Then, the volunteer teams continued to the next randomly selected house to complete the next interview. This method is described in more detail in the Center for Disease Control and Prevention (CDC) CASPER guide.

Eligibility Criteria

In order to be eligible to participate in the survey, three criteria must have been met: 1) residents must have been 18 years or older; 2) residents must have lived in the selected house; and 3) residents must have been willing to take the survey. For the Hispanic or Latino neighborhood sample, an additional criterion was that the individual had to identify as Latino or Hispanic. Speaking Spanish was not required.

Survey Results

Analysis

Analysis was completed in SAS 9.4. Data were weighted to account for the sampling methods as well as race and ethnicity to make sure the results reported would be generalizable to Durham residents. The CDC CASPER method was used to calculate weights adjusting for the design. The CASPER weighting method accounts for the total number of households in the sampling frame, the number of households in the census block, and the number of interviews collected in each census block. Confidence intervals are provided for all results and should be used when interpreting data. The confidence intervals represent the range of values that contain the true value in 95% of repeated samples.

There were 424 completed surveys in the full county sample. The survey response rate was 80%. There were 188 completed surveys in the Hispanic or Latino sample. The survey response rate was also 80%.

Since the Hispanic/Latino sample was selected among neighborhoods with at least 50% or more Hispanic/Latino residents, the results can only be inferred to Hispanics and Latinos living in neighborhoods with high proportions of Hispanics and Latinos. The results cannot be generalized to all Hispanics and Latinos living in Durham County.

Key Findings

Many themes emerged in the results of the County wide sample. Those themes are:

- Racial and ethnic disparities exist across nearly all health outcomes
- Structural racism and historical policies such as redlining, immigration laws and segregation are causes of health disparities
- Issues are linked: for example, housing issues are also access to care and food insecurity issues
- Top ways to better support communities such as transportation, crime reduction, physical activity infrastructure, affordable housing, access to care, education system improvements and

stronger communication and outreach to community could also address some issues that impact quality of life and top health concerns

- Majority of residents feel safe where they live in Durham

For the first time, the 2019 Community Health Assessment survey asked what people, places and things made Durham a good place to live. Results for the county wide survey are below.

The same question was asked in the Hispanic or Latino neighborhood sample. Results are below.

To learn what issues were most important to people living in Durham, the survey asked three questions of survey respondents:

1. What issues have the greatest effect on quality of life for you personally or your community in Durham County?
2. What are the most important health problems, that is, diseases or conditions, in Durham County?
3. What could be done in Durham to support you and your community?

The top responses to these questions are shown in Table 2.01(a) below. Priorities identified in both samples are shaded in light green. There were not as many common responses for community issues, health problems and services needing improvement as in the past. Diabetes was the only top health issue identified in both samples. Violent crime was listed as one of the top community issues on both samples. Police in both samples was named as a service needing more improvement, whether it was more or improved response time.

Table 2.01(a) Top Responses from the Full County Sample

Community Issues	Health Problems	Services Needing Improvement
1. Violent Crime	1. Diabetes	1. Public transportation improvements
2. Affordable housing	2. Mental health	2. Safer community-more police and crime reduction
3. Gentrification	3. Drug use	3. Physical activity infrastructure

Table 2.01(b) Top Responses from the Hispanic or Latino Neighborhood Sample

Community Issues	Health Problems	Services Needing Improvement
1. Theft	1. Diabetes	1. Increased police response to crime
2. Violent Crime	2. Obesity or overweight	2. Access to care
3. Other	3. Cold, flu and cough	3. More health programming and health education

The findings in the tables above differ from the 2016 survey. Poverty, substance use, cancer or racism and discrimination were not among the top three in any categories.

Community Health Priorities

The community health priorities will remain the same as those selected during the 2017 Community Health Assessment cycle. The Community Health Assessment Leadership Team determined that three years was not enough time to respond to the priorities. Identification of new health priorities will take place during the 2023 Community Health Assessment cycle.

The top five Durham County health priorities are listed below.

2020 Durham County Health Priorities

1. Affordable Housing
2. Access to Healthcare and insurance
3. Poverty
4. Mental Health
5. Obesity, diabetes and food access

Tracking Progress

As Durham County continues to work on these priorities, it is important to track progress. Durham County 2018-2021 Community Health Improvement Plans (CHIPs) identify goals and objectives towards addressing the top health priorities. Benchmarks used include Healthy North Carolina 2030, Healthy People 2030, and Robert Wood Johnson Foundation County Health Rankings targets. CHIPs can be found at www.healthydurham.org. Following the 2020 Community Health Assessment, CHIPs will be created for 2021-2024.

Community Profile

This chapter includes:

- ❖ Demographics
- ❖ Immigrant and refugee health
- ❖ Health inequities
- ❖ Durham facts and history
- ❖ Land use
- ❖ Built environment and transportation
- ❖ Parks and recreation
- ❖ Faith and spirituality

Section 3.01 *Demographics*

Overview

Durham County is the sixth most populous county North Carolina with a 2019 estimated population of 311,848.[i] Since 2010, Durham County has grown more than 16%, which surpasses North Carolina's 10% growth during the same period.[ii] Currently the population is approximately 52% female and 48% male.[iii] While Durham County's median age has increased slightly to 35.4 years old in 2019 compared to 34.4 years old in 2015, it is still younger than the median ages in North Carolina (39.1) and the United States (38.5).[iv,v] The figure below compares the estimated age distribution of populations in Durham County, North Carolina and the United States for 2019.

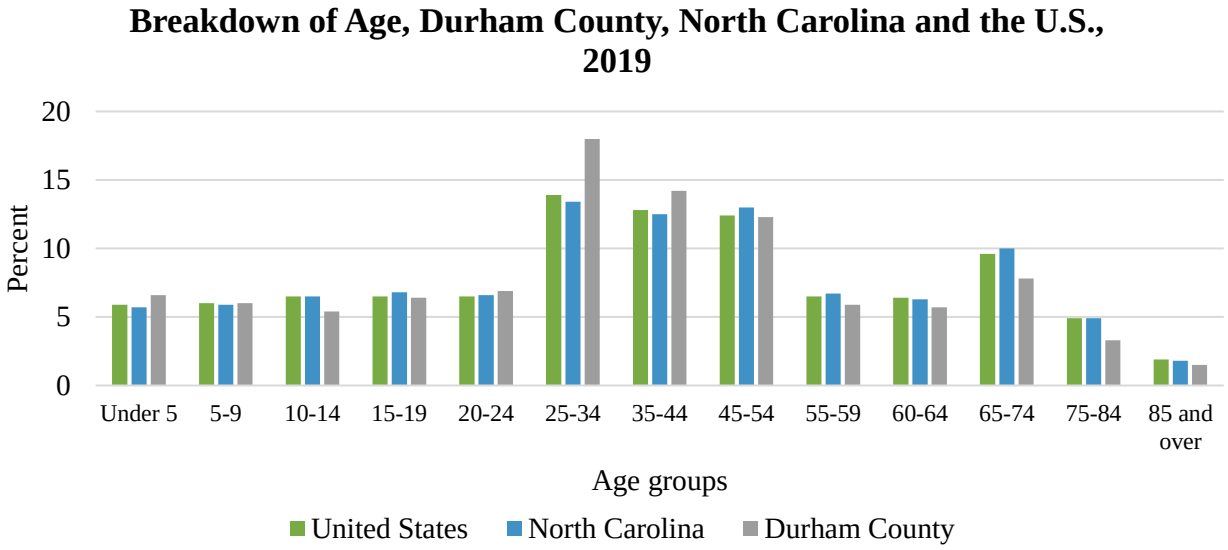


Figure 3.01(a): Breakdown of Age, Durham County, North Carolina, and the U.S., 2011-2015[vi,vii,viii]

According to Census estimates, individuals who identify as LGBT (lesbian, gay, bisexual, transgender) represent four percent of the North Carolina population.[ix] The state's LGBT population is racially and ethnically diverse, with 22% identifying as African American and 11% as Hispanic or Latino.[x] Durham County has a rate of 9.69 same-sex households per 1000, which is second in the state.[xi]

The proportions of Durham County's racially and ethnically diverse population have been relatively stable over the past five years. In 2019 estimates, the largest racial groups were White (161,919), Black or African American (113,682) and Hispanic or Latino (42,079) residents.[xii] Census data for Durham County depicting race and ethnicity are depicted in Figure 3.01 (b) below. Durham County's population is more diverse than that of North Carolina or the U.S.

Race and Ethnicity in Durham County, 2015-2019[xiii]

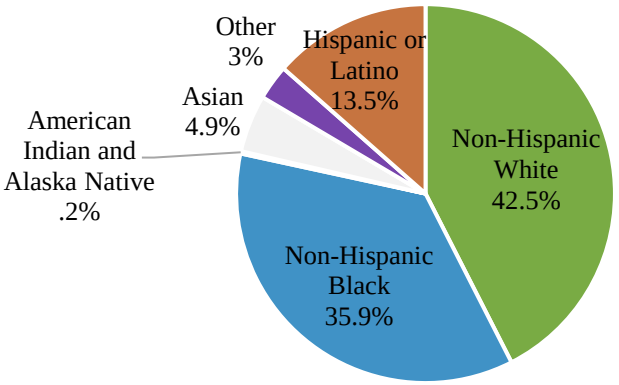


Figure 3.01(b) Race and Ethnicity in Durham County, 2015-2019

The County has a greater proportion of African American residents (36.5%) than the state (21.5%) or the nation (12.8%).[xiv,xv,xvi] Durham County's Hispanic or Latino population (13.5%) is larger than the North Carolina population (9.8%), but smaller than the U.S. population (18.4%).[xvii,xviii,xix]

Of Durham County residents, about half (47.7%) were born in North Carolina, slightly more than one-third (36.6%) were born in a different state and 14.2% were foreign-born.[xx] Durham's foreign-born population is higher than the national portion (13.7%) and nearly twice the state's foreign-born portion (8.4%).[xxi,xxii,xxiii] Within the foreign-born population in Durham, almost half (49.6%) were born in Latin America and more than one quarter (29.7%) were born in Asia.[xxiv] Almost a tenth (9.4%) of Durham County's foreign-born residents are from Africa. These proportions are displayed in Figure 3.01(c) below.

Origin of Foreign-born Residents, Durham County, 2015-2019

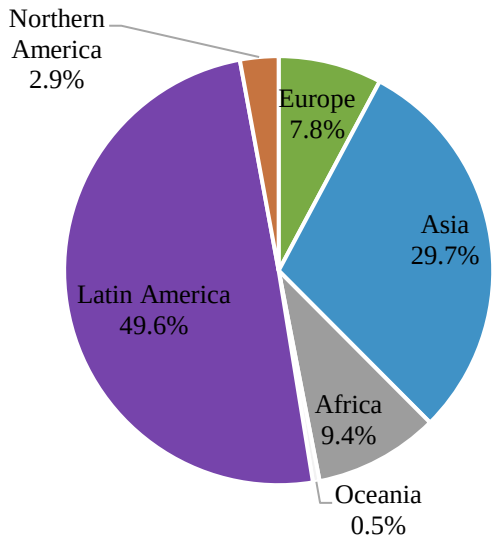


Figure 3.01(c) Origin of Foreign-Born Population in Durham County, 2015-2019[xxv]

About one-third (33.7%) of the foreign-born population in Durham County are U.S. citizens.[xxvi]

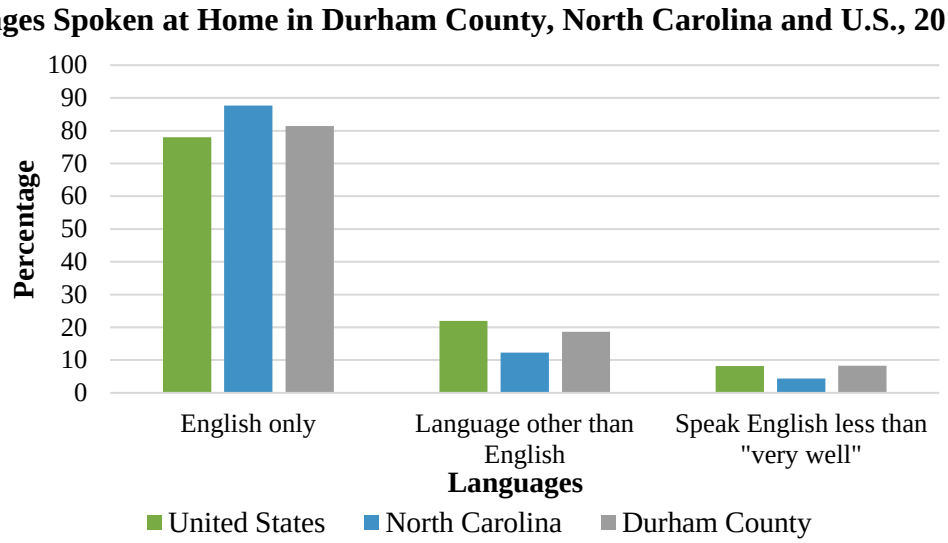


Figure 3.01(d): Language Spoken in the Home, Durham County, North Carolina and the U.S., 2015 – 2019[xxvii,xxviii,xxix]

Nearly one in five residents of Durham County speak a language other than English at home. More than one in 10 residents (11.8%) speak Spanish at home. Less than one in 10 residents speak English less than "very well", shown in Figure 3.01(d).[xxx]

Durham County is home to an educated population. Seventy percent of County residents have at least some college education. Durham County residents over the age of 25 with a Bachelor's, graduate or professional degree is higher than North Carolina or U.S. percentages.

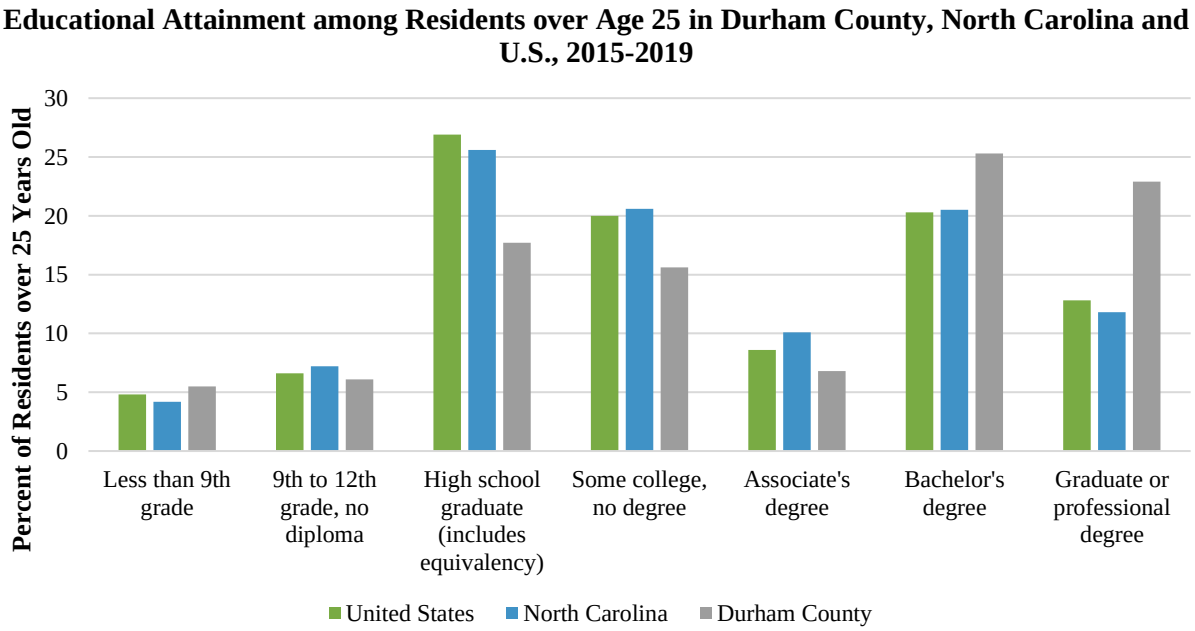


Figure 3.01(e): Educational Attainment among Residents over Age 25, Durham County, North Carolina and the U.S., 2015-2019[xxxi,xxxii,xxxiii]

Approximately 9.7% of Durham County residents are disabled.[xxxiv] This is lower than the North Carolina percentage of 13.2% and U.S. total of 12.7%.[xxxv,xxxvi] In Durham County, the most common type of disability is ambulatory or walking. This is followed by independent living difficulty. See figure 3.01(f).

Types of Disabilities in Durham County, North Carolina and the U.S., 2015-2019

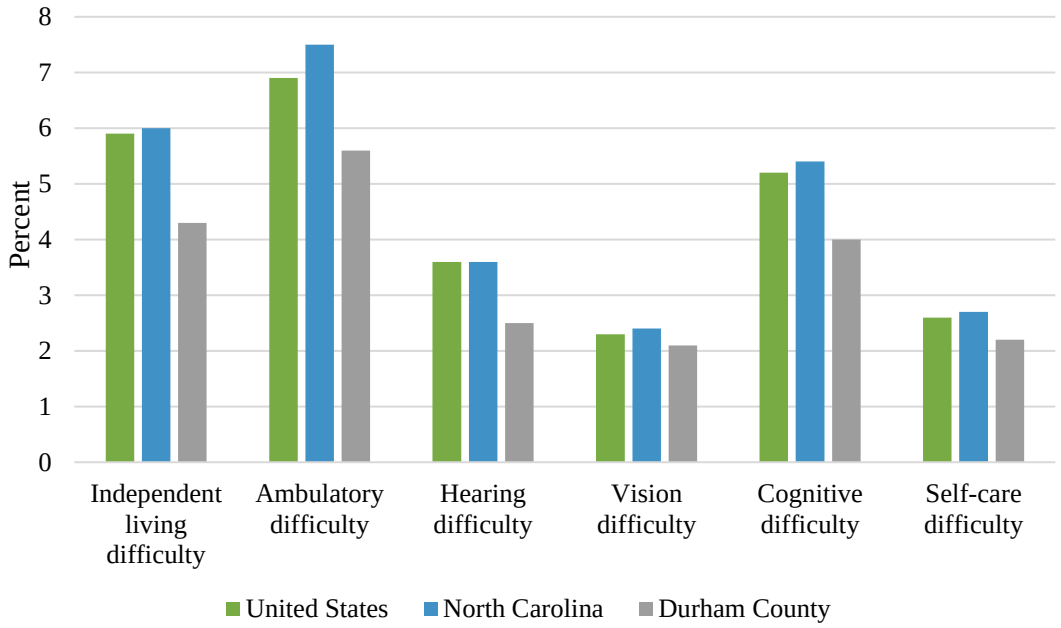


Figure 3.01(f) Types of Disabilities in Durham County, North Carolina and the U.S., 2015-2019[xxxvii,xxxviii,xxxix]

References

[i] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?g=0500000US37063
[ii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=northcarolina&tid=PEPPOP2019.PEPANNRES&hidePreview=false.
[iii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP05 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP05&hidePreview=true
[iv] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?g=0500000US37063
[v] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?g=0400000US37
[vi] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP05%20Durham%20County,%20North%20Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP05&hidePreview=true
[vii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP1Y2019.DP05%20North%20Carolina&g=0400000US37&tid=ACSDP1Y2019.DP05&hidePreview=true
[viii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP1Y2019.DP05%20United%20States&g=0100000US&tid=ACSDP1Y2019.DP05&hidePreview=true
[ix] williamsinstitute.law.ucla.edu [Internet]. LGBT Demographic Data Interactive. Los Angeles (CA): The Williams Institute, UCLA School of Law; c2019 [cited 2021 Feb 6]. Available from: https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT&area=37#density
[x] williamsinstitute.law.ucla.edu [Internet]. LGBT Demographic Data Interactive. Los Angeles (CA): The Williams Institute, UCLA School of Law; c2019 [cited 2021 Feb 6]. Available from: https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT&area=37#density
[xi] williamsinstitute.law.ucla.edu [Internet]. LGBT Demographic Data Interactive. Los Angeles (CA): The Williams Institute, UCLA School of Law; c2019 [cited 2021 Feb 6]. Available from: https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT&area=37#density
[xii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP05 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP05&hidePreview=true
[xiii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP05 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP05&hidePreview=true
[xiv] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP05 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP05&hidePreview=true
[xv] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from:

https://data.census.gov/cedsci/table?q=ACSDP1Y2019.DP05%20North%20Carolina&g=0400000US37&tid=ACSDP1Y2019.DP05&hidePreview=true

[xvi] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP1Y2019.DP05%20United%20States&g=0100000US&tid=ACSDP1Y2019.DP05&hidePreview=true

[xvii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP05 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP05&hidePreview=true

[xviii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP1Y2019.DP05%20North%20Carolina&g=0400000US37&tid=ACSDP1Y2019.DP05&hidePreview=true

[xix] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP1Y2019.DP05%20United%20States&g=0100000US&tid=ACSDP1Y2019.DP05&hidePreview=true

[xx] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP02 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP02&hidePreview=true

[xxi] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP02 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP02&hidePreview=true

[xxii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=DP02%20North%20Carolina&g=0400000US37&tid=ACSDP1Y2019.DP02&hidePreview=false

[xxiii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=DP02&g=0400000US37&tid=ACSDP1Y2019.DP02&hidePreview=false

[xxiv] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP02 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP02&hidePreview=true

[xxv] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP02 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP02&hidePreview=true

[xxvi] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP02 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP02&hidePreview=true

[xxvii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP02 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP02&hidePreview=true

[xxviii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=DP02%20North%20Carolina&g=0400000US37&tid=ACSDP1Y2019.DP02&hidePreview=false

[xxix] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=DP02 North Carolina&g=0400000US37&tid=ACSDP1Y2019.DP02&hidePreview=false

[xxx] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP02 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP02&hidePreview=true

[xxxi] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=ACSDP5Y2019.DP02 Durham County, North Carolina&g=0500000US37063&tid=ACSDP5Y2019.DP02&hidePreview=true

[xxxii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=DP02%20North%20Carolina&g=0400000US37&tid=ACSDP1Y2019.DP02&hidePreview=false

[xxxiii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/table?q=DP02 North Carolina&g=0400000US37&tid=ACSDP1Y2019.DP02&hidePreview=false

[xxxiv] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?q=ACSDP5Y2019.DP02%20Durham%20County,%20North%20Carolina&g=0500000US37063

[xxxv] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?q=ACSDP1Y2019.DP05%20North%20Carolina&g=0400000US37

[xxxvi] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?q=ACSDP1Y2019.DP02%20United%20States&g=0100000US

[xxxvii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?q=ACSDP5Y2019.DP02%20Durham%20County,%20North%20Carolina&g=0500000US37063

[xxxviii] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?q=ACSDP1Y2019.DP05%20North%20Carolina&g=0400000US37

[xxxix] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2021 Feb 6]. Available from: https://data.census.gov/cedsci/profile?q=ACSDP1Y2019.DP02%20United%20States&g=0100000US

Section 3.02 *Immigrant and refugee health*

Overview

In 2019, Durham County's population was an estimated 321,488, including U.S. born citizens and foreign-born individuals.[i] A foreign-born individual is anyone who is not a U.S. citizen at birth; this includes naturalized U.S. citizens, lawful permanent residents (immigrants), humanitarian migrants (refugees and asylees), people with temporary visas (such as foreign students), and unauthorized migrants.[ii]

Primary Data

Health priorities among Hispanic or Latino residents of Durham County

In 2019, the Durham County Community Health Assessment Survey was conducted with a random sample of households from census blocks that were more than 50% Hispanic or Latino in the 2010 census.[iii] Lack of insurance coverage was the top reason Hispanic or Latino immigrants did not obtain necessary care and immigration status the top barrier to obtaining health insurance.[iv] Further, 46% of those surveyed said they lacked health insurance at some point over the last 12 months.[v] Because health care access is so closely tied to health insurance coverage, access to care for immigrant and refugee families is heavily influenced by their immigration status.

Survey respondents were asked: What are the most important health problems, that is, diseases or conditions, in Durham County? Their responses are below:

Health Problems Identified among Hispanic or Latino Residents in Durham County, 2019

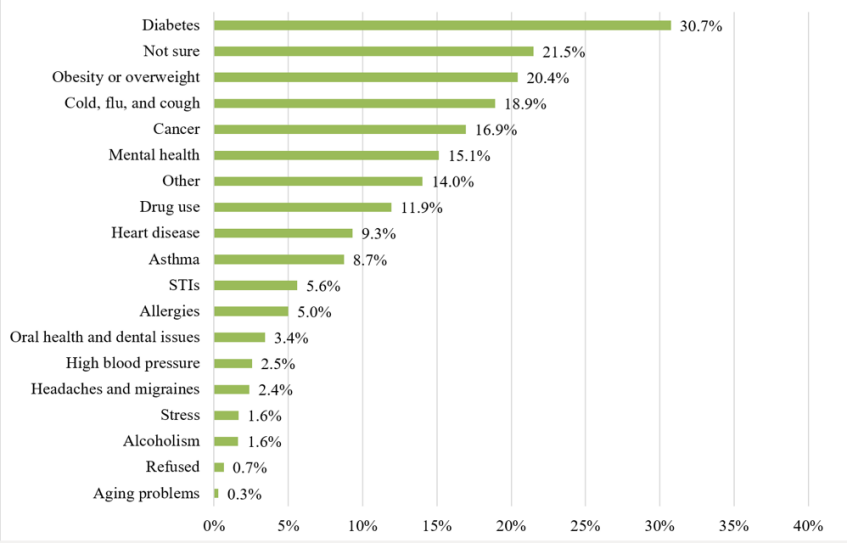


Figure 3.02(a) Top 10 Health Problems Identified among Hispanic Residents in Durham County, 2019[vi]

Secondary Data

Table 3.02(a) compares immigrant characteristics between North Carolina and Durham County. Relative to North Carolina, Durham County has a higher proportion of immigrants.

Characteristics of Immigrants in Durham County and North Carolina, 2014-2018[vii]

	North Carolina		Durham County	
	Estimate	**Percent of Total**	**Estimate**	**Percent of Total**
Total population	10,155,624		306,457	
Native	9,356,008	92.1%	264,164	86.2%
Born in state of residence	5,757,200	56.7%	148,047	48.3%
Born in different state	3,476,103	34.2%	111,710	36.5%
Born in Puerto Rico	29,158	0.3%	916	0.3%
Born in US island areas	5,084	0.1%	295	0.1%
Born abroad of American parent(s)	88,463	0.9%	3,196	1.0%
Foreign Born	799,616	7.9%	42,293	13.8%
Naturalized U.S. citizen	305,259	3.0%	12,825	4.2%
Europe	50,706	0.5%	1,561	0.5%
Asia	111,829	1.1%	5,259	1.7%
Africa	30,167	0.3%	2,185	0.7%
Oceania	989	0.0%	38	0.0%
Latin America	102,888	1.0%	3,218	1.1%
Northern America	8,680	0.1%	564	0.2%
Not a U.S. citizen	494,357	4.9%	29,468	9.6%
Europe	33,319	0.3%	1,504	0.5%
Asia	108,608	1.1%	7,378	2.4%
Africa	24,727	0.2%	1,731	0.6%
Oceania	2,089	0.0%	88	0.0%
Latin America	315,152	3.1%	18,031	5.9%
Northern America	10,416	0.1%	736	0.2%

Table 3.02(a) Characteristics of Immigrants in Durham County and North Carolina, 2014-2018[iv]

Health Services and Insurance Coverage for Immigrants in Durham County

In North Carolina, eligible immigrants can apply for Medicaid. Eligible immigrants include all Legal Permanent Residents (L.P.R.) who have had L.P.R. status for five years or more; persons who have been battered or subjected to extreme cruelty by their spouse who is a U.S. citizen or L.P.R., or whose children have been battered by their spouse who is a U.S. citizen or L.P.R. (and who have had such status for five years or more); refugees, asylees, victims of trafficking; Cuban/Haitian entrants, and persons granted withholding of deportation; veterans and active duty military personnel and their wives, surviving spouses and children; and pregnant women and minor children (under age 19) who have had lawful status for any length of time.[viii] Undocumented immigrants can get emergency care covered by Medicaid but must pay all out-of-pocket expenses for non-emergency services, such as primary care. In Durham, all uninsured persons (regardless of

immigration status) can receive primary care at federally qualified health centers (FQHCs), including the Lincoln Community Health Center (LCHC).[ix]

LCHC has nine satellite clinics in Durham: Durham Recovery Response Center, Early Intervention Clinic, Healthcare for the Homeless Clinic, Hillside Wellness Center, Holton Wellness Center, Lyon Park Clinic, Walltown Neighborhood Clinic, Primary Care Clinic (located in the Durham County Department of Public Health), and Live Well Clinic.[x] LCHC contracts with the Duke Division of Community Health to operate Holton Wellness Center, Lyon Park Clinic, and Walltown Neighborhood Clinic as well as an in-home primary care program, Just for Us, serving frail elderly in Durham.[xi] The majority of the LCHC-affiliated clinics have Spanish-speaking capacity. For the uninsured, LCHC provides care at steeply discounted cost through a sliding-scale model. Also, the Samaritan Health Center offers care free of charge.[xii] The uninsured can also receive care at some private clinics that provide services on a sliding scale.

Uninsured Durham residents who need specialty care can also be referred by LCHC to Project Access of Durham County (PADC), a program in which specialists donate their services. PADC provides care management to patients enrolled in the program and care coordination services to homeless individuals through Durham Homeless Care Transitions. It also operates the Health Equipment Loan Program (HELP), which provides free health equipment to Durham residents.[xiii]

All county residents (regardless of immigration status) can also obtain free or sliding scale medical assessments and treatment for communicable diseases at the Durham County Department of Public Health. All uninsured residents are eligible to enroll in Local Access to Coordinated Healthcare (LATCH), a Duke Health care management program with Spanish-speaking care coordinators that connects the uninsured to primary care and provides assistance with disability, medication, durable medical equipment, transportation and Medicaid applications among other services.[xiv]

Overview of Refugee Health

According to the United Nations High Commissioner for Refugees, a refugee is someone who "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside of the country of his nationality and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country." An asylum-seeker is "someone who says he or she is a refugee, but whose claim has not yet been definitively evaluated."[xv] [xvi] Refugees often have complex health needs due to traumatic experiences, unhealthy living conditions, and disrupted access to healthcare.[xvii]

The refugee resettlement agencies in Durham are Church World Service and World Relief.[xviii,xix] Both provide case management, assistance navigating health care, cultural orientation classes, English as a Second Language (ESL) classes, employment assistance and employer training.

Prevalence of Mental Health Distresses in Refugees

At least half of all refugees experience mental health concerns, resulting in higher healthcare costs, persistent and severe psychological morbidity and worse acculturation outcomes for refugees than

their non-refugee peers.[xx] Some of this can be explained by the Triple Trauma Paradigm, including trauma in one's country of origin, in flight, and in one's new country.[xxi]

Durham's Arrivals through the U.S. Refugee Admissions Program[xxii]

Country of Origin	Arrivals – Calendar Years 2015 and 2016	Arrivals – Calendar Years 2017, 2018, and 2019
Afghanistan	110	76
Bhutan/Nepal	3	0
Burma	73	34
Cameroon	0	2
Central African Republic	11	40
Chad	1	3
China	1	0
Colombia	8	16
Cuba	0	22
Democratic Republic of the Congo	189	144
El Salvador	14	20
Eritrea	25	43
Ethiopia	29	11
Honduras	2	3
Iran	1	2
Iraq	49	21
Ivory Coast	0	2
Nigeria	3	0
Pakistan	12	29
Republic of the Congo	6	0
Rwanda	14	7
Senegal	0	6
Somalia	168	13
Sudan	9	11
Syria	120	45
Togo	0	1
Uganda	5	0
Vietnam	0	6
Zimbabwe	0	1
Unknown	0	1
Total	**853**	**559**

Table 3.02(b) Durham's Arrivals through the U.S. Refugee Admissions Program, 2015-2016 and 2017-2019 [xviii]

The above table does not capture out-migration and in-migration to/from other states and counties.

Interpretations: Disparities, Gaps, Emerging Issues

Various legal, social and economic barriers and disparities make it difficult for immigrants, refugees and their families to access care and health-related resources.[xxiii] Below are some of the many barriers and disparities that exist.

- Higher rates of depression, anxiety, and Post Traumatic Stress Disorder (PTSD) due to toxic stress, work and finances, the political climate, immigration raids, and loss of hope in the U.S immigration system (e.g., to allow family reunification).[xxiv]
- Increased rates of other complex and chronic illnesses such as diabetes.[xxv]
- Difficulty navigating health care services due to language barriers among households with Limited English Proficiency (LEP), or functional illiteracy (verbal and/or written).[xxvi]
- Legal barriers to health insurance coverage and public benefits.[xxvii]
- Financial barriers to care. Undocumented-headed households are more likely than their documented peers to live in poverty and be uninsured. [xxviii]
- Lack of access to specialty care, as safety-net community clinics in Durham do not provide most types of specialty care. PADC specialty care resources are limited.[xxix]
- Heightened mistrust in government authorities, including fears around Public Charge and concerns that undocumented family members might be identified and reported to immigration authorities if someone uses public programs. [xxx]
- Low insurance coverage among children. Citizen children of at least one non-citizen parent are twice as likely to be uninsured (8%) as peers with two citizen parents (4%).[xxxi]

Emerging Issues: COVID-19 Health Disparities

The leading emerging health issue in 2020 has been the COVID-19 virus and pandemic. COVID-19 heightened existing health disparities that severely affect the Hispanic/Latino community countrywide.[xxxii] For example, Hispanic/Latino individuals were over-represented in positive COVID-19 cases in Durham. Between March and August 2020, an average of 44% of all positive COVID-19 cases in Durham were among Hispanic individuals, while only 14% of Durham residents identify as Hispanic.[xxxiii] In June 2020, 75% of all of Durham's positive COVID-19 cases were among Hispanic individuals. By August, this decreased to 33%.[xxxiv]

Some of the social dynamics and inequities that put Durham immigrant groups at an increased risk of COVID-19 exposure and infection include discrimination, lack of reliable information in Spanish, insufficient access to protective personal equipment, disproportionate representation among high-risk occupations (e.g., construction work, grocery stores), lack of employment benefits (e.g., sick leave), income and wealth gaps and multigenerational households with family members living in close quarters to one another.[xxxv]

Emerging Issues: Public Charge

Most immigrants who apply for a green card for the first time, or apply for a visa to enter the U.S., must pass what is called a Public Charge test. If someone is determined likely to use certain government services, the government can refuse them a green card or can deny their entry into the U.S. In 2020, the federal government expanded the Public Charge test. The test now includes food stamps, Federal Public Housing, Section 8 housing vouchers, Medicaid (except for pregnant women, new mothers, children under age 21, and emergency services), and cash assistance programs (like TANF and SSI).[xxxvi] Services not listed above (e.g., WIC, CHIP, school lunches,

food banks, etc.), and COVID-19 testing and treatment will not be considered. Many families who are subject to Public Charge are not eligible for the public programs listed above. While Public Charge is being challenged in the courts, this new policy has contributed to the significant fear among immigrants that they cannot safely access public programs.

Recommended Strategies

Improve Health Care Delivery

- Increase access to physical and mental health care through telehealth services, with translation capacity, in partnership with providers such as DCoDPH, El Futuro, Duke Health, Alliance Health, and the Lincoln Community Health Center.[xxxvii]
- Increase the accessibility and use of medical homes among refugees and immigrants.[xxxviii]

Enlist Community-Building Strategies

- Improve coordination and partnerships among community stakeholders to comprehensively address the health needs of LEP populations. This may include developing new employment policies, improving recruitment practices to increase multilingual staff (such as *promotoras/es de salud* or community health workers), and developing institutional cultures that provide culturally sensitive and multilingual services.[xxxix]
- Increase funding to community-based groups working with immigrants and refugees, and strengthen connections with primary care providers at safety-net clinics such as LCHC.[xl]
- Integrate health literacy classes into women's groups, ESL classes, and employment classes, including topics on nutrition, stress reduction, and diabetes management.[xli]

Strengthen Connections to Public Benefits

- Increase health insurance enrollment, and enrollment in public programs such as WIC and SNAP, for eligible immigrants and refugees.[xlii]
- Increase knowledge and understanding within the immigrant community on which families are subject to, and what public programs are included in, the new rules for Public Charge.[xliii]

Current Initiatives & Activities

Church World Service Durham welcomes refugees and immigrants from around the world into lives of freedom, hope, and opportunity in the Triangle. They work with community partners to educate the wider community, advocate for immigrant and refugee causes, and equip new refugees and immigrants for long-term success. https://cwsrdu.org/

El Centro Hispano is a Latino nonprofit organization dedicated to strengthening the community, building bridges and advocating for equity and inclusion for Hispanics/Latinos in the Triangle Area of North Carolina. https://elcentronc.org/

El Futuro is a nonprofit outpatient clinic that provides comprehensive mental health services for Latino families within a bilingual environment of healing and hope. https://elfuturo-nc.org/

Duke LATIN-19 (Latinx Advocacy Team & Interdisciplinary Network for COVID-19) Coalition of clinicians, community members, and organizations working together to address the health and safety of the Hispanic/Latino/Latinx community with regards to COVID-19. https://oie.duke.edu/news/news-items/duke-latin-19-latinx-advocacy-team-interdisciplinary-network-covid-19

North Carolina Justice Center Immigrant and Refugee Rights Ongoing project gathering and distributing resources on Public Charge and how it will affect immigrant communities in NC. https://www.ncjustice.org/projects/immigrant-refugee-rights/project-resources/public-charge-rule/

World Relief Services Durham World Relief works with local church and wider community partners to resettle these new arrivals, assisting them as they learn a new language, adjust to a new culture, and pursue employment, education, and other opportunities in our community. https://worldreliefdurham.org/

References

[i] census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2020 Aug 15]. Available from: https://www.census.gov/quickfacts/durhamcountynorthcarolina

[ii] migrationpolicy.org [Internet]. Washington, DC: Migration Policy Institute; c2020 [cited 2020 Oct 26]. Available from: https://www.migrationpolicy.org/article/frequently-requested-statistics-immigrants-and-immigration-united-states

[iii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf.

[iv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf.

[v] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf.

[vi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf.

[vii] data.census.gov [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2020 Aug15]. Available from: https://data.census.gov/cedsci/table?q=B05002&g=0400000US37_0500000US37063&tid=ACSDT5Y2018.B05002&hidePreview=true

[viii] ncgetcovered.org [Internet]. North Carolina health insurance edibility for immigrants. Raleigh (NC): North Carolina Justice Center; c2020 [cited 2020 Aug 15]. Available from: https://www.ncgetcovered.org/wp-content/uploads/2016/06/Immigrant-Eligibility-Insurance-Brochure-LSSP-NCJC.pdf

[ix] lincolnchc.org [Internet]. Patient services. Durham (NC): Lincoln Community Health Center; c2020 [cited 2020 Aug 15]. Available from: http://lincolnchc.org/?page_id=6351

[x] lincolnchc.org [Internet]. Facility locations. Durham (NC): Lincoln Community Health Center; c2020 [cited 2020 Aug 15]. Available from: https://lincolnchc.org/?page_id=6673

[xi] fmch.duke.edu [Internet]. Micro clinics. Durham (NC): Duke Family Medicine & Community Health; c2020 [cited 2020 Aug15]. Available from: https://fmch.duke.edu/division-community-health/access-care/micro-clinics

[xii] samaritanhealthcenter.org [Internet]. Services offered. Durham (NC): Samaritan Health Center; c2020 [cited 2020 Aug 15]. Available from: http://www.samaritanhealthcenter.org/patients/services-offered

[xiii] projectaccessdurham.org [Internet]. Durham (NC): Project Access of Durham County; c2020 [cited 2020 Aug 15]. Available from: https://projectaccessdurham.org/.

[xiv] phmo.dukehealth.org [Internet]. Local access to coordinated healthcare. Durham (NC): LATCH Services; c2020 [cited 2020 Aug 15]. Available from: https://phmo.dukehealth.org/initiatives/local-access-coordinated-healthcare-latch.

[xv] unhcr.org [Internet]. The 1951 refugee convention. Geneva (Switzerland): United Nations High Commissioner for Refugees; c2020 [cited 2020 Aug 15]. Available from: https://www.unhcr.org/en-us/1951-refugee-convention.html

[xvi] unhcr.org [Internet]. Asylum-Seekers. Geneva (Switzerland): United Nations High Commissioner for Refugees; c2020 [cited 2020 Aug 15]. Available from: https://www.unhcr.org/en-us/asylum-seekers.html
[xvii] Joshi C, Russell G, Cheng I, Kay M, Pottie K, Alston M et al. A narrative synthesis of the impact of primary health care delivery models for refugees in resettlement countries on access, quality and coordination. Int J Equity Health. Epub 2013 Nov 07;12(88).
[xviii] cwsrdu.org [Internet]. Durham (NC): Church World Service; c2020 [cited 2020 Aug 15]. Available from: http://cwsrdu.org.
[xix] worldreliefdurham.org [Internet]. Durham (NC): World Relief Durham; c2020 [cited 2020 Aug 15]. Available from: https://worldreliefdurham.org.
[xx] Kirmayer L, Narasiah L, Munoz M, Rashid M, Ryder AG, Guzder J, et al. Common mental health problems in immigrants and refugees: general approach in primary care. Can Med Assoc J. 2011 Sep 6;183(12): E959–E967.
[xxi] Chang-Muy F, Congress EP, editors. Social work with immigrants and refugees: legal issues, clinical skills and advocacy. 2nd ed. New York (NY): Springer Publishing Company; 2015. p. 135-172. Available from: https://connect.springerpub.com/content/book/978-0-8261-2669-6.
[xxii] Morillo, Jennifer. (NC Refugee Health Coordinator, Dep of Health and Human Services Division of Public Health, NC). Re: refugee data for Durham County Health Assessment [Internet]. Message to: Angel Romero (Duke University, Durham NC. angel.romero@duke.edu). 2020 Jul 22 [cited 2020 Jul 22]. [one data table].
[xxiii] kff.org [Internet]. Health coverage of immigrants. Washington, DC: Kaiser Family Foundation; c2020 [cited 2020 Aug 15]. Available from: https://www.kff.org/racial-equity-and-health-policy/fact-sheet/health-coverage-of-immigrants/
[xxiv] Artiga S, Ubri P. Living in an immigrant family in America: how fear and toxic stress are affecting daily life, well-being, and health [Internet]. Washington, DC: Kaiser Family Foundation; 2017 Dec 13 [cited 2020 Aug 15]. Available from: https://www.kff.org/report-section/living-in-an-immigrant-family-in-america-issue-brief/
[xxv] Artiga S, Ubri P. Living in an immigrant family in America: how fear and toxic stress are affecting daily life, well-being, and health [Internet]. Washington, DC: Kaiser Family Foundation; 2017 Dec 13 [cited 2020 Aug 15]. Available from: https://www.kff.org/report-section/living-in-an-immigrant-family-in-america-issue-brief/
[xxvi] Pereira KM, Crosnoe R, Fortuny K, Pedroza JM, Ulvestad K, Weiland C, et al. Barriers to immigrants access to health and human services programs [Internet]. Washington, DC: Urban Institute; 2012 [cited 2020]. Available from: https://aspe.hhs.gov/basic-report/barriers-immigrants-access-health-and-human-services-programs
[xxvii] Pereira KM, Crosnoe R, Fortuny K, Pedroza JM, Ulvestad K, Weiland C, et al. Barriers to immigrants access to health and human services programs [Internet]. Washington, DC: Urban Institute; 2012 [cited 2020]. Available from: https://aspe.hhs.gov/basic-report/barriers-immigrants-access-health-and-human-services-programs
[xxviii] Artiga S, Ubri P. Living in an immigrant family in America: how fear and toxic stress are affecting daily life, well-being, and health [Internet]. Washington, DC: Kaiser Family Foundation; 2017 Dec 13 [cited 2020 Aug 15]. Available from: https://www.kff.org/report-section/living-in-an-immigrant-family-in-america-issue-brief/
[xxix] guidestar.org [Internet]. Durham (NC): Project Access of Durham County; [cited 2020]. Available from: https://www.guidestar.org/profile/26-1925378
[xxx] Artiga S, Ubri P. Living in an immigrant family in America: how fear and toxic stress are affecting daily life, well-being, and health [Internet]. Washington, DC: Kaiser Family Foundation; 2017 Dec 13 [cited 2020 Aug 15]. Available from: https://www.kff.org/report-section/living-in-an-immigrant-family-in-america-issue-brief/

[xxxi] kff.org [Internet]. Health coverage of immigrants. Washington, DC: Kaiser Family Foundation; c2020 [cited 2020 Aug 15]. Available from: https://www.kff.org/racial-equity-and-health-policy/fact-sheet/health-coverage-of-immigrants/
[xxxii] cdc.gov [Internet]. Health equity considerations and racial ethnic minority groups. Washington, DC: United States Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 8]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html
[xxxiii] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 September 10]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxxiv] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Sep 10]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxxv] cdc.gov [Internet]. Guidance for large or extended families living in the same household. Washington, DC: United States Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 8]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/downloads/living-in-close-quarters.pdf?fbclid=IwAR2be_wwpj28OEHmuNLMT0CpvWAIDEVkFmvqoWtuXcPnSt2MzhYues-7wsA.
[xxxvi] protectingimmigrantfamilies.org [Internet]. Public charge: does this apply to me? Washington, DC: Protecting Immigrant Families; c2020 [cited 2020 Sept 8]. Available from: https://protectingimmigrantfamilies.org/wp-content/uploads/2020/02/Public-Charge-Does-This-Apply-To-Me-February-2020-ENGLISH.pdf.
[xxxvii] Balderas-Medina Anaya Y, Martinez LE, Vargas-Bustamante A, Hernandez S, Bholat MA, Morales M, Santizo-Greenwood S, Diaz S, Hayes-Bautista DE. Telehealth & COVID-19: policy considerations to improve access to care [Internet]. Los Angeles (CA): UCLA Latino Policy & Politics Initiative, UCLA Health Center for the Study of Latino Health and Culture; 2020 May [cited 2020 Oct 30]. Available from: https://latino.ucla.edu/wp-content/uploads/2020/05/Telehealth-COVID-19-Report.pdf
[xxxviii] Bosson R, Carrico RM, Raghuram A, Peyrani P, Mattingly WA, Ford R, Furmanek SP, Ramirez JA. Refugee-centered medical home: a new approach to care at the University of Louisville Global Health Center [Internet]. Journal of Refugee & Global Health; c2017 [cited 2020 Oct 30]; 1(3). Available from: https://ir.library.louisville.edu/rgh/vol1/iss1/3
[xxxix] Artiga S, Pham O. Addressing health and social needs of immigrant families: lessons from local communities [Internet]. Washington, DC: Kaiser Family Foundation; 2019 Oct 28. Issue brief; [cited 2020 Oct 30]; Available from: https://www.kff.org/racial-equity-and-health-policy/issue-brief/addressing-health-and-social-needs-of-immigrant-families-lessons-from-local-communities/
[xl] Artiga S, Ubri P. Living in an immigrant family in America: how fear and toxic stress are affecting daily life, well-being, and health [Internet]. Washington, DC: Kaiser Family Foundation; 2017 Dec 13. Issue brief; [cited 2020 Aug 15]. Available from: https://www.kff.org/report-section/living-in-an-immigrant-family-in-america-issue-brief/
[xli] Santos MG, Handley MA, Omark K, Schillinger D. ESL participation as a mechanism for advancing health literacy in immigrant communities. J Health Commun. 2014;19 Suppl 2(0 2):89-105. doi: 10.1080/10810730.2014.934935. PMID: 25315586; PMCID: PMC4250043.
[xlii] Artiga S, Ubri P. Living in an immigrant family in America: how fear and toxic stress are affecting daily life, well-being, and health [Internet]. Washington, DC: Kaiser Family Foundation; 2017 Dec 13. Issue brief; [cited 2020 Aug 15]. Available from: https://www.kff.org/report-section/living-in-an-immigrant-family-in-america-issue-brief/
[xliii] uscis.gov [Internet]. Public charge. Washington DC: US Citizenship and Immigration Services; updated 2020 Sep 22 [cited 2020 Oct 30]. Available from: https://www.uscis.gov/green-card/green-card-processes-and-procedures/public-charge

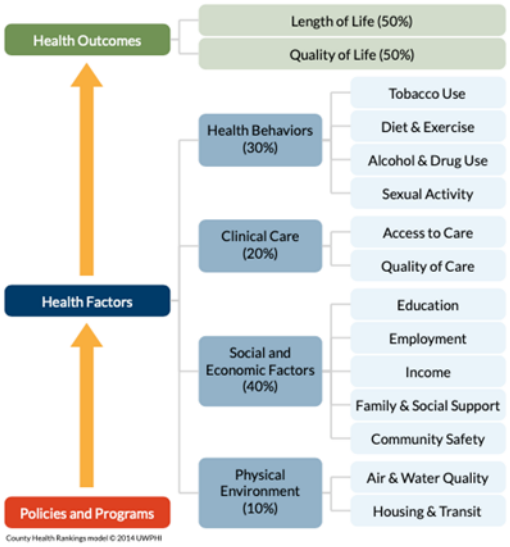
Section 3.03 *Health inequities*

Overview

Being well is not an easy or straightforward part of life. In the United States, poor health is often a function of occupying a disadvantaged position in society, while having better health is a benefit of being socially privileged.[ii] The World Health Organization (WHO) says that, "Many factors combine together to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment."[iii] The factors that create disparities in health outcomes are known as structural and social drivers of health (SSDoH).[iv] SSDoH include everything from income and wealth, whether or not one owns real estate, education level, contact with the criminal justice system, neighborhood safety, access to reliable transportation and generational trauma. The Robert Wood Johnson Foundation County Health Rankings and Roadmaps developed a model that suggests that 50% of a population's health is attributable to social, economic and environmental factors while clinical care only accounts 20%.[v]

"Many factors combine together to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment."[i]

County Health Rankings Model[vi]



Race and ethnicity are powerful SSDoH that are all around and must be considered for a complete analysis of health inequities. Health disparities are differences in health status between people related to social or demographic factors such as race, gender, income or geographic region. Health inequities are created when barriers prevent individuals and communities from accessing opportunities and/or resources to reach their full potential.

Structural racism is defined as the "system in which public policies, institutional practices, cultural representations, and other norms work in various, often reinforcing ways to perpetuate racial [and ethnic] group inequity."[vii] The United States' history of chattel slavery and Jim Crow Laws laid the foundation for many of the conditions African Americans experience today. Laws that regulated voting rights, defended low quality education and justified discriminatory housing practices remain present today. These result in inequitable social, economic, and environmental disadvantages as well as increased stress that can worsen (and in some cases may even cause) medical conditions.

The 2019 Durham Community Health Assessment Survey and other concurrent data document the way in which the impact of racial and ethnic SSDoH is expressed in different ways for Black and Latinx county residents. Overall, residents in the county wide sample (71.4%) reported that they had not been upset in the past 12 months based on how they were treated because of their race or ethnic background.[viii] In the same county wide sample, of those residents who experienced discrimination, 35.4% of Black respondents and 49.9% of Hispanic or Latino respondents were upset based on how they were treated because of their race or ethnicity. In the same questions, 7.6% of white respondents responded that they had not been upset in the past 12 months based on how they were treated because of their race or ethnic background.[ix]

Reasons Durham County Residents Felt Experienced to Discrimination in the Past 12 Months, 2019

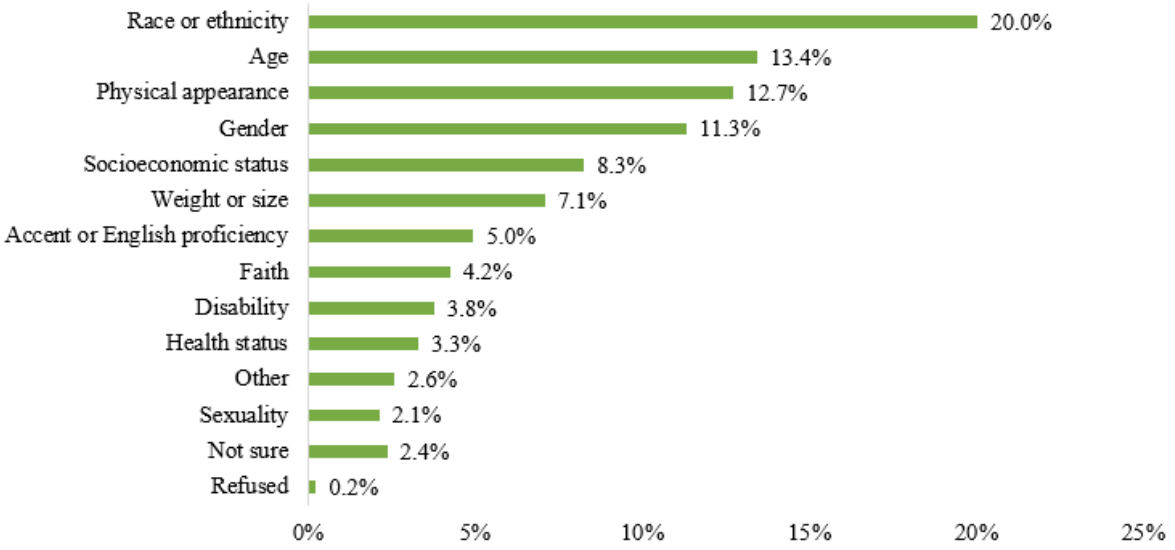


Figure 3.03(a) Reasons Durham County Residents Felt Experienced to Discrimination in the Past 12 Months, 2019[x]

The impacts of race and ethnicity on health and well-being are numerous, and are starkly shown by comparing racial and ethnic differences in health insurance coverage, housing, poverty and the impact of the COVID-19 pandemic on different racial and ethnic groups. These data are also covered in different sections of the 2020 Durham County Community Health Assessment report.

Primary Data

Health Insurance Coverage

While clinical care may only be accountable for 20% of a population's health, it is critical for those who have significant acute (e.g. COVID-19) or chronic conditions (e.g. diabetes). Access to care is related to adequate health insurance coverage.[xi]

Most Durham residents (85%) had health insurance without any breaks in coverage during the past 12 months.[xii] Black respondents (21.5%) were more likely to have had a lapse of health insurance coverage over the past 12 months compared to white respondents (8.8%).[xiii] Hispanic or Latino (9.6%) residents in the same sample had a lapse in the past 12 months.[xiv] However, 2019 Community Health Assessment surveys of predominantly Latinx or Hispanic neighborhoods showed that most Hispanic or Latino residents surveyed (53.6%) had breaks in coverage during the past 12 months.[xv] Among residents who did not have health insurance at some point during the past 12 months, cost was the biggest barrier in getting insurance.[xvi]

Poverty

Since cost was the most prevalent reason for not having health insurance, the prevalence of poverty (defined as <200% of the Federal Poverty Level [FPL]) among racial and ethnic groups is relevant.[xvii] Most Durham residents (67.3%) had incomes above 200% of the FPL.[xviii] However, 25.3% of residents had incomes below the FPL.[xix]

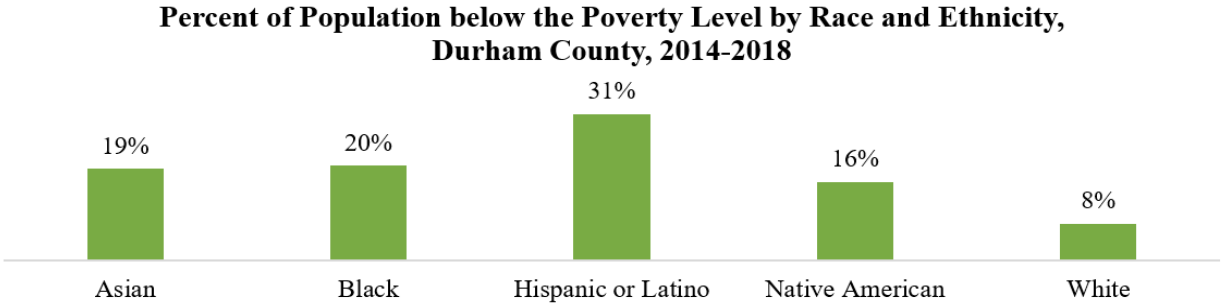


Figure 3.03(b) Percent of Population Below the Poverty Level by Race and Ethnicity, Durham County, 2014-2018[xx]

The 2019 Durham State of the County Health Report (SOTCH) noted that while poverty in Durham has decreased, significant disparities exist. More than twice as many Black residents live below the FPL than white residents. Almost four times as many Latinx/Hispanic residents live below the FPL.[xxi] Durham residents living in Latinx/Hispanic neighborhoods (59.9%) had incomes below 200% of the FPL.[xxii] Only one-fifth (17.3%) of residents had incomes above the FPL.[xxiii]

Wealth and Housing

From the 2019 Durham County SOTCH Report, "Passing resources across generations maintains higher wealth positions.[xxiv] Earnings and other types of income are the result of opportunities created by the wealth position of one's parents (and grandparents). Blacks have been mostly excluded from intergenerational access to capital and finance."[xxv]

Owning (rather than renting) one's home is the most common form of creating intergenerational wealth. The 2019 Durham County Health Assessment Survey (county wide sample) noted that over half of Durham residents (59.6%) reported owning their home.[xxvi] Home ownership varied by

race and ethnicity. White residents were significantly more likely to own a home compared to Black residents (73.6% compared to 50.1%). The sample size was not large enough to detect a statistically significant difference between white residents and Hispanic or Latino residents.[xxvii] The 2019 Durham SOTCH report documented that home ownership rates for Latinx/Hispanic families (33%) is similar to the rate for Black families (29%).[xxviii]

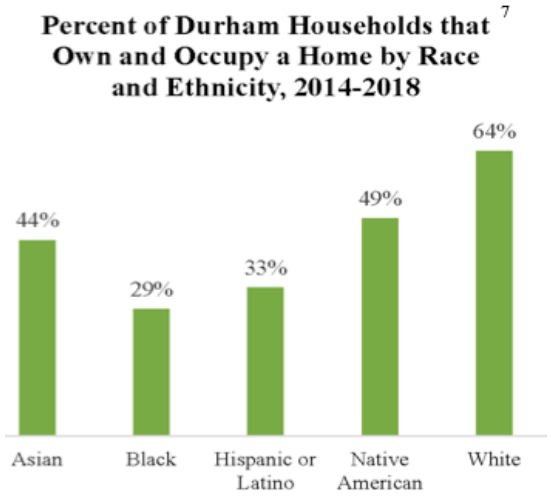


Figure 3.03(b) Percent of Households that Own and Occupy a Home by Race and Ethnicity, Durham County, 2014-2018[xxix]

Secondary Data

COVID-19 and Health

The COVID-19 pandemic has put a magnifying glass on SSDoH and health inequities in Durham. As reported on the North Carolina Department of Health and Human Services (NCDHSS) COVID-19 website on December 21, 2020, the proportion of COVID-19 cases among the Black population in Durham (33%) is slightly less than the proportion of Black people in the county (36.9%).[xxx] However, the proportion of deaths related to COVID-19 is higher (40%).[xxxi]

In contrast, the proportion of COVID-19 cases in the Hispanic population on December 21, 2020 was dramatically larger (44%) than the proportion of Hispanic residents living in Durham (13.7%).[xxxii,xxxiii] The proportion of total COVID-19 deaths (10%) is lower than the proportion of Hispanic residents in Durham (13.7%).[xxxiv]

Interpretations: Disparities, Gaps, and Emerging Issues

Race is not a biological construct.[xxxv] In fact, two people of different races cannot be differentiated at all on a molecular level. These data demonstrate that it is the social factors tied to race and ethnicity that unfortunately drive health.

The disproportionate number of COVID-19 cases among Hispanic or Latinx residents, may be correlated to the industries in which they work. Analysis of Durham County employment data through September 2020, shows that Hispanic/Latinx workers are significantly overrepresented in the employment categories of construction, restaurants, and janitorial services. These are jobs that require being at the workplace, and consequently put those individuals at higher risk for COVID-19 risk than those who can work from home.

Higher rates of death among Black individuals with COVID-19 are most likely related to medical comorbidities such as high blood pressure, obesity, diabetes and tobacco use that increase the

likelihood of complications from COVID-19.[xxxvi] Further issues accessing the healthcare system (as previously mentioned) along with cultural mistrust of the medical system (based on a history of exploitation and racism in this country) also are likely to contribute to increased mortality from COVID-19 for Black residents of Durham.[xxxvii]

Recommended Strategies

Durham must integrate a race-based lens into all that it does. Whether it's breaking ground on a new state-of-the-art condominium or implementing a new policing policy, formal decision-making must involve a discussion around the ways in which ethnic and racial populations may be affected; the lives of Durham residents depend on it.

In October 2019, Partnership for a Healthy Durham members voted to adopt racial equity principles developed by its Durham Racial Equity Task Force. The principles will be incorporated into the committees and work of the Partnership. Over the course of 14 months of work, the Racial Equity Task Force also revised the Partnership mission to include a racial equity lens. During phase II, the Racial Equity Task Force will work with the Steering committee to turn the principles into action. The Partnership for a Healthy Durham must continue its Racial Equity Task Force. The Task Force can help collect data, evaluate programming and foster partnerships to inform key stakeholders on racial issues related to health equity.

The City of Durham Racial Equity Task Force published their final report in July 2020 with recommendations that included eliminating the racial wealth gap, reforming the criminal legal system, documenting and then eliminating health inequities, improving housing opportunities and adopting a whole child approach in schools.[xxxviii] These recommendations are aligned with the structural and social drivers of health referenced above, and need to be coordinated with the work of the Durham County Department of Public Health as well as other City and County functions.

Durham County appointed its first ever health equity officer, Kweli Rashied-Henry in 2020. Creating such a role strengthens the message that health equity is important. Formal infrastructure further increases the likelihood of success around battling these issues.

Current Initiatives & Activities

Community Health Coalition, Inc. has focused on achieving health equity and eliminating racial health disparities in Durham County and the surrounding areas. https://www.chealthc.org/about

El Centro Hispano is a Latino nonprofit organization dedicated to strengthening the community, building bridges and advocating for equity and inclusion for Hispanics/Latinos in the Triangle Area of North Carolina. https://elcentronc.org/

North Carolina Department of Minority Health and Health Disparities works to promote and advocate for the elimination of health disparities among all racial and ethnic minorities and other underserved populations in North Carolina. https://www.ncminorityhealth.org/aboutus.htm

Racial Equity Institute is an alliance of trainers, organizers, institutional leaders who have devoted themselves to the work of creating racially equitable organizations and systems. https://www.racialequityinstitute.com/

Racial Equity Task Force (The Partnership for a Healthy Durham) develops trust, openness, and honest internal relationships that the work of racial equity demands and deserves. https://healthydurham.org/about-healthy-durham/health-and-racial-equity

White Coats for Black Lives is a national advocacy organization works dismantle racism in medicine and promote the health, well-being, and self-determination of people of color. There is a local chapter in the Triangle affiliated with the University of North Carolina-Chapel Hill School of Medicine. https://whitecoats4blacklives.org/about/

Organizing Against Racism (OAR) is a network of anti-racism groups based in or around the Triangle, North Carolina that host trainings and events to advance racial equity. https://www.oaralliance.org/

Communities in Partnership: The main identifier is that the Board, staff, and mission and vision were created and owned by those living within the community they are focusing their work or have been directly impacted by the area or context in which they serve. https://communitiesinpartnership.org/

References

[i] who.int [Internet]. Determinants of health. Geneva: World Health Organization; 2017 Feb 3 [cited 2020 Sep 29]. Available from: https://www.who.int/news-room/q-a-detail/determinants-of-health
[ii] Hansen H, Metzl JM. Structural competency in mental health and medicine: a case based approach to treating the social determinants of health. Switzerland: Springer International Publishing; 2019. 230 p.
[iii] who.int [Internet]. Determinants of health. Geneva: World Health Organization; 2017 Feb 3 [cited 2020 Sep 29]. Available from: https://www.who.int/news-room/q-a-detail/determinants-of-health
[iv] treatmentactiongroup.org [Internet]. Structural and social determinants of health. New York (NY): Treatment Action Group; c2017 [cited 2020 Dec]. Available from: https://www.treatmentactiongroup.org/wp-content/uploads/2017/03/Structural-Social-Determinants_0.pdf
[v] countyhealthrankings.org [Internet]. Overview. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Oct 19]. Available from: https://www.countyhealthrankings.org/sites/default/files/media/document/CHRRoverview2020v2.pdf
[vi] countyhealthrankings.org [Internet]. Overview. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Oct 19]. Available from: https://www.countyhealthrankings.org/sites/default/files/media/document/CHRRoverview2020v2.pdf
[vii] aspeninstitute.org [Internet]. 11 terms you should know to better understand structural racism. Washington, DC: The Aspen Institute; 2016 Jul 11 [cited 2020 Sep 4]. Available from: https://www.aspeninstitute.org/blog-posts/structural-racism-definition/
[viii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[ix] 2019 Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[x] 2019 Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xi] countyhealthrankings.org [Internet]. Overview. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Oct 19]. Available from: https://www.countyhealthrankings.org/sites/default/files/media/document/CHRRoverview2020v2.pdf
[xii] 2019 Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xiii] 2019 Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xiv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf.
[xvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xvii] aspe.hhs.gov [Internet]. Poverty thresholds and poverty guidelines. Washington, DC: US Department of Health & Human Services, Offices of the Assistant Secretary for Planning and Evaluation; c2020 [cited 2021 Jan 1]. Available from: https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty
[xviii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xx] Durham County Public Health Department, Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC); c2019 [cited 2020 Sep 12]. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xxi] Durham County Public Health Department, Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC); c2019 [cited 2020 Sep 12]. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xxii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf.
[xxiii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf.
[xxiv] Durham County Public Health Department, Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC); c2019 [cited 2020 Sep 12]. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xxv] Darity W, Hamilton D, Paul M, Aja A, Price A, Moore A, Chiopris C. What we get wrong about closing the racial wealth gap. Durham (NC): Samuel DuBois Cook Center on Social Equity, Insight Center for Community Economic Development; 2018 Apr [cited 2020 Sep 12]. Available from: https://socialequity.duke.edu/wp-content/uploads/2020/01/what-we-get-wrong.pdf
[xxvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxvii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxviii] Durham County Public Health Department, Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC); c2019 [cited 2020 Sep 12]. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xxix] Durham County Public Health Department, Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC); c2019 [cited 2020 Sep 12]. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xxx] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 6]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxxi] covid19.ncdhhs.gov [Internet]. NCDHHS COVID-19 dashboard: cases demographics. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Dec 21]. Available from: https://covid19.ncdhhs.gov/dashboard/cases-demographics
[xxxii] covid19.ncdhhs.gov [Internet]. NCDHHS COVID-19 dashboard: cases demographics. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Dec 21]. Available from: https://covid19.ncdhhs.gov/dashboard/cases-demographics
[xxxiii] data.census.gov [Internet]. American Community Survey: demographic and housing estimates, table ID DP05. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=population&g=0500000US37063&tid=ACSDP1Y2019.DP05&hidePreview=true
[xxxiv] covid19.ncdhhs.gov [Internet]. NCDHHS COVID-19 dashboard: cases demographics. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Dec 21]. Available from: https://covid19.ncdhhs.gov/dashboard/cases-demographics
[xxxv] Onwuachi-Willig A. Race and racial identity are social constructs. New York (NY): New York Times; 2016 Sep 6 [cited 2020 Dec 21]. Available from: https://www.nytimes.com/roomfordebate/2015/06/16/how-fluid-is-racial-identity/race-and-racial-identity-are-social-constructs
[xxxvi] Marshall WF. Coronavirus infection by race: what's behind the health disparities? mayoclinic.org [Internet]; 2020 Aug 13 [cited 2020 Dec 21]. Available from: https://www.mayoclinic.org/diseases-conditions/coronavirus/expert-answers/coronavirus-infection-by-race/faq-20488802
[xxxvii] Kennedy BR, Mathis CC, Woods AK. African Americans and their distrust of the health care system: healthcare for diverse populations. J Cult Divers. 2007 Summer;14(2):56-60. PMID: 19175244.
[xxxviii] Racial Equity Task Force. Report of the Durham racial equity task force: an urgent and loving call to action. Durham (NC): City of Durham; c2020 [cited 2020 Dec 21] Available from: https://durhamnc.gov/DocumentCenter/View/32853/FINAL-REPORT-Durham-Racial-Equity-Task-Force-72220

Section 3.04 *Durham facts and history*

Durham Facts

Durham County, founded in 1881 is in the Piedmont region of North Carolina, approximately 150 miles from the coast to the east and 170 miles from the Appalachian Mountains to the west. Durham is a 286-square mile single-city county.[i] The county is 25 miles long, 16 miles wide and 28 miles from end to end.[ii] Durham is one of the most compact counties in North Carolina at one-half to one-third the land area of neighboring counties. It contains "more than 96,000 acres of hardwood and evergreen forests including the only remaining old growth Piedmont bottomland forests."[iii] Downtown Durham comprises three-fourths of a square mile.[iv]

Durham is a county of neighborhoods. The City of Durham has more than 230 neighborhood associations.[v] Durham is known as the City of Medicine with healthcare and education as major industries. "Durham includes more than 300 medical and health-related companies and medical practices with a combined payroll that exceeds $1.2 billion annually."[vi]

Durham is home to major educational institutions: Duke University and North Carolina Central University (NCCU). Additional institutes of learning in Durham include North Carolina School of Science & Math, Durham Technical Community College, many private schools, charter schools and Durham Public Schools (DPS). DPS is the eighth largest school district in the state with 31,577 students and 5,184 employees.[vii,viii]

Durham has two major corporate and research parks. Research Triangle Park (RTP) is a 7,000-acre research and production district encompassed by the city of Durham.[ix] Treyburn is a 5,300-acre corporate park, country club and residential area in northeast Durham. Treyburn houses several companies and is home to families.[x]

Durham has many positives including diversity, history of activism and engagement and innovation. Despite all of its financial successes, extensive racial and ethnic disparities in housing, education, wealth, income, employment, criminal justice and other sectors persist due to historical policies, practices and laws since the City of Durham and Durham County's birth.

History of Durham

The City of Durham celebrated its 150th anniversary in 2019. This was recognized by a year-long celebration that "encouraged Durhamites and visitors to explore themes of history and education, innovation and entrepreneurship, social equity and robust democracy, as well as arts and leisure."[xi]

Long before the Bull City was named for Dr. Bartlett Durham in the 1800s, Native people lived free on the land for thousands of years.[xii] Durham County was home to two Native American tribes – the Eno and the Occoneechee. They lived in a village called Adshusheer along the banks of the Eno River.[xiii] Additionally, the Great Indian Trading Path which approximately followed what is now I-85, passed through Durham.[xiv] Native Americans helped mold Durham by

establishing settlement sites, transportation routes and environmentally-friendly patterns of natural resource use. The 1700's saw an influx of European settlers consisting of Scots, Irish and English colonists coming to Durham.

"White European colonialists used violence, terror, and a foreign legal system to claim Native homelands."[xv] Prior to the arrival of colonists, private land ownership as currently known did not exist.[xvi] "In the Carolina colony, the British empire sold parcels of stolen Native land to European settlers. These were called land grants. With this legal document, all the land and its resources became private property."[xvii]

During the period between the Revolutionary and Civil Wars, white colonists enslaved Africans. There were free African Americans in the area as well including several who fought in the Revolutionary War. Between 1771 to 1865, the Bennehan and Cameron families profited from the forced labor of enslaved Africans and African Americans on what is now known as Historic Stagville.[xviii] By the 1860s, the families controlled over 30,000 acres of land and enslaved about 900 people.[xix] The Bennehan and Cameron families were like many white farmers in the South who built wealth from stolen land and stolen labor.[xx]

Enslaved people "were considered property and their worth was primarily valued by the amount of work they could do."[xxi] Most slave owners provided only basics for their slaves because any extras would cut into profits.[xxii] The average dwelling for those enslaved was usually a basic log, one-room house with dirt floors and fireplaces for heating and cooking.[xxiii] There were some exceptions to this such as the housing provided by Paul Cameron at Horton Grove on Stagville plantation.[xxiv]

To maintain control of their labor force, slave owners often used whipping as a means of punishment and as a way to intimate others to behave and work hard.[xxv] "Perhaps the most effective means for controlling the enslaved population was simply the threat of being "sold South.""[xxvi] These sales broke up families, separating spouses from one another and children from their parents and siblings. These separations could take place at any time which made this one of the most difficult aspects of being enslaved.

"The politically powerful Camerons lobbied the state for a local railroad stop to expand the market reach for their plantation's many products."[xxvii] In 1849, Dr. Bartlett Durham provided land for a railroad station. This stop became the Durham Station and the center of what would become the city of Durham.[xxviii]

"When the civil war began, nearly 1 out of every 3 people in Orange and Durham Counties was enslaved."[xxix] Due to disagreements and conflicting ideas about leaving, North Carolina was one of the last states to secede from the Union in May 1861.[xxx] Union and Confederate forces fought many battles in North Carolina between 1861 and 1865. Seventeen days after General Lee surrendered his army at Appomattox, Union General Sherman and Confederate General Johnston negotiated the largest surrender in April 1865 which ended the Civil War at Bennett Farm in Durham.[xxxi]

Shortly after the Civil War, locals discovered Brightleaf tobacco. Washington Duke and his family took advantage of this discovery, spawning one of the world's largest corporations which included companies such as American Tobacco, Liggett & Meyers, R.J. Reynolds and P. Lorillard. Durham saw an economic boom. Tobacco also inspired other Durham developments such as the first mill to produce denim and what was at one point the world's largest hosiery maker.[xxxii]

After the Civil War, the African American economy progressed through a combination of vocational training, jobs, land and business ownership and community leadership. There were few opportunities for African Americans to obtain business or home financing. Because of this, the Black community created their own institutions. In 1898, John Merrick founded North Carolina Mutual Life Insurance Company, which today is the largest and oldest African American owned life insurance company in the nation.[xxxiii]

M&F, a state-chartered commercial bank, was organized in 1907. The nine incorporators of M&F were R. B. Fitzgerald, J. A. Dodson, J. R. Hawkins, John Merrick, Aaron M. Moore, W.G. Pearson, James E. Shepard, G. W. Stephens and Stanford L. Warren.[xxxiv] These men were involved with creating multiple other businesses and institutions in Durham. This black business district Parrish Street in downtown Durham became famously known across the country as Black Wall Street.[xxxv]

Author W.E.B. Du Bois noted a 1912 article, *The Upbuilding of Black Durham. The Success of the Negroes and Their Value to a Tolerant and Helpful Southern City,* "today there is a singular group in Durham where a black man may get up in the morning from a mattress made by black men, in a house which a black man built out of lumber which black men cut and planed; he may put on a suit which he bought at a colored haberdashery and socks knit at a colored mill; he may cook victuals from a colored grocery on a stove which black men fashioned; he may earn his living working for colored men, be sick in a colored hospital, and buried from a colored church; and the Negro insurance society will pay his widow enough to keep his children in a colored school. This is surely progress."[xxxvi]

Many whites were employed in the tobacco industries– and given skilled and supervisory positions while African American men were given the hardest manual labor work.[xxxvii] African American women were given the least desirable tobacco factory jobs such as "stemming."[xxxviii] They also worked longer hours for less pay without sick or maternity leave.[xxxix]

In the late 1800s and early 1900s, the working-class white population mainly settled near the textile mills in west and east Durham.[xl] Blacks in Durham resided in five main areas: Hickstown, Walltown, West End, East End and Hayti.[xli] More than half of the Black population in Durham lived in the Hayti neighborhood.[xlii] Black workers in racially segregated neighborhoods dealt with some of the worst housing conditions in the city.[xliii]

In 1934, the Federal Housing Administration began a practice known as redlining, which assigned risk categories based on racial makeup of neighborhoods. Neighborhoods with a majority of people of color were deemed risky, which resulted in lower access to mortgages compared to whites.[xliv] Racial deed restrictions, which prevented use or purchase of property for people of a given race, ethnic origin and/or religion. This excluded Blacks from buying homes in certain neighborhoods

in Durham that included Forest Hills, Duke Forest, Northgate Park and others. The impact of segregation, redlining and racial deed restriction policies is seen in Durham neighborhoods today.

In spite of racism and systemic oppression that limited Blacks' educational and economic opportunities, African American communities in Durham were able to grow and thrive. This included the Hayti community located south of downtown. The area included residences, businesses, schools, library, theatre, hotel and Lincoln Hospital. "Despite run down housing, working-class Black neighborhoods were close-knit communities and spaces of refuge from the indignities of Jim Crow."[xlv]

In 1892, Trinity College opened in Durham after its relocation from Randolph County. Washington Duke and Julian Carr donated money and land to facilitate the move.[xlvi] The college began admitting women in 1897 following a request from Washington Duke.[xlvii] James Buchanan Duke established the Duke Endowment which provided funding to the college.[xlviii] The trustees then changed the name of Trinity College to Duke University in remembrance of Buchanan Duke's father. Carr was honored with a building on campus named in his honor in 1930 due to his support for Trinity College.[xlix] His name was removed in 2018 because of his white supremacist beliefs and actions.[l] Duke University desegregated by admitting its first Black graduate and professional students in 1961 and Black undergraduates in 1963.[li]

In 1910, Dr. James E. Shepard opened the doors of the National Religious Training School and Chautauqua for the Colored Race.[lii] The school was sold in 1915 and reorganized, becoming the National Training School.[liii] In 1925, the legislature changed the institution into the North Carolina College for Negroes, dedicated to liberal arts education and the preparation of teachers and principals.[liv] The college became the country's first state-supported liberal arts college for Black students. In 1969, the college's name was changed to North Carolina Central University (NCCU).[lv] Three years later, NCCU joined the University of North Carolina system as one of 16 campuses.[lvi]

Watts Hospital opened in 1895 as the Durham's first hospital.[lvii] The facility funded by George W. Watts served city's white population regardless of ability to pay.[lviii] Lincoln Hospital opened in 1898 to serve Durham's Black population. It was a collaboration of Dr Aaron Moore, John Merrick and the Duke family, becoming one of the best Black hospitals in the country.[lix] This was due to support from Durham's African American leadership and the Duke Endowment. Duke University Hospital opened in 1930 after funding from James B. Duke. Duke's goal was "to improve health care in the Carolinas, then a poor rural region lacking in hospitals and health care providers."[lx] Eventually Watts and Lincoln Hospitals were both closed when Durham Regional Hospital opened in 1976.[lxi] The federally qualified health center, Lincoln Community Health Center opened next to the grounds of the former Lincoln Hospital in 1971.

The Durham Committee on the Affairs of Black People organized in 1935 by C.C. Spaulding and Dr. James E. Shepard, Charles Clinton Spaulding, James E. Shepard, Rencher N. Harris, W.D. Hill, R.L. McDougald, J.T. Taylor and L.E. Austin, has been cited nationally for its role in the sit-in movements throughout the 1950s and 60s.[lxii] The committee also used its voting strength to push for social and economic rights for African Americans and other ethnic groups. In the late 1950s, Reverend Douglas Moore of Durham's Asbury Temple Methodist Church and other religious and

community leaders, pioneered sit-ins across the state to protest discrimination at lunch counters that were whites only.[lxiii] Within days of sit-ins at a Woolworth's counter in Greensboro, NC, Dr. Martin Luther King, Jr. met Reverend Moore in Durham. Dr. King coined his famous rallying cry of "Fill up the jails," during a speech at White Rock Baptist Church in 1960.[lxiv]

Durham is also home to well-known civil rights activists such as Pauli Murray, Ann Atwater, Floyd McKissick and Virginia Williams. In 1957, the Royal Seven, a group of activists protested at the Royal Ice Cream Parlor three years before the famous sit-in at the Woolworth's in Greensboro.[lxv] The sit-in was the first civil rights demonstration in Durham to result in arrests. Although the protest didn't gain national attention, it "nonetheless generated urgency among some black activists."[lxvi] This spirit of activism and protest has continued over the years and into the summer of 2020 with Black Lives Matter protests across Durham.

Research Triangle Park (RTP) was the brainchild of Robert Hanes, president of Wachovia Bank and Trust Company and Romeo Guest, a Greensboro contractor.[lxvii] In the 1950s and 1960s, what is known as the world's largest university-related research park was created from Durham pinelands as a special Durham County tax district.[lxviii] Research Triangle Park is bordered on three sides by the City of Durham with a small portion located in Wake County. RTP scientists have developed inventions such as Astroturf® and the HIV drug, AZT.[lxix] Researchers have won Nobel Prizes for this work as a result. About 140 RTP located major research and development companies, including Bayer, GlaxoSmithKline, IBM, Underwriters Laboratories and the EPA, employ more than 45,000 people.[lxx]

In the early 1960s, the City of Durham embarked on Urban Renewal, a program financed by the federal government for cities to raze "blighted" neighborhoods.[lxxi] City officials were eager to receive funding from the federal government to develop private projects and increase the city's tax base.[lxxii] The city promised the Black community three things as a result of the project: 1) new housing; 2) new commercial development; 3) and major infrastructure improvements in Black neighborhoods.[lxxiii] Because of these promises, many Black Durham residents supported Urban Renewal. Ultimately, these promises never came to fruition. "Black leaders and the Hayti community were left stung by a sense of betrayal."[lxxiv]

Highway 147 was a major part of the Urban Renewal project. The route cut through the middle of the African American Hayti community which extended along Fayetteville, Pettigrew and Pine streets.[lxxv] The City completed the first section of Highway 147 in the late 1960s, separating the community and business districts. During construction of the expressway and following completion, residency in Hayti fell as residents moved to find jobs and housing due being displaced. Between 1970 and 1980, the population of Hayti was nearly cut in half.[lxxvi] "In the end, over 4,000 families and 500 businesses were displaced. The price tag for the destruction of Hayti was $300 million in today's dollars, three-quarters of which was paid for by the federal government."[lxxvii] Little remains today of the historic Hayti community, but its legacy continues.

In the 1990s, Durham's cultural landscape shifted once again as migrant farm workers from Mexico and Central America were drawn to the U.S. by seasonal agricultural work. By the early 2000s, construction became a driving force in the Durham economy.[lxxviii] As more Latinos were

attracted by available jobs and called Durham home, local activists founded the Latino Credit Union in response robberies and muggings of Latino immigrants.[lxxix] The institution serves unbanked individuals and immigrant communities. "The rapid Latino population growth jolted Durham economically and socially."[lxxx] Organizers pushed for services to support the growing Latino community such as Spanish language newspapers and church services, Spanish language signage in hospital and human services buildings and interpreters. Over time, the Durham Public School system adapted to better meet the needs of increasing numbers of Latino/a students in the school system and their families. Neighborhoods in Durham that were once predominantly African American are now also home to large segments of the Latino population.[lxxxi]

Many Latinos in the area struggle with English and a number do not have legal status. This results in an inability to gain access to services such as healthcare. Although this population faces challenges, Latinos have helped Durham grow due to their contributions as entrepreneurs, business owners, community leaders, activists, non-profit organizations, artists and religious groups.[lxxxii]

In 2020, Durham's landscape became more inclusive and diverse as residents elected two new commissioners, Nimasheena Burns and Nida Allam to the Board of County Commissioners. After being sworn in early 2021, they join Brenda Howerton, Wendy Jacobs and Heidi Carter making it the first time in the board's 139-year history that all seats were filled by women.[lxxxiii]

As a result of its multi-layered history, disparities across systems continue to persist among racial and ethnic groups in Durham. Despite this, Durham is a vibrant, engaged, creative and entrepreneurial community.

References

[i] discoverdurham.com [Internet]. Durham overview & facts. Durham (NC): Discover Durham; c2021 [cited 2021 Jan 8]. Available from: https://www.discoverdurham.com/resources/durham-overview/
[ii] discoverdurham.com [Internet]. Durham overview & facts. Durham (NC): Discover Durham; c2021 [cited 2021 Jan 8]. Available from: https://www.discoverdurham.com/resources/durham-overview/
[iii] discoverdurham.com [Internet]. Durham overview & facts. Durham (NC): Discover Durham; c2021 [cited 2021 Jan 8]. Available from: https://www.discoverdurham.com/resources/durham-overview/
[iv] discoverdurham.com [Internet]. Durham overview & facts. Durham (NC): Discover Durham; c2021 [cited 2021 Jan 8]. Available from: https://www.discoverdurham.com/resources/durham-overview/
[v] durhamnc.gov [Internet]. Neighborhood associations in Durham. Durham (NC): City of Durham; c2016 [cited 2020 Jan 8]. Available from: https://durhamnc.gov/documentcenter/view/8950
[vi] discoverdurham.com [Internet]. Durham overview & facts. Durham (NC): Discover Durham; c2021 [cited 2021 Jan 8]. Available from: https://www.discoverdurham.com/resources/durham-overview/
[vii] discoverdurham.com [Internet]. Durham overview & facts. Durham (NC): Discover Durham; c2021 [cited 2021 Jan 8]. Available from: https://www.discoverdurham.com/resources/durham-overview/
[viii] dpsnc.net [Internet]. Facts & figures about Durham Public Schools. Durham (NC): Durham Public Schools; c2021 [cited 2021 Jan 8]. Available from: https://www.dpsnc.net/domain/78
[ix] discoverdurham.com [Internet]. Durham overview & facts. Durham (NC): Discover Durham; c2021 [cited 2021 Jan 8]. Available from: https://www.discoverdurham.com/resources/durham-overview/
[x] discoverdurham.com [Internet]. Durham overview & facts. Durham (NC): Discover Durham; c2021 [cited 2021 Jan 8]. Available from: https://www.discoverdurham.com/resources/durham-overview/
[xi] durham150.org [Internet]. Celebrating Durham and 150 years of innovation. Durham (NC): Discover Durham; c2020 [cited 2020 Sep 25]. Available from: https://durham150.org/
[xii] bullcity150.org [Internet]. Violence and theft: the origins of land ownership. Durham (NC): Bull City 150; c2018 [cited 2020 Jul 29]. Available from: https://www.bullcity150.org/uneven_ground/violence_theft/
[xiii] law.nccu.edu [Internet]. About Durham. Durham (NC): North Carolina Central University School of Law; c2020 [cited 2021 Jan 8]. Available from: https://law.nccu.edu/about/about-durham/
[xiv] ncmarkers.com [Internet]. North Carolina highway historical marker program. Raleigh (NC): NC Department of Cultural Resources; c2021 [cited 2021 Jan 8]. Available from: http://www.ncmarkers.com/Markers.aspx?MarkerId=G-31
[xv] bullcity150.org [Internet]. Uneven ground. Durham (NC): Bull City 150; c2018 [cited 2020 Jul 29]. Available from: https://www.bullcity150.org/uneven_ground/
[xvi] bullcity150.org [Internet]. Uneven ground. Durham (NC): Bull City 150; c2018 [cited 2020 Jul 29]. Available from: https://www.bullcity150.org/uneven_ground/
[xvii] bullcity150.org [Internet]. Uneven ground. Durham (NC): Bull City 150; c2018 [cited 2020 Jul 29]. Available from: https://www.bullcity150.org/uneven_ground/
[xviii] historicsitesnc.gov [Internet]. Historic Stagville: history. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 8]. Available from: https://historicsites.nc.gov/all-sites/historic-stagville/history
[xix] historicsitesnc.gov [Internet]. Historic Stagville: history. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 8]. Available from: https://historicsites.nc.gov/all-sites/historic-stagville/history
[xx] bullcity150.org [Internet]. Violence and theft: landowners created wealth through stolen labor. Durham (NC): Bull City 150; c2018 [cited 2021 Jan 8]. Available from: https://www.bullcity150.org/uneven_ground/violence_theft/landowners/
[xxi] historicsitesnc.gov [Internet]. The road to secession. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 10]. Available from: https://historicsites.nc.gov/resources/north-carolina-civil-war/road-secession

[xxii] historicsitesnc.gov [Internet]. The road to secession. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 10]. Available from: https://historicsites.nc.gov/resources/north-carolina-civil-war/road-secession
[xxiii] historicsitesnc.gov [Internet]. The road to secession. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 10]. Available from: https://historicsites.nc.gov/resources/north-carolina-civil-war/road-secession
[xxiv] historicsitesnc.gov [Internet]. The road to secession. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 10]. Available from: https://historicsites.nc.gov/resources/north-carolina-civil-war/road-secession
[xxv] historicsitesnc.gov [Internet]. The road to secession. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 10]. Available from: https://historicsites.nc.gov/resources/north-carolina-civil-war/road-secession
[xxvi] historicsitesnc.gov [Internet]. The road to secession. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 10]. Available from: https://historicsites.nc.gov/resources/north-carolina-civil-war/road-secession
[xxvii] bullcity150.org [Internet]. Uneven ground. Durham (NC): Bull City 150; c2018 [cited 2020 Jul 29]. Available from: https://www.bullcity150.org/uneven_ground/
[xxviii] bullcity150.org [Internet]. Violence and theft: landowners created wealth through stolen labor. Durham (NC): Bull City 150; c2018 [cited 2021 Jan 8]. Available from: https://www.bullcity150.org/uneven_ground/violence_theft/landowners/
[xxix] bullcity150.org [Internet]. Violence and theft: landowners created wealth through stolen labor. Durham (NC): Bull City 150; c2018 [cited 2021 Jan 8]. Available from: https://www.bullcity150.org/uneven_ground/violence_theft/landowners/
[xxx] historicsitesnc.gov [Internet]. The road to secession. Raleigh (NC): NC Historic Sites; c2021 [cited 2021 Jan 10]. Available from: https://historicsites.nc.gov/resources/north-carolina-civil-war/road-secession
[xxxi] Nganga A. The Civil War ended there. What Bennett Place is fighting for now [Internet]. Raleigh (NC): The News & Observer; 2018 Jun 27 [cited 2021 Jan 8]. Available from: https://www.newsobserver.com/news/local/counties/durham-county/article213798774.html
[xxxii] Schelp J. Blue Durham, blue denim [Internet]. Durham (NC): Museum of Durham History; 2015 Apr 2 [cited 2021 Jan 8]. Available from: https://www.museumofdurhamhistory.org/blog/blue-durham-blue-denim/
[xxxiii] ncmutuallife.com [Internet]. Since 1898: a beacon on Black Wall Street. Durham (NC): North Carolina Mutual Life Insurance Company; 2017 Aug [cited 2021 Jan 10]. Available from: https://www.ncmutuallife.com/wp-content/uploads/2017/08/grandest_compan_printer2016-002.pdf
[xxxiv] mfbonline.com [Internet]. Our history. Durham (NC): M&F Bank; c2015-2021 [cited 2021 Jan 10]. Available from: https://www.mfbonline.com/our-mission-2/#history
[xxxv] ncmutuallife.com [Internet]. Since 1898: a beacon on Black Wall Street. Durham (NC): North Carolina Mutual Life Insurance Company; 2017 Aug [cited 2021 Jan 10]. Available from: https://www.ncmutuallife.com/wp-content/uploads/2017/08/grandest_compan_printer2016-002.pdf
[xxxvi] docsouth.unc.edu [Internet]. W.E.B. Du Bois (William Edward Burghardt), 1868-1963: the upbuilding of Black Durham. The success of the negroes and their value to a tolerant and helpful southern city. Chapel Hill (NC): University of North Carolina Library; c2021 [cited 2021 Jan 10]. Available from: https://docsouth.unc.edu/nc/dubois/summary.html
[xxxvii] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.

[xxxviii] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[xxxix] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[xl] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[xli] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[xlii] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[xliii] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[xliv] Darity W, Hamilton D, Paul M, Aja A, Price A, Moore A, Chiopris C. What we get wrong about closing the racial wealth gap [Internet]. Durham (NC): Duke University, Samuel DuBois Cook Center on Social Equity; 2018 Apr [cited 2021 Jan 10]. Available from: https://socialequity.duke.edu/wp-content/uploads/2020/01/what-we-get-wrong.pdf
[xlv] bullcity150.org [Internet]. Segregation and upbuilding. Durham (NC): Bull City 150; c2018 [cited 2021 Jan 10]. Available from: https://www.bullcity150.org/uneven_ground/segregation_upbuilding/
[xlvi] library.duke.edu [Internet]. Duke University: a brief narrative history. Durham (NC): Duke University Libraries; 2020 Sep 21 [cited 2021 Jan 10]. Available from: https://library.duke.edu/rubenstein/uarchives/history/articles/narrative-history
[xlvii] library.duke.edu [Internet]. Duke University: a brief narrative history. Durham (NC): Duke University Libraries; 2020 Sep 21 [cited 2021 Jan 10]. Available from: https://library.duke.edu/rubenstein/uarchives/history/articles/narrative-history
[xlviii] library.duke.edu [Internet]. Duke University: a brief narrative history. Durham (NC): Duke University Libraries; 2020 Sep 21 [cited 2021 Jan 10]. Available from: https://library.duke.edu/rubenstein/uarchives/history/articles/narrative-history
[xlix] library.duke.edu [Internet]. Duke University: a brief narrative history. Durham (NC): Duke University Libraries; 2020 Sep 21 [cited 2021 Jan 10]. Available from: https://library.duke.edu/rubenstein/uarchives/history/articles/narrative-history
[l] library.duke.edu [Internet]. Duke University: a brief narrative history. Durham (NC): Duke University Libraries; 2020 Sep 21 [cited 2021 Jan 10]. Available from: https://library.duke.edu/rubenstein/uarchives/history/articles/narrative-history
[li] library.duke.edu [Internet]. Duke University: a brief narrative history. Durham (NC): Duke University Libraries; 2020 Sep 21 [cited 2021 Jan 10]. Available from: https://library.duke.edu/rubenstein/uarchives/history/articles/narrative-history
[lii] legacy.nccu.edu [Internet]. Celebrating 105 years and counting. Durham (NC): North Carolina Central University; c2021 [cited 2021 Jan 10]. Available from: https://legacy.nccu.edu/105th-anniversary/index.cfm
[liii] legacy.nccu.edu [Internet]. Celebrating 105 years and counting. Durham (NC): North Carolina Central University; c2021 [cited 2021 Jan 10]. Available from: https://legacy.nccu.edu/105th-anniversary/index.cfm
[liv] legacy.nccu.edu [Internet]. Celebrating 105 years and counting. Durham (NC): North Carolina Central University; c2021 [cited 2021 Jan 10]. Available from: https://legacy.nccu.edu/105th-anniversary/index.cfm

[lv] legacy.nccu.edu [Internet]. Celebrating 105 years and counting. Durham (NC): North Carolina Central University; c2021 [cited 2021 Jan 10]. Available from: https://legacy.nccu.edu/105th-anniversary/index.cfm
[lvi] legacy.nccu.edu [Internet]. Celebrating 105 years and counting. Durham (NC): North Carolina Central University; c2021 [cited 2021 Jan 10]. Available from: https://legacy.nccu.edu/105th-anniversary/index.cfm
[lvii] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[lviii] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[lix] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[lx] corporate.dukehealth.org [Internet]. Duke University Hospital history. Durham (NC): Duke University Health System; c2021 [cited 2021 Jan 10]. Available from: https://corporate.dukehealth.org/duke-university-hospital-history
[lxi] Baker J. Documenting Durham's health history: health disparities in the city of medicine. Presented at: Trent Center for Bioethics, Humanities, and History of Medicine; 2019 Oct 16; Durham, North Carolina.
[lxii] dcabp.org [Internet]. What is our mission? Durham (NC): Durham Committee on the Affairs of Black People; c2020 [cited 2021 Jan 10]. Available from: https://www.dcabp.org/who-we-are
[lxiii] dcabp.org [Internet]. What is our mission? Durham (NC): Durham Committee on the Affairs of Black People; c2020 [cited 2021 Jan 10]. Available from: https://www.dcabp.org/who-we-are
[lxiv] visitnc.com [Internet]. Attraction: White Rock Baptist Church. Durham (NC): Economic Development Partnership of North Carolina; c2021 [cited 2021 Jan 10]. Available from: https://www.visitnc.com/listing/dwdB/white-rock-baptist-church
[lxv] Bouloubasis V. Before Greensboro's famous lunch counter protest, Durham's royal ice cream sit-in quietly sparked a movement [Internet]. Durham (NC): Indy Week; 2017 Jun 18 [cited 2021 Jan 10]. Available from: https://indyweek.com/food-and-drink/news/greensboro-s-famous-lunch-counter-protest-durham-s-royal-ice-cream-sit-in-quietly-sparked-movement/
[lxvi] Bouloubasis V. Before Greensboro's famous lunch counter protest, Durham's royal ice cream sit-in quietly sparked a movement [Internet]. Durham (NC): Indy Week; 2017 Jun 18 [cited 2021 Jan 10]. Available from: https://indyweek.com/food-and-drink/news/greensboro-s-famous-lunch-counter-protest-durham-s-royal-ice-cream-sit-in-quietly-sparked-movement/
[lxvii] northcarolinahistory.org [Internet]. Research Triangle Park. Raleigh (NC): North Carolina History Project; c2016 [cited 2021 Jan 10]. Available from: https://northcarolinahistory.org/encyclopedia/research-triangle-park/
[lxviii] museumofdurhamhistory.org [Internet]. Overview of Durham history. Durham (NC): Durham Convention and Visitor's Bureau; c2021 [cited 2021 Jan 10]. Available from: https://www.museumofdurhamhistory.org/learn/overview-of-durham-history/
[lxix] museumofdurhamhistory.org [Internet]. Overview of Durham history. Durham (NC): Durham Convention and Visitor's Bureau; c2021 [cited 2021 Jan 10]. Available from: https://www.museumofdurhamhistory.org/learn/overview-of-durham-history/
[lxx] museumofdurhamhistory.org [Internet]. Overview of Durham history. Durham (NC): Durham Convention and Visitor's Bureau; c2021 [cited 2021 Jan 10]. Available from: https://www.museumofdurhamhistory.org/learn/overview-of-durham-history/
[lxxi] dsl.richmond.edu [Internet]. Renewing inequality. Richmond (VA): Digital Scholarship Lab, University of Richmond; c2007-2021 [cited 2021 Jan 10]. Available from: https://dsl.richmond.edu/panorama/renewal/#view=0/0/1&viz=cartogram

[lxxii] bullcity150.org [Internet]. Dismantling Hayti: who caused all this? Durham (NC): Bull City 150; c2018 [cited 2021 Jan 10]. Available from: https://www.bullcity150.org/uneven_ground/dismantling_hayti/who_caused_this/
[lxxiii] bullcity150.org [Internet]. Dismantling Hayti: who caused all this? Durham (NC): Bull City 150; c2018 [cited 2021 Jan 10]. Available from: https://www.bullcity150.org/uneven_ground/dismantling_hayti/who_caused_this/
[lxxiv] bullcity150.org [Internet]. Dismantling Hayti: who caused all this? Durham (NC): Bull City 150; c2018 [cited 2021 Jan 10]. Available from: https://www.bullcity150.org/uneven_ground/dismantling_hayti/who_caused_this/
[lxxv] Smith A. 'Promises Made,' the legacy of urban renewal in Durham [Internet]. Durham (NC): Campus Echo Online, North Carolina Central University; 2017 Feb 2 [cited 2021 Jan 10]. Available from: http://campusecho.com/video-promises-made-the-legacy-of-urban-renewal-in-durham
[lxxvi] Ehrsam FE. The downfall of Durham's historic Hayti: propagated or preempted by urban renewal? [Internet]. Durham (NC): Duke University; 2010 May 3 [cited 2021 Jan 10]. Available from: https://sites.duke.edu/djepapers/files/2016/10/Ehrsam-Fred_DJE.pdf
[lxxvii] bullcity150.org [Internet]. Dismantling Hayti. Durham (NC): Bull City 150; c2018 [cited 2021 Jan 10]. Available from: https://www.bullcity150.org/uneven_ground/dismantling_hayti/
[lxxviii] sites.duke.edu [Internet]. Latino life in Durham. Durham (NC): Duke University; c2021 [cited 2021 Jan 10]. Available from: https://sites.duke.edu/latinosindurham/welcome-2/latino-life-in-durham/
[lxxix] latinoccu.org [Internet]. Our history. Durham (NC): Cooperativa Latino Credit Union; c2021 [cited 2021 Jan 10]. Available from: https://latinoccu.org/about-us/our-history/
[lxxx] Gamboa S. From tobacco to tortillas: Latinos remake Durham, North Carolina [Internet]. New York (NY): NBC News; 2014 Sep 26 [cited 2021 Jan 10]. Available from: https://www.nbcnews.com/storyline/hispanic-heritage-month/tobacco-tortillas-latinos-remake-durham-north-carolina-n203276
[lxxxi] Gamboa S. From tobacco to tortillas: Latinos remake Durham, North Carolina [Internet]. New York (NY): NBC News; 2014 Sep 26 [cited 2021 Jan 10]. Available from: https://www.nbcnews.com/storyline/hispanic-heritage-month/tobacco-tortillas-latinos-remake-durham-north-carolina-n203276
[lxxxii] sites.duke.edu [Internet]. Latino life in Durham. Durham (NC): Duke University; c2021 [cited 2021 Jan 10]. Available from: https://sites.duke.edu/latinosindurham/welcome-2/latino-life-in-durham/
[lxxxiii] Pulliam T. First all-female Durham County Commission sworn into office. Durham (NC): ABC-11; 2020 Dec 7 [cited 2021 Jan 10]. Available from: https://abc11.com/politics/first-all-female-durham-county-commissioners-sworn-into-office/8582304/

Section 3.05 *Land use*

Overview

Local government land use policies and regulations can profoundly impact the health and safety of a community. Zoning regulates the location of various uses such as residential, commercial and industrial. It also determines how dense residential areas are, the location of buildings and the sizes of lots and yards. Safeguarding and promoting provision of efficient infrastructure, affordable housing, economic opportunity, healthcare, community cohesion, and safe and attractive neighborhoods is among the local government's most crucial functions.[i]

Secondary Data

Approximately 59 percent of the land in Durham County is currently dedicated to non-residential land uses, including agricultural uses and land set aside as recreation/open space.[ii] Residential uses account for almost 26 percent, with single-family residential comprising vast majority of residential land use. The remaining 15.5% is vacant land (See Table 3.05(a)).[iii]Approximately 38 percent of Durham County's land lies within the jurisdictions of the City of Durham and portions of the Town of Chapel Hill, Town of Morrisville and City of Raleigh.[iv]

Existing Land Use, Durham County, September 2020[v,vi,vii]

	Acres	Square Miles	Percent
Total Land Area	190,615	297.8	100.00%
Unincorporated Durham County	116,955	182.7	61.9%
City of Durham	72,483	113.3	37.5%
Town of Chapel Hill	982	1.5	0.5%
City of Raleigh	188	0.0	0.1%
Town of Morrisville	8	0.3	0.0%
Land Uses			
Industrial/Utilities	8,731	13.6	4.6%
Commercial	3,987	6.2	2.1%
Office/Institutional	10,226	16.0	5.4%
Agriculture	38,621	60.3	20.2%
Recreation/Open Space	34.483	53.9	18.1%
Rights-of-Way	16,442	25.7	8.6%
Vacant Land	29,602	46.3	15.5%
Multifamily Residential	4,872	7.6	2.6%
Townhouse Residential	1,294	2.0	0.7%
Two-Family Residential	518	0.8	0.3%
Single-Family Residential	42.560	66.5	22.3%

Table 3.05(a) Existing Land Use in Durham County, September 2020[1]

Zoning is the predominate method the City and County of Durham use to regulate land use. Zoning plays a key role in the number and types of housing units are constructed, as well as the type and location of employment opportunities that are available. Non-residential zoning accounts for approximate 14% of land in Durham County.[viii] Almost 85% of the land in Durham's zoning jurisdiction is zoned for residential use.[ix] Almost 70% of land is zoned for Low Density Single Family Development (Residential Suburban and Residential Rural).[x] Only about one percent of Durham is zoned for higher density mixed use development.[xi]

Zoning Districts, Durham County/City of Durham Zoning Jurisdiction, September 2020[xii]

	Acres	Square Miles	Percent
Zoning District			
Industrial (I, IL, IP, SRP)	17,066	26.6	9.0%
Commercial (CN, CI, CG, CC)	4,700	7.3	2.5%
Office/Institutional (OI, UC)	5,629	7.7	2.6%
Design District (DD, CD, CSD)	1,516	2.4	0.8%
Mixed Use (MU, SRP-C)	686	1.1	0.4%
Multifamily (RS-M, RU-M, RC)	4,346	6.8	2.3%
Residential Urban (RU-5, RU-5(2))	6,655	10.4	3.5%
Residential Suburban (RS-20, RS-10, RS-8)	33,486	52.3	17.7%
Rural Residential (RR)	98,989	154.7	52.2%
Planned Development Residential (PDR)	17,247	26.9	9.1%

Table 3.05(b) Zoning Districts in Durham City and County, September 2020

Interpretations: Disparities, Gaps, Emerging Issues

Since the end of the Great Recession in 2011, development activity in Durham has continued at a high pace, particularly residential development. As demand has grown and land becomes more scarce and expensive, single-family detached residential is becoming out of reach to the typical Durham resident. Other housing types, particularly townhomes and higher-density apartments have become more common, but as table 3.05(a) shows those only make up 3.3% of land in Durham County.

The popularity of Downtown continues, with development of new housing units and office space throughout the Downtown Tier, the roughly one square mile that encompasses Durham's city center. As Downtown has become a popular place to live and work, demand for in-town living in the Urban Tier has increased as well. According to Redfin data, sales prices for homes in Durham County increased 44% County-wide between 2013 and 2018.[xiii] Sale prices in Old North Durham

[1] Parcel land uses were classified by the Durham City-County Planning Department using land use categories defined in the Durham Comprehensive Plan and Durham Unified Development Ordinance.

increased 118% and 328% in East Durham. Rapid price increases in traditionally African American neighborhoods such as East Durham, Walltown and West End increases the risk of displacement of long-term lower wealth Durham residents.[xiv]

Durham's population is forecasted to continue to grow at a fairly rapid pace. The estimated population of Durham County on July 1, 2019 was 321,488 people.[xv] The Triangle J Council of Government (TJCOG) projects that the County's population will grow to 458,395 people by the year 2050.[xvi] TJCOG also projects that the number of jobs in Durham County will increase from 255,029 in 2016 to 482,114 in 2050.[xvii] With continued strong population and jobs growth in the County, demand for housing will continue to increase. The County will need to allow the production of new units at all price points to reduce further housing disparity. Additionally, the projections show that job growth will outpace population growth in Durham, meaning more people will be commuting from outside of the county with likely impacts on traffic congestion and climate change.

Recommended Strategies

The Durham City-County Planning Department is the planning agency for both the City of Durham and Durham County. Planners develop long-range and special areas plans that contain policies to direct growth. Various plans address land use, open space, historic resources, the environment, housing, transportation, economic development, government services and facilities and Durham's diverse population. The City-County Planning Department maintains the *Durham Comprehensive Plan*, which is serves as Durham County's and the City of Durham's statement about how the community should grow and develop.

The *Durham Comprehensive Plan,* in support of regional rail planning, designates a series of "compact neighborhoods" in the vicinity of planned transit stations in central and southwestern Durham.[xviii] The majority of these stations were located along the planned Durham-Orange Light Rail Transit (DOLRT) corridor. However, the DOLRT project was discontinued by the GoTriangle Board of Directors in 2019. At the direction of the City Council and the Board of Commissioners, the Planning Department is continuing to pursue higher-density transit-oriented development opportunities in the adopted Compact Neighborhoods. The goal is to create transit-ready neighborhoods in anticipation of a new Durham County Transit Plan in 2021.

Current Initiatives & Activities

In 2019, the Planning Department began the development of a new Comprehensive Plan to replace the current adopted Comprehensive Plan that was adopted in 2005. The life span of a land use plan is typically no more than ten years. The 2005 Comprehensive Plan is no longer serving the needs of a rapidly changing community. Development of the plan is focusing on authentic community engagement, using the Equitable Engagement Blueprint which was endorsed by the City Council in 2018.[xix]

The first phase of engagement for the new Comprehensive Plan, Listening and Learning Sessions, were held from November 2019 through February 2020. Input from Listening and Learning shows that priories of Durham residents include housing, schools and education and transit.[xx]

Additional adopted reports and plans on a variety of land use topics including local historic district plans, open space plans, industrial land supply, design districts, as well as manuals and guidelines for land use development in Durham are available at http://durhamnc.gov/339/Adopted-Plans-Guidelines. Information on current planning projects and ongoing studies may be accessed at http://durhamnc.gov/360/Current-Topics.

References

[i] Dannenberg AL, Jackson RJ, Frumking H, Schieber RA, Pratt M, Kochtitzky C, Tilson H. The impact of community design and land-use choices on public health: a scientific research agenda [Internet]. American Journal of Public Health. 2003 [cited 2020 Sep 1];93(9):1500-8. doi: 10.2105/ajph.93.9.1500. PubMed PMID: 12948970. Available from: https://ajph.aphapublications.org/doi/10.2105/AJPH.93.9.1500
[ii] Parcels for North Carolina [Internet]. Durham (NC): Durham County Tax Assessors Office; c2020 [cited 2020 Sep]. Available from: https://www.nconemap.gov/pages/parcels
[iii] Parcels for North Carolina [Internet]. Durham (NC): Durham County Tax Assessors Office; c2020 [cited 2020 Sep]. Available from: https://www.nconemap.gov/pages/parcels
[iv] Parcels for North Carolina [Internet]. Durham (NC): Durham County Tax Assessors Office; c2020 [cited 2020 Sep]. Available from: https://www.nconemap.gov/pages/parcels
[v] Parcels for North Carolina [Internet]. Durham (NC): Durham County Tax Assessors Office; c2020 [cited 2020 Sep]. Available from: https://www.nconemap.gov/pages/parcels
[vi] durhamnc.gov [Internet]. Durham comprehensive plan. Durham (NC): Durham City-County Planning Department; c2005 [cited 2020 Sep]. Available from: http://durhamnc.gov/346/Comprehensive-Plan
[vii] durhamnc.gov [Internet]. Durham unified development ordinance. Durham (NC): Durham City-County Planning Department; c2020 [cited 2020 Sep]. Available from: https://durham.municipal.codes/
[viii] durhamnc.gov [Internet]. Durham unified development ordinance section 4.1.1: Durham City-County zoning map. Durham (NC): Durham City-County Planning Department; c2020 [cited 2020 Sep]. Available from: https://durham.municipal.codes/UDO/4.1.1
[ix] durhamnc.gov [Internet]. Durham unified development ordinance section 4.1.1: Durham City-County zoning map. Durham (NC): Durham City-County Planning Department; c2020 [cited 2020 Sep]. Available from: https://durham.municipal.codes/UDO/4.1.1
[x] durhamnc.gov [Internet]. Durham unified development ordinance section 4.1.1: Durham City-County zoning map. Durham (NC): Durham City-County Planning Department; c2020 [cited 2020 Sep]. Available from: https://durham.municipal.codes/UDO/4.1.1
[xi] durhamnc.gov [Internet]. Durham unified development ordinance section 4.1.1: Durham City-County zoning map. Durham (NC): Durham City-County Planning Department; c2020 [cited 2020 Sep]. Available from: https://durham.municipal.codes/UDO/4.1.1
[xii] durhamnc.gov [Internet]. Durham unified development ordinance section 4.1.1: Durham City-County zoning map. Durham (NC): Durham City-County Planning Department; c2020 [cited 2020 Sep]. Available from: https://durham.municipal.codes/UDO/4.1.1
[xiii] redfin.com [Internet]. Durham housing market. Redfin; c2020 [cited 2020 Sep 1]. Available from: https://www.redfin.com/county/2038/NC/Durham-County/housing-market
[xiv] redfin.com [Internet]. Durham housing market. Redfin; c2020 [cited 2020 Sep 1]. Available from: https://www.redfin.com/county/2038/NC/Durham-County/housing-market
[xv] census.gov [Internet]. QuickFacts: Durham City, North Carolina; Durham County, North Carolina. Washington, DC: United States Census Bureau; c2019 [cited 2020 Sep]. Available from: https://www.census.gov/quickfacts/fact/table/durhamcitynorthcarolina,durhamcountynorthcarolina/PST045219
[xvi] Triangle J Council of Governments. 2050 metropolitan transportation plan: socioeconomic forecasts. Durham (NC): Triangle J Council of Governments; c2020 [cited 2020 Aug 13].
[xvii] Triangle J Council of Governments. 2050 metropolitan transportation plan: socioeconomic forecasts. Durham (NC): Triangle J Council of Governments; c2020 [cited 2020 Aug 13].
[xviii] durhamnc.gov [Internet]. Durham comprehensive plan. Durham (NC): Durham City-County Planning Department; c2005 [cited 2020 Sep]. Available from: http://durhamnc.gov/346/Comprehensive-Plan

[xix] Neighborhood Improvement Services. Equitable engagement blueprint [Internet]. Durham (NC): City of Durham; c2018 [cited 2020 Sep]. Available from: https://d3n8a8pro7vhmx.cloudfront.net/durhamnis/pages/592/attachments/original/1543332399/Draft_Equitable_Engagement_Blueprint_%2818%29_11.06.pdf?1543332399

[xx] Engage Durham. Listening and learning engagement summary. Durham (NC): City-County Planning Department; c2020 [cited Sep 2020]. Available from: https://engagedurham.com/listening-and-learning-engagement-summary/

Section 3.06 *Built environment and transportation*

Overview

According to the United States Environmental Protection Agency, the built environment encompasses the buildings, spaces, and products created or modified by people.[ii] This includes buildings (housing, schools, workplaces), land use (industrial or residential), public resources (parks, museums), zoning regulations and transportation systems.

A community's design has a direct impact on where people live, where people work, how they get around, how much pollution they produce, what kind of environmental hazards they face, and what amenities they enjoy. According to the American Planning Association, "Community design directly effects human health. Development patterns, zoning, and land use impact walkability and transportation options, access to services, the availability of healthy foods, and vulnerability to hazards."[iii]

"Some neighborhoods are deeply transit-dependent with high rates of pedestrian utilization and high rates of pedestrian accidents. It is not even about a beauty thing and more about a safety thing."
-Durham County Resident[i]

In communities with open green space and various types of destinations close to each other, it is easier for residents to incorporate physical activity into their daily routine. In addition, a transportation network that includes sidewalks, bike paths, safe intersections, crosswalks, and public transportation provides people with safe and convenient opportunities to be active. Creating environments that promote and make it convenient to be more physically active can lead to a significant improvement in people's health.

In addition, the built environment impacts other environmental health factors, particularly air and water quality, as well as the likelihood of injury.[iv] Communities that promote alternative forms of transportation and provide safe places for people to walk and bike can encourage residents to safely use alternatives other than driving, thus reducing the amount of traffic congestion, noise, and air pollution caused by traffic. Trees also provide environmental benefits and promote health and wellness in communities. Today, trees are considered infrastructure as necessary as roads, bridges, pipes, and tunnels.[v]

Historically, the built environment has also been affected by large scale highway and urban renewal projects. These projects most often affected African American neighborhoods, where businesses were destroyed, and residents were displaced. In Durham during the 1960s and 70s, the Durham Freeway and urban renewal destroyed the heart of the African American Hayti business district and neighborhood. Over 4,000 families and 500 businesses were displaced at a cost of $300 million in today's dollars.[vi] And the promised renewal of Hayti never happened.[vii]

Primary Data

The 2019 Durham City and County Resident Survey found that residents are supportive of improving the conditions for walking and bicycling in Durham.[viii] Findings include the following:

- Greenways/trails are identified as the parks and recreation service that should receive the most emphasis over the next two years.
- Sidewalk and bicycle facilities (e.g. bike lanes, bike parking) maintenance are identified as numbers two and three on the list of city maintenance services that should receive the most emphasis over the next two years.

Secondary Data

Five-year estimates for 2014 to 2018 from the U.S. Census American Community Survey show the percent of commuters who walk, bicycle, and take transit to work.[ix] In the City of Durham, 1.9 percent walk to work, 2 percent bike, and 3.8 take transit. In Durham County as a whole, 1.8 percent walk to work and 1.9 percent bike to work.[x]

The City of Durham has more than 639 miles of sidewalks.[xi] In general, there are few sidewalks in Durham County outside the City of Durham. A notable exception is Research Triangle Park, which has a network of walking paths and trails. The lack of sidewalks or even a grassy shoulder on rural roads means that county residents often have nowhere to walk. Roads in outside the City are maintained by the NC Department of Transportation, but that agency does not build or maintain sidewalks.

In 2000, there were no bike lanes in Durham. Since then, more than 50 miles of bike lanes have been created.[xii], [xiii] Bike lanes are typically included when major roadways are built or widened, and in some cases bike lanes can be striped when a road is repaved.

Durham has about 34 miles of paved trails and greenways, with about 189 miles of planned trails and greenways.[xiv] The American Tobacco Trail was completed in 2014, providing a 22-mile regional trail in Durham, Chatham and Wake counties.[xv]

Interpretations: Disparities, Gaps, Emerging Issues

Both the City of Durham Strategic Plan and the Durham County Strategic Plan contain objectives related to health and the built environment.[xvi, xvii] One objective is to increase transportation choices (Way to Go Durham program) and local and regional connectivity through increasing bus ridership, the number of bicycle and pedestrian facilities (sidewalks, bicycle lanes, off-road trails, intersection improvements, and other related amenities), and enhancing real and perceived bicycle and pedestrian safety while increasing bicycle and pedestrian activity.[xviii]

Several compact neighborhood areas have been designated in the vicinity of future transit systems in Durham. These are areas identified for high-density and intensity infill, redevelopment, and new

development that integrate a mix of land uses through an urban fabric that includes enhanced bicycle and pedestrian facilities. Compact neighborhoods are expected to be walkable and bikeable with an improved street-level experience.[xix]

The Triangle is one of the fastest growing regions in the county.[xx] Growth brings prosperity and new employment opportunities, but also adds congestion to roadways. By providing a congestion free alternative, transit programs will help manage future growth while creating vibrant, walkable communities and connecting residents to jobs, education, and healthcare. The goals of Durham County Transit Plan include creating an exceptional public transportation system that provides greater access for Durham residents and employers and positively affects traffic congestion and air quality while supporting local development policies.[xxi]

Efforts are underway to make sure that all Durham voices are involved in City and County projects. Spurred by concerns about the equity of the public engagement for the Durham Belt Line Trail, the Durham City Council directed staff to create what became Durham's Equitable Community Engagement Blueprint.[xxii] The Blueprint provides specific guidelines that can be adapted and replicated across City initiatives. It prescribes intentional engagement methods to help ensure that historically underrepresented communities are included in planning and decision-making. The goal of the Blueprint is measurable equitable engagement, increased awareness of City initiatives, minimized adverse effects, and maximized benefits for low-wealth communities and communities of color.[xxiii]

Recommended Strategies

The Durham Bike+Walk Implementation Plan identified and prioritized more than 450 miles of bicycle facility needs, more than 400 miles of sidewalk needs, and 480 intersection improvement needs.[xxiv] From these needs, 75 projects have been identified for implementation based on a data-driven prioritization process.

However, the plan also recognizes that there is a need for bicycle and pedestrian facilities and improvements on many other streets in Durham beyond the 75 projects identified in the plan.[xxv] What options are available for these streets? A number of other bicycle/pedestrian projects are currently funded and in various stages of development.[xxvi] In addition, the Bike+Walk Plan identifies a number of opportunities for bicycle and pedestrian improvements that are and will continue to be pursued, including the following:[xxvii]

- Reviewing the feasibility of providing bicycle lanes on streets that are being resurfaced.
- Requiring sidewalks as part of all new development.
- Coordinating with the Durham Parks and Recreation Department on trail construction and improving access to and from trails
- Coordinating with GoDurham and GoTriangle on bicycle/pedestrian improvements related to bus stops and transit projects
- Adding bicycle and pedestrian facilities to NC Department of Transportation road and intersection construction projects.
- Providing traffic calming interventions on neighborhood streets.

- Reviewing crash locations and information submitted by residents to identify safety improvements on a case-by-case basis.
- Providing a sidewalk petition program that allows residents to request and share in the cost of sidewalk construction.

Current Initiatives & Activities

Bike Durham is a coalition of individuals and organizations that believe everyone should have access to safe, affordable, and sustainable transportation regardless of who they are or where they live. ***http://www.bikedurham.org***

The Durham Bicycle Cooperative is an all-volunteer 501(c)(3) non-profit community bicycle project. Programming includes hands on repair skill share (helping you fix your bike), an earn-a-bike program (helping you get a bike), and mobile clinics. http://www.durhambikecoop.org/

The Durham Bicycle and Pedestrian Advisory Commission (BPAC) is an appointed commission that advises City Council and County Commissioners on bicycle and pedestrian issues. There are three committees: Development Review; Education, Encouragement, and Engagement; and Bike and Pedestrian Plan Implementation and Evaluation. https://durhamnc.gov/3851/Durham-Bicycle-and-Pedestrian-Advisory-C

Durham Bike+Walk Implementation Plan is the City of Durham's Transportation Department was adopted by the Durham City Council in June 2017. The plan combines the comprehensive bicycle and pedestrian plans into one document focused on implementation. http://durhamnc.gov/3092/BikeWalk-Plan-2017

Durham Healthy Mile Trails was developed by Partnership for a Healthy Durham to encourage residents to walk in their neighborhoods. Healthy Mile Trails are one-mile marked loops that use existing neighborhood sidewalks. http://healthydurham.org/committees/obesity-and-chronic-illness-committee/healthy-mile-trails

Durham Open Space and Trails Commission (DOST) is an appointed body that seeks input from neighborhoods, citizens, and local nonprofits and makes recommendations to City Council and the County Commissioners about Open Space, Trails and Greenways. https://durhamnc.gov/1652/Durham-Open-Space-and-Trails-Commission-

Trees Durham works to create a healthy, sustainable, and socially just tree canopy across Durham City and County. https://www.treesdurham.org/

Vision Zero Durham Vision Zero is an approach that recognizes no traffic fatalities or serious injuries are acceptable. http://durhamnc.gov/2995/Vision-Zero

Watch for Me NC aims to reduce pedestrian and bicycle injuries and deaths through a comprehensive, targeted approach of public education and police enforcement. http://www.watchformenc.org/

References

[i] Office of Performance and Innovation. Resident survey engagement. Durham (NC): City of Durham Budget & Management Services Department; c2020 [cited 2021 Jan 1]. Available from: https://durhamnc.gov/DocumentCenter/View/35393/ResidentSurveyEngagementJanuary2020Website
[ii] epa.gov [Internet]. Basic information about the built environment. Research Triangle Park (NC): Environmental Protection Agency; c2020 [cited 2021 Jan 1]. Available from: https://www.epa.gov/smm/basic-information-about-built-environment
[iii] planning.org [Internet]. Planning and community health. Washington, DC: American Planning Association, Planning and Community Health Program; c2020 [cited 2020 Dec 4]. Available from: https://www.planning.org/nationalcenters/health/
[iv] niehs.nih.gov [Internet]. Health & education: brochures and fact sheets. Morrisville (NC): National Institute of Environmental Health Sciences; c2020 [cited 2020 Dec 4]. Available from: https://www.niehs.nih.gov/health/materials/index.cfm
[v] planning.org [Internet]. More trees, please. Washington, DC: American Planning Association, Planning Magazine; 2017 Jun [cited 2020 Dec 4]. Available from: https://www.planning.org/planning/2017/jun/moretrees/
[vi] bullcity150.org [Internet]. Uneven ground: uncovering the history of Durham's housing inequality. Durham (NC): Bull City 150; c2020 [cited 2020 Dec 22]. Available from https://www.bullcity150.org/uneven_ground/dismantling_hayti/
[vii] bullcity150.org [Internet]. Uneven ground: uncovering the history of Durham's housing inequality. Durham (NC): Bull City 150; c2020 [cited 2020 Dec 22]. Available from https://www.bullcity150.org/uneven_ground/dismantling_hayti/
[viii] ETC Institute [Internet]. Durham city and county resident survey. Durham (NC): ETC Institute; c2019 [cited 2020 Dec 4]. Available from: https://www.dconc.gov/Home/ShowDocument?id=30130
[ix] data.census.gov [Internet]. American Community Survey: means of transportation to work by vehicles available, table ID B08141. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=transportation&g=1600000US3719000&tid=ACSDT5Y2019.B08141&hidePreview=true
[x] data.census.gov [Internet]. American Community Survey: means of transportation to work by vehicles available, table ID B08141. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=transportation&g=1600000US3719000&tid=ACSDT5Y2019.B08141&hidePreview=true
[xi] durhamnc.gov [Internet]. SW-77 RFQ for sidewalk asset management plan & condition study 2020. Durham (NC): City of Durham; c2020 [cited 2021 Jan 1]. Available from: https://durhamnc.gov/4003/SW-77-RFQ-for-Sidewalk-Asset-Mgmt-Plan-S
[xii] Stantec Consulting Services. Durham bike + walk implementation plan. Durham (NC): City of Durham; 2017 May 15 [cited 2020 Dec 4]. Available from: http://durhamnc.gov/3092/BikeWalk-Plan-2017
[xiii] durhamnc.gov [Internet]. Durham bike + walk implementation plan. Durham (NC): City of Durham; c2020 [cited 2020 Dec 4]. Available from: https://durhamnc.gov/3092/BikeWalk-Plan-2017
[xiv] Durham City-County Planning Department. Durham Trails and Greenway Master Plan. Durham (NC): Durham County Board of Commissioners, Durham City Council; 2011 Jun 11 [cited 2020 Dec 4]. Available from: https://durhamnc.gov/DocumentCenter/View/3445/Durham-Trails-and-Greenways-Master-Plan-2011-PDF?bidId=

[xv] triangletrails.org [Internet]. American Tobacco Trail (ATT). Durham (NC): Triangle Rails to Trails Conservancy; c2019 [cited 2021 Jan 1]. Available from: http://www.triangletrails.org/american-tobacco-trail
[xvi] City of Durham. Strategic plan initiative progress highlights. Durham (NC): City of Durham; c2018 [cited 2020 Dec 4]. Available from: https://durhamnc.gov/DocumentCenter/View/29607/Strategic-Plan-Initiative-Progress-Highlights-English
[xvii] Durham County Government. Durham County strategic plan: 2017 update. Durham (NC): Durham County; c2017 [cited 2020 Dec 4]. Available from: https://www.dcomanagingforresults.org/home/showdocument?id=25177
[xviii] waytogodurhamc.com [Internet]. Durham (NC): City of Durham; c2020 [cited 2020 Dec 4]. Available from: https://waytogodurham.com/
[xix] durhamnc.gov [Internet]. Compact neighborhood planning. Durham (NC): Durham City-County Planning Department, City of Durham; c2020 [cited 2020 Dec 4]. Available from: https://durhamnc.gov/364/Compact-Neighborhood-Planning
[xx] Stanford J. 2040 vision: how will North Carolina's population change in the next 20 years? Durham (NC): Indy Week; 2019 Dec 31 [cited 2021 Jan 1]. Available from: https://indyweek.com/news/northcarolina/2040-vision-north-carolina-population-trends/
[xxi] engagedurham.com [Internet]. Durham County transit plan. Durham (NC): Durham City-County Planning Department; c2020 [cited 2020 Dec 4]. Available from: https://engagedurham.com/durham-county-transit-plan
[xxii] Neighborhood Improvement Services. Equitable community engagement blueprint draft [Internet]. Durham (NC): City of Durham; 2018 Nov [cited 2021 Jan 1]. Available from: https://www.durhamcommunityengagement.org/equitable_engagement
[xxiii] engagedurham.com [Internet]. Durham County transit plan. Durham (NC): Durham City-County Planning Department; c2020 [cited 2020 Dec 22]. Available from: https://engagedurham.com/durham-county-transit-plan
[xxiv] Stantec Consulting Services. Durham bike + walk implementation plan. Durham (NC): City of Durham; 2017 May 15 [cited 2020 Dec 4]. Available from: http://durhamnc.gov/3092/BikeWalk-Plan-2017
[xxv] Stantec Consulting Services. Durham bike + walk implementation plan. Durham (NC): City of Durham; 2017 May 15 [cited 2020 Dec 4]. Available from: http://durhamnc.gov/3092/BikeWalk-Plan-2017
[xxvi] durhamnc.gov [Internet]. Durham bike + walk implementation plan. Durham (NC): City of Durham; c2020 [cited 2020 Dec 4]. Available from: https://durhamnc.gov/3092/BikeWalk-Plan-2017
[xxvii] Stantec Consulting Services. Durham bike + walk implementation plan. Durham (NC): City of Durham; 2017 May 15 [cited 2020 Dec 4]. Available from: http://durhamnc.gov/3092/BikeWalk-Plan-2017

Section 3.07 *Parks and recreation*

Overview

Access to recreational opportunities has a profound impact on both mental and physical health. Trails, playgrounds, open space, athletic fields and recreation centers all provide the opportunity for physical activity, intellectual stimulation and social interaction.

Snapshot: Durham Parks and Recreation

- 68 parks with 2000 acres
- 30 miles of accessible trails
- 12 program sites
  - 7 gymnasiums
  - 5 dance studios
  - 2 indoor pools
  - 3 outdoor pools
  - 4 fitness facilities
  - 2 indoor walking tracks

The City of Durham Parks and Recreation Department (DPR) is well-respected in the community for its quality programming and responsiveness to the community's needs. The department's breadth of 68 program facilities and parks offers great access to gymnasiums, athletic fields, outdoor basketball, playgrounds, tennis courts, pools and trails. The 2019 Durham City and County Resident Survey indicates a high level of satisfaction with parks, recreation and open space.[i]

DPR became nationally accredited by the Commission for Accreditation of Park and Recreation Agencies (CAPRA) in 2008 and was re-accredited in 2018. Accreditation validates to the public that DPR is a well-administered department that meets or exceeds national standards. The accreditation process identifies areas for improvement within the department, by comparing DPR against national standards of best practices, which ultimately means improved services to Durham and its residents. There are 175 nationally accredited parks and recreation departments. Twelve of those departments are in North Carolina.[ii]

In 2017, the City of Durham signed on to the *10-minute Walk to the Park Standard* developed by the Trust for Public Land. The goal of the standard is to measure the importance of proximity to parks and other recreational venues, from an economic, health and social perspective. According to The Trust for Public Lands' 2020 Parkscore Index, amongst the nations' 100 largest cities, Durham ranks 26th out of the 100 cities in terms of access to parks. The Parkscore also shows that for Durham, 51% of its residents live with a 10-minute walk to a park (which is just below the national average of 55%).[iii] In addition, 54% if Durham's children (0 -19 years old) live within a 10-minute walk to a park and 60% of low-income residents live within a 10-minute walk to a park.[iv] In 2017 DPR and Duke Health were recognized by the National Park and Recreation Center with the National Partnership Award for Bull City Fit, a unique approach to treating youth with obesity.

Secondary Data

DPR operates seven recreation centers. Amenities of these facilities include: seven gymnasiums, five dance studios, two indoor pools, four indoor fitness facilities and two indoor walking tracks. In addition, three outdoor pools are operated in the summer months. DPR registered programming served over 13,000 individuals (January 1-December 31, 2019) with a variety of offerings including athletics, fitness, outdoor recreation, dance, martial arts and programs for mature adults.[v] DPR reaches many more residents through "drop-in" programming such as open gym, swim programs, festivals and other programs that do not require registration. Durham has approximately 30 miles of accessible trails and greenways. Additionally, several trails in Durham provide key linkage of the North Carolina Mountains to Sea Trail and the East Coast Greenway.

DPR offers classes on healthy cooking and eating for adults and children; two program sites include community garden space. School Age Care programming during after school hours and during summer is considered a core service of the department. A special teen program, My Durham provides drop-in services for youth ages 13-18, year-round at six sites. These programs provide safe, healthy and affordable programming during the times children and youth are not in school. A sliding fee scale is available for those families who may have difficulty affording after school and summer day camp program fees. In 2018, the value of program fee waivers and sliding fee scale discounts provided to the residents of Durham totaled over $550,000.[vi] Other programming offered by DPR includes care and recreational programming for persons with disabilities, programming for mature adults, parent-child programming, environmental education, outdoor adventure programming and cultural and heritage programming.

Primary Data

Each year the City and County of Durham conduct a resident satisfaction survey. The 2019 survey indicates high levels of satisfaction with parks, recreation and open space. "The highest levels of satisfaction with parks, recreation, and open space, based upon the combined percentage of "very satisfied" and "satisfied" responses among residents who had an opinion, were: greenways and trails (69%), cultural programming (67%), and length of commute to desired recreation amenities (66%).[vii] Parks, recreation, and open space items that respondent households felt should receive the most emphasis over the next two years, based on the sum of their top two choices, were: greenways and trails (36%), variety of City recreation opportunities (25%), and cultural programming (23%)."[viii]

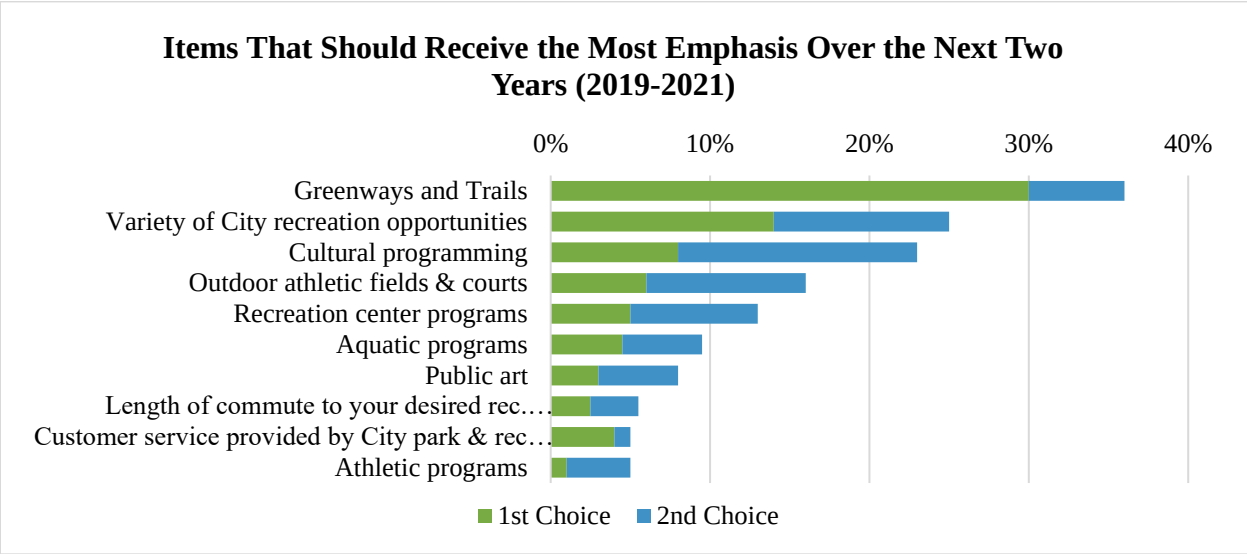


Figure 3.07(a) Parks and Recreation Items That Should Receive the Most Emphasis Over the Next Two Years, City of Durham, 2019[ix]

The Durham Parks and Recreation Master Plan 2013-2023 provides the guidepost by which the City of Durham makes decisions about the location and development of new parks and facilities, as well as the renovation and repurposing of existing facilities.[x] The plan addresses parks, centers and trails, programming and events, maintenance and organizational structure. The City undertakes Master Planning for the Parks and Recreation department every 10 years. The next Master Plan is anticipated to be completed in 2024. Residents indicated in the 2019 Community Health Assessment Survey that they exercise or engage in physical activity most often at home and in their neighborhood.[xi]

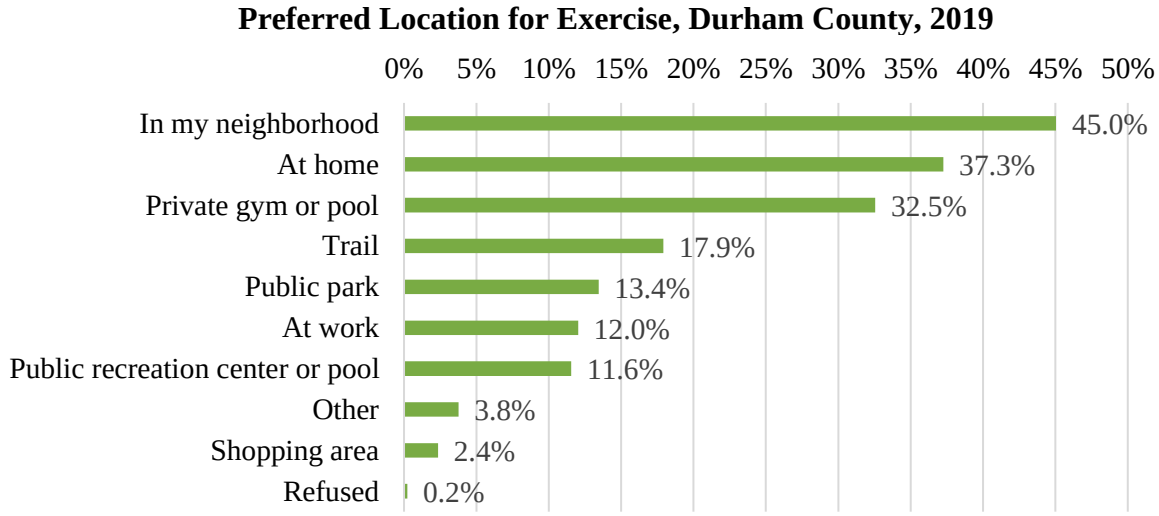


Figure 3.07(b) Preferred locations for Exercise, Durham County. 2019[xii]

Given that parks and recreation centers play a significant role in the physical activity of the community, access to greenways, recreational programming and facilities plays a critical role in the health and well-being of Durham residents. The data collected in the Community Health Assessment Survey confirms this finding.[xiii]

Interpretations: Disparities, Gaps, Emerging Issues

Fifty-one percent of Durham's residents live within a 10-minute walk to a park, trail or public open space.[xiv] This is slightly below the national average of 55%. Gaps in access to DPR facilities and programs are multi-faceted. Barriers include economic, physical, transportation and larger systemic issues. Agency capacity to meet demand is also an issue. This is especially true for programming for youth with disabilities and programs for children and youth during the summer months.

Although DPR strives to make its programs as affordable as possible, most recreational programming has some level of fee associated with it. DPR has established several opportunities to remedy cost barriers to its programming these are detailed in the Play More magazine published three times annually.[xv] In 2016, Durham City Council voted to make most programming for children and teens free. There are exceptions to this policy with athletic leagues and child-care programming. DPR provides a transportation program for children attending after school programs. This service was piloted in 2017 and resulted in a 51% increase in children attending after school programming.[xvi]

Many of the 69 parks are in older urban neighborhoods; these are parks designed for pedestrian access, with minimal parking. As these neighborhoods change in demographic composition due to gentrification, African American and Latinx displaced populations are also losing access to neighborhood, walkable parks. Residents living outside of city limits have to drive far to participate in DPR programs, decreasing the likelihood of utilization. Although some parks, trails and facilities are on current Go Durham bus routes, getting to these places requires considerable effort and time on the part of the individual. This creates an obstacle to accessibility for those who rely on public transit.

DPR has an inclusion statement that is published in every edition of Play More magazine.[xvii] The department has procedures for those persons requiring specific adaptations to request service. All playgrounds, trails and other park amenities are accessible to persons with disabilities. In addition, DPR employs several staff positions that are specifically tasked with bridging Spanish language barriers to access.

Larger and emerging systemic issues that DPR is working to address include equitable location of parks and trails throughout Durham, deterring housing displacement caused by park and trail construction and renovations and reviewing park rules that may be creating unfair barriers to participation. An example of the latter is who may utilize park facilities after dark. City ordinance only permits park usage after sunset if there is a registered program or if there is a facility rental. Persons wishing to use a park after dark must be associated with a program or a rental, they must "pay to play."

Recommended Strategies

Continued vigilance is needed in the promotion of DPR programming and facilities to the community. The mission of DPR: Play More: connecting our whole community to wellness, the outdoors and lifelong learning positions DPR as a primary resource for learning and maintaining a healthy lifestyle in Durham. The inclusion of the outdoors in the DPR mission contributes to the social, mental and environmental health of Durham.[xviii] Initiatives are in process to serve this revised mission:

- DPR is beginning to research the issue of systemic disparities caused by park rules and ordinances. An initial report focused upon making more amenities available to the public after daylight hours is anticipated in Spring 2021.
- The 2019 Community Health Assessment Survey indicates continued support for increasing sidewalks and trails for fitness and transportation.[xix] The City of Durham has received Federal funding for the completion of 10 miles of multi-use trails (bicycle and pedestrian) that will add connections between neighborhoods, parks, schools, universities and commercial districts. These trails are projected to be completed in 2024. DPR has committed to establishing Healthy Mile Trail walking circuits within those parks that have paved walkways. The first such walking circuit was created in 2019 at Hillside Park. In 2020, Durham Parks and Recreation is scheduled to take part in the Park Prescription program for Hillside park, along with Duke Health and Parks Rx America.[xx]
- Teen Programs provide safe and healthy opportunities that connect teens to experiences that inspire hope and prepares them to choose positive options through lifelong learning. This unit also manages the "MyDurham" program that provides drop-in opportunities for teens throughout the school year. With the initial success of the 2017 pilot of MyDurham, the program has grown and expanded, now taking place at six recreation centers. MyDurham experienced an increase in teen participation as a result of teaming up with the GODurham (Durham's public Transportation system) and its GO PASS program. The GO PASS provides bus transportation at no cost for eligible teens, enabling them to visit the various MyDurham sites.[xxi]
- A critical aspect of ensuring the health and wellness for Durham families lies in the access to nutritious daily meals. The food insecurity rate in Durham during 2018 was 13.5, with $22, 934,000.00 estimated to meet food needs.[xxii] In 2019, in order to address those needs in food desert pockets, Durham Parks and Recreation teamed up with a local non-profit organization to provide free meals to youth and teens three days a week with distribution taking place at two recreation facilities; the Teen Center and Weaver Street Recreation Center.

Current Initiatives & Activities

City of Durham Parks and Recreation Department strives to help citizens discover, explore, and enjoy life through creative and challenging recreational choices that contribute to their physical, emotional, and social health. http://www.dprplaymore.org

Durham Parks Foundation exists to preserve, strengthen and enhance parks, trails, open space and recreational opportunities in Durham through diverse community involvement, fundraising, partnerships and education. http://durhamparksfoundation.org

Durham County Open Space Program was formally created in 2003 to guide the County's acquisition of open space parcels, with a focus on watershed and farmland protection. http://www.dconc.gov/government/departments-a-e/engineering-and-environmentalservices/open-space-and-real-estate-division/durham-county-open-space-program

North Carolina Department of Environment and Natural Resources: Division of Parks and Recreation conserves and protects representative examples of the natural beauty, ecological features and recreational resources of statewide significance; provides outdoor recreational opportunities in a safe and healthy environment; and provides environmental education opportunities that promote stewardship of the state's natural heritage. http://www.ncparks.gov/Visit/main.php

Duke Forest consists of gravel Roads and dirt footpaths throughout forest land owned and maintained by Duke University that are open for public use. Detailed maps showing all roads and foot trails on the Forest are available to the public. http://dukeforest.duke.edu/recreation/running-hiking/s/

Triangle Land Conservancy strives to create a healthier and more vibrant Triangle region by safeguarding clean water, protecting natural habitats, supporting local farms and food, and connecting people with nature through land protection and stewardship, catalyzing community action, and collaboration. https://www.triangleland.org/

References

[i] durhamnc.gov [Internet]. Durham City and County resident survey. Oalthe, KS: ETC Institute; c2019 [cited 2020 Nov 20]. Available from: https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4732
[ii] nrpa.org [Internet]. CAPRA Accredited Agencies. Ashburn (VA): National Recreation and Parks Association; c2020 [cited 2020 Nov 20]. Available from: https://www.nrpa.org/certification/accreditation/capra/accreditedagencies/
[iii] tpl.org [Internet]. The Trust for Public Land Park Score index: the most comprehensive evaluation of park access and quality in the 100 largest U.S. cities. San Francisco (CA): The Trust for Public Land; c2018 [cited 2020 Nov 20]. Available from: https://www.tpl.org/city/durham-north-carolina
[iv] tpl.org [Internet]. The Trust for Public Land Park Score index: the most comprehensive evaluation of park access and quality in the 100 largest U.S. cities. San Francisco (CA): The Trust for Public Land; c2018 [cited 2020 Nov 20]. Available from: https://www.tpl.org/city/durham-north-carolina
[v] City of Durham, Durham Parks and Recreation Registration Database [internal Data]. Durham (NC); c2020 [cited 2020 Nov 20].
[vi] City of Durham. City of Durham, North Carolina budget fiscal year 2017 -2018 [Internet]. Durham (NC); c2018 [cited 2020 Sep 14] Available from: https://durhamnc.gov/DocumentCenter/View/15890/FY-2017-2018-Budget-PDF?bidId=
[vii] durhamnc.gov [Internet]. Durham City and County resident survey. Oalthe, KS: ETC Institute; c2019 [cited 2020 Nov 20]. Available from: https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4732
[viii] durhamnc.gov [Internet]. Durham City and County resident survey. Oalthe, KS: ETC Institute; c2019 [cited 2020 Nov 20]. Available from: https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4732
[ix] durhamnc.gov [Internet]. Durham City and County resident survey. Oalthe, KS: ETC Institute; c2019 [cited 2020 Nov 20]. Available from: https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4732
[x] City of Durham of Parks and Recreation. Master plan-2013-2023 [Internet]. Durham (NC): City of Durham; c2013 [cited 2020 Nov 20]. Available from: https://www.dprplaymore.org/DocumentCenter/View/75/Durham-Parks-and-Recreation-Master-Plan-2013-PDF
[xi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xiii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xiv] tpl.org [Internet]. The Trust for Public Land Park Score index: the most comprehensive evaluation of park access and quality in the 100 largest U.S. cities. San Francisco (CA): The Trust for Public Land; c2018 [cited 2020 Nov 20]. Available from: https://www.tpl.org/city/durham-north-carolina
[xv] City of Durham Parks and Recreation. Play More [Magazine]. Durham (NC): Parks and Recreation Department; c2020 [cited 2020 Nov 20]. Available from: https://www.dprplaymore.org/200/Play-More-Guide
[xvi] City of Durham, Durham Parks and Recreation Registration Database [internal Data]. Durham (NC); c2020 [cited 2020 Nov 20].

[xvii] City of Durham Parks and Recreation. Play More [Magazine]. Durham (NC): Parks and Recreation Department; c2020 [cited 2020 Nov 20]. Available from: https://www.dprplaymore.org/200/Play-More-Guide

[xviii] City of Durham Parks and Recreation. Strategic plan FY 2017 – FY 2018 [Internet]. Durham (NC): City of Durham; c2016 [cited 2020 Nov 20]. Available from: https://www.dprplaymore.org/DocumentCenter/View/76/Durham-Parks-and-Recreation-Strategic-Plan-FY-2017-to-2018.

[xix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xx] dprplaymore.org [Internet]. Facilities: Hillside Park. Durham (NC): City of Durham Parks and Recreation Department; c2020 [cited 2020 Dec 8]. Available from: https://www.dprplaymore.org/Facilities/Facility/Details/Hillside-Park-32

[xxi] City of Durham. Adopted budget July 1 2019 – June 30 2020. [Internet]. Durham (NC): City of Durham; c2019 [cited 2020 Sept 14]. Available from: https://durhamnc.gov/DocumentCenter/View/27412/FY20-Final-Budget

[xxii] feedingamerica.org [Internet]. Map the meal gap. Chicago (IL): Feeding America; c2020 [cited 2020 Sep 14]. Available from: https://www.feedingamerica.org/sites/default/files/2020-09/Map%20the%20Meal%20Gap%202020%20Technical%20Brief-Updated.pdf

Section 3.08 *Faith and spirituality*

Overview

Faith and spirituality play a critical role in the holistic health of community members. Religious institutions played a primary role in the creation of the world's first hospitals and clinics and continue to have a significant influence on today's healthcare.[i] While the intersections of religion and health are multifaceted, and the incorporation of faith-based organizations within the scope of providing healthcare is vital.[ii] Research studies provide evidence that faith, spirituality and religious participation can be a source of social support, decrease stress and improve quality of life.[iii,iv,v,vi,vii,viii]

Religiosity is typically defined by participation in religious (ritualistic) activities such as attending gatherings, practicing certain traditions (singing, following a certain diet, reading religious texts and praying), or association with a particular denomination.[ix] Spirituality is often identified as something one can pursue outside of formal religious tradition, and refers to a personal or individual relationship or connectedness with something bigger than oneself.[x,xi] Spirituality can be practiced by meditating, praying or taking care of one's body. Affiliation with a particular denomination has become less important recently as more people indicate that they are more spiritual and less religious.[xii]

Primary Data

According to a survey conducted by the Pew Research Center in 2017, about a quarter of U.S. Adults (27%) think of themselves as spiritual, but not religious.[xiii] This percentage has increased approximately eight percentage points over the previous five years.[xiv] In telephone surveys conducted in 2018 and 2019, 65% of Americans describe themselves as Christians when questioned about their religion. This reflects a 12% decrease over the last decade. Those identifying as unaffiliated has risen from 17% to 26% for the same period.[xv]

While young adults attend religious services, they do so less often than older Americans.[xvi] Sixty-three percent of U.S. teenagers, ages 13-17, identify as Christian compared to 72% of their parents.[xvii] In non-Christian faiths, teens tend to subscribe to religion at the same rate as their parents (4%).[xviii] However, a majority (61%) of millennials reported seeing others share their faith online.[xix] From social media platforms to podcasts, there are more ways than ever to find and share spirituality.[xx]

Individuals surveyed in the 2019 Community Health Assessment survey reported using spiritual practices to help reduce stress.[xxi] When asked, "How do you deal with stress?" roughly 13% of the individuals indicated that they engaged in religious activity, 8% used mediation and 6% participated in counseling or therapy.[xxii]

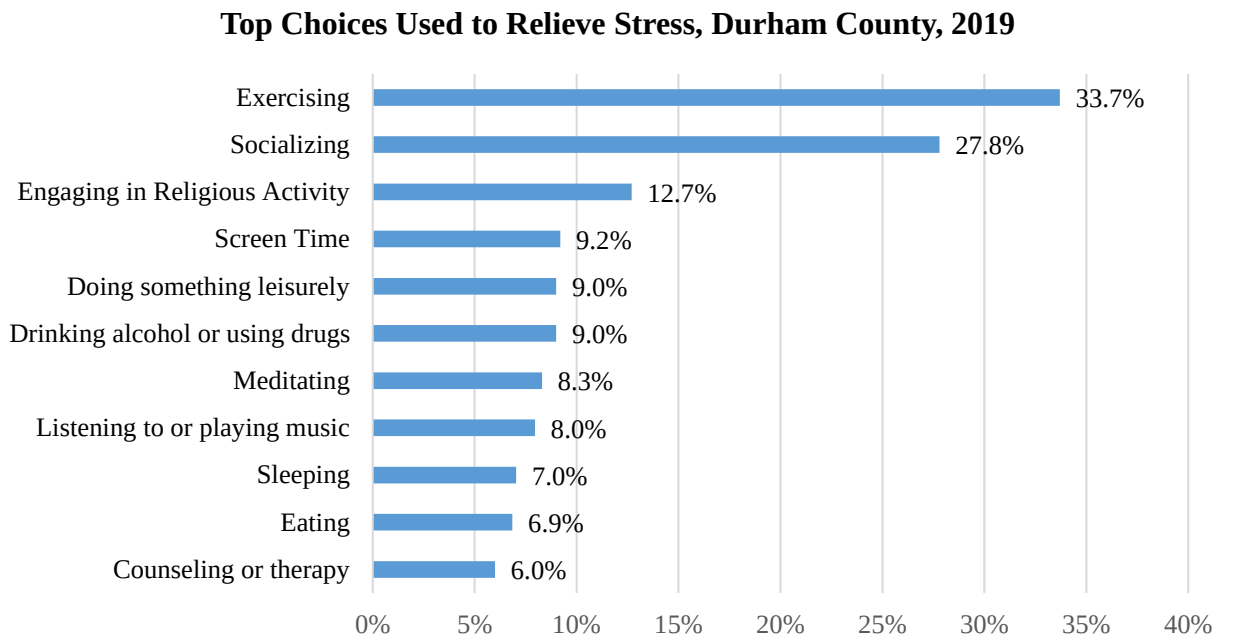


Figure 3.08(a): Top Choices Used to Relieve Stress, 2019 Durham County Community Health Assessment Survey[xxiii]

Faith-based leaders often play a significant role in the mental health of their followers.[xxiv] When Durham County residents were asked where they would be likely to seek mental health or substance abuse counseling for themselves or someone they know, 15% selected a minister or religious official.[xxv] A religious leader was the fourth-highest response; the most common response was a doctor, followed by a therapist then a friend or family member.[xxvi]

Secondary Data

Durham County is the sixth largest county in North Carolina. There are an estimated 357 congregations and religious organizations in Durham County.[xxvii] Denominations and faiths include Protestant Christian, Islam, Buddhism, Judaism, Mennonite, Catholicism, Atheism etc.[xxviii] Little state and local data exist on faith communities, as the U.S. Census currently does not contain questions pertaining to religion and has not in more than 50 years.[xxix] In North Carolina, 77% of those surveyed identified as Christian, with 35% identifying as Evangelical Protestant, 19% Mainline Protestant, 12% Historically Black Protestant, 9% Catholic, 1% Mormon, 1% Orthodox Christian and 1% Jehovah's Witness.[xxx] A much smaller percentage (3%) of North Carolina adults align themselves with non-Christian faiths including 1% Jewish, and less than 1% Muslim, Buddhist, Hindu and other world religions.[xxxi] Finally, 20% identify as unaffiliated; 2% of whom are Atheist and 3% are agnostic.[xxxii]

Although Sunday is the most racially segregated day of the week, faith-based organizations are slowly becoming more diverse and serving multiple generations.[xxxiii,xxxiv,xxxv] Several congregations have efforts, committees or employees dedicated to increasing racial or ethnic diversity. In the South, approximately 8.6% of congregations surveyed in 2018 and 2019 were

actively working to increase diversity among congregants, whereas 16.4% of New England's congregations had similar initiatives.[xxxvi]

Interpretations: Disparities, Gaps, and Emerging Issues

Many faith-based organizations still incorporate health as part of their internal and external activities. Over half of U.S. congregations report participating in social services and health programming.[xxxvii] Outreach may include food pantries and clothing banks, while community engagement may include the provision of resources, educational/health events and strategic collaborations with other organizations in the surrounding geographic area.

While typically known for evangelism and places of refuge, faith-based organizations have also engaged in an open resurgence of community issues such as social justice, racism, community improvement and socio-economic development. History details a number of faith-based organizations serving as the host site for community organizing, most commonly in the 60s, late 90s to present day.[xxxviii] The landscape of worship and affiliation have seen multiple changes through the years.

The COVID-19 pandemic prompted many places of worship to halt all in-person services and go online starting in March 2020, at the recommendation of North Carolina Governor, Roy Cooper.[xxxix] Faith-based organizations responded with resilience by discovering other methods for communication, fellowship and worship services.[xl] Over half of adults who attended church services prior to the pandemic reported watching religious services online or on TV when COVID-19 restrictions were enacted.[xli] Many organizations will be left with the decision to continue such efforts or return to traditional methods post COVID-19.

In addition to offering virtual services, many congregations in the Durham community began to provide food to community members, assist members with bills and expenses, provide COVID-19 education and testing, distribute face masks, give spiritual support to family members impacted by COVID-19 and provide guidance and leadership related to the impact of systemic racism, etc.[xlii] Faith-based organizations also commonly offer counseling and education related to health, financial matters, political issues, crisis adaptation, access to food, mental health, marriage and more.[xliii]

As a result of COVID-19, the Durham Recovery & Renewal Task Force was formed in partnership with the City of Durham and Durham County in 2020.[xliv] Task force members included representatives from the local Chamber of Commerce, health centers, universities, nonprofit organizations, a local Christian center and government entities. In conjunction with the task force, roundtable discussions were held to address 1) personal services; 2) restaurants; 3) places of worship; 4) immigrants and refugees.[xlv] Religious leaders were included in COVID-19 discussions and recognized as community partners.

Furthermore, 24% of U.S. adults surveyed said that their faith became stronger during the pandemic, while 2% said their faith became weaker.[xlvi] Specifically, 35% of Protestant Christian

said their faith became stronger; 7% from the Jewish faith claimed their faith was strengthened; 27% from the Catholic faith agreed.[xlvii]

According to 2019 Census data, 13.7% of Durham County's population identifies as Hispanic or Latino (43,917 residents).[xlviii] With the slight increase in the Latinx population (36,240 residents in 2010), Durham County has seen an increase in faith-based organizations mobilized to serve these populations.[xlix] Some English-speaking faith-based organizations have developed Spanish-speaking ministries or allowed Latinx ministries utilize their facilities for services.[l] Some of these faith-based organizations participate in activities such as food distribution, face mask distribution and legal services.[li]

According to individuals involved with the Durham Asian American community, there has also been a steady increase in the number of Asian American faith-based organizations in the Triangle, both independent and affiliated with other American faith-based organizations.[lii] Due to the number of academic institutions in the area, many Asian American faith-based organizations are attracting visiting scholars and young and middle-aged professionals and students. Due to COVID-19, Asian American faith-based organizations had to convert in-person services in March 2020 to virtual services. Like other faith-based organizations, Asian American faith-based organizations became more engaged in non-spiritual activities to assist their members.[liii]

Recommended Strategies

There is a need to increase the number of questions to more accurately ascertain how faith and spirituality impacts overall health. While the 2019 Durham County Community Health Assessment survey assesses at the individual level, it may be beneficial to develop a tool to get input from faith-based leaders as they serve community members with needs that impact their health such as health education, food insecurities, counseling services (mental, marital, financial, etc.).

Partnering with faith-based organizations can assist in spreading health information, assisting people with resources to help them better manage their current chronic diseases and encouraging appropriate diagnostic screenings.[liv,lv] These are examples of expanding preventive and awareness strategies to chronic and communicable diseases and injury prevention. Successful partnerships and model interventions can be duplicated in areas of great need and the community as a whole.

Current Initiatives & Activities

Durham County Health Ministry Network supports and connects health ministries in faith-based organizations located in Durham. https://www.dcopublichealth.org/services/health-education/health-promotion-and-wellness/durham-county-health-ministry-network

Duke Cancer Institute Office of Health Equity, Community Health Ambassador Program is a program designed to train members of faith and other community-based organizations to build or enhance their health programs for educating their members about cancer prevention, screening,

and treatment, Hypertension and Diabetes and the importance of minority participation in clinical trials. https://dukecancerinstitute.org/community-outreach-engagement/OHE

Durham Congregations in Action (DCIA) is an interfaith, interracial organization of 62 congregations. Every member congregation has three representatives which includes clergy, who serve as their liaison to the organization. http://dcia.org

Duke Office of Community Relations Faith Leadership Initiative fosters continued dialogue between Duke Medicine and Durham faith leaders to improve health in the community. https://communityrelations.duhs.duke.edu/programs-initiatives

Interdenominational Ministerial Alliance of Durham and Vicinity is a group of concerned clergy from Christian denominations committed to serving God and the local communities represented by its membership. The IMA of Durham meets Mondays from September to May at noon in the education annex of the Mount Vernon Baptist Church. http://www.durham-ima.org

Durham Congregations, Neighborhoods and Associations (CAN) is a multi-racial, multi-faith, strictly non-partisan, countywide citizens organization dedicated to building relationships across race, social and religious lines acting together for the common good. https://www.durhamcan.org

Faithful Families is a program series of workshops providing guidance for faith-based organizations to implement nutrition and physical activity interventions. http://www.faithfulfamiliesesmm.org

Partners in Health & Wholeness is an initiative designed to bridge issues of faith and health. The initiative seeks to provide people of faith with tools necessary to lead healthier, more fulfilling lives. http://healthandwholeness.org

References

[i] Levin J. Partnerships between the faith-based and medical sectors: implications for preventive medicine and public health. Prev Med Rep. 2016 Jul 27 [cited 2020 Dec 15];4:344-50. doi:10.1016/j.pmedr.2016.07.009. PMID: 27512649; PMCID: PMC4972923. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4972923/

[ii] Faith Community Partnership Steering Committee. Mental health: a guide for faith leaders [Internet]. Washington, DC: American Psychiatric Association Foundation; c2016 [cited 2020 Dec 15]. Available from: http://www.dcia.org/wp-content/uploads/faith-mentalhealth-guide.pdf

[iii] pewforum.org [Internet]. Religion's relationship to happiness, civic engagement and health around the world. Washington DC: Pew Research Center; 2019 Jan 31 [cited 2020 Aug 9]. Available from https://www.pewforum.org/2019/01/31/religions-relationship-to-happiness-civic-engagement-and-health-around-the-world/

[iv] Zaidi D. Influences of religion and spirituality in medicine. AMA Journal of Ethics [Internet]. 2018 Jul [cited 2020 Nov];20(7), E609-612. DOI: 10/1001/amajethics.2018.609. Available from: https://journalofethics.ama-assn.org/article/influences-religion-and-spirituality-medicine/2018-07

[v] Hamilton JB, Sandelowski M, Moore AD, Agarwal M, Koenig HG. "You need a song to bring you through": the use of religious songs to manage stressful life events. Gerontologist. 2013 Feb [cited 2020 Dec 15];53(1):26-38. doi:10.1093/geront/gns064. Epub 2012 May 15. PMID: 22589023. Available from: https://academic.oup.com/gerontologist/article/53/1/26/616535

[vi] Hamilton JB. Religion and spirituality in healthcare: distinguishing related and overlapping concepts from an African American perspective [Internet]. Cancer Nursing. 2020 [cited 2020 Dec 15]; 43(4), 339-339. DOI: 10.1097/NCC.0000000000000749. Available from: https://journals.lww.com/cancernursingonline/fulltext/2020/07000/religion_and_spirituality_in_healthcare_.11.aspx

[vii] Hamilton JB, Moore AD, Johnson KA, Koenig HG. Reading the Bible for guidance, comfort, and strength during stressful life events. Nurs Res. 2013 May-Jun [cited 2020 Dec 15];62(3):178-84. doi:10.1097/NNR.0b013e31828fc816. PMID: 23636344. Available from: https://pubmed.ncbi.nlm.nih.gov/23636344/

[viii] Hamilton JB, Deal AM, Moore AD, Best NC, Galbraith KV, Muss H. Psychosocial predictors of depression among older African American patients with cancer. Oncol Nurse Forum. 2013 Jul [cited 2020 Dec 15];40(4):394-402. doi:10.1188/13.ONF.394-402. PMID: 23803271; PMCID: PMC3753674. Available from: https://onf.ons.org/onf/40/4/psychosocial-predictors-depression-among-older-african-american-patients-cancer

[ix] Paloutzian R, Park C. Handbook of the psychology and of religion and spirituality: second edition. The Guilford Press; c2013 [cited 2020 Dec 15].

[x] Paloutzian R, Park C. Handbook of the psychology and of religion and spirituality: second edition. The Guilford Press; c2013 [cited 2020 Dec 15].

[xi] Hamilton JB. Religion and spirituality in healthcare: distinguishing related and overlapping concepts from an African American perspective [Internet]. Cancer Nursing. 2020 [cited 2020 Dec 15]; 43(4), 339-339. DOI: 10.1097/NCC.0000000000000749. Available from: https://journals.lww.com/cancernursingonline/fulltext/2020/07000/religion_and_spirituality_in_healthcare_.11.aspx

[xii] pewforum.org [Internet]. Religion's relationship to happiness, civic engagement and health around the world. Washington, DC: Pew Research Center; 2019 Jan 31 [cited 2020 Aug 9]. Available from https://www.pewforum.org/2019/01/31/religions-relationship-to-happiness-civic-engagement-and-health-around-the-world/

[xiii] Lipka M, Gecewicz C. More Americans now say they're spiritual but not religious [Internet]. Washington, DC: Pew Research Center; 2017 Sep 6 [cited 2020 August 31]. Available from: https://www.pewresearch.org/fact-tank/2017/09/06/more-americans-now-say-theyre-spiritual-but-not-religious/

[xiv] Lipka M, Gecewicz C. More Americans now say they're spiritual but not religious [Internet]. Washington, DC: Pew Research Center; 2017 Sep 6 [cited 2020 August 31]. Available from: https://www.pewresearch.org/fact-tank/2017/09/06/more-americans-now-say-theyre-spiritual-but-not-religious/

[xv] pewforum.org [Internet]. In U.S., decline of Christianity continues at rapid pace. Washington, DC: Pew Research Center; 2019 Oct 17 [cited 3 Sep 2020]. Available from: https://www.pewforum.org/2019/10/17/in-u-s-decline-of-christianity-continues-at-rapid-pace/

[xvi] pewforum.org [Internet]. Religion among millennials. Washington, DC: Pew Research Center; 2010 Feb 17 [cited 2020 Sep 2]. Available from: https://www.pewforum.org/2010/02/17/religion-among-the-millennials/

[xvii] pewforum.org [Internet]. U.S. teens take after their parents religiously…but American adolescents often participate at parents' behest, and tend to be less religious in more personal, private ways. Washington, DC: Pew Research Center; 2020 Sep 10 [cited 2020 Dec 16]. Available from: https://www.pewforum.org/2020/09/10/u-s-teens-take-after-their-parents-religiously-attend-services-together-and-enjoy-family-rituals/

[xviii] pewforum.org [Internet]. U.S. teens take after their parents religiously…but American adolescents often participate at parents' behest, and tend to be less religious in more personal, private ways. Washington, DC: Pew Research Center; 2020 Sep 10 [cited 2020 Dec 16]. Available from: https://www.pewforum.org/2020/09/10/u-s-teens-take-after-their-parents-religiously-attend-services-together-and-enjoy-family-rituals/

[xix] pewforum.org [Internet]. Religion among millennials. Washington, DC: Pew Research Center; 2010 Feb 17 [cited 2020 Sep 2]. Available from https://www.pewforum.org/2010/02/17/religion-among-the-millennials/

[xx] pewforum.org [Internet]. Religion among millennials. Washington, DC: Pew Research Center; 2010 Feb 17 [cited 2020 Sep 2]. Available from https://www.pewforum.org/2010/02/17/religion-among-the-millennials/

[xxi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 2]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 2]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxiii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 2]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxiv] Faith Community Partnership Steering Committee. Mental health: a guide for faith leaders [Internet]. Washington, DC: American Psychiatric Association Foundation; c2016 [cited 2020 Dec 15]. Available from: http://www.dcia.org/wp-content/uploads/faith-mentalhealth-guide.pdf

[xxv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 2]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 2]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxvii] intro.communityplatform.us [Internet]. Congregations and other religious organizations in Durham County, NC. Civic Leadership Project; c2020 [cited 2020 Dec 14]. Available from: http://www.communityplatform.us/PubApps/geoShowOrgs.php?id=c37063&code=c37063&v=cong&lev=#selectedContent
[xxviii] intro.communityplatform.us [Internet]. Congregations and other religious organizations in Durham County, NC. Civic Leadership Project; c2020 [cited 2020 Dec 14]. Available from: http://www.communityplatform.us/PubApps/geoShowOrgs.php?id=c37063&code=c37063&v=cong&lev=#selectedContent
[xxix] Rosen AF. A brief history of religion and the U.S. Census [Internet]. Washington, DC: Pew Research Center's Forum on Religion & Public Life; 2010 Jan 26 [cited 2020 Dec 15]. Available from: https://www.pewforum.org/2010/01/26/a-brief-history-of-religion-and-the-u-s-census/
[xxx] pewforum.org [Internet]. Religious landscape study: adults in North Carolina. Washington DC: Pew Research Center; c2020 [cited 2020 Dec 16]. Available from: https://www.pewforum.org/religious-landscape-study/state/north-carolina/
[xxxi] pewforum.org [Internet]. Religious landscape study: adults in North Carolina. Washington, DC: Pew Research Center; c2020 [cited 2020 Dec 16]. Available from: https://www.pewforum.org/religious-landscape-study/state/north-carolina/
[xxxii] pewforum.org [Internet]. Religious landscape study: adults in North Carolina. Washington, DC: Pew Research Center; c2020 [cited 2020 Dec 16]. Available from: https://www.pewforum.org/religious-landscape-study/state/north-carolina/
[xxxiii] Deal GK. Diversity dream: Sunday still the most segregated day of the week [Internet]. Greenwood (SC): Index Journal; 2020 Oct 17 [cited 2020 Nov 2]. Available from: https://www.indexjournal.com/news/diversity-dream-sunday-still-the-most-segregated-day-of-the-week/article_d08d89c3-935d-57a5-86dd-31b4f8be17fd.html
[xxxiv] kingspark.org [Internet]. Durham (NC): King's Park International Church; c2020.
[xxxv] Lipka M. Many U.S. congregations are still racially segregated, but things are changing [Internet]. Washington, DC: Pew Research Center; 2014 Dec 8 [cited 2020 Nov 2]. Available from: https://www.pewresearch.org/fact-tank/2014/12/08/many-u-s-congregations-are-still-racially-segregated-but-things-are-changing-2/
[xxxvi] National Congregations Study. Geographical region by 'have effort, committee, or person for the purpose of increasing racial or ethnic diversity.' Durham: Duke University; c2019 [cited 2020 Dec 15]. Available from: https://www.thearda.com/ncs/ncs2018/region_diverse.asp
[xxxvii] astho.org. Partnerships to reach at-risk populations. Arlington: Association of State and Territorial Health Officials; c2014 [cited 2020 Dec 15]. Available from: https://www.astho.org/Infectious-Disease/At-Risk-Populations/At-Risk-Populations-Fact-Sheet-FBO/
[xxxviii] Adkins J, Occhipinti L, Hefferan T. Not by faith alone: social services, social justice, and faith-based organizations in the United States. Lanham (MD): Lexington Books; c2010 [cited 2020 Dec 15].
[xxxix] WRAL Health Team. NC still recommends churches hold services online, outside as state moves into phase 3 [Internet]. Raleigh (NC): WRAL; 2020 Oct 2 [cited 2020 Dec 16]. Available from: https://www.wral.com/coronavirus/nc-still-recommends-churches-hold-services-online-outside-as-state-moves-into-phase-3/19317167/
[xl] Quillin M. Triangle Jewish congregations prepare for Rosh Hashanah celebrations, pandemic style. Raleigh (NC): The News & Observer; 2020 Sep 18 [cited 2020 Dec 16]. Available from: https://www.newsobserver.com/news/local/article245815540.html

[xli] Gecewicz C. Few Americans say their house of worship is open, but a quarter say their faith has grown amid pandemic [Internet]. Washington, DC: Pew Research Center; 2020 Apr 30 [cited 2020 Dec 16]. Available from: https://www.pewresearch.org/fact-tank/2020/04/30/few-americans-say-their-house-of-worship-is-open-but-a-quarter-say-their-religious-faith-has-grown-amid-pandemic/
[xlii] icdurham.org [Internet]. Parrish and community resources. Durham (NC): Immaculate Conception Catholic Church; c2020 [cited 2020 Dec 15]. Available from: https://www.icdurham.org/resources-during-covid-19-outbreak.html
[xliii] ncchurches.org [Internet]. Partners in health & wholeness. NC Council of Churches; c2020 [cited 2020 Dec 16]. Available from: https://www.ncchurches.org/programs/phw/
[xliv] durhamnc.gov [Internet]. Durham Recovery & Renewal Task Force. Durham (NC): City of Durham; c2020 [cited 2020 Dec 16]. Available from: https://durhamnc.gov/4329/Recovery-Renewal-Task-Force
[xlv] durhamnc.gov [Internet]. Durham Recovery & Renewal Task Force virtual zoom meeting. Durham (NC): City of Durham; 2020 Jun 19 [cited 2020 Dec 16]. https://durhamnc.gov/DocumentCenter/View/34103/Durham-Recovery-and-Renewal-Task-Force---June-19-2020
[xlvi] Gecewicz C. Few Americans say their house of worship is open, but a quarter say their faith has grown amid pandemic [Internet]. Washington, DC: Pew Research Center; 2020 Apr 30 [cited 2020 Dec 16]. Available from: https://www.pewresearch.org/fact-tank/2020/04/30/few-americans-say-their-house-of-worship-is-open-but-a-quarter-say-their-religious-faith-has-grown-amid-pandemic/
[xlvii] Gecewicz C. Few Americans say their house of worship is open, but a quarter say their faith has grown amid pandemic [Internet]. Washington, DC: Pew Research Center; 2020 Apr 30 [cited 2020 Dec 16]. Available from: https://www.pewresearch.org/fact-tank/2020/04/30/few-americans-say-their-house-of-worship-is-open-but-a-quarter-say-their-religious-faith-has-grown-amid-pandemic/
[xlviii] data.census.gov [Internet]. American Community Survey: demographics and housing estimates: Durham County, North Carolina. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 16]. Available from: https://data.census.gov/cedsci/table?q=durham%20county%20nc%20population&tid=ACSDP1Y2019.DP05&hidePreview=false
[xlix] nbcnews.com [Internet]. From tobacco to tortillas: Latinos remake Durham, North Carolina. Durham (NC): NBC News; 2014 Sep 22 [cited 2020 Dec 15]. Available from: https://www.nbcnews.com/storyline/hispanic-heritage-month/tobacco-tortillas-latinos-remake-durham-north-carolina-n203276
[l] Baker K. Spanish-speaking church fosters more than a community [Internet]. Durham (NC): The Durham Voice. 2017 Apr [cited 2020 Dec 15]. Available from: https://durhamvoice.org/?p=6429
[li] Ruiz AR. Cover Durham distributes 43,465 masks in one month. Durham (NC): General News, Latino Health Roundtable; 2020 Jun 30 [cited 2020 Dec 15]. Available from: https://sites.duke.edu/latinohealthroundtable/2020/06/30/cover-durham-distributes-43465-masks-in-one-month/
[lii] Moore, Angelo (Program Manager, Office of Health Equity, Duke Cancer Institute). Conversation with: Pao-Hwa Lin, PhD (Associate Professor of Medicine, Duke University), Ping Zhang (Community Member). 2020 Sep 7.
[liii] ncaatogether.org [Internet]. NCAAT's response to the current public health crisis. Raleigh (NC): North Carolina Asian Americans Together; c2020 [cited 2020 Dec 16]. Available from: https://ncaatogether.org/about-us/covid-19-response/
[liv] astho.org. Public health and faith community partnerships: model practices to increase influenza prevention among hard-to-reach populations. Atlanta (GA): Emory University Interfaith Health Program, ASTHO; c2014 [cited 2020 Dec 15]. Available from: https://www.astho.org/Infectious-Disease/Public-Health-and-Faith-Community-Partnerships-Model-Practices-to-Increase-Influenza-Prevention-Among-Hard-to-Reach-Populations/

[lv] Islam N, Patel S. Best practices for partnering with ethnic minority-serving religious organizations on health promotion and prevention [Internet]. AMA Journal of Ethics; 2018 [cited 2020 Dec 15];20(7):E643-654. doi:10.1001/amajethics.2018.643. Available from: https://journalofethics.ama-assn.org/article/best-practices-partnering-ethnic-minority-serving-religious-organizations-health-promotion-and/2018-07

Determinants of Health

This chapter includes:

- ❖ Poverty, economic security and toxic stress
- ❖ Housing and homelessness
- ❖ Education
- ❖ Access to healthcare, insurance and information
- ❖ Employment
- ❖ Crime and safety

Section 4.01 *Poverty, economic security and toxic stress*

Overview

Poverty is when a person lacks what they need to achieve a minimum standard of living. Research indicates a strong relationship between poverty and poor health, likely due to food insecurity, lack of healthcare (particularly preventative care), exposure to unfavorable living and working conditions and increased exposure to pollution.[i] Effects of economic insecurity on health include increased risk for obesity, increased risk of physical pain, and increased risk for detrimental mental health outcomes.[ii,iii,iv] In Durham, as in most places in the U.S., Black and Brown people experience higher rates of economic insecurity and a host of health concerns as well. The two are linked and a consequence of years of institutional and systemic racism.

Primary Data

Poverty ranked third among top community priorities identified by residents in the 2016 Durham Community Health Assessment survey countywide sample, as well as the 2018 Health Prioritization Survey.[v,vi] According to the 2019 Durham County Community Health Assessment survey, 25.3% of respondents in the Countywide sample were at or below 200% of the federal poverty level. Respondents reported poverty as the 12th-leading issue that affects their quality of life. Other related responses that ranked higher were affordable housing, gentrification and low-wage jobs.[vii] Thirteen percent of respondents reported that financial support for basic needs were needed to improve the quality of life for adults aged 60 and older.[viii]

Secondary Data

According to the U.S. Census Bureau American Community Survey, an estimated 14.1% of Durham's population lived below the poverty line in 2019. Poverty was particularly prevalent among the county's Black and Latinx populations with 18.4% and 26.8% living in poverty respectively, compared to 10.5% of the white population. Child poverty was higher than adult: almost one-fifth of children were below the poverty line.[ix] While the ultimate impact of COVID-19 on poverty rates is yet unknown as of October 2020, it is clear there has been a staggering loss of employment income across North Carolina. This has particularly affected the Black and Latinx populations and households that were already low-income. There has been a parallel rise in enrollment in programs such as the Supplemental Nutrition Assistance Program (SNAP) and Medicaid that are designed to serve low-income populations. Much of the job loss experienced in North Carolina is anticipated to be long-term.[x]

The impact of COVID-19 on Durham's population has been enormous. There is increased unemployment and underemployment. As of October 2020, many people who are unemployed are

no longer receiving unemployment assistance, much less the additional benefits initially offered by the federal government.[xi] Job losses have hit Latinx and Black people harder than white people. In April 2020, 61% of Latinx respondents and 44% of Black respondents reported that that they or someone in their household had experienced a job or wage loss due to the coronavirus outbreak, compared with 38% of white adults.[xii]

Unemployment, Labor Underutilization and Wage Trends

In February 2020, (before COVID-19 directly impacted the United States), the unemployment rate in Durham was 3.1% overall. However, the rates were higher for Black and Latinx people than for white people, 5.6% and 6.6% respectively.[xiii] The unemployment rate in Durham has increased dramatically since March 2020. The unemployment rate increased to 11.2% in May 2020. While it fell to 8.6% in July, it remains high as of October 2020.[xiv] Race and ethnicity data are not yet available for the most recent period (March – July 2020). Given what is known about populations suffered from COVID-19-related job loss, it is likely that Black and Latinx in Durham are more likely to experience higher rates of unemployment than whites.

Toxic Stress

Measuring Adverse Childhood Experiences (ACEs) is a way to quantify childhood trauma. ACEs include exposure to violence, trauma, poverty or neglect during childhood (among other things such as food insecurity or the death of a parent).[xv] As a person experiences more of these events, their ACEs score increases. The more ACEs an individual has, the greater the risk for health-related challenges in adulthood including a higher risk for coronary heart disease, stroke, asthma, chronic obstructive pulmonary disease (COPD), depression and higher rates of risky health behaviors such as smoking and heavy drinking.[xvi]

The link between financial insecurity and ACEs is well-established.[xvii,xviii,xix] Children living in poverty or with financial insecurity may be experiencing at least one or more ACEs that could negatively impact them for a lifetime. The prevalence of children living at or below the poverty level is higher in female-led single-income households. Children are more likely to live in a single parent household headed by a mother than a father.[xx] Single-parent households are more likely to be led by Black or Hispanic or Latino women than white women.[xxi] Table 4.01(a) shows the percentage of various household makeups and races who were living below the poverty level in 2019.

Table 4.01(a). Families Whose Income in the Past 12 Months were Below the Poverty Level, Durham County, 2019

Family Make-Up	Percentage
All Families	10.1%
With related children of the household under 18 years	16%
Married Couple Families	3.9%
Families with female household lead, no husband present	27.6%
White families	6%
Black families	16.2%
Hispanic Families	22.4%

Table 4.01(a). Family households below poverty level in 2019[xxii,xxiii]

Interpretations: Disparities, Gaps, Emerging Issues

Black and Hispanic or Latino populations have higher rates of poverty in Durham and thus experience more of the associated effects of poverty such as lack of health insurance, higher rates of food insecurity and higher exposure to ACEs. Decades of policies and practices in banking, quality of education, housing and community investment have advantaged white families in building wealth and maintaining access to high-paying jobs.[xxiv] In 2019, the average white family had 8 times as much wealth as the average Black family, and 5 times as much as Hispanic families.[xxv] Along with the effects of slavery, decades of Jim Crow years and the ongoing racism and discrimination that continues today, Blacks have been mostly been excluded from intergenerational access to capital and finance, resulting in higher rates of poverty than whites in the present day.[xxvi]

Poverty and economic insecurity have impacts on children's health and development. Experiencing family economic hardship, particularly repeated episodes or over long periods of time, can be a source of toxic stress.[xxvii] Given that Black and Hispanic children experience higher rates of poverty in Durham, it is imperative that this is addressed so that they are not also experiencing the associated adverse effects of poverty at a greater rate.

Due to the economic crisis brought on by the COVID-19 pandemic and its associated job losses, Black and Hispanic populations in Durham are currently experiencing even higher rates of economic deprivation.[xxviii] People of color are more likely than whites to have low wage or hourly jobs – jobs that are less likely to be able to be done from home (which is allowing many higher-wage workers to keep their jobs during the pandemic).[xxix] Furthermore, studies are showing that during the pandemic, Black and Hispanic populations began to lose employer-sponsored health care coverage at a disproportionately higher rate than white people. This shift will increase the disparities in insurance coverage, and therefore out-of-pocket medical costs.[xxx]

Recommendations

Reducing poverty in Durham would not be easy, but substantive progress could be made by taking the following steps. Most of these steps are actionable at the state level, although some could be addressed, at least in part, at the county level.

- Increase the minimum wage to at least $15/hour. This would allow low-wage workers to see an increase in their paychecks, create more good jobs, and allow families to better provide for themselves.[xxxi]
- Reinstate the state Earned Income Tax Credit. This has the potential substantially improve the lives up 900,000 people in North Carolina.[xxxii]
- Focus economic development on well-paying jobs.
- Increased subsidized childcare. This would help families afford quality childcare, and likely lift many Durham families out of poverty.[xxxiii]
- Increase Medicaid eligibility. This would allow adults up to age sixty-four with incomes up to 138% percent of the federal poverty level to access Medicaid insurance coverage.[xxxiv]
- Increase paid medical and/or parental leave. This would allow Durham residents to take paid leave to care for themselves or a family member. COVID-19 has demonstrated the importance of paid sick leave, and more paid leave is necessary other than during a pandemic.[xxxv]
- Reduce incarceration. Reducing incarceration would allow people to work and provide for their families, also reducing the intergenerational impact of incarceration.[xxxvi]
- For more short-term impact in response to COVID-19, continuing to provide residents with unemployment benefits (particularly expanded unemployment benefits) for the duration of the pandemic would help keep people out of poverty.
- To address toxic stress and ACEs, recommendations include increasing opportunities for trauma- informed parenting support, expanding community and domestic violence prevention initiatives, increasing access to behavioral health treatment, and increasing access to evidence-based parenting programs and home visiting programs.

Current Initiatives & Activities

Durham Living Wage Project supports worker livelihoods by urging employers to pay living wages, certifying and publicly recognizing employers and promoting living wages as a matter of conscience within our community. https://www.durhamlivingwageproject.org/

Durham ACEs and Resilience Taskforce envisions Durham as a resilient community where all people thrive. Its mission is to build upon the strengths of Durham communities and systems, advancing an equitable and culturally responsive approach to prevent and respond to toxic stress and trauma. https://www.acesconnection.com/g/durham-county-nc-aces-connection

End Poverty Durham has two goals: (1) to make congregations aware of the crisis of poverty in Durham, and (2) to develop a plan to eliminate this crisis within the next 25 years. http://endpovertydurham.org/

Durham TRY works to prevent Adverse Childhood Experiences, racism and historical trauma that can result in substance use, suicide, violence and other behaviors among youth by creating a resilient community through education, grassroots and grasstops mobilization and collective impact. http://www.durhamtry.org/

Bank Black Durham: The goals of this initiative are to increase Black home ownership by 10% in 2030 and increase Black-owned businesses by 25% by 2025. https://www.bankblackdurham.com/

Reinvestment Partners' mission is to foster healthy and just communities by empowering people, improving places, and influencing policy. They address the problems of poverty and social injustice in the areas of food, housing, community development, health, and financial services. https://reinvestmentpartners.org/

References

[i] irp.wisc.edu [Internet]. Poverty fact sheet: poor and in poor health. Madison (WI): University of Wisconsin-Madison, Institute for Research on Poverty; c2014 [cited 2020 Sep 7]. Available from: https://www.irp.wisc.edu/publications/factsheets/pdfs/PoorInPoorHealth.pdf
[ii] Rohde N, Tang KK, Osberg L. The self-reinforcing dynamics of economic insecurity and obesity. Applied Economics. 2017 [cited 2020 Sep 7];49(17):1668-78. doi: 10.1080/00036846.2016.1223826.
[iii] Chou EY, Parmar BL, Galinsky AD. Economic insecurity increases physical pain. Psychological Science. 2016 [cited 2020 Sep 7];27(4):443-54. doi: 10.1177/0956797615625640. PubMed PMID: 26893293.
[iv] Rohde N, Tang KK, Osberg L, Rao P. The effect of economic insecurity on mental health: Recent evidence from Australian panel data. Soc Sci Med. 2016 [cited 2020 Sep 7];151:250-8. Epub 2016/01/31. doi: 10.1016/j.socscimed.2015.12.014. PubMed PMID: 26826683.
[v] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2020 Oct 20]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf
[vi] Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC): Durham County Department of Public Health; 2020 Mar 2 [cited 2020 Oct 20]. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/06/2019-Durham-County-SOTCH-English-FINAL.pdf
[vii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[viii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[ix] data.census.gov [Internet]. American community survey: poverty status in the past 12 months. Washington, DC: United States Census Bureau; c2018 [cited 7 Sep 2020]. Available from: https://data.census.gov/cedsci/table?q=S17&g=0500000US37063&d=ACS%201-Year%20Estimates%20Subject%20Tables&tid=ACSST1Y2018.S1701&hidePreview=true
[x] Adhikari A, Beardsley R, Blankinship G, Huckel O, Nandi A., Daniels E., et al. The impact of COVID-19 on North Carolina [Internet]. Chapel Hill (NC): University of Chapel Hill, School Arts and Sciences; 2020 Jul [cited 2020 Sep 7]. Available from: https://publicpolicy.unc.edu/files/2020/07/COVID-Executive-Summary-FINAL.pdf
[xi] Sessoms B, Kasakove S, Murphy B. With weekly $600 gone, NC unemployment benefits alone are not enough, workers say [Internet]. Raleigh (NC): The News & Observer; 2020 July 28 [cited 2020 Sep 17]. Available from: https://www.newsobserver.com/news/coronavirus/article244469737.html
[xii] Parker K, Menashe Horowitz J, Brown A. About half of lower-income Americans report household job or wage loss due to COVID-19 [Internet]. Washington, DC: Pew Research Center; 2020 Apr 21 [cited 2020 Sep 17]. Available from: https://www.pewsocialtrends.org/2020/04/21/about-half-of-lower-income-americans-report-household-job-or-wage-loss-due-to-covid-19/
[xiii] d4.nccommerce.com [Internet]. North Carolina's Demand Driven Data Delivery System. [cited 2020 Sep 17]. Available from: https://d4.nccommerce.com/

[xiv] d4.nccommerce.com [Internet]. North Carolina's Demand Driven Data Delivery System. [cited 2020 Sep 17]. Available from: https://d4.nccommerce.com/
[xv] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2020 Sep 18]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf.
[xvi] Merrick MT, Ford DC, Ports KA, et al. Vital signs: estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention — 25 States, 2015–2017. Morbidity and Mortality Weekly Report. 2019 [cited 2020 Sep 18];68(44). doi:10.15585/mmwr.mm6844e1.
[xvii] Crouch E, Jones J, Strompolis M, Merrick M. Examining the association between ACEs, childhood poverty and neglect, and physical and mental health: Data from two state samples. Child and Youth Serv Rev. 2020 Sep [cited 2020 Sep 18];116:105155.
[xviii] Bruner C. ACE, Place, race, and poverty: building hope for children. Acad Ped. 2017 Sep [cited 2020 Sep 18];17(7).
[xix] Choi J-K, Wang D, Jackson AP. Adverse experiences in early childhood and their longitudinal impact on later behavioral problems of children living in poverty. Child Ab & Neg. 2019Dec [cited 2020 Sep 18];98:104181.
[xx] Grall T. Custodial mothers and fathers and their child support: 2015 [Internet]. Washington, DC: United States Census Bureau; c2020 [cited 2020 Sep 15]. Available from: https://www.census.gov/content/dam/Census/library/publications/2020/demo/p60-262.pdf
[xxi] census.gov [Internet]. America's families and living arrangements. Washington, DC: United States Census Bureau; c2019 [cited 2020 Sep 15]. Available from: https://www.census.gov/data/tables/2019/demo/families/cps-2019.html
[xxii] census.gov [Internet]. Poverty status in the last 12 months of families. Washington, DC: United States Census Bureau; c2019 [cited 2020 Sep 17]. Available from: https://data.census.gov/cedsci/table?q=S1702&g=0500000US37063&tid=ACSST1Y2019.S1702&hidePreview=true
[xxiii] data.census.gov [Internet]. American community survey: selected characteristics of people at specified levels of poverty in the past 12 months. Washington, DC: United States Census Bureau; 2019 [cited 2020 Sep 17]. Available from: https://data.census.gov/cedsci/table?q=S1703&g=0500000US37063&tid=ACSST5Y2018.S1703
[xxiv] Darity W, Hamilton D, Paul M, Aja A, Price A, Moore A, Chiopris C. What we get wrong about closing the racial wealth gap [Internet]. Durham (NC): 2018 Apr [cited 2020 Nov 2]. Available from: https://socialequity.duke.edu/wp-content/uploads/2019/10/what-we-get-wrong.pdf.
[xxv] Bhutta N, Chang AC, Dettling LJ, Hsu JW. Disparities in wealth by race and ethnicity in the 2019 survey of consumer finances [Internet]. FEDS Notes. Washington, DC: Board of Governors of the Federal Reserve System; 2020 Sep 28 [cited 2020 Sep 17]. Available from: https://doi.org/10.17016/2380-7172.2797
[xxvi] Darity, W, Hamilton, D, Paul, M, Aja, A, Price, A, Moore, A, Chiopris, C. What we get wrong about closing the racial wealth gap [Internet]. Durham (NC): 2018 Apr [cited 2020 Nov 2]. Available from: https://socialequity.duke.edu/wp-content/uploads/2019/10/what-we-get-wrong.pdf.
[xxvii] Center on the Developing Child at Harvard University [Internet]. Toxic Stress. Boston (MA): Harvard University; c2020 [cited 2020 Sep 17]. Available from: https://developingchild.harvard.edu/science/key-concepts/toxic-stress/
[xxviii] dcopublichealth.org [Internet]. Weekly data reflections: week of October 19, 2020. Durham (NC): Durham County Public Health; 2020 Oct 19 [cited 2020 Nov 2]. Available from https://durhampublichealth-durhamnc.hub.arcgis.com/datasets/9e9e74a7cc4d4cce8a9beb5e49322592.

[xxix] Gould E, Wilson V. Black workers face two of the most lethal preexisting conditions for coronavirus – racism and economic inequality [Internet]. Washington, DC: Economic Policy Institute; 2020 Jun 1 [cited 2020 Nov 3]. Available from: https://files.epi.org/pdf/193246.pdf

[xxx] avalere.com [Internet]. COVID-19 projected to worsen racial disparities in health coverage. Washington, DC: Avalere; 2020 Sep 16 [cited 2020 Nov 3]. Available from: https://avalere.com/press-releases/covid-19-projected-to-worsen-racial-disparities-in-health-coverage

[xxxi] ncjustice.org [Internet]. Why raising the minimum wage is good for everyone in North Carolina. Raleigh (NC): North Carolina Justice Center; 2019 March [cited 2020 Oct 22]. Available from: https://www.ncjustice.org/wp-content/uploads/2019/03/WRP-NCJC-BRIEF-Raise-Min-Wage.pdf

[xxxii] ncjustice.org [Internet]. State EITH could improve the health of North Carolinians. Raleigh (NC): North Carolina Justice Center; 2019 Nov [cited 2020 Oct 22]. Available from: https://www.ncjustice.org/wp-content/uploads/2019/11/BTC-Report-on-EITC.pdf

[xxxiii] Trisi D. Economic security, health programs reduce poverty and hardship, with long-term benefits [Internet]. Washington, DC: Center on Budget and Policy Priorities; 2018 Feb 9 [cited 2020 Oct 22]. Available from: https://www.cbpp.org/blog/economic-security-health-programs-reduce-poverty-and-hardship-with-long-term-benefits.

[xxxiv] healthcare.gov [Internet]. Medicaid expansion & what it means for you. Baltimore (MD): U.S. Centers for Medicare & Medicaid Services; c2020 [cited 2020 Oct 23]. Available from: https://www.healthcare.gov/medicaid-chip/medicaid-expansion-and-you/

[xxxv] Stoddard-Dare P, DeRigne L, Mallett L, Quinn L. How does paid sick leave relate to health care affordability and poverty among US workers? Soc Work in Heal Care, 2018 [cited 2020 Oct 22]; 57 (5): 376 DOI: 10.1080/00981389.2018.1447532

[xxxvi] Looney A. Work and opportunity before and after incarceration [Internet]. Washington, DC: The Brookings Institution; c2018 [cited 2020 Oct 22]. Available from: https://www.semanticscholar.org/paper/Work-and-opportunity-before-and-after-incarceration-Looney/399b5d1747e721fdb63a5837296619528d361de6?p2df

Section 4.02 *Housing and homelessness*

Overview

Affordable and safe housing is critical to Durham residents' health. Housing has a direct impact on quality of life, health and life expectancy. Housing (or lack of it) is also an issue of race and equity. Historic racial inequities continue to affect housing in Durham. For more than 50 years, the legacy of segregation was memorialized in the name on a Durham Housing Authority building.[i] The federal mortgage policies of the 1930s ("redlining") continue to influence home ownership, the quality of housing stock and accumulated familial wealth. African American neighborhoods (e.g. Hayti, St. Theresa) and businesses were destroyed and thousands of African Americans were displaced to make way for the Durham Freeway (Highway 147).[ii,iii,iv] This historical record suggests that it is no accident that people of color are under-represented in home ownership, over represented in the homeless population and disproportionately being gentrified out of long standing communities. Durham's housing affordability and gentrification crisis must be met with attention to the past and a commitment to responding creatively to the current need.

Homelessness

There are multiple definitions of homelessness in the United States. The US Department of Housing and Urban Development (HUD) definition is widely used to determine service eligibility. The HUD definition of homelessness includes residing in places not intended for human habitation (e.g., tent, vehicle) but excludes "couch surfing" or precarious housing arrangements. HUD-funded housing requires use of the HUD definition and prioritizes available housing for people who are chronically homeless as defined by federal statute. In many cities, including Durham, housing prioritization includes use of a standardized tool, the Vulnerability Index Service Prioritization Decision Assistance Tool (VI-SPDAT) in attempts to create an unbiased, fair and transparent process. Recently, the VI-SPDAT was scrutinized for racial bias.[v] Conversations regarding racial bias and equity in housing priority processes are ongoing nationally.

Local agencies are working collaboratively to address homelessness. Much of the government funding for homeless services comes from HUD through regional homeless services governing bodies known as Continuums of Care (CoC). The Durham Community Development Department is the CoC Lead Agency, providing staff support to the Durham CoC. The CoC submits grants to HUD on behalf of Durham thereby securing funding for homeless services. In 2019, the Durham CoC received $1.52 million in the annual HUD CoC homeless grants competition. Approximately $1 million comes from other sources including Emergency Solutions Grants (ESG), Community Development Block Grants (CDBG), and the City's Dedicated Housing Fund.

Housing Quality and Affordability

Low quality or poorly maintained housing has a direct impact on a health. This was illustrated by the carbon monoxide (CO) exposure at the McDougald Terrace housing complex owned by the Durham Housing Authority (DHA) that resulted in an extended displacement of 270 families.[vi]

DHA acted quickly in this situation and spent $7 million to protect the health of their residents. This event certainly increased community awareness of the effects poorly maintained housing can have on physical and mental health. In 2020, DHA once again made headlines, this time for substantial pest control issues in another housing location.[vii] Despite individual perceptions of DHA, the root cause of these issues can be directly traced to historic disinvestment in public housing. It is estimated there is a larger than $35 billion backlog of public housing capital needs nationwide.[viii]

With limited federal monies available, DHA is turning to the private sector to secure funding for property improvements through the Rental Assistance Demonstration (RAD) program. Through RAD, public housing developments are converted to the Section 8 platform and current residents receive a site-based voucher.[ix] Residents may be required to move offsite during property rehabilitation and if lease compliant, can move back into the property once renovation is completed.[x] RAD will not increase rent of residents who are paying 30% of their adjusted gross income which is standard for public housing. Those residents paying a flat rent fee will have an increase in rent phased in over three years.[xi]

In 2019, the City of Durham passed a $95 million housing bond intending to increase housing quality and affordability through creating new units, preserving current rental housing stock and increasing opportunities for homeownership.[xii] Funding for repairs to affordable housing properties are included in the bond. As of November 2020, a diverse advisory board is being established to oversee the housing bond implementation and the City hired a communications consultant. Also in 2019, the Self-Help Credit Union, Duke University and other partners established the Durham Affordable Housing Loan Fund (DAHLF).[xiii] DAHLF provides funding for both building and preservation of affordable housing in Durham offering another avenue for property improvements for housing for low income renters.

COVID-19, Homelessness and Housing

As COVID-19 spread in communities throughout the United States in March 2020, a group comprising clinicians, homeless services providers, city and county government workers and officials and health system leaders convened to develop a response for Durham's homeless population. The group collaborated around advocacy and planning to decrease crowding at Urban Ministries Durham (UMD), the largest congregate emergency homeless shelter in Durham. Duke Hospitals agreed to screen individuals receiving COVID-19 tests for homelessness to avoid discharging positive cases to the streets or shelters. From April to July 2020, Durham County proactively moved UMD to a hotel setting to reduce risk and create an opportunity for UMD to reengineer its shelter layout to accommodate appropriate physical distancing. In July 2020, the Entry Point team (the city's access point for homeless services) developed a process to identify and triage medically vulnerable homeless individuals as defined by the Centers for Disease Control and Prevention (CDC), to hotel locations. The remainder of the shelter population returned to UMD. Voluntary COVID-19 testing events were coordinated at UMD by Lincoln Community Health Center Healthcare for the Homeless Clinic. Other testing events led by volunteer teams from Duke Health were held at Durham Rescue Mission. The County and City worked with a community non-profit, Project Access of Durham County (PADC) to operate a set of COVID-19

isolation locations. A collaboration between PADC's Durham Homeless Care Transitions (DHCT) program and the health department provided support to the homeless individuals in isolation. As of November 11, 2020, 30 persons experiencing homelessness in Durham have tested positive for COVID-19. The vast majority had minimal symptoms, were housed at the isolation locations and received services through DHCT.

The 2020 Coronavirus Aid, Relief, and Economic Security (CARES) Act resulted in allocations in Durham of nearly $7 million in CDBG and ESG for eviction diversion, emergency shelter and rapid rehousing activities. Some of these monies were awarded to local entities to provide services as described above. However, community-based agencies noted the procurement process to use public funds is cumbersome and lengthy. There is a mandated request for proposals (RFP) process, limitations on expenditures and time limits for spending funds. The COVID-19 related eviction moratoriums provided temporary relief for renters and a precipitous drop in evictions was noted.[xiv] However, the rental debt is accumulated rather than forgiven and data experts surmise a high number of evictions will occur in early 2021 after the moratoriums expire.[xv] COVID-19 affected housing availability and rent prices as well. Unable to return to campus housing, Duke University students flooded the rental market. Some landlords took advantage of this crisis by increasing rent prices. The number of students needing housing along with the lack of available housing was expected to further exacerbate the affordable housing crisis.[xvi]

Primary Data

In the representative county sample of Durham residents questioned as part of the 2019 Community Health Assessment survey, three of the top five items of community concern were related to housing.

Top Community Issues with the Greatest Effect on Quality of Life in Durham

Figure 4.02(a): Top community issues with the greatest effect on quality of life in Durham[xvii]

The same survey demonstrated that: 1) More than seven percent of respondents the sampled residents reported a history of eviction; 2) Whites were more likely than Blacks to own their homes; and 3) 40% of the County-wide and 12% of the Latino and Hispanic Neighborhood sample respondents indicated housing related issues were a priority to improve quality of life for people.[xviii, xix]

Secondary Data

In the three-year period from 2017 to 2019, homelessness increased by 3% nationwide and 3.9% in North Carolina.[xx] During the same period, there was little change in Durham's homeless totals with an increase in the proportion of unsheltered homeless person noted.[xxi]

Point-in-Time Homeless Count Data, Durham County, 2017-2020

Year	Durham sheltered	Durham unsheltered	Durham Total	NC Total	National Total
2017	294	60	354	8,962	550,996
2018	285	53	338	9,268	552,830
2019	280	81	361	9,314	567,715
2020	272	77	349	Not available	Not available

Table 4.02(a) Point-in-Time Homeless Count Data[xxii]

Durham Public Schools report that the number of children meeting the U.S. Department of Education definition of homelessness, which includes children doubled-up with others increased 13.8% between the 2016-2017 and 2019-2020 school years.[xxiii]

Number of Homeless Children Attending Durham Public Schools, 2016-2020

Year	Homeless children	School enrollment
2016-2017	935	33,151
2017-2018	1006	33,072
2018-2019	1040	32,448
2019-2020	1056	32,928

Table 4.02(b) Number of Homeless Children attending Durham Public Schools[xxiv]

U.S. Census Bureau data demonstrate Durham's housing units' prices have increased over time. The median gross rent was $1,014 in the 2014-2018 survey and the median mortgage $1,438.[xxv] More than one in five persons moved to a different house in the last year.[xxvi] Renters make up 46% of households in Durham.[xxvii] Thirty-one percent of Durham households, nearly 40,000, are defined as cost-burdened (i.e., paying more than 30% of their monthly income for housing).[xxviii] This includes 49% of all renters.[xxix] In Durham, the fair market rent for a two-bedroom unit increased over 16% between 2016 and 2020, from $937 per month to $1088.[xxx]

The Durham CoC annually tracks the number of beds that are dedicated for occupancy by people experiencing homelessness. In the 2018 to 2020 three-year period, the number of emergency shelter beds averaged 262 beds; transitional housing beds averaged 48; permanent supportive housing beds averaged 336 and rapid rehousing beds averaged 180.[xxxi] However, rapid rehousing, which provides short to medium term rental assistance with supportive services, declined over fifty percent from 237 beds in 2018 to just 114 occupied beds in 2020.[xxxii]

DHA owns properties and manages the Housing Choice Voucher (HVC) program (also known as Section 8) which pays fair market rate for units on the open market. There are 1379 public housing

units owned by DHA and an average 2815 HCVs.[xxxiii] Other low-income housing opportunities include projects funded with Low Income Housing Tax Credits, and HOME, Section 108 and Section 811 funds. Renters using their own funds or receiving support through HVCs may face eviction if they fall behind on rent. In 2019, there were 9,553 summary ejectments filed which is the first of a two-step eviction process.[xxxiv] This is an increase of more than 4% over the 9,155 filings in 2017.[xxxv]

Interpretations: Disparities, Gaps, Emerging Issues

Durham has an affordable housing crisis that is compounded by gentrification, deteriorating public housing stock and the COVID-19 pandemic. All of these issues disproportionally affect Durham's Black population. The RAD program implementation and housing bond will help revitalize some DHA properties but others, primarily housing families with children, are not slated for renovation in the near future. Housing quality and safety issues are problems at many affordable housing units targeting low income renters beyond DHA.

The COVID-19 pandemic was an unforeseen disaster. As of November 2020, the numbers of homeless persons acquiring COVID-19 were relatively low but an outbreak could occur at any time. Administrative burden prevents community agencies, who could spend federal and state dollars responsibly and immediately from accessing funds. As of November 11, 2020, at least 2457 Durham workers have been laid off due to COVID.[xxxvi] This number does not include those who were separated from work due to business closure.[xxxvii] The 2020 eviction moratoriums were stop-gap measures. The full impact of COVID-19 in relation to housing has yet to be realized.

Recommended Strategies

- Durham must focus on quality, safe, affordable housing for all. Opportunities include: DAHLF offers $15 million dollars towards the purchase of affordable housing. This is the time to use those dollars to think outside of the traditional models and move aggressively to purchase housing that is at risk of gentrification in order to secure it for our future.
- Durham led NC with passage of the housing bond. It is important to ensure a well-represented community advisory board for housing bond implementation with ongoing transparency.
- Public funds are available for housing services but the funding pathways for City and County funds are frequently complex and burdensome, keeping smaller community agencies from participating in housing or homeless services grant opportunities. A community entity that could apply for, manage and distribute funds to agencies that otherwise would not be able to participate would increase service providers and reduce burden on overstretched organizations. A short-term solution to the administrative burden problem would be for the City and County to increase the dollar amount that is available for discretionary spending.
- Increased community awareness for free and fair city inspections of rental housing that is perceived as unsafe or substandard is important. Substandard housing is heavily concentrated in Black communities thus attention to inspection and remediation is an equity issue.
- The surge of interest in families impacted by the DHA McDougald Terrace carbon monoxide crisis is an opportunity moment. There are many other substandard DHA and non-DHA

affordable housing properties in Durham with concentrations of low-income families, disabled adults and seniors. The community needs a private public partnership to focus on specific properties in Durham. The Durham Public Schools Foundation is a possible model for this type of initiative.

Current Initiatives & Activities

Alliance Health Mental health, substance abuse, and intellectually disabled LME that helps clients facing housing problems or homelessness with case management and opportunities for short term housing support through the Independent Living Initiative (ILI), leased housing through the DASH program, and moving from institutions to apartments with Transitions to Community Living Initiative (TCLI) https://www.alliancehealthplan.org/

City of Durham Manages multi-million HUD contracts for housing and homeless services, conducts property inspections and is overseeing housing bond implementation. http://durhamnc.gov/

DataWorks-NC A local non-profit dedicated to "democratizing data" that maintains social driver and health data on the Durham Neighborhood Compass website. https://compass.durhamnc.gov/en

Durham Affordable Housing Loan Fund Public/private partnership providing financing to create or preserve multi- or single-family affordable housing units in Durham. https://www.self-help.org/business/loans/all-business-loans/durham-affordable-housing-loan-fund

Durham CAN (Congregations, Associations, and Neighborhoods) Broad and diverse membership coalition working to bring key issues to elected leaders to promote change – a leader in the movement to improve housing affordability / quality and proximity to transit. http://www.durhamcan.org/

Durham COC The HUD mandated community collaborative that sets policy around homeless services in Durham including prioritization for housing and funding allocations https://www.durhamcoc.org

Eviction Diversion Program Collaboration between Duke Law School, Legal Aid, and the Department of Social Services with funding from the city and county. https://evictioninnovation.org/2020/01/28/diversion-durham/

Housing for New Hope a nonprofit active in multiple areas including the new in 2020 Street Outreach Team which serves homeless people living outside with case management and referrals. HNH also owns/maintains three permanent supportive housing sites and directs a rapid rehousing program. https://www.housingfornewhope.org/outreach-casemanagement

Partnership for Healthy Durham - Health and Housing Committee Newly developed committee in response to the 2017 CHA that works to increase education and advocacy regarding health and housing. https://healthydurham.org/health-and-housing

Project Access of Durham County Oversees the Durham Homeless Care Transitions (DHCT) program with the goal of assisting medically vulnerable homeless people transitioning from institutions. http://www.projectaccessdurham.org/

Reinvestment Partners in 2020 in addition to ongoing efforts to increase affordable housing stock RP developed the Hotel to Home program refurbished rented hotel with county and Alliance funding to provide a safe post hospital location for individuals between mental health hospitalization or homelessness while medically vulnerable to COVID. https://reinvestmentpartners.org/

References

[i] Lukpat A. Durham Housing Authority removes name of racist ex-director from high-rise apartments [Internet]. Raleigh (NC): The News & Observer; 2020 Jul 02 [cited 2020 Nov 11]. Available from: https://www.newsobserver.com/news/local/counties/durham-county/article243823902.html
[ii] tclf.org [Internet]. Parrish Street. Durham (NC): The Cultural Landscape Foundation; c2001-2020 [cited 2020 Nov 11]. Available from: https://tclf.org/parrish-street
[iii] Freelon P. Legacy of perish(ed) streets [Internet]. Raleigh (NC): The News & Observer; 2014 Aug 26 [cited 2020 Nov 11]. Available from: https://www.newsobserver.com/news/local/community/durham-news/dn-opinion/article10040600.html
[iv] Paschal O. The bitter history behind the highways occupied by protesters [Internet]. Durham (NC): Facing South; 2020 Jun 5 [cited 2020 Nov 11]. Available from: https://www.facingsouth.org/2020/06/bitter-history-behind-highways-occupied-protesters
[v] Wilkey C, Donegan R, Yampolskaya S, Cannon R. Coordinated entry systems racial equity analysis of assessment data [Internet]. Needham (MA): C4 Innovations; c2019 [cited 2020 Nov 11]. Available from: https://c4innovates.com/training-technical-assistance/equity/
[vi] Browder C. McDougald Terrace not only Durham housing complex with carbon monoxide problems [Internet]. Raleigh (NC): WRAL.com; 2020 Jan 13 [cited 2020 Nov 11]. Available from: https://www.wral.com/mcdougald-terrace-not-only-durham-housing-complex-with-carbon-monoxide-problems/18884537/
[vii] Kreuger S. Mother of 4 young children: Durham Housing Authority apartment 'absolutely crawling' with roaches [Internet]. Raleigh (NC): WRAL.com; 2020 Sept 26 [cited 2020 Nov 11]. Available from: https://www.wral.com/mother-of-4-young-children-durham-housing-authority-apartment-absolutely-crawling-with-roaches/19305091/
[viii] hud.gov [Internet]. Rental assistance demonstration (RAD). Washington, DC: U.S. Department of Housing and Urban Development; c2020 [cited 2020 Nov 11]. Available from: https://www.hud.gov/RAD
[ix] durhamhousingauthority.org [Internet]. Rental assistance demonstration program (RAD); Durham (NC): Durham Housing Authority; c2020 [cited 2020 Nov 13]. Available from: https://www.durhamhousingauthority.org/rad/
[x] durhamhousingauthority.org [Internet]. Rental assistance demonstration program (RAD); Durham (NC): Durham Housing Authority; c2020 [cited 2020 Nov 13]. Available from: https://www.durhamhousingauthority.org/rad/
[xi] durhamhousingauthority.org [Internet]. Rental assistance demonstration program (RAD); Durham (NC): Durham Housing Authority; c2020 [cited 2020 Nov 13]. Available from: https://www.durhamhousingauthority.org/rad/
[xii] durhamnc.gov [Internet]. $95 million affordable housing bond on November ballot. Durham (NC): City of Durham, Community Development; c2020 [cited 2020 Nov 13]. Available from: https://durhamnc.gov/3932/Affordable-Housing-Bond
[xiii] selfhelp.org [Internet]. Durham affordable housing loan fund. Durham (NC): Self-Help Credit Union; c2019 [cited 13 Nov 2020]. Available from: https://www.self-help.org/business/loans/all-business-loans/durham-affordable-housing-loan-fund
[xiv] Perchick M. With some tenants 2-3 months behind in rent, housing advocates worry 2021 will come with more evictions [Internet]. Durham (NC): ABC News; 2020 Sep 25 [cited 13 Nov 2020]. Available from: https://abc11.com/housing-evictions-eviction-moratorium-rent/6563387/
[xv] Perchick M. With some tenants 2-3 months behind in rent, housing advocates worry 2021 will come with more evictions [Internet]. Durham (NC): ABC News; 2020 Sep 25 [cited 13 Nov 2020]. Available from: https://abc11.com/housing-evictions-eviction-moratorium-rent/6563387/

[xvi] Torrence R. As COVID-19 rages, Duke housing hits home in gentrifying Durham [Internet]. Durham (NC): The Chronicle; 2020 Aug 24 [cited 13 Nov 2020]. Available from: https://www.dukechronicle.com/article/2020/08/duke-university-covid-rages-housing-hits-home-gentrification-durham
[xvii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xviii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[xx] hudexchange.info [Internet]. CoC homeless populations and subpopulations reports; Greensboro (NC): U.S. Department of Housing and Urban Development, HUD Exchange; c2020 [cited 13 Nov 2020]. Available from: https://www.hudexchange.info/programs/coc/coc-homeless-populations-and-subpopulations-reports/
[xxi] hudexchange.info [Internet]. CoC homeless populations and subpopulations reports; Greensboro (NC): U.S. Department of Housing and Urban Development, HUD Exchange; c2020 [cited 13 Nov 2020]. Available from: https://www.hudexchange.info/programs/coc/coc-homeless-populations-and-subpopulations-reports/
[xxii] hudexchange.info [Internet]. CoC homeless populations and subpopulations reports; Greensboro (NC): U.S. Department of Housing and Urban Development, HUD Exchange; c2020 [cited 13 Nov 2020]. Available from: https://www.hudexchange.info/programs/coc/coc-homeless-populations-and-subpopulations-reports/
[xxiii] dpsnc.net [Internet]. Student support services: student and family assistance. Durham (NC): Durham Public Schools; c2002 – 2020 [cited 17 Nov 2020]. Available from: https://www.dpsnc.net/
[xxiv] dpsnc.net [Internet]. Student support services: student and family assistance. Durham (NC): Durham Public Schools; c2002 – 2020 [cited 17 Nov 2020]. Available from: https://www.dpsnc.net/
[xxv] census.gov [Internet]. Quick facts Durham County North Carolina. Washington, DC: United States Census Bureau; c2020 [cited 13 Nov 2020]. Available from: https://www.census.gov/quickfacts/fact/dashboard/durhamcountynorthcarolina/AGE135219#AGE135219
[xxvi] census.gov [Internet]. Quick facts Durham County North Carolina. Washington, DC: United States Census Bureau; c2020 [cited 13 Nov 2020]. Available from: https://www.census.gov/quickfacts/fact/dashboard/durhamcountynorthcarolina/AGE135219#AGE135219
[xxvii] census.gov [Internet]. Quick facts Durham County North Carolina. Washington, DC: United States Census Bureau; c2020 [cited 13 Nov 2020]. Available from: https://www.census.gov/quickfacts/fact/dashboard/durhamcountynorthcarolina/AGE135219#AGE135219
[xxviii] nchousing.org [Internet]. County profiles. Raleigh (NC): North Carolina Housing Coalition; c2020 [cited 13 Nov 2020]. Available from: https://nchousing.org/county-fact-sheets/
[xxix] nchousing.org [Internet]. County profiles. Raleigh (NC): North Carolina Housing Coalition; c2020 [cited 13 Nov 2020]. Available from: https://nchousing.org/county-fact-sheets/
[xxx] huduser.gov [Internet]. Fair market rents. Greensboro (NC): U.S. Department of Housing and Urban Development, Office of Policy Development and Research; c2020 [cited 13 Nov 2020]. Available from: https://www.huduser.gov/portal/datasets/fmr.html#2021

[xxxi] Schmeidler L. (City of Durham Community Development Office Durham, NC). Conversation with: Donna J. Biederman (Duke University School of Nursing, Durham, NC). 2020 Nov 17.
[xxxii] Schmeidler L. (City of Durham Community Development Office Durham, NC). Conversation with: Donna J. Biederman (Duke University School of Nursing, Durham, NC). 2020 Nov 17.
[xxxiii] durhamhousingauthority.org [Internet]. Annual plan. Durham (NC): Durham Housing Authority; c2020 [cited 13 Nov 2020]. Available from https://www.durhamhousingauthority.org/programs/annual-plan/
[xxxiv] compass.durhamnc.gov [Internet]. Housing. Durham (NC): Durham Neighborhood Compass; c2020 [cited 13 Nov 2020]. Available from: https://compass.durhamnc.gov/en
[xxxv] compass.durhamnc.gov [Internet]. Housing. Durham (NC): Durham Neighborhood Compass; c2020 [cited 13 Nov 2020]. Available from: https://compass.durhamnc.gov/en
[xxxvi] Durante L, McClure L. COVID-19 and layoffs in NC [Internet]. Durham (NC): Dataworks NC; 9 Nov 2020 [cited 13 Nov 2020]. Available from: https://dataworks-nc.org/2020/covid-19-and-layoffs-in-nc/
[xxxvii] Durante L, McClure L. COVID-19 and layoffs in NC [Internet]. Durham (NC): Dataworks NC; 9 Nov 2020 [cited 13 Nov 2020]. Available from: https://dataworks-nc.org/2020/covid-19-and-layoffs-in-nc/

Section 4.03 *Education*

Overview

A community with readily available health and academic resources boosts potential of life-long accomplishments.[i] Access and equity are fundamental components of good health and academic success.[ii] Major interruptions, such as Adverse Childhood Experiences (ACEs) can establish a lifetime of delays and hinder optimal outcomes. When certain groups experience privilege while others are at increased risk of failure, attention must be directed towards systemic deficits.[iii]

More focus on the design of resource allocation and public awareness efforts could be the vehicles needed to achieve greatness for all community members. Educational institutions and community programs can close those gaps. Educational efforts inside and outside of the classroom via conversations and training on racial equity are critical. Some of this work has already begun at Durham Technical Community College, North Carolina Central University, Duke University, Durham Public Schools and Durham County Department of Public Health. This is making it possible to connect individual health concerns and their impact on academic achievement because of these various systems.

Durham Public Schools (DPS) launched a five-year strategic plan in 2018 that focused on five priorities:[iv]

- Increasing academic achievement
- Providing a safe school environment that supports the whole child
- Attracting and retaining outstanding educators and staff
- Strengthening school, family, and community engagement
- Ensuring fiscal and operational responsibility

It is unclear how the decision to close schools in March of 2020 due to COVID-19 will affect the strategic plan's 2023 timeline. As referenced in Figures 4.01 (a) and (b), Durham Public Schools' overall graduation rates and composite measures of academic progress continued to improve between 2017 and 2019.[vi,vii] Progress on the strategic plan to date includes racial equity training for all DPS instructional and administrative staff, the adoption of a core curriculum for all schools in K-12 literacy and K-5 math and the development of a teacher-assistant to teacher program.[viii]

DPS partnered with the Durham Public Schools Foundation, the Durham County, Food Insight Group, and the Durham Hotel to form Durham FEAST, serving more than 375,000 meals to children and families between March and June of 2020.[v]

DPS partnered with the Durham Public Schools Foundation, Durham County, the Food Insight Group and the Durham Hotel to form Durham FEAST. This collaborative served more than 375,000 meals to children and families between March and June

of 2020.[ix] In August of 2020, the DPS Foundation launched a community campaign to address inequities in digital access. The foundation worked with the school district to make learning centers available for families who needed supervised academic spaces for their children while their parents were at work.[x]

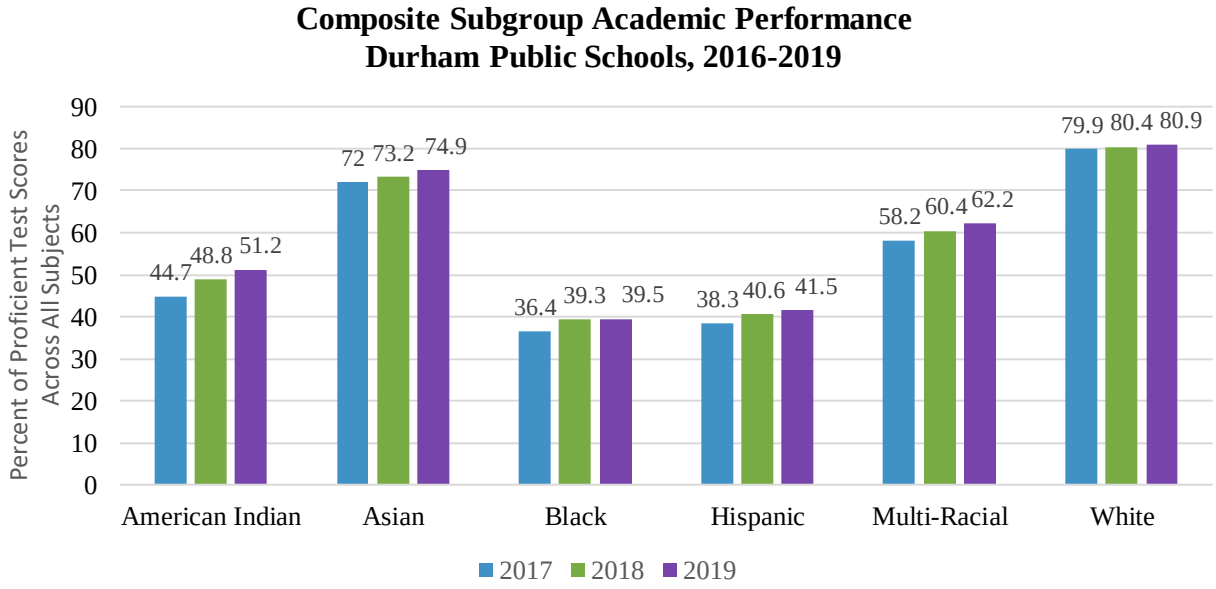


Figure 4.01(a) Composite Subgroup Academic Performance, Durham Public Schools, 2016-19[xi]

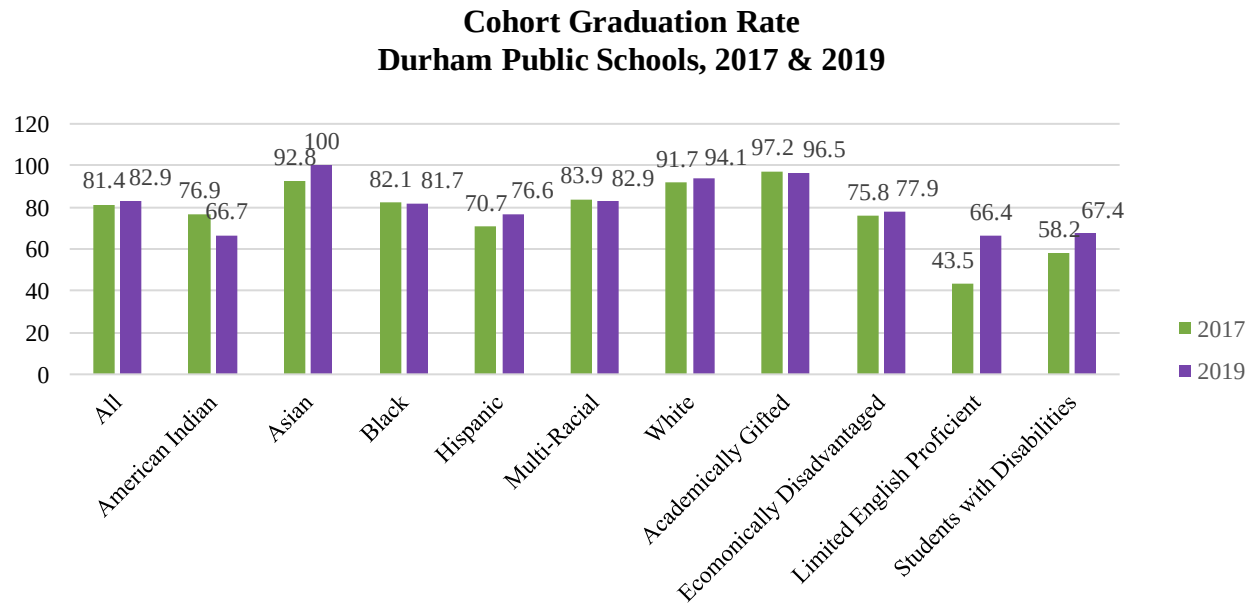


Figure 4.01(b) Cohort Graduation Rates for 2017 & 2019, Durham Public Schools[xii]

Secondary Data

Early Education

In 2017, Child Care Services Association was selected by Durham County to assess parent demand for preschool and survey existing early childhood providers to assess their capacity and needs to meet related to that demand. From that assessment, Durham PreK was launched in 2018.[xiii] Since then, Durham County has invested over $10 million for a universal preschool system. Key components: 1) improved pay and professional development for teachers, 2) intensive technical assistance with early educators designed to raise quality and 3) working with local educational institutions to increase and improve the supply of early childhood teachers.[xiv] In 2020, East Durham Children's Initiative and Partners for Youth Opportunities merged to form the Durham's Children's Initiative (DCI), with a mission to partner with communities, family and youth to create educational opportunities and disrupt systemic inequities. Durham County has tasked DCI to manage the development of the Durham County Early Childhood Action Plan. This local plan supports the goals of the state's NC Early Childhood Action Plan and focuses on areas such as physical and social-emotional health, readiness for school, food and housing security and high quality early learning.[xv]

High-quality early education experiences lay the foundation for school readiness by providing children with dependable, nurturing relationships and safe, stimulating environments that support healthy development. However, only 29% of the 23,000 children birth to age five in Durham County are enrolled in licensed, regulated childcare programs. There are more than 3,000 children currently on waiting lists for childcare scholarships.[xvi] This is a critical need in the Durham community.

School Wellness

Child Care Services Association implemented Shape NC in 2018, combining evidence-based models to improve childcare center practices and increase the number of children who start kindergarten at a healthy weight and ready to learn.[xvii] Durham County's Department of Public Health through its Durham's Innovative Nutrition Education (DINE) program, provides nutrition education to Durham residents who are eligible for the Supplemental Nutrition Assistance Program (SNAP). In 2019, DINE provided nutrition education to nearly 10,000 Durham residents.[xviii] The Durham Public Schools' School Health Advisory Council recommended policy updates in 2017 to reflect the district's Whole School, Whole Community, Whole Child Framework.[xix] These updates included mandating school-based wellness designees, encouraging daily classroom physical activity breaks for K-8 students, addressing self-efficacy and emotional intelligence, and the encouragement of active transportation such as walking to school when such practices can be done safely.[xx] At the onset of the COVID-19 pandemic in the spring of 2020, the district formed a COVID-19 Scientific Advisory Board led by pediatricians from the Duke Clinical Research Institute.[xxi]

Interpretations: Disparities, Gaps, Emerging Issues

Policy makers should be aware that inequalities persist among highly educated individuals through diminished returns of human capital among ethnic minority people. Instead of a reductionist view that attributes ethnic health disparities solely to SES inequalities, health gaps must be addressed across SES levels. We must empower ethnic minorities to efficiently translate their human capital into positive health outcomes, thereby realizing their full health potential.

-- Assari, Caldwell, & Bazargan [xxii]

This chapter outlines a number of community collaborations designed to address disparities in health and education, most notably the Early Childhood Action Plan and the Durham PreK initiative. Both of these initiatives support building a well-paid, high quality early education workforce. These and other collaborations follow mass demonstrations for social justice during the spring and summer of 2020. It is important to continue to examine the response of community institutions to calls for identifying and addressing inequities in health and education.

Health and education disparities in communities with demographics similar to Durham County are often discussed in terms of socioeconomic factors (SES). In a study that examined youth outcomes related to race and ethnicity, parental educational attainment, and various demographic factors, researchers determined that ethnic health disparities are not limited to the "low SES sections of society because other social mechanisms are at work to diminish parental education's health return for ethnic minority families".[xxiii]

Recommended Strategies

Increase Emphasis on Racial Equity

Race based problems cannot be addressed with race neutral solutions. An increased emphasis on identifying and developing projects based on racial equity will help Durham Public Schools close opportunity gaps. For example, allocating funds to recruit and retain Black and Brown educators will have the benefit of increasing academic achievement and graduation rates.[xxiv] A high school diploma predicts several health-related outcomes such as the life expectancy of Black women's infants.[xxv] Additionally, Black children are more likely to pursue college when having an educator who looks like them.[xxvi]

The Durham Public Schools Office of Equity Affairs should increase professional development efforts that prioritize training educators in culturally relevant pedagogy, understanding implicit and explicit biases, restorative justice practices and building community among the most marginalized students and families (e.g. Black and Brown students, English as a Second Language, exceptional children, LGBTQ+, low wealth and home insecure). Partnering with community

organizations who are connected and accountable to DPS families would be a great way to support these efforts. Further, naming and addressing barriers at the systemic level will result in broader changes.

Current Initiatives & Activities

Book Harvest provides books to children who need them and engages families and communities to promote children's lifelong literacy and academic success. http://bookharvestnc.org

Durham's Partnership for Children works to ensure every child in Durham enters school ready to succeed by leading community strategies for children birth to age five and their families that promote healthy development, learning, and access to high quality care. http://dpfc.net

Latino Educational Achievement Partnership Latino Educational Achievement Partnership (LEAP) empowers Latino and other children in Durham to achieve academic success by providing a high-quality preschool and ongoing support through middle school. http://www.durhamleap.org

Durham Children's Initiative (DCI) promotes student success by providing a pipeline of high-quality services from birth through high school for children and families in Durham with support from partners and the community. http://edci.org

El Centro Hispano is a Latino nonprofit organization dedicated to strengthening the community, building bridges, and advocating for equity and inclusion for Hispanics/Latinos in the Triangle Area of North Carolina. https://elcentronc.org/

Emily K Center serves as a college access hub that propels academically focused, low-income K-12 students and graduates toward success in college through its *K to College* programs and other initiatives. http://www.emilyk.org

Gateway to College program at Durham Technical Community College is a supportive, educational option for DPS students, ages 16-21, who have dropped out of high school. https://www.durhamtech.edu/college-and-career-readiness/gateway-college

Student U is a college-access organization that creates a pipeline of services to support students through middle school, high school and college. Their services include out-of-school opportunities and advocacy support. http://www.studentudurham.org

Village of Wisdom supports family organizing and advocacy to eliminate racial injustice in schools, developing tools and resources to help parents, teachers, and students create ideal learning environments for Black and Brown learners. https://www.villageofwisdom.org/

References

[i] nsba.org [Internet]. Beliefs and policies of the National School Boards Association. Alexandria (VA): National School Boards Association; c2020 [cited 2020 Nov]. Available from: https://www.nsba.org/-/media/NSBA/File/nsba-2020-beliefs-policies-adopted-8-14-2020.pdf?la=en&hash=87E2C1B68BCEED8D073234FF2E25328DE18E88AF

[ii] Schonert-Reichl KA. Advancements in the landscape of social and emotional learning and emerging topics on the horizon [Internet]. Educational Psychologist. 2019 [cited 2020 Nov 1];54(3):222-32. Available from: https://doi.org/10.1080/00461520.2019.1633925

[iii] cdc.gov [Internet]. Preventing adverse childhood experiences (ACEs): leveraging the best available evidence. Atlanta (GA): National Center for Injury Prevention and Control, Division of Violence Prevention; c2019 [cited 2020 Sep 18]. Available from: www.cdc.gov/violenceprevention/pdf/preventingACES.pdf

[iv] dpsnc.net [Internet]. Durham public schools strategic plan 2018-2023. Durham (NC): Durham Public Schools; c2017 [cited 2020 Nov]. Available from: https://www.dpsnc.net/cms/lib/NC01911152/Centricity/Domain/295/DPS%20Strategic%20Plan%20booklet%201018%20B%2012-21-18Web.pdf

[v] Goad M. How Duke University is helping the Durham community during the coronavirus pandemic [Internet]. Raleigh (NC): The News and Observer; 2020 Jun 30 [cited 2020 Sep 4]. Available from: https://www.newsobserver.com/news/local/counties/durham-county/article243899477.html

[vi] dpsnc.net [Internet]. District subgroup performance report. Durham (NC): Durham Public Schools; c2019 [cited 2020 Nov]. Available from: https://www.dpsnc.net/site/handlers/filedownload.ashx?moduleinstanceid=6177&dataid=31376&FileName=Data%20Release.Subgroup%20ExecutiveSummary_2019_9.6.2019.pdf

[vii] dpsnc.net [Internet]. District subgroup performance report. Durham (NC): Durham Public Schools; c2019 [cited 2020 Nov]. Available from: https://www.dpsnc.net/site/handlers/filedownload.ashx?moduleinstanceid=6177&dataid=31376&FileName=Data%20Release.Subgroup%20ExecutiveSummary_2019_9.6.2019.pdf

[viii] dpsnc.net [Internet]. Durham public schools strategic plan 2018-2023. Durham (NC): Durham Public Schools; c2017 [cited 2020 Nov]. Available from: https://www.dpsnc.net/cms/lib/NC01911152/Centricity/Domain/295/DPS%20Strategic%20Plan%20booklet%201018%20B%2012-21-18Web.pdf

[ix] Goad M. How Duke University is helping the Durham community during the coronavirus pandemic [Internet]. Raleigh (NC): The News and Observer; 2020 Jun 30 [cited 2020 Sep 4]. Available from: https://www.newsobserver.com/news/local/counties/durham-county/article243899477.html

[x] bullcityschools.org [Internet]. DPS Foundation's support for students and families during COVID-19. Durham (NC): DPS Foundation; c2020 [cited 2020 Sep 4]. Available from: https://www.bullcityschools.org/covid-relief

[xi] dpsnc.net [Internet]. District subgroup performance report. Durham (NC): Durham Public Schools; c2019 [cited 2020 Nov]. Available from: https://www.dpsnc.net/site/handlers/filedownload.ashx?moduleinstanceid=6177&dataid=31376&FileName=Data%20Release.Subgroup%20ExecutiveSummary_2019_9.6.2019.pdf

[xii] dpsnc.net [Internet]. District subgroup performance report. Durham (NC): Durham Public Schools; c2019 [cited 2020 Nov]. Available from: https://www.dpsnc.net/site/handlers/filedownload.ashx?moduleinstanceid=6177&dataid=31376&FileName=Data%20Release.Subgroup%20ExecutiveSummary_2019_9.6.2019.pdf

[xiii] dconc.gov [Internet]. Durham County preschool supply and demand study: executive summary 2018. Durham (NC): Durham County Child Care Service Association; c2018 [cited 2020 Nov]. Available from: https://www.dconc.gov/Home/ShowDocument?id=26110
[xiv] durhamprek.org [Internet]. About Durham pre-k: investing in quality education. Durham (NC): Durham County Child Care Services Association; c2020 [cited 2020 Sep 30]. Available from: https://durhamprek.org/about/
[xv] dci-nc.org [Internet]. The East Durham Children's Initiative (DCI) and Partners for Youth Opportunity (PYO) merge to become the Durham Children's Initiative. Durham (NC): Durham Children's Initiative; c2020 [cited 2020 Sep 18]. Available from: https://edci.org/stories/the-east-durham-childrens-initiative-edci-and-partners-for-youth-opportunity-pyo-merge-to-become-the-durham-childrens-initiative-dci?lang=en
[xvi] dconc.gov [Internet]. Durham County preschool supply and demand study: executive summary 2018. Durham (NC): Durham County Child Care Service Association; c2018 [cited 2020 Nov]. Available from: https://www.dconc.gov/Home/ShowDocument?id=26110
[xvii] childcareservices.org [Internet]. Shape NC year two progress report. Chapel Hill (NC): Child Care Services Association; c2020 [cited 2020 Nov]. Available from: https://www.childcareservices.org/wp-content/uploads/2020/01/ShapeNC-year-2-report-0120-WEB.pdf
[xviii] dcopublichealth.org [Internet]. Annual report FY19. Durham (NC): Durham County Department of Public Health; c2019 [cited 2020 Nov]. Available from: https://www.dcopublichealth.org/Home/ShowDocument?id=30156
[xix] dpsnc.net [Internet]. Durham Public Schools Board of Education academic and student services work session agenda; Durham (NC): Durham Public Schools; 2017 Aug 17 [cited 2020 Sep 21]. Available from: https://www.dpsnc.net/cms/lib/NC01911152/Centricity/Domain/77/8.17.17Academic%20and%20Student%20Services%20WS%20Packet.pdf
[xx] Durham Public Schools. Durham Public Schools Board of Education policy manual [Internet]. Durham (NC): Durham Public Schools Board of Education; 2017 Aug 24 [cited 2020 Nov 19]. Available from: https://boardpolicyonline.com/bl/?b=dps_new#&&hs=569949
[xxi] dcri.org [Internet]. Duke and local school districts partner to make data-driven decisions on schooling during COVID-19. Durham (NC): Duke Clinical Research Institute; 2020 Jul 29 [cited 2020 Sep 21]. Available from: https://dcri.org/covid-scientific-advisory-board/
[xxii] Assari S, Caldwell CH, Bazargan M. Association between parental educational attainment and youth outcomes and role of race/ethnicity [Internet]. JAMA Network Open; 2019 Nov 1 [cited 2020 Nov 1];2(11):e1916018. Available from: http://dx.doi.org/10.1001/jamanetworkopen.2019.16018
[xxiii] Assari S, Caldwell CH, Bazargan M. Association between parental educational attainment and youth outcomes and role of race/ethnicity [Internet]. JAMA Network Open; 2019 Nov 1 [cited 2020 Nov 1];2(11):e1916018. Available from: http://dx.doi.org/10.1001/jamanetworkopen.2019.16018
[xxiv] Papageorge NW, Lindsay C, Hyman J, Gershenson S, Hart C. The long-run impacts of same-race teachers [Internet]. Cambridge (MA): National Bureau of Economic Research; 2018 Nov 1 [cited 2020 Nov 1]. Available from: http://www.nber.org/papers/w25254
[xxv] commissiononhealth.org [Internet]. Issue brief 6: education and health. Princeton (NJ): Robert Wood Johnson Commission to Build a Healthier America; 2009 Sep [cited 2020 Oct 3]. Available from: http://www.commissiononhealth.org/PDF/c270deb3-ba42-4fbd-baeb-2cd65956f00e/Issue%20Brief%206%20Sept%2009%20-%20Education%20and%20Health.pdf
[xxvi] Papageorge NW, Lindsay C, Hyman J, Gershenson S, Hart C. The long-run impacts of same-race teachers [Internet]. Cambridge (MA): National Bureau of Economic Research; 2018 Nov 1 [cited 2020 Nov 1]. Available from: http://www.nber.org/papers/w25254

Section 4.04 *Access to health care, insurance and information*

Overview

Access to health care in a community refers to the ability of residents to find a steady medical provider for their primary and specialty care needs and the ability to receive that care without facing significant barriers. While Durham County has a variety of medical providers, access to affordable health care and insurance remains a concern for residents. Sixteen percent of all Durham County residents noted that they encountered a problem getting the health care they or a member of their household needed according to the 2019 Durham County Health Assessment Survey.[i] Unemployment associated with the COVID-19 pandemic has substantially increased the numbers of uninsured nationwide and highlighted the role of socioeconomic factors, including structural racism in contributing to health disparities.[ii]

Community Assets

Durham has multiple healthcare agencies that provide a range of health services such as the Durham County Department of Public Health, Lincoln Community Health Center, (LCHC) and the Duke University Health System. Durham's resources, including a high number of physicians per resident, help to offset lack of insurance as a barrier to health care when compared to many other NC counties, especially those in rural areas.

In the past three years, LCHC has added staff and expanded services in an effort to keep pace with community demand. Project Access of Durham County donates medical and surgical specialty services to eligible low-income, uninsured individuals annually. The Durham County Department of Public Health provides free or sliding fee scale clinical services including immunizations, screenings and prenatal care.[iii] Durham County has several free health clinics such as Healing with CAARE, Inc. and the Samaritan Health Center. Senior PharmAssist supports seniors with medication access, medication management and tailored community referral.

The Affordable Care Act, Medicaid Transformation, and Medicaid Expansion

The Patient Protection and Affordable Care Act (ACA) contributed to a dramatic drop in uninsured rates in the United States. In 2013, the year prior to the implementation of the ACA, 44 million people were uninsured; by 2017, that number was 27.4 million.[iv] However, there are still millions of Americans who need healthcare, and the US Department of Health and Human Services' Healthy People 2030 plan outlines goals aimed at getting people get timely, high-quality health care services, ultimately reducing the proportion of persons unable to obtain, or delayed in obtaining, necessary medical care.[v] One objective is to reduce the proportion of persons who are unable to obtain or delayed in obtaining necessary medical care to 3.3 % by 2030.[vi] The U.S. continues to fall short of its Healthy People 2030 national goal of 92.1% insured, and was estimated at 90.8% insured in 2019.[vii,viii]

Medicaid expansion in every state was a critical component of ensuring that all low-income residents qualified for health insurance coverage. The 2012 U.S. Supreme Court ruling finding this requirement unconstitutional, made Medicaid expansion optional for states. North Carolina is one of 13 states that has not chosen to expand Medicaid. In 2018, more than one million North Carolinians, or 10.7% of the state's population, did not have health insurance, making it the state with the ninth highest uninsured rate in the nation.[ix]

It was anticipated that in early 2020, North Carolina would transition from its traditional fee for service Medicaid program. In the new model, managed care companies would contract with the state to provide services to Medicaid beneficiaries for a fixed amount of money. November 2019, plans to launch North Carolina's transformed Medicaid program were suspended. In June 2020, the Governor and the NC General Assembly reached a compromise on a budget proposal that would allow Medicaid transformation to move forward by July 2021.[x]

Primary Data

Access to care was identified as one of the top five health priorities among Durham residents in the 2017 Community Health Assessment with 59.1% of residents surveyed identifying 'health services' as an area of need in Durham County.[xi] Approximately 38,187 (12.5%) Durham County residents were uninsured in 2017.[xii]

As determined by the American Community Survey conducted by the United States Census Bureau, the percentage of uninsured Durham residents decreased from 13.5% in 2015 to 10.8% in 2018.[xiii] However an estimated 40,573 Durham County residents were uninsured in 2019, which equates to 12.8%.[xiv] Durham County residents in the 2019 Community Health Assessment survey identified cost as the primary barrier to getting health insurance followed by immigration status, lack of employer based plans and unemployment.[xv]

High cost and lack of employer-based health plans were the two most commonly cited reasons Durham residents identified as barriers to getting health insurance.[xvi] Uninsured Durham residents varies significantly by race and ethnicity as shown in the chart below.[xvii]

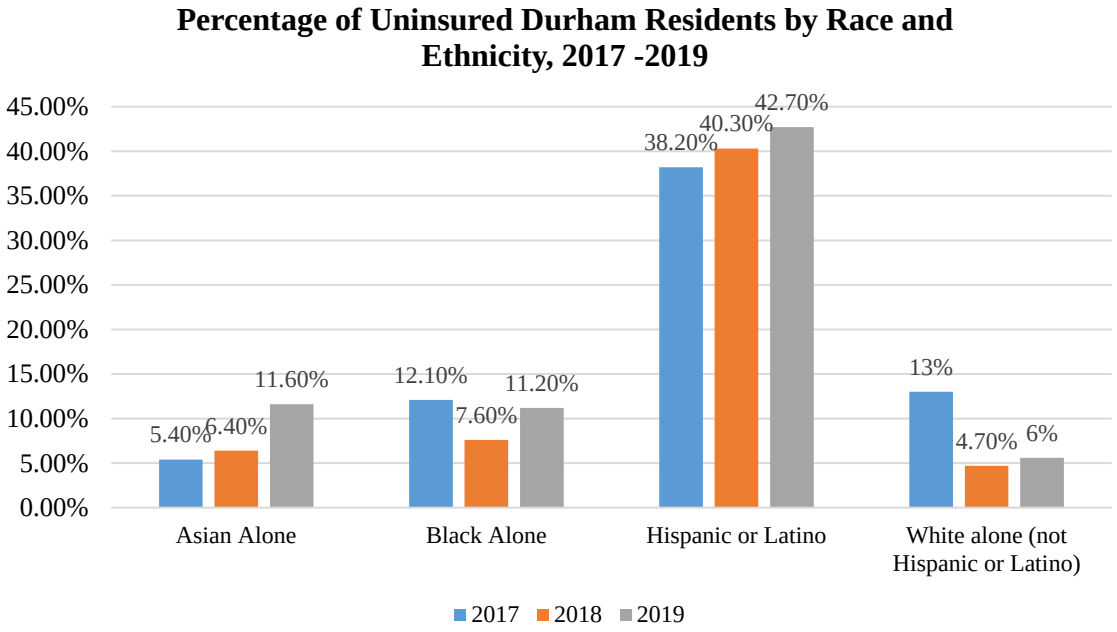


Figure 4.04(a) Percentage of Uninsured among Population by Race, 2017-2019, Durham County, North Carolina[xviii]

Access to Providers

Access to a personal health care provider and continuity of care are associated with higher satisfaction and better health outcomes. The Healthy People 2030 objective is for 84% of individuals to have a primary care provider.[xix] The 2019 Community Health Assessment Survey found that 82.9% of Durham County residents did not have a problem getting healthcare for themselves or someone in their household. The 16.1% of the population who expressed difficulty acquiring care cited dental, primary care, and pharmaceuticals as the most difficult.[xx]

Community Issues

A new Healthy People 2030 objective is to increase the number of community-based organizations providing population-based primary prevention services.[xxi] Helping health care providers communicate more effectively can help improve health and well-being. Strategies to make sure health care providers are aware of treatment guidelines and recommended services are key to improving health.[xxii]

Secondary Data

Durham County is currently ranked number seven in the state for access to clinical care.[xxiii] Table 4.04(b) lists Durham County clinical care ratios and statistics as it relates to U.S. top performers, such as Orange County, North Carolina; Broomfield County, Colorado; and Ozaukee County Wisconsin and NC.[xxiv]

Clinical Care Ratios in Durham County, North Carolina, 2020

Clinical Care	Durham County	Top U.S. Performers	North Carolina
Uninsured	13%	6%	13%
Primary Care Physicians	810:1	1,030:1	1,410:1
Dentists	1,370:1	1,240:1	1,780:1
Mental Health Providers	170:1	290:1	410:1
Preventable Hospital Stays	4,177	2,761	4,758
Mammography Screening	44%	50%	46%
Flu Vaccinations	58%	53%	51%

Table 4.04(b). County Health Ranking Clinical Care Data, 2020, Durham County, North Carolina, and the United States[xxv]

Interpretations: Disparities, Gaps, and Emerging Issues

Durham is a community rich in medical resources and providers. The availability of providers and medical care does not always translate to accessibility. The transformed Medicaid program will do much to address social drivers of health in the future. As of November 2020, North Carolina Medicaid transformation does not include Medicaid expansion. The COVID-19 pandemic has disproportionately affected members of the Black and Latinx communities.[xxvi] The pandemic has highlighted the role of socioeconomic factors including structural racism in contributing to health disparities.[xxvii]

A number of initiatives to address health equity are underway in Durham. In response to the COVID-19 pandemic and the disproportionate impact on certain populations, several local advocacy groups emerged in 2020, including LATIN-19, Black/African American COVID-19 and the Coalition to Address the Impact of COVID-19 on the Homeless. NCCARE360 is a state-sponsored online platform that connects people with social and economic resources. The impact of the COVID-19 pandemic on the health of Durham residents is not yet fully understood.

Recommended Strategies

- Expand Medicaid in the state of North Carolina
- Increase broadband for the use of telehealth and Wi-Fi in rural areas.
- Ensure free transportation to medical services is available for those who need it
- Encourage organizations and their staff to attend racial equity trainings
- Continue to encourage support for and expansion of clinics providing care to the uninsured or underinsured on a sliding fee scale or for free
- Promote awareness of Project Access of Durham County and Duke and local hospitals Charity Care programs
- Increase education to Durham County residents about the value of connection to a primary care medical home as a place where they can receive timely, comprehensive, and coordinated health care

- Continue to disseminate useful health coverage information and advocate for basic access to care and expansion of coverage options
- Improve access to Social Security disability benefits for individuals with physical, mental or co-occurring medical conditions
- Support the development, implementation and expansion of the NCCARE360 platform.
- Advocate for safe and affordable housing

Current Initiatives & Activities

Access to Care Committee (subcommittee of The Partnership for a Healthy Durham) develops community and agency-based strategies to make measurable improvements in access to care for the uninsured and underinsured residents in Durham. http://www.healthydurham.org

NCCare360 is the first statewide coordinated care network to better connect individuals to local services and resources. NCCARE360 is the first statewide network that unites health care and human services organizations with a shared technology that enables a coordinated, community-oriented, person-centered approach for delivering care in NC. NCCARE 360 Durham Taskforce meets monthly to address any issues or concerns with the platform. https://nccare360.org/

Project Access of Durham County (PADC) links people without health insurance into a local network of clinics, laboratories, pharmacies, and hospitals that donate their efforts to those in need. Serves eligible low-income, uninsured Durham residents who have specialty medical care needs. http://projectaccessdurham.org

HELP-Health Equipment Loan Program is part of Project Access of Durham County. HELP accepts gently used durable medical equipment, refurbish it, sanitize it and make minor repairs, and then loan to Durham County residents in need. http://www.projectaccessdurham.org/HELP/

Durham Homeless Care Transitions (DHCT) is an initiative led by Project Access of Durham County in partnership with LATCH, Lincoln Community Health Center's Healthcare for the Homeless Clinic and the Duke Outpatient Clinic.

Senior PharmAssist promotes healthier living for Durham seniors by helping them obtain and better manage needed medications and health education, Medicare insurance counseling, community referral, and advocacy. http://www.seniorphamassist.org

Lincoln Community Health Center (LCHC) provides accessible, affordable, high quality outpatient health care services to the medically underserved at one central clinic and nine satellite clinics. http://www.lincolnchc.org

Durham County Department of Public Health provides clinic services for targeted public health issues, offers outreach and case management particularly to reduce risk in children, pregnant women, and people with specific communicable diseases, and provides community education to promote health. https://www.dcopublichealth.org

Alliance Health provides a 24-hour call line for people needing an immediate response to issues of mental health, developmental disability, or substance abuse. Callers get either information or a referral to an appropriate service provider. http://www.alliancehealthplan.org/

CAARE, Inc. provides a variety of services including a free clinic focused on the reduction of HIV and Sexually Transmitted Illnesses, as well as prevention of other significant health conditions. http://www.caare-inc.org

The Samaritan Health Center provides comprehensive medical care to the underserved members of our community, regardless of their ability to pay. https://www.samaritanhealthcenter.org/

References

[i] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[ii] Williams A, Blanco A. How the coronavirus exposed health disparities in communities of color [Internet]. Washington, DC: The Washington Post; 2020 May 26 [cited 2020 Aug 18]. Available from: https://www.washingtonpost.com/graphics/2020/investigations/coronavirus-race-data-map/

[iii] Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC): Durham County Department of Public Health; 2020 Mar 2 [cited 2020 Aug 18]. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/06/2019-Durham-County-SOTCH-English-FINAL.pdf

[iv] Garfield R, Orgera K, Damico A. The uninsured and the ACA: a primer – key facts about health insurance and the uninsured amidst changes to the Affordable Care Act [Internet]. San Francisco (CA): KFF; 2019 Jan 25 [cited 2020 Dec 9]. Available from: https://www.kff.org/report-section/the-uninsured-and-the-aca-a-primer-key-facts-about-health-insurance-and-the-uninsured-amidst-changes-to-the-affordable-care-act-how-many-people-are-uninsured/

[v] health.gov [Internet]. Health care access and quality. Washington, DC: Office of Disease Prevention and Health Promotion; Healthy People 2030; c2020 [cited 2020 8]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality

[vi] health.gov [Internet]. Reduce the proportion of people who can't get medical care when they need it — AHS-04. Washington, DC: Office of Disease Prevention and Health Promotion; Healthy People 2030; c2020 [cited 2020 Sep 8]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/reduce-proportion-people-who-cant-get-medical-care-when-they-need-it-ahs-04

[vii] health.gov [Internet]. Increase the proportion of people with health insurance — AHS-01. Washington, DC: Office of Disease Prevention and Health Promotion; Healthy People 2030; c2020 [cited 2020 Sep 8]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/increase-proportion-people-health-insurance-ahs-01

[viii] data.census.gov [Internet]. American Community Survey: selected characteristics of health insurance coverage in the United States: Durham County, table ID S2701. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 9]. Available from: https://data.census.gov/cedsci/

[ix] Engel-Smith L. NC's uninsured gap 9th highest in the nation [Internet]. Raleigh (NC): North Carolina Health News; 2019 Sep 23 [cited 2020 Sep 7]. Available from: https://www.northcarolinahealthnews.org/2019/09/23/nc_uninsured_rate/

[x] Engel-Smith L. NC's uninsured gap 9th highest in the nation [Internet]. Raleigh (NC): North Carolina Health News; 2019 Sep 23 [cited 2020 Sep 7]. Available from: https://www.northcarolinahealthnews.org/2019/09/23/nc_uninsured_rate/

[xi] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2020 Dec 9]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf

[xii] data.census.gov [Internet]. American Community Survey: selected characteristics of health insurance coverage in the United States: Durham County, table ID S2701. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 9]. Available from: https://data.census.gov/cedsci/

[xiii] data.census.gov [Internet]. American Community Survey: selected characteristics of health insurance coverage in the United States: Durham County, table ID S2701. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 9]. Available from: https://data.census.gov/cedsci/

[xiv] data.census.gov [Internet]. American Community Survey: selected characteristics of health insurance coverage in the United States: Durham County, table ID S2701. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 9]. Available from: https://data.census.gov/cedsci/
[xv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xvii] data.census.gov [Internet]. American Community Survey: selected characteristics of health insurance coverage in the United States: Durham County, table ID S2701. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 9]. Available from: https://data.census.gov/cedsci/
[xviii] data.census.gov [Internet]. American Community Survey: selected characteristics of health insurance coverage in the United States: Durham County, table ID S2701. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 9]. Available from: https://data.census.gov/cedsci/
[xix] health.gov [Internet]. Increase the proportion of people with a usual primary care provider — AHS-07. Washington, DC: Office of Disease Prevention and Health Promotion; Healthy People 2030; c2020 [cited 2020 Sep 8]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/increase-proportion-people-usual-primary-care-provider-ahs-07
[xx] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxi] health.gov [Internet]. Increase the number of community organizations that provide prevention services — ECBP-D07. Washington, DC: Office of Disease Prevention and Health Promotion; Healthy People 2030; c2020 [cited 2020 Sep 8]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/community/increase-number-community-organizations-provide-prevention-services-ecbp-d07
[xxii] health.gov [Internet]. Increase the ability of primary care and behavioral health professionals to provide more high-quality care to patients who need it — AHS-R01. Washington, DC: Office of Disease Prevention and Health Promotion; Healthy People 2030; c2020 [cited 2020 Sep 8]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care/increase-ability-primary-care-and-behavioral-health-professionals-provide-more-high-quality-care-patients-who-need-it-ahs-r01
[xxiii] countyhealthrankings.org [Internet]. Clinical care. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Dec 9]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/rankings/factors/2
[xxiv] usnews.com [Internet]. Healthiest communities: overview of Durham County, NC. Washington, DC: US News & World Report; c2020 [cited 2020 Dec 9]. Available from: https://www.usnews.com/news/healthiest-communities/north-carolina/durham-county
[xxv] countyhealthrankings.org [Internet]. Clinical care. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Dec 9]. Available from: https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/clinical-care
[xxvi] Dorn S. The Covid-19 pandemic and resulting economic crash have caused the greatest health insurance losses in American history [Internet]. Washington, DC: Families USA; 2020 Jul 13 [cited 2020

Jul 17]. Available from: https://familiesusa.org/resources/the-covid-19-pandemic-and-resulting-economic-crash-have-caused-the-greatest-health-insurance-losses-in-american-history/

Section 4.05 *Employment*

Overview

> **"Make more jobs available where you can earn a decent living – not part-time time or minimum wage"**
> Durham County resident

Employment and income are important social determinants of health. First, employment is a primary source for obtaining health insurance for nearly 50% of Americans.[i] Second, the nature of one's employment status (hourly, part time) typically determines one's income and ability to afford health insurance and to gain access to quality healthcare. Third, employment allows for individuals to create a sufficient level of financial security to address core living and health needs. Fourth, lack of employment, underemployment or loss of income may contribute to poor health conditions such as high blood pressure, obesity, and depression.[ii] Lastly, health status directly impacts employment opportunities and productivity.

Sustainable employment and income generation contributes to longer life expectancies, improved quality of life and improved overall health. Health is important for employment because healthier individuals are more likely to maintain stable employment and income generation. Employment and health must be thought of in unison because of their direct impacts on each other. Healthier individuals are more likely to achieve wealth and having stable employment helps residents maintain and improve their current health status.

In Durham County, health care delivery and education are economic cornerstones and contribute significantly to the employment of Durham County residents. Duke University provides a strong employment base for the community, offering employment opportunities for Durham residents as well as for residents residing in surrounding counties. Yet, large racial disparities in employment, income, and business ownership persist.

Secondary Data

Job Sectors

Total job growth in Durham has continued to increase every year since 2010. Health care and social assistance along with professional, scientific, and technical services have remained in the top three job industries since 2008 with educational services overtaking manufacturing services in 2014. The health care and social assistance industry became and remained the largest job industry in 2010 and totaled 37,449 jobs in 2018. The top three job industries compose over one-third of all jobs in Durham county.[iii]

Employers

Duke University and Medical Center is the largest non-governmental employer in Durham County with over 39,000 employees.[iv] Duke University and Medical System employs more people than

all other top 10 employers in Durham County combined. The top five employers are listed in table 4.05(a).

Durham County's Top 5 Employers, 2019

Rank	Employer	Employees
1	Duke University and Health System	39,525
2	International Business Machines (IBM)	8,000
3	Durham Public Schools	5,003
4	Fidelity Investments	4,200
5	Blue Cross and Blue Shield of North Carolina	4,000

Table 4.05(a). Principal Employers, City of Durham, North Carolina, 2019[v]

Unemployment and the COVID-19 Pandemic

Durham County's unemployment rate has consistently remained lower than the State of North Carolina's rate since 2000. In 2019, an average of 172,359 Durham county residents were employed and the average unemployment rate was 3.0%.[vi] The unemployment rate reached a high of 11.2% in May 2020 primarily due to disruptions caused by the COVID-19 pandemic. This was lower than the 12.7% unemployment high for North Carolina (NC).[vii]

In April 2020, Durham County saw its highest rate of initial unemployment claims (12,404) with 9,788 being attributed to the COVID-19 pandemic. The claimants were 53.5% female and 47.7% Black. [viii]

Prior to the COVID-19 pandemic, in the fourth quarter of 2019, the North Carolina unemployment rate of Black (5.5%) and Hispanic (6.2%) workers was higher than white workers (2.9%).[ix] Disparities in employment retention were also present in Durham City Government which is the seventh largest employer in Durham County. A 2018 report for the City of Durham, revealed that between 2008 and 2014 roughly 70% of the people terminated in the city workforce were Black and 25% were white, although the proportion of employees belonging to both racial groups was fairly similar.[x] The public policies of the Durham government may directly and indirectly contribute to employment disparities faced by people of color.

Income and Wages

The median household income for Durham County in 2018 was $58,190. This income was greater than the median household income for North Carolina ($52,413).[xi] In Durham County, a white household median income was $76,962, $44,004 for Hispanic households and $42,417 for Black households.[xii] The stark difference in income for people of color compared to white residents is likely due to educational inequities which lead to disparate hiring practices and job opportunities. Educational attainment is highly correlated to median annual earnings and 56.6% of whites in Durham have a bachelor's degree versus 33.1% for Durham Blacks and 13.3% for Hispanics or Latinos.[xiii,xiv]

Wages for most occupation groups were above the average wages in NC. However, 2019 numbers show that healthcare practitioners and individuals in technical occupations were paid a slightly lower hourly rate in Durham ($35.82 average) compared to North Carolina ($36.70 average).[xv]

Entrepreneurship

Of the 7,570 establishments in Durham County, 99.45% are small business (<500 employees).[xvi] For every 4.43 businesses owned by whites, there is one business owned by a Black person.[xvii] Between 2007 and 2012, Black business ownership in Durham County grew less than any other major metropolitan area in NC. Black business ownership grew only by 1,000 firms, or 14 percent compared to over 34 percent black firm growth in NC during that time.[xviii] Currently, there are nearly no Black-owned firms in real estate, finance, or accommodations in Durham with paid employees, which are the firms that create the most wealth.[xix] The lack of Black-owned businesses in these sectors stems from barriers people of color face when attempting to access financial of social capital.[xx] Additionally, the absence of race and ethnicity in county-level data reports for business ownership further contributes to entrepreneurship disparities by preventing adequate assessment of how current policies are working to exacerbate or eliminate these inequities.

Interpretations: Disparities, Gaps, Emerging Issues

Educational Attainment and Employment

The Chamber of Commerce Regional Analysis suggests the top three businesses that will survive the COVID-19 pandemic are information technology, life sciences and manufacturing.[xxi] Many of these sectors require a four-year degree or technical skills. However, as stated earlier, Black and Hispanic Durham residents are less likely to have completed a bachelor's degree or higher. Further, criminal records often prevent residents from enrolling in educational programs required for job placement and severely limits opportunities for employment. The inability to enroll for skills training is a "collateral consequence" that further reduces Durham County's pipeline of well-trained job candidates and increases racial disparities in hiring.[xxii] Durham can strengthen its economy and create a thriving community by boosting the skills of workers and connecting them to career pathways.

Youth Unemployment

In 2018, prior to the COVID-19 pandemic, 25% of youth looking for work in Durham were unemployed. [xxiii] According to the International Labor Organization's policy brief, the COVID-19 crisis is likely to exacerbate employment hardships faced by youth because of disruptions to education and training, job loss, deceased quality of employment and increased difficulties for those seeking jobs.[xxiv]

Employment and Entrepreneurship

The economic shut down due to the COVID-19 pandemic has been devastating to hospitality, restaurants and retail. These industries historically pay lower wages and employ many people of

color and individuals with limited education or specialized skills. Non-white Durham County residents are also more likely to have to file for unemployment benefits. Even before the COVID-19 pandemic, it has been well documented by Federal Reserve Bank leaders that many of the racial disparities present in unemployment cannot be attributed to underlying characteristics such as age or education level.[xxv]

People of color continue to face employment barriers, wage disparities and limited support for entrepreneurship which is likely related to the systemic discrimination historically encountered by people of color in the job market, which continues to remain omnipresent.

Recommended Strategies

Durham can strengthen its economy and create a thriving community by boosting the skills of workers, connecting them to career pathways and achieving employment equity. Workers and businesses benefit when the workforce is trained for available jobs and are able to grow into new roles in an industry.[xxvi] Equity will be reached when job seekers have access to high quality employment that pays family-supporting wages that cannot be predicted by race, gender, or geography. This is crucial to help ensure Durham County residents can earn an adequate income to address their health needs and access health care services. Strategies to achieve the ideal employment infrastructure include:

- Expanding work-based learning opportunities to increase career awareness, exposure and experience for youth.
- Increased funding of Durham Public Schools and Durham Tech participating in work-based learning for relocating and expanding companies.
- Offering training and apprenticeship opportunities for Durham County's Adult workforce.
- Collecting demographic data for small business owners and entrepreneurs.
- Expanding opportunities for people of color to access capital for entrepreneurial activities.
- Incentivizing B-Corp Certification of Durham County businesses.
- Reducing the exclusion of people with criminal backgrounds from vocational education and employment opportunities.

Current Initiatives & Activities

Back to Work Initiative: Durham Technical Community College will use short-term courses to offer training and support to provide the Durham community with skillsets needed to obtain immediate employment in growing industries, explore new careers, and enhance current careers. The program was launched in response to unprecedented unemployment across the Triangle in the wake of the COVID-19 pandemic. https://www.durhamtech.edu/academic-programs/durham-tech-back-work-initiative

Building up Local Life Sciences (BULLS) is a 2020 initiative to respond to the growing unemployment levels from the COVID-19 pandemic and from the emergence of Durham as a rapidly expanding life sciences hub. It coordinates the work of education partners, economic developers, nonprofits, government, youth and life sciences employers to develop career pathway programs which connect Durham youth and adults looking for career transitions to

employers in biopharma manufacturing. https://madeindurham.org/news/bulls-building-up-local-life-sciences/

Built2Last is the City of Durham's roadmap for inclusive and equitable development initiative with goals of engaging traditionally under-supported stakeholders into the economic development process to support historically underutilized businesses and to invest in workforce development partners that support the working poor. https://durhamnc.gov/DocumentCenter/View/27855/Built2Last_06142019_Final

Durham Opportunity Zones: Durham has seven census tracts designated as Opportunity Zones designed to encourage tax-advantaged investment in low-income communities with a goal of encouraging job creation, economic activity and housing and other community investments. https://durhamnc.gov/3802/Opportunity-Zones

Made in Durham's Durham Work-based Learning Collaborative is a partnership of nineteen organizations working to align a system that will be easier to navigate for employers and youth and their families. Goals include the rollout of the Durham Public School's 3-2-1 Work-based Learning Initiative and the expansion of the YouthWork Summer Internship Program. https://madeindurham.org/strategies/work-based-learning/

NC Idea offers early stage companies the critical funding they need to scale faster. The $50K grants are awarded to innovative startups with a proven concept — even if they are not yet profitable. The funds, along with mentorship and guidance, push companies forward and reduce risk associated with growing startups. https://ncidea.org/

References

[i] census.gov [Internet]. Health insurance coverage in the United States: 2018. Washington, DC: United States Census Bureau; 2019 Nov 8 [cited 2020 Sep 23]. Available from: https://www.census.gov/library/publications/2019/demo/p60-267.html

[ii] Wilkinson RG, Pickett K. The spirit level: why more equal societies almost always do better. London: Penguin Books; 2010.

[iii] bea.gov [Internet]. Total full-time and part-time employment by industry (CAEMP25) [Internet]. Washington, DC: United States Bureau of Economic Analysis; 2019 Nov 14 [cited 2020 Sep 23]. Available from: https://apps.bea.gov/itable/iTable.cfm?ReqID=70

[iv] Boyd D. Comprehensive annual financial report [Internet]. Durham (NC): City of Durham; 2019 Oct 28 [cited 2020 Sep 23]. Available from: https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4660

[v] Boyd D. Comprehensive annual financial report [Internet]. Durham (NC): City of Durham; 2019 Oct 28 [cited 2020 Sep 23]. Available from: https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4660

[vi] NC Department of Commerce. Local area unemployment statistics [Internet]. Raleigh (NC): NC Department of Commerce; 2020 Jul [cited 2020 Sep 23]. Available from: https://d4.nccommerce.com/?q=RT7

[vii] NC Department of Commerce. Local area unemployment statistics [Internet]. Raleigh (NC): NC Department of Commerce; 2020 Jul [cited 2020 Sep 23]. Available from: https://d4.nccommerce.com/?q=FI0

[viii] bi.nc.gov [Internet]. North Carolina unemployment insurance claims dashboard. Raleigh (NC): NC Department of Commerce; 2020 Jul [cited 2020 Sep 23]. Available from: https://bi.nc.gov/t/COM-LEAD/views/RegionalUIDashboard/RegionalUIDashboard?%3AisGuestRedirectFromVizportal=y&%3Aembed=y&%3Amobile=true&%3AdeepLinkingDisabled=y

[ix] epi.org [Internet]. State unemployment by race and ethnicity: Black, white, and Hispanic unemployment rates defy national lows in some southern and rust belt states. Washington, DC: Economic Policy Institute; c2019 [cited 2020 Aug 15]. Available from: https://www.epi.org/indicators/state-unemployment-race-ethnicity-2019q4/

[x] City of Durham. City of Durham Human Relations Commission report on structural racism in Durham [Internet]. Durham (NC): City of Durham; 2018 Jun 5 [cited 2020 Aug 15]. Available from: https://durhamnc.gov/DocumentCenter/View/23426/HRC-Structural-Racism-in-Durham-Report---June-2018

[xi] data.census.gov [Internet]. American Community Survey: median income in the past 12 months (in 2018 inflation-adjusted dollars), table ID S1903. Washington, DC: United States Census Bureau; c2018 [cited 2020 Sep 23]. Available from: https://data.census.gov/cedsci/table?q=Income&t=Income%20%28Households,%20Families,%20Individuals%29&g=0400000US37_0500000US37063&y=2018&tid=ACSST5Y2018.S1903&hidePreview=true

[xii] data.census.gov [Internet]. American Community Survey: median income in the past 12 months (in 2018 inflation-adjusted dollars), table ID S1903. Washington, DC: United States Census Bureau; c2018 [cited 2020 Sep 23]. Available from: https://data.census.gov/cedsci/table?q=Income&t=Income%20%28Households,%20Families,%20Individuals%29&g=0400000US37_0500000US37063&y=2018&tid=ACSST5Y2018.S1903&hidePreview=true

[xiii] Dennis V. Education matters [Internet]. Washington, DC: U.S. Bureau of Labor Statistics; 2016 Mar [cited 2020 Oct 30]. Available from: https://www.bls.gov/careeroutlook/2016/data-on-display/education-matters.htm

[xiv] data.census.gov [Internet]. American Community Survey: educational attainment, table ID S1501. Washington, DC: United States Census Bureau; c2018 [cited 2020 Sep 23]. Available from: https://data.census.gov/cedsci/table?g=1600000US3719000&tid=ACSST5Y2018.S1501

[xv] U.S. Bureau of Labor Statistics. Occupational employment and wages, May 2019: 29-0000 healthcare practitioners and technical occupations (major group) [Internet]. Washington, DC: United States Department of Labor; c2019 [cited 2020 Nov 10]. Available from: https://www.bls.gov/oes/current/oes290000.htm#(3)

[xvi] data.census.gov [Internet]. All sectors: county business patterns by legal form of organization and employment size class for U.S., states, and selected geographies: 2018: Annual Economic Surveys, table ID CB1800CBP. Washington, DC: United States Census Bureau; 2020 Jun 25 [cited 2020 Sep 23]. Available from: https://data.census.gov/cedsci/table?g=0500000US37063&d=ANN%20Business%20Patterns%20County%20Business%20Patterns&tid=CBP2018.CB1800CBP&hidePreview=true

[xvii] City of Durham Human Relations Commission. Report on structural racism in Durham [Internet]. Durham (NC): City of Durham. 2018 Jun 5 [cited 2020 Sep 15]. Available from: https://durhamnc.gov/DocumentCenter/View/23426/HRC-Structural-Racism-in-Durham-Report---June-2018

[xviii] McKoy HC. Road to serf-Durham: examining the decline of the African American entrepreneurship ecosystem in the United States (past, present, and future) [Internet]. Chapel Hill (NC): c2018; [cited 2020 Sep 15]. Available from: file:///D:/Downloads/McKoy_unc_0153D_18121.pdf.pdf

[xix] McKoy HC. In search for Hayti: the economic hollowness of Black Durham in the 21st century. [Presentation]. Durham (NC); c2020 [cited 2020 Sep 15]

[xx] Algernon A. The color of entrepreneurship: why the racial gap among firms costs the U.S. billions [Internet]. Washington, DC: Center for Global Policy Solutions; 2016 Apr 20 [cited 2020 Oct 23]. Available from: http://globalpolicysolutions.org/report/color-entrepreneurship-racial-gap-among-firms-costs-u-s-billions/#_edn33

[xxi] Downs, Timothy (Greater Durham Chamber of Commerce, Durham, NC). Conversation with: Syretta Hill (StepUp Durham, Durham, NC). 2020 Jul 30 [cited Aug 2020].

[xxii] ncsecondchance.org [Internet]. NC Second Chance Alliance; c2020 [cited 2020 Sep 23]. Available from: https://ncsecondchance.org/about/

[xxiii] data.census.gov [Internet]. American Community Survey: employment status, table ID S2301. Washington, DC: United States Census Bureau; c2018 [cited 2020 Aug 5]. Available from: https://data.census.gov/cedsci/table?q=Labor%20force%20participation%20durham&g=0500000US37063&hidePreview=true&tid=ACSST5Y2018.S2301&vintage=2018&layer=VT_2018_050_00_PY_D1&cid=S2301_C01_001E

[xxiv] International Labour Organization. Preventing exclusion from the labour market: tackling the COVID-19 youth employment crisis [Internet]. Geneva, Switzerland: ILO; 2020 May [cited 2020 Aug 5]. Available from: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_746031.pdf

[xxv] Aaronson S, Tomaz C, Bruce F, Felix G, Smith C, and Wascher W. Labor force participation: recent developments and future prospects [Internet]. Washington, DC: Brookings Papers on Economic Activity; c2014 [cited 2020 Oct 12]; 197-255. Available from: https://www.brookings.edu/bpea-articles/labor-force-participation-recent-developments-and-future-prospects/

[xxvi] Crowder AC Jr, Bastien A, Stephens P, Treuhaft S, Scoggins J. Advancing employment equity in North Carolina [Internet]. Oakland (CA): Policy Link; 2018 Jun [cited 2020 Aug 5]. Available from: https://www.policylink.org/sites/default/files/Employment_Equity_North-Carolina_06_19_18_0.pdf

Section 4.06 *Crime and safety*

Overview

Crime and violence may cause stress, burden communities of color and promote health disparities. The greater burden of violent crime on communities of color may be explained by factors such as poverty, unemployment, education inequalities, residential segregation and social organization.[i,ii] The impact of crime and violence on communities may be both direct and indirect in nature. While direct impacts are the consequences of the crime, indirect effects may include more of the perceptions and fear of crime. These indirect effects may cause acute or chronic changes in the functioning of body systems that result in an increased risk for or development of disease.[iii] Exposure to violent crime has been associated with chronic health conditions such as cardiovascular disease, diabetes, asthma as well as poor mental health.[iv] Low birth weight (LBW), small for gestational age and preterm birth have also been linked with violent crime.[v, vi] Since crime and violence are related to health outcomes, this section explores trends in crime and safety for Durham County residents.

Healthy NC 2020 Objective

While there have been slight reductions in Durham County's homicide rate over time, the Healthy NC 2020 Objective was not achieved at the County level.[vii] North Carolina exceeded the 2020 target by attaining a homicide rate of 5.8 homicides per 100,000 people. There is currently no Healthy NC 2030 objective for homicides or violent crime. Violent crime was listed as a success item in the Healthy NC 2030 report due to the decrease in the rate to 364 violent crimes per 100,000 people, which is also lower than the national average rate of 394 per 100,000 people.[viii]

Healthy NC 2020 Objectives[ix]

Healthy NC 2020 Objective	Current Durham[x]	Current NC[xi]	2020 Target[xii]
Reduce the homicide rate (per 100,000 population)	10.4 (2018)	5.8 (2018)	6.7

Table 4.06(a). Healthy NC 2020 Objective Review, Durham County and NC, 2018 and 2020

Primary Data

Community Health Assessment (CHA) Results

Violent crime remains an issue of concern amongst Durham County residents as evidence by the 2019 Community Health Assessment survey results.[xiii] While neighborhood violence ranked eighth as a primary cause of stress out of 21 potential responses in the Countywide sample and was less of an issue in the Hispanic and Latino community, many participants agreed that violent crime had negative implications on quality of life.[xiv] When 2019 CHA survey participants were asked to select three issues that had the greatest effect on quality of life in Durham County, violent crime received the greatest number of responses.[xv] Violent crime (19.4%), affordable housing

(13.4%) and gentrification (13.4%) were the top three issues in the County wide sample of the survey.[xvi] In the Hispanic or Latino neighborhood sample, violent crime received the second highest response (30.6%) after theft (37.0%).[xvii]

Similar results were observed when participants were asked, "What could be done in Durham to support you and your community?" In the Hispanic or Latino neighborhood sample, increases in police response to crime received the second highest percentage of responses (14.1%).[xviii] The second highest response in the County wide sample was public transportation improvements (8.9%), followed by safer communities with more police and crime reduction (8.5%).[xix]

Safety became more of an issue as participants thought about something that would make them walk more, regardless of their current activity levels. Safer neighborhoods were listed as the fifth highest response (43.3%) of something that would cause participants in the 2019 Community Health Assessment survey county wide sample to walk more.[xx] Other items with a higher percentage of responses included the following: 1) More sidewalks that connect to other places (67.0%), 2) More trails or off-road paths (55.5%), 3) More crosswalks and walking bridges (55.3%), and 4) More lighting (50.0%).[xxi] Though safer neighborhoods are not explicitly stated in the previously mentioned responses, most of these items help promote safety within communities. In the Hispanic or Latino neighborhood sample, safer neighborhoods received the highest responses (48.8%) that would make people want to walk more, followed by more lighting (40.5%) and more trails or off-road paths (31.3%)[xxii]. These built environment factors and perceived safety are directly related to physical activity, meaning that people are more likely to exercise when they feel safe and are in an environment that is conducive to exercise.[xxiii,xxiv]

Secondary Data

From 2016 to 2018, the total number of violent crimes in Durham County have decreased 13.0%.[xxv] This is a significant change from the 2017 Durham County Community Health Assessment (CHA) report that showed an increase of 20.7% in the total number of violent crimes committed over a three-year period (2014 – 2016).[xxvi] The greatest increase in total violent crimes was seen in the rape category (35.1%), whereas the most notable decrease was amongst robberies (15.6%).[xxvii] Total property crimes have continued to decrease since the 2017 CHA. However, the reduction is 2.1% from 2016 to 2018 compared to the 11.1% from 2014 to 2016.[xxviii] Motor vehicle theft (MVT) had the greatest increase (19.4%) in property crimes over the three-year time period, while the greatest decrease was seen in burglaries (12.5%).[xxix,xxx] See table 4.06 (b) below for more information.

2016-2018 Crime Statistics, All Ages, Durham County					
	2016	**2017**	**2018**	**3-Year Average**	**2016-2018 % Change**
Homicide	36	23	33	31	-8.3%
Aggravated Assault	1,253	1,257	1,075	1,195	-14.2%
Robbery	857	851	723	810	-15.6%
Rape	77	82	104	88	+35.1%
Total Violent Crimes	**2,223**	**2,213**	**1,935**	**2,124**	**-13.0%**
Burglary	2,573	2,335	2,251	2,386	-12.5%
Larceny	6,766	7,200	6,742	6,902	-0.4%
Motor Vehicle Theft	697	760	832	763	+19.4%
Total Property Crimes	**10,036**	**10,295**	**9,825**	**10,052**	**-2.1%**

Table 4.06(b) Crime Statistics, All Ages, Durham County, 2016-2018[xxxi, xxxii]

When comparing violent crime rates in Durham with NC counties of a similar population size, Durham County had the highest rates for all three years (2016 – 2018). The highest violent crime rate for Durham County was observed in 2016 (795.4 per 100,000 persons).[xxxiii] The rate has steadily decreased over the past few years. This consistent decreasing trend was not found in Cumberland or Forsyth Counties during the same time period.

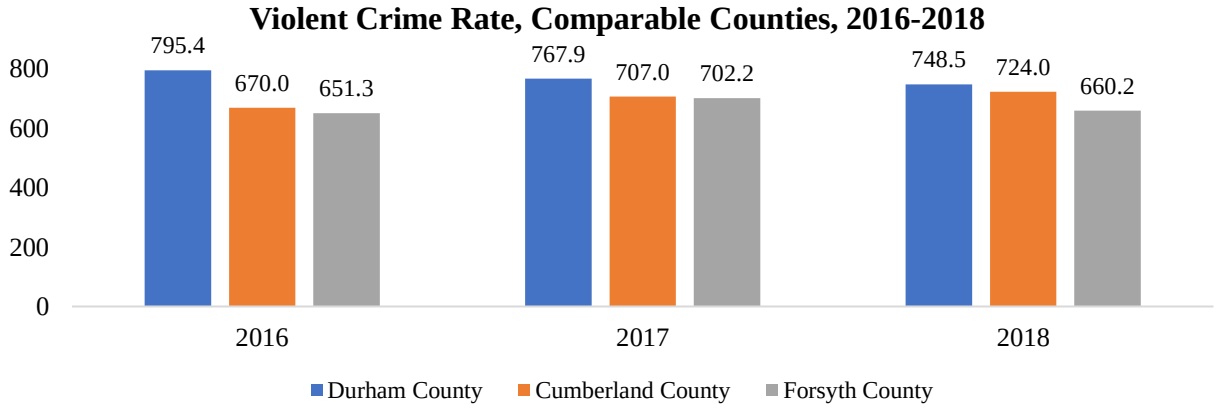


Figure 4.06(a) Violent Crime Rates, Durham and Comparable Counties, 2016-2018[xxxiv, xxxv]

Juvenile Involvement

There has been a downward trend in the number of juvenile arrests reported for both violent and property crimes. Juvenile arrests for property crimes have declined by 39.0% since 2016 in persons under 18 years of age. Violent crimes have also declined among juveniles by 16.1% for the same time period.

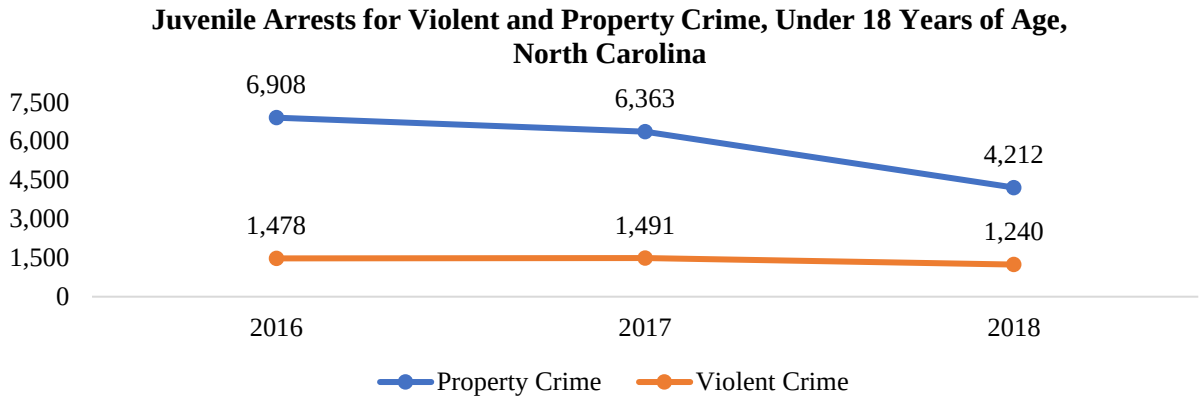


Figure 4.06(b) Juvenile Arrests for Violent and Property Crime, <18 Years of Age, North Carolina, 2016-2018[xxxvi,xxxvii,xxxviii]

When exploring juvenile arrests by offense type, the greatest declines in violent crimes were seen in robberies (-22.0%) and aggravated assault (-11.6%). Homicides were the only type of juvenile offense with an increase in arrests from 2016 to 2018 (9.5%). There were significant decreases in arrests for property crimes among juveniles for larceny (-43.4%) and burglaries (-37.7%), while arrests associated with MVT increased by 31.1%.[xxxix,xl,xli]

Arrests by Offense Amongst Juveniles <18 Years of Age in Durham County, 2016 - 2018

Juvenile Arrests	2016[xlii]	2017[xliii]	2018[xliv]	3-Year Average	2016-2018 % Change
Homicide	42	51	46	46	+9.5%
Aggravated Assault	673	742	595	670	-11.6%
Robbery	735	666	573	658	-22.0%
Rape	28	32	26	29	-7.1%
Total Violent Crimes	**1,478**	**1,491**	**1,240**	**1,403**	**-16.1%**
Burglary	1,791	1,755	1,115	1,554	-37.7%
Larceny	4,847	4,303	2,743	3,964	-43.4%
Motor Vehicle Theft	270	305	354	310	+31.1%
Total Property Crimes	**6,908**	**6,363**	**4,212**	**5,828**	**-39.0%**

Table 4.06(c) Arrests by Offense, Juveniles <18, Durham County, 2016-2018

Another report that includes components of crime and safety among juveniles is the Durham County Youth Risk Behavior Survey (YRBS).[xlv] The overall purpose of this assessment tool is to examine different areas of risk that may contribute to the leading causes of death and disability among middle and high school students. The most recent YRBS survey was conducted with 1,357 middle school and 1,296 high school students attending Durham Public Schools in 2017.[xlvi] A few questions on the YRBS address issues of safety, gang activity and weapons being brought to school. Of the total number of high school students sampled, three percent reported that they carried a weapon such as a gun, knife or club at school at least once during the past 30 days.[xlvii]

This was an 81% decrease in the percentage of high school students who reported carrying a weapon to school in the 2015 YRBS (16%).[xlviii,xlix] This question was not part of the middle school survey.

When asked about gang activity in school, 25% of middle school students and 37% of high school students reported this as an issue.[l] This reflects a 17% and 24% decrease in the percentage of middle and school students who reported gang activity in their schools in 2015, respectively.[li] While there was little change from 2017 (6%) to 2015 (5%) in the percentage of middle school students who did not attend school because they felt unsafe going to or from school, there was an increase who the percentage of high school student who felt unsafe attending school. Specifically, 11% of high school students felt unsafe to attend school in 2017 while 8% reported feeling unsafe attending school in 2015.[lii, liii]

Interpretations: Disparities, Gaps and Emerging Issues

Violent crime disparities in communities of color are often rooted in factors such as systemic racism and inequalities associated with income, unemployment and education.[liv] "These differences in crime rates are linked to structural disparities: segregated neighborhoods also tend to be disadvantaged and lack access to community resources, institutions, and means of social control such as effective policing as well as social trust."[lv] While crime exists in many neighborhoods, African American and Latinx populations bear the greatest burden of crime.[lvi,lvii] In addition to being more likely to be impacted by crime, African Americans are disproportionately involved with the criminal justice system. "African Americans are more likely than whites to be arrested; once arrested, they are more likely to be convicted; and once convicted, and they are more likely to experience lengthy prison sentences."[lviii] Mass incarceration of African Americans starts with disproportionate levels of police contact such as policies related to the War on Drugs and "Stop-and-Frisk."[lix]

Crime and violence in Durham County have improved since the 2017 CHA. Santana DeBerry currently serves as Durham County District Attorney (DA) as of January 2021. DeBerry and the DA's Office has prioritized transforming Durham County's criminal justice system by addressing the following issues: 1) mass incarceration, 2) jail overcrowding, 3) racial disparities in the criminal justice system and 4) mistrust of the courts.[lx] A few of these initiatives have included incorporating monthly trainings on equity, creating a juvenile team to focus on crimes in persons under 18 years of age and having law enforcement consult the DA's Office before filing homicide charges so that persons are not charge when there is insufficient evidence.[lxi]

Recommended Strategies

- Implement evidence-based interventions that focus on youth violence.
- Invest in early childhood education, mentorship, and enrichment programs for youth.
- Invest in career development and trade programs for adults.
- Create programs that promote family environments that support healthy development.
- Invest in community infrastructure that promotes safe and health environments.

Current Initiatives & Activities

Bull City United was initially implemented in 2016 and uses the evidence-based Cure Violence strategy to reduce the number of shootings and killings in two Durham County neighborhoods. http://dcopublichealth.org/services/health-education/bull-city-united/bull-city-united

Criminal Justice Resource Center (CJRC) promotes public safety through support for the local criminal justice system and supervises and rehabilitates justice-involved adults through various services. http://www.dconc.gov/government/departments-a-e/criminal-justice-resource-center

Durham Partners Against Crime (PAC) is a community-based volunteer organization that promotes collaboration among police officers, Durham residents, and city and county government officials to find sustainable solutions that reduce crime and improve quality of life. https://durhamnc.gov/201/Partners-Against-Crime

Durham Police Department (DPD): The Crisis Intervention Team supports residents going through a mental health crisis and connects them to care. The Community Resource Unit educates and trains residents and businesses on crime reduction strategies. The Victim Services Unit provides various resources, support, training, and case status information to crime victims and their families. https://durhamnc.gov/149/Police-Department

Project BUILD is a multi-disciplinary gang intervention program that provides coordinated case management and services to youth and young adults between the ages of 14 and 21. https://www.dcopublichealth.org/services/health-education/project-build/project-build-gang-intervention-program/project-build-services

Creating Healthy Opportunities Inspiring Children to Have Everyday Success (CHOICES) Program: The Durham County Sheriff's Office operates the CHOICES intervention program to provide youth ages 11-15 with opportunities that introduce them to the criminal justice system and engages them with a mentor. https://www.durhamsheriff.com/services/community-programs-outreach/choices-youth-program

Misdemeanor Diversion Program (MDP) is a 90-day diversion program for young adults ages 18-26 who have committed first-time misdemeanors (except firearm, sexual and traffic offenses) to help them avoid any future arrests. https://www.dconc.gov/county-departments/departments-a-e/criminal-justice-resource-center/misdemeanor-diversion-program/diversion

Juvenile Crime Prevention Council (JCPC) reviews the needs of juveniles in Durham County who are at risk of delinquency and evaluates the resources available to meet those needs. https://www.dconc.gov/government/departments-a-e/board-of-commissioners/boards-and-commissions/juvenile-crime-prevention-council

References

[i] Steffensmeier D, Ulmer JT, Feldmeyer B, Harris CT. Scope and conceptual issues In testing the race-crime invariance thesis: Black, White, And Hispanic comparisons. Criminology. 2010 [cited 2021 Jan 5];48(4):1133-116. doi:10.1111/j.1745-9125.2010.00214.x.
[ii] Ulmer JT, Harris CT, Steffensmeier D. Racial and Ethnic Disparities in Structural Disadvantage and Crime: White, Black, and Hispanic Comparisons [Internet]. Soc Sci Q. 2012 Sep 1 [cited 2021 Jan 5];93(3):799-819. doi:10.1111/j.1540-6237.2012.00868.x. PMID: 25035523; PMCID: PMC4097310. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/25035523/
[iii] Stafford M, Chandola T, Marmot M. Association between fear of crime and mental health and physical functioning. Am J Public Health. 2007 Nov [cited 2021 Jan 10];97(11):2076-81. doi: 10.2105/AJPH.2006.097154. Epub 2007 Sep 27. PMID: 17901443; PMCID: PMC2040373.
[iv] Stafford M, Chandola T, Marmot M. Association between fear of crime and mental health and physical functioning. Am J Public Health. 2007 Nov [cited 2021 Jan 10];97(11):2076-81. doi: 10.2105/AJPH.2006.097154. Epub 2007 Sep 27. PMID: 17901443; PMCID: PMC2040373.
[v] Kramer MR, Cooper HL, Drews-Botsch CD, Waller LA, Hogue CR. Metropolitan isolation segregation and Black-White disparities in very preterm birth: a test of mediating pathways and variance explained [Internet]. Soc Sci Med. 2010 Dec [cited 2021 Jan 5];71(12):2108-16. doi: 10.1016/j.socscimed.2010.09.011. Epub 2010 Sep 29. PMID: 20947234; PMCID: PMC2992580. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/20947234/
[vi] Chum, A., & O'Campo, P. (2015). Cross-sectional associations between residential environmental exposures and cardiovascular diseases. BMC Public Health, 15, 438.
[vii] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Dec 8]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.
[viii] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2021 Jan 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[ix] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Dec 8]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.
[x] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xi] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xii] North Carolina Institute of Medicine. Healthy North Carolina 2020 technical report. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2021 Jan 5]. Available from: https://nciom.org/wp-content/uploads/2011/01/HNC2020-TechReport-final.pdf
[xiii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited

2021 Jan 5]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xiv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xvii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xviii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xx] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2021 Jan 5]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xxiii] Bennett GG, McNeill LH, Wolin KY, Duncan DT, Puleo E, Emmons KM. Safe to walk? Neighborhood safety and physical activity among public housing residents. Plos Med. 2007 Oct 23 [cited 2021 Jan 5]. Available from: https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0040306

[xxiv] Sallis JF, Cain KL, Conway TL, Gavand KA, Millstein RA, Geremia CM, et al. Is your neighborhood designed to support physical activity? A brief streetscape audit tool. Prev Chronic Dis. 2015 [cited 2021 Jan 5];12:150098. Available from: http://dx.doi.org/10.5888/pcd12.150098

[xxv] ncsbi.gov [Internet]. Crime in North Carolina – 2019: an annual summary report of 2019 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Dec [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2019-Annual-Summary.aspx

[xxvi] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf
[xxvii] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf
[xxviii] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf
[xxix] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xxix] North Carolina Institute of Medicine. Healthy North Carolina 2020 technical report. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2021 Jan 5]. Available from: https://nciom.org/wp-content/uploads/2011/01/HNC2020-TechReport-final.pdf
[xxx] crimereporting.ncsbi.gov [Internet]. Annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://crimereporting.ncsbi.gov/Reports.aspx
[xxxi] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xxxi] North Carolina Institute of Medicine. Healthy North Carolina 2020 technical report. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2021 Jan 5]. Available from: https://nciom.org/wp-content/uploads/2011/01/HNC2020-TechReport-final.pdf
[xxxii] crimereporting.ncsbi.gov [Internet]. Annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://crimereporting.ncsbi.gov/Reports.aspx
[xxxiii] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xxxiv] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xxxv] crimereporting.ncsbi.gov [Internet]. Annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://crimereporting.ncsbi.gov/Reports.aspx
[xxxvi] crimereporting.ncsbi.gov [Internet]. 2016 annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://crimereporting.ncsbi.gov/Reports.aspx
[xxxvii] ncsbi.gov [Internet]. 2018 annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xxxviii] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xxxix] crimereporting.ncsbi.gov [Internet]. 2016 annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://crimereporting.ncsbi.gov/Reports.aspx

[xl] ncsbi.gov [Internet]. 2018 annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xli] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xlii] crimereporting.ncsbi.gov [Internet]. 2016 annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://crimereporting.ncsbi.gov/Reports.aspx
[xliii] ncsbi.gov [Internet]. 2018 annual summary report. Raleigh (NC): NC State Bureau of Investigation; c2021 [cited 2021 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xliv] ncsbi.gov [Internet]. Crime in North Carolina – 2018: an annual summary report of 2018 uniform crime reporting data. Raleigh (NC): North Carolina State Bureau of Investigation; 2020 Jan [cited 2020 Jan 5]. Available from: http://ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2018-Annual-Summary.aspx
[xlv] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf.
[xlvi] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf.
[xlvii] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf.
[xlviii] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf.
[xlix] Partnership for a Health Durham. Durham County youth risk behavior survey 2015 report. Durham (NC): Durham County Department of Public Health, Durham Public Schools; 2016 May [cited 2021 Jan 5]. Available from: https://www.dcopublichealth.org/home/showpublisheddocument?id=29442
[l] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf.
[li] Partnership for a Health Durham. Durham County youth risk behavior survey 2015 report. Durham (NC): Durham County Department of Public Health, Durham Public Schools; 2016 May [cited 2021 Jan 5]. Available from: https://www.dcopublichealth.org/home/showpublisheddocument?id=29442
[lii] Partnership for a Health Durham. Durham County youth risk behavior survey 2015 report. Durham (NC): Durham County Department of Public Health, Durham Public Schools; 2016 May [cited 2021 Jan 5]. Available from: https://www.dcopublichealth.org/home/showpublisheddocument?id=29442
[liii] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2021 Jan 5]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf.

[liv] Hipp JR. Income inequality, race, and place: does the distribution of race and class within neighborhoods affect crime rates? [Internet]. Criminology. 2006 Dec 12 [cited 2021 Jan 5];45(3);665-697. Available from: https://escholarship.org/uc/item/7kw8p7hw
[lv] huduser.gov [Internet]. Evidence matters: transforming knowledge into housing and community development policy. Washington, DC: Office of Policy Development and Research; c2016 [cited 2021 Jan 5]. Available from: https://www.huduser.gov/portal/periodicals/em/summer16/highlight2.html
[lvi] Krivo LJ, Peterson RD, Kuhl DC. Segregation, racial structure, and neighborhood violent crime [Internet]. Columbus (OH): Ohio State University; Bowling Green (OH): Bowling Green State University. American Journal of Sociology. 2009 May [cited 2021 Jan 5];114(6). Available from: https://doi.org/10.1086/597285
[lvii] Krivo LJ, Peterson RD, Kuhl DC. Segregation, racial structure, and neighborhood violent crime [Internet]. Columbus (OH): Ohio State University; Bowling Green (OH): Bowling Green State University. American Journal of Sociology. 2009 May [cited 2021 Jan 5];114(6). Available from: https://doi.org/10.1086/597285
[lviii] The Sentencing Project. Report to the United Nations on Racial Disparities in the U.S. Criminal Justice System. Washington, DC: 2018 Apr [cited 2021 Jan 16]. Available from: https://www.sentencingproject.org/publications/un-report-on-racial-disparities/
[lix] The Sentencing Project. Report to the United Nations on Racial Disparities in the U.S. Criminal Justice System. Washington, DC: 2018 Apr [cited 2021 Jan 16]. Available from: https://www.sentencingproject.org/publications/un-report-on-racial-disparities/
[lx] Durham County District Attorney's Office. Progress report. Durham (NC): Durham County District Attorney's Office; 2019 Jul [cited 2021 Jan 5]. Available from: http://www.ncpolicywatch.com/wp-content/uploads/2019/07/Durham-DAs-Office-July-2019-Progress-Report1.pdf
[lxi] Durham County District Attorney's Office. Progress report. Durham (NC): Durham County District Attorney's Office; 2019 Jul [cited 2021 Jan 5]. Available from: http://www.ncpolicywatch.com/wp-content/uploads/2019/07/Durham-DAs-Office-July-2019-Progress-Report1.pdf

Health Promotion

This chapter includes:

- Physical activity
- Nutrition and access to healthy food
- Tobacco

Section 5.01 *Physical activity*

Overview

Regular physical activity improves cardiorespiratory fitness, boosts the immune system, helps control weight, regulates blood sugar, builds strong bones and muscles, improves quality of life and promotes a sense of well-being. These protective factors help to reduce the risk of heart disease, cancer, type 2 diabetes, obesity, osteoporosis and depression or anxiety.[i,ii] Physical activity has also been shown to increase children's cognitive performance and ability to focus as well as to help prevent dementia in adults.[iii,iv]

Recommendations in the most recent version of the United States Department of Health and Human Services "Physical Guidelines for Americans" suggest children and adolescents age 6 to 17 years of age should perform 60 minutes or more of physical activity every day including muscle strengthening, vigorous intensity and bone strengthening exercises on at least three days per week for each activity.[v] Additionally, the guidelines for adults provide recommendations for both aerobic and muscle-strengthening activities: 150-300 minutes of moderate or 75-150 minutes of vigorous intensity aerobic activity per week and strengthening activities on two or more days per week. New to the Second Edition guidelines are physical activity recommendations for preschool children (ages 3-5 years), who should be encouraged by adult caregivers to be physically active throughout the day to enhance growth and development.[vi,vii]

Primary Data

2019 Durham County Community Health Assessment Survey

Walking was the most common type of physical activity reported by both the countywide and Hispanic or Latino neighborhood samples in the 2019 Durham County Community Health Assessment Survey. Of those in the county wide sample who reported engaging in physical activity (N=404), most reported exercising in their neighborhood (45.0%), at home (37.3%) or at a private gym or pool (32.5%). For those individuals that reported not engaging in physical activity (N=20), most reported inactivity due to being physically unable to exercise followed by not enjoying exercise and not having time to exercise.[viii]

Community Improvements to Increase Physical Activity

The most common improvements that would motivate residents from the full county sample to walk more are more sidewalks that connect to other places, more trails and off-road paths and more crosswalks and walking bridges (Figure 5.01(a)).[ix] For residents from the Hispanic or Latino neighborhood sample, safer neighborhoods and more lighting are among the top reasons that would motivate greater engagement in physical activity (Figure 5.01(b)).[x]

Improvements Needed to Increase Walking Ranked by County Residents, Durham, 2019

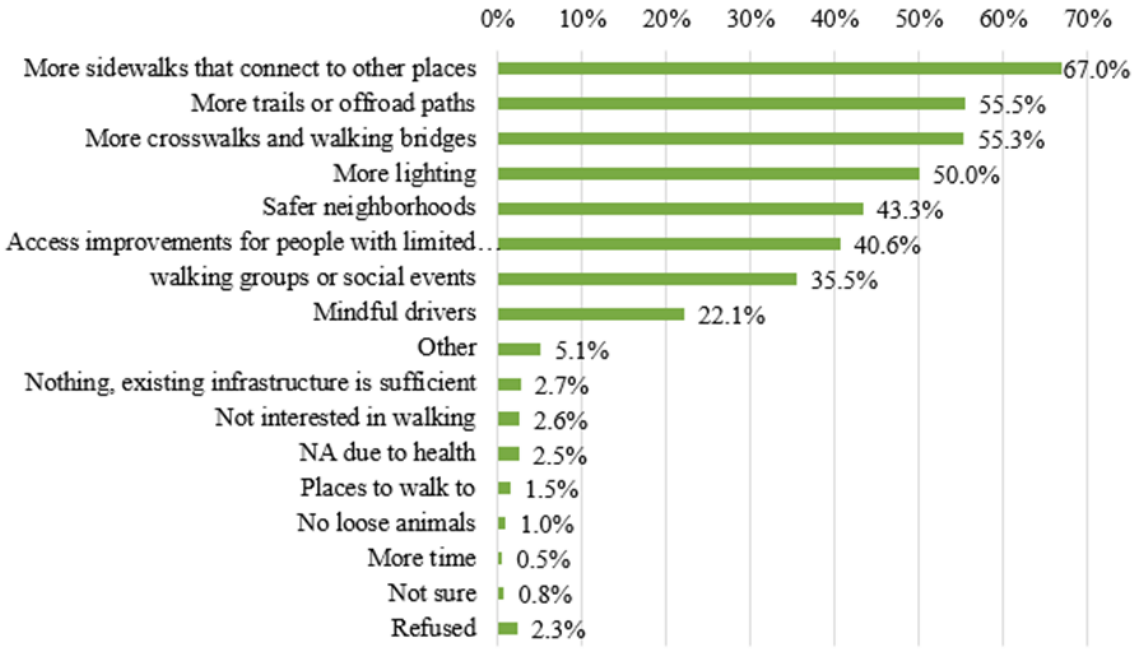


Figure 5.01 (a) Improvements Needed to Increase Walking Ranked by County Residents, Durham, 2019[xi]

Improvements Needed to Increase Walking Ranked by Hispanic or Latino Residents, Durham, 2019

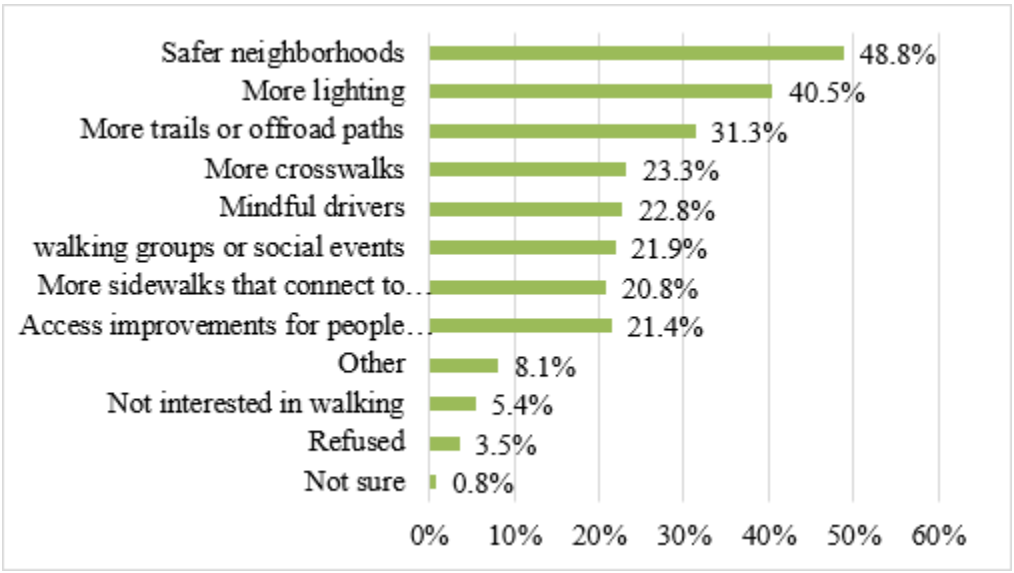


Figure 5.01 (b) Improvements Needed to Increase Walking Ranked by Hispanic and Latino Residents, Durham, 2019[xii]

Secondary Data

As seen in Table 5.01(a), Durham County when compared to North Carolina and the United States, has a lower percentage of adults reporting physical inactivity. However, a few companion counties to Durham report lower percentage of inactive adults (Wake and Mecklenburg; Table 5.01(a)).[xiii]

In North Carolina Region 5 (which includes Durham), 81.7% of adults reported participating in physical activities or exercises beyond their regular job in the month preceding the Behavioral Risk Factors Surveillance System (BRFSS) survey from 2018.[xiv] In 2018, the percentage of adults in North Carolina who reported no engagement in leisure-time physical activity was highest for American Indian or Alaska Native respondents (31.9%), followed by Hispanics (30.6%) and Non-Hispanic Black (26.3%) respondents.[xv] A lower percentage of "2 or more races" (23.1%), Non-Hispanic white (22.4%), and Asian (14.5%) respondents reported no leisure-time physical activity.[xvi]

Adult Activity Data from County Health Rankings, North Carolina

County/Region	Percentage of adults age 20 and over reporting no leisure-time physical activity (2016)	Percentage of population with adequate access to locations for physical activity (2019)[xvii, 1]
Durham	19 %	90 %
Cumberland	25 %	77 %
Forsyth	23 %	80 %
Guilford	22 %	90 %
Mecklenburg	19 %	92 %
Wake	16 %	90 %
North Carolina	24 %	74 %
United States	23 %	84 %

Table 5.01(a) County Health Rankings Adult Data from 2016, 2010 and 2019 for Durham County, Neighboring Counties, North Carolina, and the United States[xviii,xix]

The 2017-2018 National Survey of Children's Health found that for children 6 to 17 years old, 22.6% of US children were active for at least 60 minutes per day in the previous seven days before the survey.[xx] Looking at just North Carolina children, 23.9% were active for at least 60 minutes each day.[xxi] Data for older adolescents in North Carolina demonstrates that in 2019, 19.9% of high school age youth surveyed in NC did not participate in at least 60 minutes of any kind of physical activity on at least one of the seven days before the survey.[xxii] Nationally, 17.0% did not participate in at least 60 minutes of activity in the seven days before the survey.[xxiii] Table 5.01(b) below shows the percentage of national and state high school aged youth engaging in different amounts of physical activity.

[1] This data is sourced from County Rankings, which used 2010 census information. "The numerator is the total 2010 household population living in census blocks with adequate access to at least one location for physical activity. Adequate access is defined as census blocks where the border is a half-mile or less from a park, or 1 mile or less from recreational facility in urban census blocks and 3 miles or less in rural census blocks in 2019."

Weighted Percentages from NC High School Youth Risk Behavior Survey, 2019

Question	North Carolina Totals	United States Totals
Were not physically active for a total of at least 60 minutes on at least 1 day per week	19.9 %	17.0%
Were not physically active at least 60 minutes per day on 5 or more days per week	61.6%	55.9%
Were not physically active at least 60 minutes per day on all 7 days	80.1%	76.8%

Table 5.01(b) Weighted Percentages from High School Youth Risk Behavior Survey for North Carolina and United States, 2019[xxiv]

Interpretations: Disparities, Gaps, and Emerging Issues

Disparities

Results of the 2019 Durham County Community Health Assessment Survey highlight potential racial disparities in access to physical activity opportunities. While the improvements that would motivate residents from the full county sample to walk more are more sidewalks and trails, residents from the Hispanic or Latino neighborhood sample indicated that safer neighborhoods and more lighting are among the top reasons that would motivate greater engagement in physical activity.[xxv,xxvi] This suggests that Hispanic or Latino residents experience a desire for more safety in their neighborhoods. Racism, toxic stress and a prevalent threat of deportation may also be factors. Thus, programs and policies should address these underlying contributors to the disparities, instead of simply making changes to the built environment.

Children

Schools are ideal settings for children to get the recommended amount of physical activity. The Healthy Active Children's policy was designed to ensure children in grades kindergarten through eighth get 225 minutes of physical activity daily and that teachers do not withhold physical activity for any reason. Durham Public Schools (DPS) has a Wellness Policy, which includes physical activity guidelines and uses the Whole School, Whole Community, Whole Child framework. Since 2015, DPS has been operating without a Wellness Coordinator to monitor, implement and evaluate the policy. The absence of this coordinator and lack of funding have been detrimental to the policy's success and implementation and the physical activity opportunities for students. There are also limited opportunities for youth outside of school. The Wellness Policy is being revised in 2020. DPS School Health Advisory Council members continue to advocate for the addition of a Wellness Coordinator staff position.

Emerging Issues

Research continues to support the link between physical activity and academic success in children as well as overall health in both children and adults. The concept of physically active classrooms is spreading. Physically active classrooms incorporate physical activity breaks, classroom energizers or other activities into academic lessons. This ultimately improves a student's on-task

behavior and academic achievement. Teachers are also changing the structure/makeup of the classroom to accommodate students who need to move. Examples of equipment used in classroom includes FitDesk, hokki stools, and stability ball chairs, and stand up desks.

Screen time continues to increase in school aged children. Children eight to 10 years old spend on average six hours a day in front of a screen using entertainment media; children 11 to 14 spend nine hours and children 15 to 18 spend nearly seven and a half hours.[xxvii] New technology is being developed to support tracking and engaging in physical activity.

Recommended Strategies

Evidence-based resources and responses to the 2019 Community Health Assessment survey suggest several strategies that may increase physical activity among Durham residents.[xxviii, xxix]

- Continue to create or enhance access to places for physical activity, like Healthy Mile Trails, parks and recreational or exercise facilities[xxx]
- Make sure low-cost activity programs and recreational facilities are available[xxxi]
- Target environmental improvements that facilitate walking and active transport - Durham residents reported that more sidewalks and crosswalks, more trails or off-road paths, more lighting, and safer neighborhoods would make them want to walk more[xxxii]
- Offer more opportunities for walking buddies, group exercise classes, or other programs that facilitate social support for exercising[xxxiii, xxxiv]
- Implement community-wide campaigns to promote physical activity and increase awareness of places for physical activity in Durham[xxxv]
- Expand the use of "exercise prescriptions" by pediatricians[xxxvi]

For individuals who have not been physically active but would like to start, some strategies include starting slowly and then working up to more challenging activities; set aside time in their routine for activity; look for ways to spend less time sitting and more time being active, like taking a walk instead of watching television; and finding a "buddy" for motivation and encouragement.[xxxvii,xxxviii] For those worried about injury, or with chronic diseases that impact their health, they should talk to their doctor about the best kind and amount of physical activity for them.[xxxix]

Current Initiatives & Activities

Partnership for a Healthy Durham's Obesity, Diabetes, and Food Access (ODAFA) committee has included goal to increase physical activity opportunities as part of their 2018-2021 action plan. The central program is the Healthy Mile Trails initiative. Healthy Mile Trails are one-mile loops marked by a yellow (or green) stencil painted on neighborhood sidewalks throughout Durham. healthydurham.org/committees/obesity-and-chronic-illness-committee

City of Durham is working to establish bike "boulevards," which are safe routes throughout Durham to increase the ability of residents to achieve safe and physically active transportation. https://durhamnc.gov/3763/Neighborhood-Bike-Routes

Durham Parks and Recreation Department continues to provide residents with affordable and fun physical activities both indoors and outdoors across the city.

- One initiative of DPR, "MyDurham," aims to engage youth in afterschool activities for peer support, health promotion, and physical activity in a developmental setting.
- DPR also continues to partner with Duke Children's to deliver "Bull City Fit" at the Edison Johnson Recreation Center. Bull City Fit is a free program for low-income families who have at least one child with obesity. The program offers family-centered and peer-based group physical fitness, cooking classes, and outdoor recreation opportunities.
- DPR hosts numerous fitness classes and coordinates a wide variety of sports for all ages, from young children to older adults. Their "Play More" guide includes information about their programs, and it also includes other trails and greenways in the area where Durham residents can go to be physically active. https://www.dprplaymore.org/200/Play-More-Guide) and https://www.dprplaymore.org/

References

[i] who.int [Internet]. Global action plan on physical activity 2018–2030: more active people for a healthier world. Geneva: World Health Organization; 2018 Jun 1 [cited 2020 Jul 7]. Available from: https://www.who.int/publications/i/item/9789241514187
[ii] cdc.gov [Internet]. Physical activity facts. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Jul 7]. Available from: https://www.cdc.gov/healthyschools/physicalactivity/facts.htm
[iii] Michael SL, Merlo CL, Basch CE, Wentzel KR, Wechsler H. Critical connections: health and academics. Journal of School Health. 2015 [cited 2020 Jul];85(11):740–58.
[iv] Rathore A, Lom B. The effects of chronic and acute physical activity on working memory performance in healthy participants: a systematic review with meta-analysis of randomized controlled trials [Internet]. Systematic Reviews. 2017 [cited 2020 Jul];6(1). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5493123/
[v] health.gov [Internet]. Physical activity guidelines for Americans: 2nd edition. Washington, DC: U.S. Department of Health and Human Services; c2018 [cited 2020 Aug 16]. Available from: https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf
[vi] health.gov [Internet]. Physical activity guidelines for Americans: 2nd edition. Washington, DC: U.S. Department of Health and Human Services; c2018 [cited 2020 Aug 16]. Available from: https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf
[vii] health.gov [Internet]. Executive summary: physical activity guidelines for Americans: 2nd edition. Washington, DC: U.S. Department of Health and Human Services; c2019 [cited 2020 July 7]. Available from: https://health.gov/sites/default/files/2019-10/PAG_ExecutiveSummary.pdf
[viii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[ix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[x] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[xi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[xiii] countyhealthrankings.org [Internet]. Physical inactivity. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 12]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/measure/factors/70/data
[xiv] ncdhhs.gov [Internet]. 2018 BRFSS survey results: local health director region 5 demographics, exercise. Raleigh (NC): North Carolina Department of Health and Human Services; c2018 [cited 2020 Aug 12]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/exerany.html

[xv] cdc.gov [Internet]. Data, trend and maps, North Carolina, category: physical activity. Atlanta (GA): National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity, and Obesity; 2020 8 Jul [cited 2020 Nov 4] Available from: https://www.cdc.gov/nccdphp/dnpao/data-trends-maps/index.html
[xvi] cdc.gov [Internet]. Data, trend and maps, North Carolina, category: physical activity. Atlanta (GA): National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity, and Obesity; 2020 8 Jul [cited 2020 Nov 4] Available from: https://www.cdc.gov/nccdphp/dnpao/data-trends-maps/index.html
[xvii] countyhealthrankings.org [Internet]. Access to exercise opportunities in North Carolina: description. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 12]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/measure/factors/132/description
[xviii] countyhealthrankings.org [Internet]. Access to exercise opportunities in North Carolina: description. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 12]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/measure/factors/132/data
[xix] countyhealthrankings.org [Internet]. 2020 County Health Rankings Report, North Carolina. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 12]. Available from: https://www.countyhealthrankings.org/sites/default/files/media/document/CHR2020_NC_0.pdf
[xx] Child and Adolescent Health Measurement Initiative. 2017-2018 national survey of children's health (NSCH) data query [Internet]. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB); c2019 [cited 2020 Aug 12]. Available from: https://www.childhealthdata.org/browse/survey/results?q=6854&r=1
[xxi] Child and Adolescent Health Measurement Initiative. 2017-2018 national survey of children's health (NSCH) data query [Internet]. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB); c2019 [cited 2020 Aug 12]. Available from: https://www.childhealthdata.org/browse/survey/results?q=6854&r=1
[xxii] cdc.gov [Internet]. High school youth risk behavior survey data. Atlanta (GA): Centers for Disease Control and Prevention; c2019. [cited 2020 Aug 12]. Available from: http://nccd.cdc.gov/youthonline/
[xxiii] cdc.gov [Internet]. High school youth risk behavior survey data. Atlanta (GA): Centers for Disease Control and Prevention; c2019. [cited 2020 Aug 12]. Available from: http://nccd.cdc.gov/youthonline/
[xxiv] cdc.gov [Internet]. High school youth risk behavior survey data. Atlanta (GA): Centers for Disease Control and Prevention; c2019. [cited 2020 Aug 12]. Available from: http://nccd.cdc.gov/youthonline/
[xxv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[xxvii] cdc.gov [Internet]. Screen time vs. lean time infographic. Atlanta (GA): Centers for Disease Control and Prevention; c2018 [cited 2020 Nov 4]. Available from: https://www.cdc.gov/nccdphp/dnpao/multimedia/infographics/getmoving.html
[xxviii] cdc.gov [Internet]. Strategies to prevent obesity and other chronic diseases: the CDC guide to strategies to increase physical activity in the community. Atlanta (GA): Centers for Disease Control and

Prevention; c2011 [cited 2020 Aug 12]. Available from: https://www.cdc.gov/obesity/downloads/PA_2011_WEB.pdf

[xxix] Community Preventive Services Task Force. What works – increasing physical activity [Internet]. The Centers for Disease Control and Prevention; c2017 [cited 2020 Aug 12]. Available from: https://www.thecommunityguide.org/sites/default/files/assets/What-Works-Factsheet-PhysicalActivity.pdf

[xxx] Community Preventive Services Task Force. Physical activity: built environment approaches combining transportation system interventions with land use and environmental design [Internet]. Atlanta (GA): The Centers for Disease Control and Prevention; c2017 [cited 2020 Aug 12]. Available from: https://www.thecommunityguide.org/sites/default/files/assets/PA-Built-Environments.pdf

[xxxi] Powell LM, Slater S, Chaloupka FJ, Harper D. Availability of physical activity-related facilities and neighborhood demographic and socioeconomic characteristics: a national study. Am J Public Health. 2006 [cited 2020 Aug 12];96(9):1676-1680. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1551946/

[xxxii] Community Preventive Services Task Force. Physical activity: built environment approaches combining transportation system interventions with land use and environmental design [Internet]. Atlanta (GA): The Centers for Disease Control and Prevention; c2017 [cited 2020 Aug 12]. Available from: https://www.thecommunityguide.org/sites/default/files/assets/PA-Built-Environments.pdf

[xxxiii] Task Force on Community Preventive Services. Recommendations to increase physical activity in communities [Internet]. Am J Prev Med. c2002 [cited 2020 Aug 12];22(4):67-72. Available from: https://www.thecommunityguide.org/sites/default/files/publications/pa-ajpm-recs.pdf

[xxxiv] countyhealthrankings.org [Internet]. Community fitness programs. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 12]. Available from: https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/community-fitness-programs

[xxxv] countyhealthrankings.org [Internet]. Complete Streets and Streetscape Design Initiatives. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 12]. Available from: https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/complete-streets-streetscape-design-initiatives

[xxxvi] countyhealthrankings.org [Internet]. Exercise Prescriptions. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 12]. Available from: https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/exercise-prescriptions

[xxxvii] cdc.gov [Internet]. Getting started with physical activity for a healthy weight. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 12]. Available from: https://www.cdc.gov/healthyweight/physical_activity/getting_started.html

[xxxviii] Task Force on Community Preventive Services. Recommendations to increase physical activity in communities [Internet]. Am J Prev Med. c2002 [cited 2020 Aug 12];22(4):67-72. Available from: https://www.thecommunityguide.org/sites/default/files/publications/pa-ajpm-recs.pdf

[xxxix] countyhealthrankings.org [Internet]. Community fitness programs. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 12]. Available from: https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/community-fitness-programs

Section 5.02 *Nutrition and access to healthy food*

Overview

Food choices are based on a variety of factors including affordability, access, nutrition education and knowledge, taste preferences, culture, environmental and social cues. The type, quality and quantity of foods people eat affects health in numerous ways. In Durham County, access to healthy food plays a key role in what and how much residents eat. It's important to understand that food insecurity does not exist in isolation and cannot be solved in isolation. It is interconnected with issues such as chronic underemployment, the cost of housing and health care and poverty. For example, in March 2020 the COVID-19 pandemic led to the shutdown of many businesses and schools and greatly increased the need for food assistance. Black, Indigenous and People of Color (BIPOC) were and are disproportionately negatively affected by the impact of the pandemic on Durham County's food system.

Primary Data

The 2017 Durham County Community Health Assessment (CHA) explored diet and food access.[i] In the 2019 Durham County CHA Survey County Wide sample, a majority of residents (79.9%) identified most of their food is eaten at home and purchased from a grocery store.[ii] Durham County residents also shop for food at supercenters (second choice) and member-only warehouses (third choice).[iii] Most residents (92%) used a personal vehicle to get there but walking and taking the bus were additional top modes of transportation.[iv] Many residents shopped at stores that less than ten minutes away (71.5%).[v] Around three percent had to travel between 21-30 minutes to a store for food.[vi] The number one reason cited among residents for not eating healthy was time for preparing healthy meals (24.4%) followed by cost at 15.7%.[vii] Not being in the mood or used to eating healthy was the third reason at 13.8%.[viii] A total of 14.8% of residents reported always eating healthy.[ix] When asked about the previous seven days, most respondents (63.0%) reported drinking sugary drinks (soda, sweet tea, etc.) three times or less per week. [x] Nearly nine percent (8.4%) of people drank sugary drinks three or more times per day.[xi] One in 10 Durham residents (10.2%) reported skipping meals or cutting the size of their meal because they didn't have enough money to buy food.[xii] Black residents (14.9%) were significantly more likely than white residents (6.6%) to have skipped or cut a meal either sometimes or frequently in the past year.[xiii]

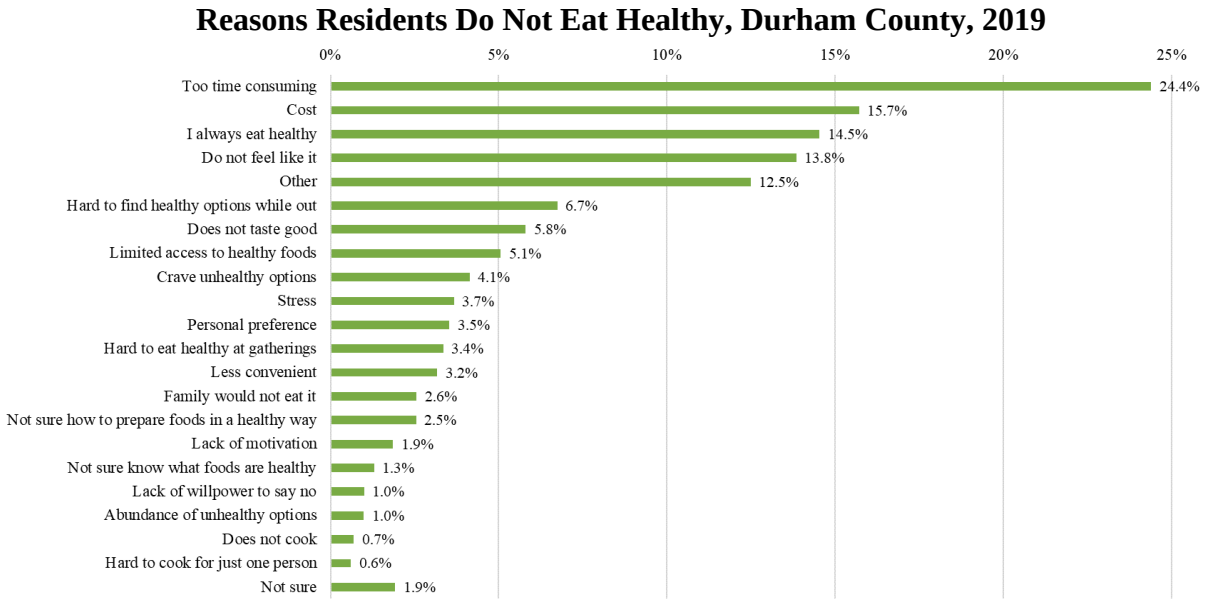


Figure 5.02(a) Reasons Residents Do Not Eat Healthy, Durham County, 2019[xiv]

Secondary Data

In the United States, poor diet has surpassed tobacco use as the leading underlying cause of death.[xv] A healthy diet emphasizes fruits and vegetables and is low in calorie dense processed foods.[xvi] The ability to eat healthy foods is influenced by socioeconomic, educational and environmental factors.[xvii]

The U.S. Department of Agriculture (USDA) defines food insecurity as having limited or uncertain availability of nutritionally adequate foods. In 2018, a USDA report estimated one in nine Americans as food insecure.[xviii] Food insecurity is known to increase risk for obesity and other health problems.[xix] In 2018, Feeding America reported that 13.5% of Durham County residents and 14% of North Carolina residents were food insecure.[xx] Of the 14% of food insecure individuals in NC, 25.1% were African Americans, 15.7% were Hispanics and 9.4% were white.[xxi] Durham and North Carolina's food insecurity rates are higher than the national food insecurity rate (11.5%). North Carolina is the 10th hungriest state in the nation.[xxii]

The USDA categorizes 20-30% of Durham residents as having low access to a grocery store (as of 2015).[xxiii] According to the Robert Wood Johnson Foundation County Health Rankings for North Carolina, Durham County rated a 6.9 on a scale of 0 (worst) to 10 (best) for factors that contribute to a healthy food environment.[xxiv] These factors include proximity to healthy foods, access to healthy foods and income. Durham County's score is similar to North Carolina's overall score of 6.7.[xxv]

In North Carolina, 16.1% of youth ages 10 to 17 years old and 34% of adults are obese.[xxvi] Evidence shows obesity rates are influenced by many factors other than food. In 2018, 46% of the residents surveyed identified obesity, diabetes and food access as one of the top five priority issues

following the publication of the 2017 Community Health Assessment Public Health Online Prioritization Survey.[xxvii]

Federal nutrition assistance programs have a big impact in North Carolina. The Supplemental Nutrition Assistance Program (SNAP) is the largest program, followed by the School Breakfast Program and the National School Lunch Program which are both USDA programs.[xxviii] In Durham Public Schools, 64% of school meals served to children are subsidized through the free and reduced meal program--with the majority of students qualifying for free meals.[xxix] SNAP, a program that is proven to protect families from hunger and hardship and lessen the severity of poverty, currently provides nutrition assistance to 39,164 Durham residents.[xxx,xxxi]

Recent evidence suggests, however, that food store access might have less of an impact on food choices than financial resources, education and taste preferences.[xxxii] One area of particular concern is consumption of sugar sweetened beverages, which is linked to many health consequences including weight gain and diabetes.[xxxiii] In 2017, the Center for Disease Control and Prevention Behavioral Risk Factor Surveillance System (BFRSS) survey showed 30% of respondents from the region that includes Durham County consume sugary beverages one to six times per week.[xxxiv] Around 19% of respondents consume sugar sweetened beverages one or more times daily.[xxxv] North Carolina had similar results. In the Durham County 2017 Youth Risk Behavior Survey, 31% of high school students reported drinking a sugar sweetened beverage at least once a day.[xxxvi] Although sugary beverage consumption is declining nationally, there is evidence to suggest that continued consumption is linked to advertising.[xxxvii]

Interpretations: Disparities, Gaps, and Emerging Issues

The top reasons in Durham County for not eating healthy were time needed to prepare foods and cost of foods, suggesting that access to healthful foods alone is not enough to impact consumer behaviors.[xxxviii] Available income to spend on healthful foods, knowledge about nutrition, and household and cultural preferences may be influential factors for improving diet and nutrition among Durham residents.

Disparities

Historical redlining practices by the US Government assigned risk values for mortgage lending to neighborhoods based on racial factors, which has led to trickle down effects that still disincentivize many grocery chains from being built in Black, Indigenous and People of Color (BIPOC) neighborhoods.[xxxix] As a result, BIPOC residents are more likely to live in areas with high density of fast food restaurants and lower access to retailers with more healthy options compared to white residents.[xl]

Results of the 2019 Durham County CHA Survey County Wide sample highlight a significant racial disparity in the percentage of residents who skip or cut a meal due to costs, with more Black residents than white residents reporting cutting a meal due to costs.[xli] Food prices significantly affect food purchase decisions. It is also important to acknowledge that food security is fundamentally an issue of poverty.[xlii]

The racial and ethnic disparities in nutrition and food access correlate with disparities seen with COVID-19.[xliii] Non-medical factors such as a lack of access to healthy foods and inadequate nutrition greatly contribute to disease comorbidity and increased risk.[xliv]

Gaps

The influence of the food environment has a significant impact on diet, nutrition and overall health. The COVID-19 pandemic highlighted the gaps in transportation. Limited capacity with Durham public transportation services during the pandemic in 2020 may have exacerbated wait times and reduced available routes for residents to readily access healthy foods.[xlv] Moreover, with Durham Public Schools transitioning to virtual learning, students in need were unable to access food from the schools without readily available transportation.

Since the COVID-19 pandemic, the USDA has made significant improvements to SNAP and WIC benefit levels and eligibility. Recent research suggests that people are not aware of such changes. As a result, many resources are unknown to or underutilized by Durham families.[xlvi]

As mentioned earlier, BIPOC communities face disproportionately higher levels of diet-related disease. Reducing this gap requires strategies to counter the impact of the racial wealth gap. Due to historical and systemic disparities in access to resources, BIPOC organizations are often less able to compete with white-led organizations for grant funding (such as the Healthy Food Financing Initiative) without additional social and financial support.[xlvii]

Emerging Issues

The COVID-19 pandemic has significantly impacted food supply chains. It has also worsened food insecurity for children and at-risk populations. This has increased pressure on nonprofit food assistance organizations. In response to the increased food needs of the Durham community due to the COVID-19 pandemic, Durham County government and community organizations partnered to create task forces to address food needs of all Durham County residents dealing with food insecurity in 2020.

Recommended Strategies

The following strategies are recommended to assist with improvements in food access for Durham County: (1) continue to address root causes of food insecurity, (2) assess equity and food system sustainability, adaptability and resilience, (3) foster wealth creation in BIPOC communities through food businesses; and (4) advocate for food policy changes. Useful tools in implementing these strategies include:

- Food Insecurity Screening Toolkit[xlviii]
- Michigan State University Food System Racial Equity Metrics tool[xlix]
- Food Policy Council Toolkits [l]
- Best Practices for Technical Assistance Programs Serving Black and Hispanic Entrepreneurs and Small-Business Owners[li]

- Principles of Equitable Food Oriented Development[lii]

Current Initiatives & Activities

Black Farmers' Market NC inspires a self-sufficient community that supports and protects Black farmers and entrepreneurs by hosting bimonthly events providing the unique opportunity to support local Black owned businesses, Black owned restaurants, and Black Farmers throughout the year. https://www.blackaugustinthepark.com/black-farmers-market

Durham County Cooperative Extension offers education and programing in nutrition, food safety and agriculture. https://durham.ces.ncsu.edu/

Durham County Department of Public Health (DCoDPH) Nutrition Division provides clinical nutrition services, chronic illness prevention, and Durham's Innovative Nutrition Education (DINE) program. https://www.dcopublichealth.org/services/nutrition-3670

Durham County Department of Social Services Food and Nutrition Services provides local assistance in applying to the Supplemental Nutrition Assistance Program (SNAP). https://www.dconc.gov/government/departments-f-z/social-services/food-nutrition-services-food-stamps

Durham Farmers' Markets Double Bucks allows SNAP participants to double their benefits at the farmers market on items like fresh produce. https://durhamfarmersmarket.com/about-the-market/food-programs/

Durham Public Schools Hub Farm is a 30-acre farm, forest, and aquatic educational center that serves as a central component in a healthier school system where interdisciplinary instruction supports physical activity, food awareness, and outdoor experiences. https://www.thehubfarm.org/

Durham Public Schools, School Nutrition Services provides free meals for all Durham children during the Covid-19 pandemic. https://www.dpsnc.net/Nutrition

End Hunger Durham works to reduce hunger in Durham by supporting food relief agencies and those in need of food with reliable information, collaborative programs, and advocacy aimed at ending hunger and malnutrition. https://www.endhungerdurham.org/

Farmer Foodshare building a more sustainable and equitable local food system through donation stations, wholesale markets, food ambassadors and community foodshare. https://www.farmerfoodshare.org/

Food Bank of Central and Eastern NC works across the food system to provide access to nutritious food through **f**ood distribution programs, child hunger programs, community health and engagement, benefits outreach and federal nutrition programs. https://foodbankcenc.org/

Inter-Faith Food Shuttle pioneers innovative, transformative solutions designed to end hunger in the community through food recovery and distribution, community health education, urban agriculture and culinary job training programs. www.foodshuttle.org

Lincoln Community Health Center's Women, Infant, and Children (WIC) Program provides food assistance and nutrition education to pregnant and breastfeeding women and children under five years old. https://lincolnchc.org/

Meals on Wheels of Durham County provides nutritious home-delivered and congregate meals to seniors in Durham County. https://www.mowdurham.org/

More in My Basket is a program developed at North Carolina State University/Cooperative Extension that helps reduce hunger by connecting North Carolina residents to the Supplemental Nutrition Assistance Program (SNAP). https://www.morefood.org/

PORCH-Durham is an organization that serves children and families in Durham experiencing emergency food needs. Also supports Backpack Buddies and food pantries in Durham Public Schools. https://durham.porchcommunities.org/

Reinvestment Partners Bull City Cool Food Hub **s**upports local farmers, builds partnerships, and promotes social justice. https://reinvestmentpartners.org/what-we-do/community-development/bull-city-cool-food-hub.html

Root Causes is an organization aimed to bridge healthcare professional students with community partners to address social drivers of health. Operated the Fresh Produce Program for food insecure residents and participates in advocacy through local food policy and research. https://www.rootcauseshealth.org/

SEEDS develops the capacity of young people to respect life, the earth and each other through growing, cooking and sharing food. http://www.seedsnc.org

References

[i] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2020 Sep 1]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf

[ii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[iii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[iv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[v] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[vi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[vii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[viii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[ix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[x] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xiii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xiv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xv] Collaborators TUBoD. The State of US Health, 1990-2016: Burden of Diseases, Injuries, and Risk Factors Among US States. JAMA. 2018 Apr 10;319(14):1444-1472. doi: 10.1001/jama.2018.0158. PMID: 29634829; PMCID: PMC5933332.
[xvi] Wallace TC, Bailey RL, Blumberg JB, Burton-Freeman B, Chen CO, Crowe-White KM, et al. Fruits, vegetables, and health: A comprehensive narrative, umbrella review of the science and recommendations for enhanced public policy to improve intake. Crit Rev Food Sci Nutr. 2020;60(13):2174-211. Epub 2019/07/04. doi: 10.1080/10408398.2019.1632258. PubMed PMID: 31267783.
[xvii] Belanger MJ, Hill MA, Angelidi AM, Dalamaga M, Sowers JR, Mantzoros CS. Covid-19 and Disparities in Nutrition and Obesity. N Engl J Med. 2020 Sep 10;383(11):e69. doi: 10.1056/NEJMp2021264. Epub 2020 Jul 15. PMID: 32668105.
[xviii] Coleman-Jensen A, Rabbitt M, Gregory C, Singh A. Household food security in the United States in 2018 [Internet]. Washington, DC: U.S. Department of Agriculture, Economic Research Service; c2019 [cited 2020 Nov 11]. Available from: https://www.ers.usda.gov/webdocs/publications/94849/err-270.pdf
[xix] Adams EJ, Grummer-Strawn L, Chavez G. Food insecurity is associated with increased risk of obesity in California women [Internet]. The Journal of Nutrition. 2003;133(4):1070-4. doi:10.1093/jn/133.4.1070. Available from: https://doi.org/10.1093/jn/133.4.1070
[xx] Feedingamerica.org [Internet]. Food insecurity in the United States. Chicago (IL): Feeding America; c2018 [cited 2020 Sep 3]. Available from: http://map.feedingamerica.org/.
[xxi] frac.org [Internet]. Southern region states: household food insecurity rates, by race and ethnicity and state, 2016-2018. Washington, DC: Food Research & Action Center; c2020 [cited 2020 Sep 3]. Available from: https://frac.org/wp-content/uploads/south_tab_foodinsec_race.html
[xxii] foodshuttle.org [Internet]. Hunger and poverty in North Carolina. Chicago (IL): Feeding America; c2015 [cited 2020 Sep 3]. Available from: https://www.foodshuttle.org/hunger-in-nc/
[xxiii] ers.usda.gov [Internet]. United States Department of Agriculture food atlas [Internet]. Washington DC: United States Department of Agriculture; c2020 [cited 2020 Sep 1]. Available from: https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/
[xxiv] countyhealthrankings.org [Internet]. North Carolina. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2017 [cited 2020 Aug 30]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/measure/factors/133/data
[xxv] countyhealthrankings.org [Internet]. North Carolina. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2017 [cited 2020 Aug 30]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/measure/factors/133/data
[xxvi] stateofchildhoodobesity.org [Internet]. The State of Obesity in North Carolina. Princeton (NJ): Robert Wood Johnson Foundation; c2019 [cited 2020 Sep 1]. Available from: https://stateofchildhoodobesity.org/states/nc/
[xxvii] healthydurham.org [Internet]. Obesity, Diabetes, and Food Access. Durham (NC): c2018 [cited 2020 Aug 31]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/06/Obesity-Diabetes-Food-Access-FINAL.pdf
[xxviii] frac.org [Internet]. National school lunch program. Washington, DC: Food Research & Action Center; c2020 [cited 2020 Aug 18]. Available from: https://frac.org/programs/national-school-lunch-program

[xxix] dpsnc.net [Internet]. DPS operational services 2019-2020 free and reduced program. Durham (NC): Durham Public Schools; c2019 [cited 2020 Aug 18]. Available from: https://www.dpsnc.net/site/handlers/filedownload.ashx?moduleinstanceid=505&dataid=45750&FileName=2019-2020%20Free%20and%20Reduced%20Statistics%20-%20State%20Report.pdf
[xxx] cbpp.org [Internet]. Policy basics: the supplemental nutrition assistance program (SNAP). Washington, DC: Center on Budget and Policy Priorities; c2019 [cited 2020 Aug 18]. Available from: https://www.cbpp.org/research/food-assistance/policy-basics-the-supplemental-nutrition-assistance-program-snap
[xxxi] ncdhhs.org [Internet]. FNS Caseload Statistics Report; Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 18]. Available from: https://www.ncdhhs.gov/divisions/social-services/program-statistics-and-reviews/fns-caseload-statistics-reports
[xxxii] Cummins S, Flint E, Matthews SA. New neighborhood grocery store increased awareness of food access but did not alter dietary habits or obesity [Internet]. Health affairs (Project Hope). 2014;33(2):283-91. doi: 10.1377/hlthaff.2013.0512. PubMed PMID: 24493772. Available from: https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2013.0512
[xxxiii] Bleich SN, Vercammen KA. The negative impact of sugar-sweetened beverages on children's health: an update of the literature. BMC Obes [Internet]. 2018;5:6-. doi: 10.1186/s40608-017-0178-9. PubMed PMID: 29484192. Available from: https://bmcobes.biomedcentral.com/articles/10.1186/s40608-017-0178-9
[xxxiv] ncdhhs.gov [Internet]. 2017 BRFSS survey results: local health director region 3 & 5 demographics sugar drinks. Raleigh (NC): North Carolina Department of Health and Human Services; c2017 [cited 2020 Sep 3]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2017/region3_5/SSBFRUT3.html
[xxxv] ncdhhs.gov [Internet]. 2017 BRFSS survey results: local health director region 3 & 5 demographics sugar drinks. Raleigh (NC): North Carolina Department of Health and Human Services; c2017 [cited 2020 Sep 3]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2017/region3_5/SSBFRUT3.html
[xxxvi] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2020 Oct 6]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf
[xxxvii] Hsph.harvard.edu [Internet]. The nutrition source sugary drinks; Boston (MA): Harvard University; c2020 [cited 2020 Aug 18]. Available from: https://www.hsph.harvard.edu/nutritionsource/healthy-drinks/sugary-drinks/
[xxxviii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 18]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxxix] Zhang M, Ghosh D. Spatial supermarket redlining and neighborhood vulnerability: a case study of Hartford, Connecticut. Transactions in GIS. 2016 [cited 2020 Aug 18];20(1):79-100. doi: https://doi.org/10.1111/tgis.12142.
[xl] New York Law School Racial Justice Project. Unshared bounty: how structural racism contributes to the creation and persistence of food deserts [Internet]. New York, New York: New York Law School and the American Civil Liberties Union; 2012 Jun [cited 2020 Aug 18]. Available from: http://digitalcommons.nyls.edu/racial_justice_project/3
[xli] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 18]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xlii] Galvin, G. Food insecurity in America tied to prices, poverty [Internet]. Washington, DC: U.S. News & World Report; 2019 May 1 [cited 2020 Aug 18]. Available from:

https://www.usnews.com/news/healthiest-communities/articles/2019-05-01/food-insecurity-in-america-tied-to-food-prices-poverty

[xliii] cdc.gov [Internet]. Health equity considerations and racial and ethnic minority groups. Atlanta (GA): Centers for Disease Control and Prevention; 2020 Jul 24 [cited 2020 Aug 18]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html

[xliv] cdc.gov [Internet]. Health equity considerations and racial and ethnic minority groups. Atlanta (GA): Centers for Disease Control and Prevention; 2020 Jul 24 [cited 2020 Aug 18]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html

[xlv]godurhamtransit.gov [Internet]. COVID-19 updates. Durham (NC): Go Durham; c2020 [cited 2020 Aug 18]. Available from: https://godurhamtransit.org/covid-19-updates

[xlvi] Barnes, C. Changes to SNAP and WIC in response to the pandemic are innovations. Durham (NC): Duke World Food Policy Center [podcast]. 2020 Aug; E(85):[10.32 min]. Available from: https://wfpc.sanford.duke.edu/podcasts/changes-snap-and-wic-response-pandemic-are-innovations

[xlvii] Hanks A, Solomon D, Weller CE. Systematic inequality: how America's structural racism helped create the black-white wealth gap [Internet]. Washington, DC: Center for American Progress; 2018 Feb 21 [cited 2020 Aug 18]. Available from: https://www.americanprogress.org/issues/race/reports/2018/02/21/447051/systematic-inequality/

[xlviii] populationhealth.humana.com [Internet]. Food insecurity and health resource toolkit. Durham (NC): Humana; 2020 Jun [cited 2020 Aug 18]. Available from: https://populationhealth.humana.com/wp-content/uploads/2020/06/Food_Insecurity_Toolkit_2020_-Final.pdf

[xlix] Rodman-Alvarex S, Colasant K. Measuring racial equity in the food system: established and suggested metrics [Internet]. Michigan: Michigan State University; 2019 May 6 [cited 2020 Aug 18). Available from: https://www.canr.msu.edu/resources/measuring-racial-equity-in-the-food-system

[l] ruralhealthinfo.org [Internet]. Rural food access toolkit: food policy councils. Grand Forks (ND): Rural Health Information Hub; c2020 [cited 2020 Aug 18]. Available from: https://www.ruralhealthinfo.org/toolkits/food-access/2/food-systems-models/food-policy-councils

[li] Schulman, C. Best practices for technical assistance programs serving Black and Hispanic entrepreneurs and small-business owners. Washington, DC: Milken Institute; c2018 [cited 2020 Aug 18]. Available here: https://milkeninstitute.org/sites/default/files/reports-pdf/Best-Practices-for-TA-Programs-FINAL.pdf

[lii] efod.org [Internet]. Equitable Food-Oriented Development. Available from: https://www.efod.org/

Section 5.03 *Tobacco*

Overview

Tobacco played a huge role in the economic development of Durham County, and remnants of that history can be seen throughout the county today.[i] When the 1964 Surgeon General's Report first linked cigarette smoking to lung cancer and other serious illnesses, tobacco was the lifeblood of Durham's economy.[ii] At that time, 46% of U.S. adults smoked cigarettes. Although overall tobacco use rates have decreased since then, tobacco use remains the number one preventable cause of death and disease nationwide, in North Carolina and in Durham County. [iii]

For every smoking-related death, there is an estimated 30 people living with a chronic illness caused by smoking.[iv] But the impacts of tobacco use are not evenly distributed. Certain groups, such as people with low socioeconomic status, have much higher rates of tobacco use and experience higher rates of tobacco-related illness and death.[v] These disparities exist because of systemic inequities, making these populations more vulnerable to tobacco use, combined with targeted marketing efforts by the tobacco industry.[vi]

Electronic Nicotine Delivery Systems (ENDS)

Electronic nicotine delivery systems (ENDS), also known as e-cigarettes or vaping devices, have completely changed the tobacco product landscape. Originally marketed to adult smokers as a cessation tool, ENDS use has skyrocketed among youth, prompting the Surgeon General to label youth ENDS use as an "epidemic."[vii] The 2019 e-cigarette or vaping-associated lung injury (EVALI) outbreak, which caused 2,087 cases and 68 deaths, primarily impacted young adults ages 18-34. Although EVALI was eventually linked to an additive in cannabis-based products, it has caused concern about the long-term impacts of ENDS and other vaping devices.[viii]

COVID-19 and Tobacco Use

COVID-19, a viral pandemic that emerged in late 2019, presents another concern for people who smoke cigarettes and/or use ENDS. Cigarette smoking weakens the immune system and damages the respiratory system, the same system that the COVID-19 virus attacks.[ix] Research suggests that people who smoke may be at greater risk for COVID-19 and may experience worse outcomes if they contract the virus.[x] ENDS use has also been linked to a higher risk of contracting COVID-19, highlighting another possible consequence of the youth ENDS epidemic and a challenge to the assertion that ENDS are a safe alternative to cigarettes.[xi]

Healthy NC 2030 Objectives

According to the 2019 Durham County Community Health Assessment Survey (CHA) Countywide sample, the percentage of adults who currently smoke is 10.8%, lower than the Healthy 2020 target of 13%. The same survey results did not meet the other two Healthy NC 2020

Objectives to reduce the percentage of high school students reporting current use of any tobacco products to 15% and to reduce the percentage of people exposed to secondhand smoke in the work place to 0%.[xii] The Healthy NC 2030 Objectives, shown in Table 5.03(b), focus on reducing the tobacco use rate among adults in North Carolina to 15% and among middle and high school students to 9%.[xiii]

Healthy NC 2030 Objectives

Healthy NC 2030 Objective	Current Durham	Current NC	2030 Target
Decrease the percentage of adults reporting current use of any tobacco product.	Not available	23.8% (2018)[xiv]	15%
Decrease percentage of middle and high school students reporting current use of any tobacco product	Data available in mid-2021	27.3% (2019)[xv] [1]	9%

Table 5.03(b) Current Progress on Healthy 2030 Objectives for North Carolina[xvi]

Primary Data

Adult Tobacco Use

Only 10.8% of adults in Durham reported smoking cigarettes every day or on some days, according to the 2019 Durham County CHA Survey Countywide sample.[xvii] This is much lower than the North Carolina smoking rate of 17.4% reported in 2018.[xviii] This is also lower than the Durham County adult smoking rate reported in the 2013 Durham County CHA Survey Countywide sample, which was 15%. [xix]

Exposure to secondhand smoke (SHS) among respondents in the Durham County CHA Survey Countywide sample was 71% in 2016 and 68% in 2019.[xx,xxi] In the 2019 Durham County CHA Survey Hispanic or Latino Neighborhood sample, residents report higher levels of SHS exposure, with 85% reporting exposure in 2016 and 75% in 2019.[xxii,xxiii] The data between the 2016 and 2019 are not directly comparable because of the different methods used to analyze results.

Secondary Data

Adult Tobacco Use

Nationally, the adult cigarette smoking rate is at an all-time low of 13.7%.[xxiv] The percentage of U.S. adults reporting any tobacco use in 2018 was 28.6%, with cigars and ENDS being the most used tobacco product after cigarettes.[xxv] ENDS use among adults in Durham was 3.3% in the 2019

[1] The overall participation rate for the 2019 Youth Tobacco Survey was 56.8% for middle school and 59.3% for high school, which falls just short of the target 60% response rate desired for representative data. Lower response rates increase the potential for non-response bias in the survey, so the results may be more representative of the students that took the survey rather than all students in the state.

Durham County CHA Survey Countywide sample, which is almost identical to the national adult ENDS use rate of 3.2%.[xxvi,xxvii]

Youth Tobacco Use

According to the 2019 North Carolina Youth Tobacco Survey (YTS),[2] cigarette use among middle and high school students continues to decline, but overall tobacco use has increased.[xxviii] The increase in overall tobacco use is largely due to the increasing use of ENDS, with 20.9% of high school students and 6.1% of middle school students reporting ENDS use in the past 30 days, as shown in Figure 5.03 (a).[xxix] This is up from a 16.9% use rate among high school students and 5.3% among middle school students reported in the 2017 NC YTS and reflects what the United States Surgeon General called a "youth epidemic" in his 2016 Surgeon General's Report.[xxx, xxxi]

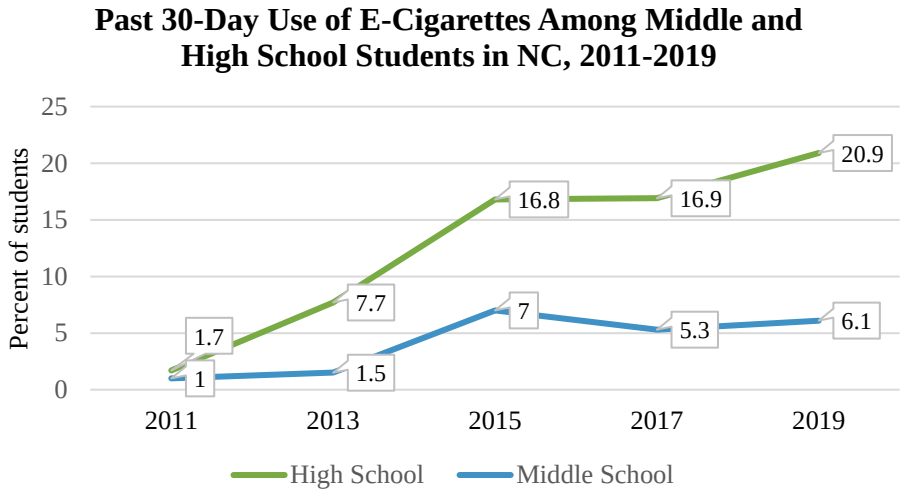


Figure 5.03 (a) Youth e-cigarette use[xxxii]

Following the 2016 Surgeon General's report on ENDS and youth and the 2019 EVALI outbreak, the federal government enacted legislation aimed at reducing youth use of ENDS and other tobacco products. As of December 20, 2019, the minimum legal sale age for all tobacco products, including ENDS, became 21. It is estimated that this change could result in a 12% decrease in tobacco use rates and a 10% decrease in smoking-related deaths among today's teenagers.[xxxiii]

In January of 2020, the U.S. Food and Drug Administration (FDA) instituted a ban on certain flavored cartridges used in ENDS, with the exception of menthol and tobacco flavors. This action was taken in response to data showing that youth prefer flavored products.[xxxiv]

[2] The overall participation rate for the 2019 Youth Tobacco Survey was 56.8% for middle school and 59.3% for high school, which falls just short of the target 60% response rate desired for representative data. Lower response rates increase the potential for non-response bias in the survey, so the results may be more representative of the students that took the survey rather than all students in the state.

Interpretations: Disparities, Gaps, Emerging Issues

Despite the huge decline in cigarette smoking in the U.S. in the last 50 years, the prevalence of cigarette smoking among some populations, many of them marginalized, remains high. These populations include Native Americans, the LGBTQ community, people with low socioeconomic status, people with a behavioral health condition, and people in the military. Higher levels of stress, systemic oppression and targeted marketing efforts by tobacco companies have led to these disparities and continue to drive them today. Although tobacco control measures have reduced tobacco use for many groups, these measures often fall short in addressing the populations that have the highest use rates.[xxxv]

Flavored tobacco, especially in ENDS, continues to entice youth. In 2020, more than 80% of youth reported using flavored ENDS, with the most commonly used flavors being fruit, mint, candy, and menthol.[xxxvi] The U.S. Food and Drug Administration (FDA) banned many of these flavors in ENDS cartridges in January 2020. The ban only applies to some ENDS products, leaving many youth-friendly flavored ENDS on the market. Menthol-flavored cigarettes continue to be an issue as well, particularly in Black and African American communities, where close to 90% of African Americans who smoke choose a menthol product.[xxxvii]

Although Durham has implemented progressive tobacco control policies at the local level, including the Board of Health Smoking Rule in 2012, additional actions could further decrease tobacco use rates. Raising tobacco taxes, requiring tobacco retailers to have a license, and banning all flavors have all proven to decrease tobacco use. However, North Carolina's state preemption law has blocked initiating any of these efforts. [xxxviii]

Because local policies are so effective in reducing tobacco use, the tobacco industry and its allies have historically used, and continue to use, preemptive strategies to thwart tobacco-free laws, youth access and retailer licensing restrictions, advertising and promotion regulations, and similar evidence-based policies.[xxxix]

Recommended Strategies

Program and Policy Recommendations for Tobacco Control

Recommendation[xl]	North Carolina Initiatives	Durham County Initiatives
Smoke-free and tobacco-free policies	• Smoke-free Restaurants and Bars Law, implemented in 2010	• Board of Health Smoking Rule, implemented in 2012, ENDS added in 2016, expanded to sidewalks in 2017
Access to evidence-based cessation support	• NC Quitline telephone, text, and web-based service • NC Quitline Behavioral Health Protocol, launched in 2019	• Fresh Start Cessation Class • Nicotine replacement therapy (NRT) distribution program, launched in 2018

Table 5.03(c): Program and Policy Recommendations for Tobacco Control[xli]

The Community Health Worker Model

The Housing and Urban Development Smoke-free Public Housing Rule, implemented in 2018, presented many challenges for Durham Housing Authority (DHA) residents, namely in accessing tobacco cessation services. Utilizing Community Health Workers has shown to be effective in delivering a wide range of health messages and interventions. The Durham County Department of Public Health partnered with DHA and Duke Health to launch Project Fresh Life in 2018. The project trained and employed DHA residents as Community Health Advisors (CHAs) to provide tobacco cessation support and referrals onsite to their fellow DHA residents.[xlii]

The program successfully expanded cessation support to a hard-to-reach population and, by compensating Fresh Life CHAs, provided a much-needed employment opportunity. Community-driven programs like Fresh Life help reduce health inequities by empowering communities to address health issues.

Current Initiatives & Activities

QUITLINE NC provides free cessation coaching services to any North Carolina resident who needs help quitting tobacco use. Quit Coaching is free, confidential and available 24 hours a day, seven days a week at 1-800-QUIT-NOW (1-800-784-6889) or http://www.QuitlineNC.com.

Fresh Start is an evidence-based tobacco cessation program developed by the American Cancer Society and facilitated by trained staff at the Durham County Department of Public Health. Contact: Natalie Rich, 919-560-7895 or nrich@dconc.gov.

Durham T.R.Y. (Together for Resilient Youth) is a community coalition of parents, youth, representatives from the business, government, religious, and non-profit sectors working to prevent substance use, including tobacco, among youth in Durham. http://www.durhamtry.org/.

Quit at Duke offers tobacco cessation resources including medications, counseling, and classes. Cost varies, depending on the patient's insurance. https://www.dukehealth.org/treatments/smoking-cessation.

Pathways to Freedom: Leading the Way to a Smoke Free Community© is a free resource designed to assist individuals and community leaders in quitting tobacco and ending tobacco-related diseases and death among African Americans. http://www.naatpn.org/pathways.

SmokefreeTeen is a specific program to help teens quit vaping. There is also a SmokefreeTXT program and the quitStart App. All these resources are provided by National Cancer Institute as part of the Smokefree.gov series. https://teen.smokefree.gov/quit-vaping.

The COVID-19 Big Quit is an online community that provides information and support for people who want to quit smoking during the COVID-19 pandemic. support group for people who want to quit. https://www.facebook.com/groups/BigQuit.

References

[i] dukehomestead.org [Internet]. History: the Dukes of Durham. Durham (NC): Duke Homestead; [cited 2020 Sep 21]. Available from: https://dukehomestead.org/history.php

[ii] discoverdurham.com [Internet]. Durham's tobacco history. Durham (NC): Preservation Durham; c2019 [cited 2020 Sep 21]. Available from: https://www.discoverdurham.com/blog/tour-durhams-tobacco-history/

[iii] Lushniak, Boris. The health consequences of smoking—50 years of progress, A report of the Surgeon General executive summary [Internet]. Rockville: U.S. Office of the Surgeon General; c2014 [cited 2020 Sep 9]. Available from: https://www.hhs.gov/sites/default/files/consequences-smoking-exec-summary.pdf

[iv] cdc.gov [Internet]. National Center for Chronic Disease Prevention and Health Promotion: Tobacco use factsheet. Atlanta (GA): U.S. Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 22]. Available from: https://www.cdc.gov/chronicdisease/resources/publications/factsheets/tobacco.htm

[v] cdc.gov [Internet]. Office on Smoking and Health: Tobacco-Related Disparities. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 22]. Available from: https://www.cdc.gov/tobacco/disparities/index.htm

[vi] cdc.gov [Internet]. Office on Smoking and Health: cigarette smoking and tobacco use among people of low socioeconomic status. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 22]. Available from: https://www.cdc.gov/tobacco/disparities/low-ses/index.htm

[vii] cdc.gov [Internet]. Surgeon General's advisory on e-cigarette use among youth. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 22]. Available from: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/surgeon-general-advisory/index.html

[viii] cdc.gov [Internet]. Outbreak of lung injury associated with e-cigarette use, or vaping. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 22]. Available from: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html

[ix] Tobacco Prevention and Control Branch. Important facts on smoking and COVID-19 [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Sep 22]. Available from: https://www.tobaccopreventionandcontrol.ncdhhs.gov/Documents/SmokingandCOVID19-WEB.pdf

[x] who.int [Internet]. Smoking and COVID-19: scientific brief. Geneva: World Health Organization; c2020 [cited 2020 Sep 21]. Available from: https://www.who.int/news-room/commentaries/detail/smoking-and-covid-19

[xi] Digitale, Erin. Vaping linked to COVID-19 risk in teens and young adults. Stanford Medicine News Center [Internet]. Stanford (CA): Stanford Medicine; 2020 Aug 11 [cited 2020 Sep 22]. Available from: http://med.stanford.edu/news/all-news/2020/08/vaping-linked-to-covid-19-risk-in-teens-and-young-adults.html

[xii] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Sep 6]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.

[xiii] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2020 Oct 28]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.

[xiv] schs.dph.ncdhhs.gov [Internet]. Raleigh: North Carolina State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep 7]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/

[xv] Heck, Courtney. 2019 North Carolina youth tobacco survey results [PowerPoint presentation]. 2020 Aug 25 [cited 2020 Sep 22].
[xvi] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2020 Oct 28]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[xvii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xviii] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: North Carolina. Raleigh (NC): North Carolina State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep 7]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/_rfsmok3.html
[xix] healthydurham.org [Internet]. Durham: Partnership for a Healthy Durham; c2013 [cited 2020 Sep 24]. Available from: https://healthydurham.org/cms/wp-content/uploads/2016/03/CHA-Final-Document.pdf
[xx] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2020 Sep 24]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf
[xxi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxi] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: North Carolina. Raleigh (NC): North Carolina State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep 7]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/_rfsmok3.html
[xxii] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2020 Sep 24]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf
[xxiii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[xxiv] cdc.gov [Internet]. Office on Smoking and Health: data and statistics. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 24]. Available from: https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm
[xxv] Substance Abuse and Mental Health Services Administration. Results from the 2018 national survey on drug use and health: detailed tables [Internet]. Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration; c2019. Table 2.1B – tobacco product and alcohol use in lifetime, past year, and past month among persons aged 12 or older, by age group: percentages, 2017 and 2018 [cited 2020 Nov 6]. Available from: https://www.samhsa.gov/data/sites/default/files/cbhsq-eports/NSDUHDetailedTabs2018R2/NSDUHDetailedTabs2018.pdf
[xxvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxvii] cdc.gov [Internet]. About electronic cigarettes. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 24]. Office on Smoking and Health: data and statistics. Available from: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html

[xxviii] Heck, Courtney. 2019 North Carolina youth tobacco survey results [PowerPoint presentation]. 2020 Aug 25 [cited 2020 Sep 22].
[xxix] Heck, Courtney. 2019 North Carolina youth tobacco survey results [PowerPoint presentation]. 2020 Aug 25 [cited 2020 Sep 22].
[xxx] Tobacco Prevention and Control Branch. North Carolina youth tobacco survey (NC YTS) middle & high school fact sheet [Internet]. Raleigh (NC): Department of Health and Human Services; c2017 [cited 2020 Sep 22]. Available from: https://tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/2017-YTS-FactSheet-FINAL.pdf
[xxxi] Murthy, Vivek H. E-Cigarette use among youth and young adults, a report of the Surgeon General executive summary [Internet]. Rockville (MD): U.S. Office of the Surgeon General; c2016 [cited 2020 Sep 21] (5). Available from: https://www.cdc.gov/tobacco/data_statistics/sgr/e-cigarettes/pdfs/2016_sgr_entire_report_508.pdf
[xxxii] Heck, Courtney. 2019 North Carolina youth tobacco survey results [powerpoint presention]. 2020 Aug 25 [cited 2020 Sep 22].
[xxxiii] cdc.gov [Internet]. Tobacco 21: policy evaluation for comprehensive tobacco control programs. Atlanta (GA): Centers for Disease Control and Prevention, Office on Smoking and Health; c2020 [cited 2020 Sep 22]. Available from: https://www.cdc.gov/tobacco/stateandcommunity/tobacco_control_programs/surveillance_evaluation/tobacco-21-policy-evaluation/index.html
[xxxiv] fda.gov [Internet]. FDA finalizes enforcement policy on unauthorized flavored cartridge-based e-cigarettes that appeal to children, including fruit and mint. New York: Food and Drug Administration; c2020 [cited 2020 Sep 22]. Available from: https://www.fda.gov/news-events/press-announcements/fda-finalizes-enforcement-policy-unauthorized-flavored-cartridge-based-e-cigarettes-appeal-children
[xxxv]Drope J, Liber AC, Cahn Z, Stoklosa M, Kennedy R, Douglas CE, Henson R, Drope J. Who's still smoking? Disparities in adult cigarette smoking prevalence in the United States. CA Cancer J Clin. 2018 Mar;68(2):106-115. doi: 10.3322/caac.21444. Epub 2018 Jan 31. PMID: 29384589.
[xxxvi] countertobacco.org [Internet]. Chapel Hill: Counter Tools; c2020 [cited 2020 Sep 23]. Available from: https://countertobacco.org/resources-tools/evidence-summaries/flavored-tobacco-products/
[xxxvii] truthinitiative.org [Internet]. African Americans. Washington, DC: Truth Initiative; c2020 [cited 2020 Sep 23]. Available from: https://truthinitiative.org/sites/default/files/media/files/2020/05/Truth_Race-ethnicity%20Series%20Factsheets-Af%20Am%20_v4_Final.pdf
[xxxviii] truthinitiative.org [Internet]. African Americans. Washington, DC: Truth Initiative; c2020 [cited 2020 Sep 23]. Available from: https://truthinitiative.org/sites/default/files/media/files/2020/05/Truth_Race-ethnicity%20Series%20Factsheets-Af%20Am%20_v4_Final.pdf
[xxxix] Crosbie E, Gonzalez M, Glantz SA. Health preemption behind closed doors: trade agreements and fast-track authority. Am J Public Health. 2014 Sep;104(9):e7-e13. doi: 10.2105/AJPH.2014.302014. Epub 2014 Jul 17. PMID: 25033124; PMCID: PMC4151932.
[xl] thecommunityguide.org [Internet]. Task force findings. Atlanta (GA): Centers for Disease Control and Prevention; c2012 [cited 2020 Sep 7]. Available from: https://www.thecommunityguide.org/content/task-force-findings-tobacco
[xli] thecommunityguide.org [Internet]. Task force findings. Atlanta (GA): Centers for Disease Control and Prevention; c2012 [cited 2020 Sep 7]. Available from: https://www.thecommunityguide.org/content/task-force-findings-tobacco
[xlii] thecommunityguide.org [Internet]. Community health workers. Atlanta (GA): Centers for Disease Control and Prevention; c2017 [cited 2020 Sep 24]. Available from: https://www.thecommunityguide.org/content/community-health-workers

Chronic Disease

This chapter includes:

- Cancer
- Diabetes
- Heart disease and stroke
- Obesity
- Mental health and substance use disorder

Section 6.01 *Cancer*

Overview

The National Cancer Institute defines cancer as the collection of related diseases in which abnormal cells continually divide without stopping and invade healthy tissue throughout the body. It is important to note that cancer is a genetic disease, due to the result of changes to the genes that control the way normal cells grow and divide. Genetic alterations to normal cells can be inherited from biological parents or caused by environmental exposures in living quarters or behavioral practices.[i] According to the Centers for Disease Control and Prevention, the leading risk factors for preventable cancers are smoking, getting too much UV radiation from the sun or tanning beds, being overweight or having obesity, and drinking too much alcohol.[ii]

According to the Centers for Disease Control and Prevention's National Center for Health Statistics, cancer is the second leading cause of death in the United States. [iii] In North Carolina, cancer was the leading cause of death in 2018 with 449 out of 19,693 deaths by Durham County residents.[iv] Unfortunately, significant cancer health inequities exist among traditionally medically underserved populations across the United States, with African Americans having the highest cancer death rate across all ethnic and racial demographics.[v]

The American Cancer Society (ACS) estimated there would be 1,762,450 new cases of cancer in 2019 with 58,690 of those new cases in North Carolina. [vi] Additionally, ACS estimates there would be 606,880 deaths during the same timeframe across the U.S. with 20,410 lives lost in North Carolina.[vii] The North Carolina State Center for Health Statistics calculated the years of potential life lost during the 2014-2018 timeframe caused by cancer death (see Table 6.01a).[viii]

2014-2018 NC and County-Level Years of Potential Life Lost (Based on Life Expectancy at Death) Caused by Cancer Death[ix]

Total Potential Year of Life Lost			
	Number of Deaths 2014-2018	**5-Year Total Years of Potential Life Lost**	**5-Year Average Years of Potential Life Lost**
Durham	2,231	39,295	7,859
Wake	6,428	113,993	22,799
Orange	972	17,027	3,405
North Carolina	97,303	1,585,215	317,043

Table 6.01(a) Years of Potential Life Lost Caused by Cancer Death

According to the American College of Surgeons, "financial toxicity describes the impact of direct and indirect health care costs that lead to significant financial burden for patients and their caregivers, resulting in increased psychosocial distress, diminished patient outcomes, and poorer quality of life."[x] This financial toxicity impacts cancer patients both directly and indirectly. The direct cost of cancer therapeutics has increased dramatically over the past two decades.[xi] Insurance

companies have shifted the financial burden increasingly onto cancer patients and their families through increased deductibles, restrictions to specialty medications and higher copayments.[xii]

Accumulated indirect costs of cancer care such as missed days at work, reduction in work hours, or even loss of employment, have serious consequences for cancer patients and their families. These lost wages or loss of health insurance can be devastating to cancer patients. These factors can contribute to asset depletion or even bankruptcy. Not all patients are equally affected by the cost of cancer treatment because low-income, uninsured, younger and historically marginalized patients are impacted disproportionately. Understanding external factors and how each cancer type and site impact personal finances is critical to improve price transparency so physicians and patients can make better-informed decisions about treatment options.[xiii]

Healthy NC 2030 Objectives

In January 2019, the North Carolina Institute of Medicine's (NC IOM) Healthy North Carolina 2030 Task Force began the process to revise and update the Healthy NC 2020 Objectives. While the Healthy NC 2020 Objectives included four indicators to address tobacco use and secondhand smoke exposure and colorectal cancer mortality, the Healthy NC 2030 Objectives only includes one indicator which includes decreasing tobacco use for youth to 9% (currently 19.8%) and adults to 15% (currently 23.8%).[xiv]

Primary Data:

According to the Durham 2019 Community Health Assessment survey, 29.4% responded they smoked at least 100 cigarettes during their lifetime, while 10.8% responded smoking daily or some days.[xv] It is important to note, that only 7.5% of respondents attempted to quit smoking in the last 12 months.[xvi] The most frequently-reported exposure of secondhand smoke was from family or a friend's home (27.2%) followed by workplace (19.2%), bar (17.6%), sidewalk near government building (17.1%), car (16.6%), bus stop (15.1%), home (14.3%), restaurant (13.2%), park/trail (11%) and hospital (7.7%).[xvii]

Secondary Data

Cancer Incidence Rates by Race/Ethnicity Per 100,000, Durham County, Wake County and North Carolina, 2014-2018[xviii]

	Durham				Wake				NC
	White	African American	Asian	Latinx	White	African American	Asian	Latinx	All
Female Breast	181.2	173.1	114.0	131.8	175.0	168.9	113.4	110.5	163.9
Prostate	97.4	144.4	**	67.6	116.2	177.0	53.2	95.6	117.4
Lung/Bronchus	52.3	53.1	**	**	51.1	58.8	26.8	36.7	67.8
Colon/Rectum	31.3	36.0	**	**	30.4	40.6	17.1	34.6	37.0
Cervix Uteri	**	8.8	*	*	5.2	6.1	**	**	7.1
Stomach	4.7	8.6	**	**	5.8	9.4	8.6	9.4	6.4

Figure 6.01 (c) 2014-2018 Cancer Incidence for Selected Sites by Race and Ethnicity in Durham and Wake Counties, Per 100,000 Population, Age-Adjusted to the 2000 U.S. Standard Population

Cancer Mortality Rates by Race/Ethnicity Per 100,000 Durham County, Wake County and North Carolina, 2014-2018[xix]

	Durham		Wake				North Carolina
	White	African American	White	African American	Asian	Latinx	All
Lung/Bronchus	32.0	37.9	30.8	35.7	13.7	25.4	44.1
Female Breast	18.3	28.5	18.8	24.1	13.5	**	20.9
Prostate	14.4	36.9	16.4	42.2	**	**	19.9
Colon/Rectum	11.2	16.1	9.4	17.3	**	16.9	13.3
Stomach	**	4.5	1.8	4.9	**	**	2.9
Cervix Uteri	**	**	1.2	**	0.0	**	2.0

Table 6.01 (d) 2014-2018 Cancer Mortality for Selected Sites by Race and Ethnicity in Durham and Wake Counties, Per 100,000 Population, Age-Adjusted to the 2000 U.S. Standard Population

Interpretations: Disparities, Gaps, and Emerging Issues

Primary data collected for the 2019 Durham County Community Health Assessment indicates that approximately 30% of respondents reporting the use of tobacco, and this is a significant number of Durham County residents that are at increased risk for developing cancer.[xx] In addition to those who actively smoke, others are exposed to secondhand smoke in homes as well as public places, which also implicates a lack of policy enforcement. Given that only 7.5% attempted to quit smoking, there is a need to better understand what barriers inhibit and what resources are needed to enable resident to avoid this number one preventable risk factor for developing cancer.[xxi]

In the secondary data presented from the North Carolina Department of Health and Human Services, State Center for Health Statistics, disparities exist in cancer incidence rates between white and African American Durham County residents for prostate, colon, cervical and stomach cancer. Death rate disparities exist in almost all cancers. The lower cancer screening rates may significantly contribute to African Americans having higher cancer mortality outcomes in breast, prostate and stomach cancers when compared to their white counterparts.

Health system infrastructure needs to incorporate community and patient navigation to help the community and patients gain access to quality healthcare. This includes recommended cancer screenings, rapid diagnosis, affordable treatment and survivorship resources. Ongoing outreach and education across the cancer continuum needs to reflect and respond to the values and perspectives of all traditionally medically underserved population's (such as African Americans, Latinx, Native Americans, Asian Americans, and refugees) community values and perspectives. Systemic barriers to care as well as social drivers of health play an integral role in the overarching health outcomes for traditionally medically underserved communities. Traditionally medically underserved populations are often born, live and work in areas that are under-resourced, have poor housing, unsafe neighborhoods, limited access to fresh fruits and vegetables, located in close proximity of manufacturing facilities that negatively impact air and water quality and limited healthcare facilities. Addressing barriers to care, financial toxicity, medical mistrust and social determinants of health are pivotal to decreasing cancer health disparities across the county.

As the COVID-19 pandemic spread across the United States in early 2020, many routine diagnostics used to screen cancer dropped considerably due to the postponement of non-essential visits. According to insurance claims filed in April 2020 compared to February 2020, mammograms decreased by 87%, pap smears by 83% and colonoscopies by 90%.[xxii] This disruption in care has had a significant impact for health systems throughout the U.S. both for patients and providers. It is estimated that "over 22 million screening tests for five common tumors may be disrupted, risking delayed or missed diagnoses for 80,000 patients," according to the company, IQVIA.[xxiii] In addition, this disruption in early cancer detection via routine cancer screenings can lead to more advanced cancer upon diagnosis as well as delayed entry into treatment. Since March 2020, many patients are still reluctant to schedule regular cancer screenings.[xxiv] It is imperative to encourage community members to seek recommended cancer screenings and provide support to health systems providing care to Durham County residents as they cope with the impacts of COVID-19 into 2021.

Recommended Strategies

- Healthcare centers can provide information regarding what they are doing to keep patients and staff safe during the COVID-19 pandemic to help patients feel more confident in their ability to keep vital screening and monitoring appointments with their providers for timely cancer preventive care.
- Continued advocacy to expand Medicaid in North Carolina is imperative to reduce financial disparities and access to care for traditionally medically underserved communities across the county.

- Increase community outreach and engagement with community-based organizations and residents to increase access to cancer screenings and reduce stigma and shame associated with a cancer screening and diagnosis. Implement the use of Community Health Workers/Promotoras and develop interventions to overcome digital health literacy and digital divide.
- Included questions on the Community Health Assessment survey that assess cancer screening, diagnosis, treatment and impact on quality of life.

Current Initiatives & Activities

Breast and Cervical Cancer Control Program (BCCCP) provides free or low cost breast and cervical cancer screenings and follow up to eligible women in North Carolina www.bcccp.ncdhhs.gov

Durham County Department of Public Health provides primary care services, which can assist with referrals to cancer screening. Phone: 919-560-7600 (Appointments); Phone: 919-560-7658 *BCCCP Appointments

Lincoln Community Health Center provides primary care services, which can assist with referrals to cancer screening. Provides accessible, affordable, high quality outpatient health care services to the medically underserved. www.lincolnchc.org

Durham County Department of Public Health Bull City Breathes Program offers free tobacco cessation classes and support services. www.dcopublichealth.org/services

Duke Smoking Cessation Program offers tobacco cessation assistance through medication management, research, counseling, and classes. www.Dukehealth.org/quit

Quitline NC: North Carolina has a free Quitline, which offers telephone counseling to help quit smoking and/or quit using tobacco products. 1-800-QUIT-NOW; www.quitlinenc.com

Colon Cancer Screening (Pilot) Program Durham Department of Public Health: Pilot colon cancer screening program for eligible women in the BCCCP program. This program is through a partnership with the Office of Health Equity at Duke Cancer Institute. Email: angelo.moore137@duke.edu; Phone: 919-668-7946

Men's Health Screening: A two-day annual community outreach and engagement health event specifically for men organized and led by Duke Cancer Institute Office of Health Equity. This program provides free health education, cancer screenings, chronic disease screening, and navigation services. http://dukecancerinstitute.org/OHE

Women's Health Awareness (WHA) Conference: Free annual event provides health education, resources, and various on-site health and cancer screenings led and supported by the National Institute of Environmental Health Sciences/National Institutes of Health co-sponsored by

Durham Alumnae Chapter of Delta Sigma Theta Sorority Inc. & NCCU, www.niehs.nih.gov/whad

Community Health Ambassador Program is managed by Duke Cancer Institute Office of Health Equity designed to train and educate selected community leaders of faith-based and other non-profit organization on cancer prevention and screening, hypertension, diabetes, and importance of participation in research. http://dukecancerinstitute.org/OHE

Sisters Network Inc. offers financial assistance for breast prosthesis, medical bras and compression arm sleeves. www.sistersnetworkinc.org/resources.html

References

[i] cancer.gov [Internet]. What is cancer. Rockville (MD): National Cancer Institute; c2020 [cited 2020 Oct 3]. Available from: https://www.cancer.gov/about-cancer/understanding/what-is-cancer
[ii] cdc.gov [Internet]. Cancer: CDC works to prevent cancer and improve the health of people with cancer. Atlanta (GA): National Center for Chronic Disease Prevention and Health Promotion; c2020 [cited 2020 October25]. Available from: https://www.cdc.gov/chronicdisease/pdf/factsheets/cancer-h.pdf
[iii] ncdhhs.gov [Internet]. Cancer profiles: Durham. Raleigh: North Carolina Central Cancer Registry; 2020 Jul [cited 2020 Oct1]. Available from: https://schs.dph.ncdhhs.gov/schs/CCR/cp2020/Durham.pdf
[iv] ncdhhs.gov [Internet]. Cancer profiles: Durham. Raleigh: North Carolina Central Cancer Registry; 2020 Jul [cited 2020 Oct1]. Available from: https://schs.dph.ncdhhs.gov/schs/CCR/cp2020/Durham.pdf
[v] cancerprogressreport.aacr.org [Internet]. Cancer disparities progress report 2020. Philadelphia (PA): American Association for Cancer Research; c2020 [cited 2020 Oct 6]. Available from: http://www.CancerDisparitiesProgressReport.org/
[vi] cancer.org [Internet]. Cancer facts & figures 2019. Atlanta (GA): American Cancer Society; c2019 [cited 2020 Oct]. Available from: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf
[viivii] cancer.org [Internet]. Cancer facts & figures 2019. Atlanta (GA): American Cancer Society; c2019 [cited 2020 Oct]. Available from: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf
[viii] ncdhhs.gov [Internet]. Years of potential life lost, totals and by sex, 2014-2018. Raleigh (NC): North Carolina Department of Health and Human Services, State Center for Health Statistics; c2019 [Cited 2020 August24]. Available from: https://schs.dph.ncdhhs.gov/data/databook/CD8B%20YPLL%20by%20county.pdf
[ix] schs.dph.ncdhhs.gov [Internet]. Years of potential life lost, totals and by sex, 2014-2018. Raleigh (NC): North Carolina Department of Health and Human Services; c2019 [cited 2020 Aug 24]. Available from: https://schs.dph.ncdhhs.gov/data/databook/CD8B%20YPLL%20by%20county.pdf
[x] Snyder RA, Chang GJ. Financial toxicity: a growing burden for cancer patients. Chicago (IL): Bulletin of the American College of Surgeons; 2019 Sep 1 [cited Oct 2020]. Available from: https://bulletin.facs.org/2019/09/financial-toxicity-a-growing-burden-for-cancer-patients/
[xi] Snyder RA, Chang GJ. Financial toxicity: a growing burden for cancer patients. Chicago (IL): Bulletin of the American College of Surgeons; 2019 Sep 1 [cited Oct 2020]. Available from: https://bulletin.facs.org/2019/09/financial-toxicity-a-growing-burden-for-cancer-patients/
[xii] Snyder RA, Chang GJ. Financial toxicity: a growing burden for cancer patients. Chicago (IL): Bulletin of the American College of Surgeons; 2019 Sep 1 [cited Oct 2020]. Available from: https://bulletin.facs.org/2019/09/financial-toxicity-a-growing-burden-for-cancer-patients/
[xiii] iqvia.com [Internet]. Shifts in healthcare demand, delivery and care during the COVID-19 era: tracking the impact in the United States. Danbury (CT): IQVIA Institute; 2020 Apr [cited 2020 Oct 2]. Available from: https://www.iqvia.com/insights/the-iqvia-institute/covid-19/shifts-in-healthcare-demand-delivery-and-care-during-the-covid-19-era
[xiv] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Oct 28]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.
[xv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020

Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xvii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xviii] Cancer incidence rates by race/ethnicity per 100,000, Durham County, Wake County and North Carolina, 2014-2018 [internal data]. Raleigh (NC): North Carolina Department of Health and Human Services, State Center for Health Statistics; c2019 [cited 2020 Oct 6].

[xix] ncdhhs.gov [Internet]. North Carolina vital statistics, 2018 volume 2. Raleigh (NC): North Carolina Department of Health and Human Services, State Center for Health Statistics; 2020 Jan [cited 2020 Oct 6]. Available from: https://schs.dph.ncdhhs.gov/data/vital/lcd/2018/pdf/Vol2_2018_PRT_rev4.pdf

[xx] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxii] Provision CARES Proton Therapy. Delayed cancer screenings in COVID era put patients at risk. Knoxville (TN): Provision Healthcare; c2020 [cited 2020 Dec]. https://provisionhealthcare.com/2020/07/20/cancer-screening-covid-era-patients-at-risk/

[xxiii] Provision CARES Proton Therapy. Delayed cancer screenings in COVID era put patients at risk. Knoxville (TN): Provision Healthcare; c2020 [cited 2020 Dec]. https://provisionhealthcare.com/2020/07/20/cancer-screening-covid-era-patients-at-risk/

[xxiv] Provision CARES Proton Therapy. Delayed cancer screenings in COVID era put patients at risk. Knoxville (TN): Provision Healthcare; c2020 [cited 2020 Dec]. https://provisionhealthcare.com/2020/07/20/cancer-screening-covid-era-patients-at-risk/

Section 6.02 *Diabetes*

Overview

Diabetes occurs when there is a problem with the body's ability to breakdown certain foods, such as sugars and carbohydrates, causing high blood glucoses (sugars). Insulin, a hormone made in the pancreas, allows blood glucose to go back into the cells. Diabetes occurs when there is not enough insulin or when the body does not use insulin efficiently.[i] While there are several types of diabetes, the most common types are: type 1 diabetes (T1D), type 2 diabetes (T2D) and gestational diabetes. T1D, once called juvenile-onset diabetes, is due to an autoimmune condition causing the destruction of the cells in the pancreas. T1D may be due to genetic susceptibility and/or environmental factors.[ii] T2D, previously referred to as "noninsulin-dependent or adult onset", occurs when the body does not use insulin properly due to genetics and other factors.[iii] Individuals with T2D are often overweight, obese or average weight with high body fat, especially around the abdominal area.[i] Lastly, gestational diabetes mellitus (GDM) is a type of diabetes that can develop in the second or third trimester of pregnancy. During pregnancy, the placenta secretes various types of hormones causing the body to resist insulin which causes an increase in blood glucose levels.[iv] The pancreas is unable to overcome the insulin resistance resulting in GDM.

Prediabetes occurs when individuals have blood glucose levels higher than normal, but not high enough to meet criteria for diabetes. The Centers for Disease Control and Prevention (CDC) reports that 88 million (34.5%) adults in the U.S. had prediabetes in 2018 and more than 84% are unaware they have it.[v,vi] Individuals who have prediabetes are at risk for diabetes and heart disease.[vii] Lifestyle modification such as dietary changes, regular moderate physical activity, and weight loss are the cornerstone of care for individuals with prediabetes and help delay the onset of diabetes and cardiovascular complications.[viii,ix]

Primary Data

Results from the 2019 Durham County Community Health Assessment survey county wide sample showed diabetes as the most important health problem affecting Durham County followed by mental health, substance use and obesity/overweight.[xvi] Among those surveyed in the Hispanic or Latino neighborhood sample, diabetes was also ranked as the most important health concern, with nearly one-third of respondents supporting this opinion.[xi]

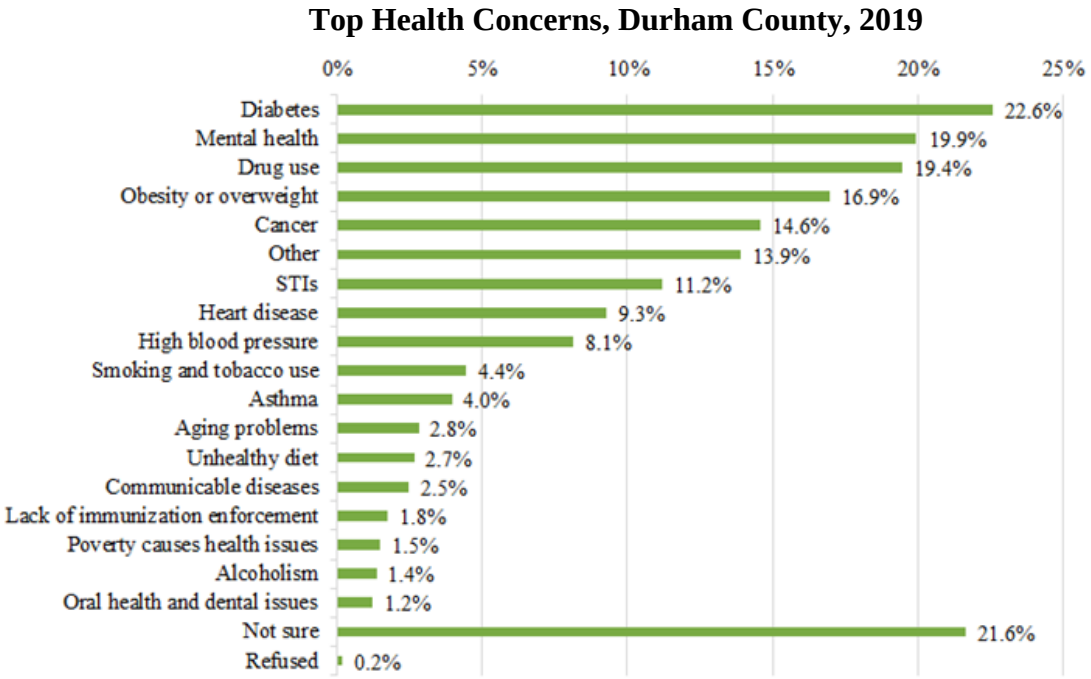


Figure 6.02(a) Top Health Concerns as Named by Durham County Residents, 2019[xii]

Secondary Data

As of 2018, approximately 10.5% of adults in the U.S. population had diabetes.[xiii] In 2019, 12.5% of adults in North Carolina were diagnosed with diabetes, an increase of 10% from 2018.[xiv] There is a higher prevalence of diabetes in the non-Hispanic African American population compared to non-Hispanic whites in North Carolina (12.2%). In 2017, the prevalence of diabetes in Durham County was above the state and national average—reported as 12.9%.[xv] In addition, more than two million adults in North Carolina (36.1% of the adult population) may have prediabetes but unaware of it.[xvi] Individuals with prediabetes may be able to delay developing diabetes through lifestyle modification. Therefore, making timely diagnosis a priority.

Social determinants of health encompass a wide range of factors including socioeconomic, neighborhoods and environment. In 2017, 17.2% of residents in Tract 13.01 of Durham have diabetes, which is higher than the average for Durham County (12.86%).[xvii,xviii] According to data reported by Duke Health, of the 906 unique patients in Tract 10.01, 83.3% were African Americans, 64% Hispanics, 7.3% non-Hispanic whites and 0.6% were Asians.[xix]

Diabetes continues to be an economic burden in the U.S. In 2017, the total cost of diabetes increased to $327 billion, which represents a 26% increase over five years.[xx] Diabetes is directly responsible for more than one-eighth of U.S. health care expenditure and generates additional indirect costs by reducing productivity.[xxi] As of 2013, the annual cost of diabetes in NC was over $13 billion—averaging about $6 billion in direct costs and $7.5 billion in indirect costs.[xxii] The NC Medicaid Program incurred approximately $709 million of these costs, with private insurers and employers taking on another $1.5 billion and $2.9 billion respectively.[xxiii]

Diabetes Risk Factors

While there are many risk factors that lead to T2D, obesity is one of the highest risk factors; however, not all individuals with diabetes are obese or overweight.[xxiv,xxv,xxvi] Tobacco use is another risk factor for diabetes. Smokers are 30%-40% more likely to develop T2D.[xxvii] Tobacco users also experience higher rates of complications such as heart disease, reduced circulation in their lower limbs which often leads to amputation and retinopathy. [xxviii,xxix] In 2018, 17.4% of NC residents reported being current smokers and 16.4% of residents in the Piedmont region reported being current smokers.[xxx]

Diabetes Complications

Heart disease is the leading cause of death in the U.S. and the second leading cause of death in NC; Diabetes is the seventh leading cause of death.[xxxi, xxxii] People with diabetes (PWD) are twice as likely to suffer coronary heart disease and 2.3 times as likely to suffer cardiac death than those without diabetes. [xxxiii] Additionally, PWD are 10 times more likely to require a lower limb amputation.[xxxiv] Visual impairment, chronic kidney disease and end stage renal disease are all serious complications of diabetes. [xxxv]

Interpretations: Disparities, Gaps, Emerging Issues

Diabetes disproportionately affects people of color and low-income populations. In 2017, diabetes rates were 18.4% for African Americans and 13.3% of Hispanic or Latino residents compared to 9.2% whites in Durham. [xxxvi] Nationally, there are also significant disparities in outcomes of patients admitted with diabetic foot infections, with major amputations being 33% more likely for Hispanics, 44% more likely for African Americans, and 47% more likely for Native Americans compared to their white counterparts.[xxxvii]

Lower socioeconomic status, including lower education levels, is associated with worse diabetes outcomes. In 2018, 17.2% of respondents with diabetes in the Piedmont region had a high school education or less compared to 5.8% who had a college degree.[xxxviii] In 2018, 12.4% of survey respondents in the Piedmont region with household incomes less than $15,000 reported having diabetes compared to 6.9% of respondents with household incomes of more than $75,000.[xxxix] The association with diabetes and income was identified in North Durham, at 15.5% compared to 9.7% in West Durham.[xl] Median household income is approximately $17,000 below the Durham County average of $58,190 in North Durham compared to $8,000 above the county average in West Durham.[xli] In 2018, 8.6% of survey respondents in the Piedmont region responded that there were times during the past year that they did not have access to testing supplies such as strips and lancets due to lack of money.[xlii] These are a few of the many factors contributing to the components of determinants of health and its association to decrease self-care and suboptimal diabetes outcomes.

Food insecurity (FI) defined by the United States Department of Agriculture (USDA), is the limited or uncertain availability of nutritionally adequate and safe foods. North Carolina has a food insecurity rate of 14% compared to the national average of 12%.[xliii] FI has been found to correlate with diabetes status. In a study of the National Health and Nutrition Examination Survey

(NHANES) from 2005-2014, those with prediabetes, diabetes or undiagnosed diabetes were more likely to be food insecure (39%, 58%, 81% respectively) than those without diabetes.[xliv] People with diabetes and food insecurity have worse diabetes control, higher health care expenses and lower adherence to diabetes medications and supplies.[xlv]

Diabetes and COVID-19

Evidence remains inconclusive whether people with Diabetes are more susceptible to COVID-19 than those without diabetes. [xlvi] Published studies in March and April 2020 noted the most common comorbidities were hypertension, diabetes and obesity (body mass index [BMI>=30 kg/m2]).[xlvii, xlviii] Severe obesity (BMI>=40 kg/m2) is a common risk factor for worse prognosis and higher mortality.[xlix,l] The literature on COVID-19 is rapidly changing and some published reports are limited. While diabetes has not been proven to increase the likelihood of COVID-19 infection, the frequency and severity is higher than those without diabetes.[li,lii] PWD should follow guidelines for social distancing, mask-wearing, handwashing, avoiding touching the face and avoiding non-essential travels. PWD should maintain ample diabetes supplies and medications. Prior to the COVID-19 pandemic, up to 15% of adults with diabetes did not take their medications as prescribed, either due to affordability or nonadherence.[liii] Both patients and providers need to be attentive. PWD must maintain good control of their blood glucoses. Frequent monitoring of blood glucoses and healthy lifestyle such as carbohydrate control diet, exercise and adequate hydration and regular visits to a health care provider is extremely important.

Recommended Strategies

- **Increase Access to Diabetes Self-Management Education and Support (DSMES) Programs** Diabetes self-management education and support (DSMES) facilitate skills and habits necessary for optimal self-care which can lead to improved health outcomes, quality of life and reduced health care costs.[liv, lv] With evolving health delivery systems such as home-health and telehealth, health policies should expand awareness of non-traditional DSMES and access by facilitating financial reimbursement to health systems.[lvi] There is emerging evidence showing that internet based DSMES services can be effective when there is two-way communication between patient and care teams, personalized feedback, use of patient-generated health data and education. This should be integrated into existing diabetes management structures in health systems and the community.[lvii, lviii, lix] Exploring strategies that provides more inclusive diabetes care, especially to marginalized communities, can help decrease longstanding health inequities.
- **Improve Diabetes Care Coordination Through Shared Electronic Health Platforms** A multidisciplinary team approach including physicians, nurses, nutritionists, community workers and behavioral medicine specialists is necessary for effective diabetes care management.[lx] Combining clinical information systems with a care coordination platform can improve communication among providers, between clinic and community settings, proactively identify patients at elevated risk and keep track of patient care follow up. This also allows for a shared effort to spend more time on frequent and tailored diabetes education, an intervention that has been shown to improve not only glycemic control but also mental health.[lxi] Expanding

NCCARE360's platform and incentivizing integration into public and private health organizations could be one way of achieving this.

- **Invest in Culturally Relevant Diabetes Prevention Programs** Diabetes disproportionately affects African American and Hispanic or Latino populations in Durham compared to the white population.[lxii] Culturally tailored diabetes prevention interventions among people of color utilizing relevant facilitators, language location, and/or messaging can lead to improved diabetes risk factors.[lxiii, lxiv] Investing in community organizations that offer culturally relevant interventions for diabetes can help impact the populations most affected by diabetes.
- **Expand Investment in Community Health Workers (CHWs)** CHWs are important in conjunction with previous recommendations to address the disproportionate effect of diabetes on people of color. Increasing funding to train and integrate CHWs of color into community health systems would help build trust within communities of color, identify, and overcome cultural barriers to diabetes self-management and provide health education in a culturally tailored manner.[lxv]
- **Invest in Mental Health Resources for People Experiencing Diabetes** Diabetes-related stress affects 36% of people who experience diabetes and can have a greater effect on behavioral and metabolic outcomes than depression.[lxvi] Diabetes-related stress is responsive to intervention. Investment in mental health services is needed to address severe diabetes-related distress.[lxvii] Health policies should be focused on expanding access to mental health services as part of a holistic care plan to support populations experiencing diabetes.

Current Initiatives & Activities

Duke Primary Care Adult Diabetes Education Program: Duke Primary Care offers diabetes education and nutrition counseling to help understand connections between diabetes, wellness and how to make changes to improve quality of life. Individual and group sessions available. Requires a physician's referral.

Diabetes During Pregnancy (Duke Primary Care Croasdaile clinic only): A two-hour class for those with gestational diabetes or type 2 diabetes covers nutrition, blood glucose monitoring and other factors that help keep mothers and their babies healthy.
https://www.dukehealth.org/treatments/primary-care/diabetes-education-and-nutrition-counseling-program

Diabetes Prevention Program at the YMCA: The YMCA of the Triangle offers a virtual Diabetes Prevention Program through 2021. In the yearlong program, a trained coach will encourage participants as they explore how healthy eating, physical activity and behavior changes can help reduce their risk for diabetes and benefit their overall health.
https://www.ymcatriangle.org/programs/fitness-and-wellness/diabetes-prevention-program

Durham County Department of Public Health offers two six to eight-week community workshops: Living Health with Diabetes and Living Healthy with Chronic Disease. Both programs center around skill-building towards confident management of a chronic disease or condition. https://www.dcopublichealth.org/services/health-education/health-promotion-and-wellness-3632

DiabetesFreeNC: This is a website designed to assess diabetes risk, provide resources and connect to CDC-recognized diabetes prevention programs in North Carolina. https://www.Diabetesfreenc.com

Eat Smart, Move More, Prevent Diabetes offers low cost and free diabetes prevention classes for North Carolina residents; a 12-month CDC-recognized diabetes prevention program. Classes are held online with a live instructor with one-on-one support available outside of class. https://www.esmmpreventdiabetes.com

Betr Health offers a CDC-recognized diabetes prevention programs delivered through telehealth. May be covered through insurance. https://www.betrhealth.com

References

[i] American Diabetes Association. 2. Classification and diagnosis of diabetes. Standards of medical care in Diabetes—2020. Diabetes Care [Internet]. 2020 [cited 2020 Sep 8];43(Supplement 1):S14-S31. Available from: https://doi.org/10.2337/dc20-S002

[ii] American Diabetes Association. 2. Classification and diagnosis of diabetes. Standards of medical care in Diabetes—2020. Diabetes Care [Internet]. 2020 [cited 2020 Sep 8];43(Supplement 1):S14-S31. Available from: https://doi.org/10.2337/dc20-S002

[iii] American Diabetes Association. 2. Classification and diagnosis of diabetes. Standards of medical care in Diabetes—2020. Diabetes Care [Internet]. 2020 [cited 2020 Sep 8];43(Supplement 1):S14-S31. Available from: https://doi.org/10.2337/dc20-S002

[iv] Mack LR, Tomich PG. Gestational diabetes: diagnosis, classification, and clinical care [Internet]. Obstet Gynecol Clin North Am. 2017 Jun [cited 2020 Sep 8];44(2):207–17. Available from: https://www.sciencedirect.com/sdfe/pdf/download/eid/1-s2.0-S088985451730013X/first-page-pdf

[v] American Diabetes Association. 2. Classification and diagnosis of diabetes. Standards of medical care in Diabetes—2020. Diabetes Care [Internet]. 2020 [cited 2020 Sep 8];43(Supplement 1):S14-S31. Available from: https://doi.org/10.2337/dc20-S002

[vi] cdc.gov [Internet]. Prevalence of prediabetes among adults. Atlanta (GA): Centers for Disease Control and Prevention; 2020 Jun 30 [cited 2020 Sep 24]. Available from: https://www.cdc.gov/diabetes/data/statistics-report/prevalence-of-prediabetes.html

[vii] American Diabetes Association. 2. Classification and diagnosis of diabetes. Standards of medical care in Diabetes—2020. Diabetes Care [Internet]. 2020 [cited 2020 Sep 8];43(Supplement 1):S14-S31. Available from: https://doi.org/10.2337/dc20-S002

[viii] American Diabetes Association. 3. Prevention or delay of type 2 diabetes. Standards of Medical Care in Diabetes—2020. Diabetes Care [Internet]. 2020 Jan 1 [cited 2020 Sep 8];43(Supplement 1):S32–6. Available from: https://care.diabetesjournals.org/content/43/Supplement_1/S32

[ix] Gong Q, Zhang P, Wang J, Ma J, An Y, Chen Y, Zhang B, Feng X, Li H, Chen X, Cheng YJ, Gregg EW, Hu Y, Bennett PH, Li G; Da Qing Diabetes Prevention Study Group. Morbidity and mortality after lifestyle intervention for people with impaired glucose tolerance: 30-year results of the Da Qing Diabetes Prevention Outcome Study. Lancet Diabetes Endocrinol. 2019 Jun [cited 2020 Sep 8];7(6):452-461. doi: 10.1016/S2213-8587(19)30093-2. Epub 2019 Apr 26. PMID: 31036503. Available from: https://pubmed.ncbi.nlm.nih.gov/31036503/

[x] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xiii] cdc.gov [Internet]. National diabetes statistic report, 2020: estimates of diabetes and its burden in the U.S. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 19]. Available from: https://www.cdc.gov/diabetes/data/statistics-report/index.html

[xiv] ncdhhs.gov [Internet]. Behavioral risk factor surveillance system (BRFSS). Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health; c2020 [cited 2020 Nov 19]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/
[xv] cdc.gov [Internet]. National diabetes statistic report, 2020: estimates of diabetes and its burden in the U.S. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 19]. Available from: https://www.cdc.gov/diabetes/data/statistics-report/index.html
[xvi] cdc.gov [Internet]. National diabetes statistic report, 2020: estimates of diabetes and its burden in the U.S. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 19]. Available from: https://www.cdc.gov/diabetes/data/statistics-report/index.html
[xvii] ncdhhs.gov [Internet]. Behavioral risk factor surveillance system (BRFSS). Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health; c2020 [cited 2020 Nov 19]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/
[xviii] DataWorks NC. Diabetes in Durham County [Internet]. Durham (NC): Community Health Indicators Project; c2018 [cited 2020 Sep 30]. Available from: http://diabetes.health.dataworks-nc.org/?fips=37063001301
[xix] DataWorks NC. Diabetes in Durham County [Internet]. Durham (NC): Community Health Indicators Project; c2018 [cited 2020 Sep 30]. Available from: http://diabetes.health.dataworks-nc.org/?fips=37063001301
[xx] Petersen MP. Economic costs of diabetes in the U.S. in 2017 [Internet]. Diabetes Care. 2018 [cited 2020 Sep 30]; 41:917-928. Available from: https://care.diabetesjournals.org/content/41/5/917.full-text.pdf
[xxi] Petersen MP. Economic costs of diabetes in the U.S. in 2017 [Internet]. Diabetes Care. 2018 [cited 2020 Sep 30]; 41:917-928. Available from: https://care.diabetesjournals.org/content/41/5/917.full-text.pdf
[xxii] Petersen MP. Economic costs of diabetes in the U.S. in 2017 [Internet]. Diabetes Care. 2018 [cited 2020 Sep 30]; 41:917-928. Available from: https://care.diabetesjournals.org/content/41/5/917.full-text.pdf
[xxiii] nccd.cdc.gov [Internet]. Diabetes state burden toolkit: diabetes economic burden. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 5]. Available from: https://nccd.cdc.gov/Toolkit/DiabetesBurden/Home/Economic
[xxiv] Leitner DR, Frühbeck G, Yumuk V, Schindler K, Micic D, Woodward E, Toplak H. Obesity and type 2 diabetes: two diseases with a need for combined treatment strategies - EASO can lead the way [Internet]. Obes Facts. 2017 [cited 2020 Sep 30];10(5):483-492. doi: 10.1159/000480525. Epub 2017 Oct 12. PMID: 29020674; PMCID: PMC5741209. Available from: https://pubmed.ncbi.nlm.nih.gov/29020674/
[xxv] mayoclinic.org [Internet]. Diabetes: causes. Rochester (MD): Mayo Clinic; c1998-2020 [cited 2020 Aug 9]. Available from: http://www.mayoclinic.org/diseases-conditions/diabetes/basics/causes/con-20033091.
[xxvi] Menke A, Rust KF, Fradkin J, Cheng YJ, Cowie CC. Associations between trends in race/ethnicity, aging, and body mass index with diabetes prevalence in the United States: a series of cross-sectional studies. Ann Intern Med. 2014 Sep 2;161(5):328-35. doi: 10.7326/M14-0286. PMID: 25178569. Available from: https://pubmed.ncbi.nlm.nih.gov/25178569/
[xxvii] cdc.org [Internet]. Smoking and diabetes. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 4]. Available from: https://www.cdc.gov/tobacco/campaign/tips/diseases/diabetes.html
[xxviii] Lipworth L, Mumma MT, Cavanaugh KL, Edwards TL, Ikizler TA, Tarone RE, McLaughlin JK, Blot WJ. Incidence and predictors of end stage renal disease among low-income blacks and whites [Internet]. PLoS One. 2012;7(10):e48407. doi: 10.1371/journal.pone.0048407. Epub 2012 Oct 24. PMID: 23110237; PMCID: PMC3480508. Available from: https://pubmed.ncbi.nlm.nih.gov/23110237/
[xxix] Emerging Risk Factors Collaboration. Diabetes mellitus, fasting blood glucose concentration, and risk of vascular disease: a collaborative meta-analysis of 102 prospective studies [Internet]. The Lancet. 2010;375(9733):2215-2222. Available from: https://doi.org/10.1016/S0140-6736(10)60484-9

[xxx] ncdhhs.gov [Internet]. Calendar year 2018 results: behavioral risk factor surveillance system. Raleigh (NC): North Carolina State Center for Health Statistics; c2020 [cited 2020 Aug 4]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/_rfsmok3.html
[xxxi] Xu JQ, Murphy SL, Kochanek KD, Arias E. Mortality in the United States, 2018. NCHS Data Brief, no 355. Hyattsville (MD): National Center for Health Statistics; c2020 [cited 2020 Aug 6]. Available from: https://www.cdc.gov/nchs/products/databriefs/db355.htm
[xxxii] cdc.gov [Internet]. North Carolina. Atlanta (GA): National Center for Health Statistics; c2020 [cited 2020 Aug 1]. Available from: https://www.cdc.gov/nchs/pressroom/states/northcarolina/nc.htm
[xxxiii] Dillingham TR, Pezzin LE, Shore AD. Reamputation, mortality, and health care costs among persons with dysvascular lower-limb amputations. Arch Phys Med Rehabil. 2005 Mar;86(3):480-6. doi: 10.1016/j.apmr.2004.06.072. PMID: 15759232.
[xxxiv] Dillingham TR, Pezzin LE, Shore AD. Reamputation, mortality, and health care costs among persons with dysvascular lower-limb amputations. Arch Phys Med Rehabil. 2005 Mar;86(3):480-6. doi: 10.1016/j.apmr.2004.06.072. PMID: 15759232.
[xxxv] Fraser CE, D'Amico DJ. Diabetic retinopathy: classification and clinical features. Waltham, (MA): c2020 Oct [cited 2020 Sept 1].
[xxxvi] DataWorks NC with Research Action Design. Diabetes (adult population) [Internet]. Durham (NC): Durham Neighborhood Compass; c2020 [cited 2020 Jul 30]. Available from: https://compass.durhamnc.gov/en
[xxxvii] Tan TW, Shih CD, Concha-Moore KC, Diri MM, Hu B, Marrero D, Zhou W, Armstrong DG. Disparities in outcomes of patients admitted with diabetic foot infections [Internet]. PLoS One. 2019 Feb 4;14(2):e0211481. doi: 10.1371/journal.pone.0211481. Erratum in: PLoS One. 2019 Apr 11;14(4):e0215532. PMID: 30716108; PMCID: PMC6361439. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6361439/
[xxxviii] ncdhhs.gov [Internet]. Calendar year 2018 results: behavioral risk factor surveillance system, Piedmont North Carolina: diabetes control. Raleigh (NC): NC State Center for Health Statistics; c2020 [cited 2020 July 30]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/pied/topics.htm
[xxxix] ncdhhs.gov [Internet]. Calendar year 2018 results: behavioral risk factor surveillance system, Piedmont North Carolina: diabetes control. Raleigh (NC): NC State Center for Health Statistics; c2020 [cited 2020 July 30]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/pied/topics.htm
[xl] DataWorks NC with Research Action Design. Diabetes (adult population) [Internet]. Durham (NC): Durham Neighborhood Compass; c2020 [cited 2020 Jul 30]. Available from: https://compass.durhamnc.gov/en
[xli] ncdhhs.gov [Internet]. Calendar year 2018 results: behavioral risk factor surveillance system, Piedmont North Carolina: diabetes control. Raleigh (NC): NC State Center for Health Statistics; c2020 [cited 2020 Jul 30]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/pied/topics.htm
[xlii] ncdhhs.gov [Internet]. Calendar year 2018 results: behavioral risk factor surveillance system, Piedmont North Carolina: diabetes control. Raleigh (NC): NC State Center for Health Statistics; c2020 [cited 2020 Jul 30]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/pied/topics.htm
[xliii] map.feedingamerica.org [Internet]. Food insecurity in North Carolina. Chicago (IL): Feeding America; c2020 [cited 2020 Nov 27]. Available from: https://map.feedingamerica.org/county/2018/overall/north-carolina
[xliv] Walker RJ, Grusnick J, Garacci E, Mendez C, Egede LE. Trends in food insecurity in the USA for individuals with prediabetes, undiagnosed diabetes, and diagnosed diabetes. J Gen Intern Med. 2019 Jan;34(1):33-35. doi: 10.1007/s11606-018-4651-z. PMID: 30215178; PMCID: PMC6318164.
[xlv] Flint KL, Davis GM, Umpierrez GE. Emerging trends and the clinical impact of food insecurity in patients with diabetes. J Diabetes. 2020 Mar;12(3):187-196. doi: 10.1111/1753-0407.12992. Epub 2019 Nov 14. PMID: 31596548.
[xlvi] Hussain A, Bhowmik B, do Vale Moreira NC. COVID-19 and diabetes: Knowledge in progress [Internet]. Diabetes Res Clin Pract. 2020 Apr;162:108142. doi: 10.1016/j.diabres.2020.108142. Epub

2020 Apr 9. PMID: 32278764; PMCID: PMC7144611. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7144611/
[xlvii] Katulanda P, Dissanayake HA, Ranathunga I, et al. Prevention and management of COVID-19 among patients with diabetes: an appraisal of the literature. Diabetologia. 2020 Aug;63(8):1440-1452. DOI: 10.1007/s00125-020-05164-x. Available from: https://doi.org/10.1007/s00125-020-05164-x
[xlviii] Sanchis-Gomar F, Lavie CJ, Mehra MR, Henry BM, Lippi G. Obesity and outcomes in COVID-19: when an epidemic and pandemic collide [Internet]. Mayo Clinic Proceedings. Mayo Clinic Proceedings; 2020;95(7):1445–53. Available from: https://www.mayoclinicproceedings.org/article/S0025-6196(20)30477-8/fulltext
[xlix] Katulanda P, Dissanayake HA, Ranathunga I, et al. Prevention and management of COVID-19 among patients with diabetes: an appraisal of the literature. Diabetologia. 2020 Aug;63(8):1440-1452. DOI: 10.1007/s00125-020-05164-x. Available from: https://doi.org/10.1007/s00125-020-05164-x
[l] Sanchis-Gomar F, Lavie CJ, Mehra MR, Henry BM, Lippi G. Obesity and outcomes in COVID-19: when an epidemic and pandemic collide [Internet]. Mayo Clinic Proceedings; 2020;95(7):1445–53. Available from: https://www.mayoclinicproceedings.org/article/S0025-6196(20)30477-8/fulltext
[li] Riddle MC, Buse JB, Franks PW, Knowler WC, Ratner RE, Selvin E, et al. COVID-19 in people with diabetes: urgently needed lessons from early reports. Diabetes Care. 2020;43(7):1378-81. doi: 10.2337/dci20-0024. Available from: https://care.diabetesjournals.org/content/43/7/1378
[lii] Zelada H, Babcock H, Carmichael KA. Diabetes care during the COVID-19 pandemic [Internet]. Consultant. 2020;60(11):18-19, 25. doi:10.25270/con.2020.05.00017. Available from: https://www.consultant360.com/article/endocrinology/diabetes/diabetes-care-during-covid-19-pandemic?hmpid=
[liii] American Diabetes Association. 5. Facilitating behavior change and well-being to improve health outcomes: standards of medical care in diabetes—2020. Diabetes Care. 2020;43(Supplement 1):S48. doi: 10.2337/dc20-S005. Available from: https://doi.org/10.2337/dc20-S005
[liv] American Diabetes Association. 5. Facilitating behavior change and well-being to improve health outcomes: standards of medical care in diabetes—2020. Diabetes Care. 2020;43(Supplement 1):S48. doi: 10.2337/dc20-S005. Available from: https://doi.org/10.2337/dc20-S005
[lv] Powers MA, Bardsley JK, Cypress M, Funnell MM, Harms D, Hess-Fischl A, Hooks B, Isaacs D, Mandel ED, Maryniuk MD, Norton A, Rinker J, Siminerio LM, Uelmen S. Diabetes self-management education and support in adults with type 2 diabetes: a consensus report of the American Diabetes Association, the Association of Diabetes Care and Education Specialists, the Academy of Nutrition and Dietetics, the American Academy of Family Physicians, the American Academy of PAs, the American Association of Nurse Practitioners, and the American Pharmacists Association [Internet]. J Acad Nutr Diet. 2020 Jun 8:S2212-2672(20)30440-8. doi: 10.1016/j.jand.2020.04.020. Epub ahead of print. PMID: 32527651. Available from: https://pubmed.ncbi.nlm.nih.gov/32527651/
[lvi] Powers MA, Bardsley JK, Cypress M, Funnell MM, Harms D, Hess-Fischl A, Hooks B, Isaacs D, Mandel ED, Maryniuk MD, Norton A, Rinker J, Siminerio LM, Uelmen S. Diabetes self-management education and support in adults with type 2 diabetes: a consensus report of the American Diabetes Association, the Association of Diabetes Care and Education Specialists, the Academy of Nutrition and Dietetics, the American Academy of Family Physicians, the American Academy of PAs, the American Association of Nurse Practitioners, and the American Pharmacists Association [Internet]. J Acad Nutr Diet. 2020 Jun 8:S2212-2672(20)30440-8. doi: 10.1016/j.jand.2020.04.020. Epub ahead of print. PMID: 32527651. Available from: https://pubmed.ncbi.nlm.nih.gov/32527651/
[lvii] Sepah SC, Jiang L, Peters AL. Long-term outcomes of a Web-based diabetes prevention program: 2-year results of a single-arm longitudinal study [Internet]. J Med Internet Res. 2015 Apr 10;17(4):e92. doi: 10.2196/jmir.4052. PMID: 25863515; PMCID: PMC4409647. Available from: https://pubmed.ncbi.nlm.nih.gov/25863515/
[lviii] Greenwood DA, Gee PM, Fatkin KJ, Peeples M. A systematic review of reviews evaluating technology-enabled diabetes self-management education and support [Internet]. J Diabetes Sci Technol.

2017 Sep;11(5):1015-1027. doi: 10.1177/1932296817713506. Epub 2017 May 31. PMID: 28560898; PMCID: PMC5951000. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5951000/
[lix] Pereira K, Phillips B, Johnson C, Vorderstrasse A. Internet delivered diabetes self-management education: a review [Internet]. Diabetes Technol Ther. 2015 Jan;17(1):55-63. doi: 10.1089/dia.2014.0155. PMID: 25238257. Available from: https://pubmed.ncbi.nlm.nih.gov/25238257/
[lx] Schmittdiel JA, Gopalan A, Lin MW, Banerjee S, Chau CV, Adams AS. Population Health Management for Diabetes: Health Care System-Level Approaches for Improving Quality and Addressing Disparities [Internet]. Curr Diab Rep. 2017 May;17(5):31. doi: 10.1007/s11892-017-0858-3. PMID: 28364355; PMCID: PMC5536329. Available from: https://pubmed.ncbi.nlm.nih.gov/28364355/
[lxi] Chai S, Yao B, Xu L, Wang D, Sun J, Yuan N, Zhang X, Ji L. The effect of diabetes self-management education on psychological status and blood glucose in newly diagnosed patients with diabetes type 2. Patient Educ Couns. 2018 Aug;101(8):1427-1432. doi: 10.1016/j.pec.2018.03.020. Epub 2018 Mar 30. PMID: 29622281.
[lxii] DataWorks NC with Research Action Design. Diabetes (adult population) [Internet]. Durham (NC): Durham Neighborhood Compass; c2020 [cited 2020 Jul 30]. Available from: https://compass.durhamnc.gov/en
[lxiii] Powers MA, Bardsley JK, Cypress M, Funnell MM, Harms D, Hess-Fischl A, Hooks B, Isaacs D, Mandel ED, Maryniuk MD, Norton A, Rinker J, Siminerio LM, Uelmen S. Diabetes self-management education and support in adults with type 2 diabetes: a consensus report of the American Diabetes Association, the Association of Diabetes Care and Education Specialists, the Academy of Nutrition and Dietetics, the American Academy of Family Physicians, the American Academy of PAs, the American Association of Nurse Practitioners, and the American Pharmacists Association [Internet]. J Acad Nutr Diet. 2020 Jun 8:S2212-2672(20)30440-8. doi: 10.1016/j.jand.2020.04.020. Epub ahead of print. PMID: 32527651. Available from: https://pubmed.ncbi.nlm.nih.gov/32527651/
[lxiv] Lagisetty PA, Priyadarshini S, Terrell S, Hamati M, Landgraf J, Chopra V, Heisler M. Culturally targeted strategies for diabetes prevention in minority population [Internet]. Diabetes Educ. 2017 Feb;43(1):54-77. doi: 10.1177/0145721716683811. PMID: 28118127; PMCID: PMC5408505. Available from: https://pubmed.ncbi.nlm.nih.gov/28118127/
[lxv] American Diabetes Association. Improving Care and Promoting Health in Populations: Standards of Medical Care in Diabetes—2018. Diabetes Care. 2018;41(Supplement 1):S7.doi: 10.2337/dc18-S001.
[lxvi] Powers MA, Bardsley JK, Cypress M, Funnell MM, Harms D, Hess-Fischl A, Hooks B, Isaacs D, Mandel ED, Maryniuk MD, Norton A, Rinker J, Siminerio LM, Uelmen S. Diabetes self-management education and support in adults with type 2 diabetes: a consensus report of the American Diabetes Association, the Association of Diabetes Care and Education Specialists, the Academy of Nutrition and Dietetics, the American Academy of Family Physicians, the American Academy of PAs, the American Association of Nurse Practitioners, and the American Pharmacists Association [Internet]. J Acad Nutr Diet. 2020 Jun 8:S2212-2672(20)30440-8. doi: 10.1016/j.jand.2020.04.020. Epub ahead of print. PMID: 32527651. Available from: https://pubmed.ncbi.nlm.nih.gov/32527651/
[lxvii] Powers MA, Bardsley JK, Cypress M, Funnell MM, Harms D, Hess-Fischl A, Hooks B, Isaacs D, Mandel ED, Maryniuk MD, Norton A, Rinker J, Siminerio LM, Uelmen S. Diabetes self-management education and support in adults with type 2 diabetes: a consensus report of the American Diabetes Association, the Association of Diabetes Care and Education Specialists, the Academy of Nutrition and Dietetics, the American Academy of Family Physicians, the American Academy of PAs, the American Association of Nurse Practitioners, and the American Pharmacists Association [Internet]. J Acad Nutr Diet. 2020 Jun 8:S2212-2672(20)30440-8. doi: 10.1016/j.jand.2020.04.020. Epub ahead of print. PMID: 32527651. Available from: https://pubmed.ncbi.nlm.nih.gov/32527651/

Section 6.03 *Heart disease and stroke*

Overview

Heart disease, also called cardiovascular disease (CVD), is a top health concern for the country, state and county. Heart disease and stroke (a type of cerebrovascular disease) were the second and fifth leading causes of death in Durham County in 2018.[i] An estimated 19% of 2018 Durham deaths were caused by some form of heart disease, and 3.5% of deaths were the result of stroke or another form of cerebrovascular disease.[ii] Together, heart disease and stroke are among the most widespread and costly health problems facing Durham County today. Over 35% of the adult population in Durham County has some form of CVD.[iii]

Heart disease and stroke are among the most preventable chronic diseases. Risk factors such as high blood pressure, high cholesterol, cigarette smoking, diabetes, unhealthy diet, physical inactivity and obesity cause changes in the heart, arteries and vessels that can lead to heart attacks, heart failure and stroke. Hypertension is critical because more cardiovascular disease events in the U.S. have been attributed to this than any other modifiable risk factor.[iv] Risk of developing and dying from heart disease and stroke is reduced by improvements to diet, physical activity, control of blood pressure and cholesterol, smoking cessation and appropriate aspirin use.[v]

The Healthy NC 2020 plan successfully reduced the cardiovascular-related deaths to 161.5 per 100,000 residents by 2020.[vi] Although reducing cardiovascular related deaths is not a direct goal in the Healthy NC 2030 plan, the drivers most related to heart disease and stroke include:

Healthy NC 2030 Objectives

Health Indicator	North Carolina[vii]	Durham[viii]	2030 Target[ix]
Physical activity opportunities	74%	90%	92%
Limited access to healthy food[1]	7% (2015)	7%	5%
Tobacco use	Youth 19.8% (2017); Adults 23.8%	Data not available Adults 17%	Youth 9% Adults 15%
Adverse Childhood Experiences[2]	23.6% (2016-17) 15.3% (2018-19)[x]	Data not available	18%

Table 6.03(a). Healthy NC 2030 Objectives related to Heart Disease and Stroke[xi]

[1] For metropolitan communities, living close to a grocery store is defined as being less than a mile from a store; in rural areas, the threshold proximity is 10 miles from a grocery store

[2] Percent of children who have experienced two or more adverse experiences as defined by the Centers for Disease Control and Prevention, https://www.cdc.gov/violenceprevention/aces/index.html

Primary Data

The 2019 Durham Community Health Assessment Survey asked residents to choose the most important health problems in Durham County. In the overall Durham County survey, residents chose overweight/obesity (ranked #4; 17%), heart disease (#8; 9%), hypertension (#9; 8%) and tobacco (#10; 4%).[xii]

In November 2020, the American Heart Association (AHA) Triangle office completed its community health assessment that identified key community issues through data collection and stakeholder focus groups.[xiv] The focus groups were conducted with key community leaders from public health, government, business, schools, non-profits, local government and existing coalitions. This group of 40 leaders prioritized hypertension as the second most important issue for the American Heart Association and its partners to focus on for 2021. The top themes that emerged based on the conversations included:[xv]

- Partner with clinics, organizations, workplaces and community organizers to build a culture in which checking one's blood pressure is a social norm.
- Create opportunities and pathways so that people can have access to a blood pressure cuff.
- Everyone should know and understand their blood pressure numbers and understand the link to nutrition.

"Hypertension is the #1 cause of premature death in the world and US. Here in Durham there is a lot of uncontrolled blood pressure and a huge racial disparity. Everyone across the community should know their blood pressure."

"Empower people to have their own cuff, especially during a pandemic."

Quotes from 2020 AHA stakeholder

Secondary Data[xvii]

Controlled blood pressure is a key strategy to decreasing heart disease and stroke. Nearly half of all adults have high blood pressure (hypertension) defined as a systolic blood pressure ≥ 130 mm Hg or a diastolic blood pressure ≥ 80 mm Hg or are taking medication for hypertension.[xviii] Unfortunately, the prevalence of controlled blood pressure in the U.S. has decreased from 54% in 2013-2014 and 44% to 2017-2018.[xix]

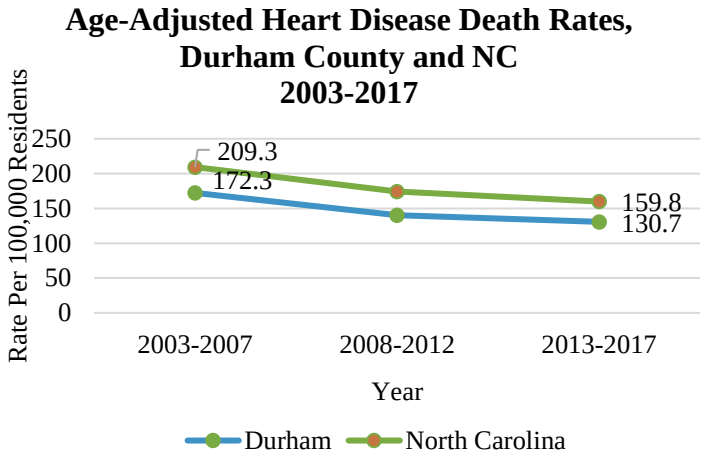


Figure 6.03(a) Age-adjusted Heart Disease Death Rates, 2003-2017[xiii]

Heart Disease

North Carolina has the 24th highest death rate from cardiovascular disease in the country. Across North Carolina, heart disease was responsible for 20% of leading causes of death in 2018 with a total of 19,254 deaths.[xx] Within Durham County, heart disease was slightly lower than NC at 18.8% of the leading causes of death with 290 deaths.[xxi]

Although heart disease mortality rates have been decreasing since the mid-1960s due to prevention and medical advances, the rates have not decreased equitably and there are large racial disparities (Figure 6.03(b)).[xxii, xxiii]

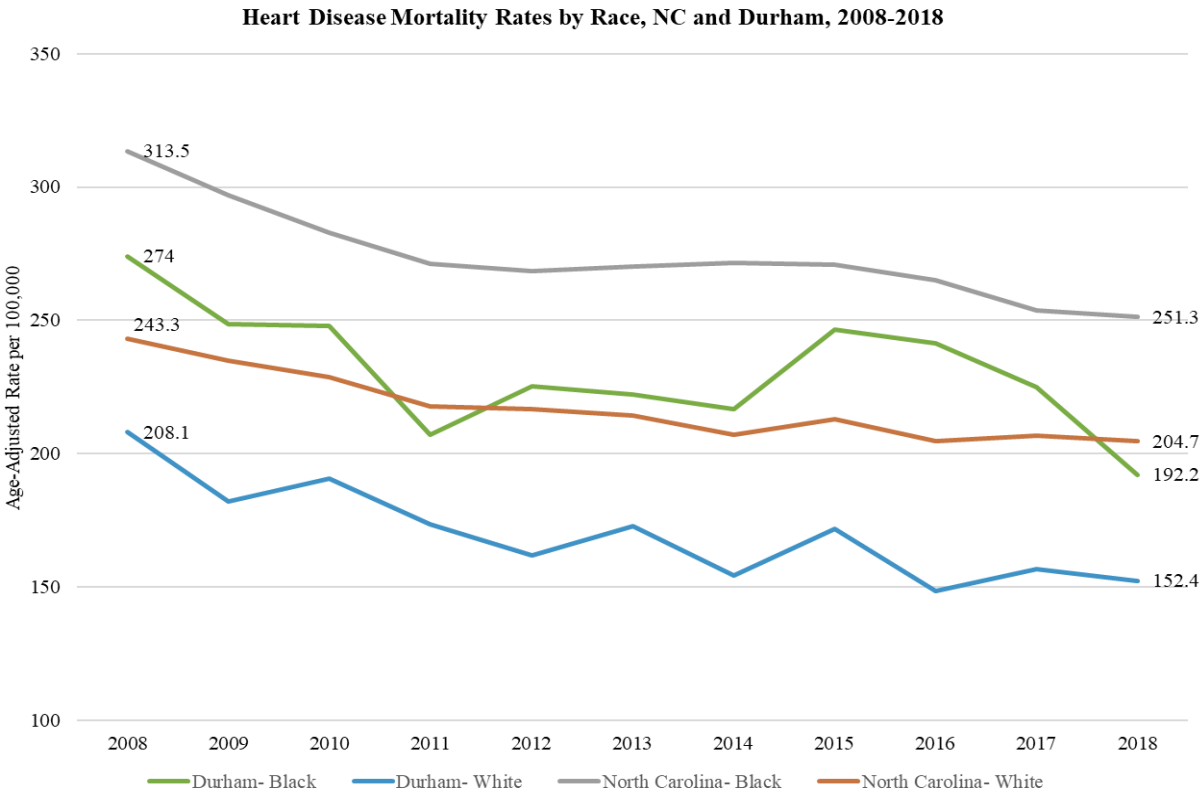


Figure 6.03(b). Heart Disease Death Rates by Race, 2008-2018[xxiv]

Stroke

Stroke is the fifth most common cause of death in NC, and like heart disease, is more common among older adults.[xxv] Within North Carolina, 0.8% of individuals between the ages of 18-44 have experienced strokes, 5% from ages 45-64 and 8.1% from ages 65 and older.[xxvi]

Figure 6.03(c) shows that stroke has decreased over the last decade and like heart disease, disparities by race remain and have grown over time.[xxvii]

According to the 2018 Behavioral Risk Factors Surveillance System (BRFSS) data, 34.6% of NC adults needed some form of outpatient rehabilitation after having a stroke and 80.8% of NC adults take aspirin to reduce the chance of stroke.[xxviii]

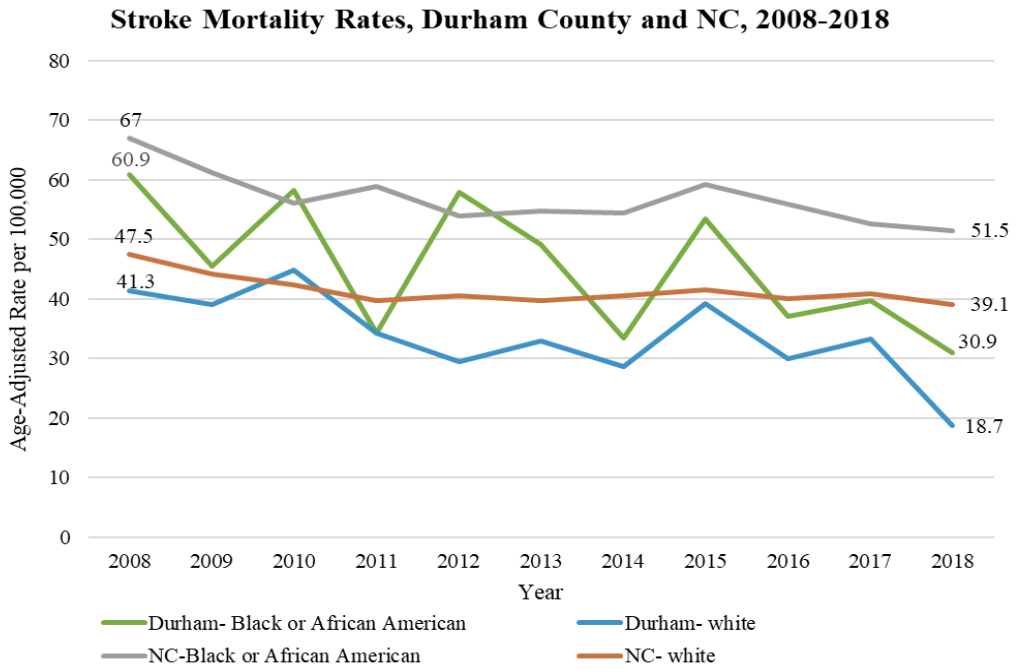


Figure 6.03(c). Stroke Mortality Rates by Race, 2008-2018[xxix]

Interpretations: Disparities, Gaps, Emerging Issues

Racial Disparities

As noted above, heart disease and stroke death rates have decreased for over 50 years, but whites have made more gains than Blacks. For example, Figure 6.03(b) shows that over the last decade whites went from 208 to 152 heart disease deaths per 100,000 whereas Blacks went from 274 to 192 deaths per 100,000.[xxx] Figure 6.03(c) shows that over the last decade, whites went from 41 to 19 stroke deaths per 100,000 whereas Blacks went from 61 to 31 deaths per 100,000. While rates have clearly decreased for both groups, the disparity for stroke went from 39% higher rates of stroke for Blacks to 48% higher rates compared to whites.[xxxi]

In addition, the disparities have been linked to the following in non-white communities, particularly African American communities.[xxxii]

- Higher prevalence of traditional risk factors (e.g., hypertension, diabetes mellitus, obesity)
- Adverse health behaviors (i.e., unhealthy eating, physical inactivity, smoking)
- Comorbidities (renal disease, sickle cell disease, HIV/AIDS)
- Contribution of genetics

Toxic Stress

Chronic or recurring stress such as racism, financial pressure and housing instability can be a major factor leading to heart disease and heart attack. People with lower incomes are more likely to report that they have a history of heart disease. In 2018, heart disease rates were highest for those with household incomes less than $15,000 at 17.4%. and lowest at 5.7% for those making $75,000 or more.[xxxiii]

The more Adverse Childhood Experiences (ACEs) an individual has, the greater the risk for health-related challenges in adulthood. This includes a higher risk for coronary heart disease, stroke, asthma and chronic obstructive pulmonary disease.[xxxiv] Preventing ACEs could have reduced the number of U.S. adults who had heart disease by as much as 13% – up to 1.9 million avoided cases, using 2017 national estimates.[xxxv]

Air Quality

Air pollution is a chronic physical stress on bodies and is directly connected to heart disease and stroke. Trees act as natural filters to reduce air particulate matter. Recent research shows that trees are a population-based approach to reducing heart disease. A study found that people living on blocks with higher levels of greenness had significantly lower levels of all four types of heart disease.[xxxvi] This is relevant in Durham because redlining maps in the 1930s correlates with the percentage of tree coverage paid for by the City. The legacy of unequal tree distribution is still visible today when comparing wealthy and poor neighborhoods in Durham.[xxxvii]

COVID-19

Older adults, people of color and people with chronic conditions such as hypertension, diabetes or heart disease are at higher risk for COVID-19. Research is beginning to show that some individuals who contract COVID-19 have long-term health consequences that can include organ damage to the heart and lungs and blood clots that can lead to a stroke.[xxxviii]

Recommended Strategies

- Promote the use of blood pressure self-management through clinic BP cuff loaner initiatives, prescribing BP cuffs for Medicaid patients and BP cuff stations at community sites (i.e. barbershops, churches) with linkage to clinic care. [xxxix, xl] Clinics should employ the MAP framework: Measure Accurately; Act Rapidly; and Partner With Patients, Families, and Communities.[xli]
- Equitably plant native trees and advocate for land use policies to retain trees in Durham. Trees have been shown to reduce asthma, strokes and heart attacks, rates of diabetes and hypertension. TreesDurham recommends the following policy strategies: 1) require developers plant street trees next to the street; 2) Require a 20% preservation of all trees in rural and suburban areas; 3) Fully fund the city's plan to plant 1,500 trees a year along streets.[xlii]

- Follow Life's Simple 7. To reduce one's risk of heart attacks and stroke, there are seven factors to keep in mind. These include an individual's: smoking status, diet, physical activity, body mass index (BMI), blood pressure, cholesterol and blood glucose.[xliii]
- Promote the use of community health workers and a team-based approach to address chronic conditions such as hypertension[xliv]
- Increase Durham residents who have been trained in hands-only CPR. Seventy percent of cardiac arrests happen in homes and 90% of people who suffer out-of-hospital cardiac arrests die. CPR, especially if performed immediately, can double or triple a cardiac arrest victim's chance of survival. [xlv]

Current Initiatives & Activities

American Heart Association – Triangle (AHA) AHA's work is guided by five pillars: 1) Leading breakthroughs in science and technology; 2) Changing systems; 3) Changing policy; 4) Transforming health care; and 5) Transforming communities. There are many resources available for the community, clinics, and patients on their website. Local health priorities are nutrition security, blood pressure, tobacco/vaping and hands-only CPR. www.heart.org/en/affiliates/north-carolina/triangle

Community Health Coalition provides culturally sensitive and specific health education, promotion and disease prevention activities to Durham's African American community. www.chealthc.org/

Duke Heart Center, Duke University Health System offers state-of-the-art cardiovascular service with a dual focus on clinical services and cardiovascular research. The program includes a Community Outreach and Education Program that offers heart health screenings, discussions, and health-education events. dukehealth.org/treatments/heart

Durham County Department of Public Health and its health educators address issues related to health promotion/disease prevention, wellness, chronic diseases and injuries through evidence-based programs, webinars and events. Intervention and educational activities are provided at community sites, schools, and clinics. dcopublichealth.org

Healing with CAARE, Inc. offers an integrative medicine approach to healing, combining holistic, non-invasive, and mind-body-soul techniques with traditional clinical care. CAARE's Free Clinic offers a variety of services provided by a rotation of volunteer health care providers, as well as a lab. CAARE focuses on the five most severe health disparities in the county - HIV/AIDS, diabetes, hypertension, obesity, and cancer. CAARE offers free blood pressure checks. caareinc.org/

Lincoln Community Health Center (LCHC) provides Primary Care (routine and urgent care) from 10 sites around Durham County. As a Federally Qualified Health Center, LCHC offers medical services and medications on a sliding scale based on household income information provided by the individual. Primary Care Providers offer free blood pressure cuffs and free

educational opportunities to patients with severe hypertension at high risk of heart attack or stroke. lincolnchc.org/

Root Causes Fresh Produce Program- The Fresh Produce Program offers local, fresh produce and shelf stable pantry items to Duke patients with underlying chronic diseases, such as heart disease, and food insecurity in the Durham Community. As of November 2020, contactless deliveries occur bi-weekly to over 200 participants in the community. www.rootcauseshealth.org

References

[i] ncdhhs.gov [Internet]. Leading Causes of Death in North Carolina: Health Data Query System. Raleigh (NC): NC Health and Human Services Department, NC State Center for Health Statistics; updated 2019 Nov 5 [cited 2020 Jul 26]. Available from: http://www.schs.state.nc.us/interactive/query/lcd/lcd.cfm
[ii] ncdhhs.gov [Internet]. Leading Causes of Death in North Carolina: Health Data Query System. Raleigh (NC): NC Health and Human Services Department, NC State Center for Health Statistics; updated 2019 Nov 5 [cited 2020 Jul 26]. Available from: http://www.schs.state.nc.us/interactive/query/lcd/lcd.cfm
[iii] Cardiovascular Team: Vascular Intervention Project. The Durham Health Innovations Project. Durham (NC: Durham Health Innovations; 2015 Sep [cited 2020 Dec 10]. https://sites.duke.edu/durhamhealthinnovations/files/2015/09/CVD-report.pdf
[iv] Muntner P, Hardy ST, Fine LJ, Jaeger BC, Wozniak G, Levitan E, Colantonio L. Trends in blood pressure control among US adults with Hypertension, 1999-2000 to 2017-2018 [Internet]. JAMA Network; 2020 Sep 9 [cited 2020 Dec 10];324(12):1190–1200. doi:10.1001/jama.2020.14545. Available from: https://jamanetwork.com/journals/jama/fullarticle/2770254
[v] Godley RW, Hernandez-Vila E. Aspirin for primary and secondary prevention of Cardiovascular Disease. Tex Heart Inst J; 2016; 43(4), 318-319. doi:10.14503/THIJ-16-58
[vi] ncdhhs.gov [Internet]. North Carolina statewide and county trends in key health indicators: Durham County. Raleigh (NC): Health and Human Services Department, State Center for Health Statistics; 2017 Feb [cited 2017 Jul 10]. Available from: http://www.schs.state.nc.us/data/keyindicators/reports/Durham.pdf
[vii] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Dec 8]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.
[viii] countyhealthrankings.org [Internet]. Health outcomes. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Sep]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/rankings/durham/county/outcomes/overall/snapshot
[ix] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2020 Nov 13]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[x] childhealthdata.org [Internet]. Adverse childhood experiences: children age 0-17 years, North Carolina. Baltimore (MD): Data Resource Center for Child & Adolescent Health, Child and Adolescent Health Measurement Initiative; c2020 [cited 2020 Dec 10]. Available from: https://www.childhealthdata.org/browse/survey/results?q=7915&r=35
[xi] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville, NC: c2020 [cited 2020 Nov 13]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xiii] ncdhhs.gov [Internet]. Key indicators. Raleigh (NC): NC State Center for Health Statistics; c2019. [cited 2020 Nov 13]. Available from: https://schs.dph.ncdhhs.gov/data/keyindicators/reports/Durham.pdf.

[xiv] heart.org [Internet]. Community Stakeholder sessions. Durham (NC): American Heart Association, Triangle Market; c2020 [cited 2020 Nov 24]. Available from: https://www.heart.org/en/affiliates/north-carolina/triangle
[xv] heart.org [Internet]. Community Stakeholder sessions. Durham (NC): American Heart Association, Triangle Market; c2020 [cited 2020 Nov 24]. Available from: https://www.heart.org/en/affiliates/north-carolina/triangle
[xvi] heart.org [Internet]. Community Stakeholder sessions. Durham (NC): American Heart Association, Triangle Market; c2020 [cited 2020 Nov 24]. Available from: https://www.heart.org/en/affiliates/north-carolina/triangle
[xvii] ncdhhs.gov [Internet]. Key indicators. Raleigh (NC): NC State Center for Health Statistics; c2019 [cited 2020 Nov 13]. Available from: https://schs.dph.ncdhhs.gov/data/keyindicators/reports/Durham.pdf.
[xviii] cdc.gov [Internet]. Blood pressure. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 13]. Available from: https://www.cdc.gov/bloodpressure/facts.htm.
[xix] Muntner P, Hardy ST, Fine LJ, Jaeger BC, Wozniak G, Levitan E, Colantonio L. Trends in blood pressure control among US adults with Hypertension, 1999-2000 to 2017-2018. JAMA Network; 2020 Sep 9;324(12):1190–1200. doi:10.1001/jama.2020.14545.
[xx] ncdhhs.gov [Internet]. Leading causes of death in North Carolina. Raleigh (NC): NC Health and Human Services Department, NC State Center for Health Statistics; 2019 Nov 5 [cited 2020 Jul 10]. Available from: http://www.schs.state.nc.us/interactive/query/lcd/lcd.cfm
[xxi] ncdhhs.gov [Internet]. Leading causes of death in North Carolina. Raleigh (NC): NC Health and Human Services Department, NC State Center for Health Statistics; 2019 Nov 5 [cited 2020 Jul 26]. Available from: https://schs.dph.ncdhhs.gov/interactive/query/lcd/getleadcauses.cfm
[xxii] Dalen JE, Alpert JS, Goldberg RJ, Weinstein RS. The epidemic of the 20th century: coronary heart disease [Internet]. American Journal of Medicine. 2014 [cited 2020 Nov 13]; 127(9):807-812. Available from: http://dx.doi.org/10.1016/j.amjmed.2014.04.015
[xxiii] wonder.cdc.gov [Internet]. Atlanta: CDC WONDER; c2019. [cited 2020 November 13]. Available from: https://wonder.cdc.gov/ucd-icd10.html
[xxiv] ncdhhs.gov [Internet]. Leading causes of death in North Carolina. Raleigh (NC): NC Health and Human Services Department, NC State Center for Health Statistics; 2019 Nov 5 [cited 2020 Jul 10]. Available from: http://www.schs.state.nc.us/interactive/query/lcd/lcd.cfm
[xxv] stroke.org [Internet]. North Carolina fact sheet. Durham (NC): American Heart Association; c2017 [cited 2020 Dec 13]. Available from: https://www.stroke.org/-/media/files/about-us/policy-research/fact-sheets/quality-systems-of-care/quality-systems-of-care-north-carolina.pdf
[xxvi] americashealthrankings.org [Internet]. Stroke in North Carolinas. United Health Foundation; c2019 [cited 2020 Jul 16]. Available from: https://www.americashealthrankings.org/explore/annual/measure/Stroke/state/NC
[xxvii] wonder.cdc.gov [Internet]. About underlying cause of death, 1999-2019. Atlanta (GA): Centers for Disease Control and Prevention; c2019 [cited 2020 Nov 13]. Available from: https://wonder.cdc.gov/ucd-icd10.html.
[xxviii] ncdhhs.gov [Internet]. 2018 BRFSS Survey Results: North Carolina: chronic health conditions. Raleigh (NC): NC State Center for Health Statistics, NC Public Health; c2019 [cited 2020 Jul 20]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/risk/staspirin.html
[xxix] wonder.cdc.gov [Internet]. About underlying cause of death, 1999-2019. Atlanta (GA): Centers for Disease Control and Prevention; c2019 [cited 2020 Nov 13]. Available from: https://wonder.cdc.gov/ucd-icd10.html.
[xxx] wonder.cdc.gov [Internet]. About underlying cause of death, 1999-2019. Atlanta (GA): Centers for Disease Control and Prevention; c2019 [cited 2020 Nov 13]. Available from: https://wonder.cdc.gov/ucd-icd10.html.

[xxxi] wonder.cdc.gov [Internet]. About underlying cause of death, 1999-2019. Atlanta (GA): Centers for Disease Control and Prevention; c2019 [cited 2020 Nov 13]. Available from: https://wonder.cdc.gov/ucd-icd10.html.

[xxxii] Carnethon MR, Pu J, Howard G, Albert MA, Anderson CAM, Bertoni AG, Mujahid MS, Palaniappan L, Taylor HA Jr, Willis M, Yancy CW; American Heart Association Council on Epidemiology and Prevention; Council on Cardiovascular Disease in the Young; Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; Council on Functional Genomics and Translational Biology; and Stroke Council. Cardiovascular health in African Americans: a scientific statement from the American Heart Association. Circulation. 2017 Nov 21;136(21):e393-e423. doi: 10.1161/CIR.0000000000000534. Epub 2017 Oct 23. PMID: 29061565. Available from: https://www.ahajournals.org/doi/10.1161/CIR.0000000000000534

[xxxiii] ncdhhs.gov [Internet]. 2018 BRFSS Survey Results: North Carolina: chronic health conditions. Raleigh (NC): NC State Center for Health Statistics, NC Public Health; c2019 [cited 2020 Jul 20]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/cvdhist.html

[xxxiv] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2020 Nov 13]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.

[xxxv] cdc.gov [Internet]. Preventing adverse childhood experiences (ACEs) to improve U.S. health [press release]. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2019 Nov 5]. Available from: https://www.cdc.gov/media/releases/2019/p1105-prevent-aces.html

[xxxvi] South, E. The healing power of nature. Philadelphia (PA): Nature Sacred and Pennsylvania Horticultural Society; c2019 [cited 2020 Nov 15]. Available from: https://naturesacred.org/wp-content/uploads/2019/10/FT1901_Nature_Sacred_Report_lowres_reference-1.pdf.

[xxxvii] Shelton-Ormond C, Stasio F. Planting inequality: how Durham's trees show a history of marginalization [Internet]. Durham (NC): WUNC Radio; 2017 Jul 4 [cited 2020 Nov 15]. Available from: https://www.wunc.org/post/planting-inequality-how-durham-s-trees-show-history-marginalization

[xxxviii] mayoclinic.org [Internet]. COVID-19 (coronavirus): long-term effects. Rochester (MN): Mayo Clinic; c2020 [cited 2020 Nov 13]. Available from: https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/coronavirus-long-term-effects/art-20490351.

[xxxix] medicaid.ncdhhs.gov [Internet]. Special bulletin COVID-19 #29: coverage for automatic blood pressure monitors: temporary flexibilities effective March 30, 2020. Raleigh (NC): NC Medicaid Division of Health Benefits; c2020 [cited 2020 Nov 15]. Available from: https://medicaid.ncdhhs.gov/blog/2020/03/31/special-bulletin-covid-19-29-coverage-automatic-blood-pressure-monitors-temporary

[xl] www.countyhealthrankings.org [Internet]. Chronic disease self-management (CDSM) programs. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Nov 13]. Available from: https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/chronic-disease-self-management-cdsm-programs.

[xli] Boonyasai RT, Rakotz MK, Lubomski LH, Daniel DM, Marsteller JA, Taylor KS, Cooper LA, Hasan O, Wynia MK. Measure accurately, act rapidly, and partner with patients: an intuitive and practical three-part framework to guide efforts to improve hypertension control. J Clin Hypertens (Greenwich). 2017 Jul [cited 2020 Nov 14];19(7):684-694. doi: 10.1111/jch.12995. Epub 2017 Mar 23. PMID: 28332303. Available from: https://pubmed.ncbi.nlm.nih.gov/28332303/

[xlii] treesdurham.org [Internet]. Durham (NC): TreesDurham; c2020 [cited 2020 Nov 13]. Available from: https://www.treesdurham.org/

[xliii] heart.org [Internet]. What is my life check? Dallas (TX): American Heart Association; c2020 [cited 2020 Nov 13]. Available from: https://www.heart.org/en/healthy-living/healthy-lifestyle/my-life-check--lifes-simple-7

[xliv] www.countyhealthrankings.org [Internet]. Community health workers. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2016 [cited 2020 Nov 13]. Available from: https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/community-health-workers.

[xlv] cpr.heart.org [Internet]. Hands-only CPR resources. Dallas (TX): American Heart Association; c2020 [cited 2020 Nov 15]. Available from: https://cpr.heart.org/en/cpr-courses-and-kits/hands-only-cpr/hands-only-cpr-resources

Section 6.04 *Obesity*

Overview

Obesity is a term used to describe an individual whose weight is higher than what is considered a healthy weight for a given height. It is also characterized by an excessive accumulation of body fat. There are several tools used to measure weight and body fat composition. The most common tool is Body Mass Index or BMI, which gives an estimate of weight status. [i] It is not diagnostic of the body fatness or the health of the individual and does not distinguish between fat weight and fat-free weight (the body's nonfat tissue, such as bone, water, muscle, connective tissue, organ tissues and teeth). More direct tools to measure body fat include Bioelectrical Impedance Analysis, skinfold measurement, Hydrostatic (underwater) Weighing and other scanning procedures.[ii] Descriptions of these tools are included in table 6.04(a) below.

Weight and Body Fat Measurement Tools

Measuring Tools	Description
BMI	Weight (kg)/(Height in meters)^2 [units: kg/m2]
Bioelectrical Impedance Analysis (BIA)	Stand barefoot on scale-like instrument, using a handheld machine. Very low electrical current is sent through the body. Percent body fat is calculated from the measurements of resistance to the current.
Skinfold Measurement	Measures the thickness of skinfolds at different sites on the body using calipers.
Hydrostatic (Underwater) Weighing	First measurement is on a scale. Then the person is submerged and weighed under water. The amount of water displaced is used to calculate percent body fat.

Table 6.04(a) Weight and body fat measurement tools[iii]

There are multiple factors that contribute to weight gain that can eventually lead to obesity. These factors include sedentary activities, dietary patterns, medication use and genetics.[iv,v] If not addressed, obesity can increase the risk of type 2 diabetes, heart disease, stroke and some cancers. Obesity is associated with poorer mental health outcomes and a reduced quality of life.[vi]

A child's weight or body composition varies as they age and between boys and girls. Obesity is measured using age- and sex-specific percentiles. The Centers for Disease Control and Prevention (CDC) Growth Charts are commonly used to measure growth patterns of children in the United States.[vii] Similar to adults, obesity in children can contribute to negative health outcomes such as breathing problems (asthma and sleep apnea), joint problems, fatty liver disease, bullying stigma, low self-esteem, anxiety and depression.[viii] Addressing childhood obesity is important because children with obesity are more likely to become adults with obesity.[ix,x]

Primary Data

In the 2019 Durham County Community Health Assessment Survey, the Countywide sample of residents identified obesity as one of the top five county health concerns at 17%, with 23% identifying diabetes as the top concern.[xi] The survey also noted some potential contributors to an obesogenic environment in Durham. First, residents indicated that improving physical activity infrastructure was the third most important thing that could be done to support the Durham community. When asked what improvements could be made to motivate residents to walk more, the top responses were more sidewalks that connect to other places, more trails and off-road paths and more crosswalks and walking bridges. With respect to food, residents noted lack of time to cook healthy meals and cost as the top two barriers to eating healthy. Additionally, 14.8% of residents reported always eating healthy. About one in 10 people (10.2%) reported skipping meals because they didn't have enough money to buy food. Black residents (14.9%) were significantly more likely than white residents (6.6%) to have skipped a meal either sometimes or frequently in the past year. The likelihood of skipping meals for Hispanic or Latino residents was 12.6%, however these results are not directly comparable to those of Black and white respondents due to the small sample size.[xii]

Secondary Data

According to the 2020 Robert Wood Johnson Foundation County Health Rankings for North Carolina, Durham County is currently ranked 15th in the state for health behaviors such as obesity, physical inactivity and food environment.[xiii] About 25% of adults in Durham County report having obesity, which is defined as a body mass index (BMI) greater than or equal to 30 kg/m^2.[xiv] The prevalence of obesity for Durham County is lower than state and national values, which are 33% and 30.9%, respectively.[xv] Additionally, Durham has an equal or lower percentage of reported obesity among its peer counties (Table 6.04(b)).[xvi] Across North Carolina, the prevalence of obesity varies among different racial and ethnic groups and is most prevalent in African American, Non-Hispanic populations (Table 6.04(c); based on 2020 County Health Rankings, which used data from 2016).[xvii]

Prevalence of Obesity in Durham and Peer Counties, 2016

County	Percentage of adults age 20 and over reporting obesity
Durham	25%
Wake	25%
Forsyth	33%
Guilford	33%
Cumberland	34%

Table 6.04(b). Prevalence of adult obesity in local North Carolina counties,2016[xviii]

Percentage of adults with Obesity in 2018, by Race and Ethnicity in North Carolina and U.S.

Race/Ethnicity	North Carolina	United States
Total	33.0%	30.9%
America Indian/Alaskan Native, Non-Hispanic	58.6%	39.0%
Black, Non-Hispanic	44.8%	39.9%
Hispanic/Latino	30.6%	34.2%
Multiracial	36.6%	32.0%
White, Non-Hispanic	29.4%	29.9%

Table 6.04(c). Percentage of adults with obesity in 2018, based on CDC Behavioral Risk Factor Surveillance System data[xix]

Interpretations: Disparities, Gaps, and Emerging Issues

Identifying overweight and obesity prevalence by race and ethnicity can help determine where health disparities are occurring. While race or ethnicity does not "cause" overweight or obesity, it is likely that related factors such as access to healthcare, eating behaviors, exercise, income, education and racism impact the prevalence of cases of unhealthy weight.[xx] As shown in Table 6.04(c) above, there are higher percentages of Black non-Hispanic and American Indian or Alaskan Native non-Hispanic adults with obesity compared to the average among all races and ethnicities. This is both in the United States and North Carolina.[xxi]

Approximately 13.3% North Carolina children age 10 to 17 years of age have obesity while nationally about 15.1% of children age 10 to 17 have obesity.[xxii] Disparities in obesity rates among children are similar to those among adults. In North Carolina, approximately 10.1% of white non-Hispanic children, 16.4% of Black non-Hispanic children, and 24.3% of Hispanic children have obesity.[xxiii]

Data at the neighborhood level in Durham County show that in 2017, 12.9% of adults in Durham County had diabetes.[xxiv] Census tracts in central and north eastern Durham consistently had adult diabetes percentages over the county average with the highest rate of 21.6%.[xxv] This demonstrates the potential effect of an individual's neighborhood or location within Durham County on their likelihood of having diabetes, since factors such as lack of access to physical activity opportunities, healthcare and other social determinants related to where an individual lives can increase the likelihood for diabetes.[xxvi]

Recommended Strategies

North Carolina has developed evidence-based resources and guides suggesting ways to address obesity. These guides also provide ways to support children and adults achieving a healthy weight and a healthy lifestyle.[xxvii] Below are suggested strategies for achieving and maintaining a healthy lifestyle.

- Increase physical activity. The Center for Disease Control and Prevention suggests that children and adolescents get 60 minutes of moderate-to-vigorous physical activity every day and adults get at least 150 minutes of moderate activity a week. In addition, for children and adults, physical activity should include muscle-strengthening exercises.[xxviii]
- Decrease sedentary time screen time.[xxix]
- Eat more healthy foods and less junk and fast foods. State guidelines suggest prioritizing nutrient dense foods and limit foods that contain a high number of calories from fat and sugar.[xxx]
- Eat more fruits and vegetables. According to Federal and State nutrition guidelines, individuals should consume 2 cups of fruit and 2.5 cups of vegetables each day. As much as possible, individuals should consume a variety of colors of fruits and vegetables.[xxxi,xxxii]
- Drink more water and less sugar-sweetened beverages like soda, sweet tea, energy drinks, and sports drinks.[xxxiii] More information on any of the above recommendations for North Carolina can be found through the *Eat Smart, Move More* resources.[xxxiv]

On a state and local level, public health organizations can distribute information and educate the public about healthy lifestyle strategies and state or local wide initiatives.[xxxv] Communities can focus on health promotion within community organizations. For example, schools, religious institutions, workplaces, hospitals or other public spaces are opportunities to reinforce healthy lifestyle behavior, provide strategies to be more physically active and provide access to healthy food options.[xxxvi,xxxvii] Additionally, altering the state or local environment to be more conducive to physical activity or to make healthy options more available can also be successful strategies for addressing obesity.[xxxviii]

Current Initiatives & Activities

Partnership for a Healthy Durham: The Obesity, Diabetes and Food Access committee aims to provide a community-based approach to address obesity and factors that contribute to it. Some of their work includes creating Healthy Mile Trails throughout Durham to make it easier for Durham residents to be physically active and reviewing school meal vendors and menu items for nutritious choices. Their monthly committee meeting is open to the public. healthydurham.org/committees/obesity-and-chronic-illness-committee

Durham County Department of Public Health (DCoDPH) offers multiple services addressing healthy weight within their Nutrition Division and Health Education & Community Transformation Division. Some of these include:

- Durham's Innovative Nutrition Education (DINE) program offers school- and community-based nutrition education & culinary workshops in a variety of settings for all ages.
- Clinical Nutrition Services offers one-on-one nutrition counseling on a variety of nutrition issues including weight management.
- Health Promotion and Wellness provides educational programs to adults in community, faith-based and workplace settings. Some program topics include cardiovascular health, physical activity, obesity, and diabetes.

- Online Webinars cover a variety of topics ranging from chronic disease prevention and behavior change, to reducing stress, fitting in physical activity and so much more. Registration is free. www.dconc.gov/publichealth

Duke University Health System has numerous initiatives and programs that address obesity

- Duke Healthy Campus Initiative engages students, faculty, and staff across the Duke community to improve their health and quality of life. Focus areas include food & nutrition and physical activity & movement. healthy.duke.edu
- Live for Life, Duke's employee wellness program, offers a variety of programs and services, such as health assessments, health education, and fitness & nutrition activities. hr.duke.edu/wellness/live-life
- Healthy Lifestyles Program provides childhood obesity treatment by offering caring providers, family-centered treatment programs, highly trained educators and researchers, and strong community partnerships. pediatrics.duke.edu/divisions/healthy-lifestyles-program
- Bull City Fit partners Duke Health and Durham Parks & Recreation to offer free, safe, inclusive wellness programming for children who have obesity. Programs are offered at Edison Johnson Recreation Center for patients of the Duke Healthy Lifestyles clinic, and WD Hill Recreation Center for patients of Lincoln Community Health Clinic. www.bullcityfit.org
- Duke Center for Childhood Obesity Research (DCCOR) conducts innovative interdisciplinary research related to obesity prevention & treatment (including weight stigma) that seeks to change practice & policy to help children lead healthier lives.
- Duke Center for Living Campus hosts many health and wellness programs and includes the Duke Health and Fitness Center, a medically-based, community fitness center. www.dukehealth.org/locations/duke-center-living-campus
- Duke Diet and Fitness Center treats individuals who have weight-related health problems. They impact weight loss through physical conditioning and improved self-care habits. www.dukedietandfitness.org

North Carolina Alliance for Health is a coalition of partners aiming to advance equitable policies to improve health and promote health equity. Two of their primary focus areas include healthy food access and active living. www.ncallianceforhealth.org/

Durham Parks and Recreation Department hosts numerous fitness classes and coordinates a wide variety of sports for all ages, from young children to older adults. www.dprplaymore.org/

References

[i] cdc.gov [Internet]. Defining adult overweight and obesity. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 6]. Available from: https://www.cdc.gov/obesity/adult/defining.html
[ii] cdc.gov [Internet]. Defining adult overweight and obesity. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 6]. Available from: https://www.cdc.gov/obesity/adult/defining.html
[iii] Insel PM, Roth WT, Insel CE. Connect core concepts in health. 15th ed. New York, NY: McGraw-Hill Education; 2017.
[iv] cdc.gov [Internet]. Adult Obesity Causes & Consequences. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 6]. Available from: https://www.cdc.gov/obesity/adult/causes.html
[v] who.int [Internet]. Obesity and overweight. Geneva: World Health Organization; 2020 Apr 1 [cited 2020 Aug 6]. Available from: https://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight
[vi] cdc.gov [Internet]. Adult Obesity Causes & Consequences. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 6]. Available from: https://www.cdc.gov/obesity/adult/causes.html
[vii] cdc.gov [Internet]. Defining Childhood Obesity. Atlanta (GA): Centers for Disease Control and Prevention; c2018 [cited 2020 Aug 6]. Available from: https://www.cdc.gov/obesity/childhood/defining.html
[viii] cdc.gov [Internet]. Childhood obesity causes & consequences. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 6]. Available from: https://www.cdc.gov/obesity/childhood/causes.html
[ix] cdc.gov [Internet]. Childhood obesity causes & consequences. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 6]. Available from: https://www.cdc.gov/obesity/childhood/causes.html
[x] Singh AS, Mulder C, Twisk JW, van Mechelen W, Chinapaw MJ. Tracking of childhood overweight into adulthood: a systematic review of the literature. Obes Rev [Internet]. 2008 Sep [cited 2020 Aug 16];9(5):474-88. doi: 10.1111/j.1467-789X.2008.00475.x. Epub 2008 Mar 5. PMID: 18331423. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-789X.2008.00475.x
[xi] healthydurham.org. 2019 Durham County Community Health Assessment Survey, County Wide Results [Internet]. Durham: Partnership for a Healthy Durham; c2020 [cited 2020 Aug 16]. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xiii] countyhealthrankings.org [Internet]. Health behaviors. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 16]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/rankings/factors/3
[xiv] countyhealthrankings.org [Internet]. North Carolina: adult obesity. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 16]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/measure/factors/11/data

[xv] americanshealthrankings.org [Internet]. Obesity in North Carolina. Minnetonka (MN): United Health Foundation; c2020 [cited 2020 Aug 16]. Available from: https://www.americashealthrankings.org/explore/annual/measure/Obesity/state/NC
[xvi] countyhealthrankings.org [Internet]. North Carolina: adult obesity. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 16]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/measure/factors/11/data
[xvii] United Health Foundation. Obesity in North Carolina [Internet]. America's health rankings; c2020 [cited 2020 Aug 16]. Available from: https://www.americashealthrankings.org/explore/annual/measure/Obesity/state/NC
[xviii] countyhealthrankings.org [Internet]. North Carolina: adult obesity. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Aug 16]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/measure/factors/11/data
[xix] americanshealthrankings.org [Internet]. Obesity in North Carolina. Minnetonka (MN): United Health Foundation; c2020 [cited 2020 Aug 16]. Available from: https://www.americashealthrankings.org/explore/annual/measure/Obesity/state/NC
[xx] Petersen R, Pan L, Blanck HM. Racial and ethnic disparities in adult obesity in the United States: CDC's tracking to inform state and local action [Internet]. Prev Chronic Dis. 2019;16:180579. Available from: http://dx.doi.org/10.5888/pcd16.180579
[xxi] americanshealthrankings.org [Internet]. Obesity in North Carolina. Minnetonka (MN): United Health Foundation; c2020 [cited 2020 Aug 16]. Available from: https://www.americashealthrankings.org/explore/annual/measure/Obesity/state/NC
[xxii] childhealthdata.org [Internet]. National survey of children's health (2016 - present), North Carolina. NSCH interactive data query (2016 – 2018). Baltimore (MD): Data Resource Center for Child and Adolescent Health; c2020 [cited 2020 Sep 24]. Available from: https://www.childhealthdata.org/browse/survey/results?q=7337&r=35
[xxiii] childhealthdata.org [Internet]. National survey of children's health (2016 - present), North Carolina. NSCH interactive data query (2016 – 2018). Baltimore (MD): Data Resource Center for Child and Adolescent Health; c2020 [cited 2020 Sep 24]. Available from: https://www.childhealthdata.org/browse/survey/results?q=7337&r=35
[xxiv] DataWorks NC with Research Action Design. Diabetes (adult population) (census tracts) [Internet]. Durham (NC): Durham Neighborhood Compass; c2020 [cited 2020 Aug 16]. Available from: https://compass.durhamnc.gov/en/compass/DIABETES_TOTAL/tract
[xxv] DataWorks NC with Research Action Design. Diabetes (adult population) (census tracts) [Internet]. Durham (NC): Durham Neighborhood Compass; c2020 [cited 2020 Aug 16]. Available from: https://compass.durhamnc.gov/en/compass/DIABETES_TOTAL/tract
[xxvi] Petersen R, Pan L, Blanck HM. Racial and ethnic disparities in adult obesity in the United States: CDC's tracking to inform state and local action [Internet]. Prev Chronic Dis. 2019;16:180579. Available from: http://dx.doi.org/10.5888/pcd16.180579
[xxvii] eatsmartmovemorenc.com [Internet]. Raleigh (NC): Eat Smart, Move More NC; c2020 [cited 2020 Aug 12]. Available from: https://www.eatsmartmovemorenc.com/
[xxviii] cdc.gov [Internet]. Physical activity recommendations for different age groups. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 24]. Available from: https://www.cdc.gov/physicalactivity/basics/age-chart.html
[xxix] eatsmartmovemorenc.com [Internet]. North Carolina's plan to address overweight and obesity. Raleigh (NC): Eat Smart, Move More NC; c2020 [cited 2020 Aug 12]. Available from: https://www.eatsmartmovemorenc.com/wp-content/uploads/2019/11/ESMM-NCPlanToAddressObesity2019.pdf
[xxx] eatsmartmovemorenc.com [Internet]. North Carolina's plan to address overweight and obesity. Raleigh (NC): Eat Smart, Move More NC; c2020 [cited 2020 Aug 12]. Available

from: https://www.eatsmartmovemorenc.com/wp-content/uploads/2019/11/ESMM-NCPlanToAddressObesity2019.pdf

[xxxi] eatsmartmovemorenc.com [Internet]. North Carolina's plan to address overweight and obesity. Raleigh (NC): Eat Smart, Move More NC; c2020 [cited 2020 Aug 12]. Available from: https://www.eatsmartmovemorenc.com/wp-content/uploads/2019/11/ESMM-NCPlanToAddressObesity2019.pdf

[xxxii] Choosemyplate.gov [Internet]. All about the vegetable group. Washington, DC: U.S. Department of Agriculture; c2020 [cited 2020 Sep24]. Available from: https://www.choosemyplate.gov/eathealthy/vegetables

[xxxiii] eatsmartmovemorenc.com [Internet]. North Carolina's plan to address overweight and obesity. Raleigh (NC): Eat Smart, Move More NC; c2020 [cited 2020 Aug 12]. Available from: https://www.eatsmartmovemorenc.com/wp-content/uploads/2019/11/ESMM-NCPlanToAddressObesity2019.pdf

[xxxiv] eatsmartmovemorenc.com [Internet]. Raleigh (NC): Eat Smart, Move More NC; c2020 [cited 2020 Aug 12]. Available from: https://www.eatsmartmovemorenc.com/

[xxxv] cdc.gov. Strategies to prevent obesity [Internet]. Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 4]. Available from: https://www.cdc.gov/obesity/strategies/index.html

[xxxvi] cdc.gov [Internet]. Strategies to prevent obesity. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 4]. Available from: https://www.cdc.gov/obesity/strategies/index.html

[xxxvii] Eat Smart, Move More North Carolina Leadership Team. North Carolina's plan to address overweight and obesity: healthy weight and healthy communities 2013-2020 [Internet]. Raleigh (NC): Eat Smart, Move More NC; c2013 [cited 2020 Aug 12]. Available from: https://www.eatsmartmovemorenc.com/wp-content/themes/esmm/assets/downloads/plan/NC_Obesity_Prevention_Plan_2013-2020.pdf

[xxxviii] Eat Smart, Move More North Carolina Leadership Team. North Carolina's plan to address overweight and obesity: healthy weight and healthy communities 2013-2020 [Internet]. Raleigh (NC): Eat Smart, Move More NC; c2013 [cited 2020 Aug 12]. Available from: https://www.eatsmartmovemorenc.com/wp-content/themes/esmm/assets/downloads/plan/NC_Obesity_Prevention_Plan_2013-2020.pdf

Section 6.05 *Mental health and substance use disorder*

Overview

Mental health and substance use disorders are among the top conditions for disability and burden of disease and cost to families, employers and publicly funded health systems in the United States.[i] Mental health and substance use disorders have direct costs such as prevention, treatment and recovery supports. There are also indirect costs such as motor vehicle accidents, premature death, comorbid health conditions, disability and lost productivity, unemployment, poverty, school difficulties, engagement with social service, juvenile justice and criminal justice systems and homelessness among other problems.[ii] "The term 'functional' mental illness applies to mental disorders other than dementia, and includes severe mental illness such as schizophrenia and bipolar mood disorder. Symptoms of these disorders frequently persist into old age or, less frequently, begin in old age."[iii]

According to the Robert Wood Johnson Foundation (RWJF) County Health Rankings, Durham County had one mental health provider for every 180 Durham County residents in 2019.[iv] The ratio was 440 to one for North Carolina. The ratio was 310 to one for Top U.S. performers.[v]

Healthy NC 2030 Objective

Healthy NC 2030 Objective	Current Durham	Current NC	2030 Target
Suicide rate (per 100,000 population)[vi]	8.5 (2014-2018)[vii]	13.8 (2018)[viii]	11.1[ix]
Excessive Drinking Among NC Adults[x]	17% (2017)[xi]	16.0% (2018)[xii]	12.0%[xiii]

Table 6.05(a) Healthy NC 2030 Objective

Primary Data

2017 Youth Risk Behavior Survey (YRBS)

The YRBS is a Centers for Disease Control and Prevention (CDC) survey designed to monitor priority risk behaviors.[xiv] It is administered every two years and uses a sample of middle schools and high schools in the Durham Public Schools system.

Findings from Durham's 2017 YRBS indicated that of the high school students surveyed: [xv, xvi]

- 30% reported depression in the past year (feeling so sad or hopeless almost every day for two weeks or more in a row that they stopped doing usual activities), a 3% increase from 2015
- 16% considered committing suicide
- 21% had one or more drinks of alcohol in the past 30 days, a 4% decrease from 2015

Findings for the 2017 YRBS showed that middle school students who answered the survey:[xvii, xviii]

- 26% reported depression in the past year (feeling so sad or hopeless almost every day for two weeks or more in a row that they stopped doing usual activities), unchanged from 2015
- 25% considered committing suicide
- The percentage of middle school students who considered committing suicide was 4% higher than the state average

The percentages of middle and high school students who reported feelings of depression remained stabled between the 2015 and 2017 YRBS. More middle school students than high school students have considered suicide. It should be noted that the percentage of middle school students in Durham County who considered committing suicide was slightly higher when compared to the percentage of middle school students across North Carolina.

2019 Durham County Community Health Assessment Survey

Most residents in the 2019 Community Health Assessment County wide sample reported that they did not experience poor mental health for any days or for only one to two days during the previous 30 (65.3%).[xix] About 17% of respondents reported they had experienced poor mental health days for 15 or more days out of the last 30.[xx] Most Latino or Hispanic Durham County residents reported in the 2019 Community Health Assessment survey they did not experience poor mental health for any days (56.4%) or only for one to two days (12.3%) during the past 30.[xxi] However, about eleven percent (11.1%) of respondents reported that they experienced problems with their mental health for 15 or more days out of the last 30.[xxii]

Secondary Data

Individuals with Medicaid or without insurance and no ability to pay are served by the public mental health system, managed by Alliance Health Managed Care Organization (MCO). Alliance Health is a regional public agency that is responsible for managing behavioral health and developmental disability services in the counties of Cumberland, Durham, Wake and Johnston. Alliance Health recruits and monitors direct service providers of care, develops an adequate network of needed services, manages capitated funding from Medicaid and grant funding from the counties and state for behavioral health prevention and treatment services and staffs a 24/7 call center for information and access to services. In Fiscal Year 2020 (July 1, 2019-June 30, 2020), Alliance Health partnered with a network of over 800 provider entities. During this same period, the organization served 43,994 individuals on Medicaid and another 17,418 individuals through state funding.[xxiii]

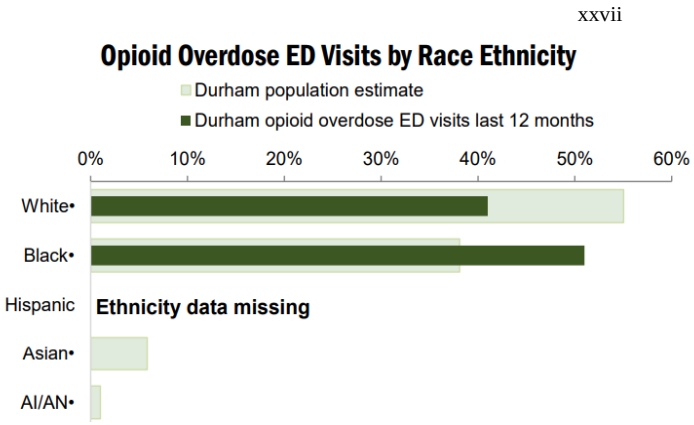
Opioids

In 2018, almost five North Carolinians died daily from an unintentional opioid overdose.[xxiv] Between 1999 and 2018, more than 14,500 North Carolinians died because of unintentional opioid overdose.[xxv] To address the opioid crisis, the North Carolina Department of Health and Human

Services (NC DHHS) worked with community partners to create North Carolina's Opioid Action Plan (NC OAP). The NC OAP launched in June 2017. The plan focused on 13 metrics to track and monitor the opioid epidemic. The opioid data dashboard on the NC DHHS site provides a visualization of state and county-level data for stakeholders and track progress towards meeting the NC OAP goals.[xxvi]

Between January and November 2020, Durham County had 186 opioid overdose Emergency Department (ED) visits.[xxviii] This is compared to 159 overdose ED visits for the same time period in 2019.[xxix] The age group with the highest opioid overdose by age group are 25 to 34 year-olds.[xxx] This age group is overrepresented in ED visits due to opioid overdose compared to their population estimate.[xxxi] In Durham County, Blacks make up the largest ethnic group with opioid overdose ED visits in the last 12 months.[xxxii] This is reversed from the statewide trend where whites make up the largest population of opioid overdose ED visits.[xxxiii]

[xxvii]



ACEs

Research in Adverse Childhood Experiences (ACEs) has increased recently with studies finding a strong correlation between child adversity and multiple public health outcomes.[xxxiv] ACEs are "potentially traumatic events that occur in childhood (0-17 years)" such as experiencing or witnessing violence.[xxxv] Addition factors include growing up in a household with substance misuse, mental health problems, or instability.[xxxvi] The original ACEs research focused on factors in the home such as abuse, neglect and other challenges. Researchers agree that child adversity includes additional experiences and a larger set of ACEs measures are needed. Exposure to racism is a growing area of research being considered for an "enhanced" measure.[xxxvii]

Resilience

Children's experiences of adversity and trauma can have lifelong impacts on health and well-being. Resilience is "the process of adapting while in the face of adversity, trauma, tragedy, threats or even significant sources of stress."[xxxviii] Trauma-informed and resilience building practices are gaining attention and are being implemented to help children overcome their experiences and circumstances. Decreasing childhood exposures to trauma, building resilience, strong relationships with caregivers and providing safe, stable environments can help children overcome the impact of ACEs.[xxxix]

The main focus of the Durham County ACEs initiative is not only to increase knowledge and awareness, but also to identify and increase people's capacity to address challenges and adverse

events as an adult.[xl] The long-term vision is to incorporate ACEs screenings and resilience education and resources in all health care visits for men, women and children county-wide.
The Durham County Board of County Commissioners (BOCC) began a collaborative effort with the Durham County Department of Public Health and other community organizations to address ACEs in the community. An ACEs Coordinator position was created and hired in 2020 to lead the Durham ACEs and Resilience Task Force.

Interpretations: Disparities, Gaps, and Emerging Issues

People in historically marginalized groups by race, ethnicity, gender and sexual orientation often suffer from worse mental health outcomes due to factors such as lack of access to high quality mental health care services, cultural stigma around mental health care, discrimination and overall unawareness of mental health.[xli] Shortages of mental health professionals in rural areas and availability of culturally competent care are also a barriers to obtaining mental health treatment.[xlii] Access to mental health and substance use disorder services for individuals can vary widely depending on a "number of factors such as insurance coverage, specific type of mental health or substance use disorder, and geographic location."[xliii]

Treatment of mental health and substance use disorders is challenging due to multiple factors. There is not a "single "system" for mental health and substance use services."[xliv] This fragmentation of the mental health and substance use service systems cause disparities in access to high-quality, effective prevention, treatment, and recovery services and lack of integration between mental health, substance use and physical health services.[xlv] All of these factors create significant systemic barriers to delivering necessary prevention, treatment and recovery services.[xlvi]

Racism and inequalities in the healthcare system disproportionately impact African Americans in the U.S. People of color more often rely on community health centers, emergency rooms or and community-based providers because of a lack of primary care and mental health providers.[xlvii] Seeking care elsewhere can be a challenge for many due to issues with transportation, limited incomes or for people in rural areas.[xlviii] The lack of Medicaid expansion in the state has limited access to healthcare services for 500,000 low-income North Carolinians.[xlix]

Recommended Strategies

Mental Health[l]

- Expand Medicaid eligibility criteria to increase access to mental health services
- Increase state funding for mental health services provided through local mental health systems
- Implement policies targeted to decrease access to lethal means
- Improve access to social services and other supports
- Increase programs that provide mental health services and support for LGBTQ youth
- Increase programs that provide mental health services and support for veterans
- Continue to support the integration of physical and mental health
- Expand access to tele-mental health services

- Create trauma informed schools with access to mental health providers

Substance Use[li]
- Reduce the supply of prescription and illicit opioids
- Avert future opioid addiction by supporting youth and families
- Address the needs of justice-involved populations
- Increase distribution of naloxone
- Implement needle exchange programs
- Improve access to drug treatment programs, including medication-assisted treatment
- Implement broader use of NC Controlled Substance Reporting System by health care providers and pharmacies
- Increase training for health care providers on safe prescribing practices
- Adopt and support payment of evidenced-based interventions that prevent opioid prescribing Support policies that decriminalize and promote treatment of substance use disorder

Current Initiatives & Activities

Alliance Health is a managed care organization for public behavioral healthcare. https://www.alliancehealthplan.org/

Together for Resilient Youth (TRY) works to prevent Adverse Childhood Experiences, racism and historical trauma that can result in substance use, suicide, violence and other behaviors among youth by creating a resilient community through education, grassroots and grasstops mobilization and collective impact. http://www.durhamtry.org/

Durham Network of Care is a one-stop, online, resource directory providing information on services and supports throughout the Durham community. https://durham.nc.networkofcare.org

Durham Recovery Response Center is a 24/7 behavioral health facility providing crisis stabilization services. https://www.alliancehealthplan.org/

Carolina Outreach Behavioral Health Urgent Care is a walk-in clinic for children and adults experiencing a mental health crisis and/or substance use issues https://carolinaoutreachbhuc.com/

Durham Joins Together (DJT) to Save Lives works to combat the opioid crisis by supporting a post-overdose response team, connecting justice-involved persons to care and focusing on expanding housing resources. https://www.dcopublichealth.org/resources/durham-joins-together

Durham ACEs Resilience Taskforce (DART) focuses on building upon the strengths of Durham communities and systems, advancing an equitable and culturally responsive approach to prevent and respond to toxic stress and trauma. https://www.acesconnection.com/g/durham-county-nc-aces-connection

Responsive Early Access for Durham's Young Children (READY) Project fosters the healthy development and wellness of all young children in Durham County, preparing them to thrive in school and beyond. https://www.ccfhnc.org/programs/ready/

Durham Community Collaborative is a group of community members and organizations who collaborate to implement a System of Care approach and build an array of services, supports and linkages to assist children and families. https://www.alliancehealthplan.org/consumers-families/system-of-care/community-collaborative/

Partnership for a Health Durham Mental Health Subcommittee works to develop strategies to increase public awareness access to mental health services. https://healthydurham.org/committees/substance-abuse-and-mental-health-committee

Wellness City is a peer-run community made up of individuals embarking on or expanding their recovery journey. https://riinternational.com/recovery/wellness-cities/

References

[i] North Carolina Institute of Medicine. Transforming North Carolina's mental health and substance use systems: a report from the NCIOM Task Force on mental health and substance use [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2016 [cited 2020 Oct 12]. 78 p. Available from: https://nciom.org/wp-content/uploads/2017/07/MHSU-FULL.pdf
[ii] North Carolina Institute of Medicine. Transforming North Carolina's mental health and substance use systems: a report from the NCIOM Task Force on mental health and substance use [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2016 [cited 2020 Oct 12]. 78 p. Available from: https://nciom.org/wp-content/uploads/2017/07/MHSU-FULL.pdf
[iii] Hatfield C, Dening T. Mental health and care homes. Oxford: Oxford University Press; 2011 May [cited 2020 Oct 12]. Available from: https://oxfordmedicine.com/view/10.1093/med/9780199593637.001.0001/med-9780199593637-chapter-015
[iv] countyhealthrankings.org [Internet]. North Carolina: Durham County demographics. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Oct 1]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/rankings/durham/county/outcomes/overall/snapshot
[v] countyhealthrankings.org [Internet]. North Carolina: Durham County demographics. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Oct 1]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/rankings/durham/county/outcomes/overall/snapshot
[vi] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[vii] schs.dph.ncdhhs.gov [Internet]. 2020 County health data book: unadjusted death rates per 100,000 population, 2014-2018. Raleigh (NC): North Carolina State Center for Health Statistics; c2020 [cited 2020 Dec 20]. Available from: https://schs.dph.ncdhhs.gov/data/databook/
[viii] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[ix] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[x] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[xi] schs.dph.ncdhhs.gov [Internet]. 2020 County health data book: unadjusted death rates per 100,000 population, 2014-2018. Raleigh (NC): North Carolina State Center for Health Statistics; c2020 [cited 2020 Dec 20]. Available from: https://schs.dph.ncdhhs.gov/data/databook/
[xii] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.

[xiii] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[xiv] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2020 Oct 2]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf
[xv] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2020 Oct 2]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf
[xvi] Partnership for a Health Durham. Durham County youth risk behavior survey report 2015 [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2015 [cited 2020 Dec 20]. Available from: https://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf
[xvii] North Carolina Institute of Medicine. Transforming North Carolina's mental health and substance use systems: a report from the NCIOM Task Force on Mental Health and Substance Use [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2016 [cited 2020 Oct 12]. 78 p. Available from: https://nciom.org/wp-content/uploads/2017/07/MHSU-FULLpdf
[xviii] Partnership for a Health Durham. Durham County youth risk behavior survey report 2015 [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2015 [cited 2020 Dec 20]. Available from: https://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf
[xix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xx] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xxi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[xxii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[xxiii] Johnson, Carlyle. (Director of Provider Network Strategic Initiatives). Re. Report question: number served [Internet]. Message to: Jennifer Meade (Community Engagement Manager, Morrisville, jmeade@alliancehealthplan.org. 2020 Oct 7 [cited 2020 Oct].
[xxiv] ncdoj.gov [Internet]. Opioid crisis. Raleigh (NC): North Carolina Department of Justice, Attorney General; c2020 [cited 2020 Oct 13]. Available from: https://ncdoj.gov/responding-to-crime/opioid-epidemic/
[xxv] injuryfreenc.ncdhhs.gov [Internet]. Opioid-involved overdoses, 2018. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; 2020 Jul [cited 2020 Oct 13].

Available from: https://injuryfreenc.ncdhhs.gov/DataSurveillance/poisoning/OpioidFactsheet-2018-FINAL.pdf

[xxvi] injuryfreenc.ncdhhs.gov [Internet]. NC opioid action plan data dashboard. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; c2020 [cited 2020 Oct 13]. Available from: https://injuryfreenc.shinyapps.io/OpioidActionPlan/

[xxvii] injuryfreenc.ncdhhs.gov [Internet]. Durham County overdose surveillance report. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; c2020 [cited 2020 Dec 20]. Available from: https://www.injuryfreenc.ncdhhs.gov/DataSurveillance/StatewideOverdoseSurveillanceReports/OpioidOverdoseEDVisitsMonthlyReports/CountyReports/durhamcountyopioidoverdoseedvisit.pdf

[xxviii] injuryfreenc.ncdhhs.gov [Internet]. Durham County overdose surveillance report. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; c2020 [cited 2020 Dec 20]. Available from: https://www.injuryfreenc.ncdhhs.gov/DataSurveillance/StatewideOverdoseSurveillanceReports/OpioidOverdoseEDVisitsMonthlyReports/CountyReports/durhamcountyopioidoverdoseedvisit.pdf

[xxix] injuryfreenc.ncdhhs.gov [Internet]. Durham County overdose surveillance report. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; c2020 [cited 2020 Dec 20]. Available from: https://www.injuryfreenc.ncdhhs.gov/DataSurveillance/StatewideOverdoseSurveillanceReports/OpioidOverdoseEDVisitsMonthlyReports/CountyReports/durhamcountyopioidoverdoseedvisit.pdf

[xxx] injuryfreenc.ncdhhs.gov [Internet]. Durham County overdose surveillance report. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; c2020 [cited 2020 Dec 20]. Available from: https://www.injuryfreenc.ncdhhs.gov/DataSurveillance/StatewideOverdoseSurveillanceReports/OpioidOverdoseEDVisitsMonthlyReports/CountyReports/durhamcountyopioidoverdoseedvisit.pdf

[xxxi] injuryfreenc.ncdhhs.gov [Internet]. Durham County overdose surveillance report. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; c2020 [cited 2020 Dec 20]. Available from: https://www.injuryfreenc.ncdhhs.gov/DataSurveillance/StatewideOverdoseSurveillanceReports/OpioidOverdoseEDVisitsMonthlyReports/CountyReports/durhamcountyopioidoverdoseedvisit.pdf

[xxxii] injuryfreenc.ncdhhs.gov [Internet]. Durham County overdose surveillance report. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; c2020 [cited 2020 Dec 20]. Available from: https://www.injuryfreenc.ncdhhs.gov/DataSurveillance/StatewideOverdoseSurveillanceReports/OpioidOverdoseEDVisitsMonthlyReports/CountyReports/durhamcountyopioidoverdoseedvisit.pdf

[xxxiii] injuryfreenc.ncdhhs.gov [Internet]. North Carolina emergency department (ED) visits for Opiod overdose: November 2020. Raleigh (NC): NC Department of Health and Human Services, Injury and Violence Prevention Branch; c2020 [cited 2020 Dec 20]. Available from: https://www.injuryfreenc.ncdhhs.gov/DataSurveillance/StatewideOverdoseSurveillanceReports/OpioidOverdoseEDVisitsMonthlyReports/StatewideOpioidOverdoseSurveillanceEDData_Nov2020.pdf

[xxxiv] jordaninstituteforfamilies.org [Internet]. Racism is an adverse childhood experience (ACE). Chapel Hill (NC): Jordan Institute for Families, UNC School of Social Work; 2020 Jul 2 [cited 2020 Dec 20]. Available from: https://jordaninstituteforfamilies.org/2020/racism-is-an-adverse-childhood-experience-ace/

[xxxv] cdc.gov [Internet]. Preventing adverse childhood experience. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2021 Jan 1]. Available from: https://www.cdc.gov/violenceprevention/aces/fastfact.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Facestudy%2Ffastfact.html

[xxxvi] cdc.gov [Internet]. Preventing adverse childhood experience. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2021 Jan 1]. Available from: https://www.cdc.gov/violenceprevention/aces/fastfact.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Facestudy%2Ffastfact.html
[xxxvii] jordaninstituteforfamilies.org [Internet]. Racism is an adverse childhood experience (ACE). Chapel Hill (NC): Jordan Institute for Families, UNC School of Social Work; 2020 Jul 2 [cited 2020 Dec 20]. Available from: https://jordaninstituteforfamilies.org/2020/racism-is-an-adverse-childhood-experience-ace/
[xxxviii] apa.org [Internet]. Building your resilience. Washington, DC: American Psychological Association; c2012 [cited 2020 Dec 20]. Available from: https://www.apa.org/topics/resilience
[xxxix] public schoolsfirstnc.org [Internet]. ACEs and resilience: what can we do? Raleigh (NC): Public Schools First NC; c2020 [cited 2021 Jan 1]. Available from: https://www.publicschoolsfirstnc.org/resources/fact-sheets/aces-and-resilience-what-can-we-do/
[xl] Durham ACEs Resilience Taskforce (NC). Durham (NC). Available from: https://www.acesconnection.com/g/durham-county-nc-aces-connection
[xli] Durham County Public Health Department, Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC); c2019 [cited 2020 Dec 20]. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xlii] Durham County Public Health Department, Partnership for a Healthy Durham. 2019 Durham County state of the county health report [Internet]. Durham (NC); c2019 [cited 2020 Dec 20]. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xliii] North Carolina Institute of Medicine. Transforming North Carolina's mental health and substance use systems: a report from the NCIOM Task Force on mental health and substance use [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2016 [cited 2020 Oct 12]. 78 p. Available from: https://nciom.org/wp-content/uploads/2017/07/MHSU-FULL.pdf
[xliv] North Carolina Institute of Medicine. Transforming North Carolina's mental health and substance use systems: a report from the NCIOM Task Force on mental health and substance use [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2016 [cited 2020 Oct 12]. 78 p. Available from: https://nciom.org/wp-content/uploads/2017/07/MHSU-FULL.pdf
[xlv] North Carolina Institute of Medicine. Transforming North Carolina's mental health and substance use systems: a report from the NCIOM Task Force on mental health and substance use [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2016 [cited 2020 Oct 12]. 78 p. Available from: https://nciom.org/wp-content/uploads/2017/07/MHSU-FULL.pdf
[xlvi] apa.org [Internet]. Disparities in mental health status and mental health care. Washington, DC: American Psychological Association; c2017 [cited 2020 Oct 2]. Available from: http://www.apa.org/advocacy/health-disparities/health-care-reform.aspx
[xlvii] Taylor J. Racism, inequality, and health care for African Americans. New York (NY): The Century Foundation; 2019 Dec 19 [cited 2020 Dec 20]. Available from: https://tcf.org/content/report/racism-inequality-health-care-african-americans/?agreed=1&agreed=1
[xlviii] Taylor J. Racism, inequality, and health care for African Americans. New York (NY): The Century Foundation; 2019 Dec 19 [cited 2020 Dec 20]. Available from: https://tcf.org/content/report/racism-inequality-health-care-african-americans/?agreed=1&agreed=1
[xlix] ncjustice.org [Internet]. Expanding Medicaid in NC. Raleigh (NC): North Carolina Justice Center; c2020 [cited 2020 Dec 20]. Available from: https://www.ncjustice.org/projects/health-advocacy-project/medicaid-expansion/expanding-medicaid-in-nc/
[l] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.

[li] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 5]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.

Reproductive Health

This chapter includes:

- ❖ Pregnancy, fertility and abortion

Section 7.01 *Pregnancy, fertility and abortion*

Overview

According to the World Health Organization, reproductive health ensures that individuals are able to have satisfying and safe sex lives and that they have the capacity and freedom to decide if, when, and how to reproduce.[i] Reproductive life planning highlights the steps that individuals can take to support their goals to have or not have children and prevent unintended pregnancies. Reproductive life planning is important for communities as a means to ensure healthy outcomes for women, children and families. Community support in reproductive life planning can include things like pre- and post-natal care for women and babies, access to lactation support services and access to preventative healthcare such as birth control.

Infant mortality is the death of young children under the age of one. Across the U.S. and in Durham County, infant mortality disparities persist between whites and people of color. Addressing infant mortality and racial disparities is crucial to a strong community health strategy for reproductive life planning and can lead to better health outcomes overall.

The COVID-19 pandemic will likely impact reproductive life planning for individuals and families in ways that are not yet fully apparent.

Primary Data

2019 Durham County Community Health Assessment Survey

The 2019 Community Health Assessment Survey asked participants if they had problems getting the health care they needed, either personally or for someone in their household from any type of health care provider, dentist or pharmacy. In the county wide sample, 16.1% responded "yes".[ii] Of these respondents, 0.9% listed obstetrician/gynecologist (OB-GYN) as the type of provider (this figure was 10% in the 2016 Durham County Health Assessment).[iii,iv] In the Hispanic or Latino neighborhood sample, 9.4% indicated having trouble getting needed healthcare.[v] Of those respondents, less than 2% indicated they had trouble accessing "Other" providers, which could include an OB-GYN.

Secondary Data

Pregnancy, Fertility and Abortion

Figure 7.01(a) gives an overview of North Carolina's and Durham County's 2018 pregnancy, fertility and abortion rates per 1,000 population by race and ethnicity.

Pregnancy, Fertility, and Abortion Rates per 1,000 population in Durham County and North Carolina, 2018

	Durham County			North Carolina		
	Pregnancy Rate	Fertility Rate	Abortion Rate	Pregnancy Rate	Fertility Rate	Abortion Rate
Black	73.1	50.1	22.5	79.4	58	20.7
White	62.9	56.7	6.1	62.3	55.5	6.5
Hispanic	117.2	101.1	15.4	98.6	86.2	11.9
Non-Hispanic Other	62.4	53.8	8.4	76.7	66.5	9.8
Total	74.5	59.6	14.5	71.6	59.9	11.2

Figure 7.01(a) Pregnancy, Fertility, and Abortion Rates per 1,000 population.[vi]

Hispanic or Latino women in Durham County have significantly higher rates of pregnancy than other races.

Teen Births

Figure 7.01(b) shows an overview of the teen birth rates (number of births per 1,000 female population ages 15-19) by race and ethnicity in Durham County and for the state of North Carolina. In 2018, the teen birth rate in Durham County was 24.9. The rate for Black teens in Durham County (29.9) was slightly higher than the County and State average, though four times as high as that for White teens (7.2). Additionally, the pregnancy rate for Hispanic teens was one and a half times the rate for Black teens and over six times the rate of White teens.[vii]

Teen Births per 1,000 Population by Durham County and NC, 2018

	Total	Black	Hispanic	White
Durham County births per 1,000 female ages 15-19	24.9	29.9	46.5	7.2
North Carolina births per 1,000 female ages 15-19	24.6	33.7	41.4	16.1

Figure 7.01(b) Teen births per 1,000 population.[viii,ix]

Infant Mortality

Figure 7.01(c) shows the infant mortality rates by race and ethnicity for Durham County and North Carolina.

Infant Mortality Rates by Race and Ethnicity, Durham County and NC, 2018

	Black	Hispanic	White
Durham County deaths per 1,000 live births	7.3	8.9	1.8
North Carolina deaths per 1,000 live births	12.2	4.8	5.0

Figure 7.01(c) Infant Mortality rates per 1,000 live births in 2018.[x,xi]

Hispanic rates of infant mortality in Durham County are almost double that of the rate for the state of North Carolina (the rate in Durham County is lower than the statewide rates for white and Black infants). Additionally, Hispanic infant mortality rates in Durham County are slightly higher than

the rate for Black infants in Durham County and almost five times the rate for white infants. A disparity ratio is one way to understand the disparity that exists between populations. The higher the ratio, the greater the disparity. Durham County's infant mortality disparity ratio is 3.5, which means that Black infants are nearly 3.5 times as likely to die as white infants (the rate for each race is per 1,000 live births).[xii]

Interpretations: Disparities, Gaps, and Emerging Issues

Every mother should have a healthy pregnancy and every infant should have an equally healthy start in Durham, NC. While Durham has made progress in decreasing rates of poor birth outcomes, disparities persist.

Hispanic women in Durham County have significantly higher rates of pregnancy and infant mortality than other races. Black women have similarly high rates of infant mortality but only marginally higher rates of pregnancy than white women do. Both societal and health system factors contribute to high rates of poor health outcomes and maternal mortality for Black women, who are more likely to experience barriers to obtaining quality care and often face racial discrimination throughout their lives. Studies show that infant mortality and poor birth outcomes are related to delayed prenatal care and racial bias for women of color.[xiii,xiv]

While the overall teen birth rate in Durham is close to the state average, when broken down by race, Black and Hispanic teens have significantly higher birth rates than white teens. The Robert Wood Johnson Foundation County Health Rankings and Roadmaps states that teen pregnancy "significantly increases the risk of repeat pregnancy and of contracting a sexually transmitted infection (STI), both of which can result in adverse health outcomes for mothers, children, families, and communities."[xv]

The full impact of the COVID-19 pandemic on the reproductive health of Durham residents is yet to be seen. However, emerging global trends already point to limitations of skilled healthcare workers and reluctance by pregnant people to use prenatal and postnatal care support.[xvi]

Recommended Strategies

Investing in strong reproductive life planning policies, interventions and systems can support society and address the root causes of health inequities. Additionally, a strategy aimed at reducing the influence of implicit bias, unconscious beliefs and stereotypes that affect behavior will be key to improving health outcomes for moms and babies. Below are sample strategies that could address these issues:

- CenteringPregnancy© has been shown to increase breastfeeding, decrease low birth weight and preterm babies, and promote wellbeing throughout pregnancy and beyond.[xvii] Implementing or a similar model could improve the lives of women and their children to improve maternal health and infant birth outcomes.

- Legislation requiring pharmacies to dispense birth control regardless of moral or religious beliefs.
- Train reproductive medical staff on implicit bias and structural racism.
- Governmental funding for free birth control for low-income women at medical facilities.
- Social media campaigns for long-acting reversible contraception (LARCs).
- Reduce the number of positive chlamydia results among individuals aged 15 to 24 through expanded targeted social media ads and increased testing.
- Utilization of local doula organizations to match high-risk mom's with experience doula.

Continued education on reproductive life planning and contraceptive options for women and their partners is a vital step. Women who intentionally choose to become pregnant are apt to be better prepared emotionally and financially for the demands of pregnancy and childbearing.

Current Initiatives & Activities

Durham Department of Public Health Maternal Health Clinic offers physical examinations, prenatal services, and low-cost to no-cost contraceptive services and supplies for women of childbearing age. http://dcopublichealth.org/

Planned Parenthood South Atlantic provides sexual and reproductive health care for women, men, and teens. Teen Connections and other Adolescent Pregnancy Prevention programs available. https://www.plannedparenthood.org/planned-parenthood-south-atlantic

Lincoln Community Health Center provides accessible, affordable, high quality outpatient health care services to the medically underserved at one central clinic and four satellite clinics at Lyon Park, Holton, Walltown, and Urban Ministries. http://www.lincolnchc.org

The Samaritan Health Center provides comprehensive medical care to underserved members of the community, regardless of their ability to pay. https://www.samaritanhealthcenter.org

Bedsider.org: An online birth control support network for women ages 18-29 operated by The National Campaign to Prevent Teen and Unplanned Pregnancy. https://www.bedsider.org/

Durham Volunteer Doulas provides birth doula care at no cost to pregnant individuals who would otherwise be unable to afford doula services. www.durhamvolunteerdoulas.org

MAAME (Mobilizing African American Mothers through Empowerment) provides training and doulas to support Black, Indigenous, and other Birthing People of color to navigate systems and mobilize and offer resources. https://maameinc.org/

Welcome Baby provides parent support programs, including: Incredible Years, Positive Discipline and special topic workshops in English and Spanish. https://www.facebook.com/pg/welcomebabydurham/about/?ref=page_internal

SHIFT NC (Sexual Health Initiatives for Teens): A statewide nonprofit to improve adolescent and young adult sexual health by increasing awareness, disseminating data, improving policy, supplying professional development, and providing leadership. https://www.shiftnc.org/

The Carolina Abortion Fund (CAF) provides financial assistance to people accessing abortion services in North and South Carolina. The CAF operates a confidential, toll-free helpline to provide emotional and practical support to callers. https://www.carolinaabortionfund.org/

References

[i] who.int [Internet]. Reproductive health: reproductive health in the Western Pacific. Geneva: World Health Organization; c2020 [cited 2020 Sep 30]. Available from: https://www.who.int/westernpacific/health-topics/reproductive-health

[ii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Jul 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[iii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Jul 16]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[iv] Partnership for a Healthy Durham. 2017 community health assessment. Durham (NC): Durham County Department of Public Health; c2017 [cited 2020 Jul 16]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/04/2017-CHA-FINAL-FOR-PRINT.pdf

[v] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Jul 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[vi] ncdhhs.gov [Internet]. County health data book. Raleigh (NC): North Carolina Department of Health and Human Services, State Center for Health Statistics; c2020 [cited 2020 Jul 22]. Available from https://schs.dph.ncdhhs.gov/data/databook/

[vii] shiftnc.org [Internet]. Local information on the state of adolescent health and helpful resources. Durham (NC): SHIFT NC; c2019 [cited 2020 Sep 30]. Available from: https://www.shiftnc.org/data/map/durham

[viii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Jul 16]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[ix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Jul 16]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[x] Bonner L. Urban or rural, Black lives in NC are being cut short almost before they begin [Internet]. Raleigh (NC): The News and Observer; c2020 [cited 2020 Jul 22]. Available from: https://www.newsobserver.com/article239388203.html.

[xi] ncdhhs.gov [Internet]. Vital Statistics for 2018 and 2014-2018: Durham County. Raleigh (NC): North Carolina State Center for Health Statistics; c2018 [cited 2020 July 22] Available from: https://schs.dph.ncdhhs.gov/data/vital/volume1/2018/durham.html

[xii] schs.dph.ncdhhs.gov [Internet]. County health data book. Raleigh (NC): North Carolina Department of Health and Human Services, State Center for Health Statistics; c2020 [cited 2020 Jul 22]. Available from: https://schs.dph.ncdhhs.gov/data/databook/

[xiii] Wymelenberg S; Institute of Medicine (U.S.). Science and babies: private decisions, public dilemmas. Washington, DC: National Academies Press (U.S.); c1990. 5, Prenatal Care: Having Healthy Babies. Available from: https://www.ncbi.nlm.nih.gov/books/NBK235274/

[xiv] Carpenter Z. What's killing America's Black infants [Internet]. Washington, DC: The Nation; 2017 Mar 6 [cited 2020 Sep 22]. Available from: https://www.thenation.com/article/archive/whats-killing-americas-black-infants/

[xv] countyhealthrankings.org [Internet]. Teen births. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 Sept 30]. Available from: https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/sexual-activity/teen-births

[xvi] Busch-Hallen J, Walters D, Rowe S, Chowdhury A, Arabi M. Impact of COVID-19 on maternal and child health [Internet]. The Lancet Global Health. The Lancet Global Health; 2020 [cited 2020 Sep 21];8(10):e1257. Available from: https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(20)30327-2/fulltext

[xvii] Centeringhealthcare.org [Internet]. CenteringPregnancy. Boston (MA): Centering Healthcare Institute; c2009-2020 [cited 2020 Sep30]. Available from https://www.centeringhealthcare.org/what-we-do/centering-pregnancy

Communicable Diseases

This chapter includes:

- ❖ Vaccine-preventable diseases
- ❖ Infectious diseases
- ❖ Sexually transmitted infections
- ❖ Outbreaks and food safety

Section 8.01 *Vaccine-preventable diseases*

Overview

Vaccines are public health tools that can reduce morbidity and mortality associated with infectious diseases.[i] The Centers for Disease Control and Prevention (CDC) estimated that vaccination of children born between 1994 and 2018 saved the United States (U.S.) nearly $295 billion in direct medical costs.[ii] Vaccines work by imitating an infection and causing an immune response within the body. The body's immune response to vaccines creates memory cells that can be replicated quickly if the body encounters the disease after vaccination.[iii]

Vaccines provide protection from deadly diseases and reduce the prevalence of a disease in populations with high immunization rates. When a high proportion of the population is immunized, the spread of disease is reduced; this is called herd immunity. Although herd immunity is effective in reducing the spread of disease, continued vaccination is crucial unless a disease has been completely eradicated. It is possible to eradicate some infectious diseases through vaccination. In severe cases, increased infection rates can cause an epidemic or world-wide pandemic.[iv]

Vaccines Across the Lifecycle

The CDC has outlined immunization schedules by age and for specific populations, which includes people with pre-existing conditions, refugees and immigrants as well as international travelers.[v] A complete course of recommended childhood immunizations will provide a lifetime of protection against many diseases. However, adults may also need an annual seasonal flu vaccine every year and tetanus boosters.[vi] The American Cancer Society (ACS) recommends that HPV vaccination can begin at age nine for girls and boys, with adolescents completing the two-dose series by their thirteenth birthday. Vaccination is recommended for everyone through age 26 based on shared clinical decision making between the patient and their healthcare provider.[vii] The CDC recommends that adults age 50 or older to receive the shingles vaccine and two types of pneumococcal vaccines. The latter two vaccines can help reduce the contraction of pneumonia and pneumococcal diseases such as meningitis.[viii]

Several vaccinations are required for enrollment in public schools and universities. In order to attend Durham Public schools, children must be up to date on tetanus, diphtheria and pertussis (Tdap); polio; measles, mumps, and rubella (MMR); Hemophilus influenza; hepatitis B and varicella immunizations. Additionally, rising seventh graders are required to receive a meningococcal conjugate vaccine and a Tdap booster. In the 2020-21 school year, twelfth graders are also required to have a meningococcal vaccine.[ix] Additionally, NC law requires students at public, private or religious colleges/universities to receive certain immunizations unless they are off campus students who are taking no more than four-day credit hours in on-campus courses.[x]

Healthy NC 2030 Objective

The Healthy NC 2020 Objectives included two goals related to vaccine-preventable communicable diseases (Table 8.01 (a)). It is important to note that vaccinations and vaccine-preventable diseases were not identified as priority health objectives for Healthy NC 2030.[xi]

Healthy NC 2020 Objectives

Healthy NC 2020 Objective	Current Durham	Current NC	2020 Target
Increase the percentage of children aged 19-35 months who receive the recommended vaccines	73% (2018)	77.8% (2016)	91.3%
Reduce the pneumonia and influenza mortality rate (per 100,000 population)	N/A	16.9 (2018)[xii]	13.5

Table 8.01(a). Healthy NC 2020 Objectives[xiii]

Primary Data

The 2019 Durham County Community Health Assessment survey was conducted between May and August 2019.[xiv] During that timeframe, residents of Durham County were asked survey questions to assess perceived factors impact their health. When residents were asked "What are the most important health problems, that is, diseases or conditions, in Durham County?", communicable diseases ranked fourteenth in reported responses. No other survey questions assessed vaccination hesitancy or self-reported adherence.

Secondary Data

Vaccine-Preventable Diseases and Cancer

Several cancers can develop due to the presence of the Human Papilloma Virus (HPV), a sexually transmitted infection. HPV causes nearly all cervical cancers, and many cancers of the vagina (75%), penis (63%), anus (91%), rectum (91%) and oropharynx (70%).[xv] A vaccine is available that decrease one's risk of developing HPV related cancers; 81% of HPV-associated cancers could be prevented by the vaccine.[xvi] The HPV vaccine is not a required vaccination for North Carolina residents.[xvii]

Hepatitis B is a liver disease caused by the Hepatitis B virus (HBV). It ranges in severity from a mild illness that lasts a few weeks to a serious long-term illness that can lead to liver disease or liver cancer. The incidence of liver cancer is increasing rapidly among U.S. men and women. The American Cancer Society estimates that more than 42,000 new cases of liver cancers will be diagnosed in 2020.[xviii] The Hepatitis B vaccine series can be administered across all age groups to prevent HBV infection. In North Carolina, the first shot of the Hepatitis B vaccination series is required for all infants at the time of their birth.[xix]

While vaccine coverage for the combined seven series slightly decreased from 2017 to 2019 in Durham County for the 24 to 36-month-old population, the vaccination rate for Durham County has remained higher than North Carolina as well as the U.S. (Table 8.01(b).). Comparison of Durham County vaccination rates for the 13 to 17-year-old (Table 8.01(c)) and 65 and older populations (Table 8.01(d)) is not possible because this data is not captured on the county level. Only statewide and national coverage rates are available. As stated previously, the CDC recommends that adults 65 years and older receive the influenza, pneumococcal and herpes zoster vaccinations.

2017-2019 Durham County, NC and National Immunization Coverage Summary, 24-36 Months

Vaccine	2019			2018			2017		
	Durham County[xx]	NC	USA	Durham County	NC	USA	Durham County	NC	USA
4:3:1:3:3:1:4	73%	*N/A*	*N/A*	76%	75.2%	68.5%	76%	70.7%	68.4
4 DTaP	*N/A*	*N/A*	*N/A*	*N/A*	83.2%	80.3%	*N/A*	80.9%	80.6
3 Polio	*N/A*	*N/A*	*N/A*	*N/A*	94.9%	92.7%	*N/A*	90.0%	91.7
1 MMR	*N/A*	*N/A*	*N/A*	*N/A*	92.9%	90.4%	*N/A*	90.3%	90.0
3 Hib	*N/A*	*N/A*	*N/A*	*N/A*	83.6%	79.6%	*N/A*	81.6%	80.2
3 Hep B	*N/A*	*N/A*	*N/A*	*N/A*	93.3%	91.0%	*N/A*	91.0%	90.9
1 Varicella	*N/A*	*N/A*	*N/A*	*N/A*	91.6%	90.0%	*N/A*	88.9%	89.3
4 PCV	*N/A*	*N/A*	*N/A*	*N/A*	85.7%	81.0%	*N/A*	79.0%	81.5

Table 8.01(b). Local, State, and National Immunization Coverage Summary (2017-2019)
*Childhood Vaccination Coverage (*24-36 months)[xxi]

2017-2019 Durham County, NC and National Immunization Coverage Summary, 13-17 Years

Vaccine	2019			2018			2017		
	Durham County	NC	USA	Durham County	NC	USA	Durham County	NC	USA
3 Hep B	*N/A*	94.1%	91.6%	*N/A*	93.2%	92.1%	*N/A*	90.8%	91.9%
UTD HPV	*N/A*	49.5%	54.2%	*N/A*	52.1%	51.1%	*N/A*	51.9%	48.6%
1 MCV	*N/A*	93.2%	88.9%	*N/A*	86.1%	86.6%	*N/A*	84.8%	85.1%
1 Tdap	*N/A*	92.0%	90.2%	*N/A*	89.1%	88.9%	*N/A*	91.9%	88.7%
2 MMR	*N/A*	94.3%	91.9%	*N/A*	92.5%	91.9%	*N/A*	93.0%	92.1%
2 Varicella*	*N/A*	92.1%	91.5%	*N/A*	91.2%	90.8%	*N/A*	92.0%	90.1%

*2 doses of varicella or history of varicella disease

Table 8.01(c). Local, State, and National Immunization Coverage Summary (2017-2019)
Adolescent Vaccination Coverage (13-17 years)[xxii]

2017-2019 Durham County, NC and National Immunization Coverage Summary, 65+ Years

Vaccine	2019			2018			2017		
	Durham County	NC	USA	Durham County	NC	USA	Durham County	NC	USA
Flu[xxiii]	*N/A*	72.9%	69.4%	*N/A*	71.3%	59.6%	*N/A*	72.1%	65.3%
Pneumo	*N/A*	*N/A*	*N/A*	*N/A*	76.7%	71.8%	*N/A*	71.9%	74.7%
1 Zoster	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	43.8%	44.4%
1 Tdap	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Table 8.01(d). Local, State, and National Immunization Coverage Summary (2017-2019) Adult Vaccination Coverage (65+ years)[xxiv]

Vaccination and Refugees

Vaccinations are not required for refugees before arrival to the U.S. The Vaccination Program for U.S.-bound refugees allows refugees to receive vaccinations before travelling to the U.S. during medical examination in their country of origin. After residing in the U.S. for one year, refugees can apply for legal permanent resident status. During this process, applicants must adhere to CDC guidelines and complete vaccination requirements.[xxv] The Durham County Department of Public Health operates the Refugee Health Clinic that provides immunizations to resettled refugees in Durham.[xxvi] Refer to Chapter 3.02 for more information on refugee health in Durham County.

In addition, the NC Division of Public Health (DPH) mandates contracted local health departments to initiate refugee health screenings within thirty days but no later than ninety days after refugees arrive to the U.S. This screening process allows vaccinations to be completed rapidly. Completion of the refugee screening for school-aged children is critical to prevent educational delays and entry into the school system.[xxvii]

Interpretations: Disparities, Gaps, Emerging Issues

Barriers prevent adequate vaccine coverage in infants and children. A vaccine coverage barrier that prevents infants and children from obtaining vaccine coverage is access to care due to financial restrictions. It is important to note that historically, structural and systemic racism have prohibited traditionally medically underserved communities from obtaining access to healthcare.

The North Carolina Immunization Program works with the Vaccine for Children Program to address this barrier by providing free vaccines to children who have limited access to care. Additionally, the Vaccine for Children Program provides free vaccines to health providers that provide services to low-income families with children.[xxviii]

Vaccine hesitancy is a key barrier to decreased vaccination rates. It has been reported in the literature that some parents are hesitant to vaccinate their children because they feel that vaccines are not safe or necessary. While there is no scientific evidence that demonstrates an association between vaccination and autism, many parents that report vaccine hesitancy believe there is a causal link between vaccinations and autism.[xxix]

As a means to effectively provide healthcare services to refugees, it is important to note and take into consideration that they are vulnerable populations that come from a range of backgrounds and cultural behaviors. Refugees may face barriers in seeking care beyond the mandated health screenings such as not seeking medical care unless you are sick, fear to seek care, mistrust of the healthcare system, difficulty understanding the healthcare providers due to language barriers as well as limited English proficiency.[xxx]

The North Carolina Immunization Registry (NCIR) does not have the ability to assess vaccination coverage from previous years.[xxxi] Race and ethnicity, while important variables, are not currently required fields in the NCIR. They are often incomplete or filled out subjectively and not by the client/patient. For these reasons, immunization coverage data is not stratified in this way. Due to the lack of racial and ethnicity data collection, analyzing data (or lack thereof) with a health equity lens is not possible. Not reporting racial and ethnicity data systemically supports vaccination inequities across traditionally medically underserved communities.

Recommended Strategies

- Develop data collection methods and reporting metrics to disseminate racial and ethnic vaccination outcomes on the County and State level.
- Include vaccination hesitancy and accessibility questions on the Community Health Assessment as a means to analyze the community's willingness to receive vaccinations.
- Expand Medicaid coverage in North Carolina to decrease the number of traditionally medically underserved community members in Durham County that are not vaccinated in accordance to CDC and ACS guidelines.
- Create culturally tailored vaccination information in multiple languages to address language and English proficiency barriers in the refugee communities. In addition, provide targeted outreach efforts to educate parents on the importance of girls and boys to receive the full HPV vaccination series.
- Utilize community scientist and health promoters to disseminate vaccination messaging as well as resources. Additionally, create a multi-pronged approach for lay health promoters to educate fellow residents on ways to access health information and tools via the internet as a means to decrease the digital divide and increase the digital health literacy of traditionally medically underserved communities.

Current Initiatives & Activities

North Carolina Immunization Coalition (NCIC) is a statewide organization that brings together community stakeholders, healthcare providers, public and private healthcare organizations, and government health agencies to promote safety and efficacy of vaccines, address vaccine hesitancy, and improve immunization rates in North Carolina. https://letsimmunizenc.org/

North Carolina Immunization Program (NCIP) works with Vaccines for Children program to improve vaccine access by providing free vaccines to eligible children at public and private providers. https://immunize.nc.gov/family/nc_immnz_program.htm

References

[i] cdc.org [Internet]. Understanding how vaccines work. Atlanta (GA): Centers for Disease Control and Prevention; c2018 [2020 Oct 5]. Available from: https://www.cdc.gov/vaccines/hcp/conversations/understanding-vacc-work.html

[ii] cdc.org [Internet]. Report shows 20-year US immunization program spares millions of children from diseases. Atlanta (GA): Centers for Disease Control and Prevention; 2014 Apr 24 [cited 2020 Aug 10] Available from: https://www.cdc.gov/media/releases/2014/p0424-immunization-program.html

[iii] cdc.org [Internet]. Understanding how vaccines work. Atlanta (GA): Centers for Disease Control and Prevention; c2018 [2020 Oct 5]. Available from: https://www.cdc.gov/vaccines/hcp/conversations/understanding-vacc-work.html

[iv] historyofvaccines.org [Internet]. Herd immunity. Philadelphia (PA): College of Physicians of Philadelphia; c2020 [cited 2020 Oct 5] Available from: https://www.historyofvaccines.org/content/herd-immunity-0

[v] cdc.gov [Internet]. Vaccines & immunizations: for specific groups of people. Atlanta (GA): Centers for Disease Control and Prevention; c2016 [cited 2020 Jul 18]. Available from: https://www.cdc.gov/vaccines/spec-grps.html

[vi] cdc.gov [Internet]. There are vaccines you need as an adult. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Jul 18]. Available from: https://www.cdc.gov/vaccines/adults/index.html

[vii] Saslow D, Andrews KS, Manassaram-Baptiste D, Loomer L, Lam KE, Fisher-Borne M, Smith RA, Fontham ET; American Cancer Society Guideline Development Group. Human papillomavirus vaccination guideline update: American Cancer Society guideline endorsement. CA Cancer J Clin. 2016 Sep [cited 2020 Jul 18];66(5):375-85. doi: 10.3322/caac.21355. Epub 2016 Jul 19. PMID: 27434803; PMCID: PMC5555157. Available from: https://acsjournals.onlinelibrary.wiley.com/doi/full/10.3322/caac.21616

[viii] cdc.gov [Internet]. Recommended vaccines for adults. Atlanta (GA): Centers for Disease Control and Prevention; 2019 [cited 2020 Jul 18]. Available from: https://www.cdc.gov/vaccines/adults/rec-vac/index.html

[ix] immunize.nc.gov [Internet]. NC back to school immunization requirements. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Oct 5]. Available from: https://immunize.nc.gov/family/pdf/school_vaccine_fact_sheet.pdf

[x] immunize.nc.gov [Internet]. Colleges and universities. Raleigh (NC): NC Department of Health and Human Services, NC Immunization Branch; c2020 [cited 2020 Jul 18]. Available from: https://www.immunize.nc.gov/schools/collegesuniversities.htm

[xi] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2020 Nov 13]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.

[xii] cdc.gov [Internet]. Influenza/Pneumonia mortality by state. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Jul 18]. Available from: https://www.cdc.gov/nchs/pressroom/sosmap/flu_pneumonia_mortality/flu_pneumonia.htm

[xiii] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Dec 8]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.

[xiv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xv] immunize.nc.gov [Internet]. HPV cancer and prevention profile: North Carolina. Raleigh (NC): NC Department of Health and Human Services, NC Immunization Branch; c2016 [cited 2020 Aug 24]. Available from: https://www.immunize.nc.gov/family/pdf/hpv_fact_sheet.pdf
[xvi] immunize.nc.gov [Internet]. HPV cancer and prevention profile: North Carolina. Raleigh (NC): NC Department of Health and Human Services, NC Immunization Branch; c2016 [cited 2020 Aug 24]. Available from: https://www.immunize.nc.gov/family/pdf/hpv_fact_sheet.pdf
[xvii] immunize.nc.gov [Internet]. Vaccine preventable diseases: Human Papillomavirus (HPV). Raleigh (NC): NC Department of Health and Human Services, NC Immunization Branch; c2019 [cited 2020 Aug 24]. Available from: https://www.immunize.nc.gov/family/vaccines/hpv.htm
[xviii] cancer.org [Internet]. Key statistics about liver cancer. Atlanta (GA): American Cancer Society; 2020 [cited 2020 Oct 5]. Available from: https://www.cancer.org/cancer/liver-cancer/about/what-is-key-statistics.html
[xix] epi.dph.ncdhhs.gov [Internet]. Diseases & topics: Hepatitis B. Raleigh (NC): NC Department of Health and Human Safety; c2020 [cited 2020 Jul 18]. Available from: https://epi.dph.ncdhhs.gov/cd/diseases/hep_b.html
[xx] North Carolina Immunization Branch annual immunization assessment data for Durham County, 2017-2019 [internal data]. Durham (NC): Department of Public Health; 2017-2019 [cited 2020 Dec].
[xxi] cdc.gov [Internet]. ChildVaxView: CDC National Immunization Survey Data, 2017-2018. Atlanta (GA): Centers for Disease Control and Prevention; 2017-2018 [cited 2020]. Available from: https://www.cdc.gov/vaccines/imz-managers/coverage/childvaxview/index.html
[xxii] cdc.gov [Internet]. ChildVaxView: CDC National Immunization Survey Teen Data, 2017-2019. Atlanta (GA) Centers for Disease Control and Prevention; 2017-2019 [cited 2020]. Available from: https://www.cdc.gov/vaccines/imz-managers/coverage/teenvaxview/index.html
[xxiii] cdc.gov [Internet]. FluVaxView, 2017-2019. Atlanta (GA): Centers for Disease Control and Prevention; 2017-2019 [cited 2020]. Available from: https://www.cdc.gov/flu/fluvaxview/index.htm
[xxiv] cdc.gov [Internet]. AdultVaxView: behavioral risk factor surveillance system, 2017-2018. Atlanta (GA): Centers for Disease Control and Prevention; 2017-2019 [cited 2020]. Available from: https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/data-reports/index.html
[xxv] cdc.gov [Internet]. Vaccines for immigrants and refugees. Atlanta (GA): Centers for Disease Control and Prevention; c2019 [cited 2020 Jul 18]. Available from: https://www.cdc.gov/vaccines/adults/rec-vac/immigrants-refugees.html
[xxvi] dcopublichealth.org [Internet]. Refugees. Durham (NC): Durham County Department of Public Health; c2020 [cited 2020 Jul 18]. Available from: https://www.dcopublichealth.org/services/communicable-diseases/refugees
[xxvii] Morillo JR. Connecting newly arrived refugees to health care in North Carolina. North Carolina Medical Journal. 2019 [cited 2020 Jul 18];80(2), 89-93. doi:10.18043/ncm.80.2.89
[xxviii] cdc.gov [Internet]. Vaccines for children program. Atlanta (GA): Centers for Disease Control and Prevention; c2016 [cited 2020 Jul 18]. Available from: https://www.cdc.gov/vaccines/programs/vfc/index.html
[xxix] Edwards KM, Hackell JM; Committee on Infectious Diseases, The Committee on Practice and Ambulatory Medicine. Countering vaccine hesitancy. Pediatrics. 2016 Sep [cited 2020 Jul 18];138(3):e20162146. doi: 10.1542/peds.2016-2146. PMID: 27573088. Available from: http://pediatrics.aappublications.org/cgi/pmidlookup?view=long&pmid=27573088
[xxx] Mejia C. The Echo in the Room: Barriers to Health Care for Immigrants and Refugees in North Carolina and Interpreter Solutions. N C Med J. 2019 Mar-Apr [cited 2020 Jul 18];80(2):104-106. doi:

10.18043/ncm.80.2.104. PMID: 30877160. Available from: http://ncmedicaljournal.com/cgi/pmidlookup?view=long&pmid=30877160

[xxxi] immunize.nc.gov [Internet]. The North Carolina Immunization Registry. Raleigh (NC): NC Department of Health and Human Services; 2019 [cited 2021 Jan 17]. Available from: https://immunize.nc.gov/providers/ncir.htm

Section 8.02 *Infectious diseases (not sexually transmitted)*

Overview

Infectious diseases are caused by microorganisms such as bacteria, viruses, parasites, prions or fungi that can be spread by either direct or indirect contact between different individuals. Many infectious diseases are prevented using immunizations which are one of the most cost-effective interventions. Immunizations in the U.S. target and prevent 17 diseases across the lifespan.[i] Increasingly, goals for infectious disease management include the risks of disease transmission across geographic borders due to a more mobile population. Zika outbreaks have been reported in the Pacific region, South and Central America, the Caribbean, Africa, and parts of south and southeast Asia.[ii] After 2017, there were no reports of the Zika virus in the United States.[iii] The Tuberculosis (TB) vaccine (Bacille Calmette- Guerin [BCG]) given to infants and small children in countries where TB is prevalent is used only in select at-risk populations in the United States. There have been over seven million cases of the novel coronavirus of 2019 (COVID-19) in the United States, but there is no available vaccine as of October 2020.

Secondary Data

Tuberculosis (TB)

TB is an airborne disease that mainly affects the lungs and is one of the top 10 global causes of death.[iv] TB coinfection with HIV is common and TB infection is more likely among persons living with HIV than others.[v] In 2019, there were 185 cases of TB across North Carolina, representing nearly an 5.6% decrease from cases in 2018 (196 cases) and a 15.5% decrease from a high of 219 cases in 2016.[vi] However, Durham County experienced an increase from nine to 12 cases from 2018 to 2019 (25%), after experiencing decreases in prior years.[vii] From 2015 to 2019, the average TB rate in Durham County was 3.06 per 100,000 persons (see Figure 8.02 (a)).[viii] This was compared to the North Carolina rate of 2.00 per 100,000 persons.[ixvi] Figure 8.02 (a) displays the TB case rates in Durham County and North Carolina from 2015-2019.

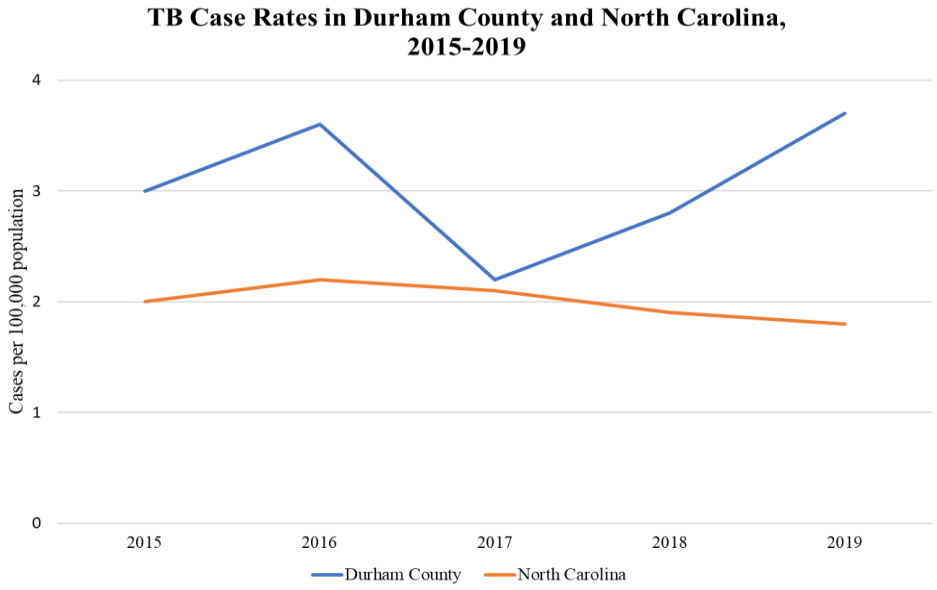


Figure 8.02(a): TB Case Rates in Durham County & North Carolina[x]

Similar to years past, TB cases in North Carolina from 2014-2018 were split between persons born in the U.S and persons born in another country (see Figure 8.02 (b)).[xi] In 2019 there was one case of drug-resistant Tuberculosis in Durham county; there were seven cases in North Carolina.[xii,xiii] No cases of drug-resistant Tuberculosis were reported in Durham County in 2018.[xiv]

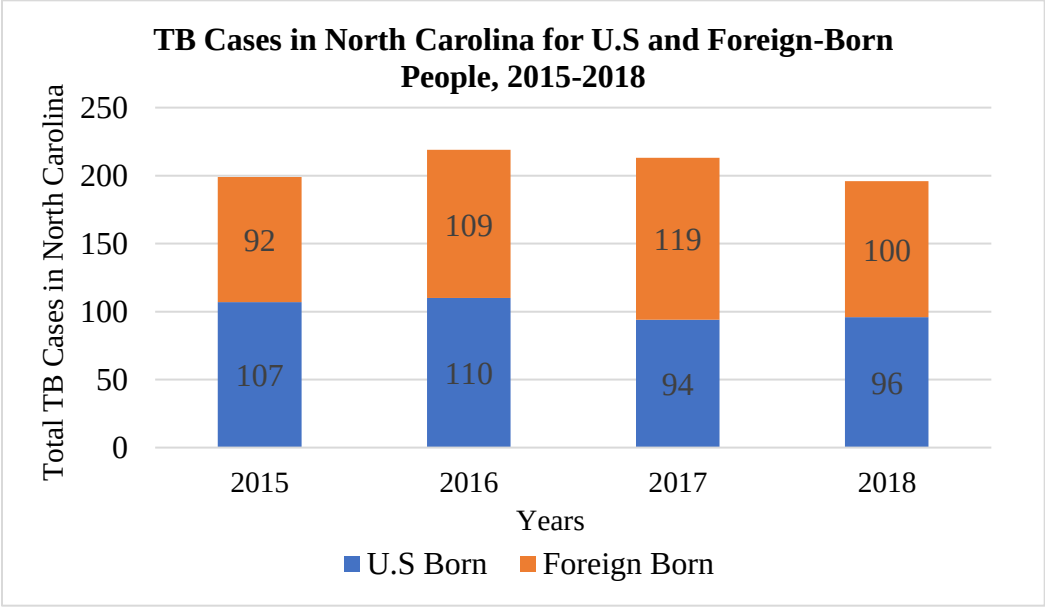


Figure 8.02(b), TB Cases in North Carolina Among U.S-Born and Foreign-Born Individuals[xv]

COVID-19

The ongoing COVID-19 pandemic caused more than 200,000 deaths in the United States as of September 2020 and has had a significant impact on Durham County and North Carolina as well.[xvi] COVID-19 is a primarily respiratory virus originating in Wuhan, China in late 2019 that has led to over 48 million cases and 1,000,000 deaths globally as of October 2020.[xvii] While predominantly impacting the lungs, COVID-19 has also been documented to impact an affected individual's gastrointestinal, muscular and cardiac systems leading to symptoms such as changes in taste and smell, muscle weakness, shortness of breath, fatigue, nausea and vomiting.[xviii]

As of September 2020, there have been a total of 196,501 COVID-19 cases in North Carolina, including 7,580 cases in Durham County.[xix,xx] Durham County's case rate per 100,000 persons to date is higher than the state average at 2,358 compared to the total North Carolina total case rate of 1,841 per 100,000 persons.[xxi,xx] Durham County has experienced 93 deaths as of September 2020 (29 per 100,000) while there have been a total of 3,321 deaths across North Carolina (32 per 100,000).[xxii,xxiii] The most up-to-date data on COVID-19 case rates in Durham County can be found at the Department of Public Health website, https://durhampublichealth-durhamnc.hub.arcgis.com/.

Nearly three million tests have been conducted across North Carolina since the beginning of the pandemic in March 2020 and September 2020. As of September 25, 2020, the testing positivity rate across North Carolina was 5.3%, while Durham County's was at 3%.[xxiv] Also as of September 25, 2020, half (49.55%) of Durham County's COVID-19 cases have been among Hispanic or Latinx people and nearly a third (26.92%) have been among Black or African American residents.[xxv] In 2019, it was estimated that only 13.7% of Durham county residents were Hispanic or Latinx, while 38.1% were Black or African American.[xxvi] Approximately 20% of COVID-19 cases have been reported among white residents.[xxvii] In 2019, it was estimated that 55% of the county population was white.[xxviii] The average age of individuals contracting COVID-19 in Durham County is 37 years at the time of this writing. Across the state, 41% of cases occur among people aged 25-49.[xxixxx] As of September 25, 2020, the following occupations had the highest case rates in Durham County: construction, hospital workers, nursing care facilities, restaurants and universities.[xxx] The highest case rates have occurred amongst those who are reported unemployed.[xxxi]

Other Infectious Diseases

In 2016, Zika emerged and became a reportable condition. In 2016, 2017 and 2018, North Carolina had 104, nine and five cases respectively with only nine cases in Durham County in 2016 (none for the other years).[xxxii]

Data for selected other conditions are presented in Figure 8.02(c). These include incidence rates per 100,000 for Durham County and North Carolina in 2018 for the following conditions: Hepatitis C, foodborne illnesses including Campylobacter infection and Salmonellosis, Cryptosporidiosis, Shigellosis and Rocky Mountain Spotted Fever.

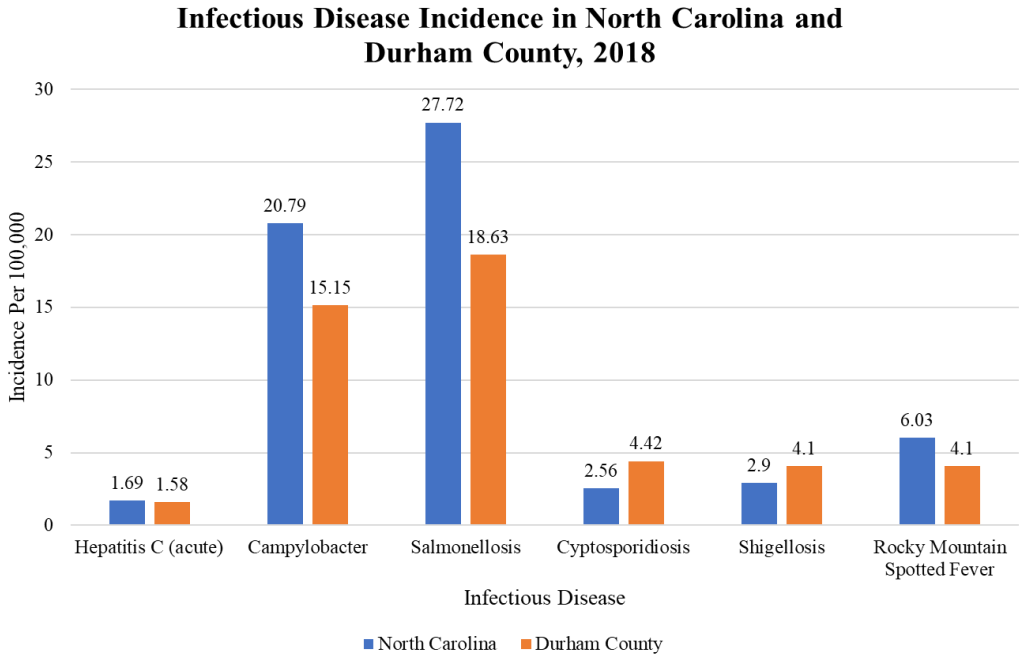


Figure 8.02(c): Incidence rates of selected infectious diseases[xxxiii]

Interpretations: Disparities, Gaps, Emerging Issues

Race and other demographic information such as education level, household wealth or income and age are not available for the majority of non-STI communicable diseases in Durham County.[xxxiv] It is difficult to assess disparities without this data. The North Carolina Department of Health and Human Services (NC DHHS) notes "It would be ideal to have more information for specific minority racial groups, such as American Indians or Asians. However, due to data limitations, unreliable population estimates and small numbers of events for these groups, it is difficult to produce reliable information by detailed racial groupings for many indicators, especially at the county level."[xxxv]

Information on race and age is being released for many COVID-19 cases, although gaps in reporting have been noted. As noted in the secondary data above, Black and African American and Hispanic and Latinx communities have been disproportionately affected by COVID-19 cases compared to white residents in Durham County (Figure 8.02(d)). These trends may be linked to factors such as types of employment, poverty, housing and underlying chronic health conditions that also disproportionately affect communities of color. Research shows that Black Americans are more likely to work low-income, essential work jobs such as in grocery stores.[xxxvi] These racial inequities simultaneously put these groups at higher risk for contracting COVID-19 due to their interaction with the public while also providing lower wages and minimal, if any, access to health insurance.[xxxvii]

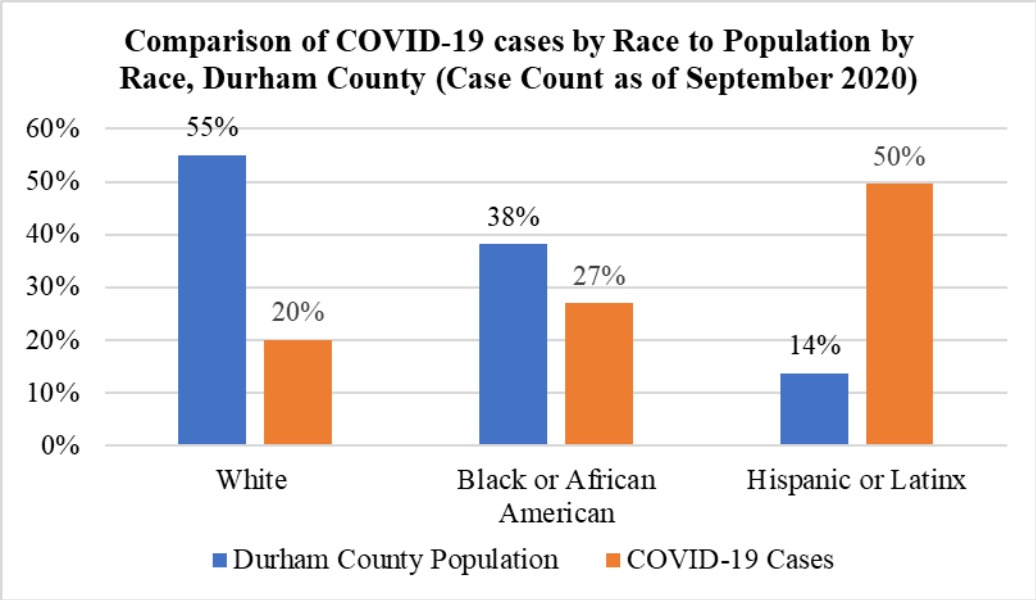


Figure 8.02(d): Comparison of proportion of COVID-19 cases by race (2020) to proportion of population by race (2019)[xxxviii,xxxix]

TB is also known to disproportionately affect Black or African Americans, Hispanic and Latinx and Asian and Pacific Islander in the United States. In 2015, 87% of new TB cases were among people of color.[xl] Health disparities in TB are related to factors such as age, housing security and incarceration status. Four percent of people diagnosed with TB in 2017 also reported experiencing housing insecurity the year preceding diagnosis.[xli] This may be due to the fact that spending time in congregate living centers such as housing shelters and prisons increases the risk for transmission of TB and other infectious diseases.[xlii]

Emerging Issues

While most TB infections are curable, people can be infected with drug-resistant TB. Drug resistant TB may occur when TB medications are misused such as not taking TB medication as prescribed by a doctor. Treatment for drug resistant TB takes longer and has serious side effects such as depression or psychosis and hearing impairment. There was one reported case of drug-resistant TB in Durham County in 2019.[xliii]

Early in the COVID-19 outbreak (March to April 2020), cases were largely concentrated in congregate living settings such as residential facilities, jails and nursing homes.[xliv] However, as phased reopening began in May 2020, increases in case counts in new settings such as schools and universities were noted.[xlv] Ongoing efforts to encourage use of masks and social distancing guidelines are needed to contain the spread of COVID-19.

Recommended Strategies

COVID-19 – Promoting widespread testing, encouraging the use of masks in public spaces, and effectively distributing vaccines (once released) are key steps towards managing the COVID-19 outbreak.

Infectious Outbreak Control - While cases of many communicable diseases in Durham County are low, the COVID-19 outbreak has taught valuable lessons on the importance of timely, accurate communication with the public regarding emerging outbreaks. Promoting trust between public health agencies and communities should be prioritized, particularly among historically marginalized groups. Past wrongs, both nationally (such as the Tuskegee Syphillis Study and the case of Henrietta Lacks) and locally (including the history of segregation and racism at Duke Health) have created a complex relationship between the Durham community and its health authorities. Addressing longstanding inequities within Durham is a key step towards improving public communication to manage the spread of infectious diseases.

Current Initiatives and Activities

TB Clinic: The Durham County Department of Public Health operates a TB clinic that provides testing and services to residents at varying costs depending on their risk of TB infection. https://www.dcopublichealth.org/services/communicable-diseases/tuberculosis

COVID-19: Multiple community-based centers have instituted free, widely available testing as of November 2020. As of November 2020, El Centro Hispano and the Durham Housing Authority have available, free testing regardless of insurance or documentation. Multiple sites from Duke, CVS, Walgreens and urgent care clinics offer free testing with an appointment and screening. More information on testing availability can be found at https://www.dcopublichealth.org/services/communicable-diseases/coronavirus-disease-2019/covid-19-testing.

Social distancing: As of October 13, 2020, Durham County has adopted the North Carolina Safer at Home Phase 3.0 reopening order. This order limits indoor gatherings to ten people, outdoor gatherings to 50 people, and has capacity restrictions on public spaces including gyms, restaurants, bars and amusement parks. Masks are still required while in all public spaces in the state of North Carolina. More detailed information on stay-at-home orders in Durham County can be found at https://www.nc.gov/covid-19/staying-ahead-curve.

Durham Communicable Disease: The Durham County Department of Public Health maintains information on communicable diseases including tuberculosis, COVID-19, influenza and other vaccine preventable and non-vaccine preventable diseases. Information on communicable disease mandatory reporting is available at https://www.dcopublichealth.org/services/communicable-diseases/communicable-diseases.

References

[i] cdc.gov [Internet]. Vaccines by disease. Atlanta (GA): Centers for Disease Control and Prevention; c2016 [cited 2020 Nov 13]. Available from: https://www.cdc.gov/vaccines/vpd/vaccines-diseases.html
[ii] cdc.gov [Internet]. Zika travel information. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 13]. Available from: https://wwwnc.cdc.gov/travel/page/zika-information
[iii] cdc.gov [Internet]. Zika in the US. Atlanta (GA): Centers for Disease Control and Prevention; c2019 [cited 2020 Nov 13]. Available from: https://www.cdc.gov/zika/geo/index.html
[iv] who.int [Internet]. The top 10 causes of death. Geneva: World Health Organization; c2018 [cited 2020 Sep 14]. Available from: https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death
[v] cdc.gov [Internet]. TB and HIV coinfection. Atlanta (GA): Centers for Disease Control and Prevention; c2016 [cited 2020 Sep 16]. Available from: https://www.cdc.gov/tb/topic/basics/tbhivcoinfection.htm
[vi] epi.dph.ncdhhs.gov [Internet]. North Carolina Tuberculosis cases and case rates by county, 2010-2019. Raleigh (NC): NC Department of Public Health; c2019 [cited 2020 Sep 14]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/TB_County_Case_Rates_2010_2019.pdf
[vii] epi.dph.ncdhhs.gov [Internet]. North Carolina Tuberculosis cases and case rates by county, 2010-2019. Raleigh (NC): NC Department of Public Health; c2019 [cited 2020 Sep 14]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/TB_County_Case_Rates_2010_2019.pdf
[viii] epi.dph.ncdhhs.gov [Internet]. North Carolina Tuberculosis cases and case rates by county, 2010-2019. Raleigh (NC): NC Department of Public Health; c2019 [cited 2020 Sep 14]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/TB_County_Case_Rates_2010_2019.pdf
[ix] epi.dph.ncdhhs.gov [Internet]. North Carolina Tuberculosis cases and case rates by county, 2010-2019. Raleigh (NC): NC Department of Public Health; c2019 [cited 2020 Sep 14]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/TB_County_Case_Rates_2010_2019.pdf
[x] epi.dph.ncdhhs.gov [Internet]. North Carolina Tuberculosis cases and case rates by county, 2010-2019. Raleigh (NC): NC Department of Public Health; c2019 [cited 2020 Sep 14]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/TB_County_Case_Rates_2010_2019.pdf
[xi] epi.dph.ncdhhs.gov [Internet]. North Carolina Tuberculosis cases and case rates by county, 2010-2019. Raleigh (NC): NC Department of Public Health; c2019 [cited 2020 Sep 14]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/TB_County_Case_Rates_2010_2019.pdf
[xii] cdc.gov [Internet]. Drug-resistant TB. Atlanta (GA): Centers for Disease Control and Prevention; c2017 [cited 2020 Sep 14]. Available from: https://www.cdc.gov/tb/topic/drtb/default.htm#:~:text=Multidrug%2Dresistant%20TB%20(MDR%20TB)%20is%20caused%20by%20TB,%2Dresistant%20TB%20(XDR%20TB)
[xiii] epi.dph.ncdhhs.gov [Internet]. Drug-resistant Tuberculosis cases, North Carolina 2019. Raleigh (NC): North Carolina Tuberculosis Control Program; 2020 Jul 25 [cited 2020 Nov 17]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/TB_Drug_Resistance_2019.pdf
[xiv] epi.dph.ncdhhs.gov [Internet]. Drug-resistant Tuberculosis cases, North Carolina 2018. Raleigh (NC): North Carolina Tuberculosis Control Program; 2019 Mar 26 [cited 2020 Nov 17]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/drugresist2018.pdf
[xv] epi.dph.ncdhhs.gov [Internet]. Tuberculosis cases in North Carolina by country of birth, 2011-2018. Raleigh (NC): NC Department of Public Health; c2019 [cited 2020 Sep 28]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/foreignborn2011_2018.pdf
[xvi] nytimes.com [Internet]. North Carolina Covid map and case count. New York (NY): The New York Times; c2020 [cited 2020 Sep 28]. Available from: https://www.nytimes.com/interactive/2020/us/north-carolina-coronavirus-cases.html
[xvii] coronavirus.jhu.edu [Internet]. COVID-19 data in motion. Baltimore (MD): Johns Hopkins University & Medicine, Coronavirus Resource Center; c2020 [cited 2020 Sep 27]. Available from: https://coronavirus.jhu.edu/

[xviii] cdc.gov [Internet]. Symptoms of Coronavirus. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 30]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html
[xix] nytimes.com [Internet]. North Carolina Covid map and case count. New York (NY): The New York Times; c2020 [cited 2020 Sep 28]. Available from: https://www.nytimes.com/interactive/2020/us/north-carolina-coronavirus-cases.html
[xx] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 September 25]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxi] nytimes.com [Internet]. North Carolina Covid map and case count. New York (NY): The New York Times; c2020 [cited 2020 Sep 28]. Available from: https://www.nytimes.com/interactive/2020/us/north-carolina-coronavirus-cases.html
[xxii] nytimes.com [Internet]. North Carolina Covid map and case count. New York (NY): The New York Times; c2020 [cited 2020 Sep 28]. Available from: https://www.nytimes.com/interactive/2020/us/north-carolina-coronavirus-cases.html
[xxiii] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 September 25]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxiv] ncdhhs.gov [Internet]. Cases. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Sep 18]. Available from: https://covid19.ncdhhs.gov/dashboard/cases
[xxv] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Sep 25]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxvi] durhamnc.gov [Internet]. Demographics. Durham (NC): City-County Planning Department; c2020 [cited 2020 Oct 1]. Available from: https://durhamnc.gov/386/Demographics
[xxvii] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Sep 25]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxviii] durhamnc.gov [Internet]. Demographics. Durham (NC): City-County Planning Department; c2020 [cited 2020 Oct 1]. Available from: https://durhamnc.gov/386/Demographics
[xxix] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Sep 25]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxx] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Sep 25]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxxi] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Sep 25]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxxii] North Carolina Department of Public Health. NCD3: North Carolina disease data dashboard [Internet]. Raleigh (NC): North Carolina Public Health; c2020 [cited 2020 Sep 17]. Available from: https://public.tableau.com/profile/nc.cdb#!/vizhome/NCD3NorthCarolinaDiseaseDataDashboard/DiseaseMapsandTrends
[xxxiii] North Carolina Department of Public Health. NCD3: North Carolina disease data dashboard [Internet]. Raleigh (NC): North Carolina Public Health; c2020 [cited 2020 Sep 17]. Available from: https://public.tableau.com/profile/nc.cdb#!/vizhome/NCD3NorthCarolinaDiseaseDataDashboard/DiseaseMapsandTrends
[xxxiv] ncdhhs.gov [Internet]. North Carolina resident population health data by race and ethnicity. Raleigh (NC): NC Department of Health and Human Services; c2019 [cited 2020 Oct 2]. Available from: https://schs.dph.ncdhhs.gov/schs/pdf/NCPopHealthDatabyRaceEthOct2019v2.pdf
[xxxv] ncdhhs.gov [Internet]. Statistics and reports: minority health. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Oct 2]. Available from: https://schs.dph.ncdhhs.gov/data/minority.cfm
[xxxvi] Rogers TN, Rogers CR, VanSant-Webb E, Gu LY, Yan B, Qeadan F. Racial disparities in COVID-19 mortality among essential workers in the United States [Internet]. World Medical & Health Policy. 2020 [cited 2020 Nov 13];12(3):311-27. Available from: https://doi.org/10.1002/wmh3.358

[xxxvii] cdc.gov [Internet]. Health equity considerations and racial and ethnic minority groups. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 13]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html
[xxxviii] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Sep 25]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/
[xxxix] durhamnc.gov [Internet]. Demographics. Durham (NC): City of Durham; c2020 [cited 2020 Oct 1]. Available from: https://durhamnc.gov/386/Demographics
[xl] cdc.gov [Internet]. Health disparities in TB. Atlanta (GA): Centers for Disease Control and Prevention; c2016 [cited 2020 Sep 25]. Available from: https://www.cdc.gov/tb/topic/populations/healthdisparities/default.htm.
[xli] Stewart RJ, Tsang CA, Pratt R, Price S, Langer A. Tuberculosis — United States, 2017 [Internet]. Atlanta (GA): Centers for Disease Control and Prevention. 2018;67(11):317-23. Available from: http://dx.doi.org/10.15585/mmwr.mm6711a2
[xlii] Stewart RJ, Tsang CA, Pratt R, Price S, Langer A. Tuberculosis — United States, 2017 [Internet]. Atlanta (GA): Centers for Disease Control and Prevention. 2018;67(11):317-23. Available from: http://dx.doi.org/10.15585/mmwr.mm6711a2
[xliii] epi.dph.ncdhhs.gov [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2019 [cited 2020 Nov 13]. Available from: https://epi.dph.ncdhhs.gov/cd/tb/figures/TB_Drug_Resistance_2019.pdf
[xliv] NC Department of Health and Human Services. COVID-19 ongoing outbreaks in congregate living settings [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Oct 1]. Available from: https://files.nc.gov/covid/documents/dashboard/Weekly-COVID19-Ongoing-Outbreaks.pdf
[xlv] NC Department of Health and Human Services. COVID-19 ongoing clusters in child care and school settings [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Oct 1]. Available from: https://files.nc.gov/covid/documents/dashboard/Weekly-Ongoing-Clusters-in-Child-Care-and-School-Settings.pdf

Section 8.03 *Sexually transmitted infections*

Overview

HIV and other sexually transmitted infections (STIs) have been a significant public health issue in Durham County for several years. The highest-risk individuals continue to get infected with STIs and succumb to complications related to those infections.[i] While there are more than 30 different pathogens known to be transmitted through sexual contact, HIV, syphilis, gonorrhea and chlamydia will be discussed in this section.[ii]

In 2018, STIs in the United States surged for the fifth year in a row, reaching an all-time high.[iii]Factors such as commercial sex work, online dating applications, injection drug use and access to healthcare among vulnerable populations may attribute to the increase in STIs such as syphilis, gonorrhea and chlamydia.[iv] The number of people infected with gonorrhea who also have HIV has doubled over the past five years.[v]

STIs can have serious consequences including an increased risk of HIV acquisition, adverse birth outcomes, infertility, sterility, increased cancer risk and even death. Many people seeking screening and treatment for STIs often face barriers such as limited economic resources, stigmatization, poor quality of services and little or no follow-up with sexual partners.

The estimated number of people living in North Carolina with HIV infection in 2018 was 35,457.[vi] Among people living with HIV in NC in 2018, those receiving medical care were more likely to be virally suppressed. Eighty-five percent of people living with HIV and receiving medical care were suppressed.[vii] People between 20 to 29 years-old had the highest rate of newly diagnosed HIV in 2018 (66.6 per 100,000) and comprised 39% (N=475) of the newly diagnosed population.[viii]

Among racial ethnic groups in 2018, Black or African Americans represented 63% of all adult and adolescent newly diagnosed HIV infections, with a rate of 40.8 per 100,000 of the adult and adolescent population.[ix] For adults and adolescents newly diagnosed with HIV in 2018, the most likely route of transmission was male-male sex in 53% of all cases, heterosexual sex in 22% of cases, injection drug use (IDU) in 3% of cases and combined male-male sex and injection drug use in 2% of cases.[x]

Primary Data

As indicated in the 2019 Durham Community Health Assessment Survey, a sample of Durham County residents were asked to identify five priority health needs.[xi] Twelve percent of participating residents identified STIs to be a priority health issue.[xii]

Secondary Data

Between January 2019 and December 2019, HIV and STI Services received 12,296 webpage visits on the Durham County Department of Public Health (DCoDPH) website as the most visited webpage.[xiii]

HIV

Durham's three-year average HIV rate is higher than the state and Wake County.[xiv]

Three-Year Average for Durham's HIV New Cases and Rates Compared to NC Peer Counties per 100,000, 2016-2018[xv]

Rank*	County/State	New Cases			Incidence Rate			3-year AVG Rate
		2016	2017	2018	2016	2017	2018	
4	**Durham**	81	66	60	31.4	25.2	22.4	26.3
3	Guilford	136	126	109	30.8	28.3	24.3	27.8
5	Cumberland	65	69	60	23.9	25.5	22.1	23.9
23	Wayne	11	16	11.8	10.7	15.7	11.8	12.5
18	Wake	170	127	114	19.7	14.3	17.6	15.5
	NC	**1389**	**1305**	**1218**	**16.3**	**15.1**	**13.9**	**15.1**

Table 8.03(a) Three- year HIV Trends in North Carolina, Durham and Peer Counties, 2016-2018

Syphilis

The highest rates of newly diagnosed early syphilis in Durham occurred in 20 to 24 and 25 to 29-year-olds, similar to North Carolina. Stigma and access to health care are barriers to preventing the control of syphilis in Durham County.[xvi]

Three-Year Average for Durham County Syphilis New Cases and Rates Compared to NC Peer Counties, 2016-2018[xvii]

Rank*	County/State	New Cases			Incidence Rate			3-year AVG Rate
		2016	2017	2018	2016	2017	2018	
1	**Durham**	122	124	176	39.6	39.8	55.6	45.0
4	Cumberland	79	79	117	23.7	23.8	35.2	27.6
3	Guilford	171	185	151	32.6	34.9	28.3	31.9
25	Wayne	20	16	14	16.1	13.0	11.4	13.5
9	Wake	251	250	252	23.9	23.3	23.1	23.4
	NC	1903	1919	1914	18.7	18.7	18.4	18.6

Table 8.03(b) Three- year syphilis trends in North Carolina, Durham and Peer Counties, 2016-2018

*Rates based on three-year average rate.

Chlamydia and Gonorrhea

Durham has seen a steady increase in both Chlamydia and Gonorrhea for the past five years. This may be due to an increase of focused non-traditional testing and the expansion of rapid testing. With more tests being conducted, non-traditional treatment options should be considered.[xviii]

Five-Year Durham County Chlamydia and Gonorrhea New Cases and Incident Rates per 100,000, 2014-2018[xix]

	New Cases					Incidence Rate				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Chlamydia	2160	2284	2428	2741	2863	731.7	759.4	789.1	878.8	903.9
Gonorrhea	752	739	959	1073	1107	254.7	245.7	311.7	344.0	349.5

Table 8.03 (c) Five-year chlamydia and gonorrhea trends, 2014-2018

Interpretations: Disparities, Gaps, Emerging Issues

Various groups are disproportionately impacted by STI/HIV rates in Durham County. First, young people ages 20-24 have the highest incidence rates for HIV, syphilis, gonorrhea and chlamydia. Second, when examined by race, African Americans continue to have the highest incidence rates for all STIs and HIV. Higher prevalence of HIV and STIs in communities of color put individuals at a higher risk of infection at each sexual encounter, since many people are likely to engage in sexual relationships with people who are from the same racial or ethnic background.

In 2018, the annual rate of HIV infection for Black men in the county was (68.7) nearly nine times that of white men at (8.1).[xx] The annual rate of HIV infection for Black women (15.9) is nearly eight times that of white women at (1.9).[xxi] Overall, young Black men who have sex with men (MSM) seem to have the greatest risk of syphilis infection and HIV infection. Over 40% of primary and secondary syphilis cases were among MSM who were HIV positive.[xxii] Early syphilis infection is a risk factor for HIV. The 2018 primary and secondary syphilis reports were characterized by a high rate of HIV co-infection, particularly in Black MSM.[xxiii]

Current STI surveillance data does not routinely include information on sexual behaviors. The significantly high incidence rates of STI infection and HIV in Black or African American MSM is heavily influenced by both individual and sexual network characteristics such as number of lifetime or recent sex partners, rates of partner exchange and frequency of unprotected sex. Limited access to quality healthcare, low cultural competence, medical biases of primary care providers, past experience of discrimination, sexual stigma and negative provider/patient interactions have all been associated with increased sexual risk behaviors and high rates of HIV/STI among people of color and Black MSM.[xxiv] In addition, race-based trauma, poverty, health information access disparity and disproportioned lengths of incarceration are also known factors that put communities of color at greater risk of negative health outcomes and higher rates of STIs and HIV. The following programs in the Recommended Strategies to address HIV and STIs have been tailored for the Durham County community.

Recommended Strategies

- **Expedited Partner Therapy (EPT):** EPT is the clinical practice of treating the sex partners of patients diagnosed with chlamydia or gonorrhea by providing prescriptions or medications to the patient to take to his or her partner without examination of the partner.[xxv]DCoDPH implements this strategy in their adult health clinic to provide timely treatment of chlamydia, a useful measure to prevent re-infection of treated cases and, particularly in women, reduce the risk of complications such as pelvic inflammatory disease;
- **Non-traditional Outreach Strategies:** Outreach and health promotion via social media and dating applications is an innovative approach to reducing sexually transmitted infections and the stigma associated with HIV/STI prevention and treatment;
- **PrEP Availability:** Durham has responded to historically high rates of HIV infection, specifically among young Black MSM by promoting pre-exposure prophylaxis (PrEP) as an HIV prevention tool. DCoDPH, Duke Health and Lincoln Community Health Center have all worked diligently to make PrEP available to high-risk clients in Durham since 2015. The DCoDPH has partnered with PrEP prescribing agencies to refer high risk clients to a PrEP provider by offering free HIV/STI testing and counseling.
- **Rapid Testing Expansion:** HIV rapid testing continues to expand a variety of rapid tests to including rapid syphilis test kits, offered free within selected counties to increase testing. In addition, the State Lab of Public Health has provided HIV and Hepatitis C (HCV) lab processing free of charge to funded community-based organizations and local health departments to expand testing;
- **Capacity Building for Testing and Outreach:** DCoDPH serves as a lead agency for Integrated Targeted Testing Services (ITTS) for Region VI which includes 11 North Carolina counties. Durham works with several community-based organizations and North Carolina Central University to increase and coordinate the amount of HIV and STI testing and treatment that is done among high-risk populations within Region VI. In the upcoming years, DCoDPH is committed to strengthening its connection to the Durham county community through the Fact Track Cities initiative. This initiative will assist patients to take an active role in managing their health, community driven strategies and improving care and resource measures throughout the county to improve STI/HIV patient care and health outcomes.

Current Initiatives & Activities

HIV/STD Prevention & Care Branch aims to eliminate morbidity and mortality due to sexually transmitted diseases and to assure that an up-to-date continuum of care services is all available for all individuals residing in North Carolina. https://epi.dph.ncdhhs.gov/cd/stds/program.html

Alliance of AIDS Services- Carolinas (AAS-C) serves people living with HIV/AIDs, and their communities at large, through compassionate and non-judgmental care, prevention, education and advocacy. https://www.aas-c.org/

CAARE Inc. is a nonprofit community-based organization has helped decrease a broad range of health disparities, including those surrounding HIV/STIs. https://www.caare-inc.org/

Lincoln Community Health Center: Early Intervention clinic provides medical treatment and social work services to people with HIV/AIDS. https://lincolnchc.org/

Duke Infectious Disease Clinic 1K provides care for adult patients (18 years and older) with all types of infectious diseases and offers HIV pre-exposure prophylaxis (PrEP) to all HIV-negative individuals at risk for HIV infection. https://www.dukehealth.org/locations/duke-infectious-diseases-clinic-clinic-1k

Durham County Department of Public Health provides confidential HIV/STI Testing and Counseling, sexual health education and outreach, PrEP referrals, and distributes internal and external condoms**.** http://www.dconc.gov

Fast Track Cities Initiative aims to attain the target goals of 90% of people living with HIV knowing their HIV status, 90% of people who know their HIV-positive status being on treatment and 90% of people on treatment with suppressed viral loads by the year 2030. DCoDPH is fully committed to ending the AIDS epidemic and has hired a full-time individual to coordinate this project.

North Carolina Safer Syringe Initiative: Through the North Carolina Division of Public Health to increase access to clean needles, hypodermic syringes and other injection supplies, facilitate the safe disposal of used needles and syringes, provide information about harm reduction and preventative health and connect people who inject drugs or otherwise use drugs with treatment and medical and social services. https://www.ncdhhs.gov/divisions/public-health/north-carolina-safer-syringe-initiative/syringe-services-program-north

The Region VI Network of Care and Prevention offers prevention programs to clients in the Durham County around education, testing and linkages to Pre-Exposure Prophylaxis (PrEP) and STI treatment. The four programs are: PrEP Program, community-based testing, substance abuse testing and prevention services for those who are HIV positive. https://accessnetworkofcare.org/

References

[i] who.int [Internet]. Sexually transmitted infections (STIs). Geneva: World Health Organization; 2019 Jun 14 [cited 2020 Sep 29]. Available from: https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis)
[ii] who.int [Internet]. Sexually transmitted infections (STIs). Geneva: World Health Organization; 2019 Jun 14 [cited 2020 Sep 29]. Available from: https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis)
[iii] cdc.gov [Internet]. The State of STDS in the United States. Atlanta (GA): Centers for Disease Control and Prevention; c2018 [cited 2020 Sep 29]. Available from: https://www.cdc.gov/std/stats18/national-2018.pdf
[iv] cdc.gov [Internet]. The State of STDS in the United States. Atlanta (GA): Centers for Disease Control and Prevention; c2018 [cited 2020 Sep 29]. Available from: https://www.cdc.gov/std/stats18/national-2018.pdf
[v]North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina STD surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from https://epi.dph.ncdhhs.gov/cd/stds/figures/std18rpt_02102020.pdf
[vi] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[vii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[viii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[ix] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[x] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[xi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xiii] Juma, Mussa. DCOPH website hits [Internet]. Message to: Dennis Hamlet. 2020 Oct 1 [cited 2020 Oct 1]. 13 charts.
[xiv] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina STD surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/std18rpt_02102020.pdf
[xv] epi.dph.ncdhhs.gov [Internet]. Raleigh (NC): North Carolina HIV Surveillance Report; c2019. [cited 2020 Sep 29] Available from https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[xvi] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina STD surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/std18rpt_02102020.pdf
[xvii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina STD surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/std18rpt_02102020.pdf
[xviii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina STD surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/std18rpt_02102020.pdf
[xix] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina STD surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/std18rpt_02102020.pdf
[xx] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report: Table 25 [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[xxi] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report: Table 25 [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[xxii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report: Table 25 [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf
[xxiii] epi.dph.ncdhhs.gov [Internet]. Syphilis in North Carolina 2018. HIV/STD/Hepatitis Surveillance Unit; c2018 [cited 2020 Sep 29]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/factsheet_syphilis_2018_rev2.pdf
[xxiv] cdc.gov [Internet]. HIV among African Americans. Atlanta (GA): Centers for Disease Control and Prevention; c2018 [cited 2020 Sep 29] Available from: https://www.cdc.gov/nchhstp/newsroom/docs/factsheets/cdc-hiv-aa-508.pdf.
[xxv] cdc.gov [Internet]. Expedited partner therapy (EPT). Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 29]. Available from: https://www.cdc.gov/std/ept/default.htm

Section 8.04 *Outbreak and food safety*

Overview

In December of 2019 the Wuhan Municipal Health Commission reported a cluster of 'viral pneumonia' cases of an unknown cause in Wuhan, China. On February 11, 2020 the cause of the viral pneumonia cases was determined to be COVID-19, a novel virus that can cause a range of symptoms from an asymptomatic infection to severe cases of viral pneumonia.[i,ii] The virus is spread primarily through respiratory droplets when an infected individual sneezes, coughs or talks. The spread of the virus is likely during close contact with an infected individual. Close contact is defined as six feet or less for 15 minutes.[iii] The nature of the virus transmission has created a strain on food services, schools, childcares, and long-term care facilities in Durham County making it difficult to provide essential services in a safe manner and prevent the spread of infection.

Beginning in March 2020, licensed facilities in Durham County have altered their methods of operating and implemented cleaning and operational procedures to prevent the spread of COVID-19. Durham County Department of Public Health's Environmental Health Specialists or Registered Environmental Health Specialists (REHS) regulate these facilities for sanitary practices. The REHSs have been providing facilities with State guidance to prevent the spread of infection among the public and their staff. REHSs protect population public health by providing essential services including routine regulatory inspections, complaint, and outbreak investigations.[iv]

Environmental Health Specialist Role During COVID-19

Durham County's Environmental Health Division completed 14,589 inspections between fiscal year 2017 through fiscal year 2020 (July 1, 2017-June 30, 2020).[v] As demonstrated in Figure 8.04, the department received 2,038 complaints between fiscal year 2017 and fiscal year 2020.[vi] There have not been any major foodborne outbreaks to report between fiscal year 2017 and fiscal year 2020. There is currently no evidence to suggest that handling food can be associated with COVID-19.[vii]

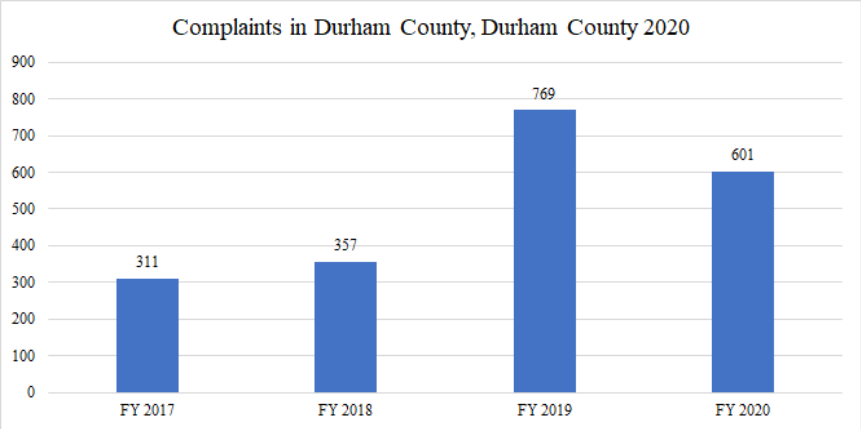


Figure 8.04 (a) Complaints in Durham County, 2020

The coronavirus pandemic expanded the scope of the REHS role. Beginning in March 2020, Environmental Health staff have been assisting the Emergency Operation Center (EOC) with outbreak investigations among staff at restaurants, daycares, residential cares and long-term care facilities.[viii] A portion of the

Environmental Health workforce was transferred to the EOC in 2020 to assist with screening, contact tracing, long-term care outbreaks and other emergency preparedness functions. The Environmental Health staff working in the field have taken on the role of educators in viral disinfection, social distancing and employee screening in the workplace.

These tasks are in addition to existing roles of routine inspections and complaint investigations. COVID-19 is not considered a foodborne illness and taking on the role to reduce the spread of coronavirus in licensed food facilities is a unique task for Environmental Health staff.[ix] The recommendations and requirements provided by the North Carolina Department of Health and Human Services (NC DHHS) are for restaurants to screen employees, disinfect high-touch surfaces and reinforce social distancing in the restaurant. These guidelines are based on Governor Cooper's executive orders.[x]

Secondary Data

Environmental Health staff have been working with the Durham County EOC to provide education and resources to communities disproportionately affected by the virus and facilities with known cases among their staff. Figure 8.04(b) shows Durham County COVID-19 cases among restaurant staff from April through July, 2020. The data confirms that 77% of confirmed positive cases in restaurant staff between April and July 2020 in Durham County were Hispanic or Latino.[xi]

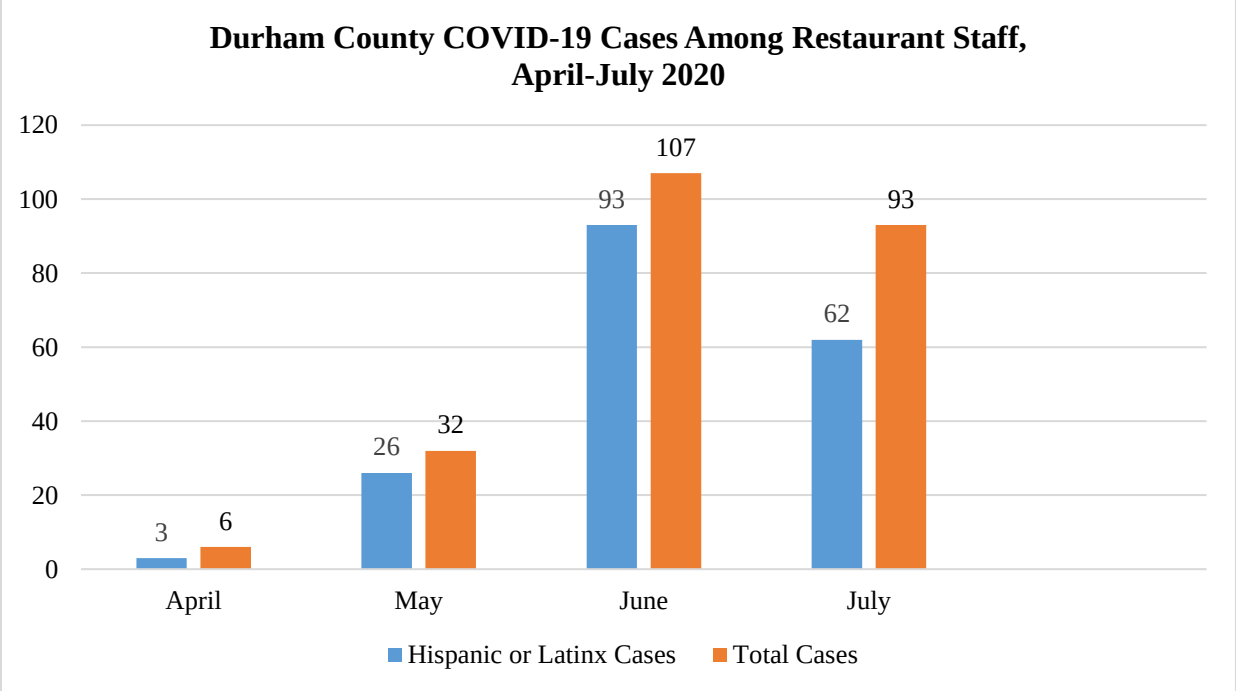


Figure 8.04 (a) COVID-19 Cases among restaurant staff in Durham County, 2020[xii]

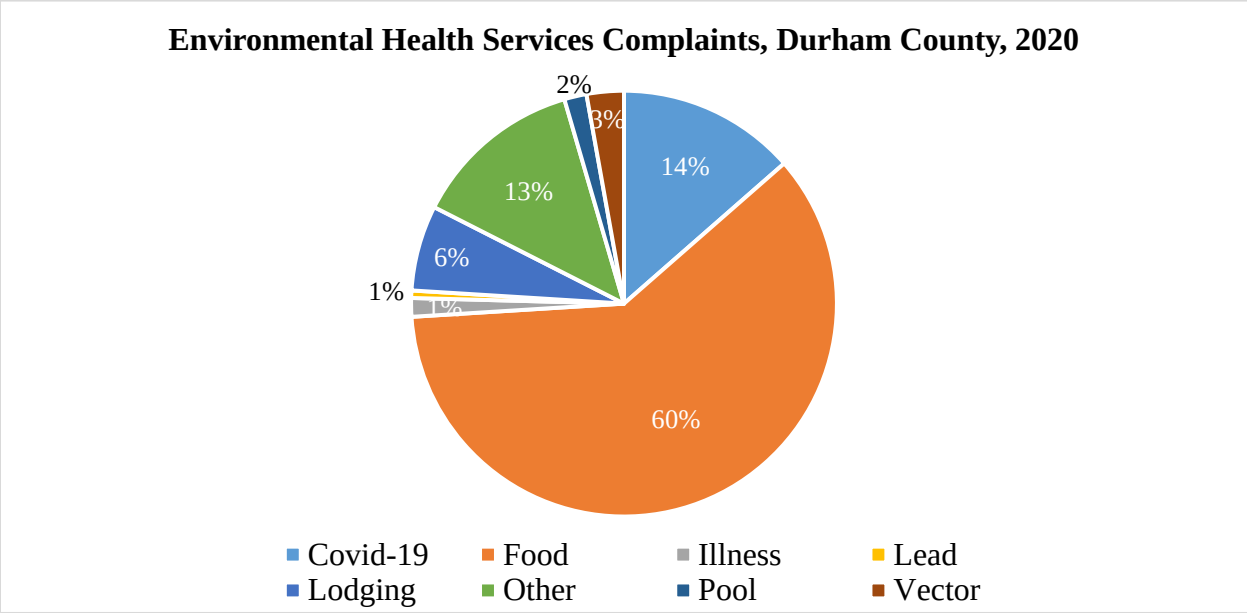


Figure 8.04(b) Complaints in Durham County, 2020[xiii]

Complaints are received from members of the public regarding concerns of health code violations, unsanitary conditions, foodborne illness or miscellaneous contamination. Figure 8.04(d) demonstrates the content of the complaints received from the public. Complaints received from the public are forwarded to the inspector that conducts the facility's routine inspection. The majority (60%) of complaints remained food-related complaints. COVID-19 complaints account for 14% of complaints for fiscal year 2020 (July 1, 2019-June 30, 2020).[xiv] This is significant, considering that North Carolina declared a State of Emergency on March 10, 2020, well into the 2020 fiscal year.[xv] COVID-19 complaints include the following topics; glove use, mask wearing, employee illness and personal hygiene. These complaints were primarily food service but included other licensed facilities such as child care centers, residential cares, lodging and long-term care facilities.

Interpretations: Disparities, Gaps, Emerging Issues

Based on the data presented, the Hispanic or Latinx population working in restaurants were over-represented in COVID-19 cases between March and July 2020.[xvi] The Hispanic or Latinx population make up 14% of Durham County's population.[xvii] Information needed for further analysis would include the demographics of restaurant workers in Durham County. The Environmental Health staff have provided screening forms and sanitation guidelines for licensed facilities in English and Spanish during COVID-19 visits in June 2020.

Recommended Strategies:

- The Environmental Health division will continue to develop educational material regarding food safety in Spanish and English.

- Build partnerships with non-profit organizations such as El Centro Hispano, that is dedicated to building stronger communities and advocating for equity. Partnering with non-profit organizations will build trust and healthy communities within Durham County. This is an example of a mission-driven strategy.
- Continue education with licensed food service facilities on outbreak prevention and safe food handling methods to prevent foodborne illness, prevention and safe food handling methods.
- Environmental Health staff will continue to build on fiscal year 2017 goals and adopt a "Perfect Service" approach to inspections and regulatory activities concentrating on gaining compliance through education and partnerships.
- Utilize US Food and Drug Administration (FDA) Standards program to ensure a more consistent application of codes and rules.
- Utilize NC DHHS Guidance for Environmental Health Specialist during field visits to prevent contamination and spread of infection during restaurant inspections.

Current Initiatives & Activities

Restaurant Checklist Visits include the top five risk factors for foodborne illness, improper holding temperatures, improper cooking temperatures, contaminated utensils, poor employee health and hygiene and food from unsafe sources. Environmental Health staff then reviewed COVID-19 guidelines regarding environmental cleaning, employee screening and social distance protocol in the dining room. State of North Carolina. Executive Order No. 120 [Internet]. Raleigh, NC: 2020 Mar 23 [cited 2020 Oct 1]. Available from: https://files.nc.gov/governor/documents/files/EO120.pdf

Complaint Inspections are being conducted by REHSs (Registered Environmental Health Specialists). REHSs are working with Public Health Nurses to conduct COVID-19 complaint visits when a restaurant employee is confirmed positive. The staff visits the facility and provides the manager with Centers for Disease Control and Prevention (CDC) guidelines for exposed staff members and disinfection protocol for the staff members' workspace.

Durham County Department of Public Health Long Term Care Task Force works with long-term care and congregate living facilities to monitor and maintain the health of the staff and residents regarding COVID-19. They provide education and insight to the facilities by making site visits and sharing guidance from the CDC and NC DHHS. Each confirmed COVID-19 case is contacted to monitor their symptoms and needs until they are discharged from Durham County Department of Public Health monitoring.

Durham County Department of Public Health Cluster Team identifies pre-cluster and cluster groups in Durham County. Pre-clusters are three COVID-19 positive individuals with plausible epidemiologic linkage between cases. Clusters are five or more COVID-19 positive individuals with plausible epidemiologic linkage between cases within a 14-day period. The Clusters Team contacts cases to check on individuals until they are released. The outbreaks are reported to NC DHHS.

Food Security Task Force is a division of the Durham County Emergency Operation Center. The primary role of the Food Security Task Force is to provide essential goods and services to vulnerable populations. The task force has been actively involved in providing food and hygiene products to communities in need. Durham County partnered with the Durham Public School Foundation and additional partners to launch the FEAST program at 25 feeding sites throughout the county. The Food Security Task Force worked in conjunction with Corporative Extension to create guidelines to allow the Farmer's Markets to reopen safely and improve food security within the community.

References

[i] who.int [Internet]. Timeline of WHO's response to COVID-19. Geneva: World Health Organization; 2020 Sep 9 [cited 2020 Oct 1]. Available from: https://www.who.int/news-room/detail/29-06-2020-covidtimeline
[ii] nih.gov [Internet]. Clinical presentation of people with SARS-CoV-2 Infection. Covid-19 treatment guidelines. Bethesda (MD): National Institutes of Health; c2020 [cited 2020 Oct 1]. Available from: https://www.covid19treatmentguidelines.nih.gov/overview/clinical-presentation/
[iii] cdc.gov [Internet]. Frequently asked questions. Washington, DC: Centers for Disease Control and Prevention; c2020 [cited 2020 Oct 1]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/faq.html
[iv] neha.org [Internet]. REHS/RS Credential. Denver (CO): National Environmental Health Association; c2000 [cited 2020 Oct 1]. Available from: https://www.neha.org/professional-development/credentials/rehsrs-credential
[v] Durham County Environmental Health Division. Mobile environmental health department software [internal data]. Durham NC: Durham County Public Health; c2020 [cited 2020 Oct 1].
[vi] Durham County Environmental Health Division. Mobile environmental health department software [internal data]. Durham NC: Durham County Public Health; c2020 [cited 2020 Oct 1].
[vii] cdc.gov [Internet]. Food and Coronavirus Disease 2019 (COVID-19). Washington, DC: Centers for Disease Control and Prevention; c2020 [cited 2020 Oct 1]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/food-and-COVID-19.html
[viii] health.mn.gov [Internet]. Guidance for environmental health response to COVID-19 cases in Regulated businesses. St. Paul (MN): Minnesota Department of Health; c2020 [cited 2020 Oct 1]. Available from: https://www.health.state.mn.us/diseases/coronavirus/ehresponse.pdf
[ix] cdc.gov [Internet]. Food and Coronavirus Disease 2019 (COVID-19) [Internet]. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/food-and-COVID-19.html
[x] State of North Carolina. Executive Order No. 120 [Internet]. Raleigh (NC): 2020 Mar 23 [cited 2020 Oct 1]. Available from: https://files.nc.gov/governor/documents/files/EO120.pdf
[xi] Durham County Department of Public Health [internal data]. Durham, NC: Durham County Public Health; c2020 [cited Dec 2020].
[xii] Durham County Department of Public Health [internal data]. Durham, NC: Durham County Public Health; c2020 [cited Dec 2020].
[xiii] Durham County Environmental Health Division. Mobile environmental health department software [internal data]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Oct 1].
[xiv] Durham County Environmental Health Division. Mobile environmental health department software [internal data]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Oct 1].
[xv] State of North Carolina. Executive Order No. 120 [Internet]. Raleigh (NC): 2020 Mar 23 [cited 2020 Oct 1]. Available from: https://files.nc.gov/governor/documents/files/EO120.pdf
[xvi] Durham County Department of Public Health [internal data]. Durham (NC): Durham County Public Health; c2020 [cited Dec 2020].
[xvii] census.gov [Internet]. Durham County. Washington, DC: United States Census Bureau; c2020 [cited 2020 Aug 15]. Available from: https://www.census.gov/quickfacts/durhamcountynorthcarolina

Injury and Violence

This chapter includes:

- ❖ Unintentional injuries
- ❖ Intimate partner violence
- ❖ Sexual violence
- ❖ Human trafficking
- ❖ Child abuse

Section 9.01 *Unintentional injuries*

Overview

In the United States, unintentional injuries are the leading cause of death in children, adolescents, and adults younger than 45 years.[i] Injury and violence are significant problems in North Carolina, causing thousands of deaths and disabilities each year. From 2017 to 2019, injuries in Durham County resulted in more than 3,855 hospitalizations, 57,328 emergency department (ED) visits and an unknown number of outpatient visits.[ii] The overall cost of injury deaths among NC residents in 2018 was almost $10 billion in combined medical and work loss costs for all injury deaths and about $6.6 billion for unintentional injury deaths specifically.[iii] The three leading causes of death and hospitalizations due to unintentional injury in Durham from 2017 to 2019 were motor vehicle traffic, poisonings and falls.[iv]

Primary Data

Among those in the 2019 Community Health Assessment survey, drug use at 19.4% was the third leading health concern cited by Durham residents.[v] Alcohol, drug and medication misuse at five percent was ranked seventh among issues having the greatest effect on quality of life.[vi] Although not among the five leading health concerns for those in the 2019 Community Health Assessment Hispanic or Latino Neighborhood sample, drug use (11.9%) was ranked seventh.[vii] Residents also identified alcohol, drug and medication misuse as the fourth (19.1%) issue having the most effect on quality of life.[viii] The top two treatment options or referral sources for a mental health, drug or alcohol use problem cited by residents in the county wide sample were a doctor at 36.8% followed by a therapist or counselor at 25.8%.[ix] While Hispanic or Latino residents sampled also cited a doctor as the first referral source at 28.4%, a therapist or counselor at 10.8% ranked fifth, behind friend or family, community organization and support group.[x]

Secondary Data

During 2017 to 2019, there were far more hospitalizations (3,855) and visits to the Emergency Department (ED) (57,328) due to injuries than deaths (637) in Durham.[xi] However, unintentional injuries were the fourth leading cause of death during 2014 to 2018 in Durham.[xii] Of all the injury deaths that occurred in Durham from 2017 to 2019, unintentional poisonings (23.1%), unintentional falls (18.7%), and unintentional motor vehicle crashes (MVC; 17.7%) were the top causes, including intentional injuries.[xiii]

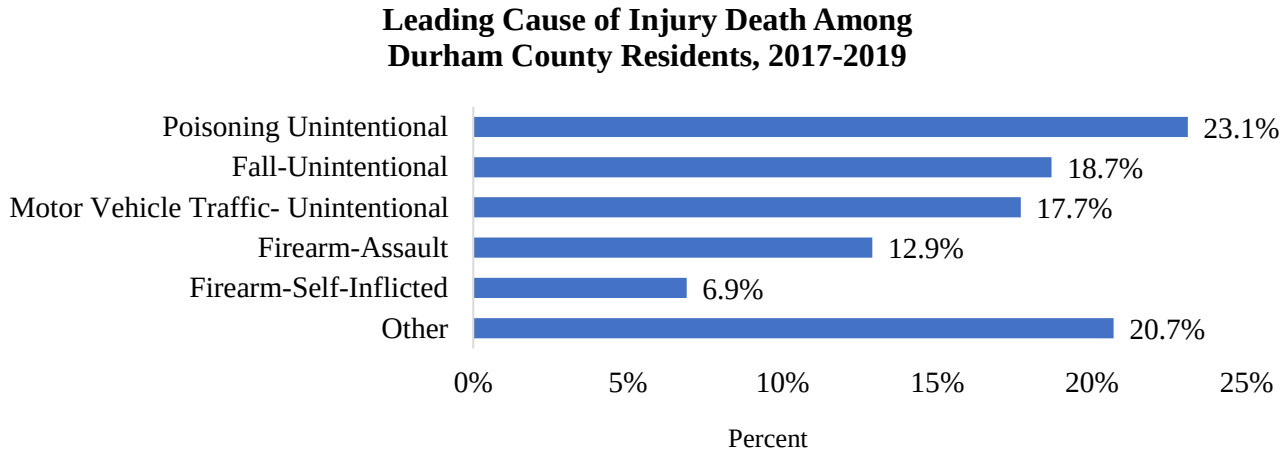


Figure 9.01 (a). Leading Causes of Injury Death Among Durham Residents by All Intents, 2017-2019[xiv]

The two leading causes of unintentional injury hospitalization and emergency department visits in Durham County during 2017 to 2019 were falls and motor vehicle trauma.[xv] Poisoning was the leading cause of injury death in Durham County during the same time period.[xvi] Each of these leading causes of unintentional injury (falls, motor vehicle crash, and unintentional poisoning) is discussed in more depth throughout the remainder of this section.

Unintentional Falls

Leading Causes of Unintentional Injury Hospitalizations Among Durham Residents, 2017-2019		
Rank	**Injury Mechanism**	**Number**
1	Fall - Unintentional	1,693
2	Motor Vehicle Traffic - Unintentional	537
3	Poisoning - Unintentional	448
4	Unspecified - Unintentional	168
5	Fire/Burn - Unintentional	160
Total Unintentional Injury Hospitalizations		**3,317**

Table 9.01(b) Leading Causes of Unintentional Injury Hospitalizations, Durham County, 2017-2019

Note: A single hospitalization may be represented in multiple injury mechanism categories.[xvii]

Unintentional falls were the second leading cause of all injury-related deaths and the leading cause of injury-related emergency department visits in Durham County during 2017 to 2019.[xviii] Between 2017 and 2019, falls accounted for over one-third of the injuries seen at the Duke Trauma Center.[xix] More than 80% of those falls were persons over the age of 60.[xx] It is estimated that lifetime costs associated with injuries due to falls among North Carolinians aged 65 and older is $1.4 billion.[xxi]

The trend in the age-adjusted mortality rate related to falls is shown below for North Carolina, Durham, and five peer counties. Although the mortality rate associated with falls varies in each of the counties highlighted below, the rate in Durham County is above the state average and also above several peer counties, including Cumberland and Mecklenburg.[xxii]

Age Adjusted Unintentional Fall Death Rates by Peer Counties, 2017-2019*

County	Number of Deaths	Rate per 100,000	Age-Adjusted Rate
Cumberland	75	7.5	8.9
Durham	119	12.5	12.8
Forsyth	223	19.6	16.4
Guilford	252	15.8	14.2
Mecklenburg	213	6.5	8.0
Wake	362	11.0	13.9
North Carolina	4,070	13.1	11.3

Table 9.01(c) Age Adjusted Unintentional Fall Death Rates, 2017-2019

Note: Age-adjusted rates were calculated using the 2000 US standard population estimates
*2019 death data are provisional (n=48)[xxiii]

Motor Vehicle Crashes

Leading Causes of Unintentional Injury ED Visits Among Durham Residents, 2017-2019		
Rank	**Injury Mechanism**	**Number**
1	Motor Vehicle Traffic - Unintentional	6,211
2	Fall - Unintentional	6,193
3	Natural/Environmental - Unintentional	1,603
4	Poisoning - Unintentional	1,418
5	Other Specified/Classifiable - Unintentional	1,405
Total Unintentional Injury ED Visits		**18,959**

Table 9.01(c)Leading Causes of Unintentional Injury Emergency Department Visits, Durham County, 2017-2019[xxiv]

Note: A single ED visit may be represented in multiple injury mechanism categories.[xxv]

Motor vehicle injuries were the leading cause of unintentional injury ED visits in Durham County during 2017 to 2019.[xxvi] They were also the second leading cause of unintentional injury hospitalization (see Table 9.01(b)) and third leading cause of injury death (see Table 9.01(c)) in Durham County.

From 2017-2019, Durham was in the top five North Carolina counties for motor vehicle injuries; in 2020, Durham County was number six in the state.[xxvii] Factors that largely contribute to this pervasive public health issue include speeding, distraction, driving under the influence of drugs or alcohol and non-use or misuse of seatbelts or child restraints. Distracted driving has been on the

rise in recent years, accounting for 15.6% of injurious car crashes in 2016 and more than 20% in 2019.[xxviii]

Unintentional Poisonings

Healthy NC 2030 Objective

Healthy NC 2030 Objective	Current Durham	Current NC	2030 Target
Decrease drug overdose deaths (per 100,000 population)[xxix]	16.6% (2018)[xxx]	20.4% (2018)[xxxi]	18.0%[xxxii]

Table 9.01(a). Crosscutting Healthy NC 2030 Objective

Unintentional poisonings are an issue of growing concern both nationally and in North Carolina. Based on Figure 9.01(b), unintentional poisonings account for the most injury deaths, nearly one in four, in Durham County from 2017 to 2019.[xxxiii] Just seven years prior, unintentional poisoning deaths were only the third leading cause of death in Durham.[xxxiv]

Opioid-involved overdoses have become more prevalent across North Carolina. Though many attribute the genesis of opioid epidemic to commonly prescribed opioids in the 1990s, from 2010-2017, overdose deaths in NC from illicit opioids like heroin saw a dramatic increase.[xxxv] In 2018, nearly five North Carolinians died each day from an unintentional opioid overdose and of those deaths, 85% were found to involve illicit opioids. [xxxvi,xxxvii] That same year, there were 155 opioid emergency department visits in and 35 unintentional opioid overdose deaths in Durham.[xxxviii] Fortunately, in 2018, there were also 176 reported community naloxone reversals in Durham County.[xxxix]

Interpretations: Disparities, Gaps, and Emerging Issues

Results of the 2019 Community Health Assessment Survey indicate a doctor as the favored source of treatment for a mental health, alcohol or drug use problem in both the County wide and Hispanic or Latino samples. However, those in the Hispanic or Latino sample were less likely to identify a therapist or counselor as a resource that they would use or recommend to others. Only 5.5% of U.S. psychologists offer services in Spanish, according to results from a 2018 American Psychological Association (APA) survey.[xl] The stigma of addiction and mental health issues, the lack of or inadequate insurance, poor knowledge or awareness of mental health problems or services to address them and the shortage of culturally competent mental health practitioners are among other barriers to mental health and addiction treatment for Hispanic or Latino communities.[xli] A well-documented history of racism which led to the sanctioning of maltreatment of racial and ethnic minorities has also fostered a culture of mistrust of the medical and mental health treatment systems within communities of color.[xlii]

Recommended Strategies

Fall Prevention Strategies

- Screen seniors for falls risk factors during all healthcare appointments utilizing evidence-based assessment tools (e.g., CDC's STEADI tool).
- Connect seniors who have fallen or who demonstrate a fall risk with community evidence-based falls prevention programs (e.g., Matter of Balance or Bingocize) or physical therapy depending on needs assessed.
- Keep home environments safe by removing tripping hazards, increasing lighting, making stair safer, and installing grab bars in bathrooms.[xliii]

MVC Prevention Strategies (Protective factors for MVC):[xliv]

- Implement MVC-related strategies and interventions that are multi-sector and have the potential to simultaneously address risk and protective factors
- Policy improvements such as distracted driving laws and including distracted driving component in Graduated Driver Licensing (GDL) policies
- Visible enforcement of state or local policy such as sobriety checkpoints and social marketing campaigns

Poisoning Prevention Strategies:

- Promote storage of all medicines and household products up and away, out of children's reach and sight[xlv]
- Educate community members on using medicine safely[xlvi]
- Offer community events and/or permanent drop boxes for residents to safely dispose of unused/expired medications[xlvii]
- Provide easy access to overdose rescue kits and/or naloxone, particularly to people with a high risk for overdose[xlviii]

Current Initiatives & Activities

Durham Center for Senior Life (DCSL) offers an array of programs and services for older adults, including congregate meals, transportation, adult education, exercise classes, caregiver support services, information referrals, and case assistance. www.dcslnc.org

Durham Joins Together (DJT) to Save Lives works to combat the opioid crisis by supporting a post-overdose response team, connecting justice-involved persons to care and focusing on expanding housing resources. https://www.dcopublichealth.org/resources/durham-joins-together

Welcome Baby: Durham County residents can attend a car seat information session in English or Spanish to learn about the correct use of car seats. Discounted car seats are available for eligible parents. Pre-registration is required. www.welcomebaby.org

Durham County Permanent Checking Stations: Families can get information on proper use of their child's car seat and have a certified car seat technician assist with proper installation of that seat in their vehicle. www.durhamsafekids.org or https://durhamnc.gov/3789/Child-Car-Seat-Installation

Durham County Gun Safety Team (DCGST) is a multidisciplinary group promoting a message of gun safety and safe storage of firearms, particularly around children. Team members are available for presentations, tabling at community events, and free gunlocks for all Durham residents. https://www.dcopublichealth.org/services/health-education/health-promotion-and-wellness/gun-safety-program

Durham County Department of Public Health (DCoDPH) Safe Syringe Program (SSP): DCoDPH pharmacy and mobile-site locations offer free, confidential sterile syringes and naloxone kits. https://www.dcopublichealth.org/services/pharmacy/safe-syringe-program

Safe Kids North Carolina Operation Medicine Drop: Safe Kids North Carolina partners with the State Bureau of Investigation, the Drug Enforcement Administration and local Safe Kids Coalitions and law enforcement agencies to provide a safe disposal method for over the counter medicines and old or unneeded prescriptions. https://apps.ncdoi.net/f?p=102:1:13493515186107

NC Harm Reduction Coalition (NCHRC) gives out naloxone kits and instructions throughout the state. Kits are available on Fridays from 4-6pm at the Sunrise Recovery House during the summer. NCHRC has been operating a clean needle program in Durham County and provides clean needles and injection supplies to those addicted to opioids. www.nchrc.org

Community Linkages to Care (CLC) Peer Support Program for Overdose Prevention and Response links Durham residents with substance use disorder (SUD) to evidence-based treatment, harm reduction, housing and other support services through community-based partnerships and a proven peer support model. https://www.dcopublichealth.org/services/health-education/opioid-substance-use-and-addiction-services/community-linkages-to-care-clc-peer-support-program

Together for Resilient Youth (TRY) works to prevent Adverse Childhood Experiences, racism and historical trauma that can result in substance use, suicide, violence and other behaviors among youth by creating a resilient community through education, grassroots and grasstops mobilization and collective impact. http://www.durhamtry.org/

References

[i] Heron M. Deaths: leading causes for 2017. Hyattsville (MD): National Center for Health Statistics, National Vital Statistics Reports; c2019 [cited 2020 Nov 5]. Available from: https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_06-508.pdf
[ii] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[iii] cdc.gov [Internet]. Web-based injury statistics query and reporting system. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; c2020 [cited 2020 Nov 5]. Available from: https://www.cdc.gov/injury/wisqars/
[iv] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[v] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 30]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[vi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 30]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[vii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Oct 30]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[viii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Oct 30]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[ix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 30]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[x] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Oct 30]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[xi] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xii] ncdhhs.gov [Internet]. 2020 County health data book: 2014-2018 race-specific and sex-specific age-adjusted death rates by county. Raleigh (NC): North Carolina Department of Health and Human Services; c2019 [cited 2020 Oct 22]. Available from: http://www.schs.state.nc.us/data/databook
[xiii] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].

[xiv] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xv] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xvi] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xvii] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xviii] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xix] Foley, Carolyn. (Duke University Hospital Trauma Center). Re: injuries. Message to: Donna Rosser (Public Health Education Specialist, Durham County Department of Public Health, NC. drosser@dconc.gov). Personal Communication; 2020 May 6 [cited 2020 Oct 20].
[xx] Foley, Carolyn. (Duke University Hospital Trauma Center). Re: injuries. Message to: Donna Rosser (Public Health Education Specialist, Durham County Department of Public Health, NC. drosser@dconc.gov). Personal Communication; 2020 May 6 [cited 2020 Oct 20].
[xxi] injuryfreenc.ncdhhs.gov [Internet]. North Carolina special emphasis report: fall injuries among older adults 2005-2014. Raleigh (NC): Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch; c2016 [cited 2020 Oct 22]. Available from: http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/Falls-SER-NC-2016-FINAL.pdf.
[xxii] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xxiii] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xxiv] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xxv] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xxvi] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xxvii] ncvisionzero.org [Internet]. Visualization: safety dashboard. Raleigh (NC): NC Vision Zero; c2020 [cited 2020 Oct 22]. Available from: https://ncvisionzero.org/visualizations/safety-dashboard/
[xxviii] ncvisionzero.org [Internet]. Visualization: safety dashboard. Raleigh (NC): NC Vision Zero; c2020 [cited 2020 Oct 22]. Available from: https://ncvisionzero.org/visualizations/safety-dashboard/
[xxix] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 13]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.

[xxx] Naney, Kristen. (Public Health Epidemiologist, Durham County Department of Public Health, NC). Re: drug overdose rate in Durham County [Internet]. Message to: Donna Rosser (Public Health Education Specialist, Durham County Department of Public Health, NC. drosser@dconc.gov). 2020 Nov 9 [cited 2020 Dec 19]. [one image].
[xxxi] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 13]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[xxxii] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC): c2020 [cited 2020 Nov 13]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[xxxiii] Geary, Shana. (Epidemiologist, Division of Public Health, Injury and Violence Prevention Branch, Dep of Health and Human Services, NC). Re: injuries in Durham County. Personal Communication; 2020 Oct 15 [cited 2020 Oct 30].
[xxxiv] Austin A, Finkbeiner S. The burden of unintentional poisonings in North Carolina [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Injury and Violence Prevention Branch; 2013 Oct [cited 2020 Oct 22]. Available from: https://injuryfreenc.ncdhhs.gov/About/UnintentionalPoisoningBurden2013.pdf
[xxxv] injuryfreenc.ncdhhs.gov [Internet]. Opioid-involved overdoses, 2018. Raleigh (NC): North Carolina Department of Health and Human Services, Injury and Violence Prevention Branch; 2020 Jul [cited 2020 Oct 22]. Available from: https://injuryfreenc.ncdhhs.gov/DataSurveillance/poisoning/OpioidFactsheet-2018-FINAL.pdf
[xxxvi] injuryfreenc.ncdhhs.gov [Internet]. NC opioid action plan data dashboard. Raleigh (NC): North Carolina Department of Health and Human Services; c2020 [cited 2020 Oct 22]. Available from: https://injuryfreenc.shinyapps.io/OpioidActionPlan/
[xxxvii] injuryfreenc.ncdhhs.gov [Internet]. Opioid-involved overdoses, 2018. Raleigh (NC): North Carolina Department of Health and Human Services, Injury and Violence Prevention Branch; 2020 Jul [cited 2020 Oct 22]. Available from: https://injuryfreenc.ncdhhs.gov/DataSurveillance/poisoning/OpioidFactsheet-2018-FINAL.pdf
[xxxviii] injuryfreenc.ncdhhs.gov [Internet]. NC opioid action plan data dashboard. Raleigh (NC): North Carolina Department of Health and Human Services; c2020 [cited 2020 Oct 22]. Available from: https://injuryfreenc.shinyapps.io/OpioidActionPlan/
[xxxix] injuryfreenc.ncdhhs.gov [Internet]. NC opioid action plan data dashboard. Raleigh (NC): North Carolina Department of Health and Human Services; c2020 [cited 2020 Oct 22]. Available from: https://injuryfreenc.shinyapps.io/OpioidActionPlan/
[xl] Smith BL. Spanish-speaking psychologists in demand. Monitor on Psychology [Internet]. 2018 Jun [cited 2020 Oct 30]; 49(6). Available from: https://www.apa.org/monitor/2018/06/spanish-speaking
[xli] Division of Diversity and Health Equity. Mental health disparities: Hispanics and Latinos. American Psychiatric Association; c2017 [cited 2020 Oct 30]. Available from: file:///D:/Downloads/Mental-Health-Facts-for-Hispanic-Latino.pdf
[xlii] Suite DH, La Bril R, Primm A, Harrison-Ross P. Beyond misdiagnosis, misunderstanding and mistrust: relevance of the historical perspective in the medical and mental treatment of people of color [Internet]. Journal of the National Medical Association. 2007 Sep [cited 2020 Oct 30]; 99(8);879-85. Available from: https://www.researchgate.net/publication/6117012_Beyond_misdiagnosis_misunderstanding_and_mistrust_Relevance_of_the_historical_perspective_in_the_medical_and_mental_health_treatment_of_people_of_color

[xliii] ncoa.org [Internet]. Take control of your health: 6 steps to prevent a fall. Arlington (VA): National Council on Aging; c2017 [cited 2020 Oct 14]. Available from: https://www.ncoa.org/healthy-aging/falls-prevention/preventing-falls-tips-for-older-adults-and-caregivers/take-control-of-your-health-6-steps-to-prevent-a-fall/

[xliv] Strategies to address shared risk and protective factors for driver safety [Internet]. Atlanta (GA): Safe States Alliance; c2019 [cited 2020 Oct 14]. Available from: https://cdn.ymaws.com/www.safestates.org/resource/resmgr/nhtsa_resource_document/NHTSA_BHWG_Recommendations_F.pdf

[xlv] cdc.gov [Internet]. Tips to prevent poisonings. Atlanta (GA): Centers for Disease Control and Prevention; c2015 [cited 2020 Oct 14]. Available from: https://www.cdc.gov/homeandrecreationalsafety/poisoning/preventiontips.htm

[xlvi] cdc.gov [Internet]. Tips to prevent poisonings. Atlanta (GA): Centers for Disease Control and Prevention; c2015 [cited 2020 Oct 14]. Available from: https://www.cdc.gov/homeandrecreationalsafety/poisoning/preventiontips.htm

[xlvii] ncsbi.gov [Internet]. Operation medicine drop. Raleigh (NC): North Carolina State Bureau of Investigation; c2020 [cited 2020 Oct 14]. Available from: https://www.ncsbi.gov/Services/Operation-Medicine-Drop

[xlviii] nchrc.org [Internet]. NCHRC's community based overdose prevention project. Raleigh (NC): North Carolina Harm Reduction Coalition; c2020 [cited 2020 Oct 14]. Available from: http://www.nchrc.org/programs-and-services/

Section 9.02 *Intimate partner violence*

Overview

Intimate partner violence (IPV), also called domestic violence, "refers to a pattern of abusive, violent, and/or coercive behaviors that are used by one person in an intimate relationship to manipulate or control the thoughts, beliefs or behavior of her/his intimate partner or to punish the partner for resisting that control. It is a pattern that one person uses to gain and maintain power, dominance, and control in a relationship."[i] IPV is not limited to physical violence; it can also be sexual, financial, verbal, or emotional abuse including humiliation, manipulation and intentional isolation from family and social supports.[ii] While many consider IPV to be a personal or family issue, its origins and consequences place it in the public realm. It impacts not just the health and well-being of individuals but also that of communities. IPV causes are systemic and requires systems and community level solutions.

In the US, approximately one in four (25.1%) women and one in 10 (10.9%) men have experienced intimate partner violence and reported a related health impact.[iii] IPV occurs within all races, cultures, socioeconomic classes, religions, genders and sexual orientations; however, communities of color and other marginalized groups are disproportionately impacted by this type of violence.[iv,v] Intimate partner violence cannot be separated from other forms of violence and oppression. Systems of oppression create conditions for people with more power to inflict violence on those with less. Marginalized groups with less power have increased vulnerability and more risk of victimization due to survival needs that are often related to poverty. Oppressive structures do not create cultural norms of healthy, respectful, consenting relationships.[vi] Compared to the prevalence rates of lifetime IPV reported by non-Hispanic white women (34.6%), non-Hispanic Black and Native American or Alaska Native women rates were markedly higher (43.7% and 46%, respectively) while the rate for Hispanic women was slightly higher (37.1%).[vii]

Any form of violence is a health issue and impedes the ability of the individual to flourish. The adverse health outcomes of intimate partner violence on individuals are extensive including chronic pain, hypertension, gastrointestinal disorders and traumatic brain injury. Studies show that women of color who have experienced IPV have higher rates of depression, posttraumatic stress disorder (PTSD) and suicidality as compared to white women who have experienced IPV.[viii] The effects of IPV are not limited to the individual experiencing the violence. Children who witness violence in their homes are likely to experience physical health problems, behavior problems in adolescence and emotional difficulties in adulthood. They may also learn destructive lessons about the use of power, violence and control in relationships that can shape their behavior throughout childhood and in later life.[ix]

Primary Data

Intimate partner violence is multifaceted and complex, often moving through many cycles that can make detection and identification difficult. Data on IPV in Durham County is limited and none of

the available surveys ask for data related to IPV of participants. Private by nature, IPV is often surrounded by shame and secrecy which makes data difficult to capture in surveys.

Durham County respondents reported mental health as the second greatest concern in the 2019 Health Assessment Survey.[x] Studies have shown that IPV is strongly linked mental health issues (e.g. depression, major depressive disorder and postpartum depression).[xi]

Secondary Data

Durham Crisis Response Center (DCRC) is the primary provider of services to victims of intimate partner violence in Durham County, though they are not limited to serving only Durham residents. From July 2019 through June 2020, the DCRC English-language helpline answered 1956 calls pertaining to intimate partner violence. Additionally, their Spanish-language helpline answered 333 calls for intimate partner violence during that period.[xii]

Table 9.02(a) shows charges related to intimate partner violence in 2018 and 2019 from the Durham Police Department. As these data indicate, IPV can include not just physical and sexual violence but also crimes involving property.

Charges Related to Intimate Partner Violence in City of Durham, 2018-2019

IPV-Related Charges	2018	2019
Rape	24	21
Robbery	25	14
Aggravated Assault	257	248
Burglary	95	80
Larceny	127	99
Motor Vehicle Theft	11	6

Table 9.02(a) Durham Police Department charges related to intimate partner violence[xiii]

While the North Carolina Coalition Against Domestic Violence (NCCADV) reports no domestic violence related homicides in Durham in 2018, three incidents with a total of five victims occurred in 2019. As of September 29, 2020, one IPV-related homicide occurred in Durham.[xiv]

In conjunction with DCRC, the Durham Police Department and Durham County Sheriff's Office have implemented a Lethality Assessment Program (LAP) to identify and better respond to high-risk domestic violence situations. From March 2019 through April 2020, officers and deputies completed 1656 LAP screenings and connected 909 victims directly to a DCRC advocate.[xv]

Interpretations: Disparities, Gaps, and Emerging Issues

On March 10, 2020, North Carolina Governor Roy Cooper issued Executive Order 116 which declared a State of Emergency to coordinate response and protective action to prevent the spread of COVID-19.[xvi] Subsequent orders (#117 and #121) closed K-12 schools statewide and declared

a Stay at Home Order. Efforts such as these issued nationwide were intended to protect individuals and their communities, but for those experiencing intimate partner violence (IPV) and child abuse, the home may be viewed as anything but safe.

COVID-19 has resulted in overwhelming economic uncertainty, social isolation, undue stress and anxiety. Conditions such as these may stimulate violence in families with no previous history of abuse and increase the severity of violence in homes with previous accounts of abuse.[xvii] Violence in the home can have both physical and mental health consequences including an increased risk for chronic disease, depression, substance use, PTSD, risky sexual behaviors, physical injury and death.[xviii]

As victims were trapped in homes with their abusers, hotlines braced themselves for a surge in requests for IPV resources. Not to the surprise of many experts, the opposite occurred: some regions experienced a decrease by as much as 50% in calls.[xix] This was not due to a decrease in IPV but due to victims' inability to safely connect to services. As restrictions are eased in late 2020 or early 2021, a surge in requests for resources is likely.[xx] The pandemic has illuminated certain relevant truths such as inequities related to social determinants of health are magnified during a crisis and sheltering in place does not inflict equivalent hardship on all people.[xxi]

Job loss and unemployment caused by the pandemic beginning in March 2020, has increased financial entanglement with abusers for women of color, immigrants and workers with less than a Bachelors' degree making it more difficult to flee abusive relationships.[xxii] Public health restrictions imposed in 2020 intended to reduce the spread of COVID-19 made it difficult to find alternative housing. Shelters and hotels operating at reduced capacity and travel restrictions have limited access to safe havens. Daycare and school closures added to the economic stress and isolation in families, which are risk factors for child abuse. Children living in neighborhoods where violence is prominent, with high unemployment rates and a high concentration of alcohol outlets are too at risk.[xxiii] Girls who grow up in homes where they witness IPV are at much higher risk of entering into a violent relationship themselves, and boys who witness IPV have a sevenfold increased risk they will abuse their own partners.[xxiv]

The lack of consistency for reporting IPV brought on by the pandemic can be discouraging for those pursuing help through the legal system. Black and Brown people are less likely than whites to report IPV to the police for fear of police brutality and oppression. Some do not seek help at all. Screening for IPV during hospital or clinic visits provide the opportunity for immediate intervention and review of services available to victims and their dependents. However, assessment of IPV at healthcare visits both of adults and children is not routinely conducted in a trauma-informed way that creates a space where individuals feel they can disclose. Stay at Home orders in spring and summer 2020 and a shortage of personal protective equipment resulted in many medical offices canceling non-urgent appointments or offering telehealth appointments instead. This poses problems for those living in areas with unreliable internet or cellular service. Also, during a telehealth appointment, disclosing IPV may also be difficult for the patient with the abuser in close proximity.[xxv]

An important emerging issue is the connection between perpetrators of IPV and mass shootings.[xxvi] One study which examined mass shootings from January 2009 to December 2016 found that 54% involved a current or former intimate partner or family member.[xxvii] A common thread runs between a history of domestic violence and mass violence in the United States. Given the underreported nature of IPV, these connections could be much more profound than retrospective analysis are able to show.

Recommended Strategies

- Teach healthy relationship skills in schools (middle, high school, college) and in communities.
- Create, communicate, and cultivate positive, empowered, resilient and self-determined cultural norms.[xxviii]
- Increase protective environments and reduce risk factors.
- Engage men and boys as allies in prevention.
- Strengthen economic supports for families and communities.[xxix]
- Build power and resilience in communities deeply affected by oppression.[xxx]
- Provide social support as a protective factor for survivors of intimate partner violence through advocacy, support groups, counseling and access to services.[xxxi]
- Continue implementing the Lethality Assessment Program to help law enforcement officers identify victims of domestic violence who are at risk of being killed and take steps that might redirect their path toward safety.

Current Initiatives & Activities

Durham Crisis Response Center offers free, confidential services to victims of sexual assault. Services include 24-hour help lines in English (919-403-6562) and Spanish (919-519-3735), information and referrals, case management, crisis intervention and ongoing emotional support, support groups in English and Spanish, advocacy, and accompaniment to the police, court, hospital, and follow-up medical appointments. www.durhamcrisisresponse.org

InStepp's Nueva Vida program is a free, culturally- and linguistically-specific economic empowerment program for Hispanic-Latino immigrant women who are survivors of domestic violence, sexual assault, or human trafficking or are unemployed/under-employed. www.instepp.org

KIRAN is a multi-cultural, non-religious, community-based organization that serves South Asian victims of domestic abuse by providing information, crisis counseling, legal advocacy, referrals, skills development and other culturally-sensitive support services to meet the unique challenges they face. www.kiraninc.org

Legal Aid of North Carolina provides free legal help to low-income North Carolinians in civil cases, including helping to secure and enforce court protective orders for victims of IPV. Legal Aid also assists in custody matters involving children exposed to violence. www.legalaidnc.org

Duke Health's Sexual Assault Nurse Examiners (SANEs) provide medical forensic exams to victims of sexual assault in the Duke and Duke Regional Hospitals Emergency Departments. The Violence Against Women Act mandates that victims of sexual assault can receive a forensic exam at no charge and regardless of their decision to report their assault to law enforcement. www.dukehealth.org

Durham Police Department – Domestic Violence/Special Victims Unit is part of the Criminal Investigations Division (CID). The Domestic Violence Unit is responsible for investigating all domestic violence cases in the city of Durham; prompting a community-wide response to domestic violence; working with other agencies for effective victim assistance; acting as a liaison for officers to answer questions involving emergencies where specialized information is required for the victim's welfare and safety; and providing in-service training for officers. durhamnc.gov/216/Domestic-Violence-Investigators

JusticeMatters addresses the roots and repercussions of human trafficking by providing trauma informed legal services and promoting just policies and practices. JusticeMatters specializes in the provision of family law and immigration services to survivors of trauma. www.justicemattersnc.org

The Battered Immigrant Project (BIP), part of Legal Aid of North Carolina's Domestic Violence Prevention Initiative, provides comprehensive and culturally-appropriate legal services to immigrant survivors of violence needing assistance with immigration. The BIP represents qualifying applicants across North Carolina in immigration matters including visa applications, housing issues, domestic violence protective orders, family law issues and public benefits. www.legalaidnc.org/about-us/projects/battered-immigrant-project

Exchange Family Center makes a difference in the lives of children, adolescents and their families through the provision of family support, counseling, case management, group counseling, education and supportive services. www.exchangefamilycenter.org

References

[i] Greenberg K. Still hidden in the closet: Trans women and domestic violence [Internet]. Berkeley (CA): Berkeley Journal of Gender, Law & Justice. 2012; 27(2):198-251. Available from: https://genderlawjustice.berkeley.edu/wp-content/uploads/2010/10/Still-Hidden-in-the-Closet-Trans-Women-and-Domestic-Violence.pdf
[ii] nctsn.org [Internet]. Intimate partner violence. Durham (NC): The National Child Trauma Stress Network; c2020 [cited 2020 Oct 15]. Available at https://www.nctsn.org/what-is-child-trauma/trauma-types/intimate-partner-violence
[iii] Smith SG, Zhang X, Merrick MT, Wang J, Kresnow M, Chen J. National intimate partner and sexual violence survey: 2015 Data brief – updated release. Atlanta (GA): National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention; c2018 [cited 2020 Oct 15. Available from: https://www.cdc.gov/violenceprevention/pdf/2015data-brief508.pdf
[iv] Smith SG, Zhang X, Merrick MT, Wang J, Kresnow M, Chen J. National intimate partner and sexual violence survey: 2015 Data brief – updated release. Atlanta (GA): National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention; c2018 [cited 2020 Oct 15. Available from: https://www.cdc.gov/violenceprevention/pdf/2015data-brief508.pdf
[v] pcc.edu [Internet]. Domestic and sexual violence and communities of color. Portland (OR): Oregon Coalition Against Domestic and Sexual Violence; c2018 [cited 2020 Oct 8]. https://www.pcc.edu/illumination/wp-content/uploads/sites/54/2018/05/domestic-violence-communities-color.pdf
[vi] Adkison-Stevens C, Timmons V. Prevention through liberation: theory and practice of anti-oppression as primary prevention of sexual and domestic violence [Internet]. Portland (OR): Oregon Coalition Against Domestic & Sexual Violence; 2018 Spring [cited Oct 8]. Available from: https://www.ocadsv.org/sites/default/files/resource_pub/Prevention_Through_Liberation_-_Paper.pdf
[vii] Black MC, Basile KC, Breiding MJ, et al. The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 summary report [Internet]. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2011 [cited 2020 Oct 8]. Available from: www.cdc.gov/ViolencePrevention/pdf/NISVS_Report2010-a.pdf
[viii] Stockman JK, Hayashi H, Campbell JC. Intimate partner violence and its health impact on ethnic minority women [corrected] [Internet]. J Womens Health (Larchmt). 2015 Jan [cited 2020 Oct 8];24(1):62-79. doi: 10.1089/jwh.2014.4879. Epub 2014 Dec 31. Erratum in: J Womens Health (Larchmt). 2015 Mar;24(3):256. PMID: 25551432; PMCID: PMC4302952. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4302952/
[ix] nctsn.org [Internet]. Intimate partner violence. Durham (NC): The National Child Trauma Stress Network; c2020 [cited 2020 Oct 15]. Available at https://www.nctsn.org/what-is-child-trauma/trauma-types/intimate-partner-violence
[x] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xi] Beydoun, HA, Beydoun, MA, Kaufman, JS, Lo B, & Zonderman, AB. Intimate partner violence against adult women and its association with major depressive disorder, depressive symptoms and postpartum depression: a systematic review and meta-analysis. Soc Sci Med. 2012 Sept [cited 2020 Oct 8];75(6):959–975. Available from: https://doi.org/10.1016/j.socscimed.2012.04.025
[xii] Young-Bradshaw, Jasmin. (Director of Programs, Durham Crisis Response Center). Email to Charlene Reiss. 2020 September 29 [cited 2020 Oct 5].

[xiii] Roberts, Ann. (Crime Analyst Supervisor, Durham Police Department). Email to Charlene Reiss. 2020 September 29 [cited 2020 Oct 15].
[xiv] nccadv.org [Internet]. Articles. Durham (NC): North Carolina Coalition Against Domestic Violence; c2017 [cited 2020 Oct 14]. Available from: https://nccadv.org/component/content/article?id=165&Itemid=1310
[xv] Whitson, Jeff. (Lethality Assessment Program Coordinator, Durham Crisis Response Center). Email to Charlene Reiss. 2020 September 14 [cited 2020 Oct 5].
[xvi] nc.gov [Internet]. COVID-19 orders. Raleigh (NC): State of North Carolina; c2020 [cited 2020 Oct 6]. Available from: https://www.nc.gov/covid-19/covid-19-orders
[xvii] Abramson A. How COVID-19 may increase domestic violence and child abuse [Internet]. Washington, DC: American Psychological Association; c2020 [cited 2020 Oct 6]. Available from: https://www.apa.org/topics/covid-19/domestic-violence-child-abuse
[xviii] cdc.gov [Internet]. Preventing multiple forms of violence: A strategic vision for connecting the dots. Atlanta (GA): National Center for Injury Prevention, Control of the Centers for Disease Control and Prevention; c2016 [cited 2020 Oct]. Available from: https://www.cdc.gov/violenceprevention/pdf/Strategic_Vision.pdf
[xix] Evans ML, Anderson EJ, Gandhi M, and Rutherford GW. A Pandemic within a pandemic - intimate partner violence during COVID-19 [Internet]. Waltham (MA): New England Journal of Medicine; 2020 Sep 16 [cited 2020 Oct 6]. Available from: https://www.nejm.org/doi/full/10.1056/NEJMp2024046
[xx] Fielding S. In quarantine with an abuser: surge in domestic violence reports linked to coronavirus [Internet]. Washington, DC: The Guardian; c2020 [cited 2020 Oct 6]. Available from: https://www.theguardian.com/us-news/2020/apr/03/coronavirus-quarantine-abuse-domestic-violence
[xxi] Evans ML, Anderson EJ, Gandhi M, and Rutherford GW. A Pandemic within a pandemic - intimate partner violence during covid-19: NEJM [Internet]. Waltham (MA): New England Journal of Medicine; c2020 [cited 2020 Oct 6]. Available from: https://www.nejm.org/doi/full/10.1056/NEJMp2024046
[xxii] Kochhar R. Unemployment undercount was greater for women, Asians, immigrants in May 2020 [Internet]. Washington, DC: Pew Research Center; 2020 Jun 30 [cited 2020 Oct 6]. Available from: https://www.pewresearch.org/fact-tank/2020/06/30/unemployment-rate-is-higher-than-officially-recorded-more-so-for-women-and-certain-other-groups/
[xxiii] cdc.org [Internet]. Violence prevention. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Oct 6]. Available from: https://www.cdc.gov/violenceprevention/childabuseandneglect/riskprotectivefactors.html
[xxiv] van der Kolk B. The body keeps the score: brain, mind, and body in the healing of trauma. New York: Penguin Books; 2014.
[xxv] Tomer A, Fishbane L, Siefer A, Callahan B. Digital prosperity: how broadband can deliver health and equity to all communities [Internet]. Washington, DC: Brookings; 2020 Feb 27 [cited 2020 Oct 6]. Available from: https://www.brookings.edu/research/digital-prosperity-how-broadband-can-deliver-health-and-equity-to-all-communities/
[xxvi] Issa Y. "A profoundly masculine act": mass shootings, violence against women, and the amendment that could forge a path forward. California Law Review. 2019 Apr [cited 2020 Oct 8]; 107(2):673-705. Available from: https://www.californialawreview.org/print/a-profoundly-masculine-act-mass-shootings-violence-against-women-and-the-amendment-that-could-forge-a-path-forward/
[xxvii] Everytown for Gun Safety. Mass shootings in the United States: 2009–2016. Everytown for Gun Safety Support Fund; 2018 Dec 6 [cited 2020 Oct 8]. Available from: https://perma.cc/6SFH-8E77
[xxviii] Adkison-Stevens C, Timmons V. Prevention through liberation: theory and practice of anti-oppression as primary prevention of sexual and domestic violence [Internet]. Portland (OR): Oregon Coalition Against Domestic & Sexual Violence; 2018 Spring [cited 2020 Oct 8]. Available from: https://www.ocadsv.org/sites/default/files/resource_pub/Prevention_Through_Liberation_-_Paper.pdf f

[xxix] Niolon PH, Kearns M, Dills J, Rambo K, Irving S, Armstead T, & Gilbert L. Preventing intimate partner violence across the lifespan: a technical package of programs, policies, and practices [Internet]. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2017 [cited 2020 Oct]. Available from: https://www.cdc.gov/violenceprevention/pdf/ipv-technicalpackages.pdf

[xxx] Adkison-Stevens C, Timmons V. Prevention through liberation: Theory and practice of anti-oppression as primary prevention of sexual and domestic violence [Internet]. Portland (OR): Oregon Coalition Against Domestic & Sexual Violence; 2018 Spring [cited 2020 Oct 8]. Available from: https://www.ocadsv.org/sites/default/files/resource_pub/Prevention_Through_Liberation_-_Paper.pdf

[xxxi] Mittal M, Resch K, Nichols-Hadeed C, Stone JT, Thevenet-Morrison K, Faurot C, Cerulli C. Examining associations between strangulation and depressive symptoms in women with intimate partner violence histories [author manuscript]. Violence Vict.; 2018 December [cited 2020 Oct 8]; 33(6): 1072–1087. doi:10.1891/0886-6708.33.6.1072. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6437755/pdf/nihms-1014435.pdf

Section 9.03 *Sexual violence*

Overview

According to the Centers for Disease Control and Prevention, sexual violence is defined as "a sexual act that is committed or attempted by another person without freely given consent of the victim or against someone who is unable to consent or refuse."[i] It takes many forms from verbal harassment and coercion to unwanted touching to forced penetration, among other acts. More than one in three women and one in four men have experienced sexual violence involving physical contact in their lifetimes.[ii] Sexual violence is experienced disproportionately by women of color, individuals living in poverty and people with one or more disabilities. Rates of sexual violence are higher in the LGBTQI community, particularly for transgender youth and transgender people of color.[iii]

Like many issues regarding sex in the United States, sexual violence has long been considered a taboo subject or a private matter. The issue is clouded in myths and misconceptions. The common image of rape involving a masked man jumping out from the bushes to violently rape an unsuspecting woman does not describe the majority of sexual violence incidents that occur. Most often, the perpetrator is known to the victim, victims can be any gender and force is not always a part of the assault. Misconceptions are detrimental when individuals do not recognize their own experience as sexual violence and therefore do not seek help from victim service agencies or law enforcement. "Myths about sexual violence are themselves tools of oppression that keep targeted groups in a position of submission and silence, and keep oppressors in positions of power."[iv]

Rape and violence are not outcomes of sexual desire but intentional acts of violence meant to humiliate, harm and silence the victims. Sexual violence is linked with oppression as those with power perpetrate violence and control over those with less or no power.[v] Sexual violence as a tool for oppression and control predates America's earliest days of slavery and continues in today's culture, rooted in racism, sexism, ageism, ableism and more. For people of color, systemic racism reduces access to safe housing, high-quality education and adequate employment, all of which increases the risk for victimization. At the same time, they experience greater barriers to services once an assault has occurred.[vi]

Sexual violence is not just personal problem, it is a public health issue. Victims experience a wide-range of negative physical and mental health outcomes that can reduce their ability to care for themselves and others, to work and to contribute fully to their communities. In places where sexual violence occurs, residents experience fear, anger and grief that reduces quality of life and can lead to poor health.[vii] Ending sexual violence requires a culture shift that emphasizes respect and consent and dismantles the systems of oppression that allow the harm to happen.

Primary Data

According to the 2017 Durham Youth Risk Behavior Survey (YRBS), nine percent of Durham County youth reported having been physically forced to have sexual intercourse.[ix] Consistent with expectations from other studies, the YRBS showed that a higher percentage of females (11%) reported forced intercourse than males (6%).[x] Thirteen percent of Latinx high school students reported that they had been raped, compared to 9% of Black students, nine percent of students of other races and five percent of white students.[xi]

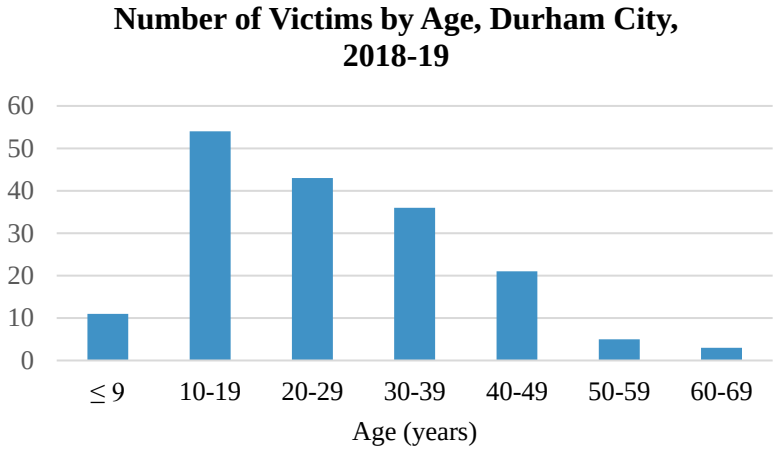


Table 9.03(a) Number of victims of sexual assault by age reported to Durham Police Department, 2018-2019[viii]

Secondary Data

In 2018 and 2019 combined, the Durham Police Department (DPD) recorded 174 cases of sexual violence with victims in age from four to 68 years old. As table 9.03(a) shows, the highest number of cases were reported by individuals 10 to19 years old.[xii]

Contrary to myths about stranger danger related to sexual assault, most perpetrators are known to their victims, either as acquaintances, family members or intimate partners. Figure 9.03(a) shows that of the DPD cases in 2018 and 2019, 125 (71.8%) offenders were known to their victims and only 17 (9.7%) were identified as strangers by the victims.

The number of sexual assaults reported to police is just a small percentage of incidents that occur. Individuals may not choose to report to the police for many reasons including fear, mistrust, shame and uncertainty whether their experience was sexual assault or a crime. Some survivors choose to seek services from nonprofits, such as the Durham Crisis Response Center, which does not require a victim to report to police to receive assistance. In 2019,

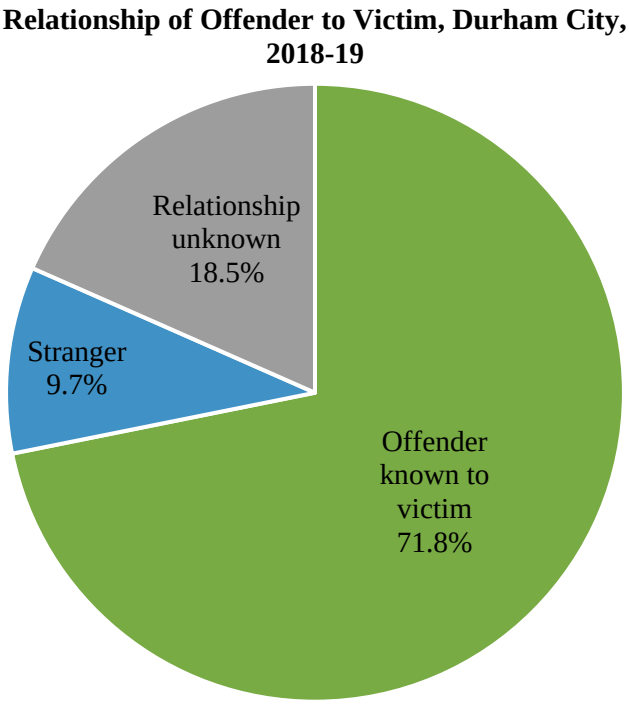


Figure 9.03(a) Number of victims of sexual assault reported to Durham Police Department by relationship to offender, 2018-19[xiii]

the Durham Crisis Response Center received 417 calls in English about sexual violence and 51 calls in Spanish.[xiv]

Interpretations: Disparities, Gaps, and Emerging Issues

While victims include individuals of all ages, races and gender identities, some groups are more likely to have experienced sexual violence. Those most marginalized have more vulnerabilities that put them at risk of violence and face more barriers to services and systems of protection and assistance. This includes people experiencing homelessness, immigrant populations and the LGBTQ+ community.[xv] Transgender communities are at especially high risk. Of individuals who identify as transgender, 47% report some form of sexual violence in their lifetimes though rates are much higher among people of color: American Indian (65%), multiracial (59%), Middle Eastern (58%), and Black (53%).[xvi]

Immigrants can be particularly vulnerable to sexual violence because of past experience of victimization, unfamiliarity with their rights while in the US, fear of law enforcement and Immigration and Customs Enforcement (ICE) and lack of knowledge about services and systems. Those who do seek assistance often face language and cultural barriers and may not have the resources to fully access help. For example, they may be unable to attend counseling or other appointments due to work and family commitments. They may lack transportation to services and they may not have a phone or a private place from which to call to receive assistance. Fear and the complexities of navigating a new culture, a different language and an unfamiliar system can lead to most immigrant victims not reporting their assaults or seeking services.[xvii]

For many sexual violence survivors, stigma, shame, misconceptions and fear can keep them from disclosing their assault and seeking services. These barriers can be heightened for men as a result of cultural norms and societal attitudes.[xviii] In addition, the common misconception that men are not victims of sexual violence means that most services are designed by and for women, to meet women's needs. While agencies may provide services to everyone, regardless of gender identity, they often lack the competency to serve survivors who do not identify as cisgender women in heterosexual relationships.

Statistics about the effects of COVID-19 on rates of sexual violence are not available as of this writing in November 2020, but experience from other crises and disasters indicates that an increase in incidence is likely, while reporting and accessing services may decrease. Other epidemics around the globe have had accompanying instances of increased sexual violence, intimate partner violence and other forms of violence against vulnerable populations.[xix] The Rape, Abuse & Incest National Network (RAINN) reports that in March 2020, half of the calls to their Sexual Assault Hotline were from minors, for the first time in the hotline's history.[xx] Particularly for young people who are being sexually abused by a family member, stay-at-home orders mean less safety and reduced access to other adults who may be able to help. For adults, loss of employment may lead to victims staying with partners who have assaulted them. Eviction and homelessness may also increase the likelihood of individuals engaging in survival sex and significantly increase their exposure to violence.[xxi] While sexual violence is likely increasing, fewer victims may be reporting

to authorities or seeking services. Reporting an assault may be considered a "luxury" compared to meeting other basic needs during a crisis.[xxii] Victims may also be reluctant to seek medical care during COVID-19 because of fear of contracting the virus at a medical facility or a misperception that the hospitals are closed to all but COVID patients.[xxiii]

Recommended Strategies

- Empower youth to prevent sexual violence by teaching positive communication, respect, consent and healthy relationships.
- Foster protective environments that support positive behavior and intolerance for harassment and violence.
- Promote social norms that protect against violence, sexist language, and oppressive behavior.[xxiv]
- Advocate for policies that address the social and economic conditions that create vulnerabilities for violence and victimization.[xxv]
- Support victims when they disclose an assault, as recommended by the End Violence Against Women International Start by Believing initiative.[xxvi]
- Engage men and boys in prevention and response efforts, including culturally-informed bystander intervention training. Educate men and boys on healthy, respectful manhood and their role in addressing violence and oppression of vulnerable populations.[xxvii]

Current Initiatives & Activities

Durham Crisis Response Center offers free, confidential services to victims of sexual assault. Services include 24-hour help lines in English (919-403-6562) and Spanish (919-519-3735), information and referrals, case management, crisis intervention and ongoing emotional support, support groups in English and Spanish, advocacy, and accompaniment to the police, court, hospital, and follow-up medical appointments. www.durhamcrisisresponse.org

InStepp's Nueva Vida Program is a free, culturally- and linguistically-specific economic empowerment program for Hispanic-Latino immigrant women who are survivors of domestic violence, sexual assault, or human trafficking, or are unemployed/under-employed. www.instepp.org

KIRAN is a multi-cultural, non-religious, community-based organization that serves South Asian victims of domestic abuse by providing information, crisis counseling, legal advocacy, referrals, skills development, and other culturally-sensitive support services to meet the unique challenges they face. www.kiraninc.org

Legal Aid of North Carolina provides free legal help to low-income North Carolinians in civil cases, including helping to secure and enforce court protective orders for victims of IPV. Legal Aid also assists in custody matters involving children exposed to violence. www.legalaidnc.org

Duke Health's Sexual Assault Nurse Examiners (SANEs) provide medico forensic exams to victims of sexual assault in the Duke and Duke Regional Hospitals Emergency Departments. The Violence Against Women Act mandates that victims of sexual assault can receive a forensic exam at no charge and regardless of their decision to report their assault to law enforcement.[xxviii] www.dukehealth.org

The Durham Police Department's Special Victims Unit (SVU) investigates crimes of sexual assault, child pornography, child physical abuse, allegations of child neglect and any other matter at the direction of the Criminal Investigations Division commander. The Special Victims Unit consists of investigators who specialize in child abuse and sexual assaults. SVU works closely with the Durham County District Attorney's Office and the Durham County Department of Social Services during an investigation. In October 2019, the Durham Police Department was awarded a three-year Sexual Assault Kit Initiative (SAKI) grant by the U.S. Department of Justice Programs (OJP) through the Bureau of Justice Assistance (BJA). The grant provides additional resources for investigating cold case sexual assaults as well as resources to address sexual assault kits in the department's inventory that have not been submitted to the state laboratory for DNA testing. The DPD Cold Case Sexual Assault Unit works to ensure that a complete victim-centered approach is taken during the investigation, prosecution and healing process for survivors of cold case sexual assaults. The goal of the Durham Police Department is to make Durham a safe city to live in. durhamnc.gov/217/Special-Victims-Unit

JusticeMatters addresses the roots and repercussions of human trafficking by providing trauma informed legal services and promoting just policies and practices. JusticeMatters specializes in the provision of family law and immigration services to survivors of trauma. www.justicemattersnc.org

The Battered Immigrant Project (BIP), part of Legal Aid of North Carolina's Domestic Violence Prevention Initiative, provides comprehensive and culturally-appropriate legal services to immigrant survivors of violence needing assistance with immigration. The BIP represents qualifying applicants across North Carolina in immigration matters including visa applications, housing issues, domestic violence protective orders, family law issues, and public benefits. www.legalaidnc.org/about-us/projects/battered-immigrant-project

Duke University Women's Center provides therapeutic services to survivors of gender violence, which includes sexual violence, intimate partner violence, stalking, cyber sexual harassment and sexual harassment. The Women's Center is an inclusive space and serves all genders. In addition to providing therapeutic services, the Women's Center also provides education and training initiatives focused on preventing gender violence. studentaffairs.duke.edu/wc

North Carolina Central University Women's Center's HBCU HAVEN (Helpers and Advocates for Violence Ending Now) seeks to provide streamlined, efficient and comprehensive culturally-competent services to victims of domestic violence, sexual assault, dating violence and stalking the NCCU campus community. HBCU HAVEN also aims to increase educational awareness for students, faculty and staff. https://legacy.nccu.edu/womenscenter/violence.cfm

References

[i] Basile KC, Smith SG, Breiding MJ, Black MC, & Mahendra, R Sexual violence surveillance: uniform definitions and recommended data elements, Version 2.0 [Internet]. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2014. Available from: https://www.cdc.gov/violenceprevention/pdf/SV_Surveillance_Definitionsl-2009-a.pdf
[ii] Basile KC, DeGue S, Jones K, Freire K, Dills J, Smith SG, Raiford JL. STOP SV: A technical package to prevent sexual violence [Internet]. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2016. Available from: https://www.cdc.gov/violenceprevention/pdf/SV-Prevention-Technical-Package.pdf
[iii] Office for Victims of Crime. Responding to transgender victims of sexual assault [Internet]. Washington, DC: Office of Justice Programs; 2014 June [cited 2020 Oct 14]. Available from: https://ovc.ojp.gov/sites/g/files/xyckuh226/files/pubs/forge/sexual_numbers.html
[iv] www.oaesv.org [Internet]. Anti-oppression & rape crisis work: A resource for rape crisis centers. [cited 2020 Oct 28]. Independence, OH: Ohio Alliance to End Sexual Violence; c2020. Available from https://www.oaesv.org/site/assets/files/1319/oaesv-anti-oppression-resource.pdf
[v] www.oaesv.org [Internet]. Anti-oppression & rape crisis work: A resource for rape crisis centers. [cited 2020 Oct 28]. Independence, OH: Ohio Alliance to End Sexual Violence; c2020. Available from: https://www.oaesv.org/site/assets/files/1319/oaesv-anti-oppression-resource.pdf
[vi] Pcar.org [Internet]. Racism & sexual violence: what's the connection? Enola, PA: Pennsylvania Coalition Against Rape; c2017 [cited 2020 Oct 30]. Available from: https://pcar.org/sites/default/files/resource-pdfs/tab_2017_racismsexual_violence_connections-508d.pdf
[vii] Nsvrc.org [Internet]. The impact of sexual violence. Harrisburg, PA: National Sexual Violence Resource Center; c2016 [cited 2020 Oct 30]. Available from: https://www.nsvrc.org/sites/default/files/2016-01/saam_2016_impact-of-sexual-violence.pdf
[viii] Roberts, Mary Ann (Crime Analysis Supervisor, Durham Police Department). Email to Charlene Reiss, 2020 Sep 23.
[ix] Healthydurham.org [Internet]. Durham County Youth Risk Behavior Survey. Durham: Partnership for a Healthy Durham; c2017 [cited 2020 Oct 14]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf
[x] Healthydurham.org [Internet]. Durham County Youth Risk Behavior Survey. Durham: Partnership for a Healthy Durham; c2017 [cited 2020 Oct 14]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf
[xi] Healthydurham.org [Internet]. Durham County Youth Risk Behavior Survey. Durham: Partnership for a Healthy Durham; c2017 [cited 2020 Oct 14]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf
[xii] Roberts, Mary Ann (Crime Analysis Supervisor, Durham Police Department). Email to Charlene Reiss, 2020 Sep 23 [cited 2020 Oct 5].
[xiii] Roberts, Mary Ann (Crime Analysis Supervisor, Durham Police Department). Email to Charlene Reiss, 2020 Sep 23 [cited 2020 Oct 5].
[xiv] Young-Bradshaw, Jasmin. (Director of Programs, Durham Crisis Response Center). Email to Charlene Reiss. 2020 Sep 29 [cited 2020 Oct 5].
[xv] hrc.org [Internet]. Sexual assault and the LGBTQ community. Washington, DC: Human Rights Campaign; c2020 [cited 2020 Oct 30]. Available from: https://www.hrc.org/resources/sexual-assault-and-the-lgbt-community
[xvi] James SE, Herman JL, Rankin S, Keisling M, Mottet L, & Anafi M. The report of the 2015 U.S. Transgender Survey [Internet]. Washington, DC: National Center for Transgender Equality; c2016 [cited

2020 Oct 30]. Available from: https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF

[xvii] Mindlin J, Orloff LE, Pochiraju S, Baran A, Echavarria E. Dynamics of sexual assault and the implications for immigrant women [Internet]. Washington, DC: National Immigrant Women's Advocacy Project; c2005 [cited 2020 Oct 30]. Available from: http://library.niwap.org/wp-content/uploads/2015/CULT-Man-Ch1-DyanimcsSexualAssaultImplications-07.10.13.pdf

[xviii] rainn.org [Internet]. Sexual assault of men and boys. Washington, DC: Rape, Abuse & Incest National Network Available; c2020 [cited 2020 Oct 15]. Available from: https://www.rainn.org/articles/sexual-assault-men-and-boys

[xix] Yasmin, S. The Ebola rape epidemic no one is talking about. Foreign Policy [Internet]. 2016 Feb 2 [cited 2020 Oct 14]. Available from: https://foreignpolicy.com/2016/02/02/the-ebola-rape-epidemic-west-africa-teenage-pregnancy/

[xx] rainn.org [Internet]. For the first time ever, minors make up half of visitors to National Sexual Assault Hotline. Washington, DC: Rape, Abuse & Incest National Network Available; c2020 [cited 2020 Oct 15]. Available from: https://www.rainn.org/news/first-time-ever-minors-make-half-visitors-national-sexual-assault-hotline

[xxi] Mncasa.org [Internet]. How COVID-19 could impact victims/survivors of violence. St. Paul (MN): Minnesota Coalition Against Sexual Assault; 2020 [cited 2020 Oct 30]. Available from: https://www.mncasa.org/wp-content/uploads/2020/03/How-COVID-19-Could-Impact-Victims-of-Violence.pdf

[xxii] Klein, A. Sexual violence in disasters: a planning guide for prevention and response [Internet]. Harrisburg (VA): National Sexual Violence Resource Center; c2012 [cited 2020 Oct 30]. Available from: https://www.nsvrc.org/sites/default/files/2012-04/Publications_NSVRC_Guides_Sexual-Violence-in-Disasters_A-planning-guide-for-prevention-and-response_0.pdf. Jointly published by Louisiana Foundation Against Sexual Assault, National Sexual Violence Resource Center.

[xxiii] Stahl A. How COVID-19 is affecting assault survivors seeking care. The Appeal [Internet]. San Francisco (CA): Tides Advocacy; 2020 Aug 10 [cited 2020 Oct 30]. Available from: https://theappeal.org/how-covid-19-is-affecting-assault-survivors-seeking-care/

[xxiv] cdc.gov [Internet]. Sexual violence is preventable. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2020 May 1 [cited 2020 Oct 30]. Available from: https://www.cdc.gov/injury/features/sexual-violence/

[xxv] healthypeople.gov [Internet]. Injury and violence prevention. Washington, DC: Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Oct 30]. Available from: https://www.healthypeople.gov/2020/topics-objectives/topic/injury-and-violence-prevention

[xxvi] startbybelieving.org [Internet]. Start by believing. Colville (WA): End Violence Against Women International; c2020 [cited 2020 Oct 30]. Available from: https://www.startbybelieving.org/home/.

[xxvii] acalltomen.org [Internet]. Healthy manhood. Rockville Centre (NY): A Call to Men; c2020 [cited 2020 Oct 30]. Available from: https://www.acalltomen.org/healthy-manhood/

[xxviii] End Violence Against Women International. Forensic compliance [Internet]. Colville (WA): End Violence Against Women International; c2020 [cited 2020 Oct 30]. Available from: http://evaw.threegate.com/images/uploads/SAFElawchart.pdf

Section 9.04 *Human trafficking*

Overview

Human trafficking is the commercial exploitation of an individual for sex or labor by means of force, fraud or coercion. While it has come more fully to the public's attention in the last two decades, the exploitation of vulnerable communities is not new. Many misconceptions lead people to believe that trafficking is not happening in their communities that only people born elsewhere are victims and that trafficking involves transporting victims among different locations. Sex and labor trafficking are happening everywhere to both U.S.-born and foreign-born individuals from Durham and elsewhere. According to the United Nations (UN), most victims of trafficking identified in the U..S are American citizens.[i]

Victims can be any race or ethnicity, gender, socio-economic status or age. Traffickers prey on people who feel they have few choices, for whom the system can do more harm than good and who find themselves at the intersection of inequity, isolation and invisibility. This includes those made most vulnerable by systemic racism, primarily people of color. Intersectionality means that Black and Brown people with other vulnerabilities are at even higher risk including those who identify as LGBTQ+, have disabilities, experience housing insecurity, are undocumented, have substance use disorders or have been involved in the welfare or criminal justice systems. Vulnerable populations are marginalized by attitudes and beliefs driving discrimination, through policies that create barriers to full participation in society and by systemic racism in programs designed to help that can cause more harm. A lack of affordable housing and living wage jobs, the disparate impact of welfare and criminal justice systems on people of color and anti-immigrant policies contribute to the exploitation and trafficking of vulnerable members of the community.

The Trafficking Victims Protection Act (TVPA) of 2000 defined the crime as:

1. Sex trafficking is the recruitment, harboring, transportation, provision or obtaining of a person for the purpose of a commercial sex act in which the commercial sex act is induced by force, fraud, or coercion or in which the victim induced to perform such an act is less than 18 years of age.
2. Labor trafficking is the recruitment, harboring, transportation, provision or obtaining of a person for labor or services through the use of force, fraud or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage or slavery.[ii]

State laws have added protections and provisions, including Senate Bill 683 in 2013, or the "Safe Harbor Bill." This reinforces that individuals under age 18 induced to perform a commercial sex act in exchange for anything of value cannot be charged with prostitution or other related solicitation charges and should be referred to services as victims, not criminals.[iii] In addition, Senate Bill 199 added requirements for K-12 schools to provide training on sex trafficking to all personnel and amended mandatory reporting requirements pertaining to crimes against juveniles.[iv]

Identifying, preventing and responding to trafficking requires accurate information, rather than myths and misinformation. Victims are rarely kidnapped by strangers and do not need to be transported anywhere for trafficking to occur. Younger victims are often lured by friends, family members or individuals whom they have met online who offer love, safety, work or gifts. Savvy traffickers design their tactics to avoid detection and obscure their connections to victims and buyers. Victims, groomed to believe that no other options are available to them, often do not see themselves as exploited and do not come forward seeking services. Victims of labor trafficking are promised good wages, adequate housing and safe working conditions that are not delivered. According to calls to the National Human Trafficking Hotline, the most common industries where trafficking occurs in North Carolina are agriculture, restaurants or food service, construction, illicit massage and spa businesses, hotel and motel-based sex trafficking and pornography.[v]

Primary Data

Direct primary data related to the issue of human trafficking in any of its many forms is not available for Durham County. Lack of data is a common issue and is related to poor identification of trafficking and the fact that trafficking is often masquerading as other seemingly benign, activities in society. Additionally, human trafficking is often not called by name by those who are being trafficked.

Although primary data specifically related to human trafficking in Durham are not available, some available information can provide areas of potential concern. According to the 2017 Durham Youth Risk Behavior Survey, 25% of middle school and 37% of high school students reported gang activity in their schools.[vi] Gangs are often involved in trafficking. Gang involvement, particularly of youth may qualify as a form of labor trafficking as the individual is often being forced, fooled or coerced into performing gang-related crimes.[vii,viii]

Secondary Data

While the National Human Trafficking Hotline reports that North Carolina is eleventh among the top states for human trafficking, their data are based on the number of calls to their hotline, reflecting awareness more than incidence. In 2019, 266 cases of sex and labor trafficking were reported to the Hotline from North Carolina.[ix] Project Fight at the Wake County Salvation Army received 13 referrals from Durham County and provided case management services to six confirmed trafficking survivors in 2019.[x] Durham Crisis Response Center recorded serving 15 survivors of human trafficking from July 2019 through June 2020.[xi]

A general misunderstanding of human trafficking often leads law enforcement, social services, healthcare, education and other systems to misidentify cases into prostitution, child abuse, wage theft, acting out or more common categories. The Durham Police Department has been tracking human trafficking cases since the beginning of 2019 and does not yet have usable data available.

Interpretations: Disparities, Gaps, and Emerging Issues

While human trafficking can impact anyone, a number of disparities are common among survivors. Those with established vulnerabilities are also more vulnerable to trafficking including people of color, LGBTQ+ individuals, undocumented immigrants, runaway youth and youth connected to the child welfare or juvenile justice system. Individuals with unstable housing, face poverty, have past experience of violence or victimization, are addicted to substances or who have a caregiver with a history of abuse are also more likely to become victims.[xii]

Significant gaps in knowledge and data can be attributed to several factors. First, crime of human trafficking thrives in secret. Second, individuals who could potentially help identify and connect survivors of human trafficking to services may be misinformed or lack critical information. Lack of universal screening tools, education and effective training across all sectors compound this problem. Third, a survivor of human trafficking may not self-identify as a victim. Finally, cultural and language gaps, and fear can create additional barriers to identification and connection to services for foreign national survivors.[xiii]

In 2020, multiple issues emerged which worsened disparities and gaps. First, the COVID-19 crisis created limitations for many of the channels for identification and service connection.[xiv] Second, COVID's disproportionate impacts on communities of color and marginalized populations limit choices and increase vulnerabilities.[xv] Third, individuals working in jobs with poor working conditions may have fewer options and reduced access to services. Fourth, new policies by President Trump's administration created additional barriers and increased risks for foreign national survivors of trafficking seeking immigration relief. These policies and practices include, but are not limited to: 1) U.S. Citizen and Immigration Service's (USCIS) June 28, 2018 Policy Memorandum on Notices to Appear, 2) USCIS's "no blank space" policy (Fall 2019) and 3) an increase in the number of fee waiver denials for humanitarian immigration applications.[xvi, xvii] Increased fears discourage victims from reporting and accessing resources. [xviii] Finally, continued and expanded untrue narratives around human trafficking have seen a significant increase through the QAnon movement, diverting resources away from services for survivors. QAnon spreads misinformation and false conspiracy theories about real issues that spark emotion and inspire people to action. The Polaris Project, which operates the National Human Trafficking Hotline, reports that an increase in calls based on misinformation from the internet is hampering their ability to respond to actual victims and survivors quickly. It has heightened concerns that they may be missing connections with victims who are unable to wait on hold for the next available hotline advocate.[xix]

Victims of human trafficking likely interact with systems including health, social services, education and criminal justice, but they are unlikely to identify their experience as trafficking. For physicians, school nurses and other public health workers, warning signs may include patients experiencing physical violence, multiple sexually-transmitted infections, or multiple abortions, particularly when accompanied by depression, anxiety or post-traumatic stress disorder.[xx,xxi] A trafficker may be present at appointments and limit the victim's ability to speak freely. Healthcare agencies should have protocols to separate a patient from a potential trafficker.[xxii]

Providing services should be guided by the needs identified by the survivor. For many victims, trafficking is not the only issue and sometimes not the most critical need for assistance. According to one evaluation of programs for domestic minor sex trafficking victims, "Young people engaged in sex trades as the least-bad solution to meeting fundamental needs for shelter, safety, social connection, and love."[xxiii] Successful engagement with survivors should include case management to assist with basic needs, trauma-informed medical care and mental health services that may be best delivered through multidisciplinary teams and cross-sector partnerships.[xxiv]

Recommended Strategies

- Increase access to living wage jobs and affordable housing.
- Implement policies that foster safe homes and neighborhoods.[xxv]
- Enact policies that address inequities that put immigrants, people of color, members of the LGBTQ+ community, disabled individuals and other marginalized populations at risk.[xxvi]
- Advocate for all nondiscrimination laws and policies to include sexual orientation, gender identity and gender expression.
- Develop trauma-informed, culturally-competent mentoring programs with strong connections to low-barrier services and community resources for all youth, including LGBTQ youth.[xxvii]
- Improve language access and immigration relief, and remove barriers to services for immigrants and those with low English proficiency.
- Change laws around H-2 Temporary Worker Visas to reduce opportunities for exploitation and abuse of immigrant workers.[xxviii]
- Encourage healthy relationships, teaching both children and adults the fundamentals of consent and respect.
- Provide safe shelter and safety planning to youth who have left home or are at risk for running away.[xxix]
- Improve identification and response to child sexual abuse.
- Implement school-based intervention programs that improve social-emotional well-being and teach coping skills.[xxx]
- Strengthen wrap-around support services for youth in and aging out of foster care; adults and juveniles with justice-system involvement; individuals with substance abuse disorders and survivors of trauma.
- Provide education about recognizing and responding to trafficking to health care providers, specifically those in emergency services; human services and child services personnel; law enforcement; educators and those in hospitality services.[xxxi, xxxii]

Current Initiatives & Activities

Durham Crisis Response Center offers free, confidential services to victims of sexual assault. Services include 24-hour help lines in English (919-403-6562) and Spanish (919-519-3735), information and referrals, case management, crisis intervention and ongoing emotional support,

support groups in English and Spanish, advocacy, and accompaniment to the police, court, hospital and follow-up medical appointments. www.durhamcrisisresponse.org

Project FIGHT at Wake County Salvation Army provides comprehensive case management for victims of human trafficking found in North Carolina and works to generate education and awareness about human trafficking in the community. www.salvationarmycarolinas.org/wakecounty/programs/social-ministries/projectfight/

JusticeMatters addresses the roots and repercussions of human trafficking by providing trauma informed legal services and promoting just policies and practices. JusticeMatters specializes in the provision of family law and immigration services to survivors of trauma. www.justicemattersnc.org

InStepp's Nueva Vida Program is a free, culturally and linguistically-specific economic empowerment program for Hispanic or Latino immigrant women who are survivors of domestic violence, sexual assault, or human trafficking or are unemployed/under-employed. All workshops are conducted in Spanish. www.instepp.org

Legal Aid of North Carolina helps victims of human trafficking improve their immigration status, obtain permission to work legally in the U.S., obtain refugee certification and more. www.legalaidnc.org

The Battered Immigrant Project (BIP), part of Legal Aid of North Carolina's Domestic Violence Prevention Initiative, provides comprehensive and culturally-appropriate legal services to immigrant survivors of violence needing assistance with immigration. The BIP represents qualifying applicants across North Carolina in immigration matters including visa applications, housing issues, domestic violence protective orders, family law issues, and public benefits. www.legalaidnc.org/about-us/projects/battered-immigrant-project

Legal Aid of North Carolina Farmworker Unit protects migrant farmworkers' legal right to live and work safely by addressing housing issues, enforcing employment contracts, handling immigration cases and providing orientation and education. legalaidnc.org/about-us/projects/farmworker-unit

North Carolina Coalition Against Human Trafficking (NCCAHT) is a state-wide network of individuals, organizations, and government agencies collaborating in knowledge and practice to provide leadership and support across the state to eradicate human trafficking in North Carolina. www.nccaht.org

The U.S. National Human Trafficking Hotline is run by the Polaris Project and offers resources and referrals to victims. It also receives tips about suspected trafficking and transmits them to appropriate local organizations. Toll-free and available 24-hours per day, seven days per week, the hotline is answered by specially trained Anti-Trafficking Hotline Advocates. Services available in over 200 languages. Call 1-888-373-7888 or text BeFree to 233733. polarisproject.org

References

[i] unodc.org [Internet]. Global report on trafficking in persons 2018. Vienna: United Nations Office on Drugs and Crime; 2018 [cited 2020 Oct 6]. Available from: https://www.unodc.org/documents/data-and-analysis/glotip/2018/GLOTiP_2018_BOOK_web_small.pdf
[ii] HR 3244: Victims of Trafficking and Violence Protection Act of 2000, Pub. L. No: 106-386 (October 28, 2000). Available from: https://www.congress.gov/bill/106th-congress/house-bill/3244
[iii] Safe Harbor/Victims of Human Trafficking, Senate Bill 683/SL 2013-368 (July 29, 2013). Available from: https://lrs.sog.unc.edu/bill/safe-harborvictims-human-trafficking
[iv] An Act to Protect Children from Sexual Abuse and to Strengthen and Modernize Sexual Assault Laws. Ch. SL 2019-245 (November 7, 2019).
[v] humantraffickinghotline.org [Internet]. North Carolina. Washington, DC: Polaris Project; c2019 [cited 2020 Oct 6]. Available from: https://humantraffickinghotline.org/state/north-carolina
[vi] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2020 Oct 6]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf.
[vii] Frank MJ, Terwilliger GZ. Gang-controlled sex trafficking. Virginia Journal of Criminal Law. 2015 Summer; 3(2):342-434.
[viii] Rizen CM. Are juvenile gang members victims of labor trafficking? Child Legal Rts J. 2015:35(2)163-176.
[ix] humantraffickinghotline.org [Internet]. North Carolina. Washington, DC: Polaris Project; c2019 [cited 2020 Oct 6]. Available from: https://humantraffickinghotline.org/state/north-carolina
[x] Hunter, Elizabeth. (Wake County Salvation Army Project FIGHT Divisional Anti-Human Trafficking Director). Email to Charlene Reiss. 2020 September 29 [cited 2020 October 5].
[xi] Young-Bradshaw, Jasmin. (Director of Programs, Durham Crisis Response Center). Email to Charlene Reiss. 2020 July 29 [cited 2020 October 5].
[xii] humantraffickinghotline.org [Internet]. Recognizing the signs. Washington, DC: Polaris Project; [cited 2020 Oct 6]. Available from: https://humantraffickinghotline.org/human-trafficking/recognizing-signs.
[xiii] Office of the Assistant Secretary for Planning and Evaluation. Study of HHS programs serving human trafficking victims. What are the challenges to identifying victims? [Internet]. Washington, DC: U.S. Department of Health and Human Services; 2009 Dec 15 [cited 2020 Oct 8]. Available from: https://aspe.hhs.gov/report/study-hhs-programs-serving-human-trafficking-victims/what-are-challenges-identifying-victims
[xiv] polarisProject.org [Internet]. Racial disparities, COVID-19, and human trafficking. Washington, DC: Polaris Project; 2020 Jul 29 [cited 2020 Oct 10]. Available from: https://polarisproject.org/blog/2020/07/racial-disparities-covid-19-and-human-trafficking/
[xv] cdc.gov [Internet]. Health equity considerations and racial and ethnic minority groups. Atlanta (GA): Centers for Disease Control and Prevention; 2020 Jul 24 [cited 2020 Oct 10]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html
[xvi] uscis.gov [Internet]. Notice to appear policy memorandum. Washington, DC: Department of Homeland Security, US Citizenship and Immigration Services; 2019 Feb 26 [cited 2020 Nov 24]. Available from https://www.uscis.gov/laws-and-policy/other-resources/notice-to-appear-policy-memorandum
[xvii] aila.org [Internet]. Featured Issue: USCIS's blank space policy. Washington, DC: American Immigration Lawyers Association; 2020 Oct 22 [cited 2020 Nov 24]. Available from https://www.aila.org/advo-media/issues/all/featured-issue-usciss-blank-space-policy

[xviii] freedomnetworkusa.org[Internet]. Freedom Network's 2020 Trafficking in Persons Report response. Washington, DC: Freedom Network USA; c2020 [cited 2020 October 10]. Available from: https://freedomnetworkusa.org/app/uploads/2020/06/FNUSA2020TIPReportResponseJune2020FINAL.pdf
[xix] polarisproject.org [Internet]. #Save the children: Questions and answers. Washington, DC: Polaris Project; 2020 [cited 2020 Nov 23]. Available from https://polarisproject.org/savethechildren-questions-and-answers/
[xx] Ottisova L, Hemmings S, Howard LM, Zimmerman C, and Oram S. Prevalence and risk of violence and the mental, physical and sexual health problems associated with human trafficking: an updated systematic review. Epidemiol Psychiatr Sci. 2016 [cited 2020 Oct 10]; 25:317–341.
[xxi] Lederer LJ and Wetzel CA. The health consequences of sex trafficking and their implications for identifying victims in healthcare facilities. Ann Health Law. 2014 [cited 2020 Oct 10]; 23:61-91.
[xxii] state.gov [Internet]. Trafficking in persons report 2020. Washington, DC: US State Department; 2020 Jun [cited 2020 Sept 18]. Available from: https://www.state.gov/wp-content/uploads/2020/06/2020-TIP-Report-Complete-062420-FINAL.pdf
[xxiii] Gibbs DA, Hardison Walters JL, Lutnick A, Miller S, Kluckman M. Services to domestic minor victims of sex trafficking: Opportunities for engagement and support. Child Youth Serv Rev. 2015 [cited 2020 Oct 10]; 54:1-7.
[xxiv] Judge AM, Murphy JA, Hidalgo J, Macias-Konstantopoulos W. Engaging survivors of human trafficking: Complex health care needs and scarce resources. Ann Intern Med. 2018; 168:658-663.
[xxv] cdc.org [Internet]. Sex trafficking. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 17]. Available from: https://www.cdc.gov/violenceprevention/sexualviolence/trafficking.html
[xxvi] polarisproject.org [Internet]. Racial disparities, COVID-19, and human trafficking. Washington, DC: Polaris Project; 2020 Jul 29 [cited 2020 Oct 10]. Available from: https://polarisproject.org/blog/2020/07/racial-disparities-covid-19-and-human-trafficking/.
[xxvii] Youth Collaboratory [Internet]. LGBTQ+ youth & CSEC. Pittsburgh (PA): Youth Collaboratory; 2018 Nov 12 [cited 2020 Oct 17]. Available from https://youthcollaboratory.org/resource/lgbtq-youth-csec
[xxviii] polarisproject.org [Internet]. Labor trafficking red flags in latest work visa program changes. Washington, DC: Polaris Project; 2020 Jun 23 [cited 2020 Oct 17]. Available from: https://polarisproject.org/blog/2020/06/labor-trafficking-red-flags-in-latest-work-visa-program-changes/
[xxix] Reid JA. Sex trafficking of girls with intellectual disabilities: An exploratory mixed-methods study. Sex Abuse. 2018 Mar [cited 2020 Oct 17];30(2):107-131.
[xxx] communitypsychology.com [Internet]. Preventing human trafficking using data-driven, community-based strategies. Golden (CO): The Society for Community Research and Action; c2017-20 [cited 2020 Oct 16]. Available from: https://www.communitypsychology.com/preventing-human-trafficking/
[xxxi] Egyud A, Stephens K, Swanson-Bierman B, DiCuccio M, Whiteman K. Implementation of human trafficking education and treatment algorithm in the emergency department. J Emerg Nurs. 2017 Nov [cited 2020 Oct 17];43(6):526–31.
[xxxii] dfeh.ca.gov [Internet]. Human trafficking. Elk Grove (CA): California Department of Fair Employment and Housing; c2020 [cited 2020 Sep 17]. Available from: https://www.dfeh.ca.gov/humantrafficking/

Section 9.05 *Child maltreatment*

Overview

Child maltreatment is described as preventable acts of commission or of omission that result in harm or potential harm to a child. These acts can be committed by a parent, caregiver or guardian. There are four main types of child maltreatment: physical abuse, sexual abuse, emotional abuse and neglect.[i]

Those at most risk of child abuse and neglect include children under four years of age and children with needs that increase caregiver burden.[ii] There are many factors that contribute to caregivers perpetrating abusive acts or failing to provide needed care including a personal history of abuse or neglect, mental health issues, substance abuse or simply a lack of understanding a child's needs or development.[iii]

At least one in seven children experienced child abuse and neglect in 2015.[iv] In 2018 an estimated 1,770 children died of abuse and neglect in the United States.[v] Children exposed to abuse and neglect are at risk of immediate bodily harm such as broken bones, but are also at risk of suffering long-lasting emotional problems such as anxiety, depression and impaired social skills.[vi]

Adverse Childhood Experiences (ACEs) include child abuse and neglect and increase risks of "future violence victimization and perpetration, substance abuse, sexually transmitted infections, delayed brain development, lower educational attainment and limited employment opportunities."[vii,viii] ACEs also worsen chronic diseases and leading causes of death in adults such as diabetes, cancer and heart disease.[ix]

In North Carolina, any person who suspects that a child is being abused or neglected is required by law to report their suspicion to their county's Department of Social Services (DSS).[x]

Primary Data

There is a lack of primary data for Durham County on child maltreatment. Gathering primary data on the topic is limited by the sensitive nature of this information and the need for mandatory reporting if a disclosure of child abuse or neglect is made. Despite this, some primary data is available which provide interesting correlations to child maltreatment.

Mental illness in the home where a child is living is one of the ACEs identified by the Centers for Disease Control and Prevention.[xi] In the 2019 Durham County Health Assessment Survey, 17% of respondents in the Countywide sample reported concerns with their mental health for at least one week out of the month prior to being surveyed.[xii] Child abuse is an important risk factor for suicidal ideation and self-injurious behavior.[xiii,xiv] According to the 2017 Youth Risk Behavior Survey, one in four middle school respondents and one in six high school respondents reported having considered suicide.[xv]

Individual and community poverty are recognized risk factors for child abuse and neglect.[xvi,xvii xviii] In the 2019 Durham County Health Assessment Survey, over 25% of respondents reported having an income at or below 200% of the Federal Poverty Level.[xix] It is worth noting that this survey was conducted with residents prior to the COVID-19 pandemic and the vast economic disruption it caused beginning in 2020.

Secondary Data

In fiscal year (FY) 2018 (July 1, 2017 to June 30, 2018), approximately 130,000 North Carolina children received child protective services investigations or alternative responses. Of these, there were 6,725 for abuse or neglect, 103,220 alternate responses and 19,946 cases unsubstantiated.[xx] Cases are substantiated if DSS finds that based on their investigation the allegations in the initial report (regarding a caretaker) are true and unsubstantiated if DSS finds that the allegations in the initial report are not true.[xxi] Over that year period, there were 14 North Carolina children who died from child abuse or neglect.[xxii]

In Durham County there were approximately 2,566 children who were investigated for concerns of abuse and neglect in fiscal year 2018. Racial designations of Durham County children investigated for abuse and neglect were 15% white, 68% African American, 16% Hispanic and 2% other, in contrast to a county population with 42.5% white, 35.2% African American, 13.68% Hispanic and 8.52% Other.[xxiii]

Outcomes for the 2,566 investigated children included 150 children whose cases were substantiated for abuse or neglect (32 abuse and neglect, 29 abuse, 84 neglect, 5 dependency) and 359 children whose cases were not substantiated for abuse or neglect. For the remaining children, 228 were identified as needing services, 831 had services recommended, 906 had no services recommended and 72 had services provided but no longer needed.[xxiv] Fifty percent of investigations involved girls and fifty percent boys. Ages of children at the time of first report were 38% for ages 0-5 years, 40% for ages 6-12 years and 22% for ages 13 to 17 years.[xxv] Durham County on average had 414 children in foster care during fiscal year 2018.[xxvi]

Interpretations: Disparities, Gaps, and Emerging Issues

The number of Black or African American youth reported to Child Protective Services and in foster care is disproportionate to the number of those who identify as Black or African American in Durham County. U.S. Census data estimates that 37% of Durham's population identified as Black or African American in 2019, yet the percentage of juveniles in foster care who are Black or African American has varied between 67% and 72% since 2017.[xxvii,xxviii] Research suggests that the possible causes of the disproportionate representation is multifaceted.[xxix] Poverty, and therefore disproportionate needs of children and families of color, racial bias exhibited by individuals, lack of systemic resources and geographical context all play a role in disproportionate representation.[xxx] Durham County has begun to examine and address the devastating effects of systemic racism on Black or African American communities and individuals. This analysis should also be done in relation to the foster care system.

Services for Those with Intellectual and/or Developmental Disabilities

Families in North Carolina, including those in Durham who have juveniles with intellectual and/or developmental disabilities who are covered by Medicaid have to wait for years to receive much-needed services through the Innovations Waiver.[xxxi,xxxii] Innovations Waiver services are integral to helping families safely maintain these youth, especially those who have been abused or neglected, either at home or in foster care when necessary.

Services for Immigrant Families

In the first two decades of the 21st century, Durham County saw an increasing number of immigrant youth in the foster care system, with 10% identifying as Hispanic.[xxxiii] Despite efforts, Durham lacks reasonably available and culturally appropriate services in the spoken and written languages of immigrant families which impacts the quality in-home and out-of-home services to immigrant families. Language and cultural barriers may traumatize vulnerable youth and their caregivers as they interact with the court system, law enforcement, social workers and other professionals.

Resource Families (formerly called "foster families") for Teenagers and Sibling groups

Durham County lacks a sufficient number of Resource Families for the placement of teenage youth and sibling groups.[xxxiv] Already traumatized teenagers and siblings often must be separated and placed in other counties, causing unnecessary pain and additional trauma.

The Family First Prevention Services Act[xxxv]

The Family First Prevention Services Act will take effect in North Carolina in 2021 and is intended to reduce placement of juveniles in foster care and to keep youth in their own families with supports in place.[xxxvi] It provides funding for evidence-based mental health, substance abuse and in-home parenting services for families with youth at imminent risk of entering into foster care. It also reduces funding for youth placed in congregate care settings. Outcomes and unintended consequences should be closely monitored.

Medicaid Expansion

As of November 2020, North Carolina has not accepted federal Medicaid expansion under the Affordable Care Act (ACA). An estimated half million North Carolinians, including families of vulnerable youth in Durham are uninsured and have reduced access to medical, mental health and substance abuse treatment services. Medicaid Managed Care is scheduled to begin in 2021, bringing improved access to these important services for families receiving Medicaid.[xxxvii]

Durham's Abuse/Neglect/Dependency ("A/N/D") Court

Durham's Abuse/Neglect/Dependency ("A/N/D") Court hears evidence and enters orders to protect children from abuse and neglect.[xxxviii] The volume and intensity of cases make A/N/D Court work extremely challenging. Court closures due to COVID-19 in 2020 caused inevitable

complications. Families, social workers, Guardian Ad Litem staff/volunteers, attorneys, court staff and judges are all at risk of experiencing secondary traumatic stress.[xxxix,xl] While the challenges due to volume and intensity of the cases have always been present, these have been exacerbated by the COVID-19 pandemic. Durham should conduct a thorough review of all involved in Durham's A/N/D Court system to determine if and how to mitigate direct and secondary trauma through trauma-informed, systemic changes.

The Safe Child Act and NCGS 14-318.6[xli]

The Safe Child Act and NCGS 14-318.6 took effect in December 2019. As a result, North Carolinians (except those excluded by statute) are required to report to law enforcement (in addition to DSS) if they know or should have reasonably known that a juvenile was a victim of a violent offense, sexual offense or misdemeanor child abuse. The law aims to protect children from perpetrators of child abuse and sexual offenses. However, it may have negative unintended consequences if children are subjected to multiple interviews and questioned by law enforcement when they are emotionally fragile. Durham must develop systems to protect against unintended consequences, to reduce trauma to vulnerable children, and to preserve the integrity of evidence for trial.

Recommended Strategies

To prevent additional child maltreatment, Durham should advocate for expansion of Medicaid and Innovations Waiver services. Durham should examine technological/language/cultural barriers and provide internet access in the city and the county to make remote educational, medical and mental health services available to everyone. Durham should develop and subsidize more daycare and day programs for youth of all ages. Durham should actively seek and support the establishment of service providers who can serve families with varying cultural and language needs.

To address existing child maltreatment, all Durham Public Schools (DPS) employees, Durham court personnel, and Durham attorneys should receive trauma training. Trauma-informed strategies should be developed and employed in the school, social and court systems. Durham should work to ensure that all public schools have at least one social worker or counselor on staff. DSS should continue to recruit and train more Resource Families to care for teenagers and sibling groups, especially those who speak other languages and come from other cultures to assist immigrant children and families. Durham should fund (perhaps through the NC Court Improvement Project) a neutral party to conduct a thorough survey of all participants in A/N/D Court to determine how best to mitigate trauma for all participants. Durham should continue to examine the effects of systemic racism on the child welfare system and make appropriate changes.

Durham should develop systems to simplify the reporting of child abuse to law enforcement under GS 14-318.6 and to reduce unintended consequences (see above) with input from child abuse and neglect professionals. Once appropriate systems are in place, all employees of DSS, law enforcement, DPS, local pediatricians and other identified agencies who come into regular contact with children should receive appropriate education related to reporting requirements and Durham's

reporting system. All plans should reflect best practices related to the interviewing of children who may have suffered trauma and the constitutional rights afforded to children and families.

Current Initiatives & Activities

DART (Durham ACEs Resilience Task Force) has a mission to build upon the strengths of Durham communities and systems, advancing an equitable and culturally responsive approach to prevent and respond to toxic stress and trauma. https://www.acesconnection.com/g/durham-county-nc-aces-connection

JusticeMatters addresses the roots and repercussions of human trafficking by providing trauma informed legal services and promoting just policies and practices. JusticeMatters specializes in the provision of family law and immigration services to survivors of trauma. https://justicemattersnc.org/

Duke Health: Child Abuse and Neglect Medical Evaluation Clinic (CANMEC) provides medical evaluations for alleged sexual abuse, physical abuse, and neglect for children. https://pediatrics.duke.edu/divisions/child-abuse-and-neglect

El Futuro is a one-of-a-kind resource where Spanish-speaking immigrants can access culturally responsive mental health services. https://elfuturo-nc.org/services/

Center for Child and Family Health (CCFH) provides programs and evidence-based practices that support families and improve outcomes for other agencies. https://www.ccfhnc.org/

Carolina Outreach's maintains an organization that treats clients, families, and employees with dignity and respect, and by giving means for them to tap into and develop their inherent strengths. https://carolinaoutreach.com/

Families Moving Forward (FMF) provides families with children a stable, safe and loving environment while they are in the temporary crisis of homelessness. https://fmfnc.org/

Welcome Baby provides parent support programs, including parenting workshops, family literacy program for Latino families, newborn support, and a weekly free clothing program. Classes are available in English and Spanish. https://www.facebook.com/welcomebabydurham/

TROSA is a licensed treatment facility helping individuals with substance use disorders become healthy, productive members of their communities and families. https://www.trosainc.org/

Freedom House Recovery Center is a non-profit behavioral health care agency that provides comprehensive services for children, adolescents, adults and families who suffer from behavioral issues, mental illness or addiction. https://freedomhouserecovery.org/

Carolina Behavioral Care is a comprehensive behavioral health clinic providing a full spectrum of psychiatric, psychological and substance abuse services. https://carolinabehavioralcare.com/

References

[i] Fortson BL, Klevens J, Merrick MT, Gilbert LK, Alexander SP. Preventing child abuse and neglect: a technical package for policy, norm, and programmatic activities [Internet]. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2016 [cited 2020 Sep 8]. Available from: https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf
[ii] Fortson BL, Klevens J, Merrick MT, Gilbert LK, Alexander SP. Preventing child abuse and neglect: a technical package for policy, norm, and programmatic activities [Internet]. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2016 [cited 2020 Sep 8]. Available from: https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf
[iii] Fortson BL, Klevens J, Merrick MT, Gilbert LK, Alexander SP. Preventing child abuse and neglect: a technical package for policy, norm, and programmatic activities [Internet]. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2016 [cited 2020 Sep 8]. Available from: https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf
[iv] Finkelhor D, Turner HA, Shattuck A, Hamby SL. Prevalence of childhood exposure to violence, crime, and abuse: results from the national survey of children's exposure to violence. JAMA Pediatr. 2015 Aug [cited 2020 Sep 8];169(8):746-54. doi: 10.1001/jamapediatrics.2015.0676. PMID: 26121291. Available from: https://doi.org/10.1001/jamapediatrics.2015.0676
[v] Children's Bureau. Child maltreatment 2018 [Internet]. Washington, DC: U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families; c2018 [cited 2020 Oct 12]. Available from: https://www.acf.hhs.gov/sites/default/files/cb/cm2018.pdf
[vi] Fortson BL, Klevens J, Merrick MT, Gilbert LK, Alexander SP. Preventing child abuse and neglect: a technical package for policy, norm, and programmatic activities [Internet]. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2016 [cited 2020 Sep 8]. Available from: https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf.
[vii] cdc.gov [Internet]. Preventing adverse childhood experiences: leveraging the best available evidence. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2019 [cited 2020 Sep 8]. Available from: https://www.cdc.gov/violenceprevention/pdf/preventingACES.pdf
[viii] cdc.gov [Internet]. Preventing adverse childhood experiences: leveraging the best available evidence. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; c2019 [cited 2020 Sep 8]. Available from: https://www.cdc.gov/violenceprevention/pdf/preventingACES.pdf
[ix] Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. Am J Prev Med. 1998 May [cited 2020 Sep 8];14(4):245-58. doi: 10.1016/s0749-3797(98)00017-8. PMID: 9635069. Available from: https://pubmed.ncbi.nlm.nih.gov/9635069/
[x] ncleg.gov [Internet]. 2005 North Carolina Code - General Statutes § 7B-301. Duty to report abuse, neglect, dependency, or death due to maltreatment. Raleigh (NC): North Carolina General Assembly; c2016 [cited 2020 Aug 28]. Available from: https://www.ncleg.gov/EnactedLegislation/Statutes/HTML/BySection/Chapter_7B/GS_7B-301.html
[xi] Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. Am J Prev Med. 1998 May [cited 2020 Sep 8];14(4):245-58. doi: 10.1016/s0749-3797(98)00017-8. PMID: 9635069. Available from: https://pubmed.ncbi.nlm.nih.gov/9635069/

[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 28]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xiii] Maniglio R. The role of child sexual abuse in the etiology of suicide and non-suicidal self-injury. Acta Psychiatr Scand. 2011 Jul [cited 2020 Sep 14];124(1):30-41. doi: 10.1111/j.1600-0447.2010.01612.x. Epub 2010 Oct 11. PMID: 20946202. Available from: https://doi.org/10.1111/j.1600-0447.2010.01612.x

[xiv] Dubowitz H, Thompson R, Proctor L, Metzger R, Black MM, English D, Poole G, Magder L. Adversity, maltreatment, and resilience in young children. Acad Pediatr. 2016 Apr [cited 2020 Sep 14];16(3):233-9. doi: 10.1016/j.acap.2015.12.005. Epub 2016 Feb 9. PMID: 26868289; PMCID: PMC6535999. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6535999/

[xv] Healthydurham.org [Internet]. Durham County Youth Risk Behavior Survey. Durham: Partnership for a Healthy Durham; c2017 [cited 2020 Aug 28]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf

[xvi] Farrell CA, Fleegler EW, Monuteaux MC, Wilson CR, Christian CW, Lee LK. Community poverty and child abuse fatalities in the United States [Internet]. Pediatrics. 2017 May [cited 2020 Aug 28];139(5): e20161616. doi: 10.1542/peds.2016-1616. PMID: 28557719. Available from: https://doi.org/10.1542/peds.2016-1616

[xvii] Leventhal JM, Gaither JR. Incidence of serious injuries due to physical abuse in the United States: 1997 to 2009. Pediatrics. 2012 Nov [cited 2020 Aug 28];130(5):e847-52. doi: 10.1542/peds.2012-0922. Epub 2012 Oct 1. PMID: 23027163.

[xviii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 28]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Aug 28]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xx] Children's Bureau. Child maltreatment 2018 [Internet]. Washington, DC: U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families; c2018 [cited 2020 Oct 12]. Available from: https://www.acf.hhs.gov/sites/default/files/cb/cm2018.pdf

[xxi] Granby, Elizabeth Ann. (Program Manager, Durham County Department of Social Services, Child Protective Services). Re: Child Protective Services (CPS) Investigative Assessments. Message to Karen St Claire. 2020 November 20 [cited 2020 Nov]. https://www.dconc.gov/government/departments-f-z/social-services/child-and-family-services/child-protective-services

[xxii] Children's Bureau. Child maltreatment 2018 [Internet]. Washington, DC: U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families; c2018 [cited 2020 Oct 12]. Available from: https://www.acf.hhs.gov/sites/default/files/cb/cm2018.pdf

[xxiii] Duncan DF, Flair KA, Stewart CJ, Vaughn JS, Guest S, Rose RA, Malley KMD. Management assistance for child welfare, work first, and food & nutrition services in North Carolina (v3.2). Chapel Hill (NC): University of North Carolina School of Social Work; c2018 [cited 2020 Oct 2]. Available from: http://ssw.unc.edu/ma/

[xxiv] Duncan DF, Flair KA, Stewart CJ, Vaughn JS, Guest S, Rose RA, Malley KMD. Management assistance for child welfare, work first, and food & nutrition services in North Carolina (v3.2). Chapel Hill (NC): University of North Carolina School of Social Work; c2018 [cited 2020 Oct 2]. Available from: http://ssw.unc.edu/ma/

[xxv] Duncan DF, Flair KA, Stewart CJ, Vaughn JS, Guest S, Rose RA, Malley KMD. Management assistance for child welfare, work first, and food & nutrition services in North Carolina (v3.2). Chapel Hill (NC): University of North Carolina School of Social Work; c2018 [cited 2020 Oct 2]. Available from: http://ssw.unc.edu/ma/

[xxvi] Duncan DF, Flair KA, Stewart CJ, Vaughn JS, Guest S, Rose RA, Malley KMD. Management assistance for child welfare, work first, and food & nutrition services in North Carolina (v3.2). Chapel Hill (NC): University of North Carolina School of Social Work; c2018 [cited 2020 Oct 2]. Available from: http://ssw.unc.edu/ma/

[xxvii] census.gov [Internet]. QuickFacts. Washington, DC: United States Census Bureau; 2019 July 1 [cited 2020 Oct 2]. Available from: https://www.census.gov/quickfacts/fact/table/durhamcountynorthcarolina#

[xxviii] Duncan DF, Flair KA, Stewart CJ, Vaughn JS, Guest S, Rose RA, Malley KMD. Management assistance for child welfare, work first, and food & nutrition services in North Carolina (v3.2). Chapel Hill (NC): University of North Carolina School of Social Work; c2018 [cited 2020 Oct 9]. Available from: http://ssw.unc.edu/ma/

[xxix] Child Welfare Information Gateway. Racial disproportionality and disparity in child welfare [Internet]. Washington, DC: Children's Bureau; 2016 Nov [cited 2020 Nov 22]. Available from: https://www.childwelfare.gov/pubPDFs/racial_disproportionality.pdf

[xxx] Child Welfare Information Gateway. Racial disproportionality and disparity in child welfare [Internet]. Washington, NC: Children's Bureau; 2016 Nov [cited 2020 Nov 22]. Available from: https://www.childwelfare.gov/pubPDFs/racial_disproportionality.pdf

[xxxi] medicaid.ncdhhs.gov [Internet]. NC innovations waiver. Raleigh (NC): NC Medicaid Division of Health Benefits; c2020 [cited 2020 Nov]. Available from: https://medicaid.ncdhhs.gov/providers/programs-and-services/behavioral-health-idd/nc-innovations-waiver

[xxxii] Brown T. Families suffer while NC makes them wait years for assistance for their disabled kids. Raleigh (NC): The News and Observer; 2020 Feb 20 [cited 2020 Nov]. Available from: https://www.newsobserver.com/news/local/article240016413.html

[xxxiii] Duncan DF, Flair KA, Stewart CJ, Vaughn JS, Guest S, Rose RA, Malley KMD. Management assistance for child welfare, work first, and food & nutrition services in North Carolina (v3.2). Chapel Hill (NC): University of North Carolina School of Social Work; c2018 [cited 2020 Oct 2]. Available from: http://ssw.unc.edu/ma/

[xxxiv] dconc.gov [Internet]. Foster care & adoption. Durham (NC): Durham County; c2020 [cited 2020 Oct 9]. Available from: https://www.dconc.gov/government/departments-f-z/social-services/child-and-family-services/foster-care-adoption

[xxxv] congress.gov [Internet]. Bipartisan Budget Act of 2018, HR 1892. Washington, DC: 115th Cong (2017-2018) [cited 2020 Oct 9]. Available from: https://www.congress.gov/bill/115th-congress/house-bill/1892/text

[xxxvi] ncdhhs.gov [Internet]. Family First Prevention Services Act. Raleigh (NC): North Carolina Department of Health and Human Services; c2020 [cited 2020 Oct 9] Available from: https://www.ncdhhs.gov/divisions/social-services/child-welfare-services/family-first-prevention-services-act

[xxxvii] medicaid.ncdhhs.gov [Internet]. North Carolina's transformation to Medicaid managed care. Raleigh (NC): North Carolina Medicaid Division of Health Benefits; c2020 [cited 2020 Oct 8]. Available from: https://medicaid.ncdhhs.gov/transformation

[xxxviii] ncleg.gov [Internet]. Chapter 7B – juvenile code. Raleigh (NC): North Carolina General Assembly; 2019 Sep 27 [cited 2020 Oct 8]. Available from: https://www.ncleg.gov/Laws/GeneralStatuteSections/Chapter7B

[xxxix] Rainville C. Understanding secondary trauma: a guide for lawyers working with child victims [Internet]. Chicago (IL): American Bar Association; 2015 Sep 1 [cited 2020 Nov 19]. Available from:

https://www.americanbar.org/groups/public_interest/child_law/resources/child_law_practiceonline/child_law_practice/vol-34/september-2015/understanding-secondary-trauma--a-guide-for-lawyers-working-with/

[xl] nclap.org [Internet]. Compassion fatigue. Raleigh (NC): The NC Lawyers Assistance Program, North Carolina State Bar; c2020 [cited 2020 Oct 9]. Available from: https://www.nclap.org/compassion-fatigue/

[xli] ncleg.gov [Internet]. Senate Bill 199/SL 2019-245(=H596). Raleigh (NC): North Carolina General Assembly; 2019-2020 [cited 2020 Aug 28]. Available from: https://www.ncleg.gov/BillLookup/2019/S199

Oral Health

This chapter includes:

- Oral health in children
- Adult oral health

Section 10.01 *Oral health in children*

Overview

Oral health is an integral part of child's wellness. Dental caries remains the most prevalent chronic disease in children according to the National Institute of Dental and Craniofacial Research.[i]

Although dental caries is largely preventable, they remain the most common chronic disease of children aged six to 11 years and adolescents aged 12 to 19 years. Tooth decay is four times more common than asthma among adolescents aged 14 to 17years.[ii]

The use of Fluoride is a safe and effective way to prevent and control dental caries. Water fluoridation has contributed to a steady decline in caries rates over the last 50 years. Drinking fluoridated water keeps teeth strong and reduces cavities by 25% in children and adults and saves money for both families and the U.S. health care system.[iii]

Good oral hygiene can help prevent tooth decay. This includes brushing twice a day with a fluoridated toothpaste, flossing regularly, eating a well-balanced meal, limiting sugary drinks and regular dental visits.

Healthy People 2030 Objectives

Healthy People 2030 Objectives	Current U.S.	Current Durham	Target 2030
Reduce the proportion of children and adolescents with lifetime tooth decay experience in their primary or permanent teeth	48.4%[iv] (2013-16)	50.7%[v] (2013-16)	42.9%[vi]
Increase the proportion of children and adolescents who have dental sealants on one or more molars	37.0%[vii] (2013-16)	54.9%[viii] (2013-16)	42.5%[ix]

Table 10.01(a) Healthy People 2030 Objectives[x]

Secondary Data

Data from Durham County Department of Public Health (DCoDPH) indicates the proportion of children who have dental sealants (54.9%) has surpassed Healthy People 2030 Objectives target of 42.5%.[xi,xii] Data also indicates an increased proportion of children with lifetime tooth decay experience. Baseline for the current Durham data in Table 10.01 (a) is for children and adolescents aged three to 20 years old. The current U.S. baseline includes children aged three to 19 years.

Schoolwide Dental Screening in Durham Public Elementary schools shows that in 2018, 598 out of the total 7424 children screened needed treatment.[xiii] In 2019, 730 out of 8341 children screened needed treatment for an 0.7% increase in one year.[xiv]

There was an approximately 50% increase in sealant placement from 2018 to 2019 at the DCoDPH dental clinic. Over 1000 (1026) and 1536 Sealants were completed in 2018 and 2019 respectively.[xv]

According to the American Dental Association and the American Academy of Pediatric Dentistry, sealants are effective in preventing and arresting surface caries in primary and permanent teeth compared to the non-use of sealants. It can also minimize the progression of initial lesions.[xvi]

Sealants are more important than ever during the COVID-19 pandemic to prevent caries and to eliminate the need for aerosol generating procedures invasive procedures. Aerosol generating procedures that are done on patients have the potential to spread aerosols or droplets of different sizes.

Percentage of Children Ages 1 to 5 Years Enrolled in Medicaid Who Received Dental Services, 2010-2018

	2010	2015	2018
Healthy NC 2020 Target[xvii]	56.4%	56.4%	56.4%
North Carolina[xviii]	51.7%	41.7%	42.4%
Durham	60.4%	58.8%	50%

Table 10.01(b) Percentage of Children in Medicaid Receiving Dental Services

According to data from North Carolina Department of Health and Human Services, the percentage of children in Durham County ages one to five years enrolled in Medicaid who received dental services in Durham County decreased from 58.8% in 2015 to 50% in 2018.[xix] This brings Durham County below the Healthy NC 2020 target of 56.4%.[xx] There is a slight increase from 41.7% in 2015 to 42.4% in 2018 at the state level, which is still below the Healthy NC 2020 Target.[xxixxii] There is no objective related to children and dental care in Healthy NC 2030.[xxiii]

Interpretations: Disparities, Gaps, Emerging Issues

According to Centers for Disease Control and Prevention (CDC), oral health disparities exist for many racial and ethnic groups, by socioeconomic status, gender, age and geographic location. Lifestyle behaviors such as tobacco use, alcohol use and poor dietary choices are some contributing social factors. Populations most impacted by oral health problems include those of any age who are poor and those with medical problems or disabilities. The reasons for disparities in these populations include access to healthcare and health insurance, lack transportation and getting time off from work for health appointments. Dental coverage is not required as part of employer health plans.[xxiv] Lack of funds to pay for oral health care is also a major factor.

The CDC states that "Non-Hispanic Blacks, Hispanics and American Indians and Alaska Natives generally have the poorest oral health of any racial and ethnic groups in the United States."[xxv] The greatest racial and ethnic disparities among children in the three to five years and six-to-nine-year age groups is among Mexican American and non-Hispanic Black children.[xxvi] Children between the ages of five to 19 years from low-income families are twice as likely (25%) to have cavities as their counterparts from higher-income households (11%).[xxvii]

Prevention should be the cornerstone of oral health in children specially during COVID–19 pandemic. The pandemic has caused access to dental care more challenging as many dental offices are functioning at a reduced capacity, scheduling fewer appointments. Some offices remain closed except for emergency care.

According to the 2019 Community Health Assessment countywide survey, 15.7% of residents in the County wide sample identified cost, 11.8% combined selected difficulty finding healthy options while out and limited access to healthy foods to be major factors contributing to unhealthy dietary habits.[xxviii] The 2019 Community Health Assessment Hispanic and Latino Neighborhood survey results identified cost at 15.9%, and difficulty finding healthy options while out plus limited access to healthy foods combined at 12%, as the leading contributions to unhealthy dietary habits.[xxix]

Problems with affordability and accessibility to healthy foods and easy access to unhealthy foods are major contributing factors to several preventable health issues in children. Oral health of children is affected because caries rate is directly proportional to their dietary habits.

Recommended Strategies

Prevention is the foundation for good oral health. There are two components which must complement each other for a positive outcome. The first component is self-care and the second is care provided by a dentist.

- **Oral Health Education at Durham Public Schools** The goal is to establish good oral hygiene habits by reinforcing the importance of daily brushing and flossing. Educate students on healthy eating habits and how diet plays a very important role in oral health. Bring awareness among students and their caregivers the existence of the correlation between oral health and general health to increase understanding of the disease process.
- **Dental Sealant Project at Durham Public Schools** Sealants are effective in preventing and arresting caries in primary and permanent molars. Dental Sealants are safe with very low-level bisphenol A (BPA) and reduces the risk of cavities by 80% in permanent molars according to the American Dental Association.[xxx] School-age children (ages six to 11) without sealants have almost three times more first molar cavities than those with sealants.[xxxi] Although the overall number of children with sealants has increased over time, low-income children are 20% less likely to have them and twice as likely to have untreated caries than higher-income children.[xxxii]

- **School-based Dental Clinics** improves access to preventive dental services and establishes a dental home for the children who do not have a dental home.

Current Initiatives & Activities

Durham County Department of Public Health Dental Clinic provides low-cost dental care for children 0-21 years of age. https://www.dcopublichealth.org/services/dental-clinic-3674

baby Oral Health Program (bOHP) is a program designed to educate dental health care providers on the principles of infant and toddler oral health to equip them with the necessary tools to be comfortable and competent at providing oral health services for young children. http://www.babyoralhealthprogram.org/

Durham Dental Home Project The Durham County Department of Public Health Dental Clinic and UNC Adams School of Dentistry visit Durham Public Elementary Schools to provide dental care in the Mobile Dental Clinic.

UNC Adams School of Dentistry provides treatment for children who need sedation and all aspects of dentistry at reduced rates through student and resident clinics. https://www.carolinadentistry.org/ and https://www.dentistry.unc.edu/

References

[i] nidcr.nih.gov [Internet]. Dental caries (tooth decay). Bethesda (MD): National Institute of Dental and Craniofacial Research; 2018 Jul [cited 2020 Sep 30]. Available from: https://www.nidcr.nih.gov/research/data-statistics/dental-caries
[ii] cdc.gov [Internet]. Hygiene-related diseases: dental caries (tooth decay). Atlanta (GA): Centers for Disease Control and Prevention; 2016 Sep 22 [cited 2020 Sep 30]. Available from: https://www.cdc.gov/healthywater/hygiene/disease/dental_caries.html
[iii] cdc.gov [Internet]. Community water fluoridation. Atlanta (GA): Centers for Disease Control and Prevention; 2020 Jan 15 [cited 2020 Sep 30]. Available from: https://www.cdc.gov/fluoridation/index.html
[iv] health.gov [Internet]. Reduce the proportion of children and adolescents with lifetime tooth decay — OH-01. Rockville (MD): U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Sep 30]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/oral-conditions/reduce-proportion-children-and-adolescents-lifetime-tooth-decay-oh-01
[v] Durham County Department of Public Health. Dentrix Reports [internal data]; c2020 [cited 2020 Sep 30].
[vi] health.gov [Internet]. Oral conditions. Rockville (MD): U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Sep 30]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/oral-conditions
[vii] health.gov [Internet]. Increase the proportion of children and adolescents who have dental sealants on 1 or more molars — OH-10. Rockville (MD): U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Sep 30]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/oral-conditions/increase-proportion-children-and-adolescents-who-have-dental-sealants-1-or-more-molars-oh-10
[viii] Durham County Department of Public Health. Dentrix Reports [internal data]; c2020 [cited 2020 Sep 30].
[ix] health.gov [Internet]. Oral conditions. Rockville (MD): U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Sep 30]. Available from: Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/oral-conditions
[x] health.gov [Internet]. Oral conditions. Rockville (MD): Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Sep 30]. Available from: Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/oral-conditions
[xi] Durham County Department of Public Health. Dentrix Reports [internal data]; c2020 [cited 2020 Sep 30].
[xii] health.gov [Internet]. Increase the proportion of children and adolescents who have dental sealants on 1 or more molars — OH-10. Rockville (MD): U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Sep 30]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/oral-conditions/increase-proportion-children-and-adolescents-who-have-dental-sealants-1-or-more-molars-oh-10
[xiii] Durham County Department of Public Health. Durham Public Elementary School Screening [internal data]; c2020 [cited 2020 Sep 30].
[xiv] Durham County Department of Public Health. Durham Public Elementary School Screening [internal data]; c2020 [cited 2020 Sep 30].
[xv] Durham County Department of Public Health. Dentrix Reports [internal data]; c2020 [cited 2020 Sep 30].

[xvi] ada.org [Internet]. Oral health topics: dental sealants. Chicago (IL): American Dental Association; c2019 [cited 2020 Dec 8]. Available from: https://www.ada.org/en/member-center/oral-health-topics/dental-sealants
[xvii] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Dec 8]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.
[xviii] medicaid.gov [Internet]. Early and periodic screening, diagnostic, and treatment, Form CMS-416: Annual EPSDT Participation Report. Raleigh (NC): Center for Medicare & Medicaid Services, North Carolina Department of Health and Human Services; c2020 [cited 2020 Dec 19]. Available from: https://www.medicaid.gov/medicaid/benefits/early-and-periodic-screening-diagnostic-and-treatment/index.html
[xix] Center for Medicare & Medicaid Services. Form CMS-416: Annual EPSDT Participation Report. North Carolina Department of Health and Human Services; 2019 Jan 11 [cited 2020 Dec 8]. Available from https://files.nc.gov/ncdma/EPSDT416_AgeGroup_State_2018.pdf
[xx] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Dec 8]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.
[xxi] medicaid.gov [Internet]. Early and periodic screening, diagnostic, and treatment, Form CMS-416: Annual EPSDT Participation Report. Raleigh (NC): Center for Medicare & Medicaid Services, North Carolina Department of Health and Human Services; c2020 [cited 2020 Dec 19]. Available from: https://www.medicaid.gov/medicaid/benefits/early-and-periodic-screening-diagnostic-and-treatment/index.html
[xxii] North Carolina Institute of Medicine. Healthy North Carolina 2020: a better state of health [Internet]. Morrisville (NC): North Carolina Institute of Medicine; c2011 [cited 2020 Dec 8]. Available from: https://nciom.org/wp-content/uploads/2017/07/HNC2020_FINAL-March-revised.pdf. Supported by the Kate B. Reynolds Charitable Trust, The Duke Endowment, and the North Carolina Health and Wellness Trust Fund.
[xxiii] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2020 Nov 13]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[xxiv] U.S. Department of Health and Human Services. Oral health in America: a report of the Surgeon General [Internet]. Rockville (MD): U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health; c2020 [cited 2020 Dec 11]. Available from: https://www.nidcr.nih.gov/sites/default/files/2017-10/hck1ocv.%40www.surgeon.fullrpt.pdf
[xxv] cdc.gov [Internet]. Disparities in oral health. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 30]. Available from: https://www.cdc.gov/oralhealth/oral_health_disparities/
[xxvi] cdc.gov [Internet]. Disparities in oral health. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 30]. Available from: https://www.cdc.gov/oralhealth/oral_health_disparities/
[xxvii] cdc.gov [Internet]. Children's oral health. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 30]. Available from: https://www.cdc.gov/oralhealth/basics/childrens-oral-health/index.html

[xxviii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xxix] P Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Oct 20]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xxx] ada.org [Internet]. Oral health topics: dental sealants. Chicago (IL): American Dental Association; c2019 [cited 2020 Dec 8]. Available from: https://www.ada.org/en/member-center/oral-health-topics/dental-sealants

[xxxi] cdc.gov [Internet]. Dental sealants. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 30]. Available from: https://www.cdc.gov/oralhealth/dental_sealant_program/index.htm

[xxxii] cdc.gov [Internet]. Dental sealants prevent cavities. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 30]. Available from: https://www.cdc.gov/vitalsigns/dental-sealants/index.html

Section 10.02 *Adult oral health*

Overview

Oral health has a significant relationship with one's overall health. Oral health factors such as dental caries, infection, periodontal (gum) disease, dry mouth and oral cancers have been shown to have direct correlations with other systemic conditions like heart disease and diabetes. Although poor oral health habits can lead to severe pain, illness, speech difficulties and poor quality of life, it is highly preventable and, in most cases, treatable. Lack of oral health knowledge and lack of access to dental care are largely responsible for poor oral health outcomes among individuals. Lack of access to dental care can be a result of geographical location, economic factors, lack of dental insurance, lack of providers that accept certain types of insurances (Medicaid), racial disparities, cultural factors, fear and/or poor oral health literacy among many other potential barriers.

In 2019, the North Carolina Department of Health and Human Services (NC DHHS) reported that seventy-six of NC's one hundred counties are considered Dental Health Provider Shortage Areas (HPSAs).[i] These HPSAs contribute heavily to NC being ranked forty-seventh nationally for dentist-to-population ratio.[ii] There are three NC counties with no dentists.[iii] Lack of access to dental providers often results in higher rates of emergency department (ED) visits for dental-related problems. ED dental visits are an extremely costly public health issue. Most EDs are not equipped to provide definitive dental care.[iv] North Carolina has more than twice the national average of dental ED visits and the fastest growing rate of dental ED visits when compared to other southeastern states.[v]

Secondary Data

In 2020, the dentist to population ratio for Durham county was 1:1,370; this is compared to 1: 1,240 for Top U.S. performers (90th percentile), and 1: 1,780 for the state of North Carolina.[vi] When compared with other counties in its specific region, Durham county ranks second for dentist to population ratio, only ranking behind Orange County (home of UNC Adams of School Dentistry).[vii] The ratio of dentists to residents in Durham County and peer counties in North Carolina is highlighted in Table 10.02(a) below. Although an area may have a large number of dental providers, it is important to recognize that there are other barriers that contribute to lack of access to care and oral health disparities.

Ratio of Dentist to Residents, Durham County and Peer Counties, 2020[viii]

Region 5 Counties	Dentist:Population Ratio
Alamance	1:2,050
Caswell	1:4,540
Chatham	1:2,030
Durham	1:1,370
Guilford	1:1,780
Orange	1:470
Person	1:2,470
Randolph	1:2,810
Rockingham	1:2,750

Table 10.02(a) Ratio of Dentists to Residents in Peer Counties, 2020

The Behavioral Risk Factor Surveillance System (BRFSS) evaluates North Carolina oral health data by region. The Durham County data is grouped with data from neighboring counties to form region five. The 2018 BRFSS survey results show that 67.2% of the region five population reported having visited a dentist or dental clinic for any reason in the last one to 12 months.[ix] According to this data, a higher percentage of individuals in region five reported a dental visit within the last year than when compared to North Carolina state data.[x]

The 2018 BRFSS also found that 26.8% in region five reported having one to five permanent teeth removed because of tooth decay or gum disease; this did not include teeth lost for other reasons such as injury or orthodontics.[xi] Eleven percent of region five reported having six or more but not all permanent teeth removed due to these reasons.[xii] Just over five percent (5.2%) of region five reported having had all of their permanent teeth removed due to tooth decay or gum disease.[xiii] Region five reported less tooth removal due to decay or gum disease when compared to North Carolina state data in all of these categories. Furthermore, 15.7% of individuals aged 65 or older in region five reported having had all of their natural teeth extracted, compared with 17.4% statewide.[xiv]

Interpretations: Disparities, Gaps, Emerging Issues

Despite the many improvements that have been made in recent years regarding oral health and dental care, many oral health disparities remain evident and affect groups differently according to socioeconomic status, age, race, ethnicity, gender and geographic location. Other factors that often contribute to disparities in oral health are lack of dental insurance or lack of providers that accept certain types of coverage (Medicaid), along with cultural and social factors such as diet, alcohol use, tobacco use and drug abuse.

According to the 2018 BFRSS, in region five females were more likely to have visited a dentist within the last one to 12 months than males.[xv] Non-Hispanic whites were more likely to have visited a dentist within the last one to 12 months than Non-Hispanic Blacks.[xvi] Individuals ages 45-64 were more likely to have visited a dentist within the last one to 12 months than those in age groups 18 to 44 and 65 and over.[xvii] College graduates were more likely to have visited a dentist within the last one to 12 months than individuals with high school education or less or those with

some post- high school education.[xviii] Additionally, individuals with a household income of $50,000 or more were more likely to have visited a dentist within the last one to 12 months than those with a household income less than $50,000.[xix] Furthermore, females and Non-Hispanic Blacks reported more tooth removal due to decay or gum disease when compared to their male and Non-Hispanic white counterparts.

In 2018, 16.4% of the Durham County population was enrolled in Medicaid.[xx] Most Medicaid eligibility is based on modified adjusted gross income. Income eligibility levels are tied to the federal poverty level.[xxi] In 2016, only 29.7% of North Carolina dentists participated in Medicaid or Children's Health Insurance Program (CHIP).[xxii] This is lower than the nationwide 39% of dentists that are Medicaid participants.[xxiii] Medicaid is the single largest source of health care for the poor.[xxiv] Dentists not accepting Medicaid is often a barrier to receiving dental care for individuals enduring financial hardship. Economic barriers to accessing dental care are often correlated with racial barriers to care with Non-Hispanic Blacks and Mexican Americans often suffering from poorer oral health outcomes in comparison to their Non-Hispanic white counterparts.[xxv]

Slightly more than nine percent (9.43%) of the population in Durham County has Medicare coverage.[xxvi] Medicare does not usually cover dental services although there are options to add dental coverage via the Medicare Advantage Plan.[xxvii] As a result, much of the elderly population (65 years and older) experiences poorer oral health outcomes.

Geographical location is also a significant barrier to accessing dental care. A technique that many dentists are utilizing in order to help mitigate this issue is teleDentistry.[xxviii] TeleDentistry is the use of electronic information, imaging and communication technologies to provide and support delivery of dental diagnoses and treatment.[xxix] Increased utilization of teleDentistry and related technologies may help to reduce issues with access to dental care in the coming years.

Resources available to help overcome oral health disparities in Durham County include dental services provided at the Department County Department of Public Health (DCoDPH) where eligible individuals can receive dental care from childhood to age 21. Durham County is also fortunate to have a Federally Qualified Health Center (FQHC), Lincoln Community Health Center (LCHC) that provides comprehensive and urgent dental services for adults. Both DCoDPH and LCHC accept dental insurance including Medicaid and operate on a on a sliding scale fee system. In addition to these two organizations, there are various other clinics in the county where individuals can receive dental care including the Student National Dental Association (SNDA) and CAARE Clinic, which is a student-operated dental clinic that provides free urgent care services to the community. There are also two dental schools within driving distance of Durham County; UNC Adams School of Dentistry in Chapel Hill, NC and ECU School of Dental Medicine in Greenville, NC. Dental schools often offer dental care at reduced costs.

Recommended Strategies

Potential ways to address and improve current oral health disparities in Durham County and nationwide include, but are not limited to:

- Consideration of expansion of Medicaid eligibility and benefits for adults
- Ensuring that dental providers are culturally competent and understand the factors that may affect the oral health and habits of various groups
- More outreach efforts to educate vulnerable groups and provide resources in effort to increase oral health literacy
- Graduating more dentists interested in providing dental care in underserved areas and to underserved populations
- Supporting and advocating for FQHCs and other dental public health entities
- Implementation of strategies to reduce the number of emergency department visits for dental problems by increasing the number of individuals with established dental homes
- Supporting new and existing groups whose mission is to improve oral health access and equity
- Incorporation of strategies like teleDentistry and mobile dentistry

Current Initiatives & Activities

Durham County Department of Public Health Dental Division serves children from their first tooth until their 21st birthday and pregnant women (12-28 weeks). https://www.dcopublichealth.org/services/dental-clinic-3674

Lincoln Community Health Center Dental Clinic provides urgent care, preventive, basic oral surgery, restorative and limited endodontics. Payment is based on sliding scale. Complex extractions and biopsies are referred to UNC Dental School, Oral Surgery Clinic. http://lincolnchc.org/

SNDA CAARE Dental Clinic provides preventive, basic oral surgery and limited restorative care at no cost to persons without dental insurance during walk-in clinic on Tuesdays throughout the year. http://www.unccaareclinic.com/

Local Start Dental Clinic (Scheduled to Open in Early 2021)
Local Start Dental Clinic will offer quality dentistry for Triangle-based, uninsured, and impoverished adults, including military veterans, the elderly, the working poor and the homeless with a focus on prosthetics/dentures, oral surgery and implants, free of charge or discounted through Medicaid, VA benefits, or a sliding-scale fee. https://www.localstartdental.org/about-us

UNC Adams School of Dentistry provides urgent care, preventive care, oral surgery, restorative, periodontics, and endodontics at reduced rates through student and graduate/resident clinics. https://www.dentistry.unc.eu/patients/

ECU School of Dental Medicine offer a full range of dental services for adults and children in Greenville and at our eight Community Service Learning Center across North Carolina. https://www.ecu.edu/cs-dhs/dental/index.cfm

References

[i] ncdhhs.gov [Internet]. North Carolina health professional shortage area: 2019 profile. Raleigh (NC): North Carolina Department of Health and Human Services, Office of Rural Health; 2019 Jan 1 [cited 2020 Sep]. Available from: https://files.nc.gov/ncdhhs/2019%20NC%20DHHS%20ORH%20HPSA%20One%20Pager.pdf
[ii] North Carolina Oral Health Collaborative. Portrait of oral health in North Carolina: an overview of our current realities and opportunities for change [Internet]. Cary (NC): Foundation for Health Leadership & Innovation; c2019 [cited 2020 Sep]. Available from: https://oralhealthnc.org/wp-content/uploads/2019/12/Portrait-of-Oral-Health.pdf
[iii] North Carolina Oral Health Collaborative. Portrait of oral health in North Carolina: an overview of our current realities and opportunities for change [Internet]. Cary (NC): Foundation for Health Leadership & Innovation; c2019 [cited 2020 Sep]. Available from: https://oralhealthnc.org/wp-content/uploads/2019/12/Portrait-of-Oral-Health.pdf
[iv] North Carolina Oral Health Collaborative. Portrait of oral health in North Carolina: an overview of our current realities and opportunities for change [Internet]. Cary (NC): Foundation for Health Leadership & Innovation; c2019 [cited 2020 Sep]. Available from: https://oralhealthnc.org/wp-content/uploads/2019/12/Portrait-of-Oral-Health.pdf
[v] North Carolina Oral Health Collaborative. Portrait of oral health in North Carolina: an overview of our current realities and opportunities for change [Internet]. Cary (NC): Foundation for Health Leadership & Innovation; c2019 [cited 2020 Sep]. Available from: https://oralhealthnc.org/wp-content/uploads/2019/12/Portrait-of-Oral-Health.pdf
[vi] countyhealthrankings.org [Internet]. Health outcomes. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 September]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/rankings/durham/county/outcomes/overall/snapshot
[vii] countyhealthrankings.org [Internet]. Health outcomes. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 September]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/rankings/durham/county/outcomes/overall/snapshot
[viii] countyhealthrankings.org [Internet]. Health outcomes. Princeton (NJ): County Health Rankings & Roadmaps, Robert Wood Johnson Foundation; c2020 [cited 2020 September]. Available from: https://www.countyhealthrankings.org/app/north-carolina/2020/rankings/durham/county/outcomes/overall/snapshot
[ix] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[x] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xi] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xii] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xiii] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh

[xiv] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xv] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xvi] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xvii] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xviii] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xix] schs.dph.ncdhhs.gov [Internet]. 2018 BRFSS survey results: 2018 BRFSS topics for Region 5. Raleigh (NC): NC State Center for Health Statistics Behavioral Risk Factor Surveillance System; c2018 [cited 2020 Sep]. Available from: https://schs.dph.ncdhhs.gov/data/brfss/2018/region5/topics.htm#oh
[xx] datausa.io [Internet]. Durham County, NC. Plano (TX): Data USA; c2020 [cited 2020 Sep]. Available from: https://datausa.io/profile/geo/durham-county-nc#health
[xxi] medicaid.gov [Internet]. Medicaid and CHIP in North Carolina. Baltimore (MD): Centers for Medicare & Medicaid Services; c2020 [cited 2020 Sep]. Available from: https://www.medicaid.gov/state-overviews/stateprofile.html?state=north-carolina
[xxii] Health Policy Institute. Dentist participation in Medicaid or CHIP [Internet]. Chicago (IL): American Dental Association; c2016 [cited 2020 Sep]. Available from: https://www.dhhs.nh.gov/ombp/medicaid/hb692/documents/adahpidentistparticmedicaid.pdf
[xxiii] Health Policy Institute. Dentist participation in Medicaid or CHIP [Internet]. Chicago (IL): American Dental Association; c2016 [cited 2020 Sep]. Available from: https://www.dhhs.nh.gov/ombp/medicaid/hb692/documents/adahpidentistparticmedicaid.pdf.
[xxiv] datausa.io [Internet]. Durham County, NC. Plano (TX): Data USA; c2020 [cited 2020 Sep]. Available from: https://datausa.io/profile/geo/durham-county-nc#health
[xxv] Feinberg M. Minority oral health in America: despite progress, disparities persist [Internet]. Chicago (IL): American Dental Association; c2015 [cited 2020 Sep]. Available from: https://www.ada.org/~/media/ADA/Advocacy/Files/160523_Kelly_Report_Dental_Chapter.pdf?la=en
[xxvi] datausa.io [Internet]. Durham County, NC. Plano (TX): Data USA; c2020 [cited 2020 Sep]. Available from: https://datausa.io/profile/geo/durham-county-nc#health
[xxvii] datausa.io [Internet]. Durham County, NC. Plano (TX): Data USA; c2020 [cited 2020 Sep]. Available from: https://datausa.io/profile/geo/durham-county-nc#health
[xxviii] americanteledentistry.org [Internet]. Facts about teledentistry. American TeleDentistry Association; c2020 [cited 2020 Sep]. Available from: https://www.americanteledentistry.org/facts-about-teledentistry/
[xxix] americanteledentistry.org [Internet]. Facts about teledentistry. American TeleDentistry Association; c2020 [cited 2020 Sep]. Available from: https://www.americanteledentistry.org/facts-about-teledentistry/

Climate Change

This chapter includes:

- ❖ Extreme heat
- ❖ Extreme precipitation
- ❖ Wildfires

Healthy North Carolina 2030 identified Climate Change as an important measure related to public health that needs further data at the local level. Climate change occurs when too many heat-trapping gases such as carbon dioxide and methane are released into the atmosphere. These gases, called "greenhouse gases" (GHG's), are naturally occurring in the atmosphere, but are also released through human activities like burning fossil fuels and raising livestock. Energy from the sun enters the atmosphere and gets trapped by these gases resulting in changing air and ocean currents, more extreme weather events, melting glaciers and ice caps and changing habitats.

The biggest climate change effects that will impact health in Durham include extreme heat, extreme rain and storms and wildfires. These conditions will continue to occur more frequently and with higher severity as climate change intensifies. People with existing health conditions such as heart disease, asthma, respiratory diseases and obesity as well as the elderly, children, people who are housing insecure and people living in poverty are the most at risk from climate risks. There are eight census tracts in Durham that have higher risks and exposure to climate impacts and these tracts have 20% higher percentage of people of color and Latinos than Durham County as a whole. These disparities are due to systematic racism that results in people of color living in areas that lack natural infrastructure that mitigates climate impacts such as tree coverage, green space and adequate stormwater systems.

Section 11.01 *Extreme heat*

Overview

Extreme heat is one of the deadliest climate hazards.[i] The term "excessive heat" is defined as two or more days of temperatures above 90°F.[ii] In Durham, extreme heat is often accompanied by high humidity. Under these conditions, the human body needs to work harder to maintain a normal body temperature because the evaporation of sweat is slowed. This leads to heat exhaustion, heatstroke and possibly death.[iii] Anyone can be affected by extreme heat, but the hazard often disproportionately impacts low-income communities. Climate change is projected to increase the number, severity and duration of extreme heat events.[iv] Future public health consequences of extreme heat are likely to increase, but adaptation and mitigation steps can improve outcomes.

Secondary Data

The health impacts of extreme heat are already significant and only expected to become worse as climate change drives temperatures higher. Between 2010 and 2020, there were an estimated 12,000 premature deaths in the United States due to extreme heat, more than all other extreme weather hazards combined including tornadoes, flooding, hurricanes, wind, cold, lightning and winter storms.[v] There are an estimated 3,000 heat-related illness emergency department visits every summer in North Carolina.[vi] Currently, approximately 250 heat-related deaths occur annually in North Carolina.[vii] Under the worst-case climate warming scenario, the number of heat-related deaths in North Carolina is estimated to increase to 3,300 per year.[viii]

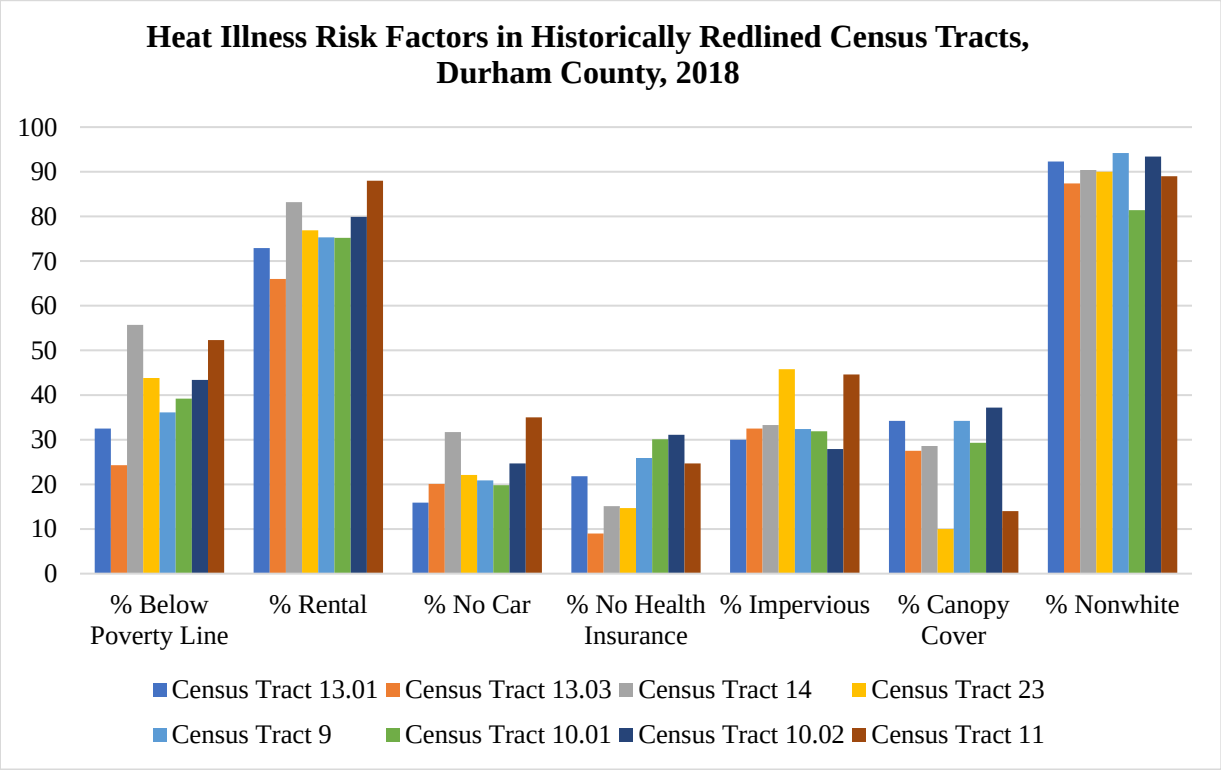
While extreme heat can have negative public health effects, it is one of the few climate health hazards that can be mitigated with advance planning. Often called a silent storm, extreme heat approaches without the dramatic warning signs of other storms such as whipping winds, heavy rains or rushing rivers. Instead, heat waves feel like an ordinary hot day until the unusually hot temperatures begin to affect the body. In mild cases, extreme heat causes dehydration and lack of energy. In more severe cases it causes heat exhaustion, heatstroke, hyperthermia, and in the worst cases, death. Extreme heat deaths occur not just on the hottest days, but at warm temperatures as well.[ix] When night temperatures stay above 80°F, it is harder for the human body to cool down, increasing the chances of adverse heat effects. Extreme heat also makes pre-existing conditions such as mental illness, asthma, diabetes and cardiovascular disease worse.[x]

Heat waves have different impacts across Durham County. Temperatures are typically 22°F warmer in urban areas than the surrounding countryside.[xi] Temperatures stay warmer overnight due to the "urban heat island" effect.[xii] This is the result of large amounts of heat-trapping buildings and paved surfaces as well as the lack of vegetation. Building materials like brick, concrete and asphalt absorb heat during the day and release it slowly overnight to the surrounding air. This means that these areas do not have a chance to cool off before the sun comes up again. Additionally, fewer trees, meadows and vegetative ground cover in urban areas mean less natural cooling. Plants create natural cooling systems. Water that evaporates from plant leaves during photosynthesis harnesses heat energy that transforms liquid water into vapor, cooling the plant's

surroundings.[xiii] Additionally, plants create pockets of shade and microclimates that circulate cooled air as a result of the evaporation process.[xiv]

Extreme heat will also have a disproportionate impact on residents who do not have reliable access to air conditioning and/or who have secondary risk factors as discussed below in the Interpretations section.[xv] In some areas, the legacy of structural racism compounds the triple impact of an increased urban heat island effect, less access to reliable cooling and less access to health insurance.[xvi] There are eight census tracts in Durham County where this is evident, as documented in Figure 11.01(a) and discussed in the Interpretations section below.

Figure 11.01(a): Comparing variables associated with heat vulnerability between Durham County and the eight historically redlined census tracts[xvii]



Heatwaves are sometimes accompanied by power blackouts due to high demand for energy or other weather-related hazards such as hurricanes and thunderstorms.[xviii] In these situations, all residents of Durham would be at high risk for heat health problems. During COVID-19 or possible future pandemics, the use of air conditioning in shared indoor rooms or cooling stations may present a secondary health risk of contracting a serious virus or disease.[xix]

Overall, Durham County is projected to experience 60 extreme heat days over 90°F a year by 2030, increasing to 75 days by 2080.[xx]

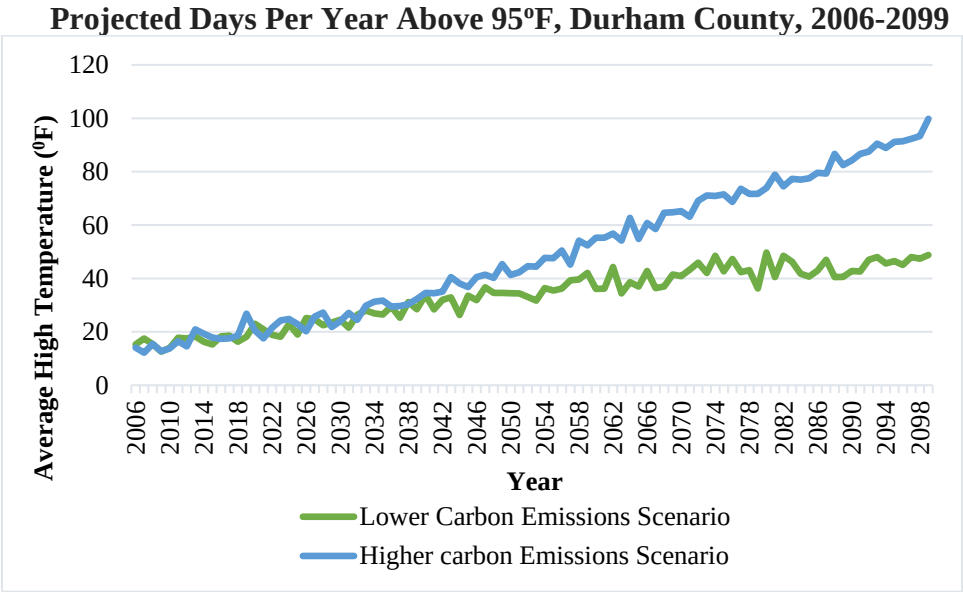


Figure 11.01(b): Projected Days in Durham County over 95 Degrees Fahrenheit[xxi]

Figure 11.1(b) shows the projected number of days per year that Durham County is expected to reach 95ºF or more. The green line projects average maximum daily temperatures if humans are able to curb greenhouse gas emissions to meet internationally agreed-upon carbon reduction targets. The blue line projects temperatures if humans continue to emit high levels of greenhouse gases.[xxii]

Interpretations: Disparities, Gaps, and Emerging Issues

Extreme heat can affect anyone. However, people who are more likely to be adversely affected generally fall into three categories in Durham County:

- People exposed to very hot temperatures or prolonged warm temperatures in their working environment.[xxiii]
- People who have pre-existing health conditions such as heart disease, diabetes, mental illness or asthma that may worsen as the body is stressed in extreme heat conditions.[xxiv]
- People who may have difficulty moving to a cooler environment such as people with physical disabilities, social isolation, language isolation, or people whose bodies have a harder time thermal regulating such as people with severe obesity and under the age of four or over 65 years old. [xxv,xxvi]

When possible, people in the above categories should mitigate adverse health impacts by avoiding exposure to extreme heat and finding a cool environment. However, this is not possible for some residents, either because they cannot afford air conditioning and/or landlords do not provide it, their physical condition makes it difficult to move to a cooler environment or because their work conditions expose them to heat.

In the next decade, the ability to find a cooler environment will increasingly emerge as a determinant of health. Residents who do not have access to cooling resources such as air-

conditioning, a cool car or the ability to take a day off work on an extremely hot day are more likely to experience heat sickness or heat-related death.[xxvii]

Eight census tracts in Durham and a large number of the residents who currently live in them are at higher risk of extreme heat-related illness as a direct result of the legacy of structural racism. Between 1934 and 1968, census tracts 9, 10.01, 10.02, 11, 13.01, 13.03, 14, and 23 were designated as areas that were too risky to lend in by the United States' Home Owners' Loan Corporation (HOLC).[xxviii] The HOLC agency was established as part of the New Deal during the Great Depression in an effort to refinance mortgages at risk of default and encourage new home sales. However, neighborhoods with high numbers of people of color living in them were marked red on the HOLC lending maps and therefore denied federally-subsidized mortgage opportunities.[xxix] This exclusionary lending practice is now called "redlining" and its harmful legacy still persists both in the physical infrastructure of formerly redlined neighborhoods and in the experiences of many community members who live there.[xxx] The neighborhoods which were redlined lie in the Southeast, East, and Northeast Durham and include neighborhoods such as the Hayti, East Durham, Albright, Wellons Village, Historic Hillside, Hillside Park, Massey-Linwood, Oak Grove, Eastway Village, the Fayetteville Street Commercial District, North Carolina Central, Franklin Village, Sherwood Park, Hoover Road, and Old North Durham.

Formerly redlined neighborhoods have fewer street trees and more paved surfaces, resulting in localized temperatures on average 7° F hotter than non-redlined districts.[xxxi] Additionally, as a result of policies deliberately restricting access to financing to people of color, these neighborhoods have a higher number of non-white residents who live below the federal poverty line, cannot afford reliable air conditioning and rely on the bus or walking for transportation, even on extremely hot days.[xxxii] Many residents in Durham's formerly redlined districts are therefore at greater risk for heat-related illness. This heat inequity is illustrated in Figure 11.1(a).

An emerging issue for Durham residents in these eight census tracts is involuntary displacement known as gentrification.[xxxiii] Housing insecurity and an involuntary move to another neighborhood can exacerbate transportation heat exposures or the inability to afford air-conditioning. Place-based interventions to mitigate the effects of extreme heat such as planting trees and adding cooling stations should keep this displacement issue in mind to ensure that the people most at risk receive continued support in their new locations.

Recommended Strategies

Mitigate Urban Heat Island Effect

- Adopt a county-wide maximum allowable indoor temperature for residential buildings when the outdoor temperature is above 90°F, similar to the minimum allowable indoor temperature regulation that already exists for outdoor temperatures below 68°F.[xxxiv]
- Increase green infrastructure such as trees, meadows, vegetated areas and green roofs, prioritizing the historically redlined census tracts if this is also wanted by the communities in each census tract.[xxxv]
- Create design standards, incentives and education to increase light-colored cooling surfaces such as roofs, parking lots, plazas, etc.[xxxvi]

- Conduct research to determine the extent of urban heat island and its impacts on specific neighborhoods in Durham.[xxxvii]

Mitigate Health Impacts

- Implement a heatwave alert, education and response system through the Durham County Emergency Management department based on EPA guidance.[xxxviii] This includes partnering with formal and informal social service systems to educate the public about extreme heat dangers and mitigation techniques.[xxxix]
- Set up a buddy system through formal and informal networks to check on most-impacted community members during heat waves; incorporate through existing emergency systems.[xl]
- Plan for long term heat events with established cooling stations including overnight options and enhanced social infrastructure.[xli]
- Plan for additional funding for electricity assistance during heat waves.[xlii]

Current Initiatives & Activities

Operation Fan Heat Relief Program
The North Carolina Department of Health and Human Services provides free fans to senior citizens and eligible adults with serious health conditions. The Center for Senior Life administers this program in Durham County (919)-688-8247. https://www.ncdhhs.gov/divisions/aging-and-adult-services/operation-fan-and-heat-relief

Increasing Urban Forest Cover Through Tree Planting
The City of Durham, Keep Durham Beautiful and Trees Durham collectively plant about 1,500 trees per year. The city's Urban Forestry Management Plan aims to increase the tree canopy from 42% to 45% and plant 85% of new street trees in areas that have been underserved.
https://durhamnc.gov/DocumentCenter/View/32533/UFMP_GSD_9-18

CDC Communication toolkit on Climate Change, Extreme Heat
The Center for Disease Control provides information on heat stress illnesses and links to federal government resources on extreme heat.
https://ephtracking.cdc.gov/showHeatStressIllnessResources

NC Department of Health and Human Services
The North Carolina Department of Health and Human Services offers climate and health information on extreme heat. https://publichealth.nc.gov/chronicdiseaseandinjury/heat.htm

References

[i] nihhis.cpo.noaa.gov [Internet]. Silver Spring (MD): National Integrated Heat Health Information System; c2020 [cited 2020 Oct 20]. Available from: https://nihhis.cpo.noaa.gov/
[ii] ready.gov [Internet]. Extreme heat. Washington, DC: Ready Campaign; c2019 [cited 2020 Oct 20]. Available from: https://www.ready.gov/heat
[iii] ghhin.org [Internet]. Geneva: Global Heat Health Information Network; c2020 [cited 2020 Oct 20]. Available from: http://ghhin.org/
[iv] nca2018.globalchange.gov [Internet]. Fourth national climate assessment. Washington, DC: U.S. Global Change Research Program; c2018 [cited 2020 Oct 20]. Available from: https://nca2018.globalchange.gov
[v] Shindell D, Zhang Y, Scott M, Ru M, Stark K, Ebi KL. The effects of heat exposure on human mortality throughout the United States [Internet]. GeoHealth; 2020 Apr [cited 2020 Oct 20];4(4). Available from: https://onlinelibrary.wiley.com/doi/abs/10.1029/2019GH000234
[vi] ncdhhs.gov [Internet]. NC health official urge caution as temperatures climb. Raleigh (NC): NC Department of Health and Human Services; 2019 May 23 [cited 2020 Dec 5]. Available from: https://www.ncdhhs.gov/news/press-releases/nc-health-officials-urge-caution-temperatures-climb
[vii] ncdhhs.gov [Internet]. 2020 summer heat emergency data and prevention tips. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Oct 20]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/heat.htm
[viii] Shindell D, Zhang Y, Scott M, Ru M, Stark K, Ebi KL. The effects of heat exposure on human mortality throughout the United States [Internet]. GeoHealth; 2020 Apr [cited 2020 Oct 20];4(4). Available from: https://onlinelibrary.wiley.com/doi/abs/10.1029/2019GH000234
[ix] cdc.gov [Internet]. Climate change and extreme heat: what you can do to prepare. Atlanta (GA): U.S. Environmental Protection Agency, Centers for Disease Control and Prevention; 2016 Oct [cited 2020 Oct 20]. Available from: https://www.cdc.gov/climateandhealth/pubs/extreme-heat-guidebook.pdf
[x] cdc.gov [Internet]. Climate change and extreme heat: what you can do to prepare. Atlanta (GA): U.S. Environmental Protection Agency, Centers for Disease Control and Prevention; 2016 Oct [cited 2020 Oct 20]. Available from: https://www.cdc.gov/climateandhealth/pubs/extreme-heat-guidebook.pdf
[xi] epa.gov [Internet]. Reducing urban heat islands: compendium of strategies, urban heat island basics. RTP (NC): US Environmental Protection Agency; c2008 [cited 2020 Dec 5]. Available from: https://www.epa.gov/sites/production/files/2017-05/documents/reducing_urban_heat_islands_ch_1.pdf
[xii] Oke TR. City size and the urban heat island. Atmospheric Environment (1967). 1973 Aug 1 [cited 2020 Dec 5];7(8):769–79. Available from: http://www.patarnott.com/pdf/Oke1979CitySizeAndHeatIsland.pdf
[xiii] epa.gov [Internet]. Reducing urban heat islands: compendium of strategies, trees and vegetation. RTP (NC): U.S. Environmental Protection Agency; c2008 [cited 2020 Dec 5]. Available from: https://www.epa.gov/sites/production/files/2017-05/documents/reducing_urban_heat_islands_ch_2.pdf
[xiv] epa.gov. Using trees and vegetation to reduce heat islands. RTP (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Dec 5]. Available from: https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands
[xv] NYC Mayor's Office of Recovery and Resiliency. Cool neighborhoods NYC: a comprehensive approach to keep communities safe in extreme heat [Internet]. New York (NY): City of New York; c2016 [cited 2020 Oct 20]. Available from: https://www1.nyc.gov/assets/orr/pdf/Cool_Neighborhoods_NYC_Report.pdf
[xvi] Lakhani N. Heat islands: racist housing policies in US linked to deadly heatwave exposure [Internet]. Washington, DC: The Guardian; 2020 Jan 13 [cited 2020 Dec 5]. Available from: https://www.theguardian.com/society/2020/jan/13/racist-housing-policies-us-deadly-heatwaves-exposure-study

[xvii] headwaterseconomics.org [Internet]. Neighborhoods at Risk: climate projections. Bozeman (MT): Headwaters Economics; c2020 [cited 2020 Oct 20]. Available from: https://headwaterseconomics.org/apps/neighborhoods-at-risk/37063/explore/map
[xviii] Sanchez O. Triple-digit temperatures could bring blackouts in New York City, DC and Chicago [Internet]. Washington, DC: USA Today; 2019 Jul 16 [cited 2020 Dec 5]. Available from: https://www.usatoday.com/story/news/nation/2019/07/16/heat-wave-could-cause-power-outages-new-york-city-chicago-d-c/1749257001/
[xix] cdc.gov [Internet]. COVID-19 and cooling centers. Atlanta (GA): Centers for Disease Control and Prevention; 2020 Apr 11 [cited 2020 Dec 5]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/php/cooling-center.html
[xx] statesatrisk.org [Internet]. North Carolina. Princeton (NJ): Climate Central; c2020 [cited 2020 Dec 5]. Available from: https://statesatrisk.org/north-carolina/all
[xxi] crt-climate-explorer.nemac.org [Internet]. The climate explorer. Miami (FL): National Oceanic and Atmospheric Administration; c2020 [cited 2020 Oct 20]. Available from: https://crt-climate-explorer.nemac.org/
[xxii] crt-climate-explorer.nemac.org [Internet]. The climate explorer. Miami (FL): National Oceanic and Atmospheric Administration; c2020 [cited 2020 Oct 20]. Available from: https://crt-climate-explorer.nemac.org/
[xxiii] osha.gov [Internet]. Overview: working in outdoor and indoor heat environments. Washington, DC: Occupational Safety and Health Administration; c2020 [cited 2020 Oct 20]. Available from: https://www.osha.gov/SLTC/heatstress/
[xxiv] Gronlund CJ. Racial and socioeconomic disparities in heat-related health effects and their mechanisms: a review. Curr Epidemiol Rep. 2014 Sep 1 [cited 2020 Oct 20];1(3):165–73. Available from: file:///D:/Downloads/Gronlund2014_Article_RacialAndSocioeconomicDisparit.pdf
[xxv] Hayden MH, Brenkert-Smith H, Wilhelmi OV. Differential adaptive capacity to extreme heat: a Phoenix, Arizona, case study. Weather, Climate, and Society. Weather, Climate, and Society; 2011 [cited 2020 Oct 20];3(4):269–80. Available from: https://doi.org/10.1175/WCAS-D-11-00010.1
[xxvi] Gronlund CJ. Racial and socioeconomic disparities in heat-related health effects and their mechanisms: a review. Curr Epidemiol Rep. 2014 Sep 1 [cited 2020 Oct 20];1(3):165–73. Available from: file:///D:/Downloads/Gronlund2014_Article_RacialAndSocioeconomicDisparit.pdf
[xxvii] Gronlund CJ. Racial and socioeconomic disparities in heat-related health effects and their mechanisms: a review. Curr Epidemiol Rep. 2014 Sep 1 [cited 2020 Oct 20];1(3):165–73. Available from: file:///D:/Downloads/Gronlund2014_Article_RacialAndSocioeconomicDisparit.pdf
[xxviii] dsl.richmond.edu [Internet]. Mapping inequality. Federal home owner loan corporation maps for Durham. Richmond (VA): Digital Scholarship Lab; c2020 [cited 2020 Oct 20]. Available from: https://dsl.richmond.edu/panorama/redlining/
[xxix] Aaronson D, Hartley D, Mazmumder B. The effects of the 1930s HOLC "redlining" maps (REVISED August 2020) [Internet]. Chicago (IL): Federal Reserve Bank of Chicago; c2017 [cited 2020 Oct 20]. Available from: https://www.chicagofed.org/publications/working-papers/2017/wp2017-12
[xxx] De Marco A, Hunt H. Racial inequality, poverty and gentrification in Durham, North Carolina [Internet]. Chapel Hill (NC): North Carolina Poverty Research Fund; 2018 [cited 2020 Oct 20]. Available from: https://www2.law.unc.edu/documents/poverty/publications/durham_final.pdf
[xxxi] Hoffman JS, Shandas V, Pendleton N. The effects of historical housing policies on resident exposure to intra-urban heat: a study of 108 US urban areas [Internet]. Climate. 2020 Jan [cited 2020 Oct 20];8(1):12. Available from: https://www.mdpi.com/2225-1154/8/1/12/htm
[xxxii] Wilson B. Urban Heat Management and the Legacy of Redlining. Journal of the American Planning Association. Journal of the American Planning Association; 2020 [cited 2020 Oct 20];86(4):443–57. Available from: https://doi.org/10.1080/01944363.2020.1759127

[xxxiii] Eanes Z. In Durham, gentrification follows a red line [Internet]. Durham (NC): The Herald Sun; 2018 Oct 10 [cited 2020 Oct 20]. Available from: https://www.heraldsun.com/news/local/counties/durham-county/article217192030.html
[xxxiv] epa.gov [Internet]. Reducing urban heat islands: compendium of strategies, reducing urban heat islands. RTP (NC): U.S. Environmental Protection Agency; c2008 [cited 2020 Dec 5]. Available from: https://www.epa.gov/sites/production/files/2017-05/documents/reducing_urban_heat_islands_ch_6.pdf
[xxxv] epa.gov [Internet]. Reducing urban heat islands: compendium of strategies, reducing urban heat islands. RTP (NC): U.S. Environmental Protection Agency; c2008 [cited 2020 Dec 5]. Available from: https://www.epa.gov/sites/production/files/2017-05/documents/reducing_urban_heat_islands_ch_6.pdf
[xxxvi] epa.gov [Internet]. Heat island cooling strategies. RTP (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Oct 20]. Available from: https://www.epa.gov/heatislands/heat-island-cooling-strategies
[xxxvii] epa.gov [Internet]. Measuring heat islands. RTP (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Oct 20]. Available from: https://www.epa.gov/heatislands/measuring-heat-islands
[xxxviii] epa.gov [Internet]. Excessive heat events guidebook. RTP (NC): U.S. Environmental Protection Agency; 2016 Mar [cited 2020 Oct 20]. Available from: https://www.epa.gov/sites/production/files/2016-03/documents/eheguide_final.pdf
[xxxix] Austhof E, Berisha V, McMahan B, Owen G, Keith L, Roach M, et al. Participation and engagement of public health stakeholders in climate and health adaptation. Atmosphere. 2020 Mar 7 [cited 2020 Oct 20];11(3):265. Available from: https://www.mdpi.com/2073-4433/11/3/265
[xl] Kalkstein LS. Saving lives during extreme weather in summer. BMJ. 2000 Sep 16 [cited 2020 Oct 20];321(7262):650-1. doi:10.1136/bmj.321.7262.650. PMID: 10987751; PMCID: PMC1118540. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1118540/
[xli] Nayak SG, Shrestha S, Sheridan SC, Hsu W-H, Muscatiello NA, Pantea CI, et al.. Accessibility of cooling centers to heat-vulnerable populations in New York State. Journal of Transport & Health. Journal of Transport & Health; 2019 [cited 2020 Oct 20];14:100563. Available from: https://www.sciencedirect.com/science/article/pii/S2214140519300787?via%3Dihub
[xlii] Carpenter S. For poor Americans, heat wave will cause painful spike in utility bills [Internet]. New York (NY): Forbes; 2020 Jul 10 [cited 2020 Nov 24]. Available from: https://www.forbes.com/sites/scottcarpenter/2020/07/10/mammoth-heat-wave-lasting-weeks-will-cause-painful-spike-in-utility-bills-for-poor-americans/

Section 11.02 *Excessive precipitation*

Overview

Climate change is expected to increase both the amount and frequency of extreme rain storms in the Piedmont Region of North Carolina, including Durham.[i] Warm air causes more evaporation of water into the atmosphere, leading to more extreme rain, snow or hail storms. The large amount of rain over a short period of time can lead to flooding, an increase is disease-carrying mosquitoes, water contamination and mental health issues due to stress.

The NC Climate Science Report defines extreme precipitation events as days on which three inches or more precipitation falls over an area.[ii] Rainfall can have a few separate extreme values including duration and intensity that are also significant. For example, flash floods can be dangerous even though the duration of the rainstorm is relatively short. At times, smaller amounts of rainfall can fall on a smaller area in very short durations and create an extreme event. At other times, rain can fall continuously over an area for a long time period. Both can accumulate water at the surface at a rate incompatible with the amount of water that the ground can absorb.[iii] This vulnerability is determined by a number of factors including the severity of weather events themselves, the built environment and other social and economic determinants of health such as income level, health insurance and access to reliable transportation. Durham County is experiencing extreme precipitation events more frequently than historical averages and that trend is projected to increase in the next 30 to 80 years.[iv,v]

Flooding causes the most adverse public health outcomes stemming from all extreme precipitation events that Durham might experience, which include fast, heavy downpours or prolonged periods of sustained rain. Human factors influence the severity of flooding including damage to or structural failures of dams and levees, altered drainage and land-use patterns. Urban areas have a lot of impervious surfaces, which are surfaces that do not allow rainwater to soak into the ground, such as roads, pavement, parking lots and buildings. This increases water runoff and sometimes overflowing storm drains. Infrastructure issues including clogged culverts, improperly graded asphalt, blocked drainage and inadequate capacity of storm water pipe systems also contribute to flooding.[vi]

Flooding is currently ranked as the second most deadly weather-related hazard in the United States.[vii] One hundred and fifty-four people died and 244 were injured in North Carolina due to floods between 1959 and 2005, making it the state with the ninth most flooding fatalities in the US.[viii] The major hazards posed by flooding are the immediate threats to persons through fast-moving water and the debris carried in it. Flooding, especially flash flooding can create emergency situations with very little warning. These events can pose imminent danger to people regardless of where they are. These events are especially dangerous to people in low-lying areas or areas with a large percentage of impervious surface over the ground such as concrete.[ix]

There are lingering health hazards posed by flooding that can be felt for hours, days or weeks after the event. These include water flooding or seeping into households, basements and crawlspaces

causing fungal or mold growth, which can make existing respiratory health problems worse. Additional issues include long-lasting power, infrastructure and communications outages which can lead to people having a lack of access to edible food and potable water or access to emergency services and relief. The creation and exacerbation of new habitat and growing areas for the water-dwelling larvae of biting insects like mosquitoes can be a disease vector for serious illness including Zika, malaria and West Nile fever.[x] The release of pesticides, animal waste and hazardous chemicals into water sources can harm people and wildlife.

Flooding also impacts mental health. People who live in floodplains and fear the dangers presented by flooding or who have witnessed death or destruction during a prior flooding event can suffer from mental anguish, trauma, anxiety and depression.[xi] Mental health is an important component to health and the effects of living through, witnessing, or fearing a potentially life-threatening hazard because of where one lives can impact other determinants of health.

Secondary Data

Durham is experiencing more extreme precipitation events, including a 129% increase in heavy precipitation events in the time period from 2005-2014 compared to 1950-1959.[xii] Durham is the 36th highest ranking city in the US for extreme precipitation events overall, and the city with the 12th largest increase in these events over that time.[xiii] Looking over a longer time period in the Southeast, the number of extreme precipitation events increased by about 58% from 1901-2016 and by 49% between 1958-2016.[xiv] Each of these patterns are indicators of a changing climate in the Southeast that suggest more heavy precipitation events are likely to continue into the future.

Days with 1+ inch rain in 24-Hours in Durham County, NC 1950-2099

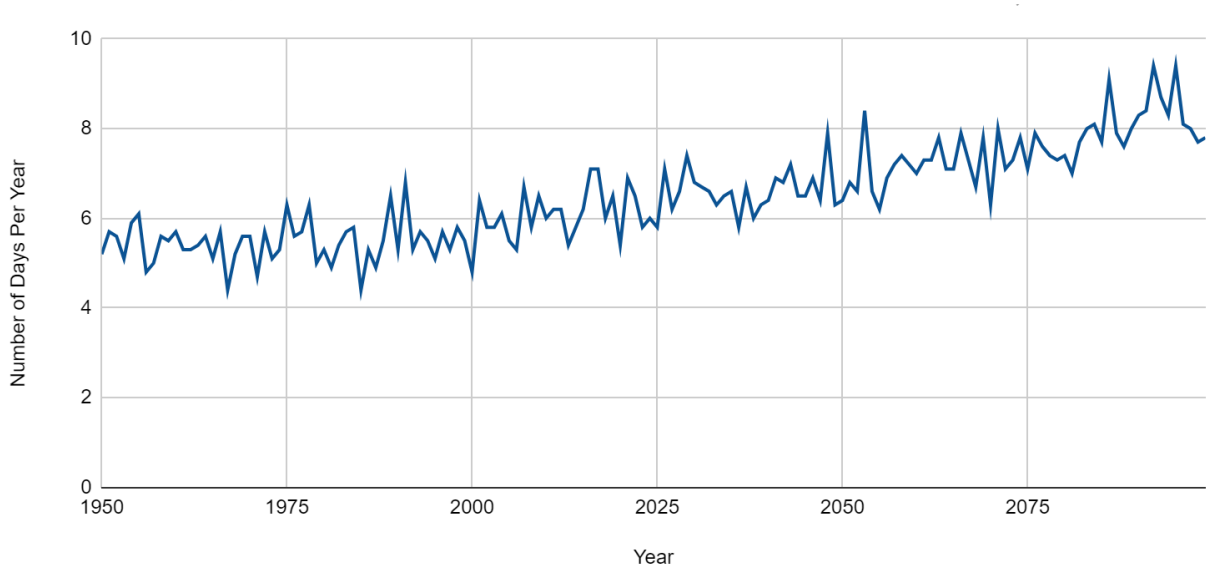


Figure 11.02(a) The number of days per year with 1" of precipitation or more over a 24-hour period, using modeled historical and projected data for Durham County from 1950-2099[xv]

Approximately 14% of Durham County is in a 500-year floodplain, an area defined by FEMA as having a 0.2% chance annually of flooding.[xvi,xvii] Census Tract 20.19 in the far southwest corner of the county (Blands, The Downs) has the highest percentage of land in a 500-year floodplain, at 42.9%.[xviii] Vulnerabilities to flooding in 17 of the 60 census tracts are above the average in Durham County.[xix] In these 17 tracts which include formerly redlined neighborhoods, 59.9% of the land area lacked tree canopy, 24.4% of the land was covered in impervious surface and 11.6% was in a 500-year floodplain.[xx] These same tracts showed higher than average percentages of people in rental units (77%), families living in poverty (28.5%) and people who did not speak English fluently (12.3%).[xxi]

Much of Durham County lies within floodplains or floodways and most census block groups are ranked as "medium" or "high" risk for loss of access due roads being either flooded or damaged during a high precipitation event.[xxii] The most affected areas were Braggtown, Southeast Durham, East Durham, Northeast Durham and Southwestern Durham County. This affects public health by potentially making it harder for emergency responders to access the property and for residents to leave their homes to get food, supplies and health care.

There are 90 dams in Durham County, of which 27 are listed as "High Hazard Dams" because a potential failure would likely cause loss of life and/or serious damage to structures and infrastructure.[xxiii] Dam failures can cause flooding that are catastrophic and extremely hazardous downstream with fast-moving walls of water that can carry debris. The probability and severity of dam failure will increase with climate change.[xxiv] Along with creating the immediate threat to human life, dam failures can also rapidly reduce or contaminate the potable drinking water supply in Durham County, creating a possible public health problem.[xxv]

Interpretations: Disparities, Gaps, and Emerging Issues

Impacts of extreme rain events are not evenly distributed throughout Durham County geographically or demographically. Rainfall varies across the County and local differences in topography, impervious surface coverage and the condition of storm water infrastructure affect the impact of rain. Typically, areas with more pervious surfaces such as farms, parks or other areas with unpaved soil or vegetation can absorb water that might otherwise cause a flooding event.

Approximately one percent (2,186 people) of City of Durham residents were at risk from flooding, with 375 of those people being elderly or children.[xxvi] Elderly people and children are more at risk during flooding due to mobility issues and not understanding the risk associated with flooding. People living in poverty have fewer resources to mitigate flood risk and to recover from flood damage or pay for health care associated with flood impacts.

Historical systematic racism has resulted in higher vulnerability to extreme precipitation events for certain populations in Durham. Eight historically redlined neighborhoods, clustered in the areas directly South, Southeast and East of Downtown Durham (Graded by the Home Owner's Loan Corporation as Grade "D", which is the lowest grade, typically reserved for neighborhoods with higher than average populations of non-white people) have more risk of extreme precipitation events with lower than average tree coverage and higher than average impervious surface than the

rest of Durham.[xxvii] As in many Southern cities, formerly enslaved people were forced to settle in low-lying lands that frequently flooded and where mosquitoes were present because it was less expensive and considered undesirable by white land-owners.[xxviii] These neighborhoods, still predominantly lived in by non-white residents also have among the highest levels of poverty in the County. The average of 40.91% for people living in poverty in the eight census tracts is about 22% higher than Durham County's total average poverty level.[xxix] Along with being the most vulnerable to climate risk, the people living in these areas have the fewest resources available with which to combat the hazards from flooding or to recover after an event.

Residential Properties with Medium or High Vulnerability and Risk for Flooding, Durham County

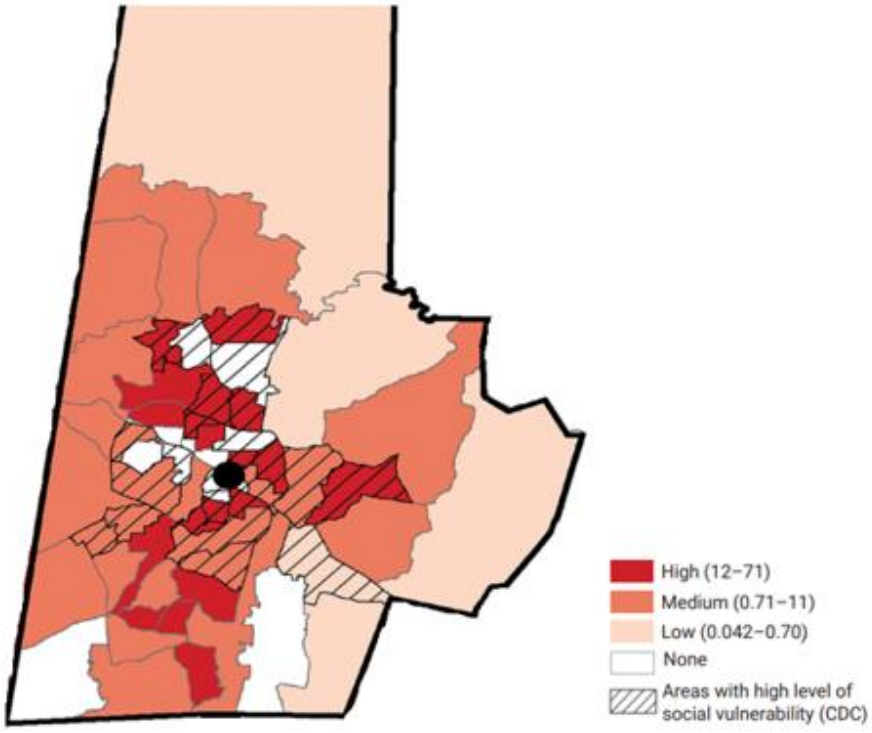


Figure 11.02(b) Residential Properties with Medium or High Combined Vulnerability and Risk for Flooding (properties per square mile)[xxx]

Figure 11.02(b) shows the overlap of areas that have a medium to high number of residential properties that are at risk for flooding due to elevation or property-type and areas with a high level of social vulnerability due factors such as economic status, lack of transportation options and race.

Recommended Strategies

- Conduct regional mapping assessment of storm water conveyances and assess capacity.

- Create and implement green storm water infrastructure programs and fee credit programs for storm water retention.
- Expand education efforts to include citizen/community science efforts around local flooding such as NOAA Community Collaborative Rain, Hail, and Snow Network (CoCoRaHS) https://www.cocorahs.org/Content.aspx?page=mod_NOAA#:~:text=NOAA's%20National%20Severe%20Storms%20Laboratory,use%20weather%20information%20more%20effectively.
- Maintain and preserve upstream and urban forestry canopy and vegetation amounts in areas where this has been neglected, including and especially formerly redlined neighborhoods.
- Develop and set standards for canopy percentage per neighborhood and for urban forestry levels.
- Assess which critical infrastructure, neighborhoods, or homes may be cut off by flooding events and develop secondary ways of accessing them.

Current Initiatives & Activities

City of Durham Storm Water Services
Provides services and public education to reduce the impacts of storm water on people and the environment. https://durhamnc.gov/692/Stormwater-GIS-Services

Flood Inundation Mapping and Alert Network
Provides rain and stage gage data and flood alerts in real time to support risk-based decisions. https://fiman.nc.gov/

References

[i] ncics.org [Internet]. North Carolina climate science report. Asheville (NC): North Carolina Institute for Climate Studies; c2010-2020 [cited 2020 Oct 10]. Available from: https://ncics.org/programs/nccsr/

[ii] ncics.org [Internet]. North Carolina climate science report. Asheville (NC): North Carolina Institute for Climate Studies; c2010-2020 [cited 2020 Oct 10]. Available from: https://ncics.org/programs/nccsr/

[iii] crt-climate-explorer.nemac.org [Internet]. The Climate Explorer. [cited 2020 Oct 10]. Available from: https://crt-climate-explorer.nemac.org/

[iv] globalchange.com [Internet]. National climate assessment. Washington, DC: U.S. Global Change Research Program; c2020 [cited 2020 Oct 10]. Available from: https://nca2014.globalchange.gov/report/node/1961

[v] ncics.org [Internet]. North Carolina climate science report. Asheville (NC): North Carolina Institute for Climate Studies; c2010-2020 [cited 2020 Oct 10]. Available from: https://ncics.org/programs/nccsr/

[vi] Eno-Haw Hazard Mitigation Planning Committee (HMPC). Draft eno-haw hazard mitigation plan [Internet]. Eno-Haw (NC); c2020 [cited 2020 Oct 17]. Available from: http://www.enohawhmp.com/assets/pdf/documents/EnoHaw%20HMP%20Revised%20Review%20Draft.pdf

[vii] Erdman J. In flash flooding, your vehicle can be biggest danger [Internet]. Atlanta (GA): The Weather Channel; 2016 Mar 16 [cited 2020 Oct 17]. Available from: https://weather.com/safety/floods/news/flash-flooding-vehicle-danger-20140717#:~:text=Greg%20Forbes%2C%20severe%20weather%20expert,of%20floodwater%2C%20particularly%20at%20night.

[viii] Ashley ST, Ashley WS. Flood fatalities in the United States [Internet]. Journal of Applied Meteorology and Climatology. 2008 [cited 2020 Oct 17];47(3):805-18. doi: 10.1175/2007jamc1611.1. Available from: https://doi.org/10.1175/2007JAMC1611.1

[ix] fema.gov [Internet]. FEMA Flood Fact Sheet. Washington, DC: U.S. Federal Government; c2007 [cited 2020 Oct 17]. Available: https://www.fema.gov/media-library-data/20130726-1621-20490-8846/floodsfactsheet_finalrev2_5_07.pdf

[x] Lowe D, Ebi KL, Forsberg B. Factors increasing vulnerability to health effects before, during and after floods [Internet]. Int J Environ Res Public Health. 2013 Dec 11 [cited 2020 Oct 17];10(12):7015-67. doi: 10.3390/ijerph10127015. PMID: 24336027; PMCID: PMC3881153. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3881153/

[xi] Lowe D, Ebi KL, Forsberg B. Factors increasing vulnerability to health effects before, during and after floods [Internet]. Int J Environ Res Public Health. 2013 Dec 11 [cited 2020 Oct 17];10(12):7015-67. doi: 10.3390/ijerph10127015. PMID: 24336027; PMCID: PMC3881153. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3881153/

[xii] climatecentral.org [Internet]. Across U.S., heaviest downpours on the rise. Princeton (NJ): Climate Central; 2015 May 27 [cited 2020 Oct 10]. Available from: https://www.climatecentral.org/news/across-us-heaviest-downpours-on-the-rise-18989

[xiii] climatecentral.org [Internet]. Heavy Precipitation, A City View. Princeton (NJ): Climate Central; 2015 Apr 15 [cited 2020 Oct 17]. Available from: https://www.climatecentral.org/gallery/graphics/heavy-precipitation-a-city-view

[xiv] globalchange.com [Internet]. National climate assessment. Washington, DC: U.S. Global Change Research Program; c2020 [cited 2020 Oct 10]. Available from: https://nca2014.globalchange.gov/report/node/1961

[xv] crt-climate-explorer.nemac.org [Internet]. The Climate Explorer. [cited 2020 Oct 10]. Available from: https://crt-climate-explorer.nemac.org/

[xvi] Porter J, Lewis-Gruss S, Freeman N, Chu Z. Methodology: First Street Foundation 2018 coastal tidal and surge flooding model methodology [Internet]. Brooklyn (NY): First Street Foundation; 2019 Mar 28 [cited 2020 Oct 10]. Available from: https://firststreet.org/flood-lab/published-research/methodology/
[xvii] fema.gov [Internet]. National flood hazard layer. Washington, DC: U.S. Federal Government; c2020 [cited 2020 Oct 17]. Available from: https://www.fema.gov/flood-maps/tools-resources/flood-map-products/national-flood-hazard-layer
[xviii] Homer C, Dewitz J, Jin S, Xian G, Costello C, Danielson P, et al. Conterminous United States land cover change patterns 2001–2016 from the 2016 National Land Cover Database. ISPRS Journal of Photogrammetry and Remote Sensing. 2020 Apr [cited 2020 Oct 17];162:184–99. Available from: https://www.sciencedirect.com/science/article/pii/S0924271620300587
[xix] fema.gov [Internet]. National flood hazard layer. Washington, DC: U.S. Federal Government; c2020 [cited 2020 Oct 17]. Available from: https://www.fema.gov/flood-maps/tools-resources/flood-map-products/national-flood-hazard-layer
[xx] Homer C, Dewitz J, Jin S, Xian G, Costello C, Danielson P, et al. Conterminous United States land cover change patterns 2001–2016 from the 2016 National Land Cover Database. ISPRS Journal of Photogrammetry and Remote Sensing. 2020 Apr [cited 2020 Oct 17];162:184–99. Available from: https://www.sciencedirect.com/science/article/pii/S0924271620300587
[xxi] headwaterseconomics.org [Internet]. Neighborhoods at risk. Bozeman (MT): Headwaters Economics; c2020 [cited 2020 Oct 17]. Available from: https://headwaterseconomics.org/apps/neighborhoods-at-risk/
[xxii] Triangle regional resilience assessment [Internet]. Durham (NC): Triangle J Council of Governments (TJCOG); c2019 [cited 2020 Oct 10]. Available from: https://www.tjcog.org/publications/triangle-regional-resilience-assessment
[xxiii] Eno-Haw Hazard Mitigation Planning Committee (HMPC). Draft eno-haw hazard mitigation plan [Internet]. Eno-Haw (NC); c2020 [cited 2020 Oct 17]. Available from: http://www.enohawhmp.com/assets/pdf/documents/EnoHaw%20HMP%20Revised%20Review%20Draft.pdf
[xxiv] Eno-Haw Hazard Mitigation Planning Committee (HMPC). Draft eno-haw hazard mitigation plan [Internet]. Eno-Haw (NC); c2020 [cited 2020 Oct 17]. Available from: http://www.enohawhmp.com/assets/pdf/documents/EnoHaw%20HMP%20Revised%20Review%20Draft.pdf
[xxv] Eno-Haw Hazard Mitigation Planning Committee (HMPC). Draft eno-haw hazard mitigation plan [Internet]. Eno-Haw (NC); c2020 [cited 2020 Oct 17]. Available from: http://www.enohawhmp.com/assets/pdf/documents/EnoHaw%20HMP%20Revised%20Review%20Draft.pdf
[xxvi] cdc.gov [Internet]. Environmental public health tracking. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Oct 10]. Available from: https://www.cdc.gov/ephtracking/
[xxvii] DataWorks NC with Research Action Design [Internet]. Durham (NC): Durham Neighborhood Compass; c2020 [cited 2020 Oct 10]. Available from: https://compass.durhamnc.gov/en
[xxviii] Anderson JB. Durham County: a history of Durham County, North Carolina. 2nd ed., rev expanded. Durham (NC): Duke University Press; 2011. 596 p.
[xxix] DataWorks NC with Research Action Design [Internet]. Durham (NC): Durham Neighborhood Compass; c2020 [cited 2020 Oct 10]. Available from: https://compass.durhamnc.gov/en
[xxx] Triangle regional resilience assessment [Internet]. Raleigh (NC): Triangle J Council of Governments (TJCOG); c2019 [cited 2020 Oct 10]. Available from: https://www.tjcog.org/publications/triangle-regional-resilience-assessment

Section 11.03 *Wildfires*

Overview

In recent years, wildfires have been devasting Western parts of the United States, but they are not limited to that part of the country. North Carolina has also experienced wildfires including two major wildfire events in the fall of 2016 near Asheville and in the Summer of 2008 in the Pocosin Lakes National Wildlife Refuge.[i,ii] While neither of these wildfires were in Durham, their smoke can impact Durhamites' health. Additionally, smoke from wildfires occurring outside of North Carolina has the possibility of impacting Durham's air quality. According to the 2020 North Carolina Climate Science Report, "it is likely that future severe droughts in their multiple forms in North Carolina will be more frequent and intense due to higher temperatures leading to increased evaporation…[and] as a result, it is likely that the frequency of climate conditions conducive to wildfires in North Carolina will increase."[iii] The Triangle Regional Resilience Assessment and the Eno-Haw Hazard Mitigation Plan both list wildfires as an increasing concern for Durham with an estimated economic damage to buildings at nearly $406,000,000 and multiple areas at medium to high risk of property damage.[iv,v]

Health Impact of Wildfires

Wildfires pose significant risk to human health. In some cases, the proximity to the fire itself may cause immediate injury and damage to housing infrastructure. A majority of the risk comes from exposure to smoke or other byproducts of combustion.[vi] Wildfire smoke contains air pollutants such as carbon dioxide, carbon monoxide, nitrous oxides, other organic chemicals and particulate matter.[vii] As fires move into the area between human development and open land, (i.e. the wildland-urban interface) homes and other structures burned release additional toxic chemicals into the air that can also have impacts on human health.[viii]

Particulate matter is the greatest health concern related to wildfires.[ix] Fine particulates ($PM_{2.5}$) in wildfire smoke (wildfire PM) are associated with a range of health effects including excess deaths and respiratory outcomes such as reduced lung function, bronchitis and the worsening of asthma.[x,xi] Exposure to wildfire PM has also been associated with cardiovascular outcomes, but the evidence is more limited.[xii,xiii,xiv,xv] The majority of wildfire-related health research evaluates the short term (days to weeks) exposure to wildfire smoke, with limited understanding of the potential health implications of repeated exposures to wildfire smoke over both many days and multiple fire seasons.[xvi]

While short and long-term exposure to fine particulates and possibly other harmful, but less studied byproducts of combustion during wildfires pose significant harm. Other psychological effects may also develop following large wildfires. Recent studies have noted an increase in post-traumatic stress disorder, anxiety and depression among others in both adults and children following large wildfire events.[xvii,xviii,xix]

NC Forest Action Plan

In June 2010, the NC Forest Service along with numerous partners, completed a comprehensive forest resource assessment for North Carolina.[xx] This state-wide assessment, along with its accompanying strategic plan and priority maps was titled "North Carolina's Forest Resources Assessment, 2010."[xxi] It also came to be known as "North Carolina's Forest Action Plan, 2010."[xxii] This comprehensive effort developed a broad and collective vision for protecting and enhancing North Carolina forest values and benefits over a five-year period.[xxiii]

NC Forest Action Plan 2010 Goal

NC Forest Action Plan 2010 Goal	Desired Outcome
Manage, conserve, restore, and enhance forestlands important to current and future supplies of clean water for economic, social and ecological uses	Reducing the risk to communities from wildfire

Table 11.3(a). NC Forest Action Plan Goal[xxiv]

Secondary Data

Air Quality

During November 2016, a wildfire ravaged the Asheville, NC area producing hazardous levels of fine particulate matter ($PM^{2.5}$) from the smoke (Figure 11.3(a)).[xxv] This smoke traveled approximately 225 miles from Asheville to Durham, prompting an "unhealthy for sensitive populations" (orange) air quality health alerts (Figure 11.3(b)).[xxvi] This indicates that wildfires are a health issue for Durham even if they are located hundreds of miles away.

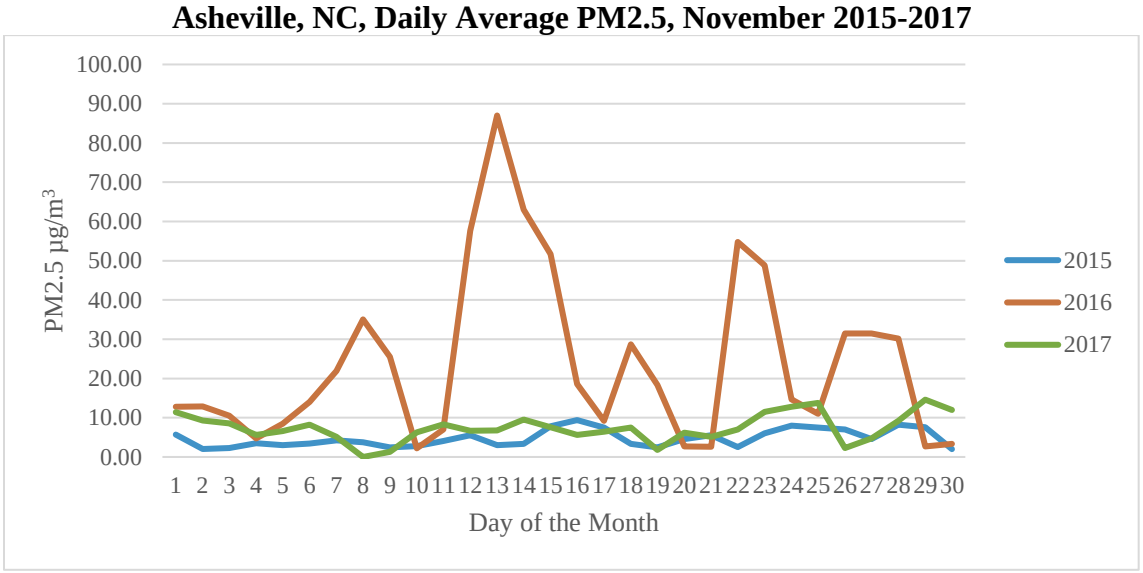


Figure 11.3(a) The daily average concentration of fine particulate matter during the month of November for 2015, 2016 (wildfire) and 2017 in Asheville, NC.[xxvii]

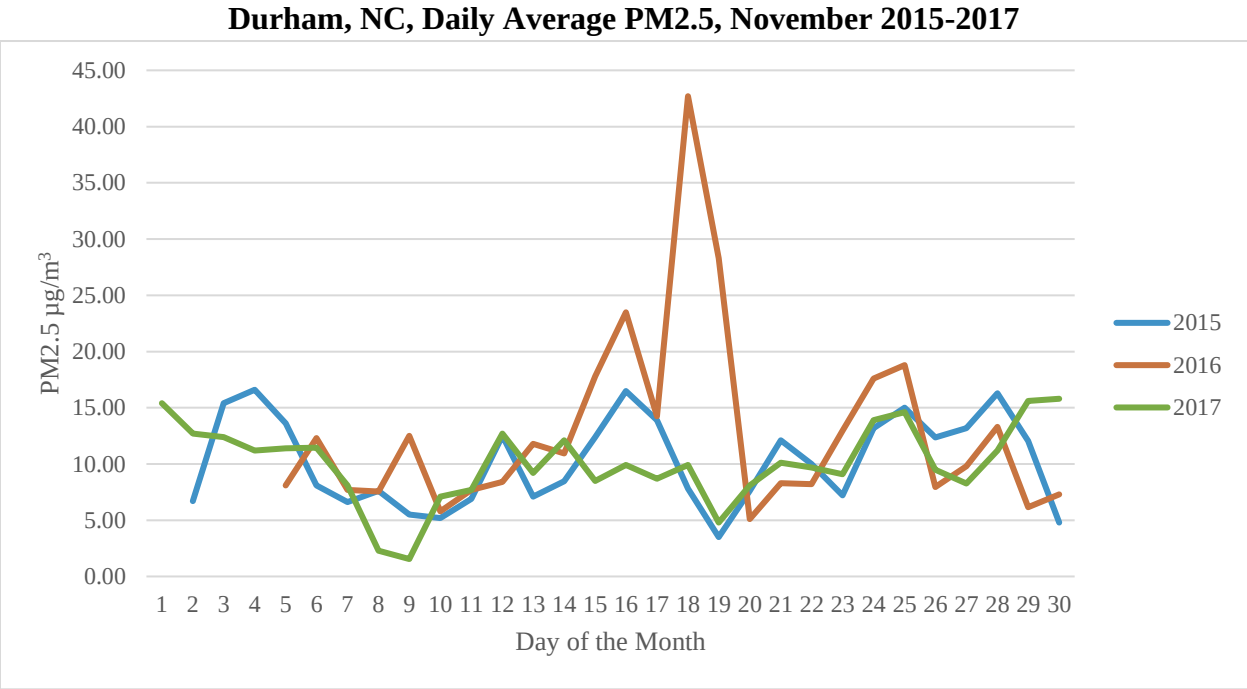


Figure 11.3(b) The daily average concentration of fine particulate matter during the month of November for 2015, 2016 (wildfire) and 2017 in Durham, NC.[xxviii]

Interpretations: Disparities, Gaps, and Emerging Issues

Several factors may make some individuals more susceptible to the effects of wildfire smoke. Many studies examining wildfire smoke suggest that those living in locations with low socioeconomic status (SES) are at an increased risk of illness due to exposure to wildfire smoke. This is due to potential increased exposure to wildfire smoke and higher prevalence of pre-existing conditions which can be worsened by wildfire-particulate matter.[xxix,xxx] Redlining policies across the country and in Durham denied wealth-generating opportunities to communities of color and undermined their physical environments.[xxxi] This makes communities of color more likely to have poor housing infrastructure that may lack air conditioning.[xxxii] Having housing with air conditioning has been known to reduce particle pollution such as wildfire smoke indoors, potentially reducing a person's risk of ill health effects. Therefore those without access to air conditioning may have greater exposure to wildfire smoke.[xxxiii] Additionally, people of color and those living in low SES areas are also disproportionately affected with respiratory conditions such as asthma, which may also put them at increased risk of health effects from exposure to wildfire smoke.[xxxiv,xxxv,xxxvi]

Recommended Strategies

- Develop communication plan for wildfire smoke events for reducing/mitigating exposure and that addresses special needs of at-risk life stages and populations.
- Form partnerships with important partners or stakeholders (e.g., air quality agencies, local health providers, forestry departments, the media).

- Educate residents on health impacts of exposure to smoke due to wildfires.
- Practice safe forest management strategies.

Current Initiatives & Activities

Durham Fire Department endeavors to prevent or minimize the harmful effects of fires, medical emergencies, and other types of dangerous events. https://durhamnc.gov/620/Fire-Department

Triangle Regional Resilience Assessment provides invaluable information for each Triangle community as they move forward with individual comprehensive plans, etc. and ensures communities with shared boundaries leverage similar strategies. https://www.tjcog.org/programs-community-economic-development-resiliency/triangle-regional-resilience-partnership

NC Department of Health and Human Services Offers climate health information on wildfires in North Carolina. https://epi.dph.ncdhhs.gov/oee/programs/climate.html

NC Forest Service tracks daily fire activity using a database known as the "Signal 14". The data from the Signal 14 is a rapid approximation of wildfire occurrence. https://www.ncforestservice.gov/fire_control/sit_report.htm

EPA Smoke Sense App increases awareness of the known health effects associated with exposure to wildfire smoke and advances the scientific understanding of that relationship. https://www.epa.gov/air-research/smoke-sense-study-citizen-science-project-using-mobile-app

Wildfire Smoke: A Guide for Public Health Officials is designed to help local public health officials prepare for smoke events, to take measures to protect the public when smoke is present, and to communicate with the public about wildfire smoke and health. https://www.airnow.gov/publications/wildfire-smoke-guide/wildfire-smoke-a-guide-for-public-health-officials/

Disclaimer

The views expressed herein are those of the individual authors and do not necessarily reflect the views and policies of the U.S. Environmental Protection Agency. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

References

[i] Clabby C. NC fires brought severe pollution [Internet]. Chapel Hill (NC): North Carolina Health News; 2017 Jan 13 [cited 2020 Sep 15]. Available from: https://www.northcarolinahealthnews.org/2017/01/13/nc-fires-brought-severe-pollution/
[ii] Rappold AG, Stone SL, Cascio WE, Neas LM, Kilaru VJ, Carraway MS, et al. Peat bog wildfire smoke exposure in rural North Carolina is associated with cardiopulmonary emergency department visits assessed through syndromic surveillance. Environ Health Perspect [Internet]. 2011 Oct [cited 2020 Sep 14];119(10):1415–20. Available from: https://ehp.niehs.nih.gov/doi/10.1289/ehp.1003206
[iii] Kunkel KE, Easterling DR, Ballinger A, Bililign S, Champion SM, Corbett DR, Dello KD, Dissen J, Lackmann GM, Luettick RA, Perry LB, Robinson WA, Stevens LE, Stewart BC, Terando AJ. North Carolina climate science report [Internet]. Asheville (NC): NC Institute for Climate Studies; c2020 [cited 2020 Sep]. Available from: https://ncics.org/nccsr
[iv] Triangle Regional Resilience Partnership. Resilience assessment executive summary. Durham (NC): Triangle J Council of Governments; 2018 Oct [cited 2020 Sep]). Available from: https://www.tjcog.org/sites/default/files/uploads/publications/trrp_report_executivesummary_102418.pdf
[v] Eno-Haw Hazard Mitigation Planning Committee (HMPC). Draft eno-haw hazard mitigation plan [Internet]. Eno-Haw (NC); c2020 [cited 2020 Oct]. Available from: http://www.enohawhmp.com/
[vi] Stone S, Sacks J, Lahm P, Clune A, Wayland M, Mirabelli M. Wildfire Smoke: A Guide for Public Health Officials [Internet]. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, and U.S. Environmental Protection Agency; c2019 [cited 2020 Sep 8];EPA-452/R-. Available from: https://www.airnow.gov/sites/default/files/2020-10/wildfire-smoke-guide-revised-2019_0.pdf
[vii] Stone S, Sacks J, Lahm P, Clune A, Wayland M, Mirabelli M. Wildfire Smoke: A Guide for Public Health Officials [Internet]. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, and U.S. Environmental Protection Agency; c2019 [cited 2020 Sep 8];EPA-452/R-. Available from: https://www.airnow.gov/sites/default/files/2020-10/wildfire-smoke-guide-revised-2019_0.pdf
[viii] Stone S, Sacks J, Lahm P, Clune A, Wayland M, Mirabelli M. Wildfire Smoke: A Guide for Public Health Officials [Internet]. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, and U.S. Environmental Protection Agency; c2019 [cited 2020 Sep 8];EPA-452/R-. Available from: https://www.airnow.gov/sites/default/files/2020-10/wildfire-smoke-guide-revised-2019_0.pdf
[ix] Stone S, Sacks J, Lahm P, Clune A, Wayland M, Mirabelli M. Wildfire Smoke: A Guide for Public Health Officials [Internet]. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, and U.S. Environmental Protection Agency; c2019 [cited 2020 Sep 8];EPA-452/R-. Available from: https://www.airnow.gov/sites/default/files/2020-10/wildfire-smoke-guide-revised-2019_0.pdf
[x] Stone S, Sacks J, Lahm P, Clune A, Wayland M, Mirabelli M. Wildfire Smoke: A Guide for Public Health Officials [Internet]. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, and U.S. Environmental Protection Agency; c2019 [cited 2020 Sep 8];EPA-452/R-. Available from: https://www.airnow.gov/sites/default/files/2020-10/wildfire-smoke-guide-revised-2019_0.pdf
[xi] Cascio WE. Wildland fire smoke and human health [Internet]. Sci Total Environ. 2018 May 15 [cited Sep 14];624:586-595. doi: 10.1016/j.scitotenv.2017.12.086. Epub 2017 Dec 27. PMID: 29272827; PMCID: PMC6697173. Available from: https://pubmed.ncbi.nlm.nih.gov/29272827/
[xii] Rappold AG, Stone SL, Cascio WE, Neas LM, Kilaru VJ, Carraway MS, et al. Peat bog wildfire smoke exposure in rural North Carolina is associated with cardiopulmonary emergency department visits

assessed through syndromic surveillance. Environ Health Perspect [Internet]. 2011 Oct [cited 2020 Sep 14];119(10):1415–20. Available from: https://ehp.niehs.nih.gov/doi/10.1289/ehp.1003206
[xiii] Stone S, Sacks J, Lahm P, Clune A, Wayland M, Mirabelli M. Wildfire Smoke: A Guide for Public Health Officials [Internet]. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, and U.S. Environmental Protection Agency; c2019 [cited 2020 Sep 8];EPA-452/R-. Available from: https://www.airnow.gov/sites/default/files/2020-10/wildfire-smoke-guide-revised-2019_0.pdf
[xiv] DeFlorio-Barker S, Crooks J, Reyes J, Rappold AG. Cardiopulmonary effects of fine particulate matter exposure among older adults, during wildfire and non-wildfire periods, in the United States 2008–2010. Environ Health Perspect [Internet]. 2019 Mar 1 [cited 2020 Sep 14];127(3):037006. Available from: https://ehp.niehs.nih.gov/doi/10.1289/EHP3860
[xv] Wettstein ZS, Hoshiko S, Fahimi J, Harrison RJ, Cascio WE, Rappold AG. Cardiovascular and cerebrovascular emergency department visits associated with wildfire smoke exposure in California in 2015. J Am Heart Assoc [Internet]. 2018 Apr 17 [cited 2020 Sep 14];7(8). Available from: https://pubmed.ncbi.nlm.nih.gov/29643111/
[xvi] Stone S, Sacks J, Lahm P, Clune A, Wayland M, Mirabelli M. Wildfire Smoke: A Guide for Public Health Officials [Internet]. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, and U.S. Environmental Protection Agency; c2019 [cited 2020 Sep 8];EPA-452/R-. Available from: https://www.airnow.gov/sites/default/files/2020-10/wildfire-smoke-guide-revised-2019_0.pdf
[xvii] Bryant RA, Gibbs L, Gallagher HC, Pattison P, Lusher D, MacDougall C, et al. Longitudinal study of changing psychological outcomes following the Victorian Black Saturday bushfires. Aust N Z J Psychiatry [Internet]. 2018 Jun 1 [cited 2020 Sep 14];52(6):542–51. Available from: http://journals.sagepub.com/doi/10.1177/0004867417714337
[xviii] Psarros C, Theleritis C, Economou M, Tzavara C, Kioulos KT, Mantonakis L, et al. Insomnia and PTSD one month after wildfires: evidence for an independent role of the "fear of imminent death." Int J Psychiatry Clin Pract [Internet]. 2017 Apr 3 [cited 2020 Sep 14];21(2):137–41. Available from: https://pubmed.ncbi.nlm.nih.gov/28084115/
[xix] Brown MRG, Agyapong V, Greenshaw AJ, Cribben I, Brett-MacLean P, Drolet J, et al. Significant PTSD and other mental health effects present 18 months after the fort mcmurray wildfire: Findings from 3,070 grades 7–12 students. Front Psychiatry [Internet]. 2019 [cited 2020 Sep 14];10(AUG). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6728415/
[xx] ncforestactionplan.com [Internet]. North Carolina forest action plan 5-year review. Raleigh (NC): NC Forest Service; 2015 Nov 20 [cited Sep 14]. Available from: https://www.ncforestactionplan.com/PDF/NCFAPreview.pdf
[xxi] ncforestactionplan.com [Internet]. North Carolina forest action plan 5-year review. Raleigh (NC): NC Forest Service; 2015 Nov 20 [cited Sep 14]. Available from: https://www.ncforestactionplan.com/PDF/NCFAPreview.pdf
[xxii] ncforestactionplan.com [Internet]. North Carolina forest action plan 5-year review. Raleigh (NC): NC Forest Service; 2015 Nov 20 [cited Sep 14]. Available from: https://www.ncforestactionplan.com/PDF/NCFAPreview.pdf
[xxiii] ncforestactionplan.com [Internet]. North Carolina forest action plan 5-year review. Raleigh (NC): NC Forest Service; 2015 Nov 20 [cited Sep 14]. Available from: https://www.ncforestactionplan.com/PDF/NCFAPreview.pdf
[xxiv] ncforestactionplan.com [Internet]. North Carolina forest action plan 5-year review. Raleigh (NC): NC Forest Service; 2015 Nov 20 [cited Sep 14]. Available from: https://www.ncforestactionplan.com/PDF/NCFAPreview.pdf
[xxv] epa.gov [Internet]. Air Data - AQI Plot. RTP (NC): U.S. Environmental Protection Agency; c2018 [cited 2020 Sep 10]. Available from: https://www.epa.gov/outdoor-air-quality-data/air-data-aqi-plot

[xxvi] epa.gov [Internet]. Air Data - AQI Plot. RTP (NC): U.S. Environmental Protection Agency; c2018 [cited 2020 Sep 10]. Available from: https://www.epa.gov/outdoor-air-quality-data/air-data-aqi-plot
[xxvii] epa.gov [Internet]. Air data: air quality data collected at outdoor monitors across the US. RTP (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Aug 31]. Available from: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report
[xxviii] epa.gov [Internet]. Air data: air quality data collected at outdoor monitors across the US. RTP (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Aug 31]. Available from: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report
[xxix] Rappold AG, Cascio WE, Kilaru VJ, Stone SL, Neas LM, Devlin RB, Diaz-Sanchez D. Cardio-respiratory outcomes associated with exposure to wildfire smoke are modified by measures of community health. Environ Health. 2012 Sep 24 [cited 2020 Sep 14];11:71. doi: 10.1186/1476-069X-11-71. PMID: 23006928; PMCID: PMC3506568. Available from: https://pubmed.ncbi.nlm.nih.gov/23006928/
[xxx] Reid CE, Brauer M, Johnston FH, Jerrett M, Balmes JR, Elliott CT. Critical Review of Health Impacts of Wildfire Smoke Exposure. Environ Health Perspect. 2016 Sep;124(9):1334-43. doi: 10.1289/ehp.1409277. Epub 2016 Apr 15. PMID: 27082891; PMCID: PMC5010409. Available from: https://pubmed.ncbi.nlm.nih.gov/27082891/
[xxxi] Nardone A, Casey JA, Morello-Frosch R, Mujahid M, Balmes JR, Thakur N. Associations between historical residential redlining and current age-adjusted rates of emergency department visits due to asthma across eight cities in California: an ecological study. Lancet Planet Health. 2020 Jan;4(1):e24-e31. doi: 10.1016/S2542-5196(19)30241-4. PMID: 31999951. Available from: https://linkinghub.elsevier.com/retrieve/pii/S2542-5196(19)30241-4
[xxxii] Nardone A, Casey JA, Morello-Frosch R, Mujahid M, Balmes JR, Thakur N. Associations between historical residential redlining and current age-adjusted rates of emergency department visits due to asthma across eight cities in California: an ecological study. Lancet Planet Health. 2020 Jan;4(1):e24-e31. doi: 10.1016/S2542-5196(19)30241-4. PMID: 31999951. Available from: https://linkinghub.elsevier.com/retrieve/pii/S2542-5196(19)30241-4
[xxxiii] Stone S, Sacks J, Lahm P, Clune A, Wayland M, Mirabelli M. Wildfire Smoke: A Guide for Public Health Officials [Internet]. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, and U.S. Environmental Protection Agency; c2019 [cited 2020 Sep 8];EPA-452/R-. Available from: https://www.airnow.gov/sites/default/files/2020-10/wildfire-smoke-guide-revised-2019_0.pdf
[xxxiv] Brim SN, Rudd RA, Funk RH, Callahan DB. Asthma prevalence among US children in underrepresented minority populations: American Indian/Alaska Native, Chinese, Filipino, and Asian Indian. Pediatrics. 2008 Jul [cited 2020 Sep 14];122(1):e217-22. doi: 10.1542/peds.2007-3825. PMID: 18595967. Available from: https://pubmed.ncbi.nlm.nih.gov/18595967/
[xxxv] cdc.gov [Internet]. Asthma Surveillance Data 2020. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Sep 14]. Available from: https://www.cdc.gov/asthma/asthmadata.htm
[xxxvi] U.S. Environmental Protection Agency. Integrated Science Assessment for Particulate Matter. RTP (NC): U.S. Environmental Protection Agency; 2009 Dec [cited 2020 Sep 14]. Available from: https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=216546

Environmental Health

This chapter includes:

- Air quality
- Water quality
- Lead poisoning

Section 12.01 *Air quality*

Overview

Healthy air is essential to public health. Air pollution is responsible for 130,000 premature deaths per year in the United States.[i] Air pollution occurs both indoors and outdoors. The main causes of death linked to outdoor air pollution are heart disease, stroke, chronic obstructive pulmonary disease and lung disease from exposure to fine particulate matter and ozone.[ii] It is also known that poor indoor air quality worsens asthma, respiratory infections and allergies.[iii] There are many sources of air pollution including naturally occurring radon gas, fossil fuel energy generation, transportation, industrial manufacturing and open burning of yard waste.[iv] Legislation and regulations regarding outdoor air pollution have been enacted at both federal and state levels to protect the environment and public health. Radon as a naturally occurring gas, however, has no legislation or regulations to protect public health.

City of Durham Roadmap to Sustainability Goals

City of Durham Roadmap to Sustainability Goals	2019	2040 Target
Demonstrate a decrease of 10% in the annual average fine particulate matter level by 2040	7.8 μg/m^3 (PM2.5)	7.02 μg/m^3 (PM2.5)
Demonstrate a decrease of 10% in the annual average ozone level by 2040	0.0633 ppm	0.0570 ppm

Table 12.01(a). City of Durham Roadmap to Sustainability[v]

Secondary Data

Fine Particulate Matter (PM2.5)

Fine particulate matter (PM2.5, 2.5 microns in diameter or smaller) can reach deep in the lungs, causing inflammation, oxidative stress and imbalance of the autonomic nervous system.[vi] The annual PM2.5 concentrations in Durham and other NC counties has been steadily decreasing over time (Fig. 12.01(a)). PM2.5 concentrations in Durham County are very similar to other counties in the state. Durham County is currently below the annual federal and state PM2.5 standard, indicating that with regards to PM2.5, air quality in Durham County has been consistently improving over time and is generally good.

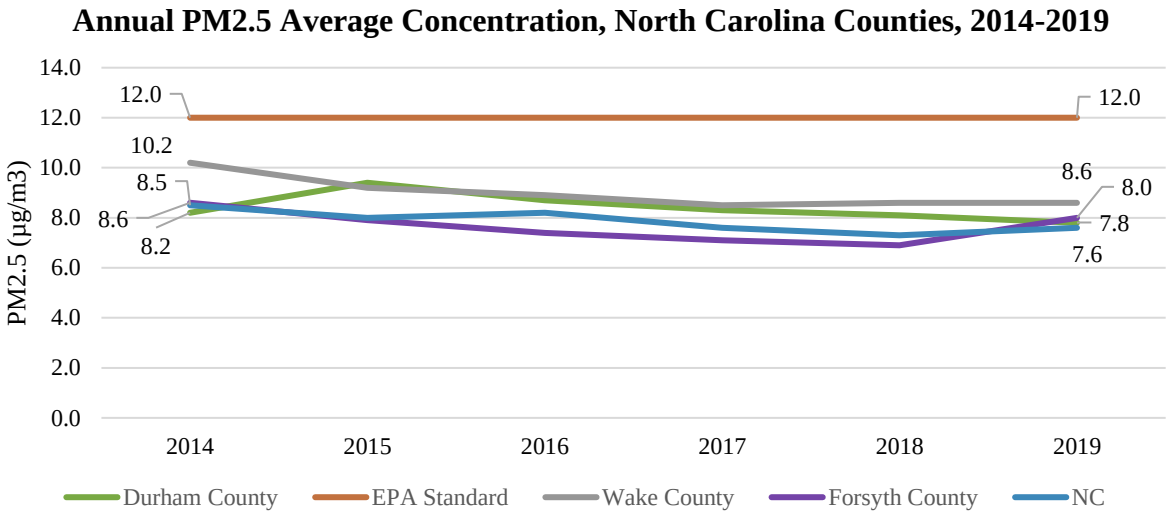


Figure12.01(a) The concentration of fine particulate matter (PM2.5) from 2014-2019 in Durham County, Wake County, Forsyth County and North Carolina as a whole. The EPA PM2.5 standard is noted for reference.[vii]

Ozone

Ground level ozone can harm individuals' lungs and hearts.[vi] Ozone levels are low in the winter and high in the summer.[viii] As such, most areas in the U.S. only reach hazardous ozone concentrations in the summer. Regulations only require that ozone be measured during this high ozone season.[ix] Although the annual ozone concentrations in Durham County are slightly lower than the average of other North Carolina counties, the ozone concentrations for Durham County are overestimated (Figure 12.01(b)). This overestimation is due to other counties in NC collecting ozone concentrations throughout the entire year, whereas Durham only collects ozone measurements between April and November as required by the U.S. Environmental Protection Agency (EPA). Ozone levels are below the EPA standard (although the standard has a different form than a simple annual average).

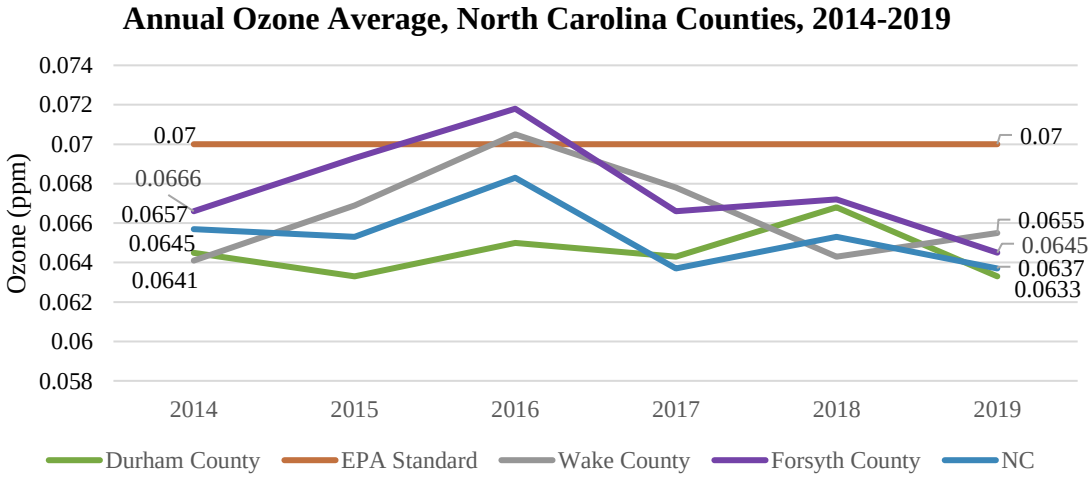


Figure12.01(b) The concentration of ozone (O3) from 2014-2019 in Durham County, Wake County, Forsyth County and North Carolina as a whole. The EPA ozone standard is noted for reference.[x]

Radon

Radon is a naturally occurring radioactive gas produced by the breakdown of uranium in soil, rock, and water that cannot be seen, smelled or tasted.[xi] It is considered to be the primary cause of lung cancer for non-smokers.[xii] Radon can accumulate and reach harmful levels when trapped in enclosed spaces such as homes, schools or other buildings.[xiii] Air pressure inside homes is usually lower than pressure in the soil under homes' foundation.[xiv] Because of this pressure differential, homes act like a vacuum, drawing radon in through foundation cracks and other openings.[xv] Temperature, barometric pressure, and other variables influence the air pressure in homes, which impacts radon levels.[xvi] Testing for radon should be conducted over a period no shorter than 48 hours.[xvii] If detected, building modifications can be made to prevent the accumulation of high levels of radon.[xviii]

The U.S. Environmental Protection Agency and the NC Department of Health and Human Services Radon Program recommends that building owners mitigate if radon test results indicate a level of 4 pCi/L or more to reduce the risk of lung cancer.[xix] As of 2017, the highest recorded radon level in Durham County was 15.4 pCi/L.[xx]

Pesticides

When pesticides are used outdoors, they can drift, moving particles from application sites to other areas across cities and states.[xxi] Pesticides act as irritants in the airways, which means exposure to pesticides increases the risk of and worsens allergies and asthma.[xxii,xxiii,xxiv] Good ventilation can reduce the concentration of pesticides in indoor air.[xxv] The NC School Children's Health Act (2006) requires all public schools in North Carolina to notify guardians and staff of non-exempt pesticide applications, provide parents, guardians and staff with the opportunity to be notified 72 hours in advance of any non-scheduled and non-exempt pesticide applications and implement Integrated Pest Management.[xxvi]

Interpretations: Disparities, Gaps, and Emerging Issues

Health Disparities

Air pollution is not evenly distributed across the country or within the state and can impact areas and communities that are not directly causing the pollution.[xxvii] Children, older adults, people with lung diseases such as asthma or heart disease and those who are active outdoors such as farm and construction workers – are more vulnerable and at greater risk from ground-level ozone, particulate pollution, and other pollutants.[xxviii] Research has shown that facilities which report to the U.S. Environmental Protection Agency's Toxics Release Inventory (TRI) are more concentrated in communities of color.[xxix] These communities are also more likely to be characterized by low median income, low homeownership and are more linguistically isolated.[xxx] African American and Latinx populations, especially residents of urban areas have been shown to face higher risks associated with air pollution.[xxxi,xxxii] U.S. government redlining policies denied wealth-generating opportunities to communities of color and undermined their physical environments.[xxxiii] This

makes communities of color more likely to have poor housing infrastructure, have a stronger reliance on public transportation and be located in close proximity to busy roadways, which are all higher risk factors for air pollution.[xxxiv]

COVID-19

While the COVID-19 pandemic impacts everyone, some groups such as older adults, people with heart and lung disease and people of color are more vulnerable than others.[xxxv] These are the same groups that are also vulnerable to adverse health impacts of air pollution.[xxxvi] Several recent studies have shown that people living in places with high fine particulate matter pollution or near TRI sites are more likely to die from COVID-19 than those living elsewhere.[xxxvii,xxxviii,xxxix,xl,xli,xlii] This highlights the damage that air pollution causes to communities and the need to reduce exposure to air pollution so everyone can protect themselves from COVID-19 and other health complications.

Carbon Monoxide

In January 2020, the Durham Housing Authority evacuated McDougald Terrace residents due to carbon monoxide leaks.[xliii] Other issues became evident such as mold, pests and lack of ventilation for gas appliances.[xliv] Residents stayed in area hotels for several weeks while DHA fixed the problems.[xlv] The community came together to support McDougald Terrace resident-led efforts to help evacuated families.[xlvi] This incident shows the impact indoor air pollution and housing conditions can have on physical health.[xlvii] The Durham Fire Department offers assistance with carbon monoxide detectors.[xlviii]

Climate Change

The changing climate will exacerbate air pollution, which causes many health issues aside from those related to air quality.[xlix] [See Chapter 11 for more information on climate change health impacts.]

Recommended Strategies

- Work to meet and beat the Roadmap to Sustainability goal of decreasing ozone and particulate matter concentrations by 10% by 2040.
- Invest in and promote transportation choices that have low or no air pollution emissions, such as expanding public transportation, bike and walking options; and encouraging electric vehicle usage.
- Increase activities to plant and maintain tree coverage throughout the county.
- Adopt an Integrated Pest Management approach to reduce the need for pesticides, both indoors and outdoors.
- Increase radon testing, encourage building radon resistant homes and schools, and encourage health providers to educate patients on radon-induced lung cancer to meet the goals of the NC Comprehensive Cancer Control Plan.

Current Initiatives & Activities

Keep Durham Beautiful
Keep Durham Beautiful unites with communities and businesses to be stewards of Durham by removing thousands of pounds of waste, planting trees & community gardens, and bringing people together to take ownership of their city. Keepdurhambeautiful.org

TreesDurham
TreesDurham is an environmental justice non-profit, dedicated to combating climate change, protecting forests and planting trees, and creating environmental equality across Durham. Treesdurham.org

GoTriangle
GoTriangle provides regional public transportation services throughout the Triangle region. Services include bus and vanpool routes, as well as carpool matching and emergency ride home services. GoTriangle.org

Clean Air Carolina
This non-profit organization works to ensure cleaner air quality for all North Carolinians through education and advocacy and by working with partners to reduce sources of pollution. CleanAirCarolina.org

NC Department of Environmental Quality - NC Air Awareness
NC Air Awareness is a public outreach and education program of the North Carolina Division of Air Quality. The goal of the program is to reduce air pollution through voluntary actions by individuals and organizations. deq.nc.gov/ncairawareness

North Carolina Department of Health and Human Services NC Radon Program
NC Radon Program provides statewide informational assistance to North Carolinians on how to test for radon, understand test results and how to lower radon levels. NCRadon.org

US Environmental Protection Agency – Air Topics
This website provides descriptions of community-based air toxics projects designed to assess and address health and environmental issues at the local level. epa.gov/environmental-topics/air-topics

References

[i] Caiazzo F, Ashok A, Waitz IA, Yim SHL, Barrett SRH. Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors in 2005. Atmos Environ [Internet]. 2013 Nov [cited 2017 Jul 26];79:198–208. Available from: http://linkinghub.elsevier.com/retrieve/pii/S1352231013004548

[ii] Brook R, Brook J, Urch B, Vncent R, Rajagopalan S, Silverman F. Inhalation of fine particulate air pollution and ozone causes acute arterial vasoconstriction in healthy adults. Circulation [Internet]. 2002 Mar 11 [cited 2012 Aug 13];105(13):1534–6. Available from: https://www.ahajournals.org/doi/10.1161/01.CIR.0000013838.94747.64

[iii] epi.dph.ncdhhs.gov [Internet]. Indoor environmental quality. NC Department of Health and Human Services. Raleigh (NC); c2019 [cited 2020 Sep 18]. Available from: https://epi.dph.ncdhhs.gov/oee/programs/iaq.html

[iv] World Health Organization. Ambient air pollution: a global assessment of exposure and burden of disease [Internet]. Geneva (Switzerland): World Health Organization; c2016. Available from: https://www.who.int/phe/publications/air-pollution-global-assessment/en/

[v] City of Durham. Roadmap to sustainability [Internet]. Durham (NC): City of Durham; c2018 [cited 2020 Aug 31]. Available from: https://issuu.com/cityofdurhamnc/docs/codurham_sustain_bro_web/1?e=33941847/63100281

[vi] Brook RD, Franklin B, Cascio W, Hong Y, Howard G, Lipsett M, et al. Air pollution and cardiovascular disease: a statement for healthcare professionals from the Expert Panel on Population and Prevention. Science of the American Heart Association. Circulation [Internet]. 2004 Jun 1 [cited 2013 Feb 28];109(21):2655–71. Available from: http://www.ncbi.nlm.nih.gov/pubmed/15173049

[vii] epa.gov [Internet]. Air data: air quality data collected at outdoor monitors across the US [Internet]. Research Triangle Park (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Aug 31]. Available from: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report

[viii] epa.gov [Internet]. Trends in Ozone Adjusted for Weather Conditions [Internet]. Research Triangle Park (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Sep 18]. Available from: https://www.epa.gov/air-trends/trends-ozone-adjusted-weather-conditions

[ix] epa.gov [Internet]. Trends in Ozone Adjusted for Weather Conditions [Internet]. Research Triangle Park (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Sep 18]. Available from: https://www.epa.gov/air-trends/trends-ozone-adjusted-weather-conditions

[x] epa.gov [Internet]. Air data: air quality data collected at outdoor monitors across the US [Internet]. Research Triangle Park (NC): U.S. Environmental Protection Agency; c2020 [cited 2020 Aug 31]. Available from: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report

[xi] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xii] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xiii] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xiv] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human

Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xv] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xvi] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xvii] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xviii] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xix] publichealth.nc.gov [Internet]. NC Cancer Prevention and Control Branch: NC Advisory Committee on Cancer Coordination and Control [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Aug 31]. Available from: https://publichealth.nc.gov/chronicdiseaseandinjury/cancerpreventionandcontrol/acccc.htm

[xx] ephtracking.cdc.gov [Internet]. National Environmental Public Health Tracking Network Query Tool [Internet]. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Aug 31]. Available from: https://ephtracking.cdc.gov/DataExplorer/#/

[xxi] npic.orst.edu [Internet]. Pesticide drift [Internet]. Oregon: National Pesticide Information Center; c2017 [cited 2020 Sep 18]. Available from: http://npic.orst.edu/reg/drift.html

[xxii] Ernst P. Pesticide exposure and asthma. Vol. 165, American Journal of Respiratory and Critical Care Medicine. American Lung Association; 2002. p. 563–4

[xxiii] Amaral, AFS. Pesticides and asthma: challenges for epidemiology. Front Public Health [Internet]. 2014 Jan 24 [cited 2020 Sep 18];2(JAN). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3901073/

[xxiv] Hoppin JA, Umbach DM, London SJ, Henneberger PK, Kullman GJ, Coble J, et al. Pesticide use and adult-onset asthma among male farmers in the Agricultural Health Study. Eur Respir J [Internet]. 2009 Dec 1 [cited 2020 Sep 18];34(6):1296–303. Available from: www.erj.ersjournals.com

[xxv] epa.gov [Internet]. Improving indoor air quality [Internet]. Research Triangle Park (NC): US Environmental Protection Agency; c2020 [cited 2020 Sep 18]. Available from: https://www.epa.gov/indoor-air-quality-iaq/improving-indoor-air-quality

[xxvi] General Assembly of North Carolina. SL2006-0143 [Internet]. 2005 [cited 2020 Sep 18]. Available from: https://www.ncleg.net/sessions/2005/bills/house/html/h1502v5.html

[xxvii] epa.gov [Internet]. Your health. Research Triangle Park (NC): US Environmental Protection Agency; c2020 [cited 2020 Jun 16]. Available from: https://www.airnow.gov/air-quality-and-health/your-health/

[xxviii] epa.gov [Internet]. Your health. Research Triangle Park (NC): US Environmental Protection Agency; c2020 [cited 2020 Jun 16]. Available from: https://www.airnow.gov/air-quality-and-health/your-health/

[xxix] Ash M, Boyce JK. Racial disparities in pollution exposure and employment at US industrial facilities. Proc Natl Acad Sci [Internet]. 2018 [cited 2019 Jul 12];115(42):10636–41. Available from: www.pnas.org/cgi/doi/10.1073/pnas.1721640115

[xxx] Ash M, Boyce JK. Racial disparities in pollution exposure and employment at US industrial facilities. Proc Natl Acad Sci [Internet]. 2018 [cited 2019 Jul 12];115(42):10636–41. Available from: www.pnas.org/cgi/doi/10.1073/pnas.1721640115

[xxxi] Pastor M, Morello-Frosch R, Sadd JL. The air is always cleaner on the other side: race, space, and ambient air toxics exposures in california. J Urban Aff [Internet]. 2005 Jun 2 [cited 2017 Oct 9];27(2):127–48. Available from: https://www.tandfonline.com/doi/full/10.1111/j.0735-2166.2005.00228.x
[xxxii] Mikati I, Benson AF, Luben TJ, Sacks JD, Richmond-Bryant J. Disparities in distribution of particulate matter emission sources by race and poverty status. Am J Public Health [Internet]. 2018;e1–6. Available from: https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2017.304297
[xxxiii] Nardone A, Casey JA, Morello-Frosch R, Mujahid M, Balmes JR, Thakur N. Associations between historical residential redlining and current age-adjusted rates of emergency department visits due to asthma across eight cities in California: an ecological study. Lancet Planet Heal. 2020 Jan 1;4(1):e24–31.
[xxxiv] Nardone A, Casey JA, Morello-Frosch R, Mujahid M, Balmes JR, Thakur N. Associations between historical residential redlining and current age-adjusted rates of emergency department visits due to asthma across eight cities in California: an ecological study. Lancet Planet Heal. 2020 Jan 1;4(1):e24–31.
[xxxv] Brandt EB, Beck AF, Mersha TB. Air pollution, racial disparities, and COVID-19 mortality [Internet]. Vol. 146, Journal of Allergy and Clinical Immunology. Mosby Inc.; 2020 [cited 2020 Jul 24]. p. 61. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7204717/
[xxxvi] lung.org [Internet]. Disparities in the impact of air pollution. Chicago (IL): American Lung Association; c2020 [cited 2020 Sep 18]. Available from: https://www.lung.org/clean-air/outdoors/who-is-at-risk/disparities
[xxxvii] Brandt EB, Beck AF, Mersha TB. Air pollution, racial disparities, and COVID-19 mortality [Internet]. Vol. 146, Journal of Allergy and Clinical Immunology. Mosby Inc.; 2020 [cited 2020 Jul 24]. p. 61. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7204717/
[xxxviii] Conticini E, Frediani B, Caro D. Can atmospheric pollution be considered a co-factor in extremely high level of SARS-CoV-2 lethality in Northern Italy? Environ Pollut [Internet]. 2020;261:114465. Available from: https://doi.org/10.1016/j.envpol.2020.114465
[xxxix] Frontera A, Cianfanelli L, Vlachos K, Landoni G, Cremona G. Severe air pollution links to higher mortality in COVID-19 patients: The “double-hit” hypothesis. J Infect. 2020 Aug 1;81(2):255–9.
[xl] Persico CL, Johnson KR. The effects of increased pollution on COVID-19 cases and deaths. SSRN [Internet]. 2020; Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3633446
[xli] Petroni M, Hill D, Younes L, Barkman L, Howard S, Howell IB, et al. Hazardous air pollutant exposure as a contributing factor to COVID-19 mortality in the United States. Environ Res Lett [Internet]. 2020 Sep 11 [cited 2020 Sep 14];15(9):0940a9. Available from: https://iopscience.iop.org/article/10.1088/1748-9326/abaf86
[xlii] Wu X, Nethery RC, Sabath BM, Braun D, Dominici F. Exposure to air pollution and COVID-19 mortality in the United States. medRxiv [Internet]. 2020 Apr 27 [cited 2020 Jul 24];2020.04.05.20054502. Available from: https://doi.org/10.1101/2020.04.05.20054502
[xliii] Durham County Public Health Department, Partnership for a Healthy Durham. Durham County Government Health and Well - Being For All [Internet]. Durham (NC); c2019. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xliv] Durham County Public Health Department, Partnership for a Healthy Durham. Durham County Government Health and Well - Being For All [Internet]. Durham (NC); c2019. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xlv] Durham County Public Health Department, Partnership for a Healthy Durham. Durham County Government Health and Well - Being For All [Internet]. Durham (NC); c2019. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report
[xlvi] Durham County Public Health Department, Partnership for a Healthy Durham. Durham County Government Health and Well - Being For All [Internet]. Durham (NC); c2019. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report

[xlvii] Durham County Public Health Department, Partnership for a Healthy Durham. Durham County Government Health and Well - Being For All [Internet]. Durham (NC); c2019. Available from: https://www.dcopublichealth.org/resources/health-resources-data/state-of-the-county-health-report

[xlviii] abc11.com [Internet]. Durham Fire Department gives away 500 carbon monoxide detectors. Durham (NC): ABC11 Raleigh-Durham; 2020 Feb 5 [cited 2020 Sep 18]. Available from: https://abc11.com/carbon-monoxide-free-detectors-durham-fire-department-mcdougald-terrace/5904052/

[xlix] globalchange.gov [Internet]. The impacts of climate change on human health in the United States: a scientific assessment. Washington DC: US Global Change Research Program; c2016;312. Available from: https://health2016.globalchange.gov/

Section 12.02 *Water quality*

Overview

Water is essential to survival for all living beings. Poor water quality not only impacts the health of citizens, but also wildlife and the environment. Access to clean water is crucial. Water systems in Durham are connected to food systems, city development and the built environment. Water quality relates to public health, health equity and environmental justice. Understanding and holding accountable water system regulation leads to better outcomes for all Durham residents.

Lake Michie and Little River Reservoir are two primary raw water sources for Durham. Water is delivered from these sources to treatment plants. Chemicals are added to the water during the treatment process. These include chloramines for disinfection, orthophosphate to prevent pipe corrosion, sodium hydroxide for pH balance and fluoride to promote dental health. In the City of Durham, lead and copper testing are required every three years for the water system. The last examination in 2019 demonstrated no detectable lead contamination in the water system; subsequent tests will be performed in 2022. From the treatment plants, water travels through 1,400 miles of water lines to over 95,000 connections across Durham.[i] Not including raw water sources and accounting for average use of 30.38 million gallons per day, Durham reservoirs and emergency storage contained about 254 days of water supply as of August 2, 2020.[ii]

Secondary Data

Municipal Drinking Water

Durham County has two drinking water reservoirs, Lake Michie, built in 1926 and the Little River, built in 1988. Two other lakes partially located within Durham County are Jordan and Falls Lakes, which serve as drinking water supplies for municipalities in other North Carolina counties. Durham residents and businesses use on average, about 27.3 million gallons of water a day (MGD).[iii]

Accounting for the extreme drought conditions of 2007-2008 and a 20% safety factor, these two sources safely yield 27.9 MGD.[iv] Plans are being developed to tap two additional water sources, Jordan Lake and Teer Quarry to meet demand now and in the future. Jordan Lake has provided needed water for the City via the Town of Cary's water system since 2002, when Durham obtained an allocation of approximately 10 MGD.[v] Following the drought of 2007-2008, the City pursued an additional 6.5 MGD allocation to meet projected water demand through 2060. The NC Environmental Management Commission granted the request in 2017.[vi]

Quality of Drinking Water

The City of Durham produces an annual water quality report for its Community Water System (CWS). This report presents updates on Durham's drinking water and treatment

processes. Durham also prepares an annual sewer system report which explains the City's wastewater treatment and collection system performance. The City of Durham is required to test for more than 150 different contaminants in the drinking water. During 2019, all detected substances were below the water quality levels allowed by the U.S. Environmental Protection Agency (EPA) thus achieving 100% compliance.[vii]

The water treatment process of filtration, sedimentation, and disinfection typically removes Cryptosporidium (Crypto), a microbial parasite that comes from animal waste found in surface waters. The City began monthly testing for Crypto in fall 2006 (as part of Long Term Two Enhanced Surface Water Treatment Rule, LT2SWTR) and has never found the parasite in any monitoring event.[viii]

Potential Contaminant Sources

The NC Department of Environmental Quality (DEQ) Public Water Supply Section, through its Source Water Assessment Program (SWAP), periodically assesses all drinking water sources in the state — wells and surface water intakes — to determine their susceptibility to potential contaminant sources (PCS). PCSs include animal operations, septage disposal sites, old landfill sites, underground storage tanks, and activities that could negatively impact water sources. The 2017 results for watersheds of Lake Michie and Little River Reservoir show a moderate and higher susceptibility rating, respectively.[ix]

The susceptibility rating is determined by combining a "Contaminant Rating," which is based on the number and locations of PCSs within the testing area and "Inherent Vulnerability Rating" based on geologic, surface water and watershed features and conditions. A susceptibility rating of "higher" indicates the system's potential to become contaminated by PCSs in the tested area, not the quality of the water.[x]

Healthy NC 2030 Objective

The Healthy NC 2030 objectives report does not contain indicators directly related to water quality. However, the report states there are developmental data needs related to water quality. "Advancements in analytical, research, and health sciences are needed to identify and quantify specific chemicals and classes of chemicals present in the environment to which people are exposed and at what exposure concentrations adverse health effects are a concern to the exposed generation and subsequent generations. This work would be followed by measures to reduce potentially harmful exposures."[xi] This demonstrates the current gaps in knowledge related to contaminants in water.

Interpretations: Disparities, Gaps, and Emerging Issues

Infrastructure Improvement

There are numerous concurrent infrastructure improvements being implemented by the City of Durham. The Public Works Department's Stormwater and Geographic Information System (GIS)

Services Division (SGS) has a variety of projects including some as small as backyard raingardens to larger regional projects. An example of a larger project is the ongoing South Ellerbe Wetland and Stream Restoration, a 9-acre parcel will treat 485 acres of urban downtown Durham and help to improve water quality and downstream flooding.[xii]

Green Stormwater Infrastructure (GSI)

The SGS has constructed a bioretention stormwater filtration device at the City's General Services Building. The project will treat stormwater runoff from employee parking areas and improve water quality from nearby Ellerbe Creek. In partnership with North Carolina State University, the SGS has also installed an underground filtration cell at Duke Park that filters stormwater runoff from roadways and parking areas.[xiii]

Stormwater Programs

The SGS has a number of federally mandated water quality programs operating in Durham. The Illicit Discharge Protection program regulates improper discharge into storm drains. Other programs address inspecting businesses with products on the EPA toxics list. This ensures that businesses comply with the requirements of EPA general permits tracking human sources of contamination into creeks, and planning to reduce the total maximum daily load into stormwater.[xiv]

Equity and Environmental Justice

Since 2017, there have been a number of environmental justice concerns that have directly occurred in and impacted residents in Durham County. One such event was the evacuation of hundreds of residents of the McDougald Terrace public housing development as a result of a carbon monoxide leak. Residents were displaced for weeks. The Durham Housing Authority spent nearly four million over four months to relocate residents to hotels and provide food and stipends.[xv] Other environmental injustices have taken place at McDougald Terrace in relation to water quality. In 2019, Durham City staff found that sewage was being pumped into the public housing as well as nearby private residences. Most of the residents impacted were African American. Due to leakage into the stormwater in the area, the City was able to enforce regulations. Some of the discharge has now been rectified and neighbors and the SGS strengthened their relationship.[xvi] In an effort to bring environmental justice components into the selection of GSI, the City developed a GIS analysis to prioritize areas for potential projects.[xvii]

Recommended Strategies

- Continued community outreach and education are advisable for those residents utilizing well water.

- Expand the City of Durham's Racial Equity Task Force which worked to publish a report on issues related to wealth and economy, the criminal legal system, health, and environmental justice, housing, education and public history.[xviii]
- The Ellerbe Creek Watershed Association (ECWA) has hired Keshi Satterwhite as its new Community Engagement Specialist. Ms. Satterwhite has championed the Durham Watershed Academy which launched in September 2020 to teach community members about being watershed stewards. The program encompasses many topic areas, including environmental justice and should be a supported initiative.[xix]
- The Director of the Public Works Department has approved the creation of a fund to support septic system repairs when leaks could runoff into ditches and creeks. It is recommended that the City Manager also support this fund.[xx]
- Medications can make their way to wastewater facilities and treatment operations cannot filter out 100% of these chemicals. This may result in trace amounts showing up in drinking water. Instead, Durham County and City residents should take unused or expired medications to a permanent medicine drop box or a take-back event held in the community.[xxi]
- Durham County and City residents should stay informed about water quality in the community. This can be done by attending city and county council meetings where water management and other issues are discussed or visiting the City's website at durhamnc.gov to confirm meeting times, locations, and agendas.[xxii]

Current Initiatives & Activities

City of Durham Water Management Infrastructure Improvements: Information on upgrades, extensions and replacements of existing facilities including treatment plants and distribution systems can be found through the City of Durham. Projects of note include stormwater retrofits and construction of bioretention ponds to improve the water quality, recreating a stormwater wetland near Trinity and Duke and cleaning of 150 acres of downtown impervious wetland. Projects are also ongoing to fund rain gardens in people's individual yards: https://durhamnc.gov/971/Current-Projects

City of Durham Water Management COVID-19 Response: Residential water shutoffs for nonpayment were suspended from early March to mid-September 2020 as a result of Governor Cooper's Executive Order suspending utility disconnects. As of November 2020, a water hardship fund application exists for those facing possibility of water shutoffs for nonpayment during the COVID-19 pandemic: https://durhamnc.gov/4018/COVID-19-Response

City of Durham Water Efficiency and Water Conservation Program works with Durham Water customers to maximize water efficiency while using less water overall. Some programs to incentivize water efficiency are the Toilet Rebate Program and Save Water Kits. In August 2020, the City of Durham also held a Mayor's Challenge for Water Conservation. https://durhamnc.gov/1061/Durham-Saves-Water

City of Durham Water Conservation and Water Education: The City of Durham Department of Water Management has multiple programs to promote water conservation and has an active public education program. Resources and presentations are available to the public or at request. https://durhamnc.gov/1065/Educational-Programs-Resources

Environmental Protection Agency (EPA) – Drinking Water Contaminant: This EPA site discusses the National Primary Drinking Water Regulations, or primary standards. Primary standards protect public health by limiting the levels of contaminants in drinking water. https://www.epa.gov/dwstandardsregulations

The Centers for Disease Control (CDC) and Prevention considers a variety of drinking water topics, such as public water drinking systems, water fluoridation, private water systems and more. For more information please visit the CDC website. https://www.cdc.gov/healthywater/drinking/index.html

Environmental Protection Agency – Safe Drinking Water Hotline (1-800-426-4791) responds to factual questions in the following program areas[xxiii]

- Local drinking water quality
- Drinking water standards
- Public drinking water systems
- Source water protection
- Large capacity residential septic systems
- Commercial, and industrial septic systems
- Injection well
- Drainage wells

North Carolina Environmental Health Section – Onsite Water Protection Branch: Provides private water supply well homeowner materials and research. http://ehs.ncpublichealth.com/oswp/wells-resources.htm

References

[i] durhamnc.gov [Internet]. Water quality and treatment. Durham (NC): City of Durham Dept of Water Management; c2020 [cited 2020 Jul 15]. Available from: https://durhamnc.gov/1154/Water-Quality-Treatment
[ii] durhamnc.gov [Internet]. Current data. Durham (NC): City of Durham Dept Water Management; c2020 [cited 2020 Aug 15]. Available from https://durhamnc.gov/1214/Current-Data
[iii] durhamnc.gov [Internet]. Building a sustainable tomorrow: 2019 water quality report. Durham (NC): City of Durham Dept of Water Management; c2019 [cited 2020 Aug 19]. Available from https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4856
[iv] durhamnc.gov [Internet]. Building a sustainable tomorrow: 2019 water quality report. Durham (NC): City of Durham Dept of Water Management; c2019 [cited 2020 Aug 19]. Available from https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4856
[v] durhamnc.gov [Internet]. Building a sustainable tomorrow: 2019 water quality report. Durham (NC): City of Durham Dept of Water Management; c2019 [cited 2020 Aug 19]. Available from https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4856
[vi] durhamnc.gov [Internet]. Building a sustainable tomorrow: 2019 water quality report. Durham (NC): City of Durham Dept of Water Management; c2019 [cited 2020 Aug 19]. Available from https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4856
[vii] durhamnc.gov [Internet]. Building a sustainable tomorrow: 2019 water quality report. Durham (NC): City of Durham Dept of Water Management; c2019 [cited 2020 Aug 19]. Available from https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4856
[viii] durhamnc.gov [Internet]. Building a sustainable tomorrow: 2019 water quality report. Durham (NC): City of Durham Dept of Water Management; c2019 [cited 2020 Aug 19]. Available from https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4856
[ix] Source Water Assessment Program (SWAP). Report for City of Durham. Raleigh (NC): North Carolina Dept of Environmental Quality. 2017 Sept 12 [cited 2020 Sep 30].
[x] Source Water Assessment Program (SWAP). Report for City of Durham. Raleigh (NC): North Carolina Dept of Environmental Quality. 2017 Sept 12 [cited 2020 Sep 30].
[xi] North Carolina Institute of Medicine. Healthy North Carolina 2030: a path toward health [Internet]. Morrisville (NC); c2020 [cited 2020Aug 19]. Available from: https://nciom.org/wp-content/uploads/2020/01/HNC-REPORT-FINAL-Spread2.pdf. Supported by Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and the Kate B. Reynolds Charitable Trust.
[xii] Wilbur, Sandra. (City of Durham Stormwater Infrastructure). Phone Interview. 2020 Sep 01 [cited 2020 Sep 30].
[xiii] Wilbur, Sandra. (City of Durham Stormwater Infrastructure). Phone Interview. 2020 Sep 01 [cited 2020 Sep 30].
[xiv] Woolfolk, Michelle. (City of Durham Water Quality Programs). Phone Interview. 2020 Sep 03 [cited 2020 Sep 30].
[xv] Brown T. McDougald Terrace evacuation to cost Durham Housing Authority at least $9 million [Internet]. Raleigh (NC): The News & Observer; 2020 May 4 [cited 2020 Sep 30]. Available from: https://www.newsobserver.com/news/local/counties/durham-county/article242493401.html
[xvi] Woolfolk, Michelle. (City of Durham Water Quality Programs). Phone Interview. 2020 Sep 03 [cited 2020 Sep 30].
[xvii] Wilbur, Sandra. (City of Durham Stormwater Infrastructure). Phone Interview. 2020 Sep 01 [cited 2020 Sep 30].
[xviii] Quigley C. This is our love letter to Durham': Racial Equity Task Force presents findings after nearly 2 years of work [Internet]. Durham (NC): WNCN; 2020 Jul 23 [cited 2020 Sep 16]. Available from: https://www.cbs17.com/news/local-news/durham-county-news/this-is-our-love-letter-to-durham-racial-equity-task-force-presents-findings-after-nearly-2-years-of-work/

[xix] Kurilla B. Ellerbe Creek Watershed Association leads the way on neighborhood sustainability [Internet]. Raleigh (NC): WakeUP Wake County; 2019 Aug 19 [cited 2020 Sep 16]. Available from: https://wakeupwakecounty.org/ellerbe-creek-watershed-association-leads-the-way-on-neighborhood-sustainability/

[xx] Woolfolk, Michelle. (City of Durham Water Quality Programs). Phone Interview. 2020 Sep 03 [cited 2020 Sep 30].

[xxi] ncosfm.gov [Internet]. Operation medicine drop. Raleigh (NC): North Carolina Office of the State Fire Marshal; c2019 [cited 2020 Aug 15]. Available from https://www.ncosfm.gov/injury-prevention/operation-medicine-drop

[xxii] durhamnc.gov [Internet]. Building a sustainable tomorrow: 2019 water quality report. Durham (NC): City of Durham Dept of Water Management; c2019 [cited 2020 Aug 19]. Available from https://durhamnc.gov/ArchiveCenter/ViewFile/Item/4856

[xxiii] durhamnc.gov [Internet]. Welcome to the Department of Water Management. City of Durham; c2020 [cited 2020 Sep 16]. Available from: https://durhamnc.gov/944/Water-Management

Section 12.03 *Lead poisoning*

Overview

> **"Primary Prevention of lead poisoning is the most important step caregivers, parents, doctors, and other can take. Prevent lead exposure before it occurs."**
> *Centers for Disease Control and Prevention (CDC)*[i]

Lead poisoning remains a major environmental health concern in the United States. Approximately half a million children, ages one to five have blood lead levels above 5 micrograms per deciliter (µg/dL), the reference level at which the Centers for Disease Control and Prevention (CDC) have recommend public health actions be initiated.[ii] Lead poisoning is preventable, yet the negative health effects can be life-long if it is not prevented. Primary prevention and secondary prevention are tools used to prevent childhood lead exposure before any harm occurs. According to the CDC, primary prevention is considered the removal of lead hazards from their environment before a child is exposed and it is the most effective way to ensure that children do not experience harmful long-term effects of lead exposure. Secondary prevention including blood lead testing and follow-up, remains an important safety net for children who may already be exposed to lead. "The most important step caregivers, parents, doctors, and others can take is to prevent lead exposure before it occurs."[iii]

Lead can affect anyone, but children less than six years old are affected more because their body's nervous systems have not yet fully developed. Lead interferes with and can impair the development of children's bodies because they absorb four to five times as much ingested lead as adults from a given source.[iv] Children's brains and nervous systems are more sensitive to the damaging effects of lead. Young children are particularly vulnerable to lead hazards present in their surrounding environment because they can expose themselves to the harmful effects of lead by normal behavior such as putting their hands and other objects in their mouths.[v]

According to the U.S. Department of Housing and Urban Development (HUD), about 3.6 million homes nationwide where young children reside have lead hazards such as peeling paint, contaminated dust or toxic soil.[vi] There is no known safe blood lead concentration. However, it is known that as lead exposure increases, the range and severity of symptoms and effects also increase. Lead exposure in young children and pregnant women can cause serious health effects, and "can affect almost every organ and system in the body."[vii] "Lead can accumulate in the body over time where it is stored in bones along with calcium."[viii] During pregnancy, lead is released from bones and is used to help form the bones of the fetus. This risk increases if the pregnant mom is calcium deficient. Lead can also pass from a mother to her unborn child through the placenta.[ix]

Even levels of lead in children's blood as low as 5 µg/dL, once thought to be a "safe level," can contribute to:[x]

- Learning problems (lower IQ, attention-deficit/hyperactivity disorder (ADHD))
- Reduced attention span

- Behavioral problems (e.g. Juvenile delinquency/criminal behavior)
- Delayed growth
- Hearing problems
- Anemia

In pregnant women, lead exposure can:[xi]

- Increase risk for miscarriage
- Cause a baby to be born too early or too small
- Hurt the baby's brain, kidneys, and central nervous system

Community Assets

Due to the strong partnership between the City of Durham and local non-profit agencies, Durham has received federal resources to help prevent lead poisoning. The City of Durham Community Development Department (CDD) was awarded a $3.3 million HUD grant in May 2019 to remediate lead hazards in 116 eligible homes and provide healthy home interventions in selected homes.

In September 2019, the City of Durham CDD was also awarded a National League of Cities (NLC) Technical Assistance Grant. With the NLC grant, CDD and community partners will design a Durham Healthy Housing City Action Roadmap. CDD has selected a team of Durham stakeholders including the Durham County Department of Public Health, Durham Housing Authority, City of Durham Neighborhood Improvement Services (NIS), Partnership Effort for the Advancement of Children's Health (PEACH) and Reinvestment Partners to partner with NLC to implement a strategy to scale and broaden the City's work to reduce lead and health risks in housing.

Future of Lead Poisoning Prevention

Prevention is the most critical and first approach to addressing childhood lead exposure.[xii] Primary Prevention addresses the conditions that cause and ultimately prevent children's lead exposure. In contrast, Secondary Prevention identifies and manages conditions after exposures have already caused elevated blood lead levels in children. North Carolina lead testing recommends a blood lead test at ages 12 and 24 months.[xiii] The future of lead poisoning prevention in Durham includes increasing the number of children tested at 12 and 24 months and developing strategies to address conditions that are or that create exposure sources.

Healthy People 2030 Objective

The Healthy People 2030 Objectives included a goal to reduce blood lead levels in children one to five years.[xiv] The objective projects to reduce blood lead levels from 3.31 µg/dL to 1.18 µg/dL .[xv]

Healthy People 2030 Objectives

Healthy NC 2030 Objective	Current Durham	Current NC	2030 Target
Reduce blood lead levels in children aged 1 to 5 years	3.0 µg/dL	3.0 µg/dL	1.18 µg/dL

Table 12.03(a). Healthy People 2030 Objective [xvi, xvii]

Secondary Data

The data shows a downward trend in the number of children tested at one and two years of age and an upward trend in the proportion of children with elevated blood levels in Durham County from 2015 to 2018.[xviii] Among children tested, shown in Figure 12.03(a), Durham screens less than 50% of the at-risk population. Up to 1.5% of children show elevated blood-lead levels. Increased screening would give a better indication of the full extent of the lead poisoning problem.

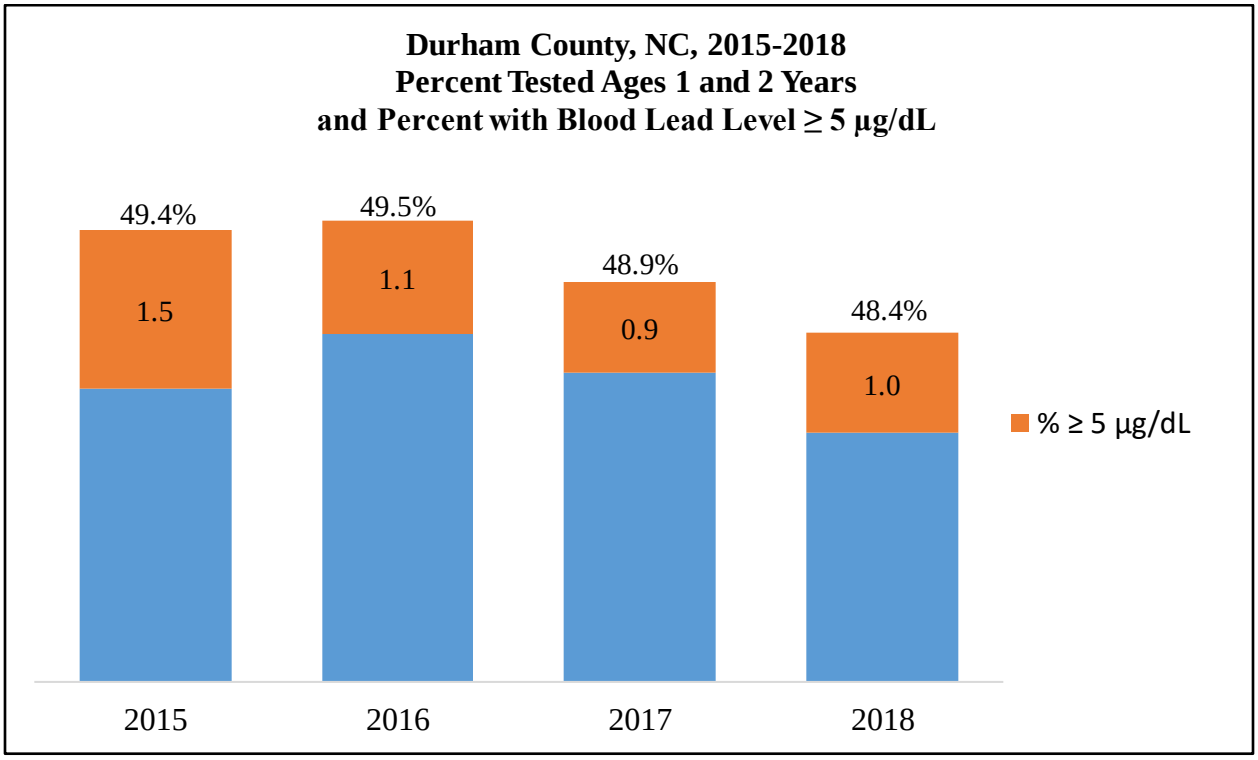


Figure 12.03(a) Trend in Elevated Blood Lead Levels, Durham County 2015-2018 [xix, xx, xxi, xxii]

The North Carolina state law, G.S. § 130A131.7, enacted July 1, 2017, lowers the blood lead action level that triggers the requirement to offer an environmental investigation for children under six years old and in pregnant women from 10 µg/dL to 5 µg/dL.[xxiii] An environmental investigation is now required for children and pregnant women with confirmed blood lead levels of 10 µg/dL or greater (two blood lead tests within a 12-month period, starting on July 1, 2016).[xxiv]
Durham County's response to the mandated lowering of the blood lead action level for children and pregnant women has greatly affected the County's current caseload.[xxv] Durham County

designated a school nurse to provide surveillance and limited follow up for children under age six who have been identified through blood tests to have elevated or confirmed blood lead levels. The lead nurse regularly monitors the North Carolina Electronic Lead Surveillance System (NC LEAD) to identify children in need of follow up. The lead nurse also communicates with primary care providers to ensure proper case management and referral for children with elevated and/or confirmed blood lead level is performed as indicated.[xxvi] Additionally, the Durham County Department of Public Health Maternity Health Clinic screens patients, and if at risk they will receive a blood lead test.[xxvii]

Interpretations: Disparities, Gaps, Emerging Issues

Lead poisoning poses particular risks to non-Hispanic Black, Latin(a)(o)(x) and low-income children because they are more likely to live in substandard housing and polluted communities, which increase their risk of exposure.[xxviii] Pregnant women, refugees and children adopted outside of the U.S. are also at risk for higher lead exposure.[xxix] Many adults and children don't realize that lead may be present in their homes, in many forms. Lead-based paint and lead dust inside and around homes are the most common and dangerous source of lead exposure, especially in residential buildings built before 1978.[xxx]

Lead has been found in other sources including contaminated drinking water, soil, dust, candies, spices, artificial turf grass, toys (including some toy jewelry), consumer products, folk medicine and in foods (sometimes used as a food additive or cosmetically for religious reasons). Workers in certain industries such as battery manufacturing, auto mechanics, lead smelters, home improvement contractors, crafts and artistry, recyclers of metal and electronics and people who frequent gun ranges are at higher risk for lead exposure.

Recommended Strategies

- Design education and outreach campaign to increase lead screening of children; and to educate residents who live in pre-1978 housing to use certified lead-based paint renovator and firm per North Carolina Rules 10A NCAC 41C .0900.
- Require proof of NC compliant lead-remediation training before issuing a permit for work that is likely to disturb paint in housing bult before 1978.[xxxi]
- Collaborate with City of Durham Community Development Department and Durham Housing Authority to adapt HUD lead poisoning prevention policies to non-HUD rental properties. A recent study found that people who were living in HUD-assisted homes had lower levels of lead in their blood compared with those who were not.
- Conduct lead dust testing in specified rental units (i.e. code violations, tenant turnover). Partner with Neighborhood Improvement Services Housing Inspectors to implement lead dust testing for pre-1978 homes with code violations.
- Require use of NC certified firm & renovators on city/county pre-1978 housing contracts.
- Appeal to the Board of Health (BOH) to adopt a more stringent rule to protect the public from lead exposure sources.

Current Initiatives & Activities

Durham County Department of Public Health (DCoDPH) DCoDPH offers free lead poisoning education and onsite testing for children six-months to six years old. The County also offers and assists with conducting environmental investigations and provides nutritional counseling. The program accepts Medicaid, Health Check and self pay for all services. http://dcopublichealth.org/

NC Department of Health and Human Services/Children Environmental Health/ Childhood Lead Poisoning Prevention Program (CLPPP) CLPPP currently coordinates clinical and environmental services aimed at eliminating childhood lead poisoning. The program provides technical assistance, training and oversight for local environmental health specialist, public health nurses, laboratory technicians and private medical providers to assure healthy and safe conditions. http://ehs.ncpublichealth.com/hhccehb/cehu/index.htm

NC Healthy Homes Initiative The North Carolina Healthy Homes Outreach Task Force is a group of local, state, and federal health and housing agencies that meet quarterly under the direction of the Community Outreach and Engagement Core of the UNC Center for Environmental Health and Susceptibility to improve outreach to vulnerable populations in North Carolina. The Healthy Homes Initiative identifies issues such as Asbestos, chemical irritants, lead, mold and moisture, pest and pesticides, radon, and secondhand smoke. http://nchealthyhomes.com/leadpoisoning/

City of Durham Community Development Department (CDD) HUD Lead Hazard and Healthy Homes Grant received a $3.2 million HUD grant to remediate lead hazards in 116 eligible homes and provide healthy home interventions in selected homes. https://durhamnc.gov/445/Community-Development

Durham Healthy Housing City Action Roadmap CDD has selected a team of Durham stakeholders, including Durham County Public Health Department, Housing Authority of the City of Durham, City of Durham Neighborhood Improvement Services (NIS), Partnership Effort for the Advancement of Children's Health (PEACH), and Reinvestment Partners to partner with the National League of Cities (NLC) to implement a strategy to scale and broaden the City's work to reduce lead and health risks in housing.

Partnership Effort for the Advancement of Children's Health (PEACH) works to create healthy homes in Durham, North Carolina, and addresses community health and economics by creating a sustainable workforce to reduce environmental hazards in the community. http://www.peachdurham.org/

Reinvestment Partners Promotes healthy, fair, and affordable housing in North Carolina www.reinvestmentpartners.org

References

[i] cdc.gov [Internet]. Lead poisoning prevention. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 May 28]. Available from: https://www.cdc.gov/nceh/lead/prevention/default.htm

[ii] Ehs.ncpublichealth.com [Internet]. NC childhood lead testing and follow-up manual. Raleigh (NC): NC Department of Health and Human Services, Division of Public Health; c2019 [cited 2020 Nov 20]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/docs/2019ClinicalManualTextandAppendicesFINAL-092019v3-cleanFinal.pdf

[iii] cdc.gov [Internet]. Lead poisoning prevention. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 May 28]. Available from: https://www.cdc.gov/nceh/lead/prevention/default.htm

[iv] who.int [Internet]. Lead poisoning and health. Geneva: World Health Organization; c2019 [cited 2020 Aug 23]. Available from: https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health

[v] Hauptman M, Bruccoleri R, Woolf AD. An update on childhood lead poisoning. Clinical Pediatric Emergency Medicine [Internet]. Clinical Pediatric Emergency Medicine; 2017 [cited 2020 Oct 28];18(3):181–92. Available from: https://dx.doi.org/10.1016/j.cpem.2017.07.010

[vi] pewtrusts.org [Internet]. 10 policies to prevent and respond to childhood lead exposure: an assessment of the risks communities face and key federal, state, and local solutions. Washington, DC: Robert Wood Johnson Foundation, The PEW Charitable Trust: The Health Impact Project; 2017 Aug 30 [cited 2020 Aug 23]. Available from: https://www.pewtrusts.org/en/research-and-analysis/reports/2017/08/10-policies-to-prevent-and-respond-to-childhood-lead-exposure

[vii] epa.gov [Internet]. Learn about lead. RTP (NC): Environmental Protection Agency; c2020 [cited 2020 Oct 28]. Available from: https://www.epa.gov/lead/learn-about-lead

[viii] epa.gov [Internet]. Learn about lead. RTP (NC): Environmental Protection Agency; c2020 [cited 2020 Oct 28]. Available from: https://www.epa.gov/lead/learn-about-lead

[ix] Rísová V. The pathway of lead through the mother's body to the child. Interdisciplinary Toxicology; 2019 [cited 2020 Oct 28];12(1):1–6. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7061448/

[x] Tarrago O, Brown, MJ. ATSDR case studies in environmental medicine: lead toxicity. Atlanta (GA): Agency for toxic substances and disease registry; 2017 Jun 12 [cited 2020 Dec 2]. Available from: https://www.atsdr.cdc.gov/csem/lead/docs/CSEM-Lead_toxicity_508.pdf

[xi] Tarrago O, Brown, MJ. ATSDR case studies in environmental medicine: lead toxicity. Atlanta (GA): Agency for toxic substances and disease registry; 2017 Jun 12 [cited 2020 Dec 2]. Available from: https://www.atsdr.cdc.gov/csem/lead/docs/CSEM-Lead_toxicity_508.pdf

[xii] cdc.gov [Internet]. Lead poisoning prevention. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 May 28]. Available from: https://www.cdc.gov/nceh/lead/prevention/default.htm

[xiii] Ehs.ncpublichealth.com [Internet]. NC childhood lead testing and follow-up manual. Raleigh (NC): NC Department of Health and Human Services, Division of Public Health; c2019 [cited 2020 Nov 20]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/docs/2019ClinicalManualTextandAppendicesFINAL-092019v3-cleanFinal.pdf

[xiv] health.gov [Internet]. Healthy people 2030: reduce blood lead levels in children aged 1 to 5 years — EH-04. Washington, DC: US Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Aug 23]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/housing-and-homes/reduce-blood-lead-levels-children-aged-1-5-years-eh-04

[xv] health.gov [Internet]. Healthy people 2030: reduce blood lead levels in children aged 1 to 5 years — EH-04. Washington, DC: US Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Aug 23]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/housing-and-homes/reduce-blood-lead-levels-children-aged-1-5-years-eh-04

[xvi] North Carolina lead surveillance system (NC LEAD) [internal data]. Raleigh (NC): NC Department of Health and Human Services, Children's Environmental Health; c2020 [cited 2020 Aug 23].

[xvii] health.gov [Internet]. Healthy people 2030: reduce blood lead levels in children aged 1 to 5 years — EH-04. Washington, DC: US Department of Health and Human Services, Office of Disease Prevention and Health Promotion; c2020 [cited 2020 Aug 23]. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/housing-and-homes/reduce-blood-lead-levels-children-aged-1-5-years-eh-04

[xviii] ehs.ncpublichealth.com [Internet]. Childhood lead poisoning prevention program: data. Raleigh (NC): NC Department of Health and Human Services, Children's Environmental Health; 2020 Oct 23 [cited 2020 Oct]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/data.htm

[xix] ehs.ncpublichealth.com [Internet]. 2015 North Carolina childhood blood lead surveillance data. Raleigh (NC): NC Department of Health and Human Services, Children's Environmental Health; c2015 [cited 2020 Oct 18]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/docs/BloodLeadTbl2015.pdf

[xx] ehs.ncpublichealth.com [Internet]. 2016 North Carolina childhood blood lead surveillance data. Raleigh (NC): NC Department of Health and Human Services, Children's Environmental Health; c2016 [cited 2020 Oct 18]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/docs/BloodLeadTbl2016.pdf

[xxi] ehs.ncpublichealth.com [Internet]. 2017 North Carolina childhood blood lead surveillance data. Raleigh (NC): NC Department of Health and Human Services, Children's Environmental Health; c2017 [cited 2020 Oct 18]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/docs/BloodLeadTbl2017.pdf

[xxii] ehs.ncpublichealth.com [Internet]. 2018 North Carolina childhood blood lead surveillance data. Raleigh (NC): NC Department of Health and Human Services, Children's Environmental Health; c2018 [cited 2020 Oct 18]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/docs/BloodLeadTbl2018.pdf

[xxiii] Ehs.ncpublichealth.com [Internet]. NC childhood lead testing and follow-up manual. Raleigh (NC): NC Department of Health and Human Services, Division of Public Health; c2019 [cited 2020 Nov 20]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/docs/2019ClinicalManualTextandAppendicesFINAL-092019v3-cleanFinal.pdf

[xxiv] Ehs.ncpublichealth.com [Internet]. NC childhood lead testing and follow-up manual. Raleigh (NC): NC Department of Health and Human Services, Division of Public Health; c2019 [cited 2020 Nov 20]. Available from: https://ehs.ncpublichealth.com/hhccehb/cehu/lead/docs/2019ClinicalManualTextandAppendicesFINAL-092019v3-cleanFinal.pdf

[xxv] Richardson W. (Environmental Health Specialist, Durham Department of Public Health) [internal data]. Durham (NC): Durham Public Health Department, Environmental Health Department; [cited 2020 Oct].

[xxvi] Thompson S. (Durham Public Health Department). Re: school health program [Internet]. Email. 2020 Oct 15 [cited 2020 Oct 15].

[xxvii] Sanders L. (Environmental Health Specialist, Durham Department of Public Health) [internal data]. Durham (NC): Durham Public Health Department, Environmental Health Department; [cited 2020 Oct 15].

[xxviii] Benfer EA. Contaminated childhood: how the United States failed to prevent the chronic lead poisoning of low-income children and communities of color. Boston (MA): Harvard Law Review; 2017 Aug 12 [cited 2020 Dec 2].
[xxix] cdc.gov [Internet]. Lead poisoning prevention. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 May 28]. Available from: https://www.cdc.gov/nceh/lead/prevention/default.htm
[xxx] Pullum M. (Community Development Manager, Durham Community Development Department). Re: neighborhood stabilization [Internet]. Email. 2020 Oct 8 [cited 2020 Oct 8].
[xxxi] pewtrusts.org [Internet]. 10 policies to prevent and respond to childhood lead exposure: an assessment of the risks communities face and key federal, state, and local solutions. Washington, DC: Robert Wood Johnson Foundation, The PEW Charitable Trust: The Health Impact Project; 2017 Aug 30 [cited 2020 Aug 23]. Available from: https://www.pewtrusts.org/en/research-and-analysis/reports/2017/08/10-policies-to-prevent-and-respond-to-childhood-lead-exposure

Public Health Emergency Preparedness

This chapter includes:

- Public health emergency preparedness

Section 13.01 *Public health emergency preparedness*

Overview

Public health emergency preparedness focuses on the ability of the public health agencies to plan for, respond to and recover from emergencies that pose a risk to the health of the public. This is accomplished through planning, training and exercising with other county partners and at the appropriate time when an emergency occurs, implementing the plan.

The Centers for Disease Control and Prevention (CDC) has "implemented a systematic process to assist state and local health departments with strategic planning by defining a set of public health preparedness capabilities. The resulting body of work, *Public Health Preparedness Capabilities: National Standards for State and Local Planning*, hereafter referred to as public health preparedness capabilities, creates national standards for public health preparedness capability-based planning and will assist state and local planners in identifying gaps in preparedness, determining the specific jurisdictional priorities and developing plans for building and sustaining capabilities. These standards are designed to accelerate state and local preparedness planning, provide guidance and recommendations for preparedness planning, and, ultimately, assure safer, more resilient, and better prepared communities."[i] Fifteen Public Health Emergency Preparedness Capabilities are defined in *Public Health Preparedness Capabilities: National Standards for State and Local Planning*:[ii]

1. Community Preparedness
2. Community Recovery
3. Emergency Operation Coordination
4. Emergency Public Information Warning
5. Fatality Management
6. Information Sharing
7. Mass Care
8. Medical Countermeasures Dispensing and Administration
9. Medical Material Management and Distribution
10. Medical Surge
11. Nonpharmaceutical Interventions
12. Public Health Laboratory Testing
13. Public Health Surveillance and Epidemiological Investigation
14. Responder Safety and Health
15. Volunteer Management

COVID-19 Response

The Durham County multiagency response to COVID-19 has involved nearly all of the Fifteen Public Health Emergency Preparedness Capabilities listed above. COVID-19 surveillance officially began at the Durham County Department of Public Health (DCoDPH) on January 27, 2020 (Capability 13). On February 25, 2020, the DCoDPH incident management team was activated to respond to the COVID-19 threat. Durham County's first case of COVID-19 occurred on March 12, 2020. On March 16, 2020, Durham County Emergency Management Division (DCEM) activated the Durham County Emergency Operations Center (EOC) inside the Health and Human Services Building to coordinate the growing response to COVID-19. In addition to

reducing COVID-19 transmission by surveillance, contact tracing, testing and screening, DCoDPH and DCEM, through the EOC, also planned, coordinated and performed many activities related to the COVID-19 response. These activities included:

- Supporting community efforts to meet food security and housing needs of vulnerable populations related to COVID-19
- Infection control and outbreak response to COVID-19 outbreaks within long-term care facilities and other congregate settings
- Facilitating, supporting and providing guidance to the City and County reopening task forces
- Anticipating and planning for short and long-term operational needs for the COVID-19 response
- Understanding and distributing COVID-19 specific guidance to staff, stakeholders, and the public.

Public health surveillance and investigation is critical for the control of COVID-19. DCoDPH has attempted to contact each Durham County resident with a reported positive test for SARS-CoV-2. Each case who was successfully contacted was asked about their employment, their travel history and information about the people with whom the case had been in close contact. Both cases and contacts were monitored, provided guidance and assisted with locating resources necessary for them to isolate or quarantine. In spring and summer 2020, Duke Health provided additional support with contact tracing efforts with medical and nursing students. Starting in spring 2020, DCoDPH entered into a contract with the North Carolina Department of Health and Human Services and Community Care of North Carolina to add contact tracing staff to support Durham County COVID-19 surveillance. In addition to these activities, DCoDPH also established teams to manage outbreaks in long-term care and congregate settings to monitor and manage disease clusters. As of December 2020, many DCoDPH employees have been involved with case investigation, case management and contact tracing for more than nine months.

COVID-19 testing has been another important aspect of the COVID response. DCoDPH has collected specimens, performed testing and facilitated testing through community partners and other test providers for the duration of the COVID-19 outbreak. In summer 2020, Duke Health and the DCoDPH set up a community-based testing site and gave contact tracers the ability to schedule testing appointments at the site to speed access to testing. The site was intentionally located in an area of Durham experiencing the highest burden of COVID-19. People experiencing homelessness are also vulnerable to exposure to COVID-19 in congregate settings. To minimize the risk of severe illness, the Durham City/County EOC created a workgroup to work to reduce the effects of COVID-19 on the homeless population. This was achieved through non-congregate sheltering, guidance to homeless shelters, enhanced surveillance and testing.

DCoDPH, Duke Health and DataWorksNC worked together to create and populate the Durham County Coronavirus Data Hub. The purpose was to provide transparent information on the impact of COVID. The website includes information about COVID-19 cases in the county such as demographics (race, ethnicity, age, gender, etc.), occupations most impacted, percentage of lab confirmed cases and more. This was the first detailed county-level dashboard in the state.

DCoDPH staff continually communicated with response partners, stakeholders and Durham residents during the response. Public messaging is shared using the DCoDPH website, social media, radio, the press, print media, email digests designed for medical providers, businesses and the general public as well as other effective means. Messaging has included information about social distancing, mask use, handwashing, COVID-19 vaccination, COVID-19 testing, community resources for food, childcare, financial assistance and more. Most messaging has occurred in English and Spanish to best serve all Durham County residents. Because of the disproportionate impact of COVID-19 on people of color, care has been taken to disseminate public health messages on Spanish-language radio, Latinx Facebook groups, Black or African American publications and other avenues targeting these populations. Another notable method, the federally established Wireless Emergency Alert system, was used to send COVID-19 information to the cell phones of nearly all Durham County residents on November 24, 2020.

DCoDPH has been involved in nearly every aspect of the county's response to COVID-19. DCoDPH staff have assisted with food security for Durham County residents, which required collection of information about cases and contacts, connecting affected residents with food resources and even personally delivering items to residents in need of food and other household necessities. DCoDPH, along with six other counties in the local region, collaborated with Duke Health to secure funding from NC DHHS to support community-based organizations in the distribution of food, COVID-19 supplies, and relief payments to assist individuals/families during their isolation/quarantine period.

As of late December 2020, Pfizer and Moderna vaccines for SARS-CoV-2 had been issued emergency use authorizations by U.S. Food and Drug Administration. The rapid development of two viable vaccines in less than one year is a remarkable feat, but the speed with which these vaccines were developed has also caused concerns among people who could benefit from vaccination. The effort to vaccinate every willing Durham County resident against COVID-19 will face complex logistical, operational and communications challenges, but Durham County Department of Public Health will overcome these challenges through the strength of partnerships and the dedication of staff. In January 2021, Duke Health and DCoDPH set up one of the first community-based vaccination sites in the state with the intentional focus of reaching historically marginalized populations. The site, in partnership with Durham Public Schools, was intentionally located in a high school in the area of Durham County that experienced the highest burden of COVID-19.

During 2020, there were 15,338 laboratory confirmed cases of COVID-19 and 141deaths due to COVID-19 in Durham County.[iii]

Primary Data

2019 Durham County Community Health Assessment Survey

During the 2019 Durham County Community Health Assessment Survey, respondents were asked one question focused on the resident's response to an emergency.[iv] Residents were asked "If you couldn't remain in your home, where would you go in a community-wide emergency?" The figures

13.01(a) and (b) illustrate the responses from the 2019 county wide sample and the survey of Hispanic or Latino neighborhoods.

Respondents to both the county wide and Hispanic or Latino neighborhood survey planned to stay with a relative or friend if there were not able to remain in their home during an emergency (45.1% and 38.8%, respectively).[v, vi] Emergency shelters were the second most common response to this question in both populations. In the County wide survey, 16.6% of respondents selected this option, while 20.2% of Hispanic/Latino community respondents provided this answer.[vii, viii] Many respondents did not know where they would go during a county-wide emergency; 16.2% in the county-wide survey and 13.4% in the Hispanic/Latino survey.[ix, x]

The results of the 2017 Durham County Community Health Assessment survey showed the same three responses also ranked first, second and third.[xi]

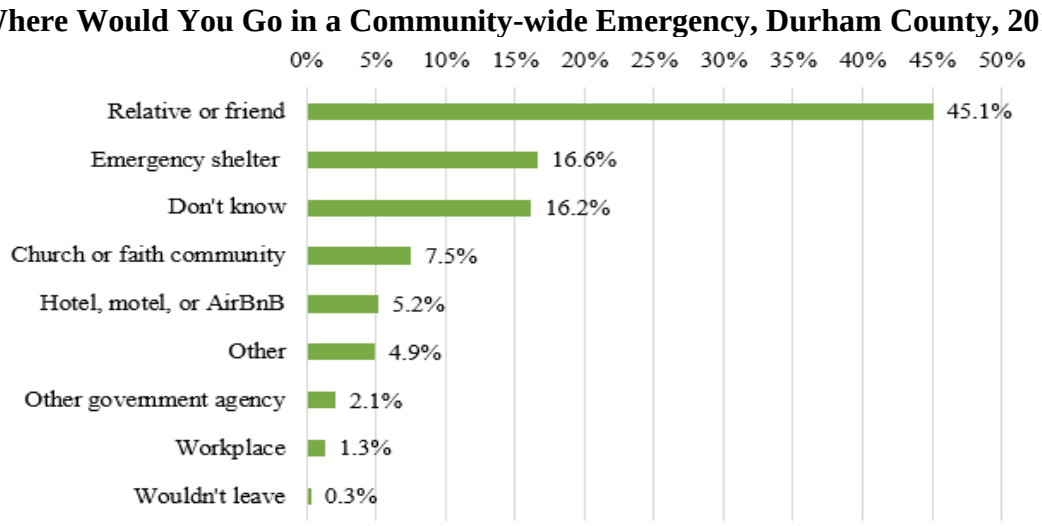


Figure 13.01(a): Responses to Where Would You Go in a Community-wide Emergency – County-wide Sample Results, Durham County, 2019[xii]

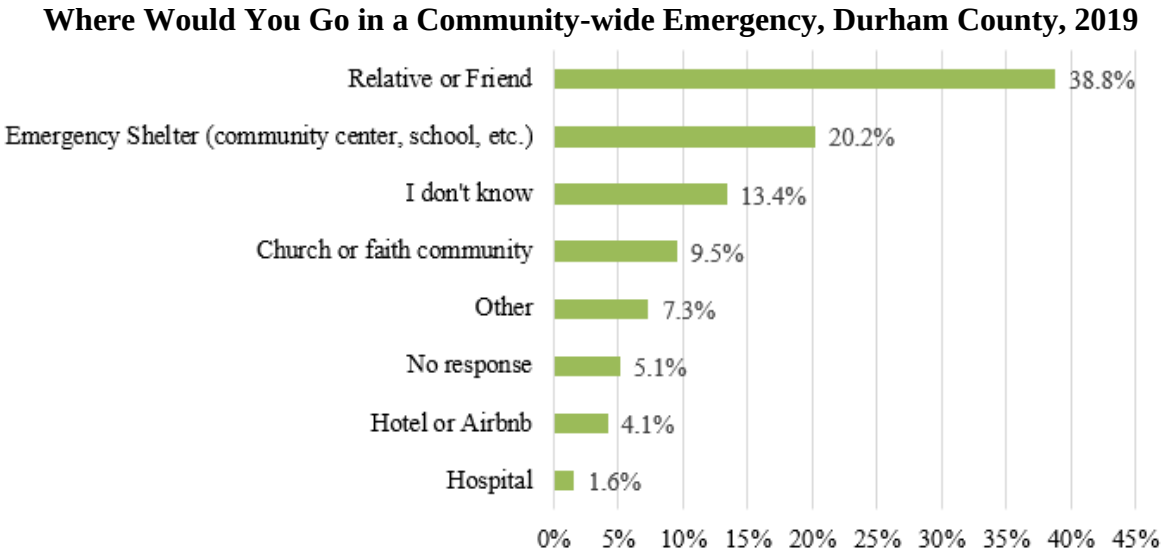


Figure 13.01(b): Responses to Where Would You Go in a Community-wide Emergency – Hispanic/Latino Neighborhood Sample Results, Durham County, 2019[xiii]

Interpretations: Disparities, Gaps, Emerging Issues

Examination of the 2019 Community Health Assessment Survey responses identified gaps related to community preparedness. As the second most frequent destination for respondents in both the county wide and Hispanic or Latino neighborhood survey, activating and operating emergency shelters are critical functions in Durham County's response to county-wide emergencies. Shelter planning, coordination and support fall under the CDC's Public Health Emergency Preparedness and Response mass care capability.[xiv] The potential gaps identified fall into two broad categories: shelter capacity and shelter avoidance.

Shelter Capacity

A sizeable portion of respondents in both the county-wide and Hispanic and Latino neighborhood surveys stated that they would utilize an emergency shelter if a community-wide emergency forced them to leave their home (16.6% and 20.2%, respectively).[xv, xvi]

Shelter Avoidance

Reasons frequently given by respondents for not using an emergency shelter included concern about pets, perception about the seriousness of the situation, uncertainty about where to go and concerns about personal or family safety.

One critical emerging issue related to sheltering must be recognized, which is the ongoing COVID-19 pandemic. The COVID-19 pandemic is an emergent issue that has required federal, state, local and non-governmental organizations involved in emergency sheltering to implement control measures than can protect shelter residents from COVID-19.

Recommended Strategies

- **Shelter Capacity** With a sizeable portion of respondents in both the county-wide and Hispanic and Latino neighborhood surveys stating that they would utilize an emergency shelter (16.6% and 20.2%, respectively), agencies involved with Durham County Mass Care planning, coordination and operations (e.g. Durham County Emergency Management, Durham County Department of Social Services (DSS), Durham County Department of Public Health, etc.) must incorporate high rates of shelter utilization into mass care planning and execution.[xvii, xviii] Shelter planning and operation must also incorporate non-English language messaging to ensure the County meet the needs of the 18.1% of Durham residents who speak a language other than English at home.[xix] Current shelter plans incorporate translation services to serve the needs of non-English speakers, but it is critical that language does not become a barrier to shelter utilization.
- **Shelter Avoidance** Residents reported that concern about their pets, perception about the seriousness of the situation, uncertainty about where to go and concerns about personal or family safety. These concerns highlight the importance of routine and crisis communications regarding emergency sheltering. Current sheltering plans make provisions for shelter users who arrive with pets and law enforcement is provided at all shelters to ensure the safety of shelter residents. Communicating this information to residents would serve them well in a time of emergency. Timely and accurate communications will also be necessary to inform residents of the risks and challenges of any emergency situation and of steps that can reduce those risks, including using an emergency shelter.
- **Equity** Shelter planning, and emergency planning in general, must be developed to address inequities in vulnerable or historically marginalized populations. Future planning efforts should focus on how DCoDPH can best serve all Durham residents, using strategies such as trusted community communicators, inclusive planning groups, etc. Adding additional preparedness questions to future community health assessments will aid DCoDPH in identifying and address inequalities preparedness and gaps in planning.
- **COVID-19** To protect shelter residents from the introduction and spread of COVID-19, Durham County Department of Public Health has added provisions for COVID-19 screening, enhanced cleaning and disinfection, social distancing and hand hygiene to shelter procedures. Durham County Emergency Management, Durham County Department of Public Health, Durham County DSS and other shelter partners of all types (i.e., federal, state, local and non-governmental) are continuing to develop and pursue shelter strategies that incorporate COVID-19 precautions while maximizing shelter utility.

Current Initiatives & Activities

Durham County Department of Public Health: The Durham County Department of Public Health has a full-time Public Health Preparedness Coordinator who develops Durham County Department of Public Health's plans for responding to public health needs after natural and man-made disasters, communicable disease outbreaks and any other event that requires public health preparedness capabilities. The Preparedness Coordinator also works to provide training and exercises, as well as outreach activities, for Durham County Department of Public Health, local

community partners and community groups, and participates in the Durham County Local Emergency Planning Committee. More information is available at https://www.dcopublichealth.org/services/environmental-health/public-health-preparedness.

References

[i] cdc.gov [Internet]. Public health emergency preparedness and response capabilities. Atlanta (GA): Centers for Disease Control and Prevention; 2018 Oct, updated 2019 Jan [cited 2020 Nov 4] Available from: https://www.cdc.gov/cpr/readiness/00_docs/CDC_PreparednesResponseCapabilities_October2018_Final_508.pdf

[ii] cdc.gov [Internet]. Public health emergency preparedness and response capabilities. Atlanta (GA): Centers for Disease Control and Prevention; 2018 Oct, updated 2019 Jan [cited 2020 Nov 4] Available from: https://www.cdc.gov/cpr/readiness/00_docs/CDC_PreparednesResponseCapabilities_October2018_Final_508.pdf

[iii] dcopublichealth.org [Internet]. Durham (NC): Durham County Public Health; c2020 [cited 2020 Dec 2]. Available from: https://durhampublichealth-durhamnc.hub.arcgis.com/

[iv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[v] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[vi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[vii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[viii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[ix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[x] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2017 Durham County community health assessment survey [Internet]. Durham (NC); c2017 [cited 2020 Nov 11]. Available from: http://healthydurham.org/cms/wp-content/uploads/2018/03/2017-CHA-FINAL-DRAFT.pdf

[xii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xiii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xiv] cdc.gov [Internet]. Public health emergency preparedness and response capabilities. Atlanta (GA): Centers for Disease Control and Prevention; 2018 Oct, updated 2019 Jan [cited 2020 Nov 4] Available from: https://www.cdc.gov/cpr/readiness/00_docs/CDC_PreparednesResponseCapabilities_October2018_Final_508.pdf

[xv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xvi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xvii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[xviii] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Nov 11]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf

[xix] data.census.gov [Internet]. American Community Survey: language spoken at home, table ID S1601. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=language&g=0500000US37063&tid=ACSST1Y2019.S1601&hidePreview=true

Older Adults and Adults with Disabilities

This chapter includes:

- Older adults and adults with disabilities

Older adults & adults with disabilities

Overview

Durham County is experiencing a significant growth in the number and proportion of older adults due to longer life spans and aging baby boomers. This increase in the number of older adults will have a significant social and economic impact in Durham County, but also presents an opportunity to embrace older adults as a vital asset in which they contribute their experience and leadership, while continuing to add economic diversity as employers, employees and consumers. Additionally, the number of adults 18 to 64 years old who are living with a disability is growing in Durham.[ii]

"Durham is a thriving, vibrant, diverse, and inclusive community that respects and values aging adults of all races, abilities, and socio-economic status. It offers abundant opportunities for all residents to engage, live, work, worship, learn, play, and age-in community with dignity by building a sense of belonging."[i]

-Durham Master Aging Plan Vision

COVID-19

COVID-19 is significantly impacting older adults due to their increased risk of hospitalization and death.[iii] As of December 2020, adults aged 65 to 74 have represented 6% of all COVID-19 cases but accounts for 19% of deaths in Durham County. Adults age 75 and older have represented 4% of cases but represent 50% of all deaths in Durham County.[iv] Skilled nursing facilities are particularly vulnerable to COVID-19 due to the communal nature of these facilities and the population they serve.[v] As of December 2020, 116 COVID-19 cases have been reported among skilled nursing facilities residents, resulting in 16 deaths in Durham County.[vi] Social distancing, a key COVID-19 mitigation strategy, has resulted in social isolation, anxiety, depression, poor sleep quality and physical inactivity among older adults and adults with disabilities.[vii] Older adults and adults with disabilities have reported delaying or avoiding medical care because of COVID-19 related concerns, with 60% of adults with disabilities avoiding routine care appointments.[viii]

Primary Data

The results of the 2019 Durham County Community Health Assessment Survey reveal that 25% of Durham County residents believe transportation to be the number one resource that would improve the quality of life for older adults.[ix] The next most cited resources were housing (18%), health coverage for services not covered by traditional Medicare (16%), financial support (13%), and social supports or programs (13%).[x] Additionally, when asked what their primary causes of stress were, 32% of Durham County residents indicated that it was their own illness while 26% reported it was caring for a family member with a chronic illness.[xi]

Secondary Data

Demographics

In 2030, the last baby boomers will turn 60. Table 14.01(a) shows the aging of Durham County and North Carolina. Although Durham County will have a slightly smaller proportion of older adults when compared to North Carolina, the number of older adults in Durham County will grow from 38,886 to 71,812, which is an 84.7% increase in 21 years.[xii]

Demographic Trends in Durham County and North Carolina, 2018 and 2039

Ages	Durham			North Carolina		
	2018	2039	% Change	2018	2039	% Change
0 – 17	23.5%	22.7%	+26.6%	22.7%	20.6%	+14.9%
18 – 44	40.7%	38.4%	+23.4%	35.5%	34.6%	+21.1%
45 – 64	23.3%	21.3%	+19.5%	26.1%	23.8%	+13.3%
65+	12.5%	17.6%	+84.7%	16.1%	21.1%	+62.5%
Total Population	311,163	407,324	+30.9%	10,389,148	12,919,921	+24.4%

Table 14.01 (a) Demographic Trends in Durham County and North Carolina, 2018 and 2039[xiii]

Race of Adults 65 and Older in Durham County, 2018 and 2039

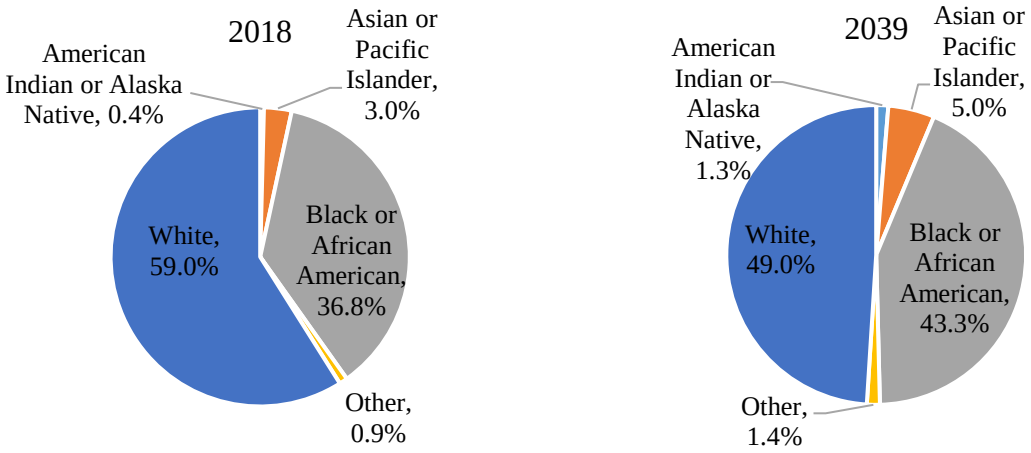


Figure 14.01(b) Race of Older Adults in Durham County, 2018 and 2039[xiv]

Figure 14.01(b) shows that Durham County will grow in its diversity. This data is important as there are documented disparities in health outcomes, physical function and longevity based on race and ethnicity among all age groups, but especially among older adults in the United States.[xv] The 2018 population estimate and 2039 population projection from the North Carolina Office of State Budget and Management does not include Hispanic data by age. The 2018 five-year estimate from the United States Census Bureau estimates that 2.8% of adults age 60 and older in Durham County are Hispanic or Latino origin (of any race).[xvi]

Economic Security for Older Adults

Table 14.01(c) shows that in 2018, 16% of adults 60 years and older in Durham County were living in or near poverty.[xvii] Across the United States, income varies dramatically by race. In 2016, the national median income for Non-Hispanic white Medicare beneficiaries was $30,050, $17,350 for Non-Hispanic Blacks or African Americans and $13,650 for Hispanics.[xviii] Health care costs can pose a substantial financial burden for poor and low-income older adults. It is one of the contributing factors as to why older adults who are at or near the poverty level are more likely to report poorer health status than older adults with higher incomes.[xix]

Poverty Status of Older Adults in Durham County and North Carolina, 2018

Poverty Status in the Past 12 Months (60 years and over)	Durham County	North Carolina
Below 100 percent of the poverty level	8.9%	9.9%
100 – 149 percent of the poverty level	7.1%	10.4%
With Supplemental Security income	5.0%	6.1%
With cash public assistance income	1.2%	1.4%
With Food Stamp/SNAP benefits	10.3%	9.4%

Table 14.01(c) Poverty Status of Older Adults in Durham County and North Carolina, 2018[xx]

Affordable housing continues to be an issue in Durham County, but especially among older adults. It is estimated that almost half of the poorest older adults (those earning less than 50 percent of the area median income) pay more than half of their income for housing.[xxi] For every unit of United States Department of Housing and Urban Development Section 202 housing (Supportive Housing for the Elderly Program) that becomes available, ten older adults remain on the waiting list.[xxii]

Housing Status of Older Adults in Durham County and North Carolina, 2018

Housing (60 years and over)	Durham County	North Carolina
Owner-occupied housing units	72.6%	80.0%
Gross rent 30 percent or more of household income	24.4%	23.9%
Renter-occupied housing units	27.4%	19.8%
Gross rent 30 percent or more of household income	55.8%	49.2%

Table 14.01(d) Housing Status of Adults in Durham County and North Carolina, 2018[xxiii]

Adults with Disabilities

Adults with disabilities when compared to their non-disabled peers are less likely to have private or employer-funded health insurance and access to preventative services, more likely to report unmet health care needs, have lower social determinants of health (from poverty to unemployment to social isolation), resulting in poorer health outcomes.[xxiv]

Disability Data of Adults in Durham County and North Carolina, 2018

Age by Number of Disabilities	Durham County	North Carolina
18 to 34 years:		
With one type of disability	1.7%	3.5%
With two or more types of disability	0.7%	2.8%
35 to 64 years:		
With one type of disability	4.6%	7.1%
With two or more types of disability	4.7%	6.4%
65 to 74 years:		
With one type of disability	13.1%	14.6%
With two or more types of disability	9.6%	11.0%
75 years and over:		
With one type of disability	14.3%	18.8%
With two or more types of disability	28.4%	29.2%

Table 14.01(e) Disability Data of Adults in Durham County and North Carolina, 2018[xxv]

Interpretations: Disparities, Gaps, and Emerging Issues

Durham is a vibrant community in which many older adults and adults with disabilities are thriving and are healthily and safely aging in place. Durham continues to refine its safety net of social supports, focusing on those older adults and adults with disabilities who are disproportionately impacted by inadequate access to healthcare and long-term services and supports, social isolation and loneliness, lack of affordable housing, elder abuse and mistreatment, malnutrition and hunger. COVID-19 has tested this safety net, worsening many of these issues facing older adults and adults with disabilities.

Recommended Strategies

- Implement Durham's Master Aging Plan that includes the American Association of Retired Persons (AARP's) domains of livability (Outdoor Spaces and Buildings, Transportation, Housing, Social Participation, Respect and Social Inclusion, Civic Participation and Employment, Communication and Information, and Community and Health Services).
- Continue to support the Durham Community Resource Connections for Aging & Disabilities and its mission to facilitate a "no wrong door" model for long-term service and supports.
- Develop and deliver supportive services to persons with dementia who live alone.
- Make sure all direct care workers involved in the care of older adults and adults with disabilities earn a living wage.
- Reduce hunger and food insecurity among older adults and adults with disabilities through nutrition assistance programs, increasing the benefit amount, and simplifying the Food and Nutrition Services (e.g., FNS/SNAP) application.
- Expand Community Health Workers in Durham County to include older adults and adults with disabilities as they are the frontline public health workers who are trusted members of their community.

- Increase community capacity to recognize and report adult abuse, neglect, and exploitation through building an Elder Abuse Multidisciplinary Team.

Current Initiatives & Activities

Dementia Inclusive Durham serves a catalyst for enhancing the well-being of persons living with dementia and imagines a Durham where persons living with dementia are valued as individuals and are fully supported in their pursuit of quality of life and well-being. www.didnc.org

Durham Center for Senior Life offers a wide array of programs and services for older adults including an adult day health center, congregate meals, transportation, adult education, exercise classes, socialization, health promotion, caregiver support services, information referrals, and case assistance. www.dcslnc.org

Durham Community Resource Connections for Aging & Disabilities links resources within the community and strengthens relationships among long-term services and support providers through partnerships and collaboration so they can provide seamless access to services that enhance the lives of older adults and adults with disabilities. www.durhamcrc.org

Durham County Department of Social Services – Aging & Adult Services promotes the independence and dignity of older adults, persons with disabilities, and their families through a community-based system of opportunities, services, benefits, and protections. www.dconc.gov/government/departments-f-z/social-services/aging-and-adult-services

Durham Master Aging Plan is a five-year plan developed with community members and multisector partners using AARP's domains of livability and includes goals, objectives, and strategies that will foster lifelong community engagement, participation, and well-being for older adults in Durham County. www.healthyagingdurham.org

Durham's Partnership for Seniors is a coalition of service providers and community volunteers focused on improving the lives of older adults and advocates for older adult issues, promotes and facilitates partnerships, and identifies opportunities that may improve the quality of life for these Durham residents. www.healthyagingdurham.org

Meals on Wheels of Durham delivers a nutritious meal, a safety check, and a smile that serves as a lifeline to seniors of limited mobility. Services are available to any resident of Durham County who is homebound as the result of age, disability, or illness. www.mowdurham.org

Senior PharmAssist promotes healthier living for Durham seniors by helping them obtain and better manage needed medications and health education, Medicare insurance counseling, community referral, and advocacy. www.seniorpharmassist.org

References

[i] Black M, Howard-Martinez S. Durham Master Aging Plan, 2020-2025. Durham (NC): Durham Partnership for Seniors; c2019 [cited 2020 Dec 5].
[ii] data.census.gov [Internet]. American Community Survey, age by number of disabilities, table ID B18108. Washington, DC: United States Census Bureau: c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=b18108&g=0400000US37_0500000US37063&tid=ACSDT1Y2019.B18108&hidePreview=false
[iii] cdc.gov [Internet]. Coronavirus Disease 2019 (COVID-19): older adults. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Dec 6]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html
[iv] covid19.ncdhhs.gov [Internet]. NC DHHS COVID-19: Cases Demographics. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Dec 6]. Available from: https://covid19.ncdhhs.gov/dashboard/cases-demographics
[v] cdc.gov [Internet]. Coronavirus Disease 2019 (COVID-19): people who live in a nursing home or long term care facility. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Dec 6]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-in-nursing-homes.html
[vi] NC Department of Health and Human Services. COVID-19 ongoing outbreaks in congregate living settings [Internet]. Raleigh (NC): NC Department of Health and Human Services; c2020 [cited 2020 Dec 6]. Available from: https://files.nc.gov/covid/documents/dashboard/Weekly-COVID19-Ongoing-Outbreaks.pdf
[vii] Sepúlveda-Loyola W, Rodríguez-Sánchez I, Pérez-Rodríguez P, Ganz F, Torralba R, Oliveira DV, et al. Impact of social isolation due to COVID-19 on health in older people: mental and physical effects and recommendations. J Nutr Health Aging [Internet]. 2020 Sep 25 [cited 2020 Dec 6]. Available from: https://doi.org/10.1007/s12603-020-1469-2
[viii] Czeisler MÉ, Marynak K, Clarke KEN, Salah Z, Shakya I, Thierry JM, et al. Delay or avoidance of medical care because of COVID-19–related concerns — United States, June 2020. MMWR Morb Mortal Wkly Rep. 2020 Sep 11 [cited 2020 Dec 6];69(36):1250–7.
[ix] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[x] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[xii] osbm.nc.gov [Internet]. County/state population projections. Raleigh (NC): North Carolina Office of Budget Management; c2020 [cited 2020 Dec 11]. Available from: https://www.osbm.nc.gov/facts-figures/population-demographics/state-demographer/countystate-population-projections#ProjectionData
[xiii] osbm.nc.gov [Internet]. County/state population projections. Raleigh (NC): North Carolina Office of Budget Management; c2020 [cited 2020 Dec 11]. Available from: https://www.osbm.nc.gov/facts-figures/population-demographics/state-demographer/countystate-population-projections#ProjectionData

[xiv] osbm.nc.gov [Internet]. County/state population projections. Raleigh (NC): North Carolina Office of Budget Management; c2020 [cited 2020 Dec 11]. Available from: https://www.osbm.nc.gov/facts-figures/population-demographics/state-demographer/countystate-population-projections#ProjectionData
[xv] nia.nih.gov [Internet]. Goal F: understand health disparities related to aging and develop strategies to improve the health status of older adults in diverse populations. Bethesda (MD): National Institute on Aging; c2020 [cited 2020 Dec 11]. Available from: http://www.nia.nih.gov/about/aging-strategic-directions-research/goal-health-disparities-adults
[xvi] data.census.gov [Internet]. Population 60 years and over in the United States, table ID S0102. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=s0102&g=0400000US37_0500000US37063&tid=ACSST5Y2019.S0102&hidePreview=true
[xvii] data.census.gov [Internet]. Population 60 years and over in the United States, table ID S0102. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=s0102&g=0400000US37_0500000US37063&tid=ACSST5Y2019.S0102&hidePreview=true
[xviii] Jacobson G, Griffin S, Neuman T, Smith K. Income and assets of Medicare beneficiaries, 2016-2035 [Internet]. San Francisco (CA): KFF; 2017 Apr 21 [cited 2020 Dec 11]. Available from: https://www.kff.org/medicare/issue-brief/income-and-assets-of-medicare-beneficiaries-2016-2035/
[xix] Schoen C, Davis K, Willink A. Medicare beneficiaries' high out-of-pocket costs [Internet]. New York (NY): The Commonwealth Fund; 2017 May 12 [cited 2020 Dec 11]. Available from: https://www.commonwealthfund.org/publications/issue-briefs/2017/may/medicare-beneficiaries-high-out-pocket-costs-cost-burdens-income
[xx] data.census.gov [Internet]. Population 60 years and over in the United States, table ID S0102. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=s0102&g=0400000US37_0500000US37063&tid=ACSST5Y2019.S0102&hidePreview=true
[xxi] giagng.org [Internet]. Affordable housing. Arlington (VA): Grantmakers in Aging; c2020 [cited 2020 Dec 6]. Available from: https://www.giaging.org/issues/affordable-housing/
[xxii] giagng.org [Internet]. Affordable housing. Arlington (VA): Grantmakers in Aging; c2020 [cited 2020 Dec 6]. Available from: https://www.giaging.org/issues/affordable-housing/
[xxiii] data.census.gov [Internet]. Population 60 years and over in the United States, table ID S0102. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=s0102&g=0400000US37_0500000US37063&tid=ACSST5Y2019.S0102&hidePreview=true
[xxiv] cdc.gov [Internet]. Disability and health overview. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Dec 6]. Available from: https://www.cdc.gov/ncbddd/disabilityandhealth/disability.html
[xxv] data.census.gov [Internet]. American Community Survey, age by number of disabilities, table ID B18108. Washington, DC: United States Census Bureau; c2020 [cited 2020 Dec 5]. Available from: https://data.census.gov/cedsci/table?q=b18108&g=0400000US37_0500000US37063&tid=ACSDT1Y2019.B18108&hidePreview=false

LGBTQ+ Issues

This chapter includes:

- ❖ Barriers to healthcare
- ❖ Mental health
- ❖ Violence
- ❖ Chronic disease
- ❖ Infectious disease

Overview

Though increasing public support of marriage equality might indicate growing acceptance of the LGBTQ+ community, the LGBTQ+ community remains vulnerable to discrimination and stigma in North Carolina and nationally. Currently, no federal (or North Carolina state-level) non-discrimination laws exist to protect people on the basis of sexual orientation or gender identity in employment, housing and public accommodations. Though some states and local governments, including Durham County, have passed non-discrimination legislation for government employees, more than three out of five U.S. residents live in a jurisdiction without such protections according to the Human Rights Campaign.[i] Discrimination, stigma and lack of federal or state protection result in poorer health outcomes for people who identify as LGBTQ+.

Barriers to health care, higher rates of unemployment, mental health issues, higher rates of chronic and infectious disease and in extreme cases, being victims of violence are just a few examples of health concerns faced by the LGBTQ+ community. These topics are by no means exhaustive.

The term "LGBTQ+" refers to a diverse community of people who identify as lesbian, gay, bisexual, transgender, queer, questioning and other self-identifying terms related to gender and sexuality. This chapter will use the umbrella term LGBTQ+ to refer to people within this community, as well as descriptors like same-sex or different-sex in reference to couples, while recognizing that these terms are not all-encompassing or monolithic. Nor is identifying as LGBTQ+ the only component of a person's identity. Indeed, race, class and immigration status are additional elements of a person's identity that can compound the stigma and discrimination already faced as a member of the LGBTQ+ community.

North Carolina is home to many members of the LGBTQ+ community. A 2019 Williams Institute national survey indicates that LGBTQ+ adults 18 and older represent four percent of the North Carolina population.[ii] This is consistent with the 2016 Durham County Community Health Survey, where approximately 4% of residents personally identified as gay, lesbian, or bisexual (the options provided on the 2016 survey).[iii] Notably with some affirming changes to the survey options in self-describing sexual orientation in the 2019 Durham County Community Health Assessment Survey, approximately 6.3% of residents personally identified as gay, lesbian, bisexual, queer or another sexual orientation.[iv]

Historically these rates have shown to be higher among Durham adolescents, where data from both the 2015 and 2017 Youth Risk Behavior Survey (YRBS) indicate as many as 10 to 12% of Durham high school students identified as gay, lesbian, or bisexual or unsure of their sexual orientation.[v,vi] "Our culture is opening up a little bit in certain areas so children feel safer coming out earlier."[vii] Both Duke University and the University of North Carolina have emerged to establish gender care practices to support adolescents in medical and mental health needs.

It is clear that many people who identify as LGBTQ+ call Durham home. This chapter will summarize the health challenges these community members may face on a daily basis as a result of stigma and discrimination, among other factors.

One clear and consistent theme that emerges is the dearth of reference data specific to Durham County to accurately depict the state of LGBTQ+ health in Durham. This mirrors national reports that conclude clearly that "point-in-time and longitudinal demographic data on sexual orientation, gender identity, and intersex status are needed to drive research agendas, monitor population trends, guide the equitable distribution of funding and other resources, and inform policies to advance equity by effectively addressing disparities affecting sexual and gender diverse populations."[viii] Thus, one of the aims of this only second-time chapter in the Durham County Community Health Assessment is to continue to present a baseline on which to build a greater understanding of the breadth of the LGBTQ+ specific healthcare challenges.

Key terms in this Chapter

Research on the experiences of LGBTQ+ communities uses a number of terms for sexual orientation and gender identity that are substantively distinct and not interchangeable. For the purposes of sharing a common language and nomenclature in this chapter, these are the definitions that will provide a framework within this chapter:

Cisgender - */"siss-jendur"/ – adj.*: A person who identifies with the gender that society assigns to them; someone who is not transgender. "Cis" is a latin prefix meaning "on the same side". You are cisgender if you do not feel conflict with the gender assigned to you at birth. Cis people can still be gender nonconforming

Cisnormativity – *noun*: the assumption, in individuals or in institutions, that everyone is cisgender, and that cisgender identities are superior to trans or queer identities or people. Leads to invisibility of non-cisgender identities

Gender expression - *noun*: The visual, interpersonal, and behavioral methods that people use to express their gender identity. This can include personal grooming, clothing, body language, vocabulary, intonation, vocal pitch, and other behaviors.

Gender identity - *noun*: One's innermost concept of self as male, female, a blend of both or neither – how individuals perceive themselves and what they call themselves. One's gender identity can be the same or different from their sex assigned at birth (i.e., the biological sex listed on their birth certificate)

Gender minority - *adj.*: A person who does not identify with the gender assigned to them at birth (and may identify as transgender, genderqueer, gender fluid, gender nonconforming, or something else)

Gender non-conforming - *adj*: A gender identity label that indicates people who do not subscribe to gender expressions or roles expected of them by society. Anyone who does not fit neatly into a gender role. Often abbreviated as "GNC"

Heteronormativity – *noun*: the assumption, in individuals or in institutions, that everyone is heterosexual (e.g. when learning a woman is married, asking her what her husband's name is) and that heterosexuality is superior to all other sexualities. Leads to invisibility and stigmatizing of

other sexualities. Heteronormativity also leads us to assume that only masculine men and feminine women are straight

Intersex – *adj.*: An umbrella term used to describe a wide range of natural variations in sex characteristics that do not seem to fit typical binary notions of male or female bodies. Intersex may also be used as an identity term for someone with one of these conditions.

LGBTQ+ - Abbreviation for terms sexual- and gender-minority people may self-identify with (i.e., lesbian, gay, bisexual, transgender, or queer), with the "+" signifying that there are many others that may not be comprehensively represented by this acronym.

Non-binary - *adj.*: A person whose gender identity does not fit the strict man/woman dichotomy. Some non-binary people feel that their gender identity is between man and woman, is simultaneously fully man and fully woman, changes from man to woman and back, is a separate entity without connection to man or woman, is similar to either man or woman but is not quite either, is entirely neutral, or does not exist at all.

Queer - *adj.*: an umbrella category used to define the whole LGBTQ+ community or as an alternative to the labels lesbian, gay, and bisexual. Due to its historical use as a derogatory term, it is not embraced or used by all members of the LGBTQ community.

Sexual minority - *adj.*: A person who reports same-sex attraction, same-sex sexual behavior, or a nonheterosexual identity

Transgender - *adj.*: Transgender is used to describe people whose gender identity is different from what is typically associated with the sex assigned to them at birth. Many transgender people are women or men, while many others have a different gender identity, such as non-binary, gender fluid, genderqueer, gender diverse or gender expansive.

[i] hrc.org [Internet]. Human Workplace discrimination laws and policies. Washington, DC: Human Rights Campaign; c2020 [cited 2020 Dec 20]. Available from: https://www.hrc.org/resources/Workplace-Discrimination-Policies-Laws-and-Legislation

[ii] williamsinstitute.law.ucla.edu [Internet}. LGBT proportion of population: North Carolina. Los Angeles (CA): The Williams Institute, UCLA School of Law; 2019 Jan [cited 2020 Dec 20]. Available from: https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT&area=37#about-the-data

[iii] Partnership for a Healthy Durham; Durham County Department of Public Health. Durham County 2016 community health assessment survey results [Internet]. Durham (NC); c2019 [cited 2020 Dec 20]. Available from: http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf

[iv] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf

[v] Durham County Department of Public Health. Durham County youth risk behavior survey 2015 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools. c2016 [cited 2020 Dec 20]. 6 p. Available from: http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf

[vi] Durham County Department of Public Health. Durham County youth risk behavior survey 2017 report [Internet]. Durham (NC): Durham County Department of Public Health, Durham Public Schools; c2017 [cited 2020 Oct 6]. Available from: https://healthydurham.org/cms/wp-content/uploads/2018/11/2017-Youth-Risk-Behavior-Report-FINAL.pdf

[vii] Yarnell L. How to support your LGBTQ+ kid when he, she, or they come out [Internet]. Harlan (IA): Good Housekeeping, Hearst Magazine Media, Inc; 2020 Dec 15 [cited 2020 Dec 20]. Available from: https://www.goodhousekeeping.com/life/parenting/a33644181/how-to-support-your-lgbtq-kids-coming-out/

[viii] National Academies of Sciences, Engineering, and Medicine. Understanding the well-being of LGBTQI+ populations. Washington, DC: The National Academies Press; c2020 [cited 2020 Dec 20]. 436 p.

Section 15.01 *Barriers to healthcare*

Overview

The LGBTQ+ community is a diverse group of individuals of all genders and sexualities who face health disparities linked to discrimination and societal stigma. Community members' intersecting identities of race, ethnicity, religion, and economic class compound the fact that LGBTQ+ people are discriminated against at much higher rates than heterosexual people. This results in higher rates of physical, psychological, and social health disparities such as social phobia, depression, preventable diseases, substance abuse, and even suicide. Experiences of discrimination, assault and victimization are also frequent among members of the LGBTQ+ community and have long-lasting effects.

In particular, transgender people have not always benefited from seeking health care services; due to misunderstanding by professionals and the creation of a gateway system. This unhealthy relationship between the transgender community and healthcare professionals raises many doubts for the role of health services in the lives of transgender people. Transgender people are less likely than cisgender people to have their healthcare needs met; this can be anything from vaccines and asthma, to screening for diseases and mental health services.[i]

In healthcare, stigma, lack of cultural sensitivity, and unconscious and conscious neglect in addressing sexuality and gender impact the effectiveness of care. Bias and discrimination in health care settings are unethical and affect the physical, mental and social well-being of those seeking services. Many LGBTQ+ people avoid or delay seeking healthcare because of past negative experiences, structural barriers, or an overall lack of education among providers. Similar to many oppressed or marginalized groups of people, LGBTQ+ individuals are at an increased risk for mental and physical health problems.[ii]

Primary Data

LGBTQ+ people have seemingly been left out when collecting data regarding healthcare. Healthcare forms are primarily heteronormative and cisnormative and thus lack the opportunity to collect or recognize data for LGBTQ+ persons. Primary data related to healthcare services, such as rates of LGBTQ+ provider services, insurance coverage for LGBTQ+ people, and research suggesting LGBTQ+ health disparities and/or comorbidities have not been collected at the county or state level for the LGBTQ+ population. There is a strong need for more research to document, understand, and address the environmental factors that contribute to health disparities in the LGBTQ+ community in Durham.

Secondary Data

Stigma

Gender and sexuality can be considered invisible identities. Many people who seek services may keep information regarding their gender or sexual identity hidden which prevents them from getting adequate and comprehensive services from providers. This is mostly due to fear of discrimination and a lack of trust with the healthcare field. LGBTQ+ individuals who keep their sexuality hidden are at an increased risk of psychological distress.[iii] This also prevents them from accessing group-based coping resources that buffer against the negative effects of stigma. In a 2017 study, one in six LGBTQ+ people have avoided health care when they needed it for fear of discrimination.[iv] According to the 2015 U.S. Transgender Survey (USTS), 23% of transgender respondents had not sought care they needed in the last year for fear of mistreatment.[v]

Discrimination

LGBTQ+ individuals seeking services are also more likely to be discriminated against.[vi] According to a Lambda Legal study, more than half of all respondents reported that they have experienced at least one of the following types of discrimination in care: being refused needed care, health care professionals refusing to touch them or using excessive precautions, health care professionals using harsh or abusive language, being blamed for their health status or health care professionals being physically rough or abusive.[vii] While 56% of lesbian, gay, bisexual (LGB) participants felt discriminated against, 70% of transgender and gender non-conforming participants had these negative experiences of discrimination.[viii] The 2015 USTS, focusing on discrimination of transgender people in healthcare, found that 50% of the participants had to teach their physician how to care for them, 28% experienced verbal harassment in medical settings, 19% had been refused medical care and two percent had been physically assaulted in a physician's office.[ix]

In recent years, constant threats to transgender healthcare (by rolling back the protections under the Affordable Care Act's (ACA) nondiscrimination provision, also known as Section 1557), and transgender service in the U.S. Military have represented discriminatory policies on a federal level.[x,xixii]

Education

According to a survey provided by Carolina Partners in Mental Healthcare, in a sample of 268 clinicians, over 65% of clinicians felt they needed more education on LGBTQ+ focused issues. LGBTQ+ comprehensive education is not provided in most graduate or medical programs concentrated on health professions.[xiii] Most clinicians have found that workshops or continued education on LGBTQ+ issues are a necessity to providing comprehensive clinical care.

Insurance

In the United States, 8 percent of people, or 26.1 million, did not have health insurance at any point during the year 2019.[xiv] Transgender people are the least likely to have access to healthcare and specifically access to insurance.[xv] Transgender people are less likely to be employed, have more difficulty obtaining documents with the appropriate name and gender and have more difficulty applying for public insurance.[xvi]

In 2013, the Center for American Progress released a study on health insurance. LGBTQ+ Americans are more likely to be uninsured than their heterosexual peers.[xvii] North Carolina remains one of 37 states in the U.S. that does not expressly prohibits health insurance discrimination based on sexual orientation and gender identity.[xviii] In fact the State of NC is a defendant in an ongoing 2016 lawsuit for reducing healthcare services to transgender patients in the state employee health care plan.[xix]

In addition to fear of denial of care, keeping identities hidden and retroactive denial of care, finding a provider, making copayments and travel expenses are just a few of many barriers to healthcare for the LGBTQ+ community. Eliminating LGBTQ+ barriers to service and enhancing efforts to improve LGBTQ+ health care is necessary to ensure that LGBTQ+ individuals can lead long, healthy lives. There are many benefits of addressing health concerns and reducing disparities for the community but education is the first step to providing quality and comprehensive services for the community.

Interpretations: Disparities, Gaps, Emerging Issues

When discussing LGBTQ+ limited access to healthcare, the focus is most often directed to illnesses and diseases that are more common or severe in these communities. Physical, mental, and social well-being are all critical parts of wellness. Access to health care that is safe and does not discriminate is important for overall wellness.

Gaps

- Lack of data
- No accurate representation of LGBTQ+ clients in healthcare
- Lack of education for healthcare providers
- Lack of accountability for turning away clients
- Lack of financial ability to seek adequate education to provide services

Emerging Issues

- Non-binary, gender fluid, and gender non-conforming identities are emerging in favor of the strict binary genders (and medical transitions) associated with “trans men” and “trans women.”

- Transgender and gender non-binary youth are experiencing acceptance in school and with peers but not at home
- Political figures denouncing identities and creating more stigma
- Gender segregation in Durham Public Schools

Unfortunately, there are few LGBTQ+ specific prevention services to deal with violence victimization, substance abuse, mental health concerns and other health care needs, except in large metropolitan areas. Even then, most of these services have not been as thoroughly evaluated as HIV prevention services focusing on gay men. There is a large need for health care competency, inclusive sexuality education and educational programs that discuss LGBTQ+ disparities.

Recommended Strategies

A number of issues will need to continue to be evaluated and addressed, including:

- Collecting sexual orientation and gender identity data in health-related surveys and health records in order to identify LGBTQ+ health disparities
- Appropriately inquiring about and being supportive of a patient's sexual orientation and gender identity to enhance the patient-provider interaction and regular use of care
- Providing medical students with training to increase provision of culturally competent care
- Implementing anti-bullying policies in schools
- Providing supportive social services to reduce suicide and homelessness among youth
- Nationally representative data on LGBTQ+ Americans
- Prevention of violence and homicide toward the LGBTQ+ community, and especially the transgender population
- LGBTQ+ elder health and well-being
- Exploration of sexual/gender identity among youth
- Need for a LGBTQ+ wellness model
- Need for LGBTQ+ and specifically transgender-oriented sexual health education
- Recognition of transgender health needs as medically necessary

Current Initiatives & Activities

LGBTQ Center of Durham's mission is to creating visibility, encouraging partnerships, fostering community, stand for justice, and simply provide Durham with a "Family Room." https://www.lgbtqcenterofdurham.org/

Gender and Sexual Diversity Initiative offers dynamic, interactive, and educational trainings for healthcare providers around best practices for working with LGBTQ+ individuals. From social service and medical providers, to everyday workplace employees, our goal is to improve the climate and support systems for LGBTQQIA+ communities in their everyday environments by fostering understanding, imparting knowledge, and providing strategies for creating safe and affirming environments. https://www.mindpathcare.com/gender-sexual-diversity-initiative

Duke Hospital Gender Care is part of the Duke University Health System and is designated as 2020 Leader in LGBTQ Healthcare Equality by the HRC's Healthcare Equality Index. There are adult and child/adolescent gender clinics available. The Adult Gender Medicine clinic provides gender-affirming hormone therapy. Referrals are available for LGBTQ-affirming mental health care through Duke Psychiatry. For more information on the adult clinic, see: https://www.dukehealth.org/treatments/adult-gender-medicine.

Duke Family Medicine Center offers a range of culturally sensitive and knowledgeable medical services for LGBTQ+ patients. The Center works with specialists throughout Duke to provide adult gender care, PrEP for people at high risk for HIV infection, gender affirming hormone therapy and gynecological care. For more information on the Duke Family Medicine Center, see: https://www.dukehealth.org/locations/duke-family-medicine-center

The Child and Adolescent Gender Care Clinic provides family-centered care to transgender and gender non-binary youth children and adolescents, as well as treatment for children with differences of sex development. The clinic staff includes pediatric mental health professionals with expertise in gender-affirming mental health care. There are also services available for spiritual care. For more information on the child/adolescent clinic, see: https://www.dukehealth.org/locations/duke-child-and-adolescent-gender-care

UNC Gender Care is part of UNC Hospitals and is designated as a 2020 Top Performer in the LGBTQ Healthcare Equality by the HRC's Healthcare Equality Index. There are young adult, child/adolescent, and free gender clinics available. The UNC Gender Equality Psychiatry clinic provides gender-affirming mental health care for transgender and gender non-binary children and young adults (ages 5 – 24 years). Mental health professionals in the clinic can provide assessments and supportive therapy. For more information, see: https://www.med.unc.edu/psych/patient-care/child-adolescent/outpatient/gender-equality-psychiatry-clinic/.

The Gender Affirming Care Clinic is a free student-run gender care, which can offer prescriptions for gender-affirming hormone therapy, primary care, and gender-affirming surgery letters of support. For more information, see: https://www.med.unc.edu/shac/services/clinics/medical/gendercare/.

Healing with CAARE's mission is to provide effective prevention and case management services to at-risk persons and their families in Durham by referring health and social resources that can alleviate isolation yet foster independence; to empower the population with preventative health education, counseling, and testing by establishing and maintaining networks and utilizing resources that address the health and social needs of the community ; and to provide decent housing that is affordable to low- to moderate-income people. https://www.caareinc.org/

Lincoln Community Health Center strives to be a provider of primary and preventive health care that is of high quality, culturally competent, efficient and customer-centered in a state-of-the-art facility in collaboration with other community partners. http://lincolnchc.org

Planned Parenthood Federation of America, Inc. is a nonprofit organization that provides reproductive health care in the United States and globally. https://www.plannedparenthood.org/health-center/north-carolina/durham/27704/durham-health-center-4171-90860

References

[i] Erickson-Scroth L. Trans bodies, Trans selves: A resource for the transgender community. Oxford (England): Oxford University Press; c2014 [cited 2020 Dec 20].
[ii] Erickson-Scroth L. Trans bodies, Trans selves: A resource for the transgender community. Oxford (England): Oxford University Press; c2014 [cited 2020 Dec 20].
[iii] Capuzzi D, Gross D, editors. Youth at risk: a prevention resources for counselors, teachers, and parents; sixth edition [Internet]. Alexandria (VA): American Counseling Association; c2014 [cited 2020 Dec 20]. Available from: https://www.counseling.org/Publications/FrontMatter/78083-FM.PDF
[iv] Discrimination in America: experiences and views of LGBTQ Americans. National Public Radio; Robert Wood Johnson Foundation; Harvard T.H. Chan School of Public Health; 2017 Nov [cited 2020 Dec 20]. Available from: https://www.rwjf.org/content/dam/farm/reports/surveys_and_polls/2017/rwjf441734.
[v] James SE, Herman JL, Rankin S, Kiesling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey [Internet]. Washington, DC: National Center for Transgender Equality; c2016 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF
[vi] Deschamps D. LGBTQ stats: lesbian, gay, bisexual, transgender, and queer people by the numbers. Health and Aging, The New Press; c2017 [cited 2020 Dec 20]. 72-89 p.
[vii] Tillery C, director, Somjen Frazer Consulting, data analysis, Hirshman R, drafting. When health care isn't caring: Lambda Legal's survey of discrimination against LGBT people and people with HIV [Internet]. New York (NY): Lambda Legal; c2010 [cited 2020 Dec 20]. Available from: www.lambdalegal.org/health-care-report
[viii] Tillery C, director, Somjen Frazer Consulting, data analysis, Hirshman R, drafting. When health care isn't caring: Lambda Legal's survey of discrimination against LGBT people and people with HIV [Internet]. New York (NY): Lambda Legal; c2010 [cited 2020 Dec 20]. Available from: www.lambdalegal.org/health-care-report
[ix] James SE, Herman JL, Rankin S, Kiesling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey [Internet]. Washington, DC: National Center for Transgender Equality; c2016 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF.
[x]lambdalegal.org [Internet]. Lambda Legal to HHS: health care discrimination against LGBT people is illegal. New York (NY): Lambda Legal; 2019 Aug 14 [cited 2020 Dec 20]. Available from: https://www.lambdalegal.org/news/us_20190814_health-care-discrimination-against-lgbt-people-is-illegal
[xi] Simmons-Duffin S. Transgender health protections reversed by Trump administration [Internet]. Washington, DC: NPR; 2020 Jun 12 [cited 2020 Dec 20]. Available from: https://www.npr.org/sections/health-shots/2020/06/12/868073068/transgender-health-protections-reversed-by-trump-administration
[xii] Arthur DC, Pollock G, Steinman AM, Frank N, Mazur DH, Belkin A. DoD's transgender ban has harmed military readiness [Internet]. Houston (TX): Palm Center; 2020 Nov [cited 2020 Dec 20]. Available from: https://www.palmcenter.org/wp-content/uploads/DoDs-Transgender-Ban-Has-Harmed-Military-Readiness-copy-3.pdf
[xiii] Survey of Mental Health Clinicians. Unpublished raw data. Carolina Partners in Mental Healthcare; 2016 Dec [cited 2020 Dec 20]. Confirmed January 29, 2018 with Adrienne Michelle, LMFT.
[xiv] Kiesler-Starkey K, Bunch L. Health insurance coverage in the United States: 2019 [Internet]. Washington, DC: United States Census Bureau; 2020 Sep 15 [cited 2020 Dec 20]. Available from: https://www.census.gov/library/publications/2020/demo/p60-271.html

[xv] Safer JD, Coleman E, Feldman J, Garofalo R, Hembree W, Radix A, Sevelius J. Barriers to healthcare for transgender individuals. Curr Opin Endocrinol Diabetes Obes. 2016 Apr [cited 2020 Dec 20];23(2):168-71. doi: 10.1097/MED.0000000000000227. PMID: 26910276; PMCID: PMC4802845. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4802845/

[xvi] Erickson-Scroth L. Trans bodies, Trans selves: A resource for the transgender community. Oxford (England): Oxford University Press; c2014 [cited 2020 Dec 20].

[xvii] Deschamps D. LGBTQ stats: lesbian, gay, bisexual, transgender, and queer people by the numbers. Health and Aging, The New Press; c2017 [cited 2020 Dec 20]. 72-89 p.

[xviii] lgbtmap.org [Internet]. Equality maps: healthcare laws and policies. Boulder (CO): Movement Advancement Project; c2020 [cited 2020 Dec 22]. Available from: https://www.lgbtmap.org/equality-maps/healthcare_laws_and_policies

[xix] Killian J. In North Carolina, the battle for transgender people's medical coverage heads to court [Internet]. Raleigh (NC): NC Policy Watch; 2019 Mar 12 [cited 2020 Dec 20]. Available from: http://www.ncpolicywatch.com/2019/03/12/in-north-carolina-the-battle-for-transgender-peoples-medical-coverage-heads-to-court/

Section 15.02 *Mental health*

Overview

In general, people with LGBTQ+ identities are more likely than cisgender, heterosexual individuals to have mental health concerns.[i] Mental health concerns among LGBTQ+ people are broadly linked with systemic oppression. Experiences of oppression are magnified for LGBTQ+ individuals with multiple marginalized identities. Systemic oppression may be more severe for LGBTQ+ people who are also Black, Indigenous, people of color, disabled, undocumented, living rurally or poor.[ii] In particular, Black transgender women and femmes experience some of the highest levels of oppression and violence in the U.S. There is a clear need to acknowledge and explore how the intersections of sexual orientation, gender identity, sex assigned at birth, race, ethnicity, culture, age, income, education, nationality, language, immigration status, veteran status, rurality and disability inform lived experiences, exposure to stress and trauma, access to healthcare, mental health outcomes and sources of resilience.

Secondary Data

Exposure to Stress and Trauma

LGBTQ+ mental health disparities are not due to any inherent psychological dysfunction of LGBTQ+ people.[iii,iv,v,vi,vii,viii,ix] Rather, these disparities are due to systemic oppression. LGBTQ+ communities endure lifelong cisgender normativity and heteronormativity. These communities also experience higher rates of trauma and violence, poverty, discrimination, lack of safe and accessible health care, incarceration, deportation and homelessness.[x]

Several psychological terms can help explain how stress and trauma affect mental health for LGBTQ+ people:

Adverse childhood experiences (ACEs) include a number of challenges or stressors that may occur during childhood (e.g., domestic violence, neglect, parental incarceration). These stressors have lasting effects on developing brains and can affect physical and mental health well into adulthood. For example, 20 to 40% of all homeless youth identify as LGBTQ.[xi] Youth homelessness represents just one example of an ACE that can have effects throughout a person's lifetime.

Historical trauma (also called intergenerational trauma) refers to "cumulative, multigenerational, collective experience of emotional and psychological injury in communities and in descendants."[xii] Historical trauma includes the legacy of oppression of Black and Indigenous people that dates back to the colonization of the U.S. and continues currently. Specific to LGBTQ+ communities, the history of oppressing LGBTQ+ people includes criminalizing sexual activity, discrimination, hate crimes and the widespread continuing failure to protect LGBTQ+ people from discrimination.

Psychological trauma encompasses "exposure to actual or threatened death, serious injury, or

sexual violence" (e.g., childhood physical/sexual abuse, domestic violence, sexual assault, physical assault, stalking).[xiii] In those who do not experience a natural recovery from posttraumatic symptoms in the days and months following a trauma, posttraumatic stress disorder (PTSD) may be diagnosed. Nationally representative data suggests that LGBTQ+ people in the U.S. are more likely than heterosexual, cisgender people to experience a traumatic event in their lifetime and experience psychological trauma at an earlier age.[xiv]

Severe stressors do not technically meet the definition of "psychological trauma," yet nonetheless cause distress. For example, the "psychological trauma" definition does not include psychological or financial abuse.[xv] These experiences can lead to PTSD-like symptoms.[xvi] Toxic stress (e.g., poverty, community violence) is relevant to LGBTQ+ people since they are more likely than heterosexual, cisgender people to live in poverty.[xvii] Additionally, neighborhood levels of LGBTQ+ hate crimes are linked to higher individual levels of bullying among LGBTQ+ youth.[xviii]

The Minority Stress Model explains how oppression is linked to psychological distress. Many LGBTQ+ people experience external minority stressors (e.g., anti-transgender "bathroom bills," hate crimes, derogatory slurs, and/or microaggressions), which can lead to internal minority stressors (e.g., expectations of rejection, concealment of gender identity/sexual orientation, and/or internalized stigma).[xix,xx,xxi,xxii,xxiii,xxiv] External minority stressors can also influence general psychological processes.[xxv] Mental health concerns are negatively affected by all of these facets of experience – external minority stress, internal minority stress and difficulties in general psychological processes. However, resilience factors, such as adaptive coping or LGBTQ+ community support can help reduce the effects of minority stress.

Mental Health Profession's Role in Pathologizing LGBTQ+ Identities

In mental health, the term "pathologizing" describes misinterpreting reasonable or adaptive behavior as pathological. Pathologizing LGBTQ+ identities in mental health professions can be perpetuated by the lack of training and education in LGBTQ+ affirming care. Additionally, the mental health field has a history of pathologizing LGBTQ+ identities.[xxvi] Until its removal from the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) in 1973, homosexuality was treated as a "sociopathic personality disorder."[xxvii] While the DSM-5 reclassified "Gender Identity Disorder" in 2013 as "Gender Dysphoria," which is no longer pathological, the diagnosis continues to be used to delegitimize transgender and gender non-binary identities.[xxviii]

There are also behavioral therapies that are explicitly designed to "convert" LGBTQ+ people to cisgender and/or heterosexual identities (conversion or reparative therapy).[xxix] In NC, Governor Cooper signed an executive order in August 2019 protecting minors from conversion therapy, but no such protection exists for adult LGBTQ+ patients.[xxx] This means that LGBTQ+ adults may receive conversion therapy, despite evidence that this unethical treatment invalidates identity, is ineffective and increases risk for negative mental health outcomes, including suicide.[xxxi,xxxii]

Interpretations: Disparities, Gaps, Emerging Issues

LGBTQ+ Mental Health Disparities

Mental health disparities experienced by LGBTQ+ adults in the U.S. have been documented. Some federal health surveys ask about sexual orientation. However, many surveys assume binary gender, do not distinguish between sex and gender and/or do not include expansive options for reporting sexual orientation. These shortcomings hinder research on mental health disparities among LGBTQ+ people. National and NC state-level surveys indicate that LGBTQ+ adults have more mental health concerns than cisgender, heterosexual people.[xxxiii,xxxiv,xxxv,xxxvi,xxxvii] Specific documented mental health disparities across the LGBTQ+ spectrum are described below.

Depression and anxiety are more likely among LGBTQ+ people compared to cisgender, heterosexual individuals.[xxxviii,xxxix,xl] Compared to heterosexual North Carolinians, sexual minorities in NC are three times as likely to be diagnosed with a depressive disorder.[xli] Among LGBTQ+ people, risk for depression and anxiety is linked to distal minority stressors including lack of LGBTQ+ legal protections, anti-LGBTQ+ legislation (e.g., NC Bill HB2) and policies (e.g., U.S. Department of Health and Human Services rules allowing religious-freedom based rejection of potential clients).[xlii] The Durham LGBTQ+ community experiences all of these systems-level minority stressors given overarching NC legislation and policies that fail to protect LGBTQ+ NC residents from systemic oppression.[xliii] Within the LGBTQ+ community, people who are bisexual, transgender and/or gender non-binary have the highest rates of depression and anxiety.[xliv,xlv] It is theorized that these groups have particularly high rates of depression and anxiety since they face specific types of bias (i.e., transphobia and biphobia) from both outside and within the LGBTQ+ community.[xlvi]

Suicide risk is elevated among LGBTQ+ adolescents and adults both nationally and in NC data.[xlvii] Suicide risk is linked to depression and anxiety symptoms, both of which are influenced by perceived LGBTQ+ stigma.[xlviii] Within the LGBTQ+ community, risk for suicide is elevated among bisexual individuals, transgender individuals and LGBTQ+ youth. Bisexual people are more likely than gay or lesbian people to report a history of suicidal thoughts.[1,xlix,l] Unlike straight adolescents, bisexual adolescents with suicidal ideation do not report a decrease in these thoughts as they age into adulthood.[li] Among transgender and gender non-binary adults, 82% have lifetime suicidal thoughts and 40% have a history of a suicide attempt.[lii] Suicide attempt history is high among Black, Indigenous, or People of Color (BIPOC) transgender people.[liii]

Non-suicidal self-injury is also more common among individuals in LGBTQ+ communities. It is defined as deliberate harm to one's own body without the intention to end one's life.[liv] Lifetime rates are 30% of sexual minorities, 47% of gender minorities and 15% of heterosexual and/or cisgender people).[lv] Non-suicidal self-injury is often used as a means to cope with intense, difficult

[1] While these rates are based on Canadian population data, they are still highly useful here because they distinguish the findings for bisexuals from those for gays or lesbians. Far more commonly, the literature on suicide among LGBT people breaks down the data by gender (that is, gay/bisexual men or lesbian/bisexual women; there are also some studies on transgender people) or looks at the LGBT community as a whole.

emotions or stressors. Similar to suicide, non-suicidal self-injury among LGBTQ+ individuals is also thought to have strong links to minority stress.[lvi] Across studies, lifetime rates of non-suicidal self-injury are particularly high among bisexual individuals (41%) and transgender individuals (47%).[lvii] As described above, these differences are theorized to be due to increased sources of bias experienced by bisexual and transgender individuals. The research over the past several decades about the lives and experiences of LGBTQ+ youth overwhelmingly links suicide, suicidality and non-suicidal self-injury with LGBTQ+ identity.[lviii,lix,lx,lxi]

Substance use and substance use disorders are reported more often by LGBTQ+ adolescents and adults compared with those that identify as cisgender and heterosexual.[lxii,lxiii,lxiv] Substances are often used to cope with LGBTQ+ minority stress.[lxv] Compared to heterosexual adults, sexual minority adults in the U.S. are more likely to report past-month binge drinking (36% vs. 27%) and past-year drug use (39% vs. 17%).[lxvi,lxvii] Sexual minority men are more likely to report inhalant use (i.e., "poppers," 7.5%) than straight men (0.3%) or sexual minority women (1.1%).[lxviii] In the United States, sexual minority women are more likely to endorse binge drinking, alcohol use disorder and tobacco use compared to straight women.[lxix] This is also true in North Carolina, specifically, where sexual minority women have higher rates of alcohol abuse and binge drinking compared to straight women.[lxx]

Drug use is also prevalent among transgender people in the U.S. (29%).[lxxi] In NC, over a quarter of transgender and gender non-binary people report using drugs or alcohol to cope with gender-related mistreatment.[lxxii]

Post-traumatic stress disorder (PTSD) is a psychiatric disorder that results from the experience of psychological trauma. Nationally, LGBTQ+ people are more likely than heterosexual and cisgender people to experience psychological trauma including childhood maltreatment and adult interpersonal violence.[lxxiii] Moreover, among people who have experienced trauma, LGBTQ+ people are more likely than heterosexual, cisgender people to report PTSD symptoms.[lxxiv]

Eating disorders (e.g., bulimia nervosa, binge eating disorder, anorexia) and/or disordered eating behaviors (e.g., dangerous eating/body behaviors such as bingeing, purging, restrictive eating, use of diet pills or anabolic steroids) are more common among LGBTQ+ adults and adolescents than heterosexual, cisgender individuals.[lxxv] Disordered eating can be affected by cultural body norms, misogyny, body dissatisfaction, other mental health concerns, emotion regulation difficulties and minority stress.[lxxvi] Importantly, despite popular beliefs related to low prevalence rates of disordered eating among BIPOC, recent evidence suggests eating disorders and disordered eating among BIPOC are either as prevalent or more prevalent than among white people.[lxxvii]

Barriers to Mental Health Care Access

LGBTQ+ Southerners face barriers to accessing mental health services. Mental health providers often lack training in LGBTQ-affirming care, which may lead them to invalidate their LGBTQ+ patient's identity.[lxxviii,lxxix] Compared to other places in the U.S., Southern LGBTQ+ adults are less likely to be able to afford healthcare and insurance.[lxxx,lxxxi] There may be additional barriers to care for transgender, gender non-binary and bisexual individuals.[lxxxii,lxxxiii]

Recommended Strategies

- Increased availability of quality, affirming, affordable mental health care (psychiatric medication management and talk therapy). This would require more providers with expertise in LGBTQ-affirming mental health (especially including gender care and culturally humble care for LGBTQ+ BIPOC), continuing education to improve provider skill, more LGBTQ+ and/or BIPOC providers, more providers with sliding scales/payment plans, more providers who accept Medicaid and Medicare and more opportunities for group psychotherapy.
- Increased community suicide prevention efforts. This may involve increasing access to treatment for suicide risk, crisis intervention community resource packets, implementing LGBTQ-affirming care in psychiatric emergency departments and widely disseminating Suicide Prevention Safety Planning Intervention at local centers, schools, and universities.
- Wider implementation of trauma-informed care for a variety of groups who serve LGBTQ+ adults and minors. The trauma-informed care model involves creating supportive environments, addressing oppression, being mindful of posttraumatic stress symptoms and actively linking survivors to appropriate mental health resources.
- Additional information about and resources for elders in the Durham LGBTQ+ community is needed, especially for LGBTQ+ elders who are transgender, gender non-binary, BIPOC, women and/or low-income.

Current Initiatives & Activities

The following represents a non-exhaustive list of Durham resources for LGBTQ+ individuals seeking mental health care. As noted in this chapter, there are significant barriers – especially financial barriers – to accessing mental health care for LGBTQ+ people in Durham.

LGBTQ Center of Durham Committed to improving the quality of life for LGBTQ+ people in and around Durham

- Mental Health Resource List: https://www.lgbtqcenterofdurham.org/mental-health/
- Host Home Program https://www.lgbtqcenterofdurham.org/program/host-home-program/
- Gender Resources, Advocacy, and Support Program (GRASP) https://lgbtqcenterofdurham.us10.list-manage.com/subscribe?u=d851b5d29f99a2bd4b8b6534a&id=24d101fb3a

Project Uplift Devotes its energy and resources to provide and connect the LGBTQ+ community to safe, inclusive, and affirming services. https://sites.duke.edu/projectuplift/

Durham VA Health Care System LGBT Health Program includes two designated LGBT Veteran Care Coordinators who can orient LGBTQ veterans to resources available from VA. https://www.durham.va.gov/services/lgbt/index.asp

Duke Hospital Gender Care is designated as 2020 Leader in LGBTQ Healthcare Equality by the HRC's Healthcare Equality Index. There are adult and child/adolescent gender clinics available. https://www.dukehealth.org/treatments/adult-gender-medicine and https://www.dukehealth.org/locations/duke-child-and-adolescent-gender-care

UNC Gender Care: There are young adult, child/adolescent, and free gender clinics available. The UNC Gender Equality Psychiatry clinic provides gender-affirming mental health care for transgender and gender non-binary children and young adults (ages 5 – 24 years). https://www.med.unc.edu/psych/patient-care/child-adolescent/outpatient/gender-equality-psychiatry-clinic/ and https://www.med.unc.edu/shac/services/clinics/medical/gendercare/.

Radical Healing, LLC This collective of healers is an intentional, radically inclusive, LGBTQ+ and Black, Indigenous, People of Color centered, multiracial and multicultural campus for healing and wellness. http://www.radicalhealing.us/about.html

Gender and Sexual Diversity Initiative offers on staff providers trained to provide culturally competent services to LGBTQ+ clientele. https://www.mindpathcare.com/gender-sexual-diversity-initiative/

References

[i] Streed CG, McCarthy EP, Haas JS. Association between gender minority status and self-reported physical and mental health in the United States [Internet]. JAMA Intern Med. 2017;177(8):1210–1212. doi:10.1001/jamainternmed.2017.1460. Available from: https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2629492

[ii] Balsam KF, Molina Y, Beadnell B, Simoni J, Walters K. Measuring multiple minority stress: the LGBT People of Color Microaggressions Scale. Cultur Divers Ethnic Minor Psychol. 2011 Apr;17(2):163-174. doi: 10.1037/a0023244. PMID: 21604840; PMCID: PMC4059824. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4059824/

[iii] Diamant AL, Wold C. Sexual orientation and variation in physical and mental health status among women [Internet]. Journal of Womens Health (Larchmt). 2003 Jan-Feb;12(1):41-9. doi: 10.1089/154099903321154130. PMID: 12639368. Available from: https://www.liebertpub.com/doi/10.1089/154099903321154130

[iv] Dilley JA, Simmons KW, Boysun MJ, Pizacani BA, Stark MJ. Demonstrating the importance and feasibility of including sexual orientation in public health surveys: health disparities in the Pacific Northwest. Am J Public Health. 2010 Mar;100(3):460-7. doi: 10.2105/AJPH.2007.130336. Epub 2009 Aug 20. PMID: 19696397; PMCID: PMC2820072. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2820072/

[v] Chae D, Ayala G. Measurement of sexuality among Latinos and Asians in the USA: implications for unfair treatment and psychological distress [Internet]. Journal of Sex Research. 2010; 47:451-459.

[vi] Cochran S, Mays V, Sullivan J. Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. Journal of Consulting and Clinical Psychology. 2003;71(1):53–61. Available from: https://pubmed.ncbi.nlm.nih.gov/12602425/

[vii] Conron KJ, Mimiaga MJ, Landers SJ. A population-based study of sexual orientation identity and gender differences in adult health [Internet]. Am J Public Health. 2010 Oct;100(10):1953-60. doi: 10.2105/AJPH.2009.174169. Epub 2010 Jun 1. PMID: 20516373; PMCID: PMC2936979. Available from: https://pubmed.ncbi.nlm.nih.gov/20516373/

[viii] Conron KJ, Mimiaga MJ, Landers SJ. A population-based study of sexual orientation identity and gender differences in adult health [Internet]. Am J Public Health. 2010 Oct;100(10):1953-60. doi: 10.2105/AJPH.2009.174169. Epub 2010 Jun 1. PMID: 20516373; PMCID: PMC2936979. Available from: https://pubmed.ncbi.nlm.nih.gov/20516373/

[ix] Wallace SP, Cochran SD, Durazo EM, Ford CL. The health of aging lesbian, gay and bisexual adults in California [Internet]. Policy Brief UCLA Cent Health Policy Res. 2011 Mar;(PB2011-2):1-8. PMID: 21548402; PMCID: PMC3698220. Available from: https://pubmed.ncbi.nlm.nih.gov/21548402/

[x] Garnets LD, Herek GM, Levy B. Violence and victimization of lesbians and gay men: mental health consequences. In: Garnets LD, Kimmel DC, editors. Psychological perspectives on lesbian, gay, and bisexual experiences. New York: Columbia University Press. 2003. p. 188–206.

[xi] Ray N. An epidemic of homelessness [Internet]. The National Gay and Lesbian Task Force Policy Institute; National Coalition for the Homeless; c2006 [cited 2020 Dec 20]. Available from: https://graphics8.nytimes.com/packages/pdf/national/20070307HomelessYouth.pdf

[xii] samhsa.gov [Internet]. Tips for disaster responders: understanding historical trauma when responding to an event in Indian Country. Rockville (MD): Substance Abuse and Mental Health Services Administration; c2014 [cited 2020 Nov 30]. Available from: https://store.samhsa.gov/sites/default/files/d7/priv/sma14-4866.pdf.

[xiii] American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Washington, DC: c2013. Chapter 10, Trauma-and stressor-related disorders.

[xiv] Roberts AL, Austin SB, Corliss, Heather L, Vandermorris AK, Koenen KC. Pervasive trauma exposure among US sexual orientation minority adults and risk of posttraumatic stress disorder. Am J Public Health. 2010;100, 2433-2441. Available from: https://doi.org/10.2105/AJPH.2009.168971
[xv] American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Washington, DC: c2013. Chapter 10, Trauma-and stressor-related disorders.
[xvi] Hyland P, Karatzias T, Shevlin M, McElroy E, Ben-Ezra M, Cloitre M, Brewin CR. Does requiring trauma exposure affect rates of ICD-11 PTSD and complex PTSD? Implications for DSM-5. Psychological Trauma: Theory, Research, Practice, and Policy [advance online publication]; c2020 [cited 2020 Dec 20]. Available from: https://doi.org/10.1037/tra0000908
[xvii] Badgett MVL, Choi SK, Wilson B. LGBT poverty in the United States [Internet]. Williams Institute, UCLA School of Law; 2019 Oct [cited 2020 Dec 20]. Available from: https://williamsinstitute.law.ucla.edu/publications/lgbt-poverty-us/
[xviii] Hatzenbuehler ML, Duncan D, Johnson R. Neighborhood-level LGBT hate crimes and bullying among sexual minority youths: a geospatial analysis. Violence and Victims. 2015 [cited 2020 Dec 20]; 30(4): 663-675. DOI:10.1891/0886-6708.VV-D-13-00166
[xix] Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence [Internet]. Psychol Bull. 2003 Sep;129(5):674-697. doi: 10.1037/0033-2909.129.5.674. PMID: 12956539; PMCID: PMC2072932. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2072932/
[xx] Hendricks ML, Testa RJ. A conceptual framework for clinical work with transgender and gender nonconforming clients: an adaptation of the Minority Stress Model. Professional Psychology: Research and Practice. 2012; 43(5): 460–467. Available from: https://doi.org/10.1037/a0029597
[xxi] Hatzenbuehler ML, Pachankis JE. Stigma and minority stress as social determinants of health among lesbian, gay, bisexual, and transgender youth: research evidence and clinical implications. Pediatr Clin North Am. 2016 Dec;63(6):985-997. doi: 10.1016/j.pcl.2016.07.003. Epub 2016 Oct 12. PMID: 27865340.
[xxii] Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence [Internet]. Psychol Bull. 2003 Sep;129(5):674-697. doi: 10.1037/0033-2909.129.5.674. PMID: 12956539; PMCID: PMC2072932. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2072932/
[xxiii] Hendricks ML, Testa RJ. A conceptual framework for clinical work with transgender and gender nonconforming clients: an adaptation of the Minority Stress Model. Professional Psychology: Research and Practice. 2012; 43(5): 460–467. Available from: https://doi.org/10.1037/a0029597
[xxiv] Hatzenbuehler ML, Pachankis JE. Stigma and minority stress as social determinants of health among lesbian, gay, bisexual, and transgender youth: research evidence and clinical implications. Pediatr Clin North Am. 2016 Dec;63(6):985-997. doi: 10.1016/j.pcl.2016.07.003. Epub 2016 Oct 12. PMID: 27865340.
[xxv] Hatzenbuehler ML. How does sexual minority stigma "get under the skin"? A psychological mediation framework [Internet]. Psychol Bull. 2009 Sep;135(5):707-730. doi: 10.1037/a0016441. PMID: 19702379; PMCID: PMC2789474. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2789474/
[xxvi] Veltman A, Chaimowitz G. mental health care for people who identify as lesbian, gay, bisexual, transgender, and (or) queer [Internet]. Can J Psychiatry. 2014 Nov;59(11):1-7, 1-8. PMID: 25565469; PMCID: PMC4244881. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4244881/
[xxvii] Silverstein C. Events in New York City leading to the deletion of homosexuality as a mental disorder. Division 44 Newsletter, American Psychiatric Association; 2011 Spring [cited 2020 Dec 20]. 27(1), 13-15.
[xxviii] Greenwald S. The controversy surrounding rapid-onset gender dysphoria: gender critical commentary on gender affirmative care for transgender adolescents. Poughkeepsie (NY): Vassar College; 2019 [cited

2021 Jan 2]. Available from: https://digitalwindow.vassar.edu/cgi/viewcontent.cgi?article=1917&context=senior_capstone
[xxix] Drescher J, Schwartz A, Casoy F, McIntosh CA, Hurley B, Ashley K, Barber M, Goldenberg D, Herbert SE, Lothwell LE, Mattson MR, McAfee SG, Pula J, Rosario V, Tompkins DA. The growing regulation of conversion therapy [Internet]. J Med Regul. 2016;102(2):7-12. PMID: 27754500; PMCID: PMC5040471. Available from: https://pubmed.ncbi.nlm.nih.gov/27754500/
[xxx] nc.gov [Internet]. Executive Order No. 97: protecting minors from conversion therapy. State of North Carolina; 2019 Aug 2 [cited 2020 Dec 20]. Available from: https://governor.nc.gov/documents/executive-order-no-97-protecting-minors-conversion-therapy
[xxxi] Haldeman DC. Gay rights, patient rights:tThe implications of sexual orientation conversion therapy. Professional Psychology: Research and Practice; 2002 [cited 2020 Dec 20]. 33(3), 260–264. https://doi.org/10.1037/0735-7028.33.3.260
[xxxii] Drescher J, Schwartz A, Casoy F, McIntosh CA, Hurley B, Ashley K, Barber M, Goldenberg D, Herbert SE, Lothwell LE, Mattson MR, McAfee SG, Pula J, Rosario V, Tompkins DA. The growing regulation of conversion therapy [Internet]. J Med Regul. 2016;102(2):7-12. PMID: 27754500; PMCID: PMC5040471. Available from: https://pubmed.ncbi.nlm.nih.gov/27754500/
[xxxiii] Gonzales G, Henning-Smith C. Health disparities by sexual orientation: results and implications from the behavioral risk factor surveillance system. J Community Health. 2017 Dec [cited 2020 Dec 20];42(6):1163-1172. doi: 10.1007/s10900-017-0366-z. PMID: 28466199.
[xxxiv] Streed CG, McCarthy EP, Haas JS. Association between gender minority status and self-reported physical and mental health in the United States [Internet]. JAMA Intern Med. 2017;177(8):1210–1212. doi:10.1001/jamainternmed.2017.1460. Available from: https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2629492
[xxxv] Conron KJ, Mimiaga MJ, Landers SJ. A population-based study of sexual orientation identity and gender differences in adult health [Internet]. Am J Public Health. 2010 Oct;100(10):1953-60. doi: 10.2105/AJPH.2009.174169. Epub 2010 Jun 1. PMID: 20516373; PMCID: PMC2936979. Available from: https://pubmed.ncbi.nlm.nih.gov/20516373/
[xxxvi] Fredriksen-Goldsen KI, Kim H-J, Barkan SE, Muraco A, Hoy-Ellis CP. Health disparities among lesbian, gay, and bisexual older adults: results from a population-based study [Internet]. Am J Public Health. 2013 [cited 2020 Dec 20];103(10):1802–1809. Epub 2013 October. doi: 10.2105/AJPH.2012.301110. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3770805/
[xxxvii] Bostwick WB, Boyd CJ, Hughes TL, McCabe SE. Dimensions of sexual orientation and the prevalence of mood and anxiety disorders in the United States [Internet]. Am J Public Health. 2010 Mar [cited 2020 Dec 20];100(3):468-75. doi: 10.2105/AJPH.2008.152942. Epub 2009 Aug 20. PMID: 19696380; PMCID: PMC2820045. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2820045/
[xxxviii] King M, Semlyen J, Tai SS, Killaspy H, Osborn D, Popelyuk D, Nazareth I. A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people [Internet]. BMC Psychiatry. 2008 Aug 18 [cited 2020 Dec 20];8:70. doi: 10.1186/1471-244X-8-70. PMID: 18706118; PMCID: PMC2533652. Available from: https://pubmed.ncbi.nlm.nih.gov/18706118/
[xxxix] Gonzales G, Henning-Smith C. Health disparities by sexual orientation: results and implications from the behavioral risk factor surveillance system. J Community Health. 2017 Dec [cited 2020 Dec 20];42(6):1163-1172. doi: 10.1007/s10900-017-0366-z. PMID: 28466199.
[xl] Streed CG, McCarthy EP, Haas JS. Association between gender minority status and self-reported physical and mental health in the United States [Internet]. JAMA Intern Med. 2017;177(8):1210–1212. doi:10.1001/jamainternmed.2017.1460. Available from: https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2629492
[xli] Matthews DD, Lee JG. A profile of North Carolina lesbian, gay, and bisexual health disparities, 2011 [Internet]. Am J Public Health. 2014 Jun [cited 2020 Dec 20];104(6):e98-e105. doi:

10.2105/AJPH.2013.301751. Epub 2014 Apr 17. PMID: 24825240; PMCID: PMC4061991. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4061991/
[xlii] Mongelli F, Perrone D, Balducci J, Sacchetti A, Ferrari S, Mattei G, et al. Minority stress and mental health among LGBT populations: an update on the evidence. Minerva Psichiatr. 2019 [cited 2020 Dec 20];60:27-50. DOI: 10.23736/S0391-1772.18.01995-7
[xliii] equaldex.com [Internet]. LGBT rights in North Carolina. Equaldex; c2021 [cited 2020 Dec 20]. Available from: https://www.equaldex.com/region/united-states/north-carolina
[xliv] Ross LE, Salway T, Tarasoff LA, MacKay JM, Hawkins BW, Fehr CP. Prevalence of depression and anxiety among bisexual people compared to gay, lesbian, and heterosexual individuals: a systematic review and meta-analysis. The Journal of Sex Research; 2018 [cited 2020 Dec 20].;55(4-5), 435-456. Epub 2017 Nov 3. Available from: https://doi.org/10.1080/00224499.2017.1387755
[xlv] Su D, Irwin JA, Fisher C, Ramos A, Kelley M, Mendoza DAR, Coleman JD. Mental health disparities within the LGBT population: a comparison between transgender and nontransgender individuals. Transgend Health. 2016 Jan 1 [cited 2020 Dec 20];1(1):12-20. doi: 10.1089/trgh.2015.0001. PMID: 29159294; PMCID: PMC5685247. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5685247/
[xlvi] Hendricks ML, Testa RJ. A conceptual framework for clinical work with transgender and gender nonconforming clients: an adaptation of the Minority Stress Model. Professional Psychology: Research and Practice. 2012; 43(5): 460–467. Available from: https://doi.org/10.1037/a0029597
[xlvii] Grant J, Mottet L, Tanis J. Injustice at every turn: a report of the national discrimination survey [Internet]. Washington, DC: National Center for Transgender Equality; National Gay and Lesbian Task Force; c2011 [cited 2020 Dec 20]. Available from: https://transequality.org/sites/default/files/docs/resources/NTDS_Report.pdf
[xlviii] Kaniuka A, Pugh K, Jordan M, Brooks B, Dodd J, Mann A, Williams S, Hirsch J. Stigma and suicide risk among the LGBTQ population: are anxiety and depression to blame and can connectedness to the LGBTQ community help? [Internet]. Journal of Gay & Lesbian Mental Health. 2019 Mar 8 [cited 2020 Dec 20];23(2), 205-220. Available from: https://doi.org/10.1080/19359705.2018.1560385
[xlix] Brennan DJ, Ross LE, Dobinson C, Veldhuizen S, Steele LS. Men's sexual orientation and health in Canada [Internet]. Can J Public Health. 2010 May-Jun [cited 2020 Dec 20];101(3):255-8. doi: 10.1007/BF03404385. PMID: 20737821; PMCID: PMC6974022. Available from: https://link.springer.com/article/10.1007%2FBF03404385
[l] Steele L, Ross L, Dobinson C, Veldhuizen S, Tinmouth J. Women's sexual orientation and health: results from a Canadian population-based survey [Internet]. Women & Health. 2009 Oct 21 [cited 2020 Dec 20];49(5):353-367. Available from: https://doi.org/10.1080/03630240903238685
[li] sciencedaily.com [Internet]. It may not 'get better' for bisexual teens. Health Behavior News Service; 2013 Oct 1 [cited 2020 Dec 20]. Available from: https://www.sciencedaily.com/releases/2013/10/131001151046.htm
[lii] James SE, Herman JL, Rankin S, Kiesling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey [Internet]. Washington, DC: National Center for Transgender Equality; c2016 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF
[liii] James SE, Herman JL, Rankin S, Kiesling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey [Internet]. Washington, DC: National Center for Transgender Equality; c2016 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF
[liv] Liu RT, Sheehan AE, Walsh RFL, Sanzari CM, Cheek SM, Hernandez EM. Prevalence and correlates of non-suicidal self-injury among lesbian, gay, bisexual, and transgender individuals: A systematic review and meta-analysis [Internet]. Clin Psychol Rev. 2019 Dec [cited 2020 Dec 20];74:101783. doi:

10.1016/j.cpr.2019.101783. Epub 2019 Nov 9. PMID: 31734440; PMCID: PMC6896220. Available from: https://pubmed.ncbi.nlm.nih.gov/31734440/

[lv] Liu RT, Sheehan AE, Walsh RFL, Sanzari CM, Cheek SM, Hernandez EM. Prevalence and correlates of non-suicidal self-injury among lesbian, gay, bisexual, and transgender individuals: A systematic review and meta-analysis [Internet]. Clin Psychol Rev. 2019 Dec [cited 2020 Dec 20];74:101783. doi: 10.1016/j.cpr.2019.101783. Epub 2019 Nov 9. PMID: 31734440; PMCID: PMC6896220. Available from: https://pubmed.ncbi.nlm.nih.gov/31734440/

[lvi] Smithee L, Sumner B, Bean R. Non-suicidal self-injury among sexual minority youth: an etiological and treatment overview. Children and Youth Services Review. 2019 [cited 2020 Dec 20];96:212-219. https://doi.org/10.1016/j.childyouth.2018.11.055.

[lvii] Liu RT, Sheehan AE, Walsh RFL, Sanzari CM, Cheek SM, Hernandez EM. Prevalence and correlates of non-suicidal self-injury among lesbian, gay, bisexual, and transgender individuals: A systematic review and meta-analysis [Internet]. Clin Psychol Rev. 2019 Dec [cited 2020 Dec 20];74:101783. doi: 10.1016/j.cpr.2019.101783. Epub 2019 Nov 9. PMID: 31734440; PMCID: PMC6896220. Available from: https://pubmed.ncbi.nlm.nih.gov/31734440/

[lviii] D'Augelli AR, Grossman AH, Salter NP, Vasey JJ, Starks MT, Sinclair KO. Predicting the suicide attempts of lesbian, gay, and bisexual youth. Suicide Life Threat Behav. 2005 Dec [cited 2020 Dec 20];35(6):646-60. doi: 10.1521/suli.2005.35.6.646. PMID: 16552980.

[lix] Russell ST. Sexual minority youth and suicide risk. American Behavioral Scientist. 2003 [cited 2020 Dec 20];46(9):1241-1257. doi:10.1177/0002764202250667

[lx] Russell ST, Joyner K. Adolescent sexual orientation and suicide risk: evidence from a national study [Internet]. Am J Public Health. 2001 Aug [cited 2020 Dec 20];91(8):1276-81. doi: 10.2105/ajph.91.8.1276. PMID: 11499118; PMCID: PMC1446760. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1446760/

[lxi] Liu RT, Sheehan AE, Walsh RFL, Sanzari CM, Cheek SM, Hernandez EM. Prevalence and correlates of non-suicidal self-injury among lesbian, gay, bisexual, and transgender individuals: A systematic review and meta-analysis [Internet]. Clin Psychol Rev. 2019 Dec [cited 2020 Dec 20];74:101783. doi: 10.1016/j.cpr.2019.101783. Epub 2019 Nov 9. PMID: 31734440; PMCID: PMC6896220. Available from: https://pubmed.ncbi.nlm.nih.gov/31734440/

[lxii] Green KE, Feinstein BA. Substance use in lesbian, gay, and bisexual populations: an update on empirical research and implications for treatment [Internet]. Psychol Addict Behav. 2012 Jun;26(2):265-78. doi: 10.1037/a0025424. Epub 2011 Nov 7. PMID: 22061339; PMCID: PMC3288601. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3288601/

[lxiii] James SE, Herman JL, Rankin S, Kiesling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey [Internet]. Washington, DC: National Center for Transgender Equality; c2016 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF

[lxiv] Day JK, Fish JN, Perez-Brumer A, Hatzenbuehler ML, Russell ST. Transgender youth substance use disparities: results from a population-based sample [Internet]. J Adolesc Health. 2017 Dec [cited 2020 Dec 20];61(6):729-735. doi: 10.1016/j.jadohealth.2017.06.024. Epub 2017 Sep 21. PMID: 28942238; PMCID: PMC6802742. Available from: https://pubmed.ncbi.nlm.nih.gov/28942238/

[lxv] Livingston NA. Avenues for future minority stress and substance use research among sexual and gender minority populations. Journal of LGBT Issues in Counseling. 2017 [cited 2020 Dec 20];11(1):52-62. doi.org/10.1080/15538605.2017.1273164

[lxvi] Medley G, Lipari RN, Bose J, Cribb DS, Kroutil LA, McHenry G. Sexual orientation and estimates of adult substance use and mental health: results from the 2015 national survey on drug use and health [Internet]. Rockville (MD): Substance Abuse and Mental Health Services Administration; 2016 Oct [cited 2020 Dec 20]. Available from: https://www.samhsa.gov/data/sites/default/files/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015.htm

[lxvii] Medley G, Lipari RN, Bose J, Cribb DS, Kroutil LA, McHenry G. Sexual orientation and estimates of adult substance use and mental health: results from the 2015 national survey on drug use and health [Internet]. Rockville (MD): Substance Abuse and Mental Health Services Administration; 2016 Oct [cited 2020 Dec 20]. Available from: https://www.samhsa.gov/data/sites/default/files/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015.htm
[lxviii] Medley G, Lipari RN, Bose J, Cribb DS, Kroutil LA, McHenry G. Sexual orientation and estimates of adult substance use and mental health: results from the 2015 national survey on drug use and health [Internet]. Rockville (MD): Substance Abuse and Mental Health Services Administration; 2016 Oct [cited 2020 Dec 20]. Available from: https://www.samhsa.gov/data/sites/default/files/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015.htm#tabb5
[lxix] Jackson CL, Agénor M, Johnson DA, Austin SB, Kawachi I. Sexual orientation identity disparities in health behaviors, outcomes, and services use among men and women in the United States: a cross-sectional study [Internet]. BMC Public Health. 2016 Aug 17 [cited 2020 Dec 20];16(1):807. doi: 10.1186/s12889-016-3467-1. PMID: 27534616; PMCID: PMC4989521. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4989521/
[lxx] Barnhill MM, Lee JGL, Rafferty AP. Health inequities among lesbian, gay, and bisexual adults in North Carolina, 2011–2014 [Internet]. International Journal of Environmental Research and Public Health. 2017 [cited 2020 Dec 20]; 14(8):835. Available from: http://doi.org/10.3390/ijerph14080835
[lxxi] James SE, Herman JL, Rankin S, Kiesling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey [Internet]. Washington, DC: National Center for Transgender Equality; c2016 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF
[lxxii] Grant J, Mottet L, Tanis J. Injustice at every turn: a report of the national discrimination survey [Internet]. Washington, DC: National Center for Transgender Equality; National Gay and Lesbian Task Force; c2011 [cited 2020 Dec 20]. Available from: https://transequality.org/sites/default/files/docs/resources/NTDS_Report.pdf
[lxxiii] Roberts AL, Austin SB, Corliss, Heather L, Vandermorris AK, Koenen KC. Pervasive trauma exposure among US sexual orientation minority adults and risk of posttraumatic stress disorder. Am J Public Health. 2010;100, 2433-2441. Available from: https://doi.org/10.2105/AJPH.2009.168971
[lxxiv] Roberts AL, Austin SB, Corliss, Heather L, Vandermorris AK, Koenen KC. Pervasive trauma exposure among US sexual orientation minority adults and risk of posttraumatic stress disorder. Am J Public Health. 2010;100, 2433-2441. Available from: https://doi.org/10.2105/AJPH.2009.168971
[lxxv] Parker L, Harriger J. Eating disorders and disordered eating behaviors in the LGBT population: a review of the literature [Internet]. J Eat Disord. 2020 [cited 2020 Dec 20];8(51). Available from: https://doi.org/10.1186/s40337-020-00327-y
[lxxvi] Parker L, Harriger J. Eating disorders and disordered eating behaviors in the LGBT population: a review of the literature [Internet]. J Eat Disord. 2020 [cited 2020 Dec 20];8(51). Available from: https://doi.org/10.1186/s40337-020-00327-y
[lxxvii] Mikhail ME, Klump KL. A virtual issue highlighting eating disorders in people of black/African and Indigenous heritage [Internet]. Int J Eat Disord. 2020 [cited 2020 Nov 30]. Available from: https://doi.org/10.1002/eat.23402
[lxxviii] lgbtmap.org [Internet]. Understanding issues facing bisexual americans. Movement Advancement Project; BiNetUSA; Bisexual Resource Center; 2014 Sep [cited 2020 Dec 20]. Available from: https://www.lgbtmap.org/file/understanding-issues-facing-bisexual-americans.pdf
[lxxix] nami.org [Internet]. LGBTQI. Arlington (VA): National Alliance on Mental Illness; c2016 [cited 2020 Dec 20]. Available from: https://www.nami.org/Your-Journey/Identity-and-Cultural-Dimensions/LGBTQI
[lxxx] Hasenbush A, Flores A, Kastanis A, Sears B, Gates G. The LGBT divide: A data portrait of LGBT people in the Midwestern, Mountain & Southern states. Los Angeles (CA): The Williams Institute, UCLA

School of Law; 2014 Dec [cited 2020 Dec 20]. Available from: https://williamsinstitute.law.ucla.edu/publications/lgbt-divide-mw-mountain-south/
[lxxxi] lgbtfunders.org [Internet]. Out in the South reports. New York (NY): Funders for LGBTQ Issues; c1997-2019 [cited 2020 Dec 20]. Available from: https://lgbtfunders.org/initiatives/ots/out-in-the-south-reports/
[lxxxii] James SE, Herman JL, Rankin S, Kiesling M, Mottet L, Anafi M. 2015 U.S. transgender survey: North Carolina state report [Internet]. Washington, DC: National Center for Transgender Equality; c2017 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/usts/USTS_NC_state_report.pdf
[lxxxiii] Miller M, André A, Ebin J, Bessonova L. Bisexual health: An introduction and model practices for HIV/STI prevention programming [Internet]. National Gay and Lesbian Task Force Policy Institute; Fenway Institute at Fenway Community Health; BiNet USA; c2017 [cited 2020 Dec 20]. Available from: https://slidelegend.com/an-introduction-and-model-practices-for-hiv-sti-prevention-programming_59c1c2121723dd5342dcdd8a.html

Section 15.03 *Violence*

Overview

The World Health Organization (WHO) defines interpersonal violence as violence between individuals, which can be broadly subdivided into 1) family and intimate partner violence, that is, violence perpetrated family and intimate partners, both in and outside the household; and 2) community violence, that is, violence by other persons, whether known or unknown to the victim.[i] The nature of violence can be physical, sexual, psychological or through deprivation or neglect.[ii]

Though evidence specific to North Carolina and Durham County is scarce, it is critical to discuss what is known about violence against the LGBTQ+ community. National evidence suggests that sexual and gender minorities are at greater risk for multiple forms of interpersonal violence than the general public.[iii,iv] By highlighting the known evidence of violence against the LGBTQ+ community organized across the WHO's typography of violence, there is hope in the Durham LGBTQ+ community to foster the political and social will to collect information on LGBTQ+ interpersonal violence at the local level.

Of note, the following data review highlights the intersectional experiences of Queer, Transgender, Black/Brown and Indigenous People of Color (QTBIPOC) across the lifespan and with a focus on the experiences of those who are Transgender and Gender Nonconforming (TGNC).

Primary Data

As noted above, the lack of local and state level primary data on this topic is a main concern.

In the 2019 Durham County Community Health Assessment Survey, just over six percent self-identified as Lesbian, Gay, Bisexual, Queer and/or a sexual orientation other than Heterosexual.[v] In the 2019 Durham County Hispanic or Latino Neighborhood Community Health Assessment Survey, almost three percent self-identified as Gay, Bisexual, and/or another sexual orientation and a little over three percent self-identified as not sure of their sexual orientation.[vi] These show that a notable proportion of the Durham community may be at heightened risk for violence in ways that will be fully explored below.

The LGBTQ Center of Durham's Host Home Program (HHP) has collected baseline primary data on the experiences of housing unstable LGBTQ+ young adults ages 18-24 since February 2019.[vii] Figure 15.03 (a) shows highlighted data points from the HHP's 2019-2020 fiscal year report based on 12 young adults' self-reported identities and experiences. Of note, this is a small sample size and is not statistically representative of all young LGBTQ+ young adults in Durham County.

LGBTQ Center of Durham Host Home Program Baseline Primary Data, LGBTQ+ Young Adults 18-24, 2019-2020

Young Adult Data Highlights (n=12)		
83% are BIPOC	92% reported current or past experiences of sexual violence	33% are HIV+ and/or had an STI
100% are Queer	58% reported current or past experiences of intimate partner violence	25% have engaged in sex work or survival sex
67% are Transgender/Gender Nonconforming	33% have significant health concerns (not including HIV/STI's)	17% have aged out of foster care
	100% have significant mental health concerns, diagnoses, and/or experiences of suicidality	

Figure 15.03 (a) LGBTQ Center of Durham Home Host Program Baseline Data, 2019-2020[viii]

Secondary Data

LGBTQ+ Youth

The 2017 National School Climate Survey revealed that NC schools were not safe for most LGBTQ students.[x] The report showed that a high number of LGBTQ students in NC schools regularly heard anti-LGBTQ remarks. Shown in Figure 15.03 (b), most LGBTQ students in North Carolina also experienced anti-LGBTQ victimization at school. Twenty-eight percent also experienced victimization at school based on disability and 27% based on their race or ethnicity.[xi] Additionally, 57% never reported the incident to school staff.[xii]

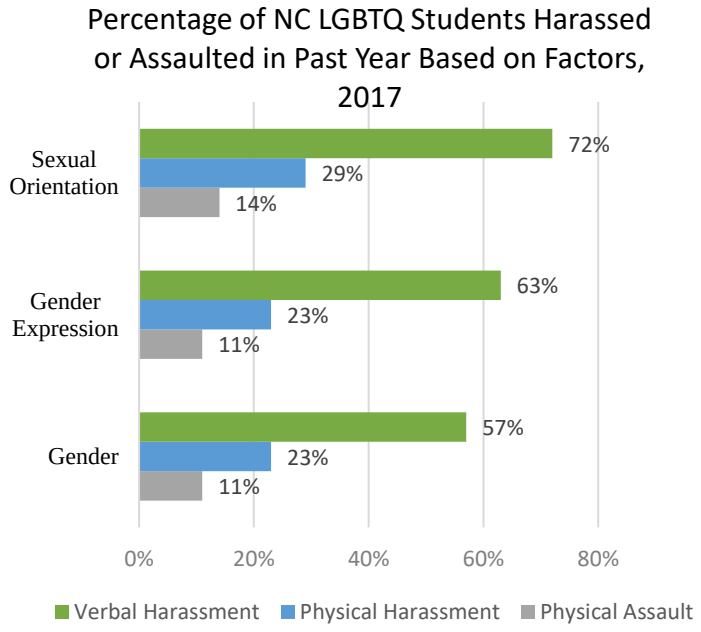


Figure 15.03 (b) Anti-LGBTQ Harrassment and Assault in NC Schools, 2017[ix]

According to the 2019 Human Rights Campaign's Black & African American LGBTQ Youth Report, "13% have been sexually attacked or raped; 40% have been bullied on school property within the last 12 months; 67% have been verbally insulted because of their LGBTQ identity, including 82% Transgender and gender-expansive youth; 30% have been physically threatened

because of their LGBTQ identity; and 90% have experienced racial discrimination" in addition to identity-based discrimination.[xiii]

Intimate Partner Violence

Systematic reviews of the existing literature suggest that rates of intimate partner violence (IPV) among sexual minorities in general are the same or somewhat higher than non-minorities.[xv,xvi,xvii] Bisexual women in particular are at higher risk for IPV than either sexual non-minority women or gay men, more frequently experiencing sexual victimizations by their male partners.[xviii,xix]

Alarming rates of Black Transgender and Gender Nonconforming people also experienced higher rates of IPV when compared with their white peers.

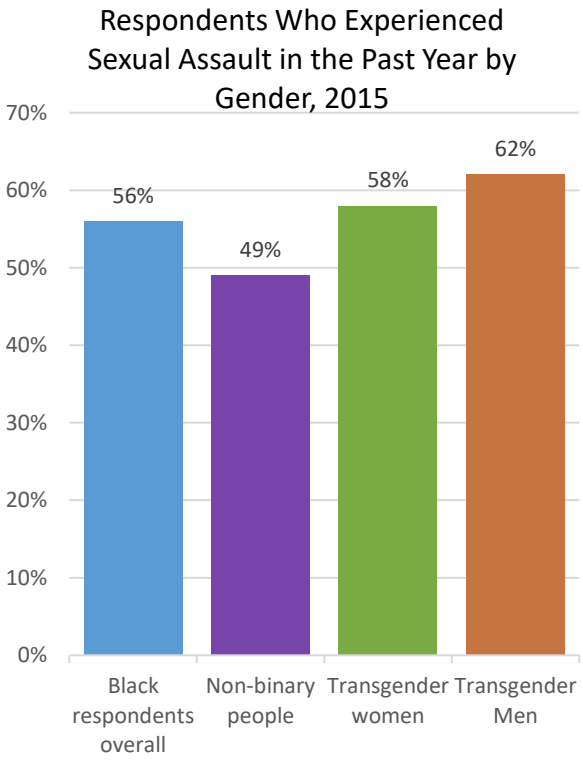


Figure 15.03 (c) 2015 USTS Trans Survey respondents who experienced Sexual Assault in the Past Year by Gender[xiv]

Figure 15.03 (c) shows that 49% of Black Nonbinary respondents, 58% Black Transgender Women and 62% of Black Transgender Men reported experiences of IPV in the 2015 U.S. Transgender Survey. This is despite making up 2.9% of the total respondents of the survey conducted by the National Center for Transgender Equality in 2015.[xx] Evidence from existing national surveys largely corroborate these findings. A review of existing research conducted by the Williams Institute found that lifetime prevalence of IPV in the Transgender community ranged from 31.1% to 50%.[xxi]

Sexual Violence

LGBTQ+ individuals are also at risk for sexual violence and sexual assault outside of the confines of intimate partnerships. Over 47% of USTS Transgender respondents stated they had ever been sexually assaulted. Rates were also substantially higher among Transgender adults of color— 65% American Indian, 58% Middle Eastern, 53% Black and 59% multiracial Transgender adults (vs. 45% white) had ever been sexually assaulted.[xxii]

Additionally, as shown in Figure 15.03 (d), among the 2.9% of Black respondents of the USTS Survey, 16% of Black Transgender Women and AMAB (assigned male at birth) Nonbinary people had experienced sexual assault in the previous year.[xxiv]

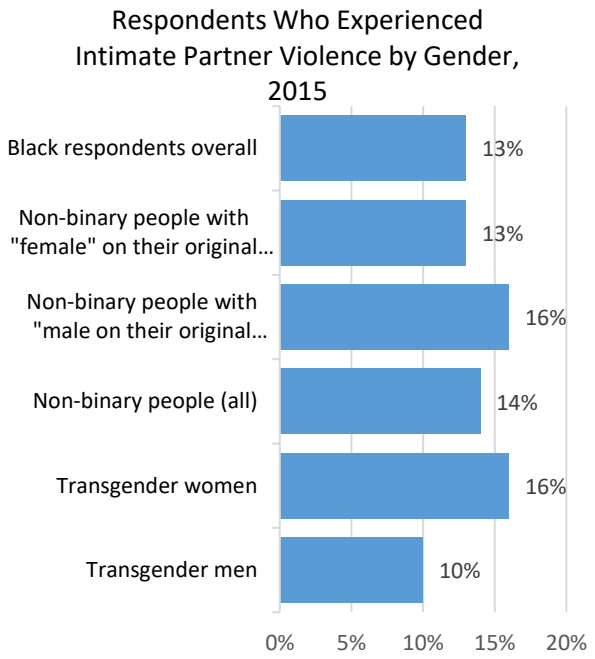


Figure 15.03 (d) 2015 US Trans Survey Respondents who Experienced Intimate Partner Violence by Gender[xxiii]

Hate Crimes and Community Level Violence

According to the 2019 Human Rights Campaign, Black & African American LGBTQ Youth Report, 18% of Black LGBTQ Youth have been forced to engage in unwanted sexual acts.[xxv] This includes 27% of Transgender and gender-expansive youth and 14% of cisgender LGBQ youth. [xxvi]

In the Federal Bureau of Investigations (FBI's) 2019 Hate Crime Statistics Report, (shown in Figure 15.03 (e), Transgender and Gender Nonconforming people were the targets in 2.4% of all reported hate crimes in the past year.[xxvii]

The FBI noted 17% of single-bias incidents of hate crimes were attributed to the victim's sexual orientation and 2.8% by gender-identity bias.[xxviii] Being a smaller community but victim to a higher rate of hate crimes, people in the LGBTQ+ community (but particularly Transgender Women and Femmes of Color) are more likely than any other historically marginalized group (including religious, racial or ethnic) to be victims of hate crimes.[xxix] Within North Carolina, approximately 14% (n=30) of the 211 hate crimes in 2019 were attributed to sexual orientation.[xxx]

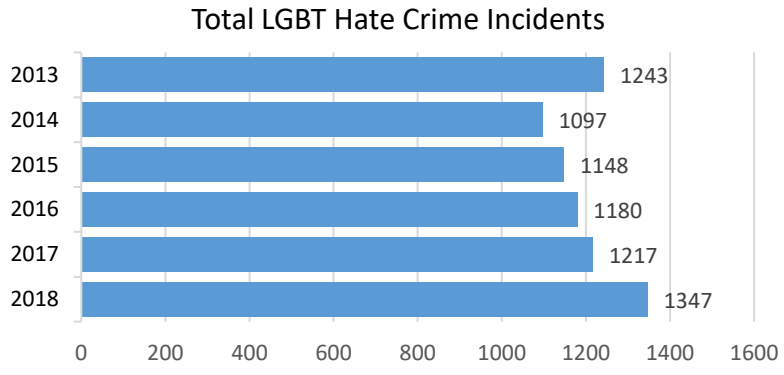


Figure 15.03 (e) Total Hate Crime Incidents, 2013-2018[xxxi]

According to the 2019 Human Rights Campaign Black & African American LGBTQ Youth Report, 18% of Black LGBTQ youth have been forced to do unwanted sexual acts. That includes 27% of Transgender and gender-expansive youth as well as 14% of cisgender LGBQ youth. It was stated in the same report that 67% of the Black LGBTQ youth have been verbally

insulted because of their identity and 90% have experienced racial discrimination.[xxxiii] The Human Rights Campaign in collaboration with Trans People of Color Coalition, documented 102 Transgender victims of violence between 2013-2017.[xxxiv] Of these 102 victims, 87 were people of color and 88 were Transgender women.[xxxv] The majority were under the age of 35 and 55 were killed in the South, three specifically in North Carolina.[xxxvi]

Figure 15.03 (f) shows that a high proportion of Black Transgender respondents faced increased discomfort with turning to police for help, with 84% of Black Nonbinary respondents finding the highest rate of discomfort with police compared to 72%, 67% and 47% of Transgender men, overall Black respondents and Transgender women respondents, respectively.[xxxvii]

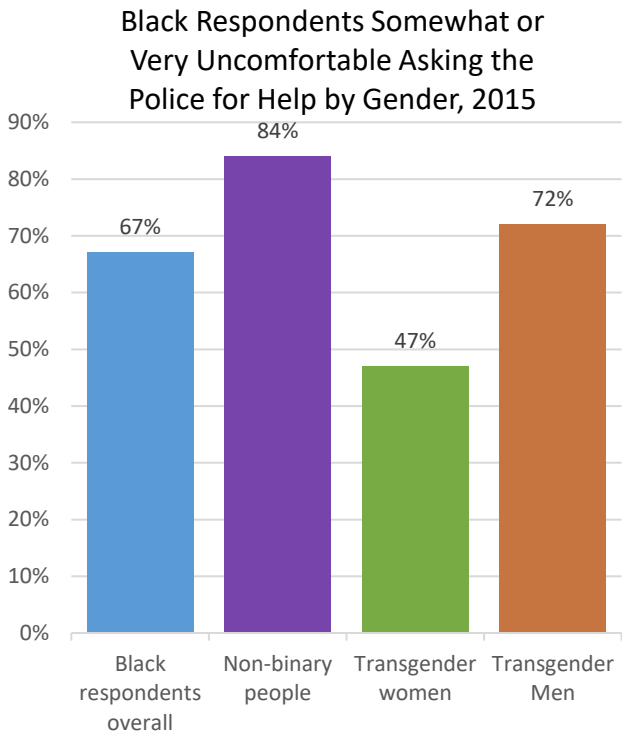


Figure 15.03 (f) 2015 US Trans Survey Black Respondents Somewhat or Very Uncomfortable Asking the Police for Help by Gender and Race[xxxii]

Interpretations: Disparities, Gaps, Emerging Issues

Data are the foundation of public health interventions.[xxxviii] They allow a community to describe a problem and decide on how to prioritize resources to address the issues. There is an alarming lack of data to describe the issue of violence against the LGBTQ+ community in Durham and beyond.

The issues are threefold:

1. Underreporting to Police. Among gender minority communities, almost half (46%) report being uncomfortable seeking police assistance.[xxxix,xl] Among gender minorities, the rate of reporting to the police is very low; only 11% of physical and 9% of sexual assaults against transgender men and women are reported to police.[xli]
2. Specificity of reporting by police[xlii]
3. Reporting about police misconduct[xliii]

Without this data, Durham cannot fully describe the issue of violence, decide how to tackle the issue, pursue funding for anti-LGBTQ+ violence efforts, or evaluate the success or failures of future interventions. Below are opportunities for filling gaps in data:

- Police records that identify the bias for a hate crime. (e.g. against a sexual or gender minority, a racial minority, etc.)[xliv,xlv]

- Require that gender identity and sexual orientation data be collected whenever demographic data is collected in programs for victims of crime with responses being optional.

Recommended Strategies

For preventing violence, McKay and colleagues recommend three main strategies to prevent LGBTQ+ victimization among youth and school aged children:[xlvi]

- Safer environments of LGBTQ+ youth.
- Improve and expand resources for LGBTQ+ victims.
- Address policies that reinforce discrimination.

Related to the prevalence of LGBTQ+ young adults in Durham reporting past and acute experiences of sexual and intimate partner violence, include:

- Increased attention to and funding to support initiatives that are led by and for QTBIPOC youth and young adults. This is in order to address the unique and specific needs of young victims of intimate partner and sexual violence.
- Intentional data collecting efforts informed by the work already being done on the ground by programs like the HHP at the LGBTQ Center of Durham in order to gather in depth, local, primary data.

Current Initiatives & Activities

The LGBTQ Center of Durham has four separate programs that address different dimensions of violence that may impact LGBTQ community members. www.lgbtqcenterofdurham.org

- **Host Home Program:** The program receives Sexual Assault Services Program grant funding to specifically support sexual violence survivors through therapy, psychiatric services, and financial assistance.
- **The LGBTQ Center of Durham's Domestic Violence Response Services**
- **The LGBTQ Center of Durham's GRASP Program:** "Our mission is to alleviate the burden of the legal, medical, and institutional systems of oppression for our Transgender and gender non-conforming community members in Durham and in the greater Triangle."
- **QTPOC Survival Fund:** The fund provides emergency financial assistance to QTBIPOC folks in the triangle. Micro grants of up to $500 are provided to individuals on a rolling basis. In 2020, the Center dispersed over $75k in relief funding to QTBIPOC folks in our community.

El Centro Hispano El Centro Hispano is a Latino nonprofit organization dedicated to strengthening the community, building bridges and advocating for equity and inclusion for Hispanics/Latinos in the Triangle Area of North Carolina. https://elcentronc.org/

References

[i] who.int [Internet]. Intimate partner violence and alcohol fact sheet. Geneva: World Health Organization; c2012 [cited 2021 Jan 3]. Available from: https://www.who.int/violence_injury_prevention/violence/world_report/factsheets/ft_intimate.pdf
[ii] Krug EG, Mercy JA, Dahlberg LL, Zwi AB. The world report on violence and health. Lancet. 2002 Oct 5 [cited 2020 Dec 20];360(9339):1083-8. doi: 10.1016/S0140-6736(02)11133-0. PMID: 12384003.
[iii] Rosenberg ML, O'Carroll PW, Powell KE. Let's be clear. Violence is a public health problem. JAMA. 1992 Jun 10 [cited 2020 Dec 20];267(22):3071-2. doi: 10.1001/jama.267.22.3071. PMID: 1588723.
[iv] Wen LS, Goodwin KE. Violence Is a Public Health Issue. J Public Health Manag Pract. 2016 Nov-Dec [cited 2020 Dec 20];22(6):503-5. doi: 10.1097/PHH.0000000000000501. PMID: 27682720.
[v] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: county wide results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 37 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Full-County-CHA-Survey-Final-.pdf
[vi] Partnership for a Healthy Durham; Durham County Department of Public Health. 2019 Durham County community health assessment survey: Hispanic or Latino neighborhood sample results [Internet]. Durham (NC); c2019 [cited 2020 Sep 8]. 40 p. Available from: https://healthydurham.org/cms/wp-content/uploads/2020/07/2019-Hispanic-or-Latino-Neighborhood-CHA-Survey-Results-Final-1-1.pdf
[vii] LGBTQ Center of Durham. HHP 2019-2020 Baseline data on the experiences of housing unstable LGBTQ+ young adults ages 18-24 [unpublished raw data]. Durham (NC): LGBTQ Center of Durham; 2020 Jun [cited 2020 Dec 22]. Confirmed December 22, 2020 with KC Buchanan, MSW, Program Director of Host Home Program.
[viii] LGBTQ Center of Durham. HHP 2019-2020 Baseline data on the experiences of housing unstable LGBTQ+ young adults ages 18-24 [unpublished raw data]. Durham (NC): LGBTQ Center of Durham; 2020 Jun [cited 2020 Dec 22]. Confirmed December 22, 2020 with KC Buchanan, MSW, Program Director of Host Home Program.
[ix] GLSEN. 2017 state snapshot: school climate in North Carolina. New York (NY): GLSEN; c2019 [cited 2020 Dec 20]. Available from: https://www.glsen.org/sites/default/files/2019-11/North%20Carolina_Snapshot_2017_0.pdf
[x] GLSEN. 2017 state snapshot: school climate in North Carolina. New York (NY): GLSEN; c2019 [cited 2020 Dec 20]. Available from: https://www.glsen.org/sites/default/files/2019-11/North%20Carolina_Snapshot_2017_0.pdf
[xi] GLSEN. 2017 state snapshot: school climate in North Carolina. New York (NY): GLSEN; c2019 [cited 2020 Dec 20]. Available from: https://www.glsen.org/sites/default/files/2019-11/North%20Carolina_Snapshot_2017_0.pdf
[xii] GLSEN. 2017 state snapshot: school climate in North Carolina. New York (NY): GLSEN; c2019 [cited 2020 Dec 20]. Available from: https://www.glsen.org/sites/default/files/2019-11/North%20Carolina_Snapshot_2017_0.pdf
[xiii] Human Rights Campaign Foundation. Black & African American LGBTQ youth report [Internet]. Washington, DC: Human Rights Campaign Foundation; University of Connecticut; c2019 [cited 2020 Nov 23]. Available from: https://assets2.hrc.org/files/assets/resources/HRC_2019_Black_and_African_American_LGBTQ_Youth_Report-FINAL-web.pdf
[xiv] James S, Brown C, Wilson I. 2015 U.S. transgender survey: report on the experiences of Black respondents [Internet]. Washington, DC: National Center for Transgender Equality, Black Trans Advocacy; Dallas (TX): National Black Justice Coalition; c2015 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/usts/USTS-Black-Respondents-Report.pdf

[xv] Badenes-Ribera L, Bonilla-Campos A, Frias-Navarro D, Pons-Salvador G, Monterde-I-Bort H. Intimate partner violence in self-identified lesbians: a systematic review of its prevalence and correlates. Trauma Violence Abuse. 2016 Jul;17(3):284-97. doi: 10.1177/1524838015584363. Epub 2015 May 27. PMID: 26018210.
[xvi] Murray CE, Mobley AK. Empirical research about same-sex intimate partner violence: a methodological review. J Homosex. 2009 [cited 2020 Dec 20];56(3):361-86. doi:10.1080/00918360902728848. PMID: 19319742.
[xvii] Nowinski SN, Bowen E. Partner violence against heterosexual and gay men: prevalence and correlates. Aggress Violent Behav. 2012 [cited 2020 Dec 20];17(1):36-52. doi:10.1016/j.avb.2011.09.005.
[xviii] Stiles-Shields C, Carroll RA. Same-sex domestic violence: prevalence, unique aspects, and clinical implications. J Sex Marital Ther. 2015;41(6):636-48. doi: 10.1080/0092623X.2014.958792. Epub 2014 Oct 10. PMID: 25189218.
[xix] Balsam K, Hughes T. Sexual orientation, victimization, and hate crimes. In: Patterson CJ, D'Augelli AR, eds. Handbook of Psychology and Sexual Orientation. Oxford University Press; 2012 [cited 2020 Dec 20]:267-280. doi:10.1093/acprof:oso/9780199765218.003.0019.
[xx] James S, Brown C, Wilson I. 2015 U.S. transgender survey: report on the experiences of Black respondents [Internet]. Washington, DC: National Center for Transgender Equality, Black Trans Advocacy; Dallas (TX): National Black Justice Coalition; c2015 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/usts/USTS-Black-Respondents-Report.pdf
[xxi] Brown T, Herman J. Intimate partner violence and sexual abuse among LGBT people: a review of existing research. The Williams Institute. UCLA School of Law; 2015 Nov [cited 2020 Nov 29]. Available from: https://williamsinstitute.law.ucla.edu/publications/ipv-sex-abuse-lgbt-people/
[xxii] James SE, Herman JL, Rankin S, Kiesling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey [Internet]. Washington, DC: National Center for Transgender Equality; c2016 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF
[xxiii] James S, Brown C, Wilson I. 2015 U.S. transgender survey: report on the experiences of Black respondents [Internet]. Washington, DC: National Center for Transgender Equality, Black Trans Advocacy; Dallas (TX): National Black Justice Coalition; c2015 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/usts/USTS-Black-Respondents-Report.pdf
[xxiv] James S, Brown C, Wilson I. 2015 U.S. transgender survey: report on the experiences of Black respondents [Internet]. Washington, DC: National Center for Transgender Equality, Black Trans Advocacy; Dallas (TX): National Black Justice Coalition; c2015 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/usts/USTS-Black-Respondents-Report.pdf
[xxv] Human Rights Campaign Foundation. Black & African American LGBTQ youth report [Internet]. Washington, DC: Human Rights Campaign Foundation; University of Connecticut; c2019 [cited 2020 Nov 23]. Available from: https://assets2.hrc.org/files/assets/resources/HRC_2019_Black_and_African_American_LGBTQ_Youth_Report-FINAL-web.pdf
[xxvi] Human Rights Campaign Foundation. Black & African American LGBTQ youth report [Internet]. Washington, DC: Human Rights Campaign Foundation; University of Connecticut; c2019 [cited 2020 Nov 23]. Available from: https://assets2.hrc.org/files/assets/resources/HRC_2019_Black_and_African_American_LGBTQ_Youth_Report-FINAL-web.pdf
[xxvii] ucr.fbi.gov [Internet]. 2019 hate crime statistics: table 1, incidents, offenses, victims, and known offenders by bias motivation. Washington, DC: U.S. Department of Justice, Federal Bureau of Investigation, Criminal Services Division; 2019 [cited 2020 Dec 20]. Available from: https://ucr.fbi.gov/hate-crime/2019/topic-pages/tables/table-1.xls

[xxviii] ucr.fbi.gov [Internet]. 2019 hate crime statistics: table 1, incidents, offenses, victims, and known offenders by bias motivation. Washington, DC: U.S. Department of Justice, Federal Bureau of Investigation, Criminal Services Division; 2019 [cited 2020 Dec 20]. Available from: https://ucr.fbi.gov/hate-crime/2019/topic-pages/tables/table-1.xls
[xxix] Green E. The extraordinarily common violence against LGBT people in America [Internet]. Boston (MA): The Atlantic; 2016 Jun [cited 2020 Nov 29]. Available from: https://www.theatlantic.com/politics/archive/2016/06/the-extraordinarily-common-violence-against-lgbt-people-in-america/486722/
[xxx] ucr.fbi.gov [Internet]. 2019 hate crime statistics: North Carolina hate crime incidents per bias motivation and quarter by agency. Washington, DC: U.S. Department of Justice, Federal Bureau of Investigation, Criminal Services Division; 2019 [cited 2020 Dec 20]. Available from: https://ucr.fbi.gov/hate-crime/2019/tables/table-13-state-cuts/north_carolina.xls
[xxxi] Fitzsimons T. Nearly 1 in 5 hate crimes motivated by anti-LGBTQ bias, FBI finds [Internet]. New York (NY): NBC News; 2019 Nov 12 [cited 2020 Nov 29]. Available from: https://www.nbcnews.com/feature/nbc-out/nearly-1-5-hate-crimes-motivated-anti-lgbtq-bias-fbi-n1080891
[xxxii] James S, Brown C, Wilson I. 2015 U.S. transgender survey: report on the experiences of Black respondents [Internet]. Washington, DC: National Center for Transgender Equality, Black Trans Advocacy; Dallas (TX): National Black Justice Coalition; c2015 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/usts/USTS-Black-Respondents-Report.pdf
[xxxiii] Human Rights Campaign Foundation. Black & African American LGBTQ youth report [Internet]. Washington, DC: Human Rights Campaign Foundation; University of Connecticut; c2019 [cited 2020 Nov 23]. Available from: https://assets2.hrc.org/files/assets/resources/HRC_2019_Black_and_African_American_LGBTQ_Youth_Report-FINAL-web.pdf
[xxxiv] McBride S. HRC & Trans People of Color Coalition release report on violence against the transgender community [Internet]. Washington, DC: Human Rights Campaign Foundation; 2017 Nov 17 [cited 2021 Jan 3]. Available from: https://www.hrc.org/news/hrc-trans-people-of-color-coalition-release-report-on-violence-against-the
[xxxv] A time to act: fatal violence against transgender people in America [Internet]. Washington, DC: Human Rights Coalition Foundation; Trans People of Color Coalition; c2017 [cited 2020 Nov 29]. Available from: https://assets2.hrc.org/files/assets/resources/A_Time_To_Act_2017_REV3.pdf
[xxxvi] A time to act: fatal violence against transgender people in America [Internet]. Washington, DC: Human Rights Coalition Foundation; Trans People of Color Coalition; c2017 [cited 2020 Nov 29]. Available from: https://assets2.hrc.org/files/assets/resources/A_Time_To_Act_2017_REV3.pdf
[xxxvii] James S, Brown C, Wilson I. 2015 U.S. transgender survey: report on the experiences of Black respondents [Internet]. Washington, DC: National Center for Transgender Equality, Black Trans Advocacy; Dallas (TX): National Black Justice Coalition; c2015 [cited 2020 Dec 20]. Available from: https://www.transequality.org/sites/default/files/docs/usts/USTS-Black-Respondents-Report.pdf
[xxxviii] Luck J, Chang C, Brown ER, Lumpkin J. Using local health information to promote public health. Health Aff (Millwood). 2006 Jul-Aug [cited 2020 Dec 20];25(4):979-91. doi: 10.1377/hlthaff.25.4.979. PMID: 16835177.
[xxxix] Grant J, Mottet L, Tanis J. Injustice at every turn: a report of the national discrimination survey [Internet]. Washington, DC: National Center for Transgender Equality; National Gay and Lesbian Task Force; c2011 [cited 2020 Dec 20]. Available from: https://transequality.org/sites/default/files/docs/resources/NTDS_Report.pdf
[xl] Wolff KB, Cokely CL. To protect and to serve? An exploration of police conduct in relation to the gay, lesbian, bisexual, and transgender community. Sex Cult. 2007 [cited 2020 Dec 20];11(2):1-23. doi:10.1007/s12119-007-9000-z.

[xli] Testa RJ, Sciacca LM, Wang F, et al. Effects of violence on transgender people. Prof Psychol Res Pract. 2012 [cited 2020 Dec 29];43(5):452-459. doi:10.1037/a0029604.
[xlii] Wolff KB, Cokely CL. To protect and to serve? An exploration of police conduct in relation to the gay, lesbian, bisexual, and transgender community. Sex Cult. 2007 [cited 2020 Dec 20];11(2):1-23. doi:10.1007/s12119-007-9000-z.
[xliii] Wolff KB, Cokely CL. To protect and to serve? An exploration of police conduct in relation to the gay, lesbian, bisexual, and transgender community. Sex Cult. 2007 [cited 2020 Dec 20];11(2):1-23. doi:10.1007/s12119-007-9000-z.
[xliv] Testa RJ, Sciacca LM, Wang F, et al. Effects of violence on transgender people. Prof Psychol Res Pract. 2012 [cited 2020 Dec 29];43(5):452-459. doi:10.1037/a0029604.
[xlv] hrg.org [Internet]. The LGBT PRIDE Act would combat violence, suicide in LGBTQ community. Washington, DC: Human Rights Campaign; 2017 Jun 13 [cited 2020 Nov 29]. Available from: https://www.hrc.org/blog/the-lgbt-pride-act-would-combat-violence-suicide-in-lgbtq-community/
[xlvi] McKay T, Misra S, Lindquist C. Violence and LGBTQ+ communities: what do we know, and what do we need to know? [Internet]. Research Triangle Park (NC): RTI International, Violence and Victimization Research Program; 2017 Mar [cited 2020 Nov 29]. Available from: https://www.rti.org/sites/default/files/rti_violence_and_lgbtq_communities.pdf

Section 15.04 *Chronic disease*

Overview

Chronic diseases such as cancer, diabetes and heart disease are some of the leading causes of death in the U.S. Nationally, there are well-documented inequities between LGBTQ+ populations and straight cisgender populations in some chronic diseases and behaviors related to them.[i] Data from North Carolina confirm these inequities.[ii,iii] However, there is not adequate data to provide exact estimates of chronic disease among LGBTQ+ people in Durham County. Chronic diseases are largely caused by tobacco use and exposure to secondhand smoke, poor nutrition, lack of physical activity and excessive alcohol use.

Of particular concern for the health of LGBTQ+ communities are tobacco use, exposure to secondhand smoke and excessive alcohol use.[iv] However, not all LGBTQ+ communities are faced with the same risks from chronic disease. Specific parts of LGBTQ+ communities may be more vulnerable to barriers to cancer screening, at higher risk of certain types of cancers, at greater risk of obesity and have barriers to healthcare services for chronic disease management and screening.

Three critically important ways in which inequities between LGBTQ+ populations and straight cisgender populations are (1) lack of resources caused by discrimination in employment, (2) individual and community coping with stressors from discrimination and stigma and (3) targeted marketing for health-harming products such as alcohol and tobacco products.

Primary Data

Unfortunately, there is a stark lack of primary data available about the Durham LGBTQ+ population as it relates to chronic disease. As such, it would be prudent to continue efforts to collect sexual orientation and gender identity data within future community health assessments, until such time that large enough sample sizes can be collected to more accurately characterize the Durham LGBTQ+ community. State and national data have identified differences in chronic disease for LGBTQ+ populations compared to straight cisgender counterparts.

Secondary Data

This section focuses on three main chronic diseases (cancer, diabetes, heart disease) responsible for a significant proportion of early death and disease as well as four causes of chronic disease (tobacco use, nutrition, physical activity and excessive alcohol use). This is not a comprehensive list of every chronic disease. The data presented are from state and national studies and can likely apply to Durham's LGBTQ+ communities.

Cancer

Existing studies have indicated that the lesbian and gay communities have disproportionately higher rates of certain types of types of cancer.[v,vi,vii] Studies have demonstrated that in comparison to their heterosexual counterparts, lesbians have higher rates of both breast and cervical cancer.[viii] Limited studies have illustrated that these varying rates may be secondary to lower rates of screening mammograms and Pap smears.[ix,x] Screening barriers also exist for transgender populations, likely due to difficulty accessing gender affirming healthcare and poor treatment by healthcare providers.[xi] Differences in access to resources including health insurance, may also play a role. In addition, the limited research available shows that lesbians have more risk factors associated with both cervical and breast cancer including obesity and high-fat diets, smoking and alcohol abuse, having never been pregnant and decreased breast feeding.[xii,xiii] Gay men have been shown to have higher rates of HPV-related cancers.[xiv] The higher rates of incidence of these specific cancers are thought to be secondary to more risk factors associated with these types of cancer, most notably exposure to HPV in men who engage in anal sex.[xv,xvi]

Diabetes

Some evidence suggests greater risk of diabetes among gay men than their straight counterparts.[xvii] However, data are limited. There are barriers to diabetes management for LGBTQ+ communities.[xviii] These barriers likely include difficulty accessing LGBTQ+ affirming healthcare, differences in available resources due to employment discrimination and experience stressors that make compliance with diabetes management guidelines more difficult.[xix]

Heart Disease

Studies have suggested that some LGBTQ+ populations are at an increased risk for developing heart disease based on risk factors.[xx,xxi] However, data are mixed on the size of a disparity and which portions of LGBTQ+ communities are at greatest risk.[xxii,xxiii]

Cause 1: Tobacco Use

Tobacco use is well documented to be higher among LGBTQ+ communities. Tobacco use levels are not the same across LGBTQ+ communities.[xxiv] Bisexual and transgender members of LGBTQ+ communities are at much greater risk of smoking.[xxv] Contributing factors include social stigma, stress, depression and community norms.[xxvi]

Cause 2: Poor Nutrition

One area of particular concern regarding nutrition is food insecurity or hunger. Among adult women in the U.S., sexual minority women were more likely than their straight counterparts to experience food insecurity.[xxvii] This is likely due to disparities in economic resources. LGBTQ+ people and LGBTQ+ women in particular are more likely to be living under the poverty line than their straight counterparts.[xxviii]

Cause 3: Limited Physical Activity

Among lesbian and bisexual women, there is less reported regular physical activity than among their straight cisgender counterparts.[xxix] Barriers to physical activity may include feeling unsafe in leisure spaces and activities, although there is likely substantial diversity within LGBTQ+ communities in these experiences.[xxx]

Cause 4: Alcohol Use

Alcohol use causes cancer and can result in alcohol use disorder or addiction.[xxxi] Excessive alcohol use includes binge drinking, heavy drinking, underage drinking, and use by a pregnant person. There is variation in alcohol use among LGBTQ+ communities.[xxxii] Bisexual women have some of the highest levels of alcohol use.[xxxiii] Alcohol use is higher among transgender than cisgender adults and among lesbian women than straight women in the U.S. [xxxiv] Among women, there may be important differences by race.[xxxv] The reasons for this include targeted alcohol marketing and use of alcohol as a coping mechanism for stressful situations including anti-LGBTQ+ discrimination.[xxxvi]

Interpretations: Disparities, Gaps, Emerging Issues

It is evident that the LGBTQ+ population experiences disparities and gaps when it comes to chronic diseases. These disparities are likely caused by differences in resources and responses to exposure from stressful life events due to stigma and discrimination. Many of these disparities in chronic disease cannot be solved by education alone and require changes to how society treats LGBTQ+ people. However, policy changes and targeted interventions can help address these disparities.[xxxvii]

Recommended Strategies

The following is a bulleted list of recommended strategies for beginning to address LGBTQ+ disparities and gaps as they relate to chronic disease:

- Strengthen tobacco prevention efforts with community partnerships between state, local, and LGBTQ+ community organizations.
- Promote QuitlineNC and other tobacco cessation efforts to LGBTQ+ populations to address underutilization of cessation resources.[xxxviii]
- Strengthen efforts to address hazardous alcohol use.
- Support efforts to enforce protections against discrimination for LGBTQ+ populations, thereby reducing disparities in employment, pay, housing and access to resources.
- Support efforts to reduce homelessness and ensure housing options for LGBTQ+ youth.
- Support efforts for Gay Straight Alliances and presence of supporting adults to reduce stressors, thereby reducing initiation and maintenance of substance use among LGBTQ+ adolescents.[xxxix]

- Promote HPV vaccination among LGBTQ+ communities, particularly among young gay men by integrating HPV vaccination campaigns with other health and community outreach effort.
- Ensuring that ALL patients have equal access to affordable and comprehensive health insurance.[xl]
- Creating welcoming and friendly healthcare environments with visible non-discrimination policies that foster trust and encourage disclosure.[xli,xlii]
- It is important for public health interventions to recognize differences in LGBTQ+ communities. Interventions should disentangle level of risk and focusing efforts on groups within LGBTQ+ communities experiencing the greatest levels of stressors from stigma and discrimination. Focus on specific parts of LGBTQ+ communities should be done with care to minimize potential stigma.[xliii]

Current Initiatives & Activities

American Heart Association From humble beginnings, the AHA has grown into the nation's oldest and largest voluntary organization dedicated to fighting heart disease and stroke. https://www.heart.org/en/affiliates/north-carolina/triangle

Carolina Outreach Behavioral Health Urgent Care is a walk-in clinic for children and adults experiencing a mental health crisis and/or substance use issues https://carolinaoutreachbhuc.com/

QuitlineNC offers free cessation services for any North Carolina resident who needs help quitting commercial tobacco product use. 1-800-QUITNOW (1-800-784-8669) or www.quitlinenc.com

The Learning Together Program teaches chronic care to Durham children and is funded by Duke's Division of Community Health. It aims to introduce students to the precursors of chronic disease and teach management. The program works with Durham Public Schools and teachers throughout North Carolina, focusing on five lesson plans that can be embedded into teachers' existing curricula. https://fmch.duke.edu/division-community-health/population-health/health-promotion-and-disease-prevention/teaching-chronic

The Chronic Care Initiative (CCI) is a partnership between Durham County Department of Public Health and local agencies and stakeholders. They offer health care navigation, social work care management, chronic illness self-management education, and community resources referral assistance for transportation, housing, employment, and food. https://www.dcopublichealth.org/services/nutrition/cci

Duke Family Medicine Center offers a range of culturally sensitive and knowledgeable medical services for LGBTQ+ patients. The Center works with specialists throughout Duke to provide adult gender care, PrEP for people at high risk for HIV infection, gender affirming hormone therapy and gynecological care. For more information on the Duke Family Medicine Center, see: https://www.dukehealth.org/locations/duke-family-medicine-center

References

[i] Mayer KH, Bradford JB, Makadon HJ, Stall R, Goldhammer H, Landers S. Sexual and gender minority health: what we know and what needs to be done [Internet]. Am J Public Health. 2008 Jun;98(6):989-95. doi: 10.2105/AJPH.2007.127811. Epub 2008 Apr 29 [cited 2021 Jan 3]. PMID: 18445789; PMCID: PMC2377288. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/18445789/

[ii] Matthews DD, Lee JG. A profile of North Carolina lesbian, gay, and bisexual health disparities, 2011 [Internet]. Am J Public Health. 2014 Jun [cited 2020 Dec 20];104(6):e98-e105. doi: 10.2105/AJPH.2013.301751. Epub 2014 Apr 17. PMID: 24825240; PMCID: PMC4061991. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4061991/

[iii] Barnhill MM, Lee JGL, Rafferty AP. Health Inequities among lesbian, gay, and bisexual adults in North Carolina, 2011-2014 [Internet]. Int J Environ Res Public Health. 2017 Jul 25 [cited 2020 Dec 20];14(8):835. doi: 10.3390/ijerph14080835. PMID: 28757566; PMCID: PMC5580539. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5580539/

[iv] Cunningham TJ, Xu F, Town M. Prevalence of five health-related behaviors for chronic disease prevention among sexual and gender minority adults: 25 U.S. states and Guam, 2016 [Internet]. MMWR Morb Mortal Wkly Rep. 2018 Aug 17 [cited 2020 Nov 29];67(32):888-893. doi: 10.15585/mmwr.mm6732a4. PMID: 30114006; PMCID: PMC6095649. Available from: https://pubmed.ncbi.nlm.nih.gov/30114006/

[v] Tamargo CL, Quinn GP, Sanchez JA, Schabath MB. Cancer and the LGBTQ population: quantitative and qualitative results from an oncology providers' survey on knowledge, attitudes, and practice behaviors [Internet]. J Clin Med. 2017 Oct 7 [cited 2020 Dec 20];6(10):93. doi: 10.3390/jcm6100093. PMID: 28991160; PMCID: PMC5664008. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5664008/

[vi] Margolies L, Brown CG. Current state of knowledge about cancer in lesbians, gay, bisexual, and transgender (LGBT) people [Internet]. Semin Oncol Nurs. 2018 Feb [cited 2020 Dec 20];34(1):3-11. doi: 10.1016/j.soncn.2017.11.003. Epub 2017 Dec 25. PMID: 29284587. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0749-2081(17)30117-1

[vii] Gonzales G, Zinone R. Cancer diagnoses among lesbian, gay, and bisexual adults: results from the 2013-2016 National Health Interview Survey [Internet]. Cancer Causes Control. 2018 Sep [cited 2020 Dec 20];29(9):845-854. doi: 10.1007/s10552-018-1060-x. Epub 2018 Jul 24. PMID: 30043193. Available from: https://pubmed.ncbi.nlm.nih.gov/30043193/

[viii] Quinn GP, Sanchez JA, Sutton SK, Vadaparampil ST, Nguyen GT, Green BL, Kanetsky PA, Schabath MB. Cancer and lesbian, gay, bisexual, transgender/transsexual, and queer/questioning (LGBTQ) populations [Internet]. CA Cancer J Clin. 2015 Sep-Oct [cited 2020 Dec 20];65(5):384-400. doi: 10.3322/caac.21288. Epub 2015 Jul 17. PMID: 26186412; PMCID: PMC4609168. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4609168/

[ix] Solazzo A, Gorman B, Denney J. Cancer screening utilization among U.S. women: how mammogram and pap test use varies among heterosexual, lesbian, and bisexual women [Internet]. Population Research and Policy Review. 2017 Feb 8 [cited 2020 Dec 20];36(357). Available from: https://doi.org/10.1007/s11113-017-9425-5

[x] Martins I. Lesbians less likely to be screened for Cervical Cancer than other women [Internet]. Cervical Cancer News; 2017 Feb 21 [cited 2020 Dec 20]. Available from: https://cervicalcancernews.com/2017/02/21/lesbian-women-less-likely-than-heterosexuals-to-get-annual-pap-smears/

[xi] Tabaac A, Sutter M, Wall C, Baler K. Gender identity disparities in cancer screening behaviors. American Journal of Preventive Medicine. 2018 Mar [cited 2020 Dec 20];54(3):385-393. doi.org/10.1016/j.amepre.2017.11.009

[xii] Valanis BG, Bowen DJ, Bassford T, Whitlock E, Charney P, Carter RA. Sexual orientation and health: comparisons in the women's health initiative sample. Arch Fam Med. 2000 Sep-Oct [cited 2020 Dec 20];9(9):843-53. doi: 10.1001/archfami.9.9.843. PMID: 11031391.
[xiii] Dibble SL, Roberts SA, Nussey B. Comparing breast cancer risk between lesbians and their heterosexual sisters [Internet]. Womens Health Issues. 2004 Mar-Apr [cited 2020 Dec 23];14(2):60-8. doi: 10.1016/j.whi.2004.03.004. PMID: 15120415. Available from: https://www.whijournal.com/article/S1049-3867(04)00018-0/fulltext
[xiv] Boehmer U, Cooley TP, Clark MA. Cancer and men who have sex with men: a systematic review [Internet]. Lancet Oncol. 2012 Dec [cited 2020 Nov 29];13(12):e545-53. doi: 10.1016/S1470-2045(12)70347-9. PMID: 23182195. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1470-2045(12)70347-9
[xv] Dibble SL, Roberts SA, Nussey B. Comparing breast cancer risk between lesbians and their heterosexual sisters [Internet]. Womens Health Issues. 2004 Mar-Apr [cited 2020 Dec 23];14(2):60-8. doi: 10.1016/j.whi.2004.03.004. PMID: 15120415. Available from: https://www.whijournal.com/article/S1049-3867(04)00018-0/fulltext
[xvi] Asencio M, Blank T, Descartes L, Crawford S. The prospect of prostate cancer: a challenge for gay men's sexualities as they age. Sexuality Research and Social Policy Journal of NSRC. 2009 [cited 2020 Nov 29];6(4): 38-51.
[xvii] Beach LB, Elasy TA, Gonzales G. Prevalence of self-reported diabetes by sexual orientation: results from the 2014 behavioral risk factor surveillance system [Internet]. LGBT Health. 2018 Feb/Mar [cited 2020 Nov 29];5(2):121-130. doi: 10.1089/lgbt.2017.0091. Epub 2018 Jan 29. PMID: 29377760; PMCID: PMC5833244. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/29377760/
[xviii] Tran P, Tran L, Tran L. Influence of sexual orientation on diabetes management in US adults with diabetes [Internet]. Diabetes Metab. 2020 Aug 1 [cited 2020 Nov 29]:S1262-3636(20)30096-3. doi: 10.1016/j.diabet.2020.07.004. Epub ahead of print. PMID: 32750453. Available from: https://pubmed.ncbi.nlm.nih.gov/32750453/
[xix] Beach LB, Elasy TA, Gonzales G. Prevalence of self-reported diabetes by sexual orientation: results from the 2014 behavioral risk factor surveillance system [Internet]. LGBT Health. 2018 Feb/Mar [cited 2020 Nov 29];5(2):121-130. doi: 10.1089/lgbt.2017.0091. Epub 2018 Jan 29. PMID: 29377760; PMCID: PMC5833244. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/29377760/
[xx] Caceres BA, Makarem N, Hickey KT, Hughes TL. Cardiovascular disease disparities in sexual minority adults: an examination of the behavioral risk factor surveillance system (2014-2016) [Internet]. Am J Health Promot. 2019 May [cited 2020 Nov 29];33(4):576-585. doi: 10.1177/0890117118810246. Epub 2018 Nov 5. PMID: 30392384; PMCID: PMC6476632. Available from: https://pubmed.ncbi.nlm.nih.gov/30392384/
[xxi] Caceres BA, Brody A, Luscombe RE, Primiano JE, Marusca P, Sitts EM, Chyun D. A systematic review of cardiovascular disease in sexual minorities [Internet]. Am J Public Health. 2017 Apr [cited 2020 Nov 29];107(4):e13-e21. doi: 10.2105/AJPH.2016.303630. Epub 2017 Feb 16. PMID: 28207331; PMCID: PMC5343694. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5343694/
[xxii] Caceres BA, Brody AA, Halkitis PN, Dorsen C, Yu G, Chyun DA. Sexual orientation differences in modifiable risk factors for cardiovascular disease and cardiovascular disease diagnoses in men [Internet]. LGBT Health. 2018 Jul [cited 2020 Nov 29];5(5):284-294. doi: 10.1089/lgbt.2017.0220. Epub 2018 Jun 11. PMID: 29889585; PMCID: PMC6034400. Available from: https://pubmed.ncbi.nlm.nih.gov/29889585/
[xxiii] Caceres BA, Makarem N, Hickey KT, Hughes TL. Cardiovascular disease disparities in sexual minority adults: an examination of the behavioral risk factor surveillance system (2014-2016) [Internet]. Am J Health Promot. 2019 May [cited 2020 Nov 29];33(4):576-585. doi: 10.1177/0890117118810246. Epub 2018 Nov 5. PMID: 30392384; PMCID: PMC6476632. Available from: https://pubmed.ncbi.nlm.nih.gov/30392384/

[xxiv] Lee JG, Shook-Sa BE, Gilbert J, Ranney LM, Goldstein AO, Boynton MH. Risk, resilience, and smoking in a national, probability sample of sexual and gender minority adults, 2017, USA [Internet]. Health Educ Behav. 2020 [cited 2020 Nov 29];47:272-283. Available from: https://doi.org/10.1177/1090198119893374

[xxv] Emory K, Kim Y, Buchting F, Vera L, Huang J, Emery SL. Intragroup variance in lesbian, gay, and bisexual tobacco use behaviors: evidence that subgroups matter, notably bisexual women [Internet]. Nicotine Tob Res. 2016 Jun [2020 Nov 29];18(6):1494-501. doi: 10.1093/ntr/ntv208. Epub 2015 Sep 16. PMID: 26377512; PMCID: PMC5896797. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/26377512/

[xxvi] Blosnich J, Lee JG, Horn K. A systematic review of the etiology of tobacco disparities for sexual minorities [Internet]. Tob Control. 2013 Mar [cited 2020 Nov 29];22(2):66-73. doi: 10.1136/tobaccocontrol-2011-050181. Epub 2011 Dec 14. PMID: 22170335; PMCID: PMC3779881. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/22170335/

[xxvii] Patterson JG, Russomanno J, Jabson Tree JM. Sexual orientation disparities in food insecurity and food assistance use in U.S. adult women: National Health and Nutrition Examination Survey, 2005-2014 [Internet]. BMC Public Health. 2020 Aug 13 [cited 2020 Nov 29];20(1):1155. doi: 10.1186/s12889-020-09261-9. PMID: 32787863; PMCID: PMC7425068. Available from: https://pubmed.ncbi.nlm.nih.gov/32787863/

[xxviii] Badgett M, Choi S, Wilson BD. LGBT poverty in the United States: a study of differences between sexual orientation and gender identity groups [Internet]. Los Angeles (CA): The Williams Institute, UCLA School of Law; 2019 Oct [cited 2020 Nov 29]. Available from: https://escholarship.org/uc/item/37b617z8.

[xxix] Cunningham TJ, Xu F, Town M. Prevalence of five health-related behaviors for chronic disease prevention among sexual and gender minority adults: 25 U.S. states and Guam, 2016 [Internet]. MMWR Morb Mortal Wkly Rep. 2018 Aug 17 [cited 2020 Nov 29];67(32):888-893. doi: 10.15585/mmwr.mm6732a4. PMID: 30114006; PMCID: PMC6095649. Available from: https://pubmed.ncbi.nlm.nih.gov/30114006/

[xxx] Herrick SSC, Duncan LR. A qualitative exploration of LGBTQ+ and intersecting identities within physical activity contexts [Internet]. J Sport Exerc Psychol. 2018 Dec 1 [cited 2020 Nov 29];40(6):325-335. doi: 10.1123/jsep.2018-0090. Epub 2018 Dec 12. PMID: 30537884. Available from: https://pubmed.ncbi.nlm.nih.gov/30537884/

[xxxi] Bagnardi V, Rota M, Botteri E, Tramacere I, Islami F, Fedirko V, Scotti L, Jenab M, Turati F, Pasquali E, Pelucchi C, Galeone C, Bellocco R, Negri E, Corrao G, Boffetta P, La Vecchia C. Alcohol consumption and site-specific cancer risk: a comprehensive dose–response meta-analysis [Internet]. Br J Cancer. 2015 [cited 2020 Nov 29];112:580–593. Available from: https://doi.org/10.1038/bjc.2014.579

[xxxii] Schuler MS, Rice CE, Evans-Polce RJ, Collins RL. Disparities in substance use behaviors and disorders among adult sexual minorities by age, gender, and sexual identity [Internet]. Drug Alcohol Depend. 2018 Aug 1 [cited 2020 Nov 29];189:139-146. doi: 10.1016/j.drugalcdep.2018.05.008. Epub 2018 Jun 19. PMID: 29944989; PMCID: PMC6083846. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/29944989/

[xxxiii] Schuler MS, Rice CE, Evans-Polce RJ, Collins RL. Disparities in substance use behaviors and disorders among adult sexual minorities by age, gender, and sexual identity [Internet]. Drug Alcohol Depend. 2018 Aug 1 [cited 2020 Nov 29];189:139-146. doi: 10.1016/j.drugalcdep.2018.05.008. Epub 2018 Jun 19. PMID: 29944989; PMCID: PMC6083846. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/29944989/

[xxxiv] Gilbert PA, Pass LE, Keuroghlian AS, Greenfield TK, Reisner SL. Alcohol research with transgender populations: A systematic review and recommendations to strengthen future studies [Internet]. Drug Alcohol Depend. 2018 May 1 [cited 2020 Nov 29];186:138-146. doi: 10.1016/j.drugalcdep.2018.01.016.

Epub 2018 Mar 10. PMID: 29571076; PMCID: PMC5911250. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/29571076/
[xxxv] Greene N, Jackson JW, Dean LT. Examining disparities in excessive alcohol use among Black and Hispanic lesbian and bisexual women in the United States: an intersectional analysis [Internet]. J Stud Alcohol Drugs. 2020 Jul [cited 2020 Nov 29];81(4):462-470. doi: 10.15288/jsad.2020.81.462. PMID: 32800082; PMCID: PMC7437553. Available from: https://www.jsad.com/doi/abs/10.15288/jsad.2020.81.462
[xxxvi] Schuler MS, Rice CE, Evans-Polce RJ, Collins RL. Disparities in substance use behaviors and disorders among adult sexual minorities by age, gender, and sexual identity [Internet]. Drug Alcohol Depend. 2018 Aug 1 [cited 2020 Nov 29];189:139-146. doi: 10.1016/j.drugalcdep.2018.05.008. Epub 2018 Jun 19. PMID: 29944989; PMCID: PMC6083846. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/29944989/
[xxxvii] Mulé NJ, Ross LE, Deeprose B, Jackson BE, Daley A, Travers A, Moore D. Promoting LGBT health and wellbeing through inclusive policy development [Internet]. Int J Equity Health. 2009 May 15 [cited 2021 Jan 3];8:18. doi: 10.1186/1475-9276-8-18. PMID: 19442315; PMCID: PMC2698868. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2698868/
[xxxviii] quitlinenc.com [Internet]. Quitline NC. Raleigh (NC): NC Department of Health and Human Services Division of Public Health; c2021 [cited 2020 Nov 29]. Available from: https://www.quitlinenc.com/
[xxxix] Loverno S, Belser AB, Baiocco R, Grossman AH, Russell ST. The protective role of gay-straight alliances for lesbian, gay, bisexual, and questioning students: a prospective analysis [Internet]. Psychol Sex Orientat Gend Divers. 2016 Dec [cited 2021 Jan 3];3(4):397-406. doi: 10.1037/sgd0000193. PMID: 28042585; PMCID: PMC5193472. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5193472/
[xl] Mulé NJ, Ross LE, Deeprose B, Jackson BE, Daley A, Travers A, Moore D. Promoting LGBT health and wellbeing through inclusive policy development [Internet]. Int J Equity Health. 2009 May 15 [cited 2021 Jan 3];8:18. doi: 10.1186/1475-9276-8-18. PMID: 19442315; PMCID: PMC2698868. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2698868/
[xli] Daley AE, Macdonnell JA. Gender, sexuality and the discursive representation of access and equity in health services literature: implications for LGBT communities [Internet]. Int J Equity Health. 2011 Sep 29 [cited 2021 Jan 3];10:40. doi: 10.1186/1475-9276-10-40. PMID: 21957894; PMCID: PMC3195712. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/21957894/
[xlii] Mulé NJ, Ross LE, Deeprose B, Jackson BE, Daley A, Travers A, Moore D. Promoting LGBT health and wellbeing through inclusive policy development [Internet]. Int J Equity Health. 2009 May 15 [cited 2021 Jan 3];8:18. doi: 10.1186/1475-9276-8-18. PMID: 19442315; PMCID: PMC2698868. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2698868/
[xliii] Mulé NJ, Ross LE, Deeprose B, Jackson BE, Daley A, Travers A, Moore D. Promoting LGBT health and wellbeing through inclusive policy development [Internet]. Int J Equity Health. 2009 May 15 [cited 2021 Jan 3];8:18. doi: 10.1186/1475-9276-8-18. PMID: 19442315; PMCID: PMC2698868. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2698868/

Section 15.05 *Infectious disease*

Overview

Infectious disease remains one of the most burdensome and often preventable types of morbidity and mortality in the U.S. and LGBTQ+ populations are often at increased risk. There is a robust history of data on many infectious disease inequities, primarily HIV/AIDS and other sexually transmitted infections (STIs) among cisgender men who have sex with men (MSM).[i] The enormity of these epidemics has resulted in robust surveillance data within Durham County. However, there remain notable data limitations on these epidemics among LGBTQ+ populations, primarily related to an underrepresentation of transgender persons.

The reasons for high rates of HIV and STIs among LGBTQ+ populations are numerous, but can be broadly categorized into the following areas for LGBTQ+ persons living in the Southeastern U.S.; discrimination and barriers to health care, stigma and its effect on mental health and health behaviors such as substance use, a lack of comprehensive sexual education and HIV criminalization laws. Though frequently conceptualized as a monolithic group defined by sexual behavior, these social determinants are a powerful reminder that conceptualization of health inequities is crucial. What places LGBTQ+ populations at risk for HIV/STIs has less to do with sexual behavior and primarily systems and structures that increase fundamental risks.[ii]

Of particular note with infectious disease is the emergence of the COVID-19 pandemic in the U.S. in early 2020. Though there are not yet robust data on COVID as it relates to LGBTQ+ specifically, especially at the local level. Many of the same structural determinants that place LGBTQ+ communities at risk for adverse health generally still apply. These factors most likely increase likelihood of COVID-19 infection, as well as increased risk of COVID-19 related morbidity and mortality.

Secondary Data

Between 2014 and 2018, the U.S. experienced a relatively stable rate of new HIV infections, with a slight decrease overall.[iii] Unfortunately, the rate among men who have sex with men (MSM) ages 25 to 34 increased by six percent and the reductions in HIV incidence among MSM where almost exclusively driven by reductions among white MSM alone.[iv] What is of primary importance from the national data are the fact that the South is home to the majority of new HIV infections among Black MSM and the plurality of new infections among Latinx MSM.[v]

Durham County, while remaining fourth in county rank for rate of HIV infection, has reduced its rate of HIV infection from 31.7 per 100,000 in 2016 to 22.8 per 100,000 in 2018.[vi] In contrast with the reduction in HIV infection, rates of other STIs increased in Durham County from 2014 to 2018.[vii]

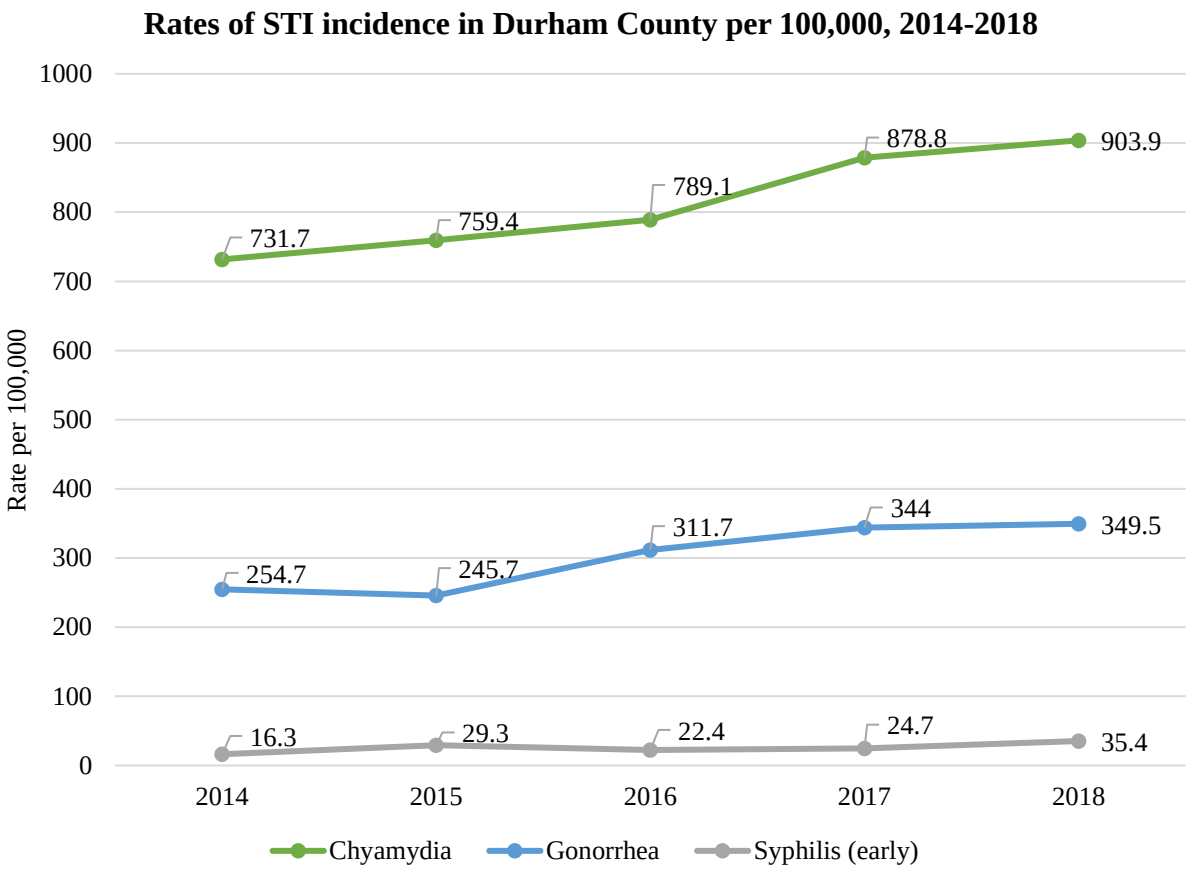


Figure 15.05 (a) Rates of STI incidence, Durham County, 2014-2018[viii]

In 2019, there were three new acute and 50 new chronic cases of Hepatitis B in Durham County. Though the number of new acute infections of Hepatitis C remains small (three cases in 2019), there were 1,935 new chronic Hepatitis C cases in Durham County 2019.[ix] This may reflect a variety of factors including improved diagnosis through the awareness of the opioid epidemic.[1] Data suggests that nationally MSM are more likely to be infected with Hepatitis B and C.[x] In North Carolina they make up approximately one percent of all Hepatitis B cases and were not represented in any new acute Hepatitis C cases in 2018.[xi] Though these rates are low, it will remain important to keep an eye on the data as nationally there is a high rate of co-infection with HIV and Hepatitis C (6.2%) among MSM.[xii]

Discrimination and Barriers to Healthcare

LGBTQ+ and HIV-related stigma is pervasive in the Southeastern U.S. and acts as a barrier to testing and engagement in care, contributing to a higher susceptibility to HIV/STI infections.[xiii]

[1] From the North Carolina Hepatitis B/C Surveillance Report: "Chronic hepatitis C became reportable in North Carolina in October 2016 and is only reported from laboratories reporting electronically. These numbers are likely an underestimation. The number of chronic hepatitis C cases is given as "reported" rather than "newly diagnosed."

Research has proven that consistent HIV treatment prevents HIV transmission. In 2019, the Centers for Disease Control and Prevention (CDC) formally endorsed "U = U" (undetectable = untransmittable) messaging for programmatic activities to reflect the synergy between treatment and prevention.[xiv] HIV-related stigma is associated with failure at all stages of the HIV care continuum, resulting in late diagnoses, suboptimal linkage and retention in care, reduced adherence and ultimately a lower likelihood of achieving a suppressed viral load.[xv] Contemporary stigma and a legacy of clinical harms against LGBTQ+ people, (e.g., "conversion" therapy, pathologizing gender diversity as a psychiatric disorder) have created a medical mistrust which also makes communities less likely to access timely diagnosis and treatment services.[xvi,xvii] This facilitates continued transmission within sexual networks. Perhaps the most notable issue at the moment is that those most vulnerable within LGBTQ+ populations for HIV infection are also the least able to access pre-exposure prophylaxis (PrEP) to prevent HIV infection. People of color and transgender populations are less likely to have the economic resources, health insurance or access to affirming providers that support effective PrEP use. Though Durham County itself is not primarily rural, many North Carolinians may partner with people who do live in more rural parts of the state or may themselves live elsewhere for part of the year. They may experience a combination of heightened discrimination and reduced access to LGBTQ+ affirming health care.

These factors combined with racial inequity, poverty, low rates of health insurance and inability to access healthcare including uptake of PrEP, allow HIV/STIs to continue to rise. This is particularly true for people of color who face compounded discrimination and institutional barriers widely prevalent in the Southeastern U.S.[xviii]

Comprehensive Sex Education

Though intervening at the level of individual sexual behavior is not sufficient to address disparities in HIV and STIs, it is necessary. Sexual education policy in North Carolina is now such that abstinence-only approaches are deemed insufficient, and other medically accurate information about contraceptive methods, disease prevention and sexual assault must be included. There is no formal requirement to provide information highly relevant to LGBTQ+ students. Research demonstrates that states with higher proportions of schools that teach LGBTQ-inclusive sex education have the added benefit of LGBTQ+ students being less likely to report experiences of bullying, depressive symptoms and suicidality.[xix]

Stigma, Mental Health and Substance Use

Compared to cisgender heterosexual persons, LGBTQ+ communities experience higher rates of poor mental health and related health behaviors such as substance use.[xx,xxi] Though mental health is beyond the scope of this section, it has an important context in infectious disease, given how highly infectious injection drug use is for the transmission of HIV and Hepatitis C.[xxii,xxiii,xxiv] The ongoing opioid epidemic further undergirds these issues and is worsened by economic insecurity in which LGBTQ+ people bear a disproportionate burden.[xxv]

HIV Criminalization Laws

Until 2017, North Carolina was one of a majority of states with HIV disclosure laws that were not based in science and which penalized people living with HIV with criminal consequence including possible prison time.[xxvi] (Less extreme but similar laws still exist related to other STIs and Hepatitis B and C.) The rationale that penalizing a failure to disclose HIV status would facilitate testing and safe sex behaviors was not empirically proven. These draconian policies discourage prompt HIV testing, which in turn increases the likelihood people may unknowingly transmit HIV infection to others.[xxvii]

Fortunately, the 2018 revision to North Carolina's HIV criminalization law takes into account the current scientific reality of HIV infection. The risk of HIV transmission has nothing to do with disclosing HIV status to a partner, but with engaging in actions that prevention HIV infection.[xxviii] As such, those living with HIV who are virally suppressed and do not disclose their status to a sexual partner are no longer breaking state law, as they have not exposed anyone to HIV infection. The reality, is that it will take time to undo the longstanding stigmatizing effect of the prior criminalization law, as well as education. Many people do not know this is current state law, a fact only complicated by the patchwork of policies across the U.S.

Despite the advancement of this policy, it still remains inequitable in practice. LGBTQ+ people of color are not only more likely to be living with HIV than their white counterparts, they are also less likely to be virally suppressed.[xxix] Existing structural inequity means that for the most vulnerable residents, the law in practice never changed. Intersecting with this is the already heightened likelihood that people of color are at increased risk of interacting with the criminal justice system and have comparatively higher sentences when they do.[xxx]

COVID-19 Pandemic

The COVID-19 pandemic has drastically changed the lives of people across the globe and certainly in Durham County. Though not readily apparent, this pandemic also has disproportionate impact on LGBTQ+ populations. Though nothing about sexual orientation or gender identity inherently places individuals at differential risk of COVID-19 exposure, the association with structural vulnerability does. LGBTQ+ persons are more likely than cisgender heterosexual counterparts to be under or unemployed, have lost their job because of the pandemic or be in a job that does not allow remote working which dramatically increases likelihood of exposure.[xxxi] LGBTQ+ youth also experience a special vulnerability in which school was often a safe haven. The closure of public schools as a physical space has kept many of these children at home in harmful households. Access to other similarly affirming physical spaces may continue to have a disproportionate harm to LGBTQ+ young adults.[xxxii]

Interpretations: Disparities, Gaps, Emerging Issues

Data collection: sexual orientation and gender identity

A primary challenge is around missing and non-inclusive data. Too little is known about the experiences of transgender communities because too many data systems are structured in a way that renders it difficult or impossible for people's gender to be accurately reported. The extent to which information about transgender communities exists points to high risk for HIV/STI infection. This is likely in part because of the additional amount of stigma, discrimination, homelessness and survival sex work so many experience.[xxxiii] In 2015, the State expanded its measurement of gender beyond the binary male and female in its routine surveillance system for HIV.[xxxiv] These data challenges should somewhat diminish over time. However, for those who do not receive state funds, there may still be a barrier to recording or reporting transgender identity.[xxxv] Even when the data are collected, the LGBTQ+ population are often so few that they must be suppressed out of caution for deductive disclosure as well as statistical error. Additionally, despite a more inclusive assessment of gender, the standard transmission categories functionally reduce gender to the binary.

The most recent CDC analysis of available data portrays a massive racial disparity in which 6.7% of white transgender women are living with HIV compared to nearly 45% of Black trans women.[xxxvi] There is too little data on transgender men to report. The 2018 North Carolina HIV Surveillance Report described data inclusive of transgender people and mentioned the Department of Health and Human Services would remedy the situation caused by transmission categories and binary gender in its next iteration.[xxxvii] However, as of the 2019 North Carolina HIV Surveillance Report, exposure categories remained the same with summary tables indicating, "transgender people are also classified for exposure category by their recorded binary gender."[xxxviii] The STD Surveillance Report and Hepatitis B/C Surveillance reports have no mention of transgender people or plans to include them in the future.[xxxix]

Women and HIV/STIs

Women have often been a neglected part of HIV/STI prevention efforts, in part by the recognition that sexual acts between cisgender women carry a low risk of HIV infection. However, identity does not equate to behavior. Many LGBTQ+ women have had sex with men in the past and the majority of LGBTQ+ women claim a bisexual sexual orientation. This suggests a need to recalibrate how public health practitioners and health care providers think about, evaluate, and communicate risk.

Recommended Strategies

- In 2019, North Carolina formally launched its Ending the Epidemic Initiative; it should be consulted for benchmarks and implementation strategy.[xl]
- Continue improvement of collection of sexual orientation and gender identity in HIV/STI testing and treatment forms.

- Recommend the state similarly report its STD and Hepatitis data inclusive of transgender populations like it does with HIV.
- Take advantage of the new income restrictions being lifted on North Carolina's HIV Medication Assistance Program.
- Acknowledge a need to separately target prevention strategies of non-HIV STIs in light of the diverging epidemics and PrEP.
- Make routine the screening of HIV, STIs and Hepatitis in all settings, as LGBTQ+ may be at higher risk but not feel comfortable disclosing their identity.
- Advocate for LGBTQ+ inclusive sexual health education in schools that addresses all multiple forms of sexual behavior and acknowledges gender-diverse bodies.
- Continue collaborative work between the LGBTQ+ community, harm reduction and mental health coalitions – especially around the continued effects of the opioid and COVID-19 epidemics.
- Leverage the increasing acknowledgement that racism is a public health concern and apply it to LGBTQ+ health initiatives, ensuring diverse racial, cultural and language issues are met.
- Actively address social and structural needs such as housing, transportation, poverty, and healthcare access, as these maintain inequities in HIV, STIs, and COVID-19 outcomes.
- Be mindful how the COVID-19 pandemic disproportionately affects LGBTQ+ populations, especially youth.

Current Initiatives & Activities

Partnership for a Healthy Durham works to improve the physical, mental, and social health and well-being of Durham's residents. The Access to Care action plan includes strategies to prevent the spread of STIs and HIV which disproportionately impact people of color. https://healthydurham.org/committees/access-to-care

NC Harm Reduction Coalition encourages and motivate the implementation of harm reduction interventions, public health strategies, drug policy transformation, and justice reform in North Carolina and the American South through leadership, advocacy, resource and policy development, and education. http://www.nchrc.org/

Duke Infectious Disease and PrEP Clinics are part of the DukeHealth system and provide HIV clinical and preventative care. https://www.dukehealth.org/treatments/infectious-diseases and https://www.dukehealth.org/locations/duke-prep-clinic-hiv-prevention

Lincoln Community Health Center is located within the Durham County Department of Public Health and provides a variety of primary health services, HIV clinical care and case management, access to PrEP, and hormone replacement therapy for transgender patients.

North Carolina AIDS Action Network is a trans-state group tasked with developing and implementing a coordinated plan to end the HIV epidemic in North Carolina. http://www.ncaan.org/nc-ending-the-epidemic-plan-announcement/

References

[i] cdc.gov [Internet]. CDC fact sheet: what gay, bisexual and other men who have sex with men need to know about sexually transmitted diseases. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 23]. Available from: https://www.cdc.gov/std/life-stages-populations/stdfact-msm.htm

[ii] Bränström R, Hatzenbuehler ML, Pachankis JE, Link BG. Sexual Orientation Disparities in Preventable Disease: A Fundamental Cause Perspective [Internet]. Am J Public Health. 2016 Jun;106(6):1109-15. doi: 10.2105/AJPH.2016.303051. Epub 2016 Mar 17. PMID: 26985608; PMCID: PMC4880229. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4880229/

[iii] cdc.gov [Internet]. Diagnoses of HIV infection in the United States and dependent Areas, 2018: gay, bisexual, and other men who have sex with men. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 23]. Available from: https://www.cdc.gov/hiv/library/reports/hiv-surveillance/vol-31/content/msm.html

[iv] cdc.gov [Internet]. Diagnoses of HIV infection in the United States and dependent Areas, 2018: gay, bisexual, and other men who have sex with men. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 23]. Available from: https://www.cdc.gov/hiv/library/reports/hiv-surveillance/vol-31/content/msm.html

[v] cdc.gov [Internet]. Diagnoses of HIV infection in the United States and dependent Areas, 2018: gay, bisexual, and other men who have sex with men. Atlanta (GA): Centers for Disease Control and Prevention; c2020 [cited 2020 Nov 23]. Available from: https://www.cdc.gov/hiv/library/reports/hiv-surveillance/vol-31/content/msm.html

[vi] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2019 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2020 [cited 2020 Nov 23]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv19rpt_11302020.pdf

[vii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina STD surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2018 [cited 2020 Nov 23]. Available from: https://testyourwell.nc.gov/cd/stds/figures/std18rpt_02102020.pdf

[viii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina STD surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2018 [cited 2020 Nov 23]. Available from: https://testyourwell.nc.gov/cd/stds/figures/std18rpt_02102020.pdf

[ix] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2019 North Carolina Hepatitis B/C surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Nov 23]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hep19rpt.pdf

[x] Platt L, Easterbrook P, Gower E, McDonald B, Sabin K, McGowan C, Yanny I, Razavi H, Vickerman P. Prevalence and burden of HCV co-infection in people living with HIV: a global systematic review and meta-analysis [Internet]. Lancet Infect Dis. 2016 Jul;16(7):797-808. doi: 10.1016/S1473-3099(15)00485-5. Epub 2016 Feb 25. PMID: 26922272. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1473-3099(15)00485-5

[xi] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2019 North Carolina Hepatitis B/C surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2019 [cited 2020 Nov 23]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hep19rpt.pdf

[xii] Platt L, Easterbrook P, Gower E, McDonald B, Sabin K, McGowan C, Yanny I, Razavi H, Vickerman P. Prevalence and burden of HCV co-infection in people living with HIV: a global systematic review and meta-analysis [Internet]. Lancet Infect Dis. 2016 Jul;16(7):797-808. doi: 10.1016/S1473-3099(15)00485-5. Epub 2016 Feb 25. PMID: 26922272. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1473-3099(15)00485-5

[xiii] Reif S, Safley D, McAllaster C, Wilson E, Whetten K. State of HIV in the US Deep South [Internet]. J Community Health. 2017 Oct [cited 2020 Nov 23];42(5):844-853. doi: 10.1007/s10900-017-0325-8. PMID: 28247067. Available from: https://link.springer.com/article/10.1007%2Fs10900-017-0325-8

[xiv] McCray, Eugene. (Director, Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD & TB Prevention, Centers for Disease Control and Prevention). Re: power of viral suppression to improve the health of people with HIV and to prevent the sexual transmission of HIV. Letter to: Health Department and CBO Grantees. 2019 Aug 30 [cited 2020 Nov 23]. Available from: https://58b1608b-fe15-46bb-818a-cd15168c0910.filesusr.com/ugd/de0404_966c29f826d4481abf8bba0690bdd439.pdf

[xv] Mahajan AP, Sayles JN, Patel VA, Remien RH, Sawires SR, Ortiz DJ, Szekeres G, Coates TJ. Stigma in the HIV/AIDS epidemic: a review of the literature and recommendations for the way forward [Internet]. AIDS. 2008 Aug [cited 2020 Nov 23];22 Suppl 2(Suppl 2):S67-79. doi: 10.1097/01.aids.0000327438.13291.62. PMID: 18641472; PMCID: PMC2835402. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835402/

[xvi] Mallory C, Brown T, Conron K. Conversion therapy and LGBT youth: update. Los Angeles (CA): Williams Institute, UCLA School of Law; 2019 Jun [cited 2020 Nov 23]. Available from: https://williamsinstitute.law.ucla.edu/wp-content/uploads/Conversion-Therapy-Update-Jun-2019.pdf

[xvii] Byne W, Karasic DH, Coleman E, Eyler AE, Kidd JD, Meyer-Bahlburg HFL, Pleak RR, Pula J. Gender dysphoria in adults: an overview and primer for psychiatrists [Internet]. Transgend Health. 2018 May 1 [cited 2020 Nov 23];3(1):57-70. doi: 10.1089/trgh.2017.0053. PMID: 29756044; PMCID: PMC5944396. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5944396/

[xviii] Reif S, Safley D, McAllaster C, Wilson E, Whetten K. State of HIV in the US Deep South [Internet]. J Community Health. 2017 Oct [cited 2020 Nov 23];42(5):844-853. doi: 10.1007/s10900-017-0325-8. PMID: 28247067. Available from: https://link.springer.com/article/10.1007%2Fs10900-017-0325-8

[xix] Proulx CN, Coulter RWS, Egan JE, Matthews DD, Mair C. Associations of lesbian, gay, bisexual, transgender, and questioning-inclusive sex education with mental health outcomes and school-based victimization in U.S. high school students [Internet]. J Adolesc Health. 2019 May [cited 2020 Nov 23];64(5):608-614. doi: 10.1016/j.jadohealth.2018.11.012. Epub 2019 Jan 26. PMID: 30691941; PMCID: PMC6478545. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6478545/

[xx] Wilson C, Cariola LA. LGBTQI+ youth and mental health: a systematic review of qualitative research [Internet]. Adolescent Research Review. 2019 May 21 [cited 2020 Nov 23];5(2):187-211. Available from: https://doi.org/10.1007/s40894-019-00118-w

[xxi] King M, Semlyen J, Tai SS, Killaspy H, Osborn D, Popelyuk D, Nazareth I. A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people [Internet]. BMC Psychiatry. 2008 Aug 18 [cited 2020 Nov 23];8:70. doi: 10.1186/1471-244X-8-70. PMID: 18706118; PMCID: PMC2533652. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2533652/

[xxii] Wolitski R. Getting in sync on HIV, Hep C, and LGBT health [Internet]. Hep Mag; 2017 May 8 [cited 2020 Nov 23]. Available from: www.hepmag.com/article/getting-sync-hiv-hep-c-lgbt-health

[xxiii] Stall R, Mills TC, Williamson J, Hart T, Greenwood G, Paul J, Pollack L, Binson D, Osmond D, Catania JA. Association of co-occurring psychosocial health problems and increased vulnerability to HIV/AIDS among urban men who have sex with men [Internet]. Am J Public Health. 2003 Jun [cited 2020 Nov 23];93(6):939-42. doi: 10.2105/ajph.93.6.939. PMID: 12773359; PMCID: PMC1447874. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447874/

[xxiv] Fendrich M, Avci O, Johnson TP, Mackesy-Amiti ME. Depression, substance use and HIV risk in a probability sample of men who have sex with men [Internet]. Addict Behav. 2013 Mar [cited 2020 Nov 23];38(3):1715-8. doi: 10.1016/j.addbeh.2012.09.005. Epub 2012 Sep 24. PMID: 23254224; PMCID: PMC3619198. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3619198/

[xxv] Girouard MP, Goldhammer H, Keuroghlian AS. Understanding and treating opioid use disorders in lesbian, gay, bisexual, transgender, and queer populations. Substance Abuse. 2019 Feb 13 [cited 2020 Nov 23];40(3):335-339. doi.org/10.1080/08897077.2018.1544963

[xxvi] Western North Carolina AIDS Project. HIV criminalization laws change in North Carolina. Asheville (NC): Western North Carolina AIDS Project; 2018 Feb 20 [cited 2020 Nov 23]. Available from: https://www.mynewsletterbuilder.com/email/newsletter/1413352098

[xxvii] Lehman JS, Carr MH, Nichol AJ, Ruisanchez A, Knight DW, Langford AE, Gray SC, Mermin JH. Prevalence and public health implications of state laws that criminalize potential HIV exposure in the United States [Internet]. AIDS Behav. 2014 Jun [cited 2020 Nov 23];18(6):997-1006. doi: 10.1007/s10461-014-0724-0. PMID: 24633716; PMCID: PMC4019819. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4019819/

[xxviii] hivlawandpolicy.org [Internet]. North Carolina. Brooklyn (NY): The Center for HIV Law and Policy; c2020 [cited 2020 Nov 23]. Available from: https://www.hivlawandpolicy.org/states/north-carolina

[xxix] Singh S, Mitsch A, Wu B. HIV care outcomes among men who have sex with men with diagnosed HIV infection — United States, 2015 [Internet]. MMWR Morb Mortal Wkly Rep 2017 [cited 2020 Nov 23];66:969–974. Available from: http://dx.doi.org/10.15585/mmwr.mm6637a2

[xxx] Hetey RC, Eberhardt JL. The numbers don't speak for themselves: racial disparities and the persistence of inequality in the criminal justice system [Internet]. Current Directions in Psychological Science. 2018 May 3 [cited 2020 Nov 23];27(3):183-187. Available from: https://doi.org/10.1177/0963721418763931

[xxxi] Human Rights Campaign Foundation issues briefing: the lives & livelihoods of many in the LGBTQ community are at risk amidst COVID-19 crisis [Internet]. Washington, DC: Human Rights Campaign Foundation; 2020 Mar [cited 2020 Nov 23]. Available from: https://assets2.hrc.org/files/assets/resources/COVID19-IssueBrief-032020-FINAL.pdf

[xxxii] Gonzales G, Loret de Mola E, Gavulic KA, McKay T, Purcell C. Mental health needs among lesbian, gay, bisexual, and transgender college students during the COVID-19 pandemic. J Adolesc Health [Internet]. 2020 Nov [cited 2020 Nov 23];67(5):645-648. doi: 10.1016/j.jadohealth.2020.08.006. Epub 2020 Sep 12. PMID: 32933837. Available from: https://www.jahonline.org/article/S1054-139X(20)30488-2/fulltext

[xxxiii] cdc.gov [Internet]. Issue brief: HIV and transgender communities. Atlanta (GA): Centers for Disease Control and Prevention; 2019 Apr [cited 2020 Nov 23]. Available from: https://www.cdc.gov/hiv/pdf/policies/cdc-hiv-transgender-brief.pdf

[xxxiv] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2019 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2020 [cited 2020 Nov 23]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv19rpt_11302020.pdf

[xxxv] North Carolina Public Health. North Carolina's integrated HIV prevention and care plan including the statewide coordinated statement of need, CY 2017-2021. NC Dept of Health and Human Services, Division of Public Health; c2016 Sep 30 [cited 2020 Nov 23]. Available from: https://epi.dph.ncdhhs.gov/cd/hiv/docs/NC2017-2021_IntegratedPreventionandCarePlan_9-30-16.pdf

[xxxvi] cdc.gov [Internet]. Issue brief: HIV and transgender communities. Atlanta (GA): Centers for Disease Control and Prevention; 2019 Apr [cited 2020 Nov 23]. Available from https://www.cdc.gov/hiv/pdf/policies/cdc-hiv-transgender-brief.pdf

[xxxvii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2018 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public

Health, Communicable Disease Branch; c2019 [cited 2020 Nov 23]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv18rpt_02042020.pdf

[xxxviii] North Carolina HIV/STD/Hepatitis Surveillance Unit. 2019 North Carolina HIV surveillance report [Internet]. Raleigh (NC): North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch; c2020 [cited 2020 Nov 23]. Available from: https://epi.dph.ncdhhs.gov/cd/stds/figures/hiv19rpt_11302020.pdf

[xxxix] Shover CL, DeVost MA, Beymer MR, Gorbach PM, Flynn RP, Bolan RK. Using sexual orientation and gender identity to monitor disparities in HIV, sexually transmitted infections, and viral hepatitis [Internet]. Am J Public Health. 2018 Nov [cited 2021 Jan 2];108(S4):S277-S283. doi: 10.2105/AJPH.2018.304751. PMID: 30383431; PMCID: PMC6215382. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6215382/

[xl] naan.org [Internet] NC ending the epidemic plan – announcement. Raleigh (NC): NC AIDS Action Network; 2019 Mar 5 [cited 2020 Jan 2]. Available from: http://www.ncaan.org/nc-ending-the-epidemic-plan-announcement/

Survey Data and Tools

2019 Durham County Community Health Assessment Survey County Wide Results

**Common responses grouped together from the "other"' or free text category*

There were 424 completed surveys in the full county sample. The survey response rate was 80%. Demographic characteristics of survey participants are presented in Table 1 below.

Table 1. Demographic Characteristics of Survey Respondents

	American Community Survey Estimate, Census Bureau **(2)**	CHA Survey Estimate (95% confidence interval)
Median Age	35.0	47.0 (43.3, 50.7)
Gender		
Man	47.8%	39.1% (33.7, 44.3)
Woman	52.2%	59.4% (54.1, 64.8)
Transgender	-	0.3% (0, 0.8)
Other	-	0.3% (0, 0.8)
Race		
Asian	4.7%	5.3% (2.7, 7.8)
Black	36.9%	33.3% (28.1, 38.6)
Hispanic or Latino	13.5%	14.5% (9.2, 19.9)
White	42.1%	44.7% (39.3, 50.1)
Another race	2.9%	0.4% (0.2, 0.6)
Education		
Less than 9th grade	5.7%	4.3% (0, 8.8%)
9-12th grade, no diploma	6.5%	3.8% (1.5, 6.1)
High school graduate or equivalent	17.0%	15.8% (11.9, 19.8)
Some college, no degree	17.1%	15.2% (11.3, 19.0)
Associate's degree	6.4%	9.7% (6.7, 12.8)
Bachelor's degree	25.1%	23.3% (19.0, 27.7)
Graduate or professional degree	22.1%	27.1% (22.4, 31.8)
Employment Status		
Disabled	-	11.6% (8.1, 15.1)
Employed full-time	61.7%	42.6% (37.2, 48.1)
Employed part-time	16.4%	18.2% (12.9, 23.5)
Homemaker	-	18.5% (13.2, 23.9)
Military	-	2.6% (0.9, 4.3)
Retired	-	26.7% (21.9, 31.3)
Self-employed	-	12.6% (7.6, 17.6)
Student	-	8.8% (5.8, 11.8)
Unemployed	5.8%	6.1% (3.5, 8.6)

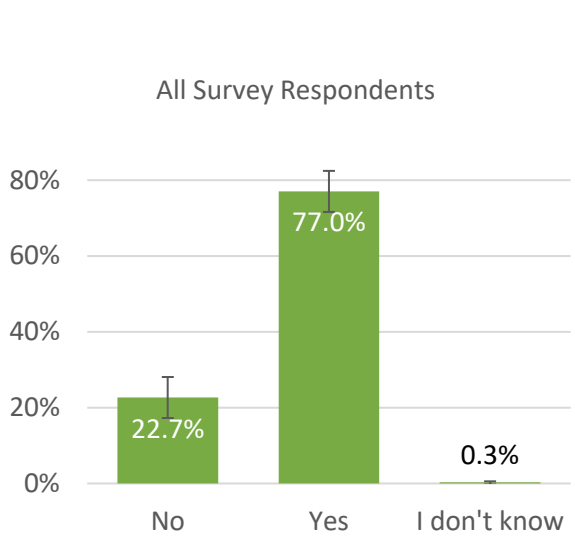
Table 1, above, illustrates that the median age among survey participants was significantly higher than the median age of Durham residents (47 compared to 35). Other differences between the sample and the county population included gender. Women were slightly overrepresented in the sample. After being weighted, the race and ethnicity of survey participants was similar among survey participants and the Durham population. The percent of Asian, black, Hispanic or Latino, and white participants did not differ significantly from the Durham county population.

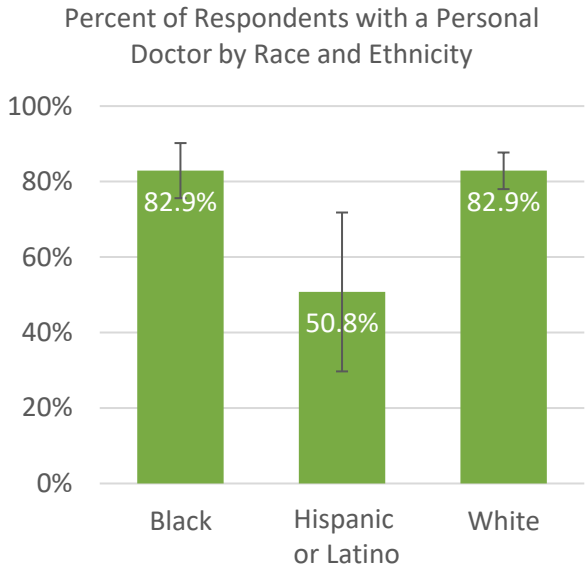
Educational attainment was similar for survey participants when compared to the Durham population, though the survey had a slight overrepresentation of individuals with an associates, graduate, or professional degree and a slight underrepresentation of individuals with some high school education but no diploma. Finally, full-time employed individuals were underrepresented in the sample.

Responses from all people who took the survey are provided for each question on the survey in the pages that follow. Simple interpretations are provided below the charts. When the sample size is large enough and differences were statistically significant, responses for each question are also shown by the race and ethnicity. In general, **this survey was underpowered to detect differences in races except for black and white residents.** This is because only small numbers of participants of other race and ethnicities participated in the survey. Additional stratification by demographic variables will be considered upon request.

Access to Healthcare

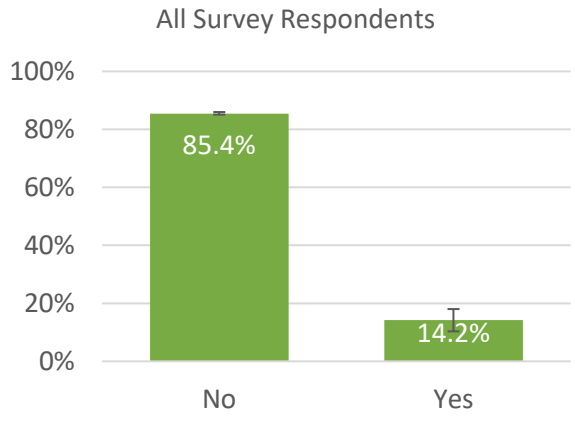
1. Do you have one person you think of as a personal doctor or health care provider?

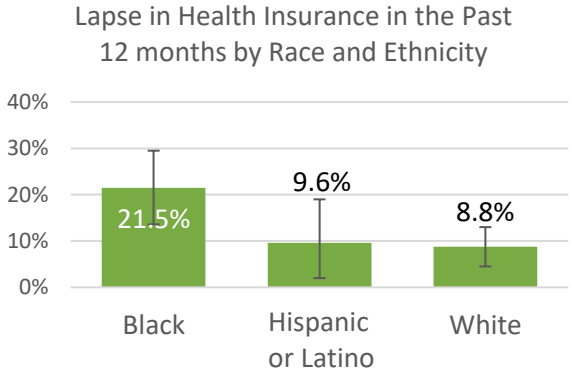




Interpretation: Most residents (77%) have someone they consider to be their personal doctor. Hispanic or Latino residents (50.8%) were least likely to report having a personal doctor compared to black (82.9%) and white (82.9%) residents. **This difference was statistically significant**.

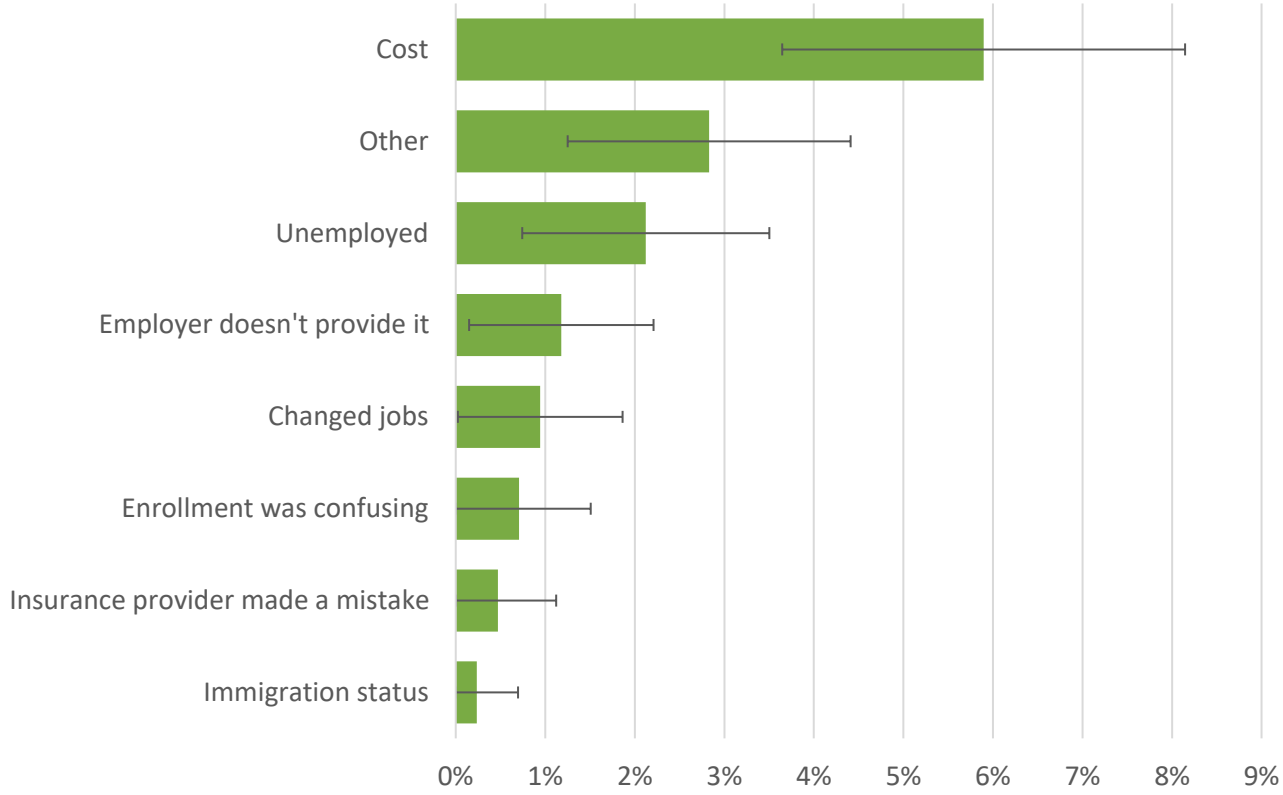
2. During the past 12 months, was there any time you did not have any health insurance or coverage?





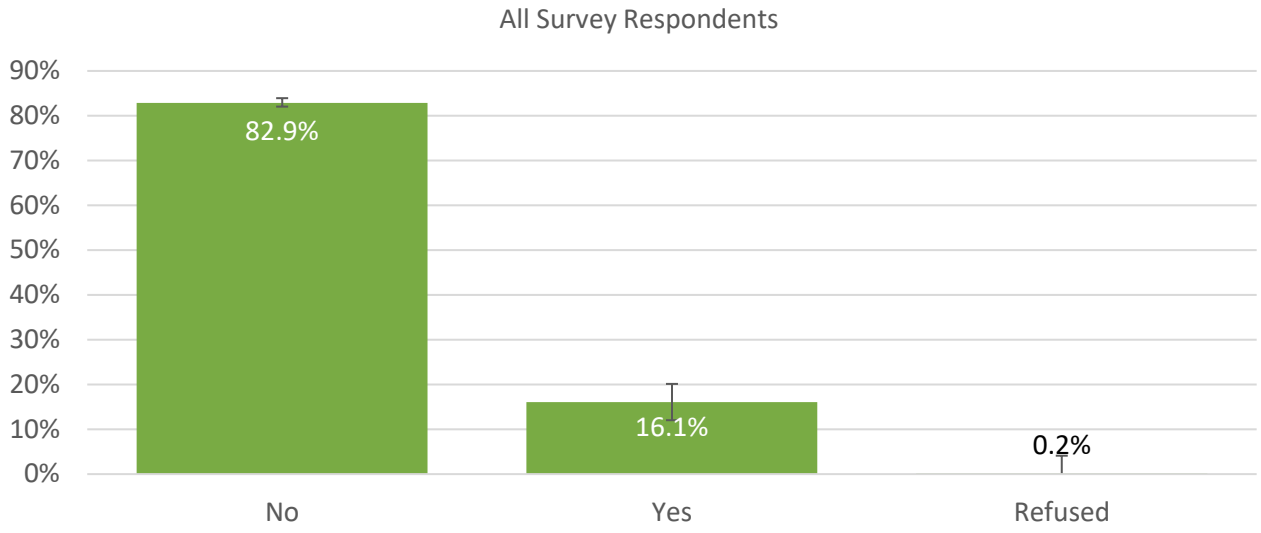
Interpretation: Most Durham residents (85%) had health insurance without any breaks in coverage during the past 12 months. Black respondents (21.5%) were more likely to have had a lapse of health insurance coverage over the past 12 months compared to Hispanic or Latino (9.6%) and white respondents (8.8%). **This difference was statistically significant.**

3. Since you said "yes", what prevented you from having health insurance or coverage?



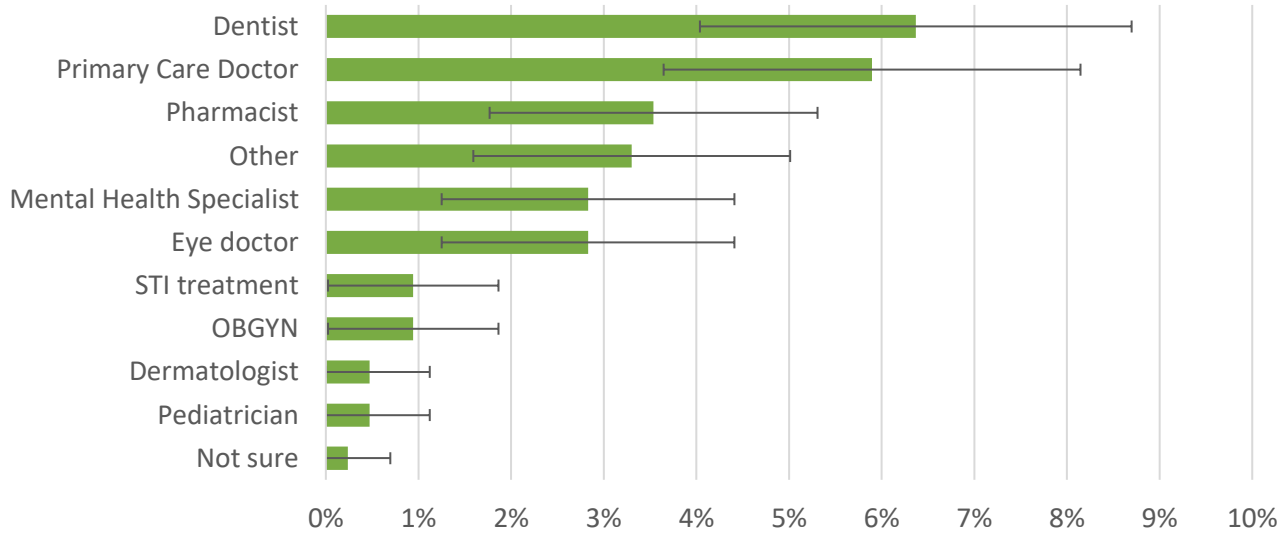
Interpretation: Note that this question was only answered by people who indicated that they were uninsured at some point during the past 12 months (n=57). Among residents who did not have health insurance at some point during the past 12 months, cost was the biggest barrier in getting insurance.

4. In the past 12 months, did you have a problem getting the health care you needed for you or for someone in your household from any type of health care provider, dentist, or pharmacy?



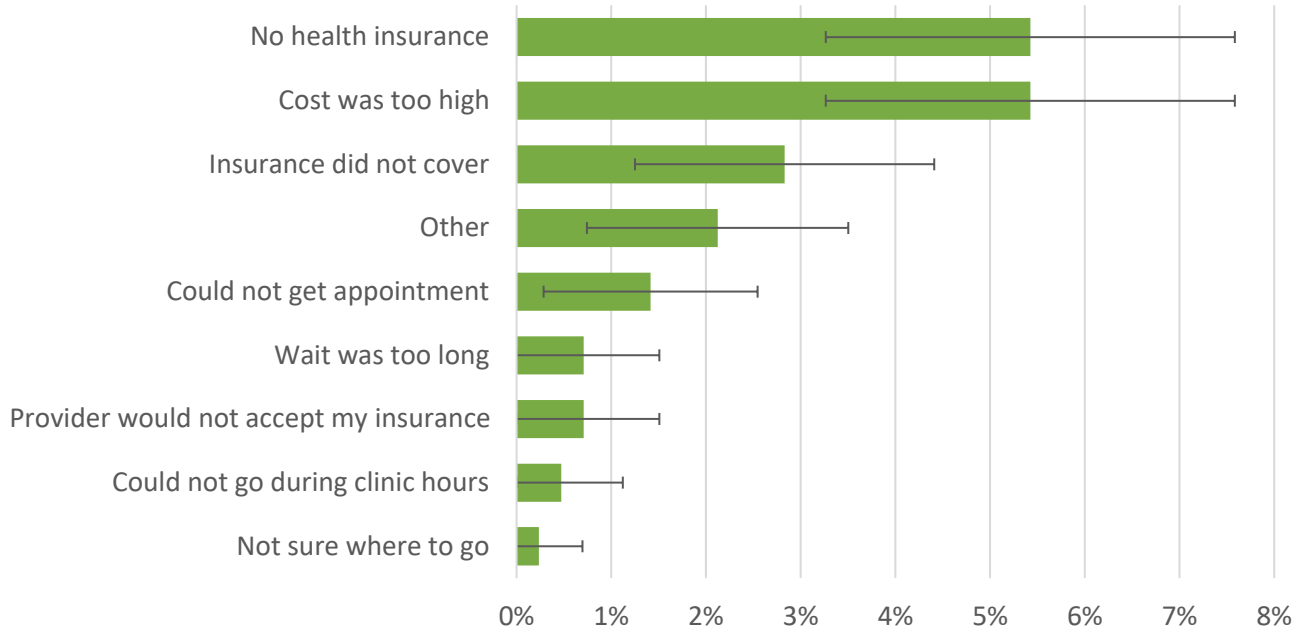
Interpretation: Most Durham residents (83%) did not have a problem accessing health care in the past year. The percent of respondents who had trouble getting needed healthcare by race and ethnicity ranged from 10%-20%, but differences were **not statistically significant**.

5. Since you said "yes", what type of provider did you or someone in your household have trouble getting health care from?



Interpretation: Note that this question was only answered by people who indicated that they had a problem getting the health care they needed for themselves or someone in their family during the past 12 months (n=69). Dentists and primary care doctors were the top two care providers people had trouble accessing during the past year in Durham County.

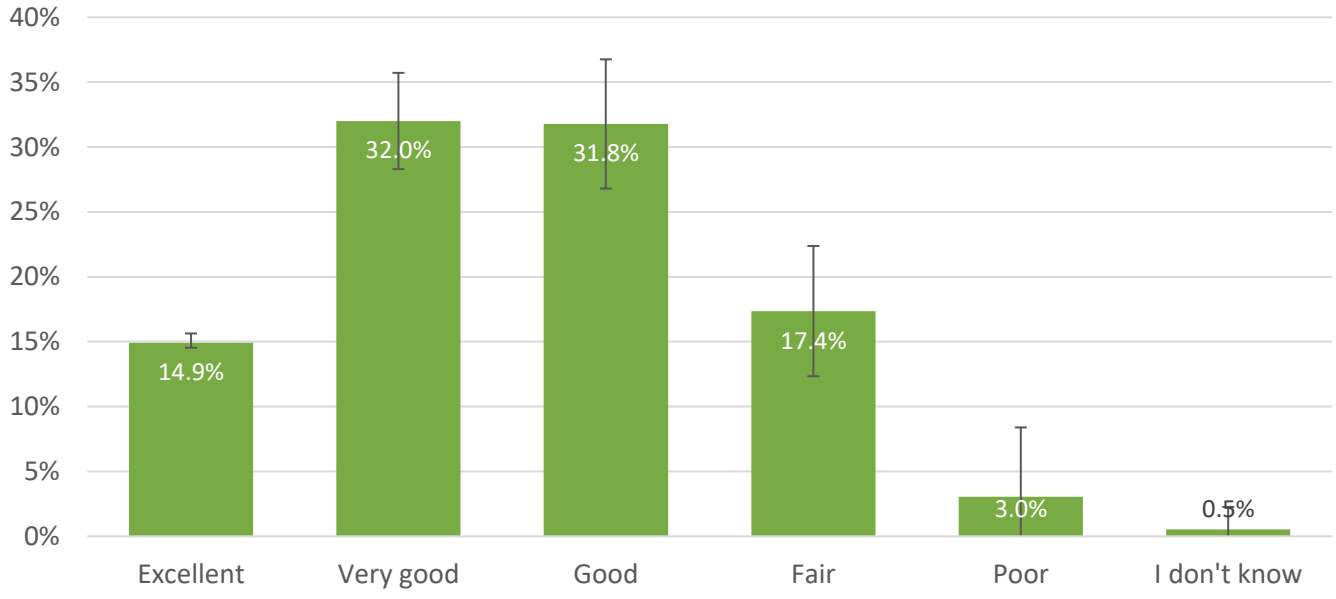
6. What was the problem that prevented you or someone in your household from getting the necessary health care?



Interpretation: Note that this question was only answered by people who indicated that they had a problem getting the health care they needed for themselves or someone in their family during the past 12 months (n=69). Not having health insurance and high costs were the top two reasons people had trouble accessing healthcare in the past year in Durham County.

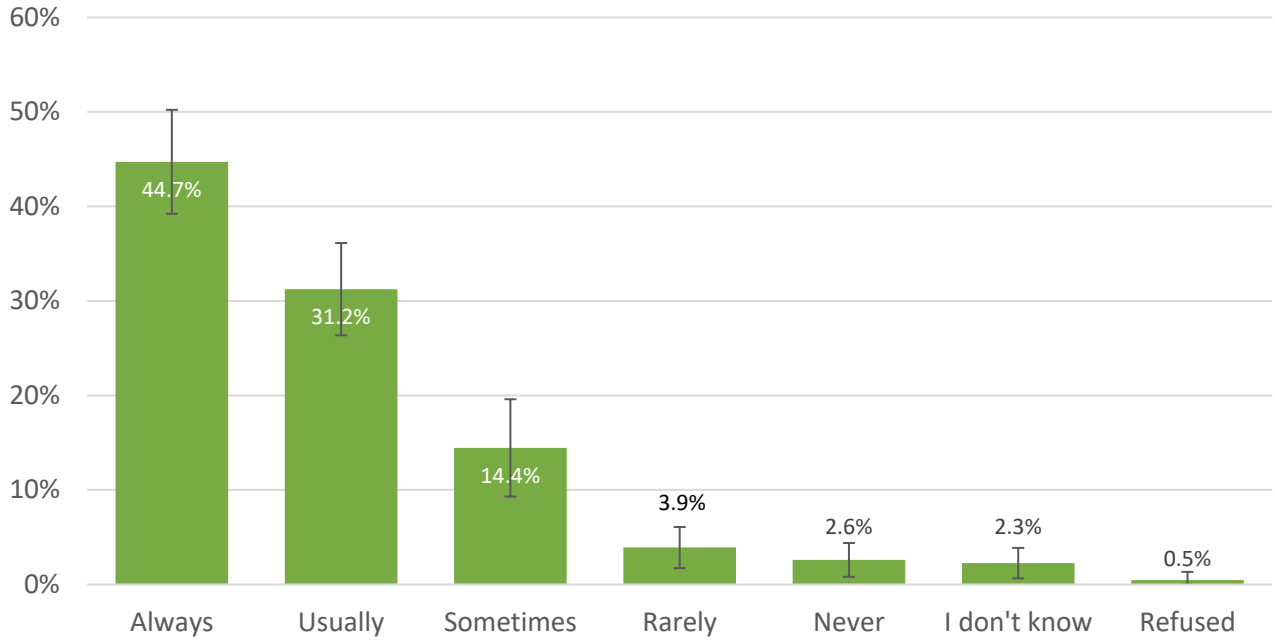
Personal Health

7. Would you say, in general, your health is excellent, very good, good, fair or poor?



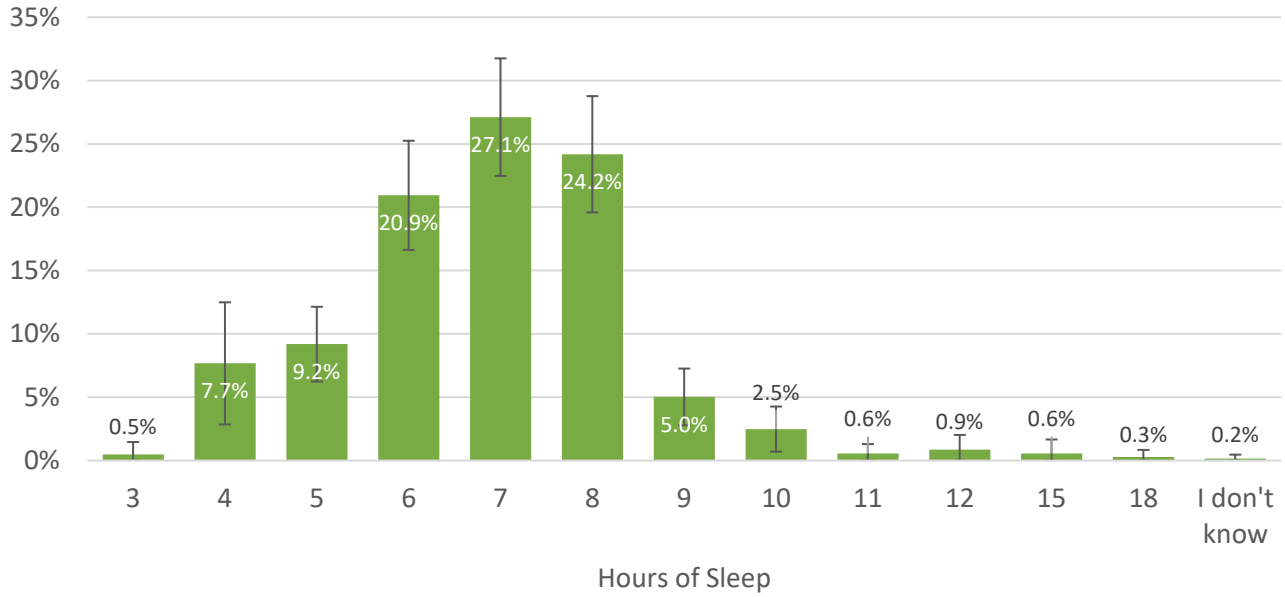
Interpretation: Most residents, 78.7%, reported having good, very good, or excellent health.

8. How often do you get the social and emotional support you need? Would you say always, usually, sometimes, rarely, or never?



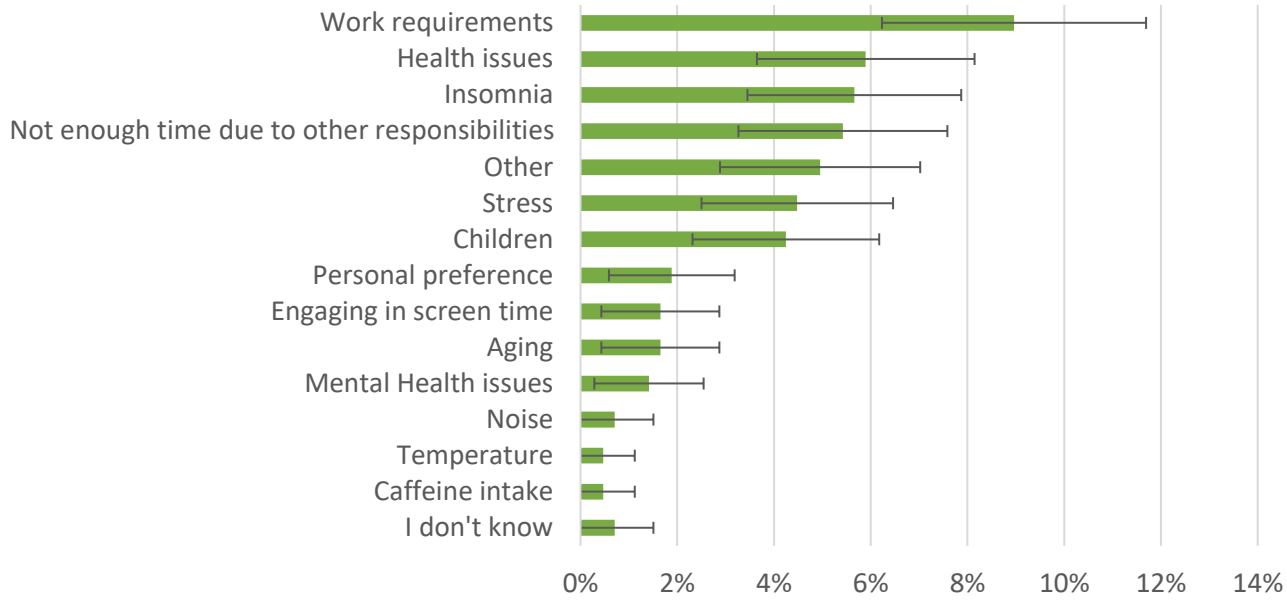
Interpretation: Most residents, 75.9%, reported getting the social and emotional support they needed always or usually.

9. On average, how many hours of sleep do you get in a 24-hour period?



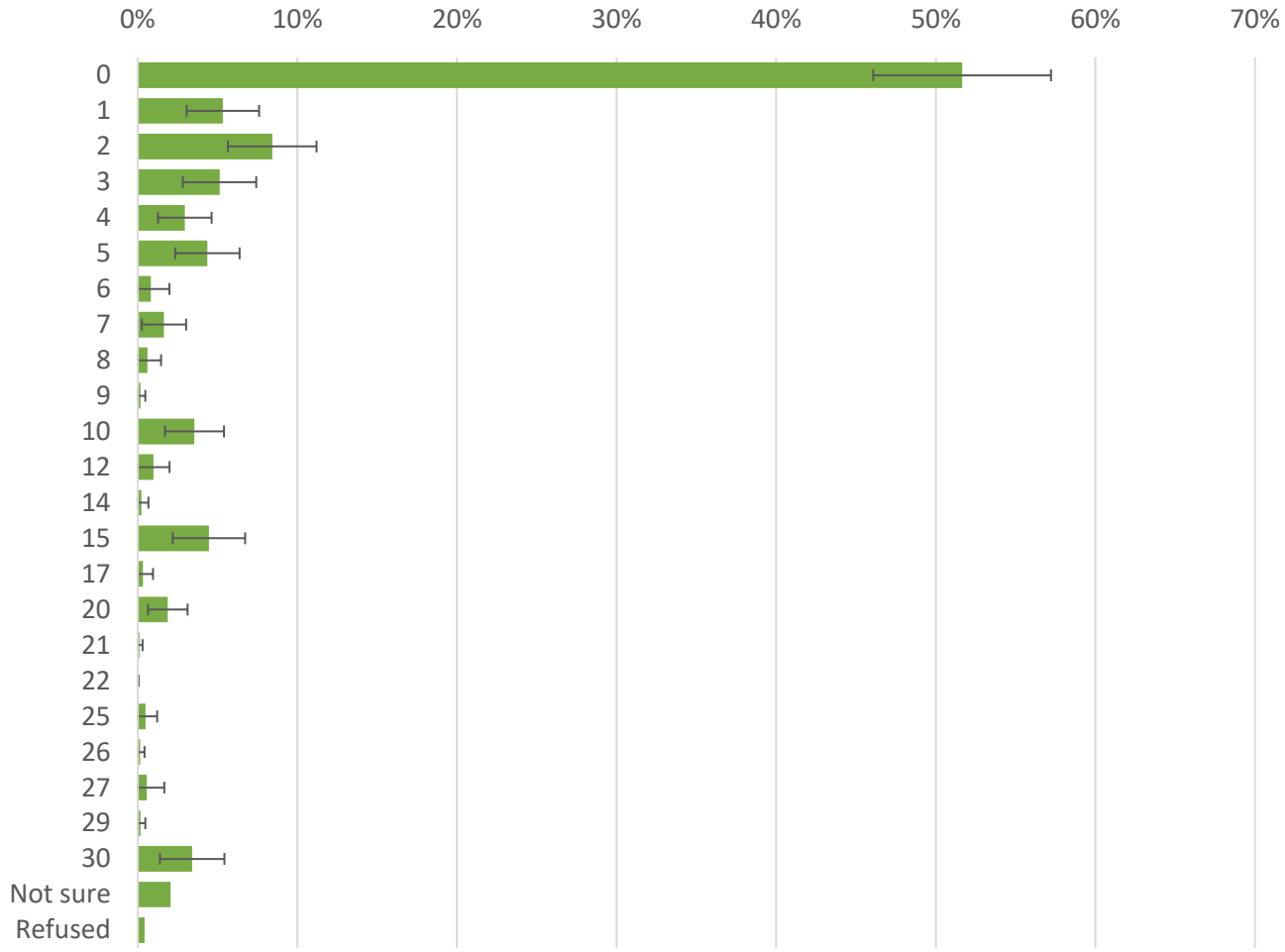
Interpretation: Most residents, 61.1%, reported getting at least 7 hours of sleep during a 24-hour period. However, 38.3% of residents reported getting less than 7 hours of sleep.

10. What keeps you from getting at least 7 hours of sleep a night?



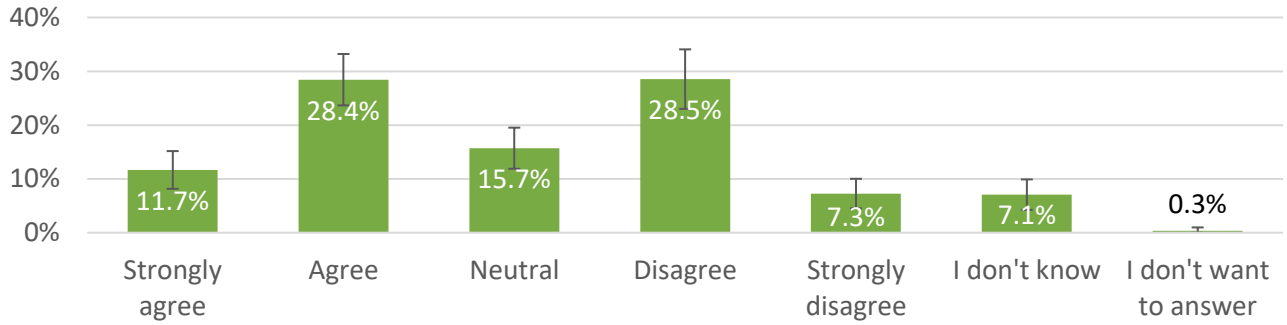
Interpretation: Note that this question was only answered by people who indicated that they got less than 7 hours of sleep during a 24-hour period on average (n=170). Work requirements, health issues, insomnia, and not having enough time because of other responsibilities were the top reasons cited for not getting 7 hours or more sleep during a 24-hour period.

11. Now thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 days was your mental health not good?



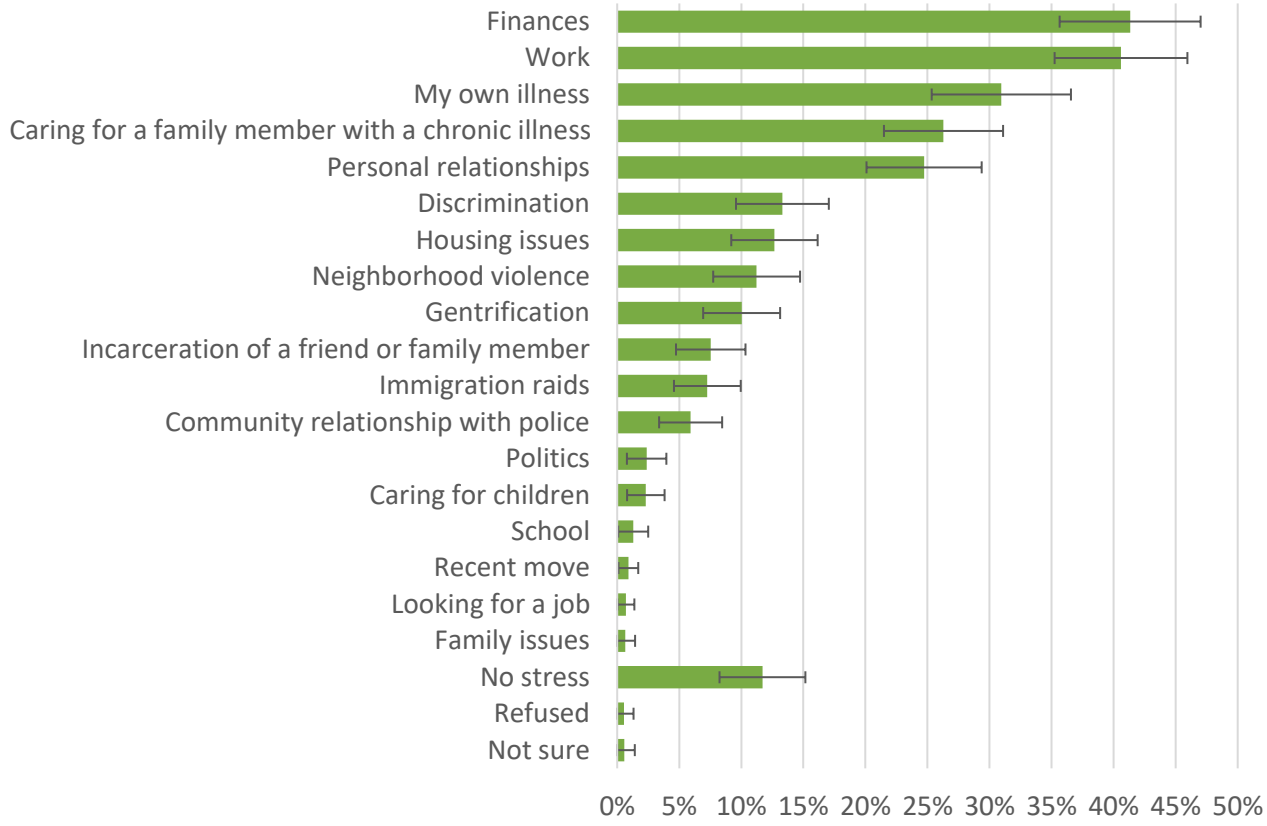
Interpretation: Most residents reported that they did not experience poor mental health for any days (51.6%) or for only 1-2 days (13.8%) during the past 30 days. However, 17.0% of respondents reported that they experienced problems with their mental health for 8 or more days out of the last 30.

12. To what extent do you agree or disagree with the statement that people in your community would think less of a person who has a mental health problem?



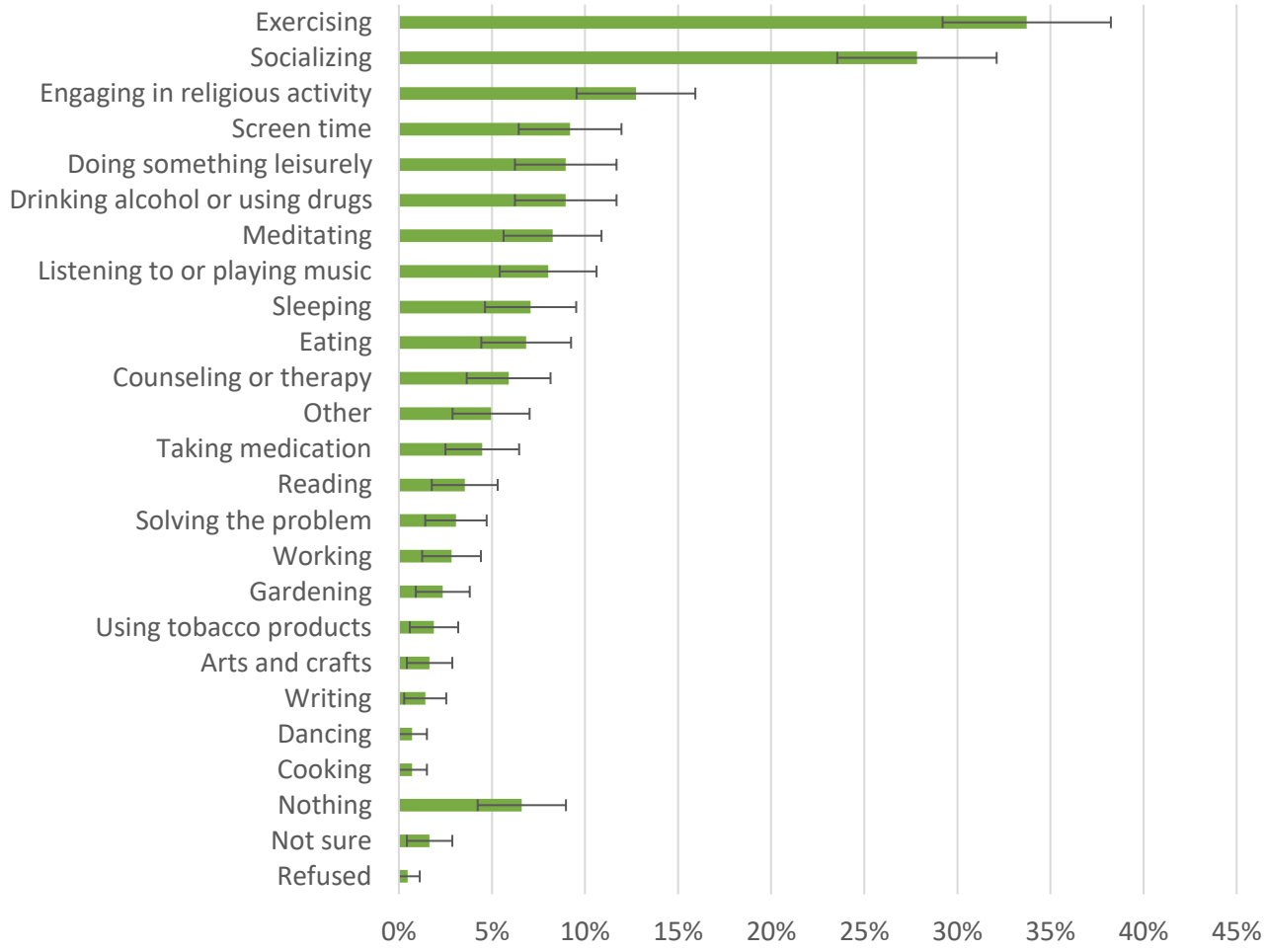
Interpretation: There was not a clear consensus among Durham residents about how their communities would think about a person who has a mental health problem. Among respondents, 40.1% said they agreed or strongly agreed that their community would think less of a person with a mental health problem, 15.7% were neutral, and 35.8% said they disagreed or strongly disagreed that their community would think less of a person with a mental health issue.

13. What are the primary causes of your stress?



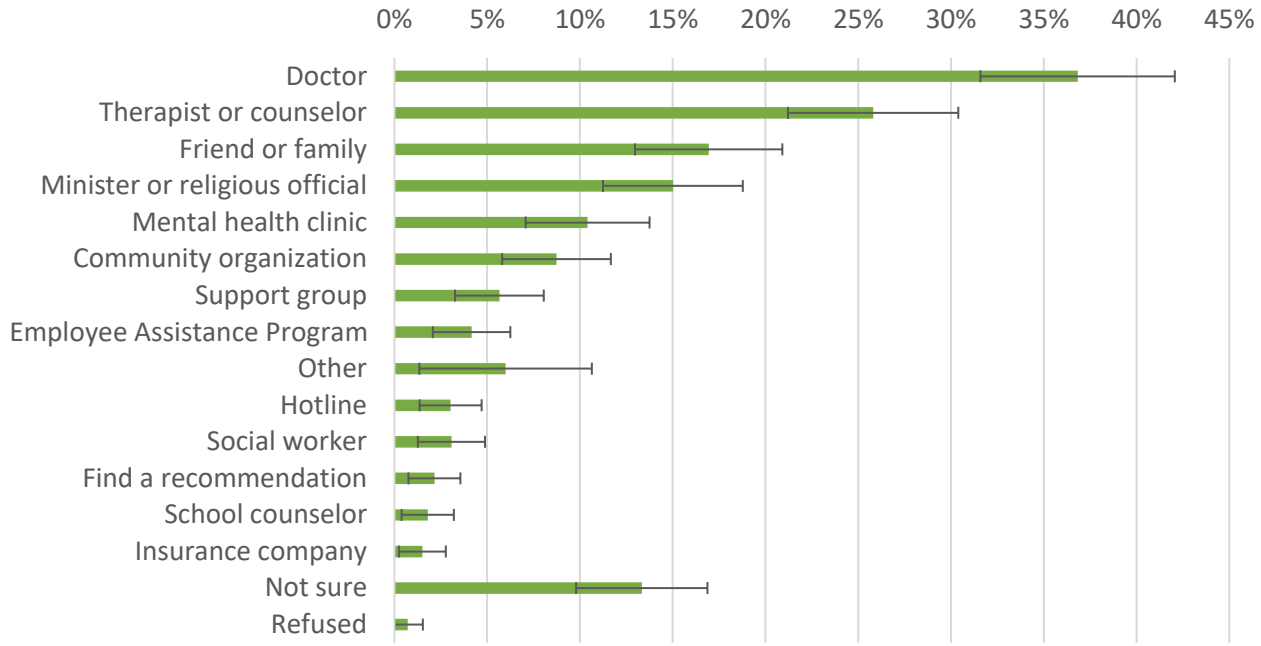
Interpretation: Finances, work, dealing with personal illnesses, caring for a family member with a chronic illness, and personal relationships were the top contributors to stress among participants.

14. How do you deal with stress?



Interpretation: Note that this question was only answered by people who experience some sort of stress (n=378). Exercising, socializing, and engaging in religious activities were the most common responses participants gave when explaining how they deal with stress.

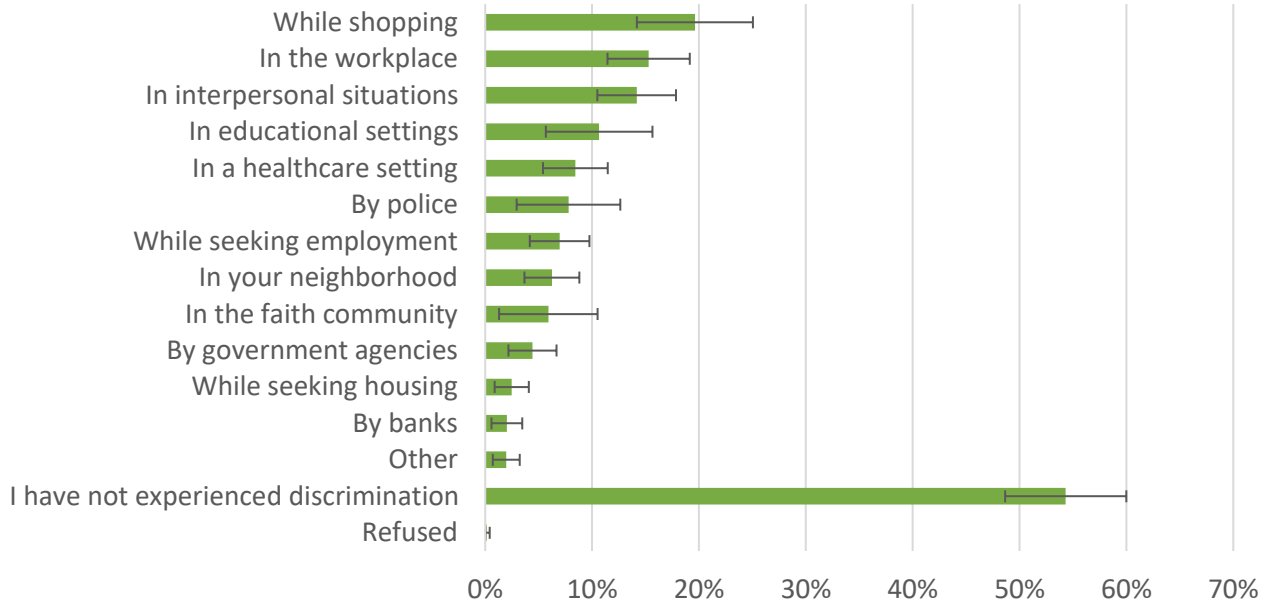
15. If you or a friend or family member needed counseling for a mental health or a drug or alcohol use problem, who would you tell them to call or talk to?



Interpretation: The most common referral source for a mental health, drug, or alcohol use problem cited among survey participants was a doctor, followed by a therapist or counselor family or friend, minister or religious official and then a mental health clinic.

Discrimination

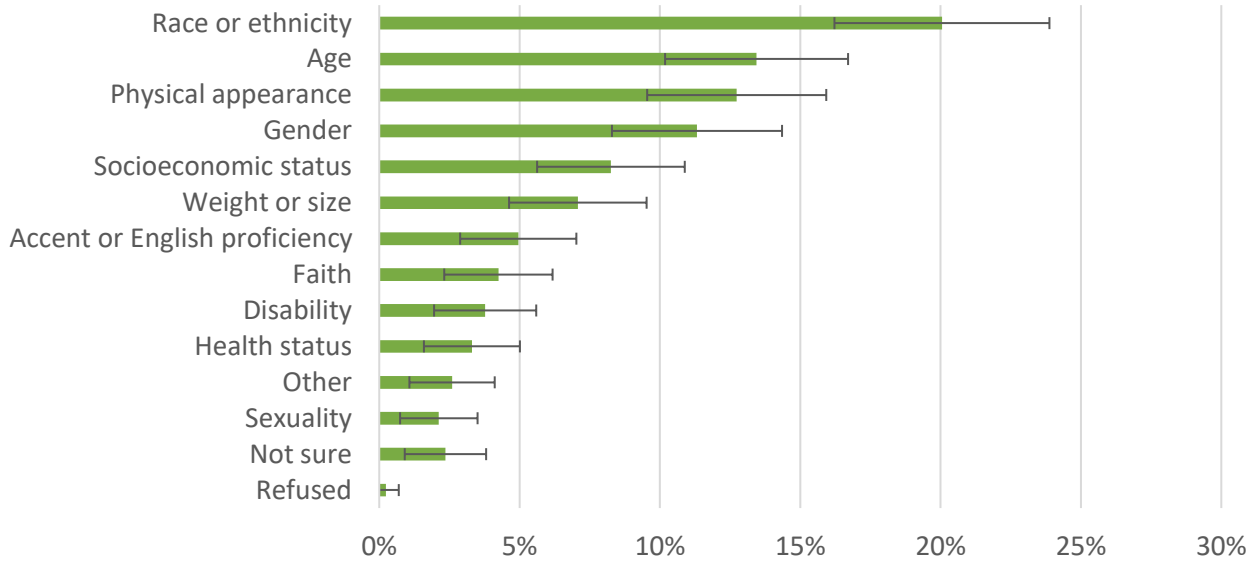
16. In the past 12 months, have you experienced discrimination in the following situations?



Interpretation: A little over half of respondents (54.3%) said they had not experienced discrimination in the past 12 months. Of those who did experience discrimination, the most commonly reported places

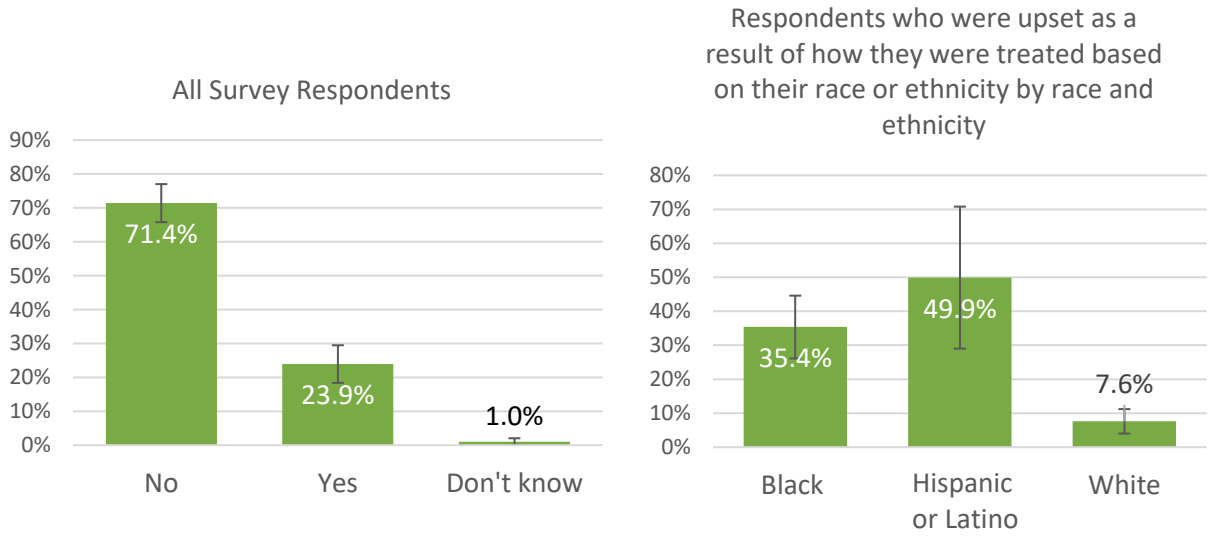
where discrimination occurred were while shopping, in the workplace, in interpersonal situations, and in educational settings.

17. Please tell me which of these reasons you think may have contributed to the discrimination you experienced in the last 12 months.



Interpretation: Note that this question was only answered by people who indicated that they had experienced discrimination during the past 12 months (n=180). Discrimination based on race or ethnicity, age, physical appearance, gender, and socioeconomic status were the most commonly noted reasons for being discriminated against.

18. During the past 12 months, have you felt upset as a result of how you were treated based on your race or ethnic background, for example angry, sad, or frustrated?

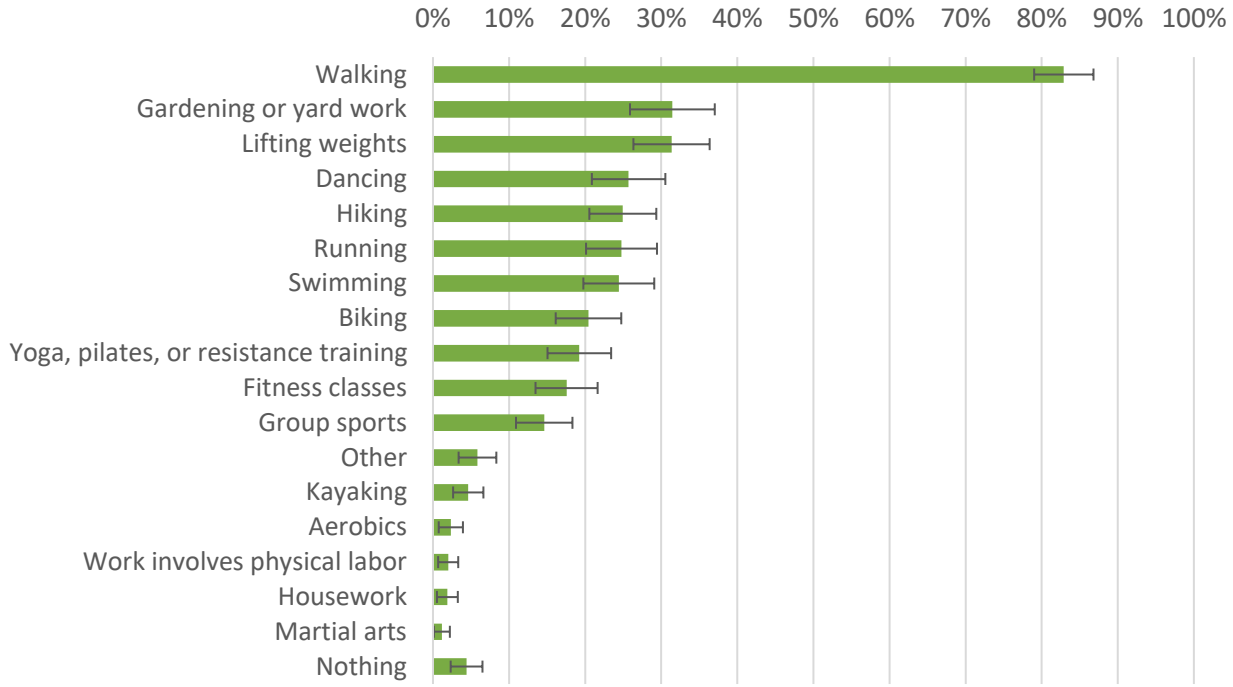


Interpretation: Overall, most residents (71.4%) reported that they had not been upset in the past 12 months based on how they were treated because of their race or ethnic background. However, 35.4% of black respondents and 49.9% of Hispanic or Latino respondents were upset based on how they were treated because of their race or ethnicity. This is compared to only 7.6% of white respondents. **The**

difference between people of color (Black, Hispanic or Latino residents) and white residents was statistically significant.

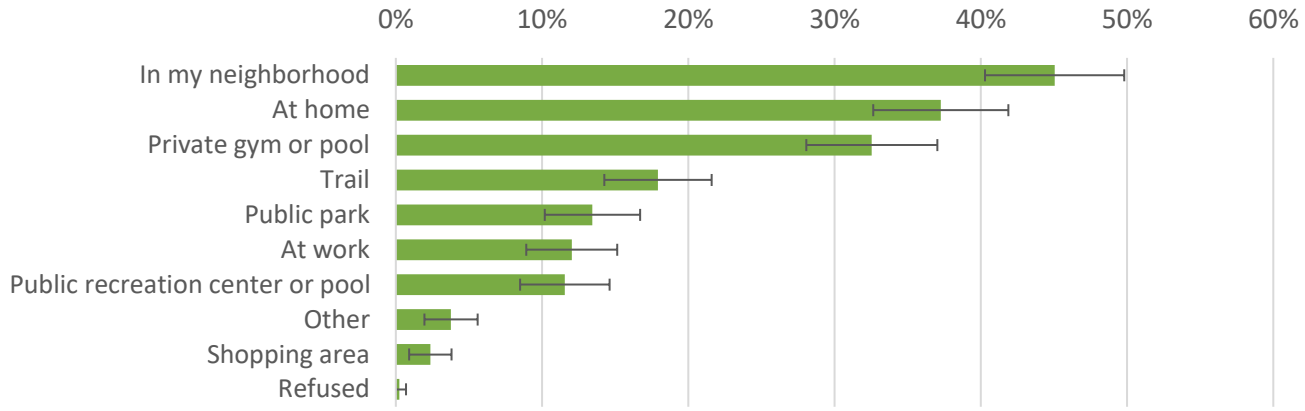
Physical Activity

19. What types of physical activity do you usually do?



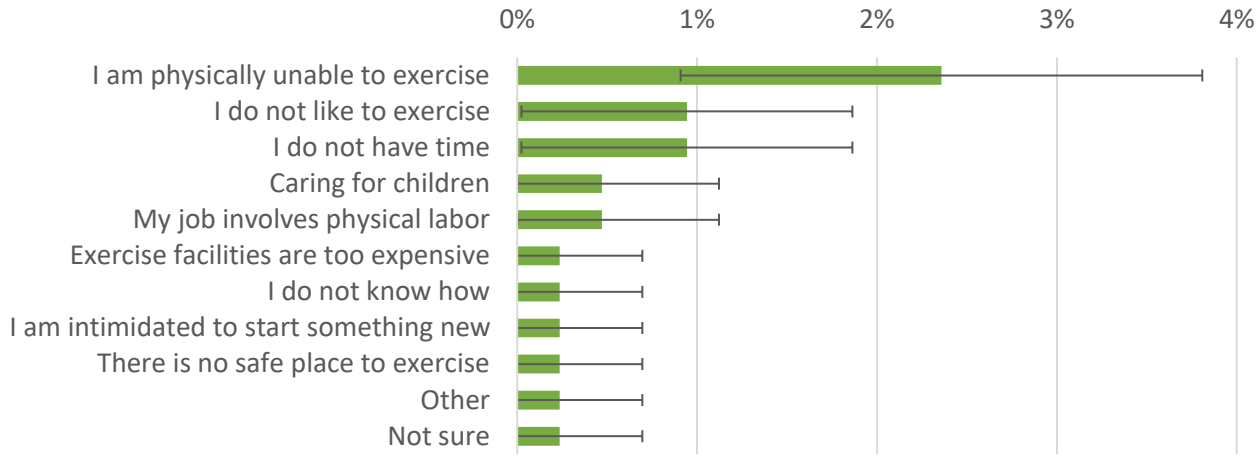
Interpretation: Walking, gardening and other types of yard work, and lifting weights were the most common types of physical activity reported by Durham residents.

20. Where do you usually exercise or go to do physical activity?



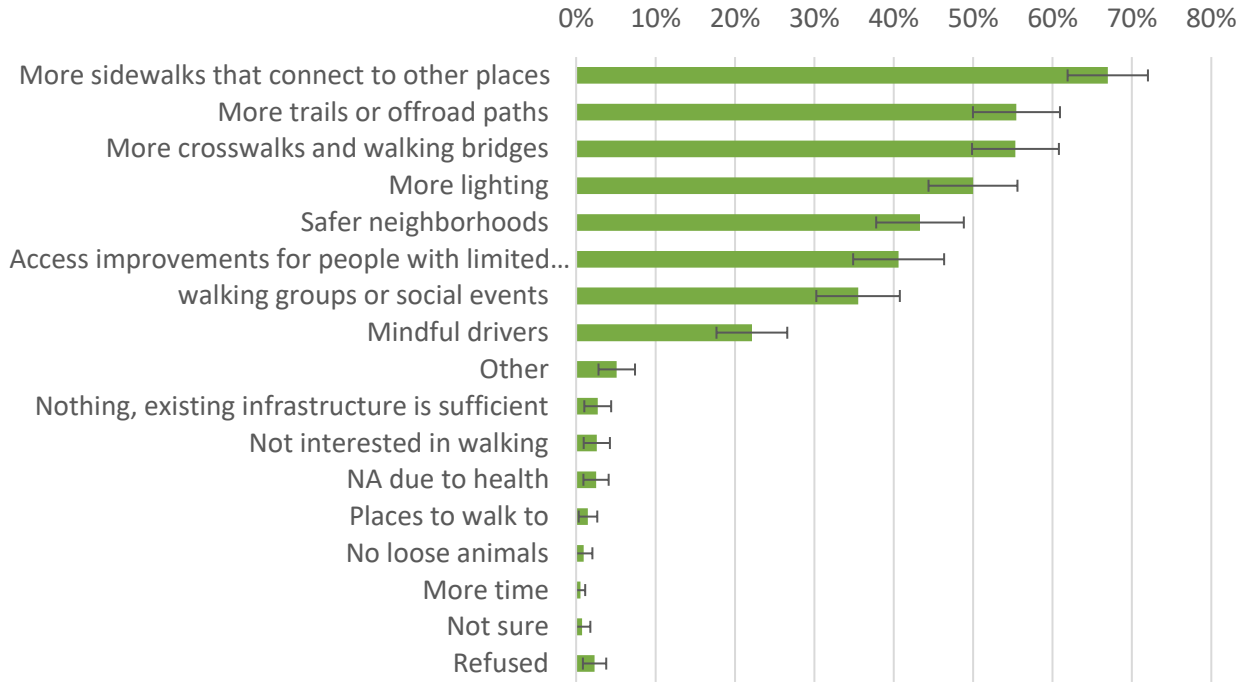
Interpretation: Note that this question was only answered by people who indicated that they engage in physical activity (n=404). Most residents reported exercising in their neighborhood (45.0%), at home (37.3%), or at a private gym or pool (32.5%).

21. What are the reasons you don't exercise during a normal week?



Interpretation: Please note that only people who responded that do not engage in physical activity answered this question (n=20). Being physically unable to exercise was the most common reason people were not physically active, followed by not enjoying exercise, not having time, caring for children, and having labor intensive jobs.

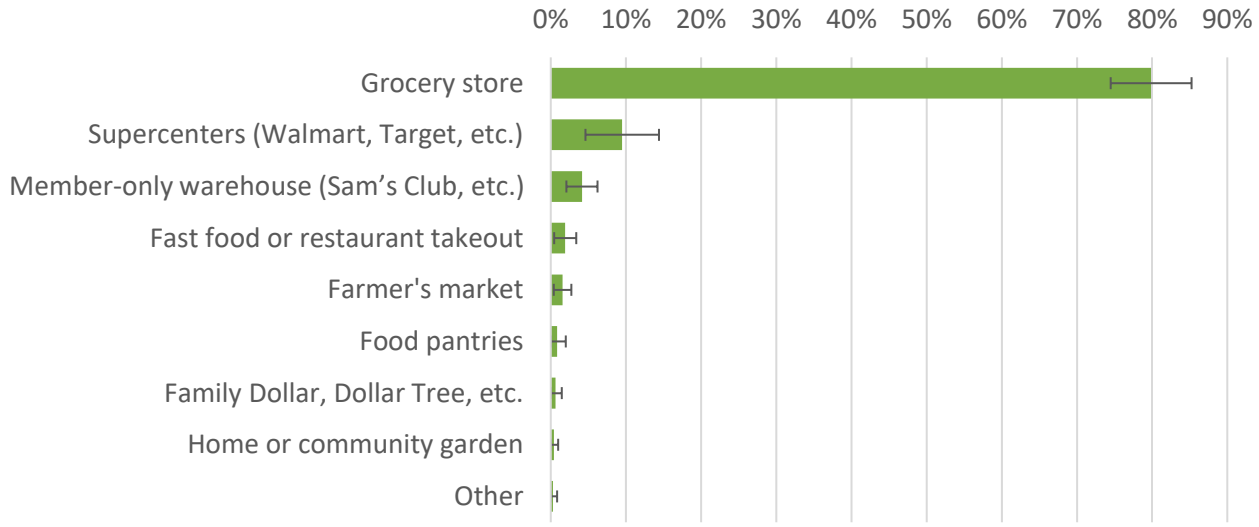
22. Whether you currently walk or not, would any of the following make you want to walk more? This includes for fun, for exercise, to get to a destination, etc.



Interpretation: The most common improvements that would motivate residents to walk more are more sidewalks that connect to other places, more trails and off-road paths, and more crosswalks and walking bridges.

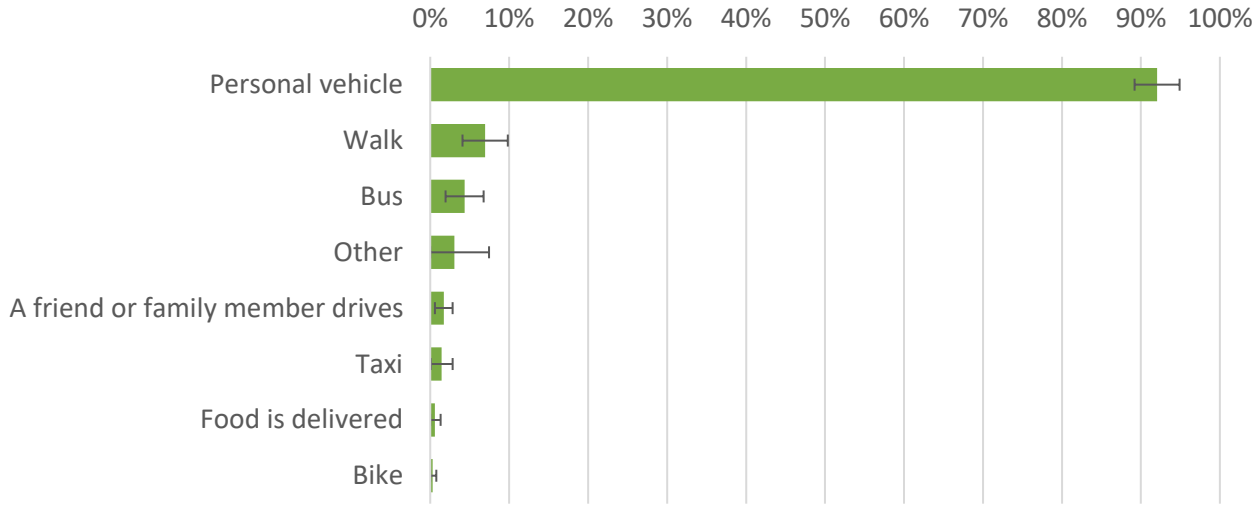
Diet and Food Access

23. Where do you get most of the food you eat at home?



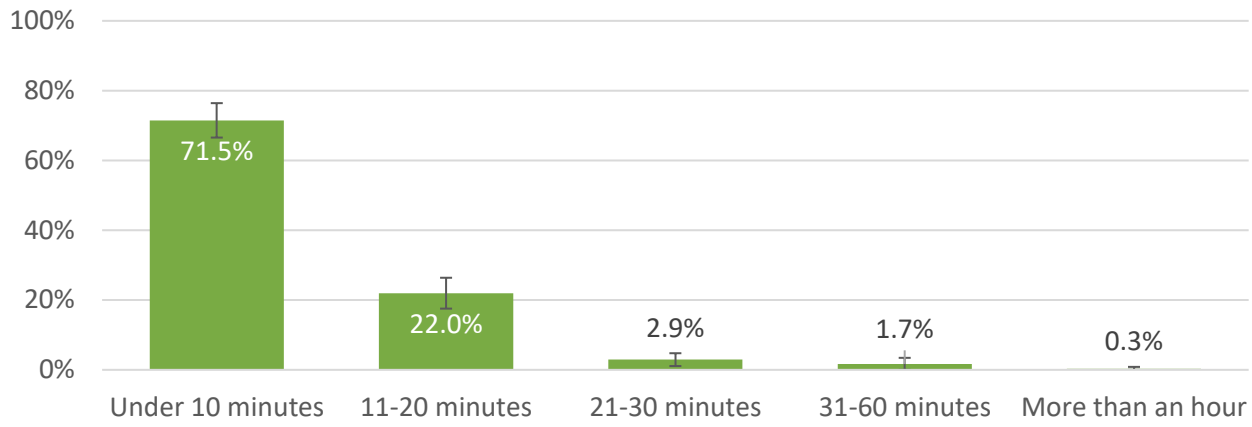
Interpretation: Most residents (79.9%) get most of the food they eat at home from a grocery store. Less than 1% of residents reported buying most of their food from a corner store, such as a Family Dollar or Dollar Tree store.

24. How do you usually get there?



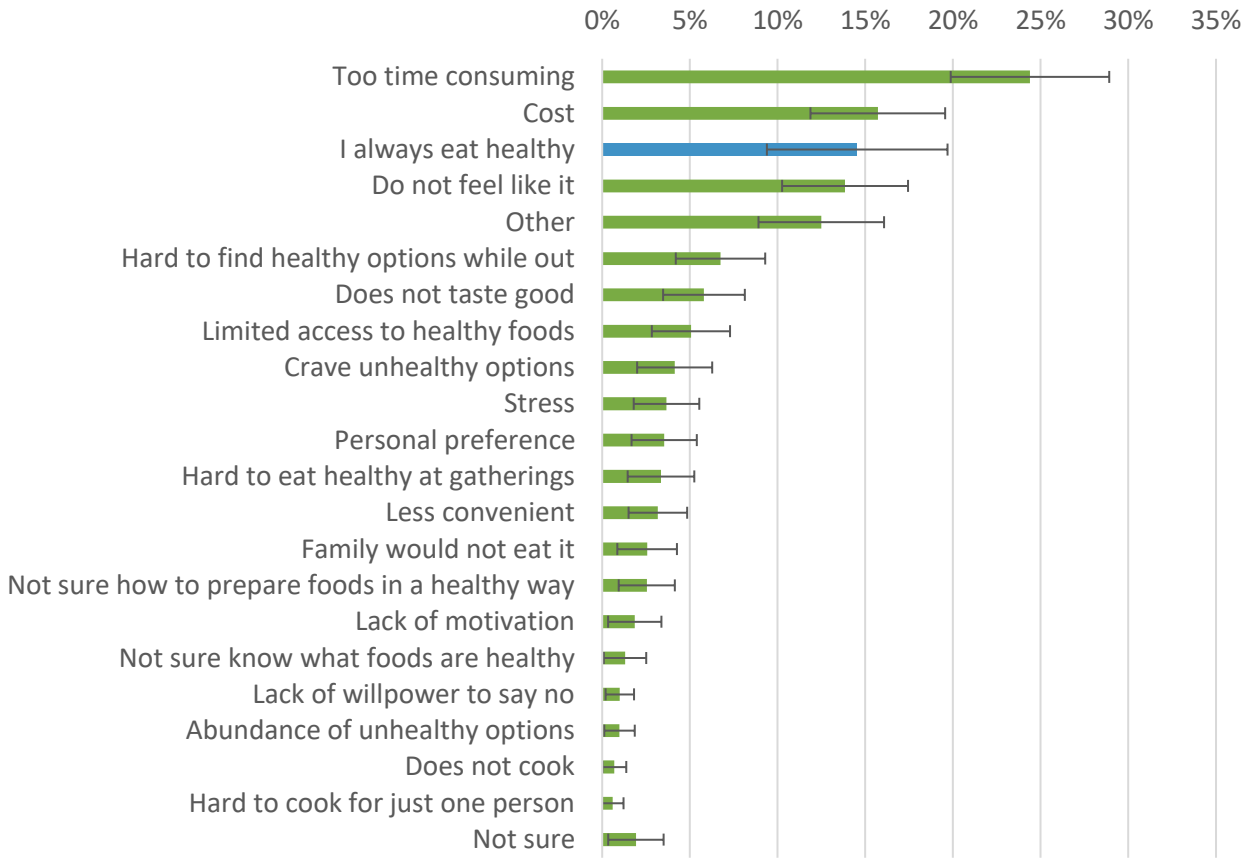
Interpretation: Most people (92.0%) drove a personal vehicle to buy the food they ate at home. However, 7.0% of people indicated that they walked and 4.4% of people used the bus to go buy food. Please note that this question was a check all that apply question.

25. About how long does it take you to get there? Please only include the time it takes you to get there from your home, one way.



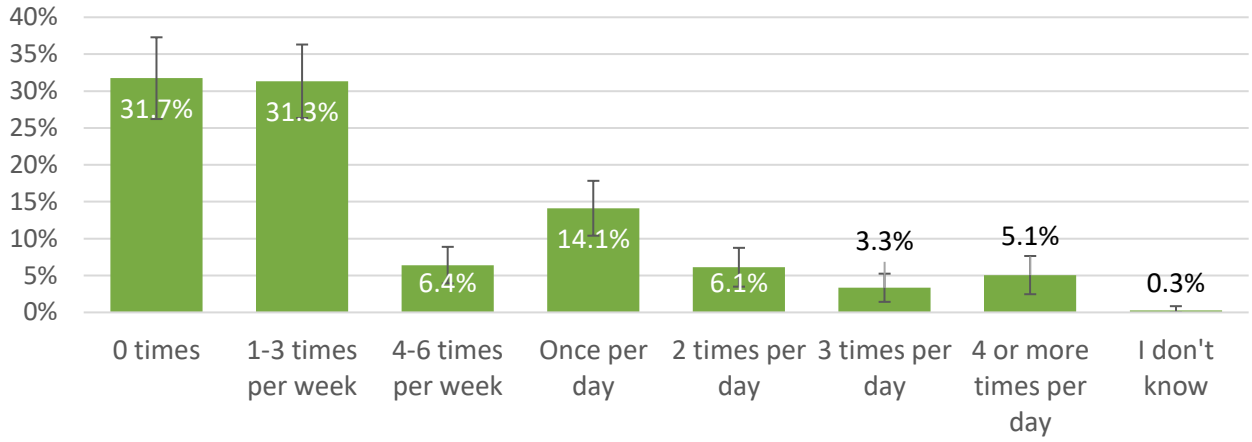
Interpretation: For most people (71.5%), it takes less than 10 minutes to get to the place where they buy most of the food they eat at home. About 5% of people spent more than 20 minutes getting to the place where they bought most of their food.

26. Most of us don't eat healthy all the time. When you aren't eating a healthy diet, what do you think makes it hard for you to eat healthy?



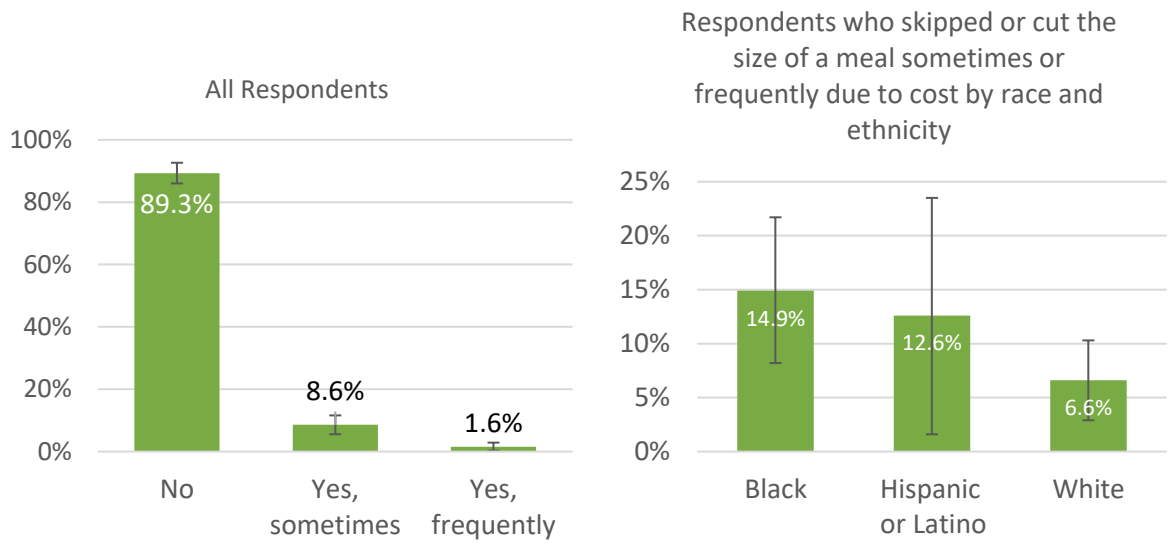
Interpretation: The number one reason cited among residents for not eating healthy was the time it takes to prepare healthy meals followed by cost, and not being in the mood to eat healthy. Separately, 14.8% of residents reported always eating healthy.

27. During the past 7 days, how many times did you drink a can, bottle, or glass of a sugary drink? Sugary drinks include soda, sweet tea, fruit punch, lemonade, fruit drinks, and sports drink. Please do not count diet drinks.



Interpretation: Most respondents (63.0%) drank sugary drinks 3 times or less per week. However, 8.4% of people drank sugary drinks 3 or more times per day.

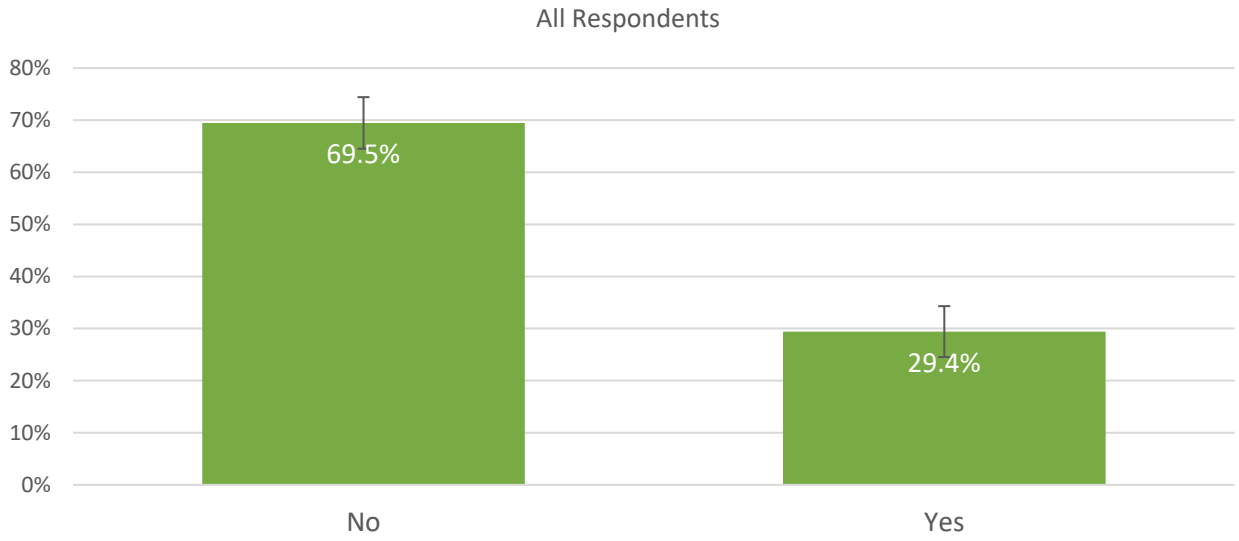
28. In the last 12 months, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?



Interpretation: About 1 in 10 people (10.2%) skipped meals or cut the size of their meal because they didn't have enough money to buy food. Black residents (14.9%) were significantly more likely than white residents (6.6%) to have skipped or cut a meal either sometimes or frequently in the past year. **The difference between Hispanic or Latino residents and white residents was not statistically significant.**

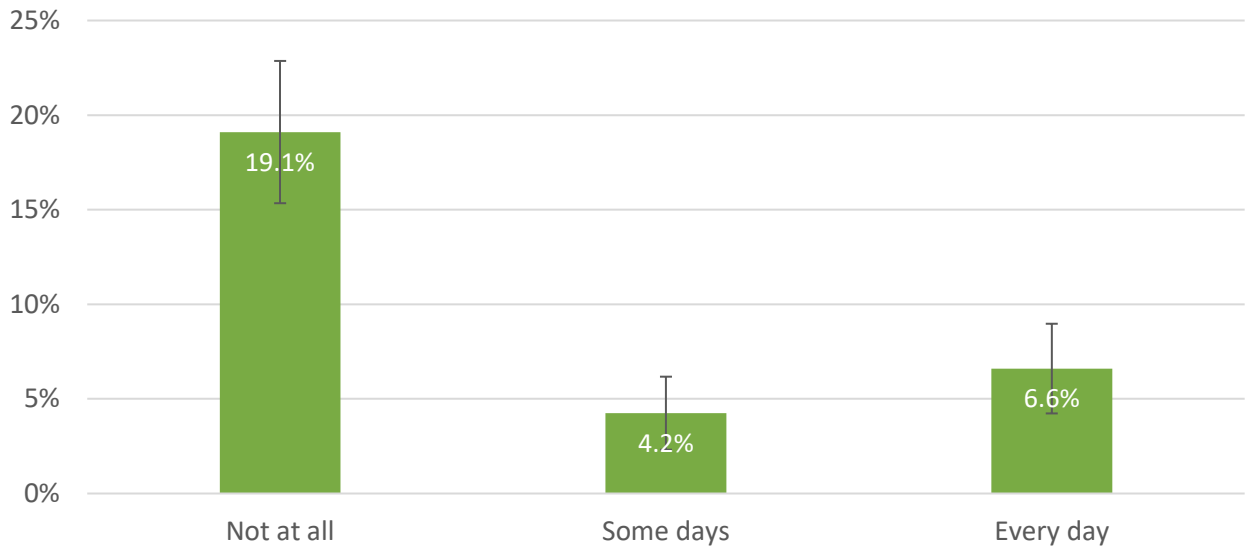
Tobacco Use

29. Have you smoked at least 100 cigarettes in your entire life?



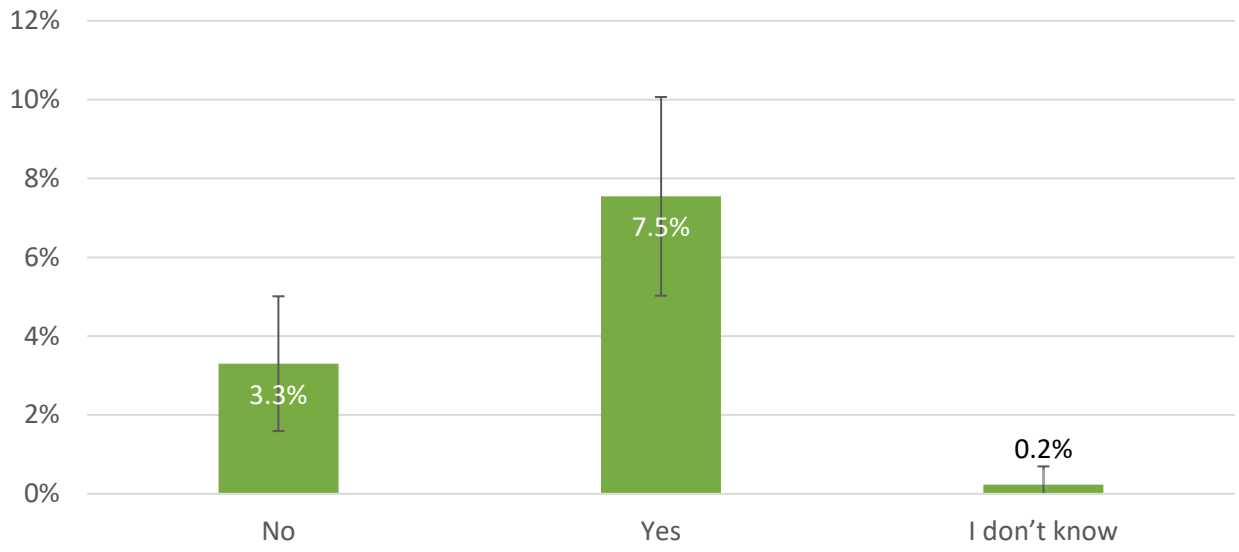
Interpretation: Most residents (69.5%) have not smoked at least 100 cigarettes during their lifetime. The percent of respondents who smoked at least 100 cigarettes during their lifetime was similar for black residents (31.5%) and white residents (33.6%). A smaller percentage of Hispanic or Latino residents smoked at least 100 cigarettes during their lifetime. **Differences by race and ethnicity were not statistically significant.**

30. Do you NOW smoke cigarettes every day, some days, or not at all?



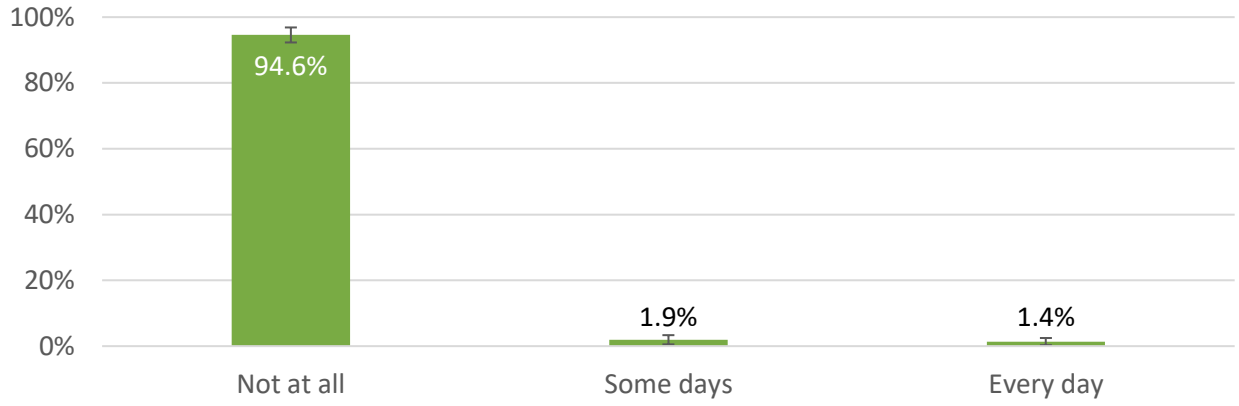
Interpretation: Please note that only people who responded that they had smoked at least 100 cigarettes during their lifetime answered this question (n=127). Most people (19.1%) who had smoked at least 100 cigarettes during their lifetime had quit smoking at the time of the survey. Only 10.8% of all respondents were currently smoking, either some days or every day. This equates to 36.2% of respondents who smoked 100 cigarettes or more during their lifetime. The number of respondents who reported smoking some days or every day was too small to disaggregate by race and ethnicity.

31. During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit?



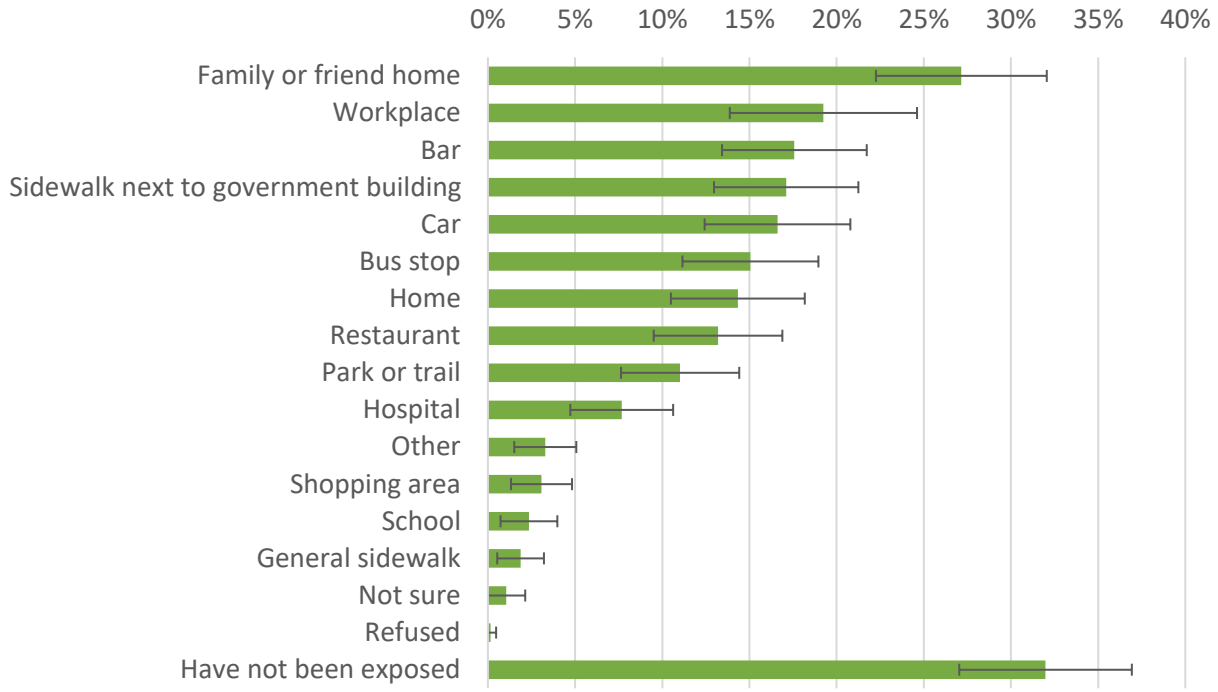
Interpretation: Please note that only people who responded that they had smoked at least 100 cigarettes during their lifetime and that they were currently smoking cigarettes every day or some days at the time of the survey answered this question (n=47). Among all respondents, 7.5% attempted to quit smoking for at least one day during the past year. This equates to 68% of respondents who reported currently smoking. The number of respondents who answered this question was not large enough to disaggregate by race and ethnicity.

32. Do you NOW use e-cigarettes every day, some days, or not at all?



Interpretation: Most people do not use e-cigarettes at all (94.6%). Responses across race and ethnicity categories were nearly identical (97.2% of black, 97.7% of Hispanic or Latino, and 95.7% of white residents did not use e-cigarettes at all) and **differences were not significant**.

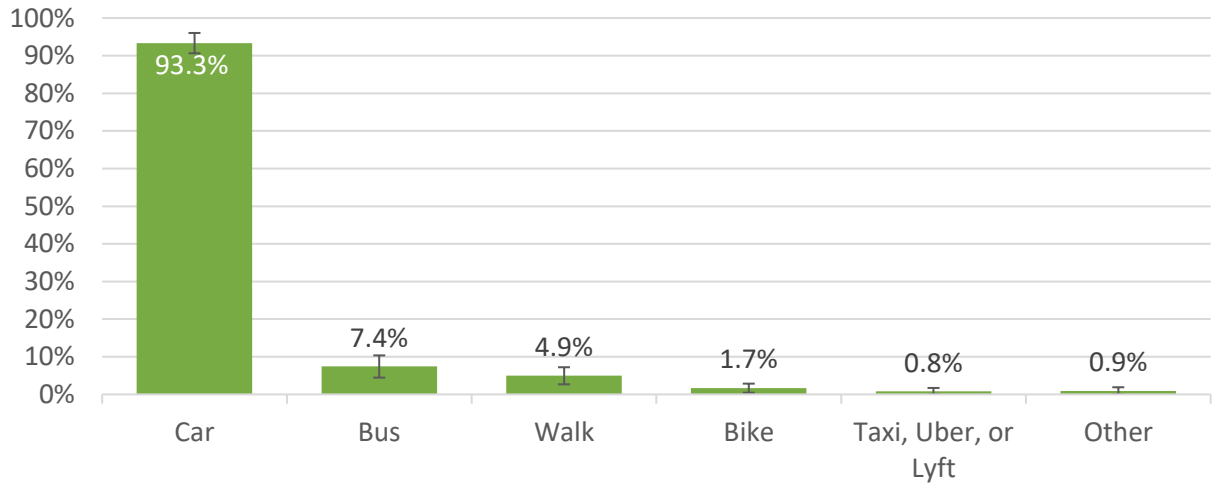
33. Have you been exposed to secondhand smoke in Durham County in the past year at any of these places?



Interpretation: Thirty-two percent of residents said they had not been exposed to secondhand smoke in Durham County during the past year. Of those who had been exposed to secondhand smoke, a family or friend's home, the workplace, a bar, sidewalks next to government buildings, and cars were the most commonly noted places where the exposure occurred.

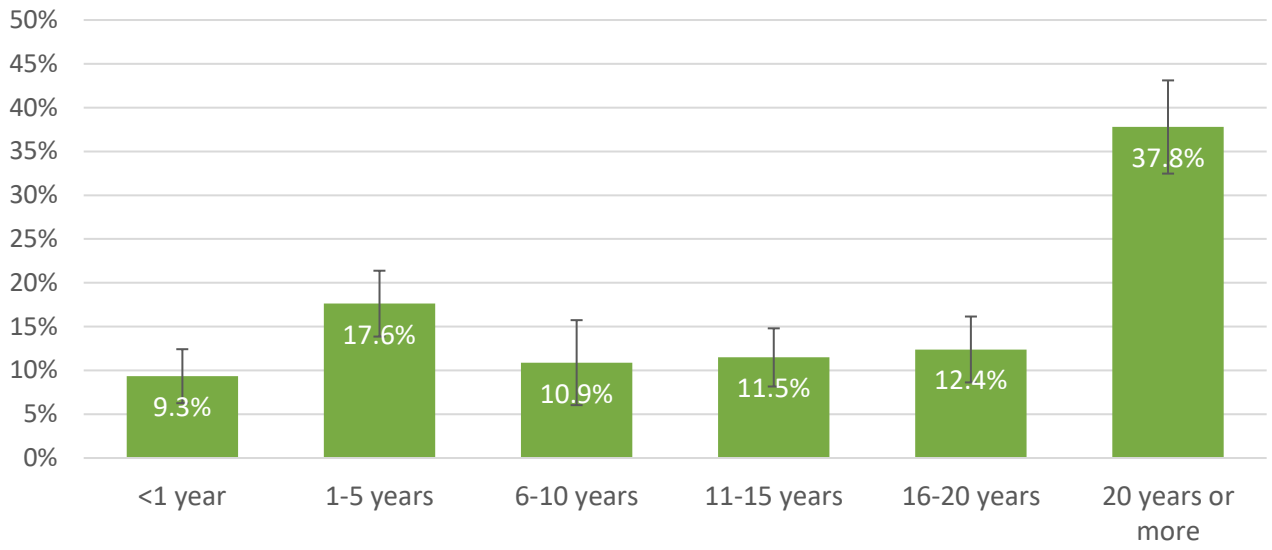
Household

34. In a typical week, what kinds of transportation do you use the most?



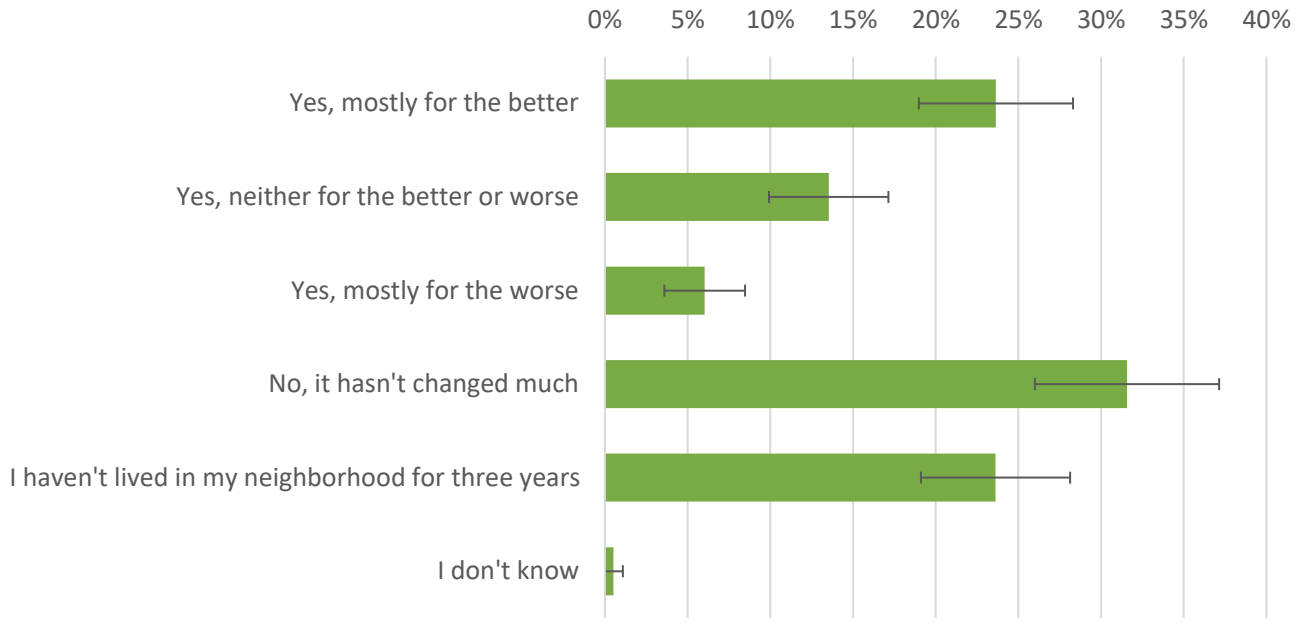
Interpretation: In a typical week, most residents (93.3%) use a car to get around.

35. How long have you lived in Durham County?



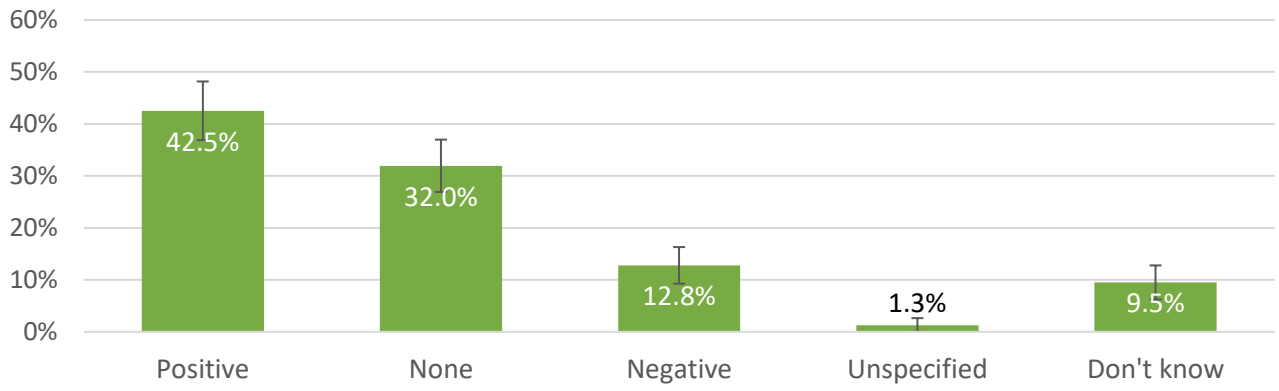
Interpretation: Most residents (61.7%) who were surveyed had lived in Durham County for 11 years or more.

36. Has your neighborhood changed over the past three years?



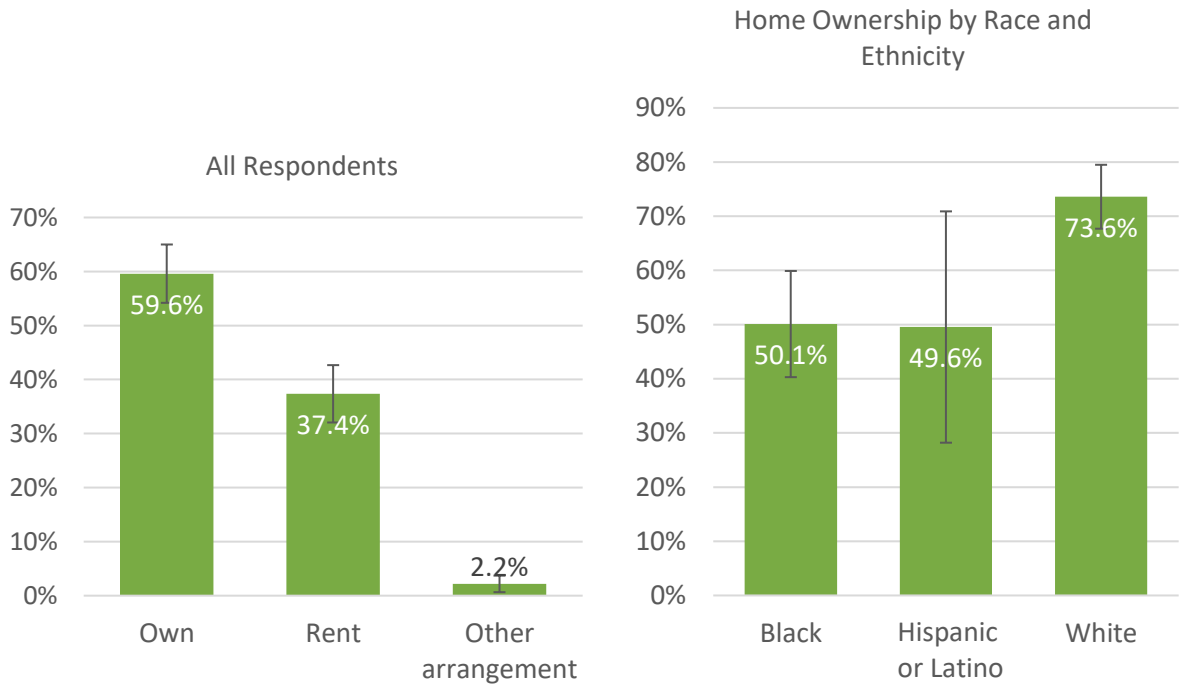
Interpretation: Few respondents (6.0%) felt their neighborhoods had changed for the worse in the past three years. About one fifth of residents (23.6%) surveyed felt their neighborhoods had changed for the better in the past three years.

37. How do you think your current housing impacts your health?



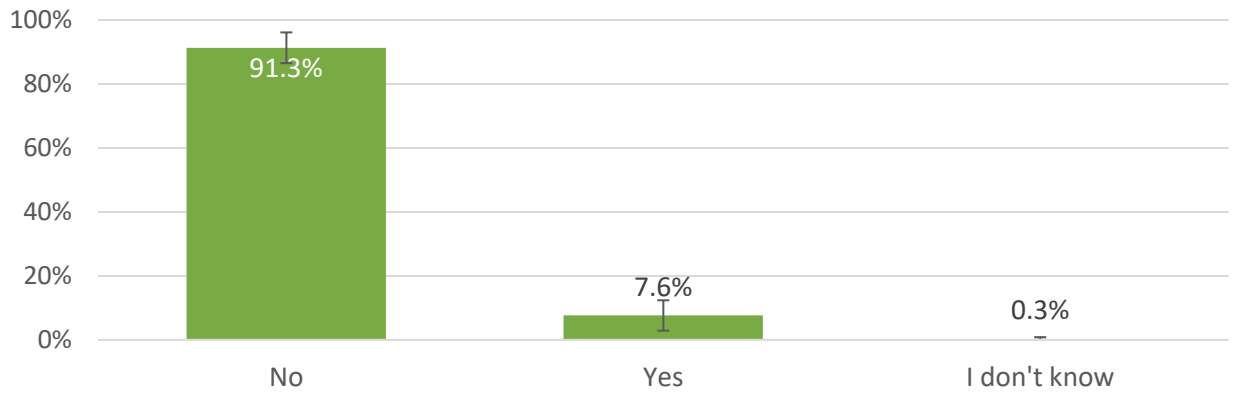
Interpretation: Most residents seemed to be aware of how housing affected their health, with 42.5% reporting that housing had a positive effect on their health and 12.8% responding that housing had a negative effect on their health. However, 32.0% of residents were unaware of any effect housing had on their health and responses from 1.3% of residents were not specific enough to be categorized and as a result were put in the "unspecified" category.

38. Do you own or rent your home?



Interpretation: Over half of residents (59.6%) reported owning their home. Home ownership varied by race and ethnicity. White residents were more significantly more likely to own a home compared to black residents (73.6% compared to 50.1%). **The sample size wasn't large enough to detect a statistically significant difference between white residents and Hispanic or Latino residents**.

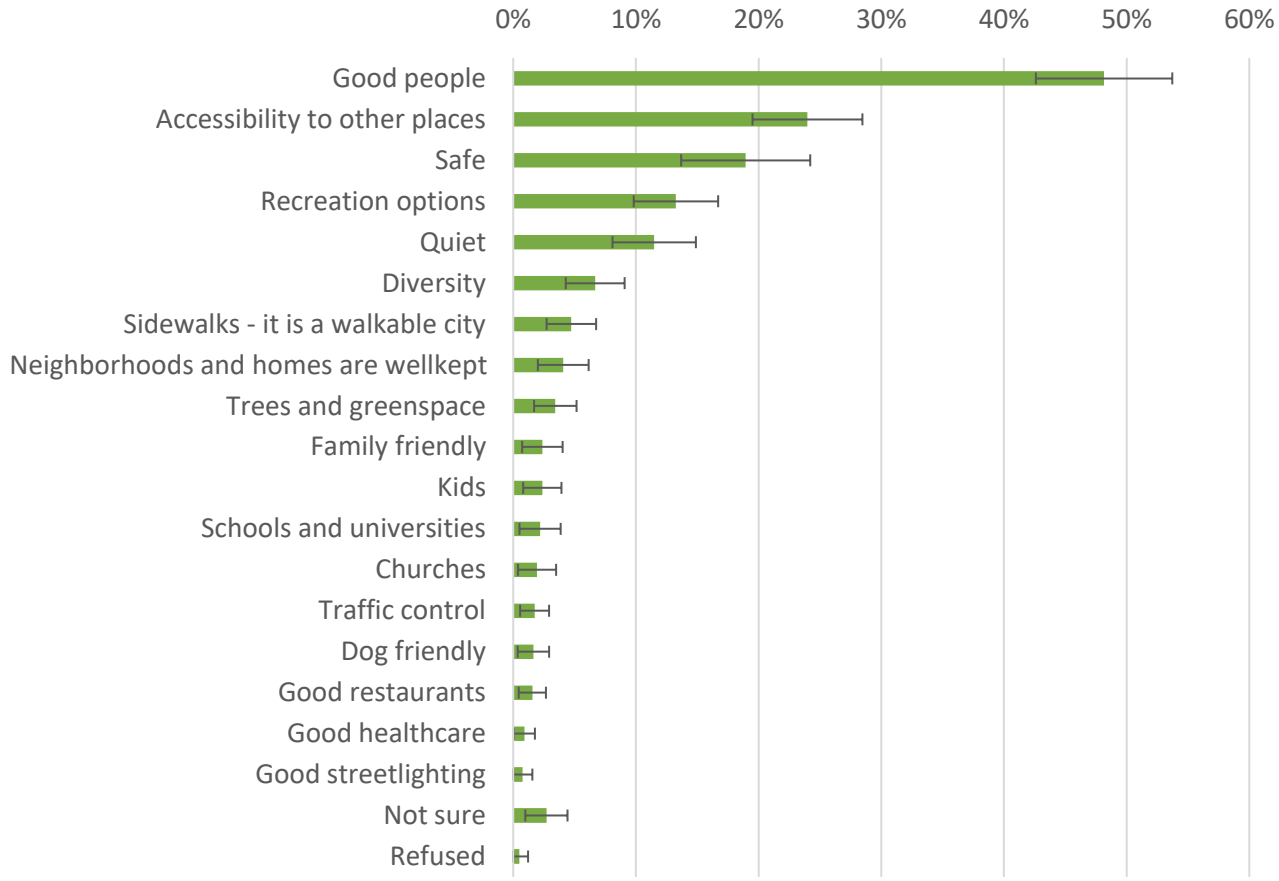
39. Have you or someone in your household been evicted or displaced while living in Durham County in the past three years?



Interpretation: Among residents surveyed, 7.6% had been evicted or displaced while living in Durham County in the past three years or had a household member who had been. **Differences by race and ethnicity were not statistically significant.**

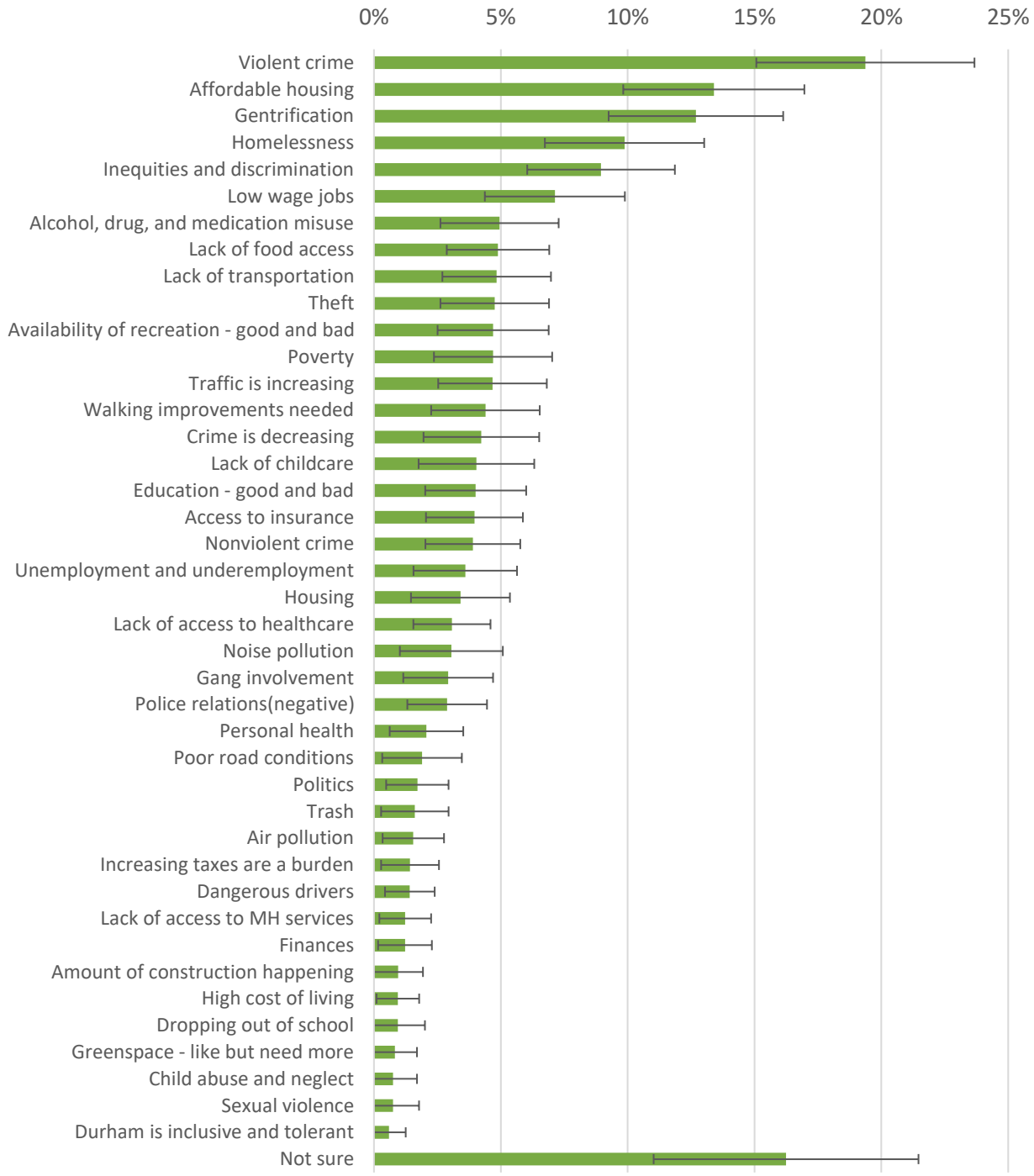
Community Improvement

40. What people, places, or things make your neighborhood a good place to live?



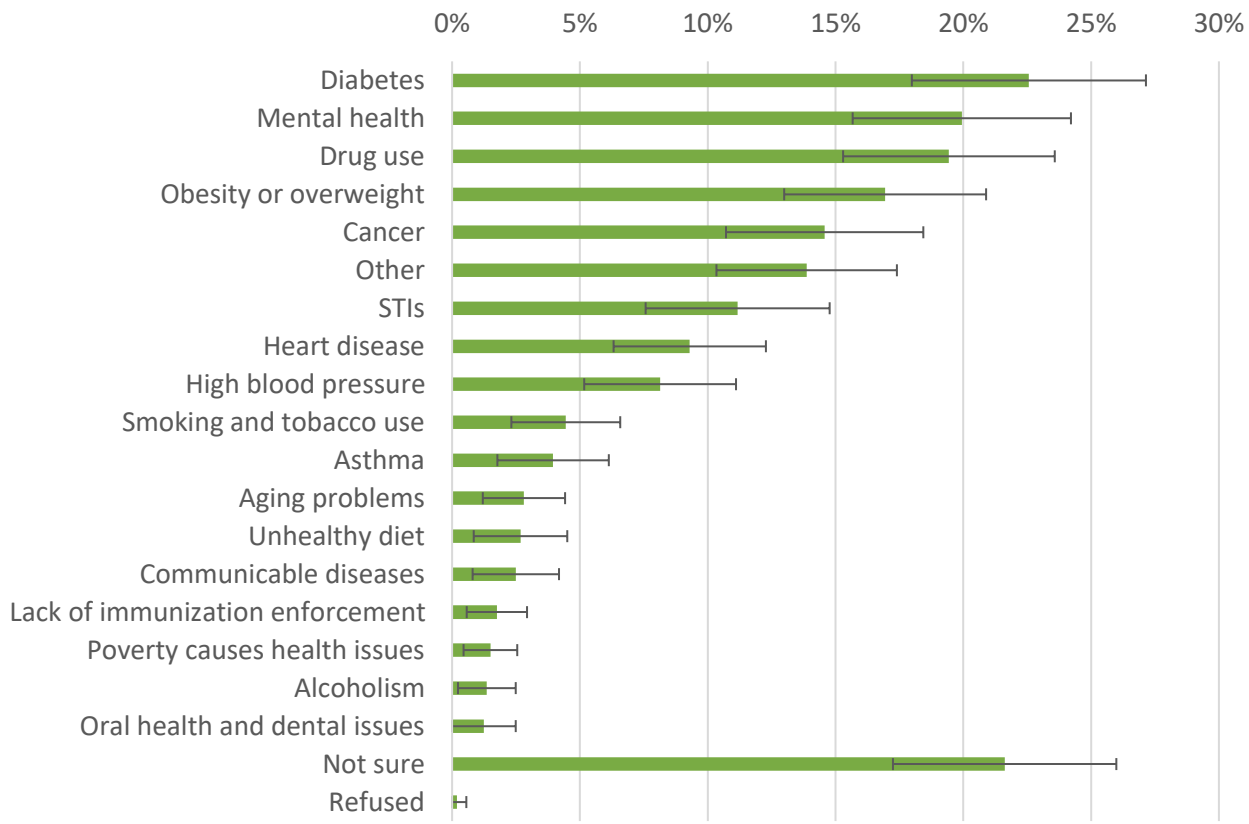
Interpretation: Among the people, places, or things that make neighborhoods in Durham a good place to live, good people were noted most often followed by accessibility to other places, safety, availability of recreational activities, and neighborhoods being quiet.

41. What issues have the greatest effect on quality of life for you personally or your community in Durham County?



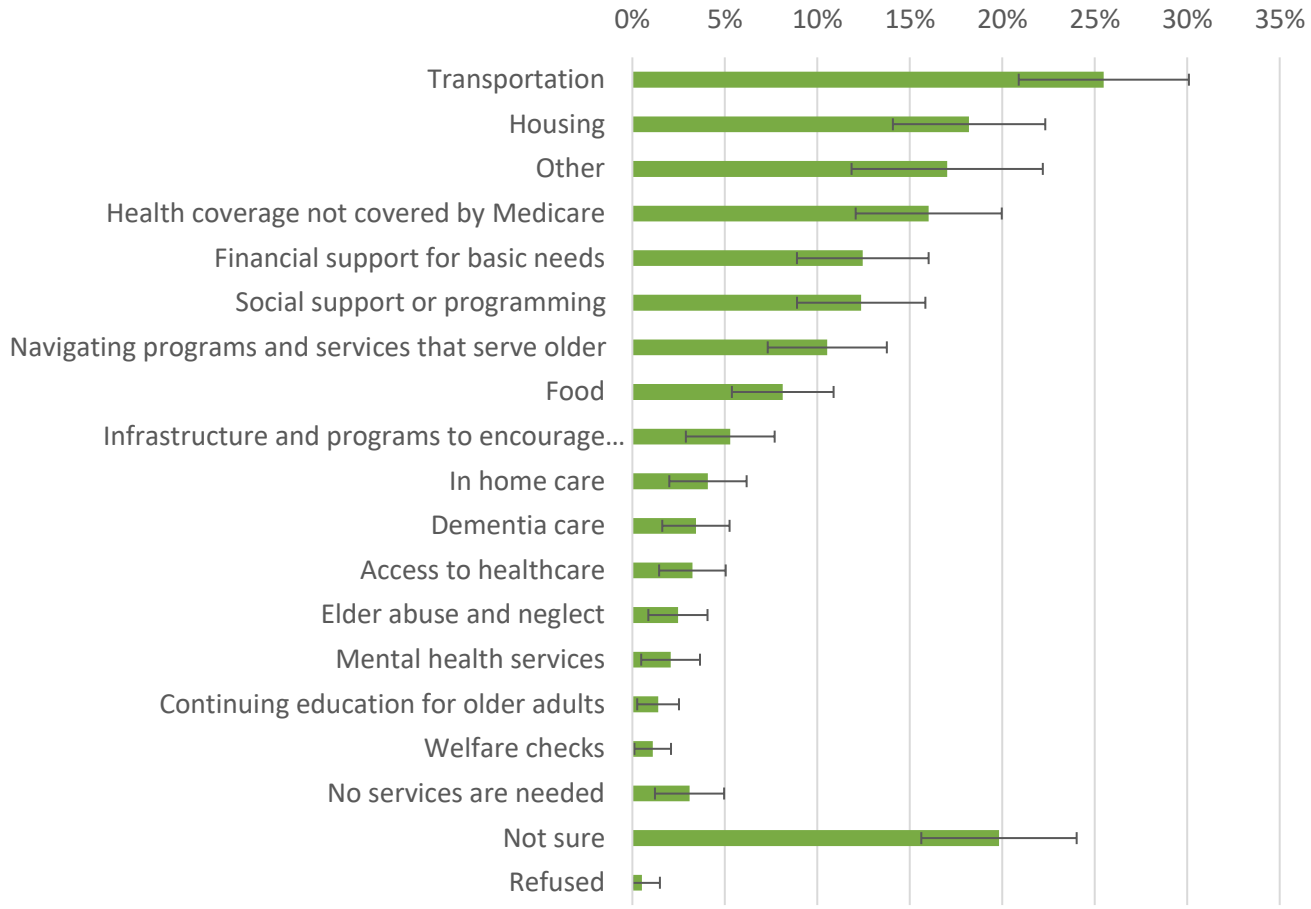
Interpretation: Violent crime, affordable housing, gentrification, homelessness, and inequities and discrimination were the five issues most commonly named as having the greatest effect on quality of life.

42. What are the most important health problems, that is, diseases or conditions, in Durham County?



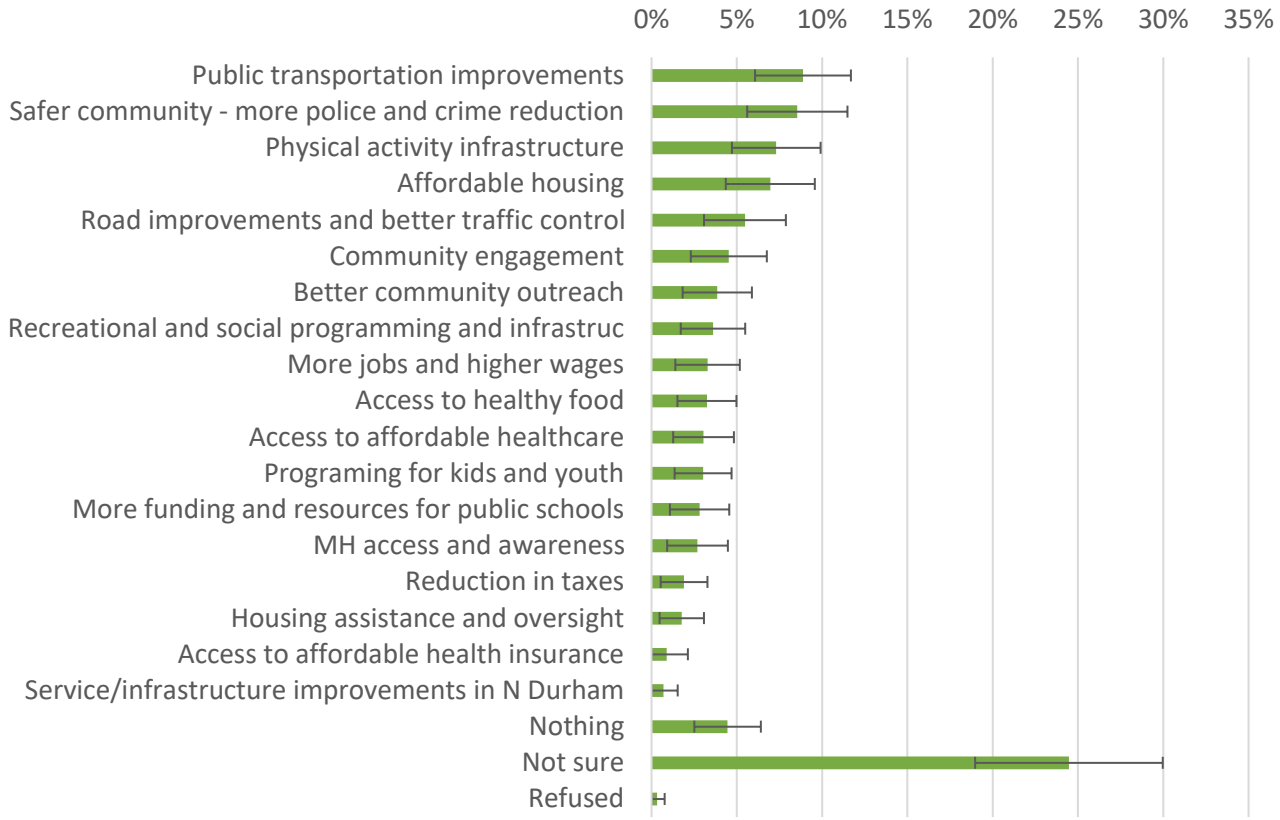
Interpretation: Diabetes, mental health, drug use, obesity or overweight, and cancer were the top five health concerns noted among Durham residents.

43. What, if any, services and supports are needed in Durham County to help improve the quality of life for adults ages 60 and older?



Interpretation: Transportation was the number one resource residents thought would improve quality of life for older adults. The next most commonly cited resources were housing, health coverage for services not covered by traditional Medicare, financial support, and social supports or programs. Three percent of respondents indicated that no additional resources are needed and 19.8% were unsure of what resources are needed.

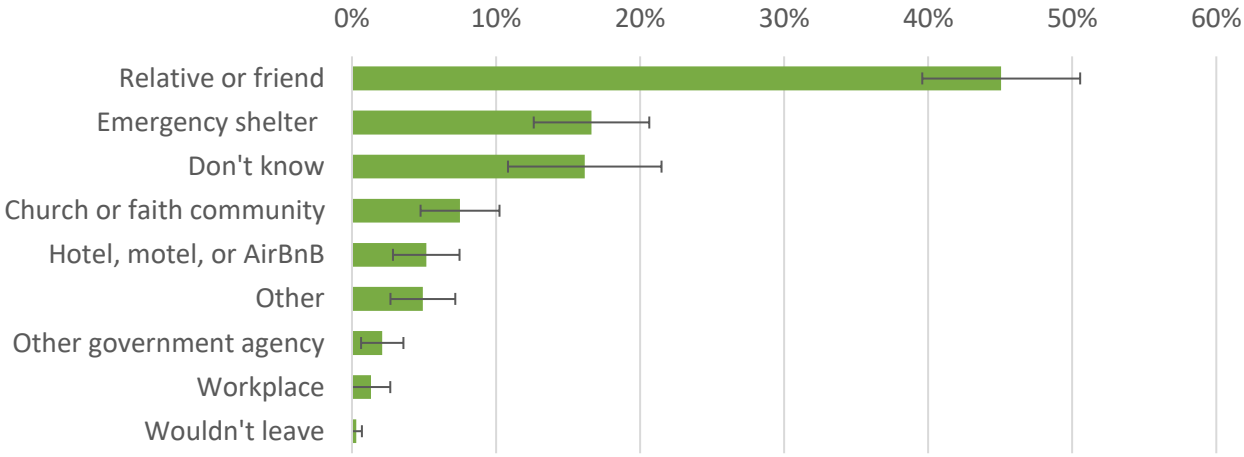
44. What could be done in Durham to support you and your community?



Interpretation: Residents indicated that top issues that could be addressed to better support their communities are public transportation improvements, safer communities, improvements to infrastructure that supports more physical activity, affordable housing, and improvements to roads and traffic control.

Emergency Preparedness

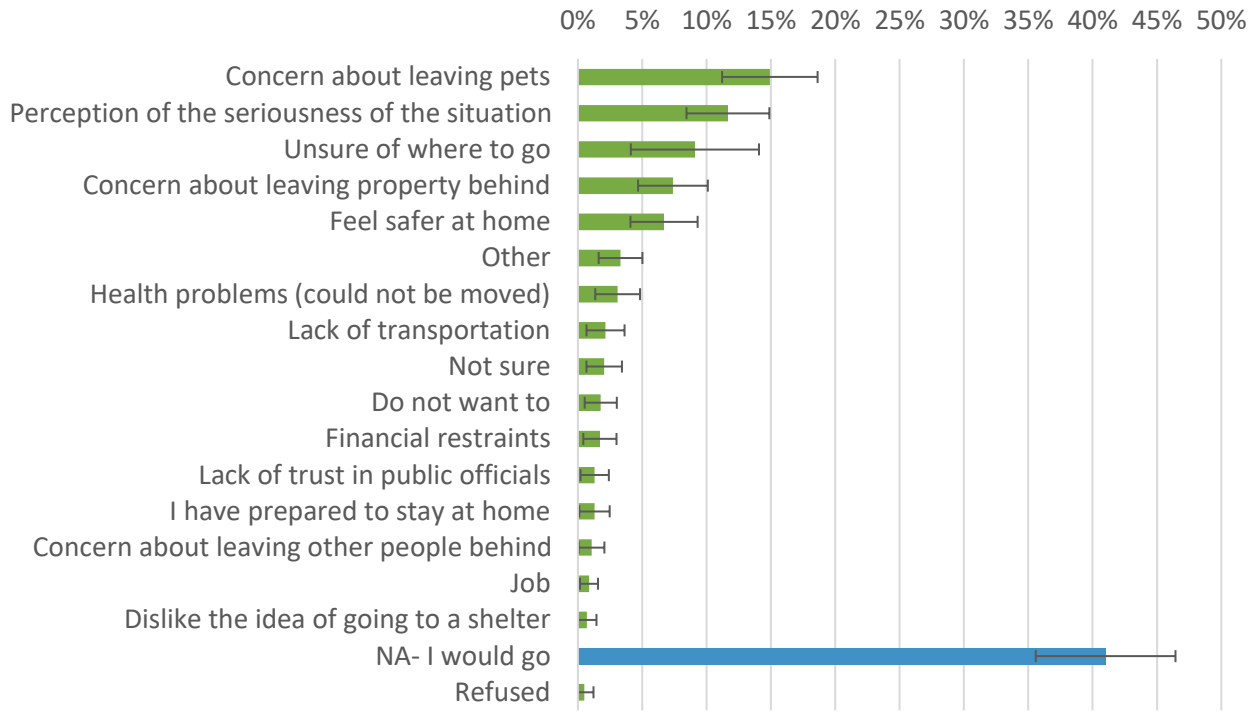
45. If you couldn't remain in your home, where would you go in a community-wide emergency?



Interpretation: Staying with a relative or friend was the most commonly reported place residents indicated they would go during a community wide emergency, with 45.1% of residents indicating that location. Emergency shelters were the next most common response, with 16.6% of residents indicating

they would stay there. However, 16.2% of residents indicated they did not know where they would stay in an emergency. Less than 1% of residents said they would not leave their homes.

46. What would be the main reasons you might not evacuate or leave your home if asked to do so?

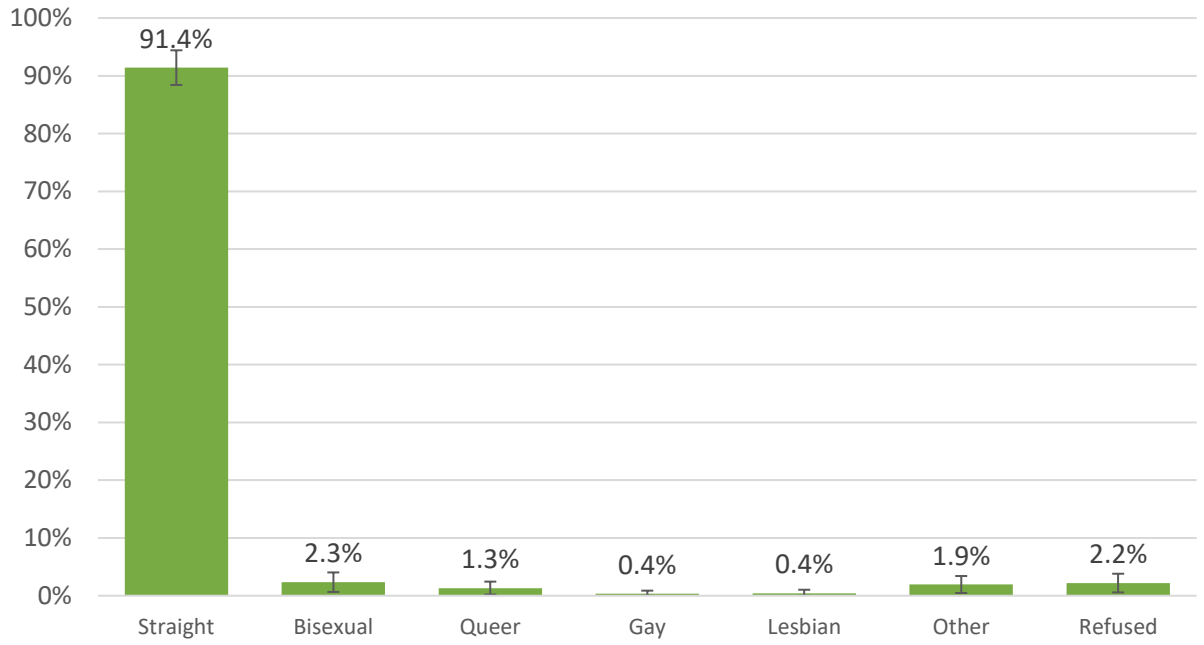


Interpretation: Concern about leaving pets behind was the number one reason residents cited as a potential reason they would not evacuate their homes if asked to do so. The next most common responses were residents' perception of the seriousness of the situation, being unsure of where to go, concern about leaving property behind, and feeling safer at home. It should be noted that 41.0% of respondents indicated that there would be no reason they would not leave their homes if asked to do so during an emergency.

Demographic Data

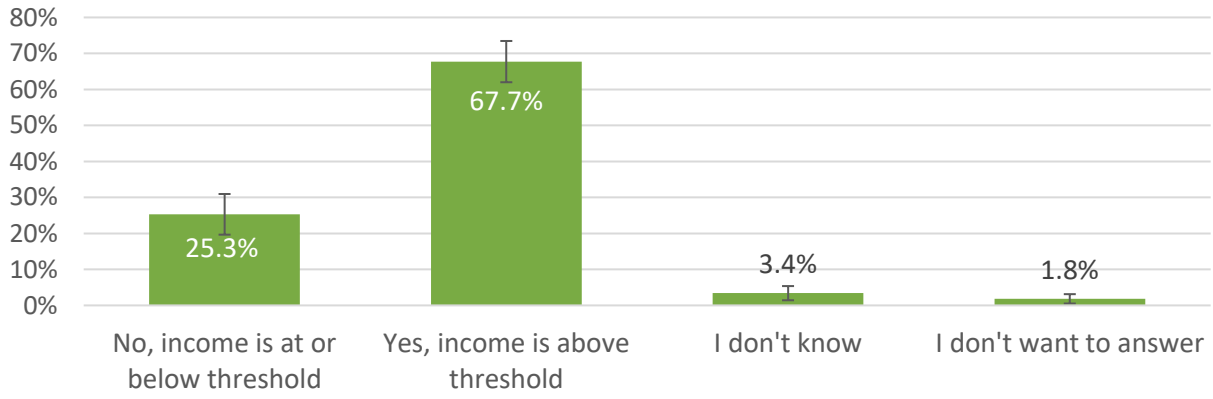
Note: demographic data from the tables at the beginning of the document are not shown below.

1. How would you describe your sexual orientation?



Interpretation: Among survey respondents, 91.4% were heterosexual or straight and 6.3% were lesbian, gay, bisexual, queer or another sexual orientation.

2. Percent of survey respondents with an annual household income below and above the 200% poverty level.



Interpretation: Most residents (67.3%) had incomes above 200% of the Federal Poverty Level (FPL). However, 25.3% of residents had incomes below the FPL.

2019 Durham County Community Health Assessment Survey Hispanic or Latino Neighborhood Sample

**Common responses grouped together from the "other"' or free text category*

There were 188 completed surveys in the Hispanic or Latino sample. The survey response rate was 80%. Demographic characteristics of survey participants are presented in Table 1 below.

Table 1. Demographic Characteristics of Survey Respondents

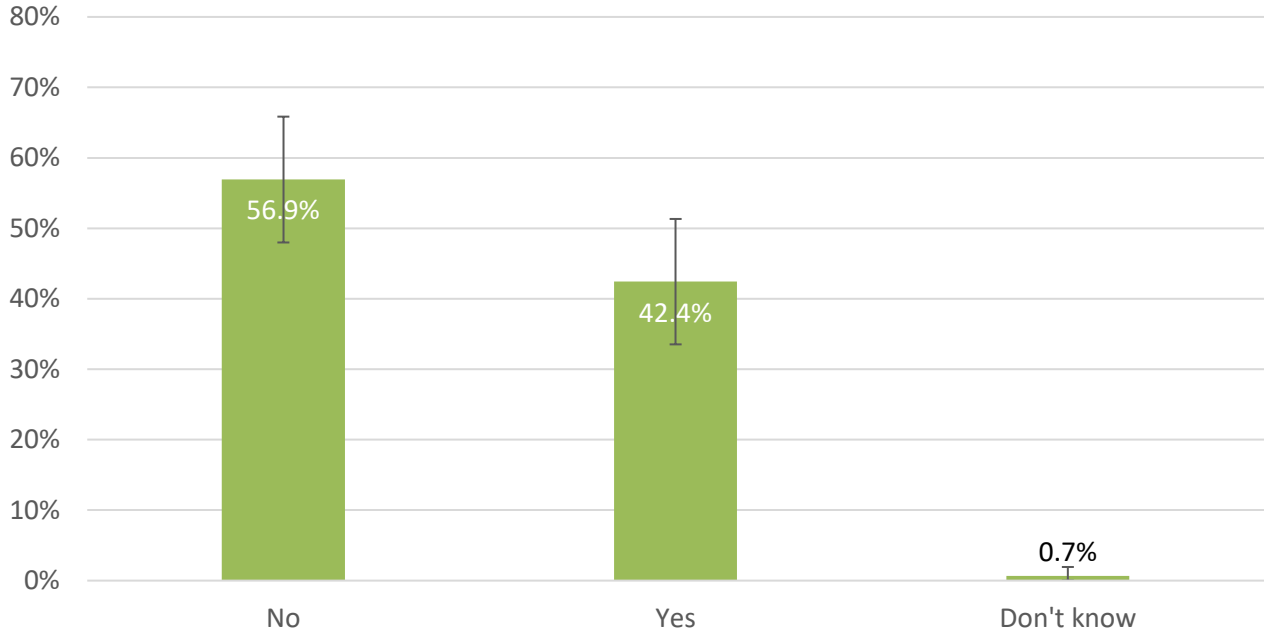
	CHA Survey Estimate (95% confidence interval)
Median Age	42 (41.9, 43.1)
Gender	
Man	32.7% (23.2, 42.0)
Woman	65.6% (56.1, 74.9)
Non-binary	.7% (0, 1.9)
Refused	1.1% (0, 2.7)
Education	
Less than 9th grade	31.3% (23.3, 39.1)
9-12th grade, no diploma	21.5% (14.1, 28.8)
High school graduate or equivalent	24.7% (17.4, 31.8)
Some college, no degree	12.4% (3.3, 21.4)
Associate's degree	2.7% (.2, 5.2)
Bachelor's degree	6.3% (1.2, 11.3)
Graduate or professional degree	.5% (0, 1.2)
Employment Status	
Disabled	1.2% (0, 2.6)
Employed full-time	40.1% (30.6, 49.6)
Employed part-time	20.3% (12.7, 27.8)
Homemaker	23.8% (16.9, 30.7)
Retired	1.1% (0, 3.3)
Self-employed	5.8% (2.2, 9.2)
Student	3.6% (.7, 6.4)
Unemployed	8.8% (3.9, 13.6)

Table 1, above, illustrates that the median age among survey participants was 42. Women were overrepresented in the sample.

Since the Hispanic and Latino sample was selected among neighborhoods with at least 50% or more Hispanic and Latino residents, the results can only be extrapolated to Hispanics and Latinos living in neighborhoods with high proportions of Hispanics and Latinos. The results cannot be generalized to all Hispanics and Latinos living in Durham County.

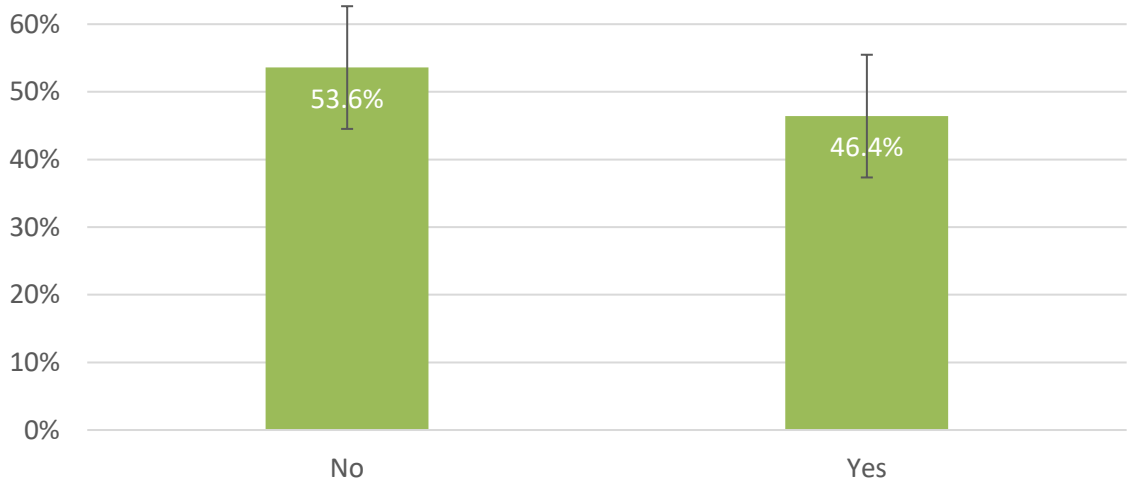
Access to Healthcare

1. Do you have one person you think of as a personal doctor or health care provider?



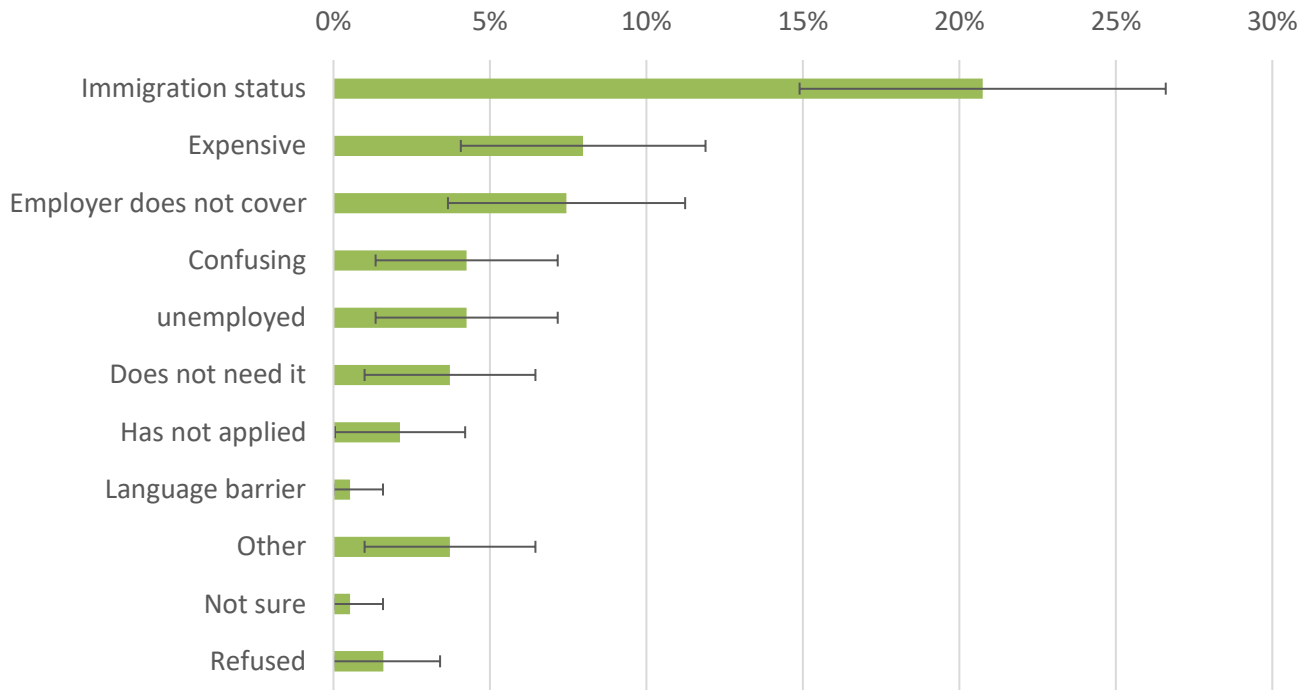
Interpretation: Most residents (56.9%) surveyed did not have someone they consider to be their personal doctor.

2. During the past 12 months, was there any time you did not have any health insurance or coverage?



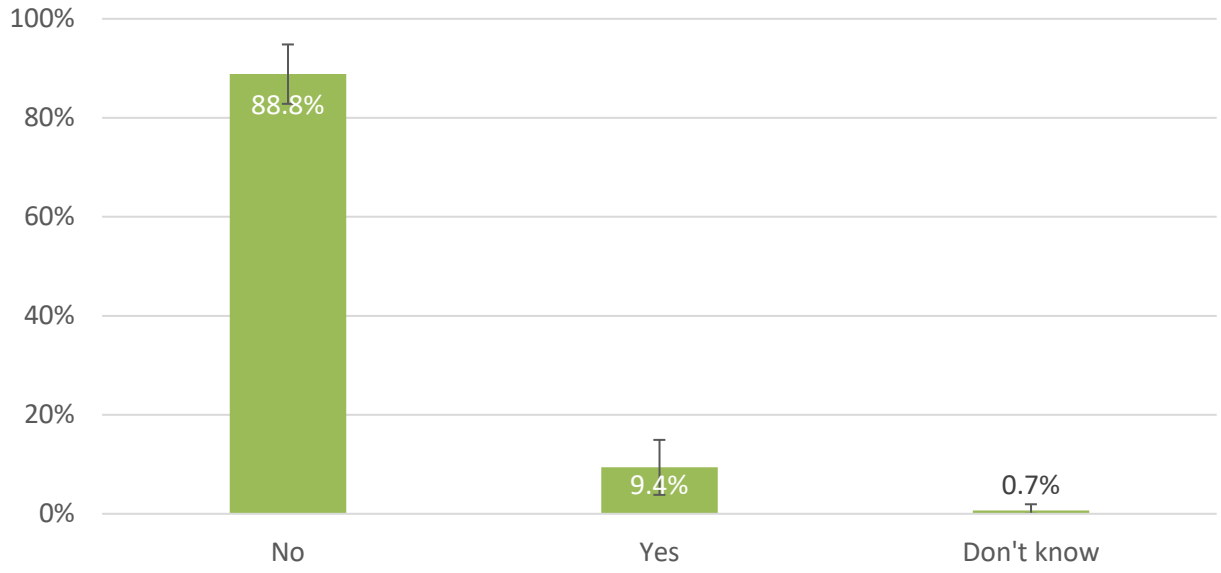
Interpretation: Most Hispanic or Latino residents surveyed (53.6%) had breaks in coverage during the past 12 months. Nearly half of residents had health insurance without any breaks during that 12-month period.

3. Since you said "yes", what prevented you from having health insurance or coverage?



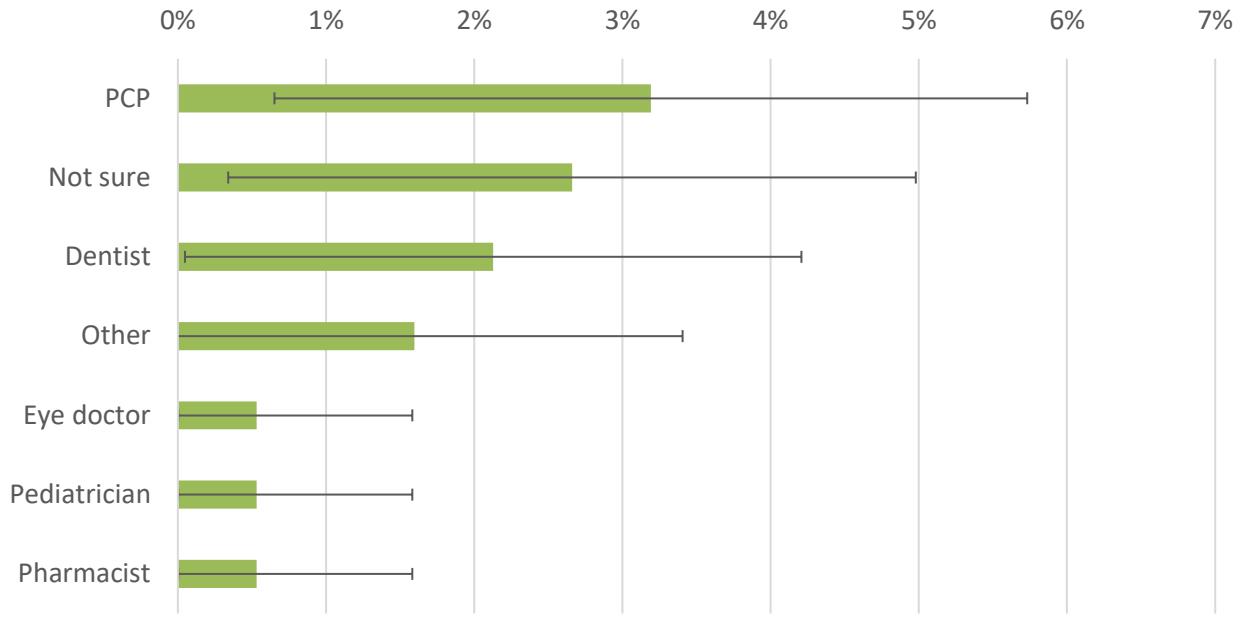
Interpretation: Note that this question was only answered by people who indicated that they were uninsured at some point during the past 12 months (n=100). Among residents who did not have health insurance at some point during the past 12 months, immigration status was the biggest factor in getting insurance.

4. In the past 12 months, did you have a problem getting the health care you needed for you or for someone in your household from any type of health care provider, dentist, or pharmacy?



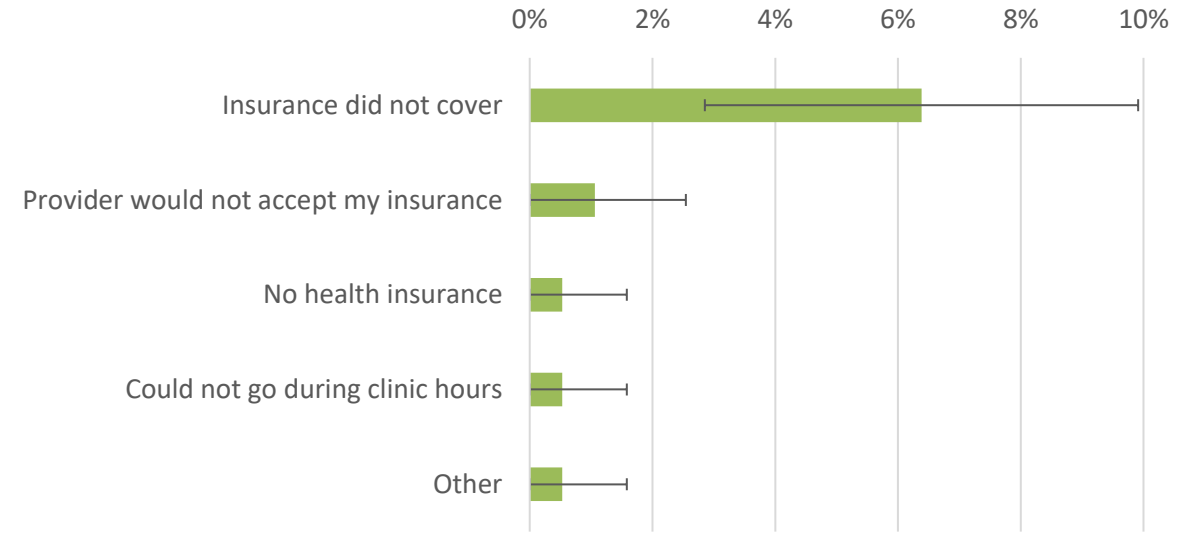
Interpretation: Most Hispanic or Latino residents surveyed (88.8%) did not have a problem accessing health care in the past year.

5. Since you said "yes", what type of provider did you or someone in your household have trouble getting health care from?



Interpretation: Note that this question was only answered by people who indicated they had a problem getting the health care they needed for themselves or someone in their family during the past 12 months (n=18). Primary care providers and dentist were the top two care providers people had trouble accessing during the past year in Durham County.

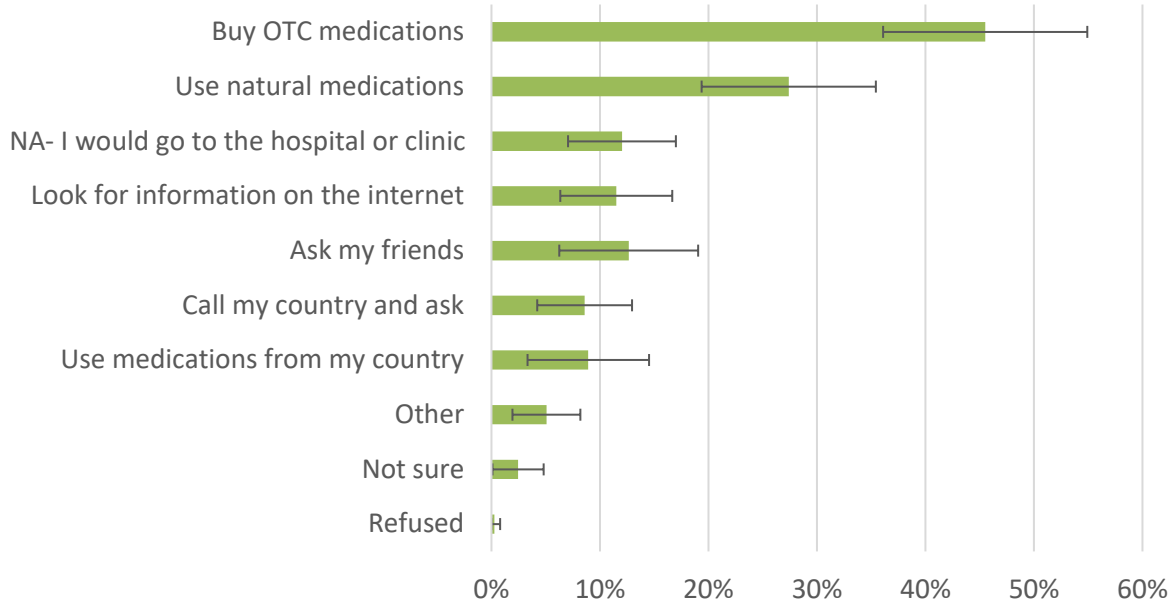
6. What was the problem that prevented you or someone in your household from getting the necessary health care?



Interpretation: Note that this question was only answered by people who indicated that they had a problem getting the health care they needed for themselves or someone in their family during the last

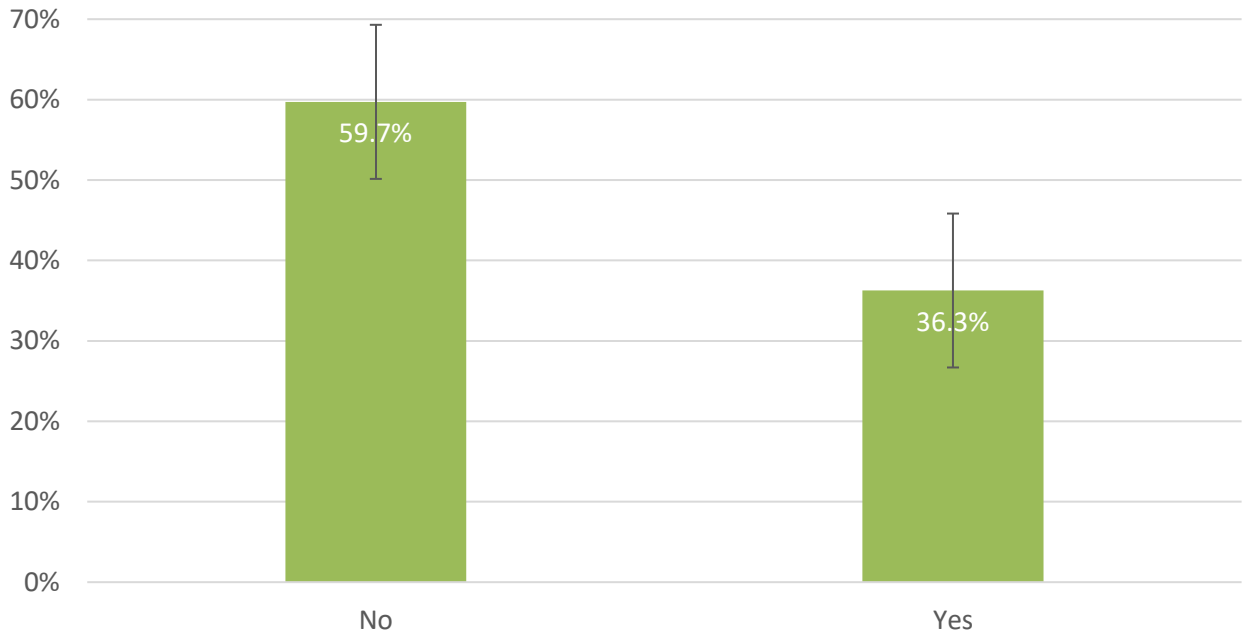
12 months (n=18). Insurance did not cover and provider would not accept my insurance were the top two reasons people had trouble accessing healthcare in the past year in Durham County.

7. When you are sick and you don't go to the clinic or hospital, what do you do to feel better?



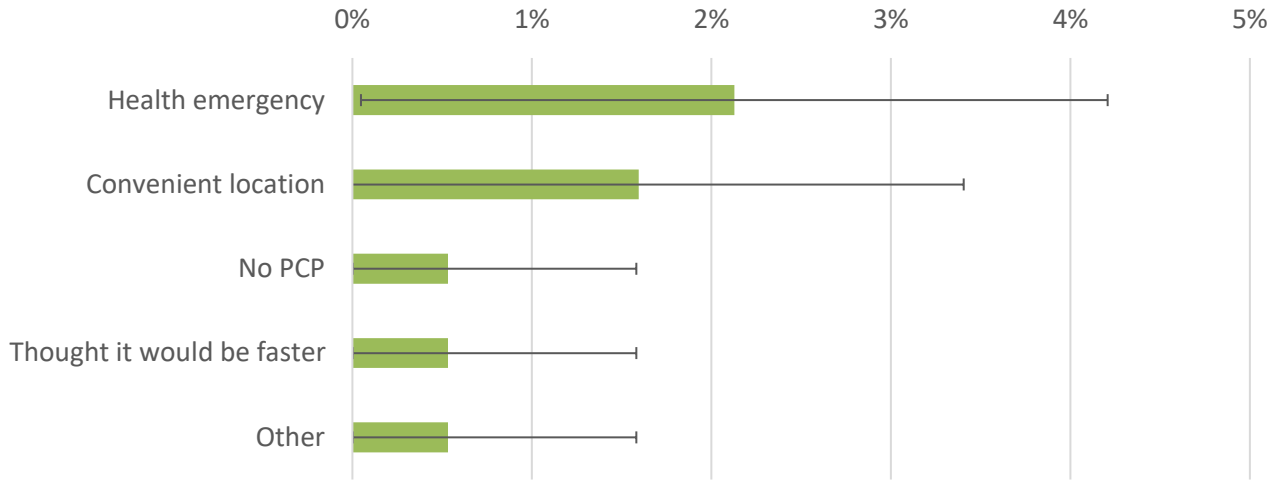
Interpretation: Hispanic or Latino residents who don't go to the clinic or hospital bought over the counter medications (45.5%) and used natural medications (27.4%) as the top two ways to feel better.

8. In the past 12 months, have you or someone in your family gone to the emergency room?



Interpretation: Most Hispanic or Latino residents surveyed (59.7%) or someone in their family had not gone to the emergency room in the past 12 months.

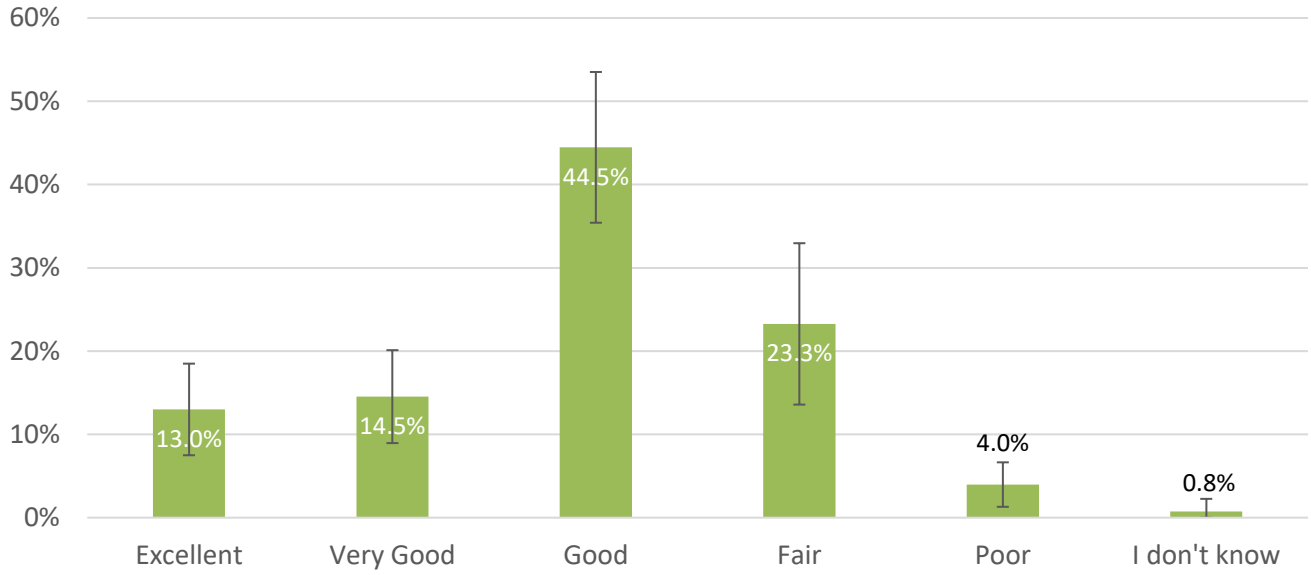
9. Did you go the emergency room for any of the following reasons? Please tell me if any of these are the reasons.



Interpretation: Note that this question was only answered by people who themselves or someone in their family had gone to the emergency room during the last 12 months (n=66). Health emergency and convenient location were the top two reasons for going to the emergency room.

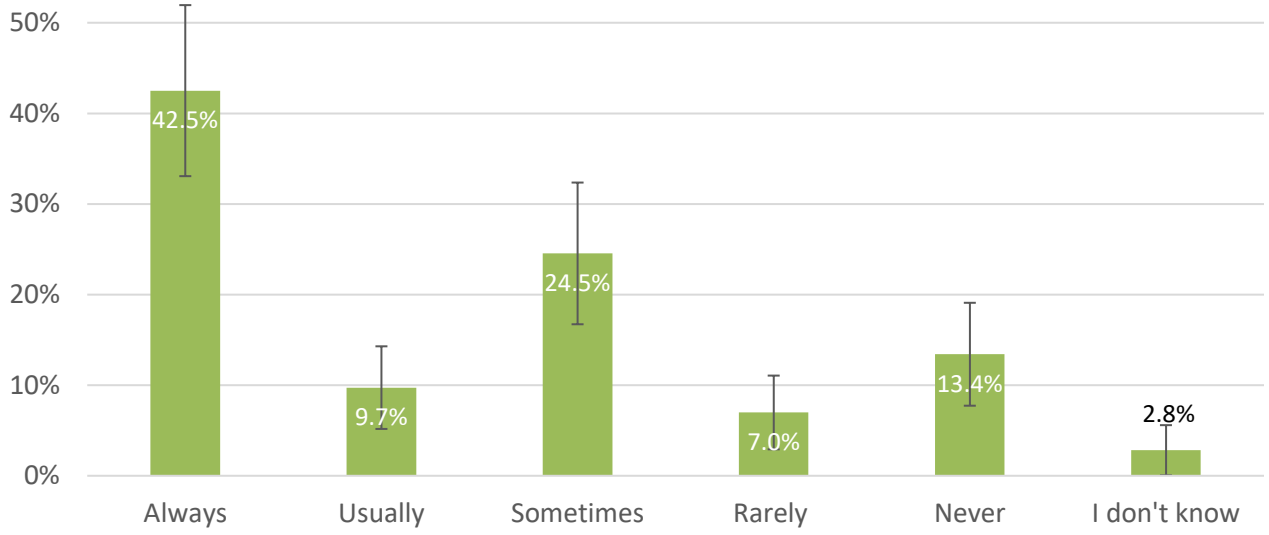
Personal Health

10. Would you say, in general, your health is excellent, very good, good, fair or poor?



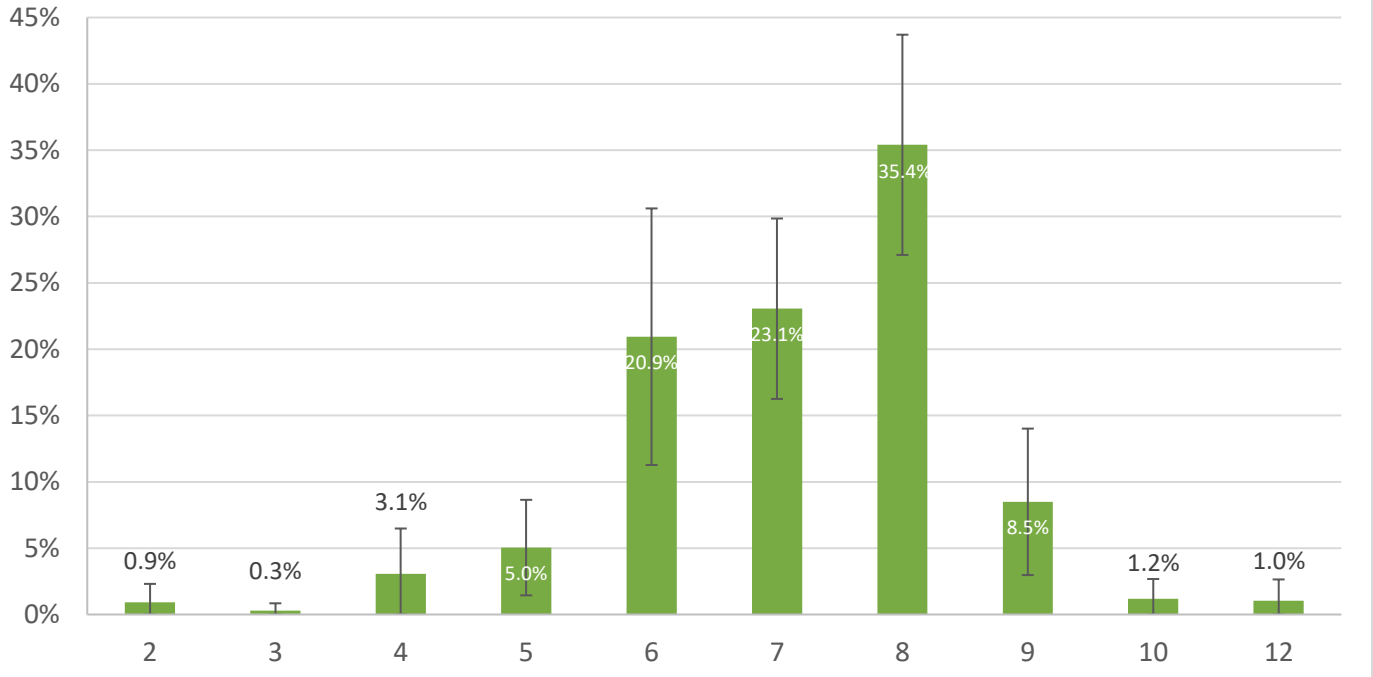
Interpretation: Most Hispanic or Latino residents surveyed (72%) reported having, good, very good or excellent health.

11. How often do you get the social and emotional support you need? Would you say always, usually, sometimes, rarely, or never?



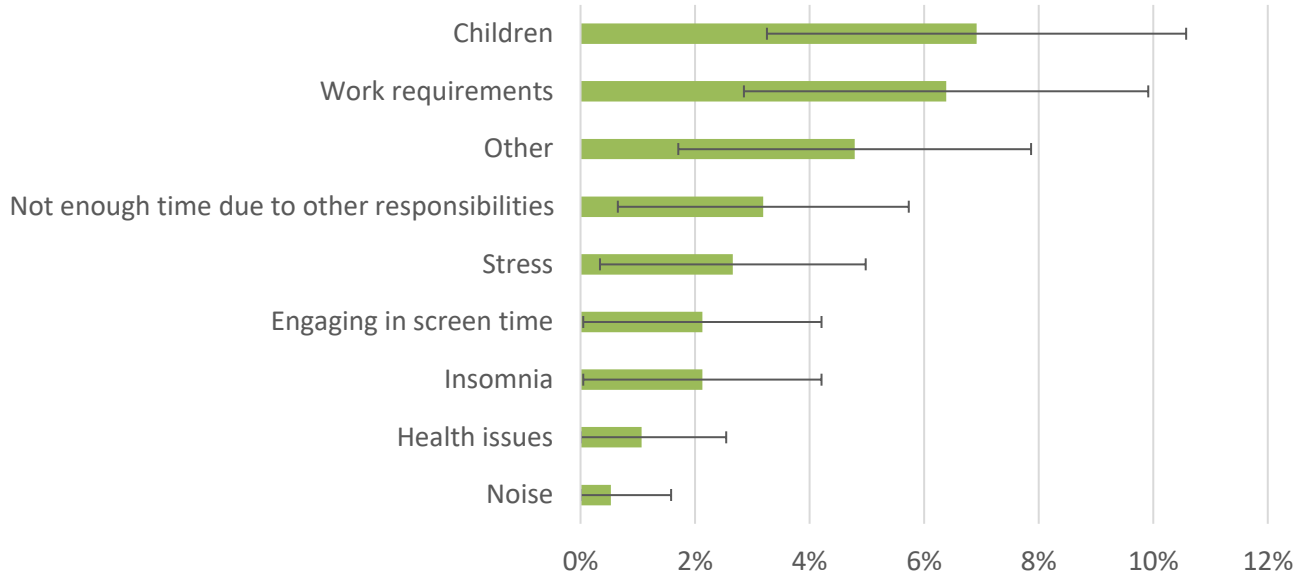
Interpretation: Over half of residents surveyed (52.2%) reported getting the social and emotional support they needed always or usually.

12. On average, how many hours of sleep do you get in a 24-hour period?



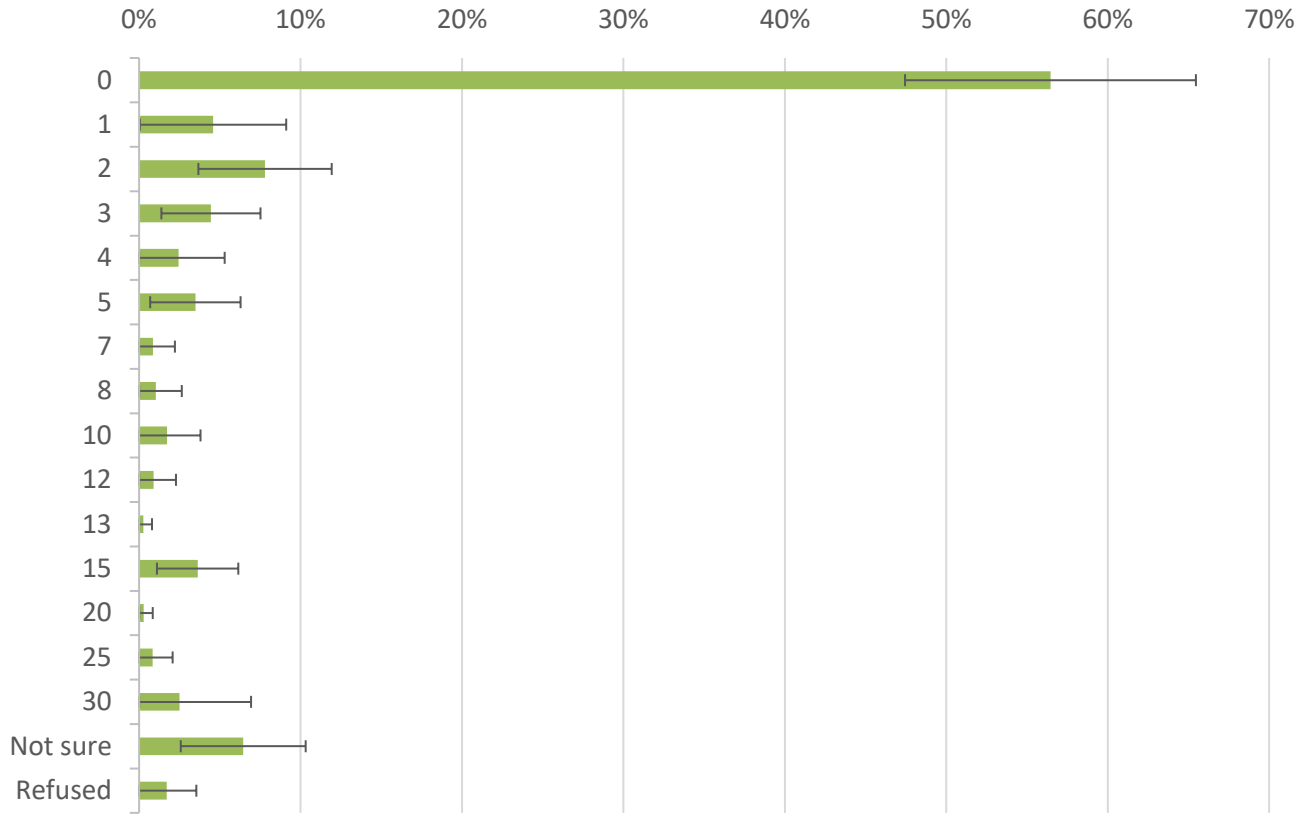
Interpretation: Most residents surveyed, 69.2% reported getting at least 7 hours of sleep during a 24-hour period.

13. What keeps you from getting at least 7 hours of sleep a night?



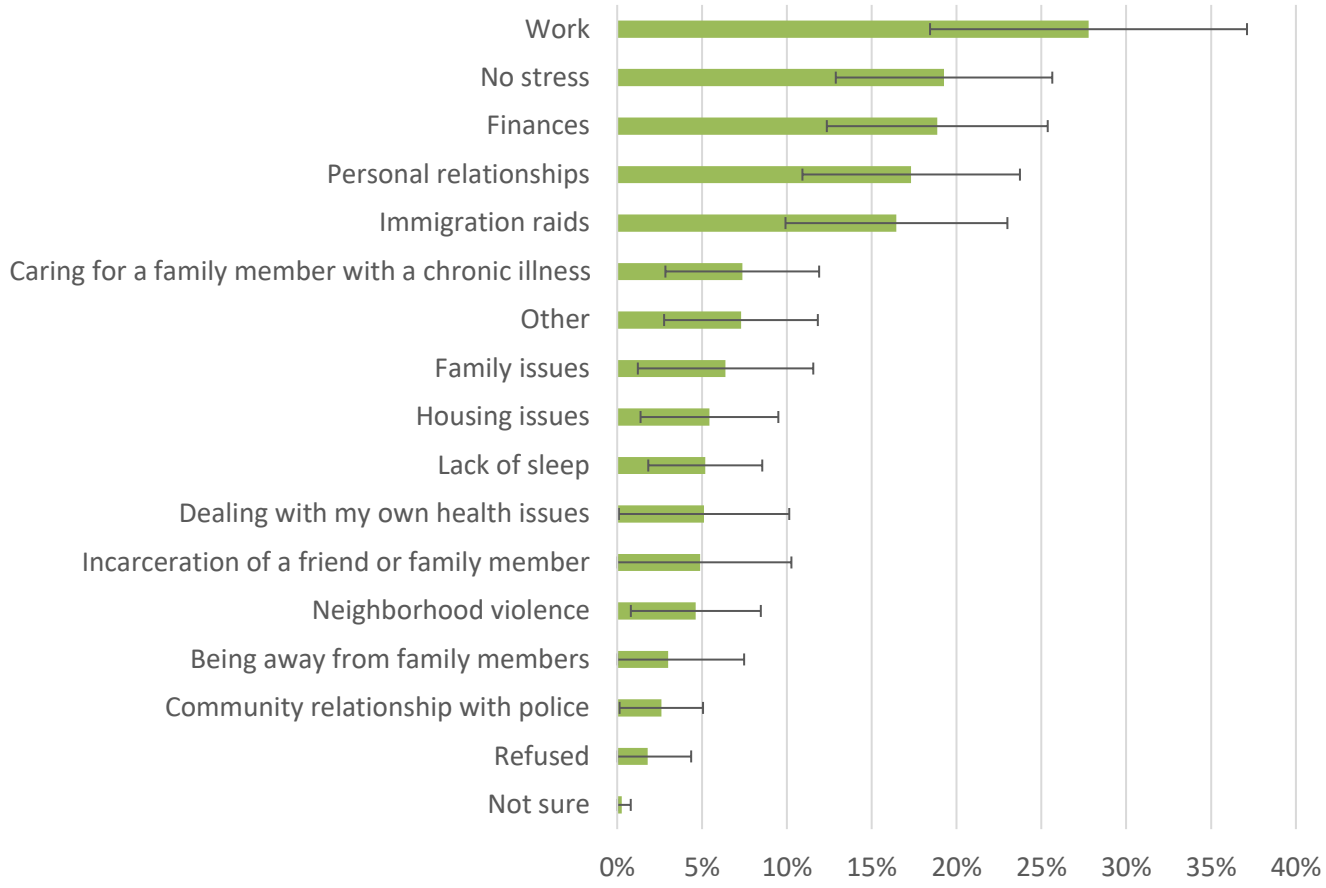
Interpretation: Note, this question was only answered by people who indicated that they got less than 7 hours of sleep in a 24-hour period on average (n=49). Children and work requirements were the top two reasons cited for not getting 7 hours or more of sleep during a 24-hour period.

14. Now thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 days was your mental health not good?



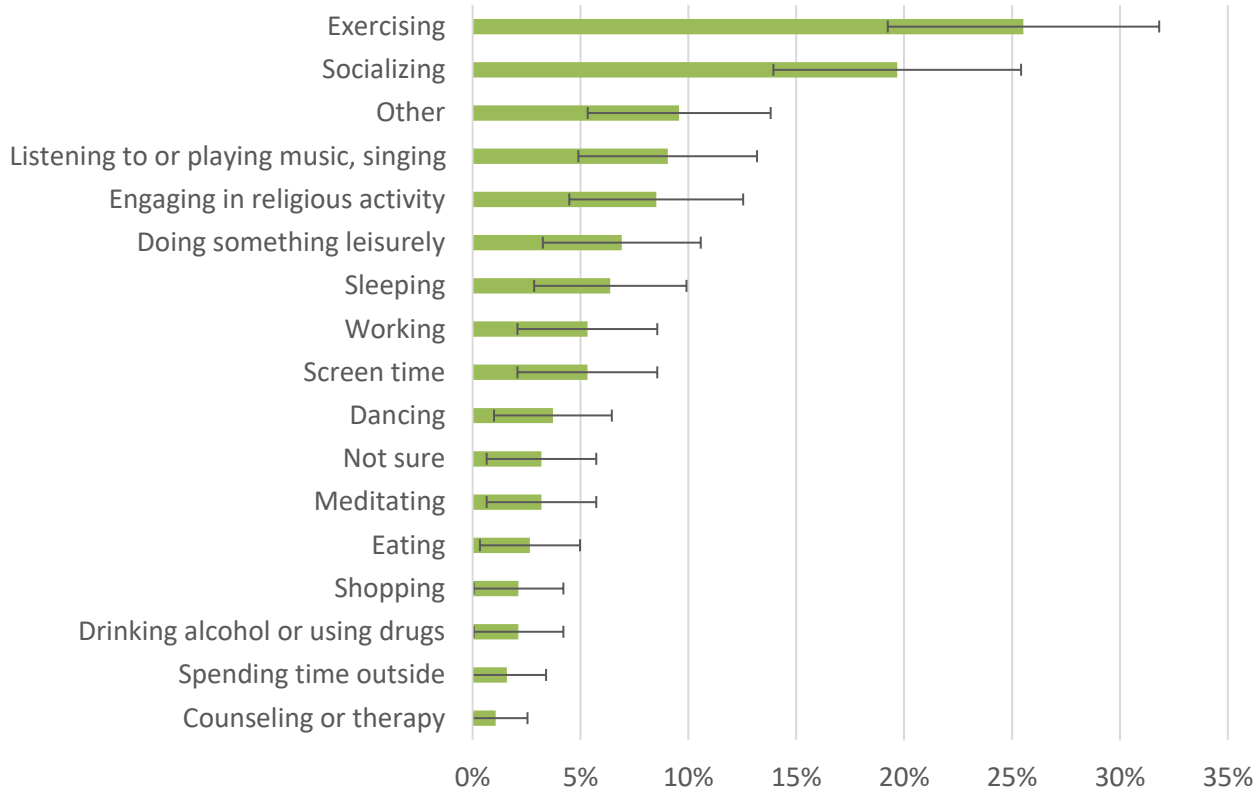
Interpretation: Most Hispanic or Latino residents surveyed reported that they did not experience poor mental health for any days (56.4%) or only for 1-2 days (12.3%) during the past 30 days. However, 11.1% of respondents reported that they experienced problems with their mental health 8 or more days out of the last 30.

15. What are the primary causes of your stress?



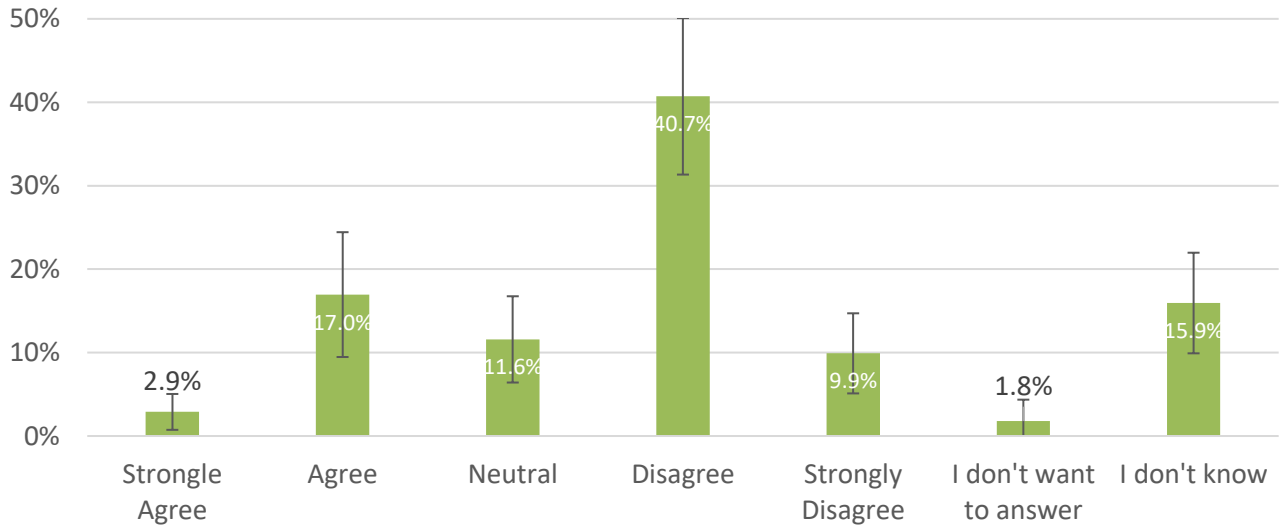
Interpretation: Work, finances, personal relationships, immigration raids and caring for a family member with a chronic illness were the top contributors to stress among participants.

16. How do you deal with stress?



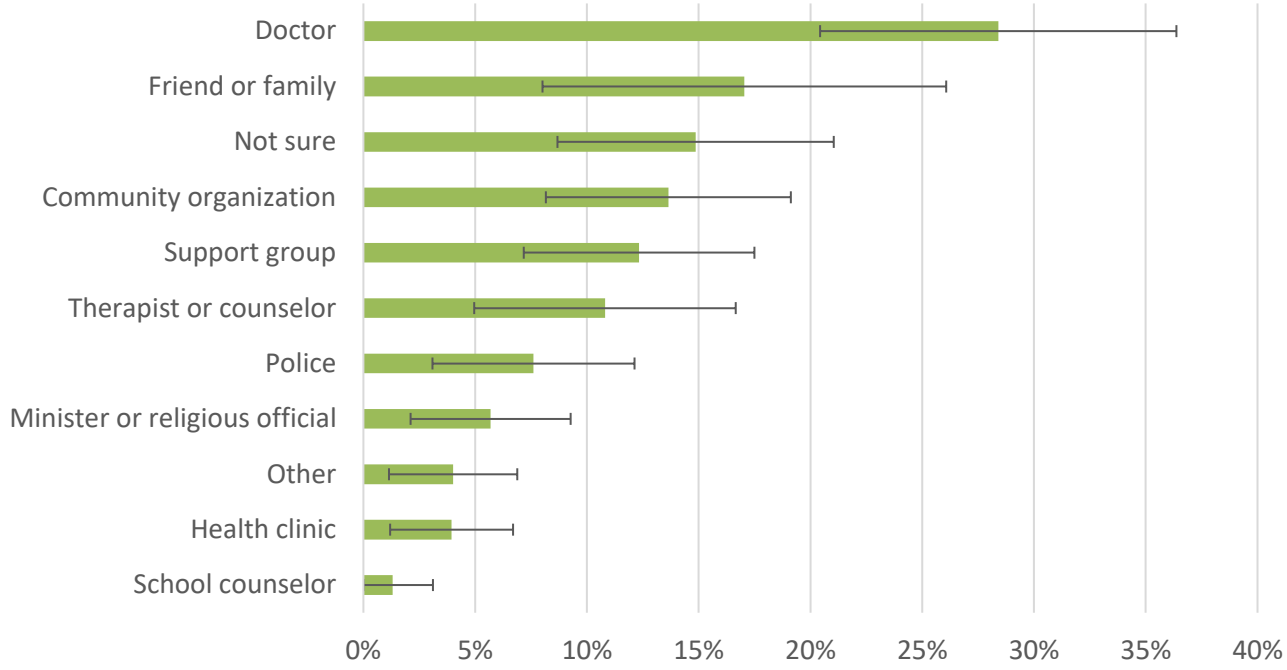
Interpretation: Note that this question was only answered by people who experience some sort of stress (n=148). Exercising, socializing, listening to or playing music and singing were the most common responses participants gave when explaining how they deal with stress.

17. To what extent do you agree or disagree with the statement that people in your community would think less of a person who has a mental health problem?



Interpretation: Among respondents, 19.9% said they agreed or strongly agreed that their community would think less of a person with a mental health problem 11.6% were neutral and 50.6% said they disagreed or strongly disagreed that their community would think less of a person with a mental health issue.

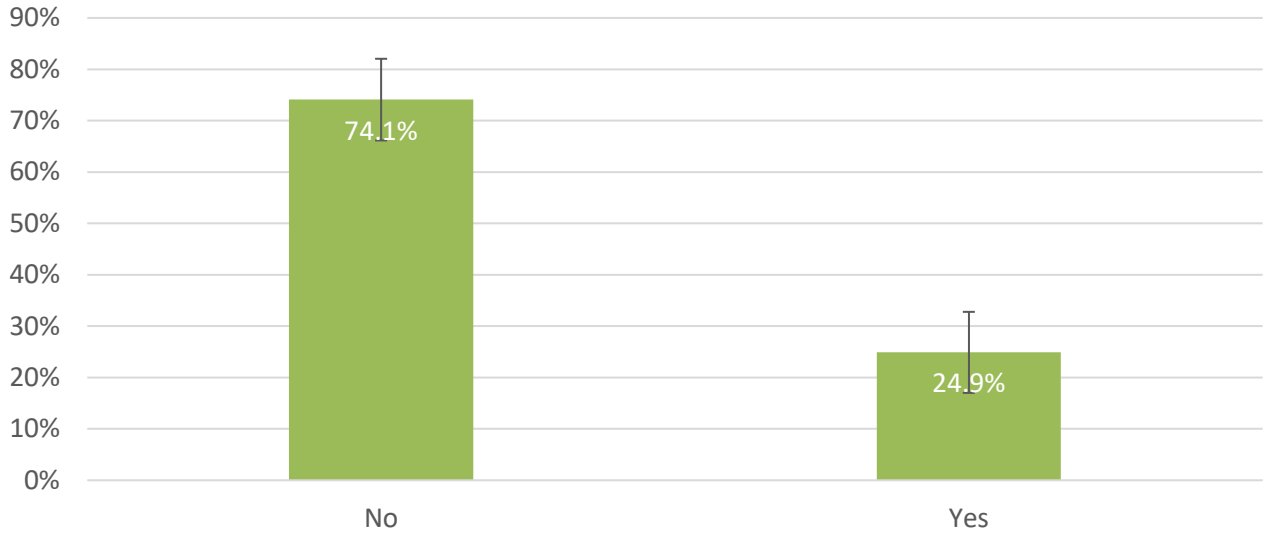
18. If you or a friend or family member needed counseling for a mental health or a drug or alcohol use problem, who would you tell them to call or talk to?



Interpretation: The most common referral sources for a mental health, drug or alcohol use problem cited among survey participants was a doctor, followed by friend or family, community organization, support group and then a therapist or counselor.

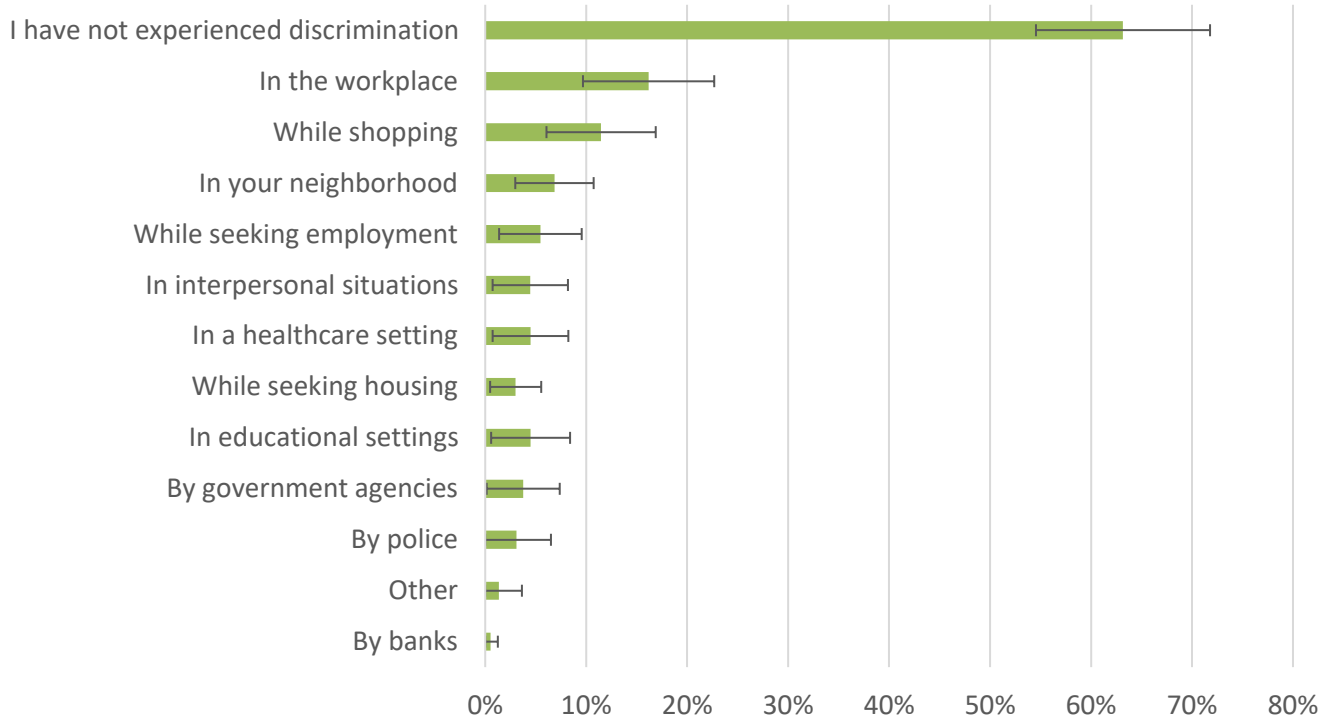
Discrimination

19. During the past 12 months, have you felt upset as a result of how you were treated based on your race or ethnic background, for example angry, sad, or frustrated? (Choose one.)



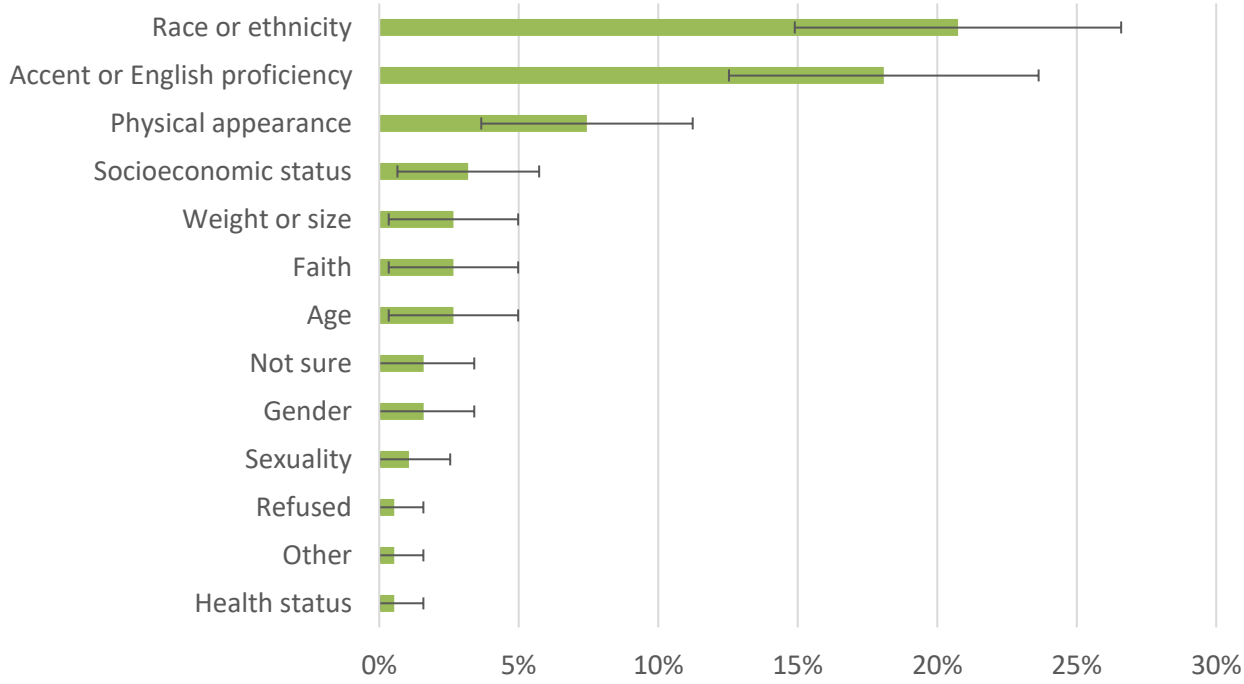
Interpretation: Overall most Hispanic or Latino residents surveyed (74.1%) reported that they had not been upset in the past 12 months based on how they were treated because of their race or ethnic background.

20. In the past 12 months, have you experienced discrimination in the following situations?



Interpretation: Nearly two-thirds of respondents (63.1%) said they had not experienced discrimination in the past 12 months. Of those who did experience discrimination, the most commonly reported places where discrimination occurred were in the workplace, while shopping and in their neighborhood.

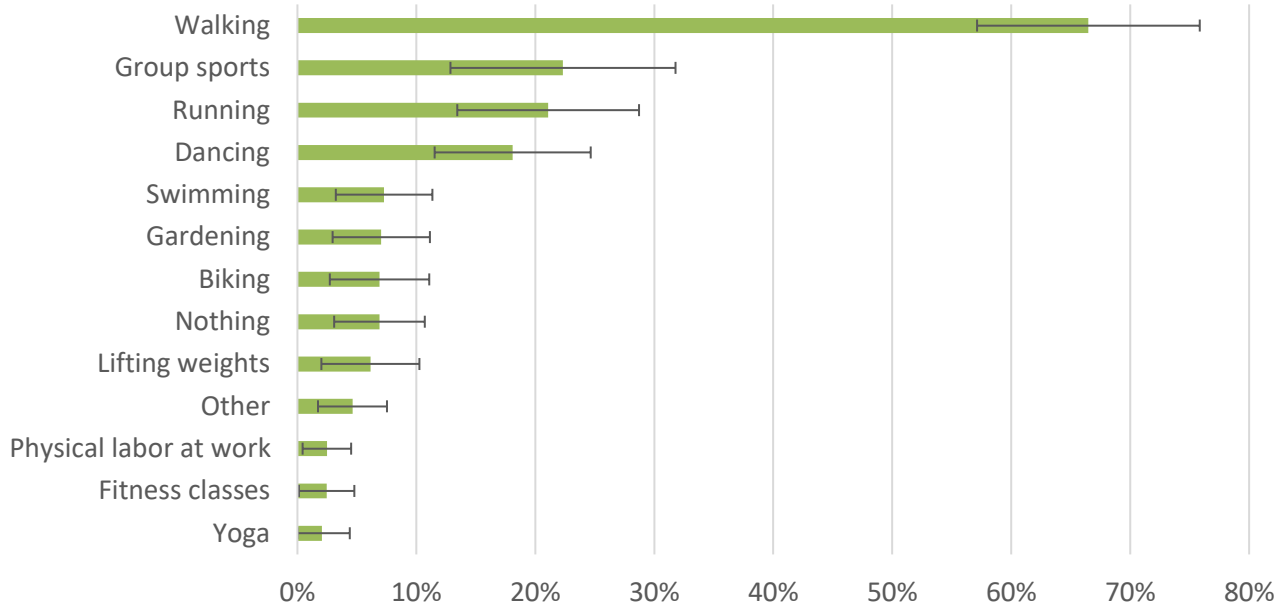
21. Discrimination can happen because of many reasons. I'm going to read a list of possible sources of discrimination. Please tell me which of these reasons you think may have contributed to the discrimination you experienced in the last 12 months.



Interpretation: Note that this question was only answered by people who indicated that they had experienced discrimination during the past 12 months (n=74). Discrimination based on race or ethnicity, accent or English proficiency, physical appearance, socioeconomic status and weight or size were the most commonly noted reasons for being discriminated against.

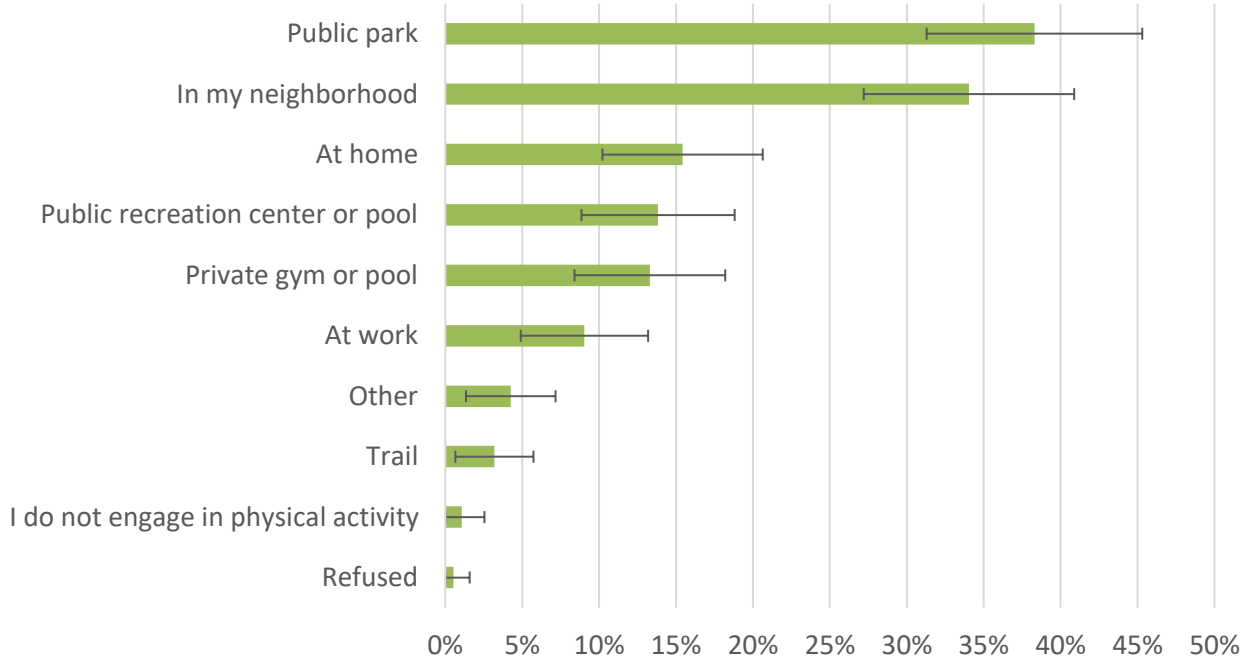
Physical Activity

22. What types of physical activity do you usually do?



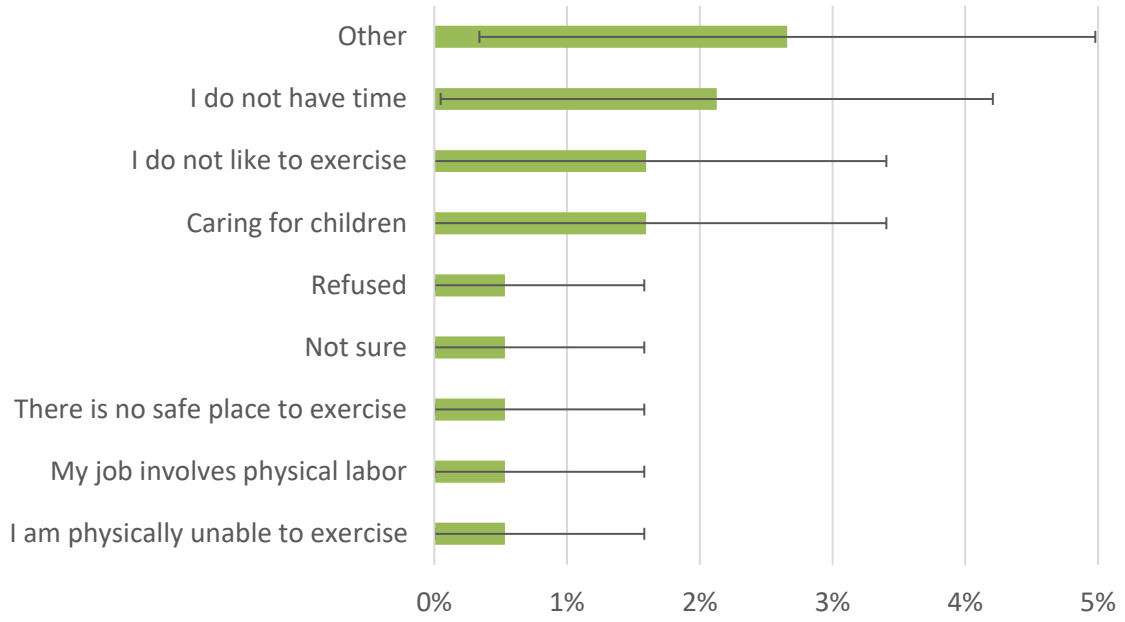
Interpretation: Walking, group sports and running were the most common types of physical activity reported by Durham residents.

23. Where do you usually exercise or go to do physical activity?



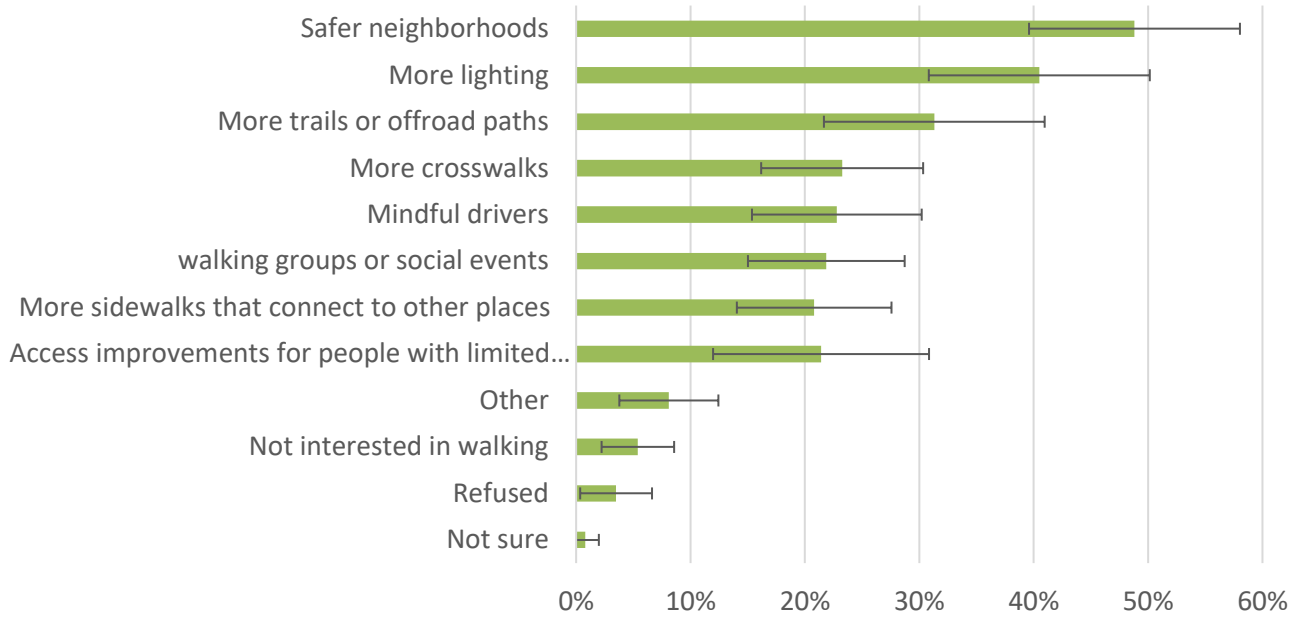
Interpretation: Note that this question was only answered by people who indicated that they engage in physical activity (n=173). Most Hispanic or Latino residents surveyed reported exercising in a public park (38.2%), in their neighborhood (34%) or at home (15.4%)

24. Since you responded that you don't exercise, what are the reasons you don't exercise during a normal week? You can tell me as many reasons as you'd like to.



Interpretation: Please note that only people who responded they do not engage in physical activity answered this question (n=15). Not having time was the most common reason people were not physically active, followed by not liking exercise, caring for children and not having a safe place to exercise.

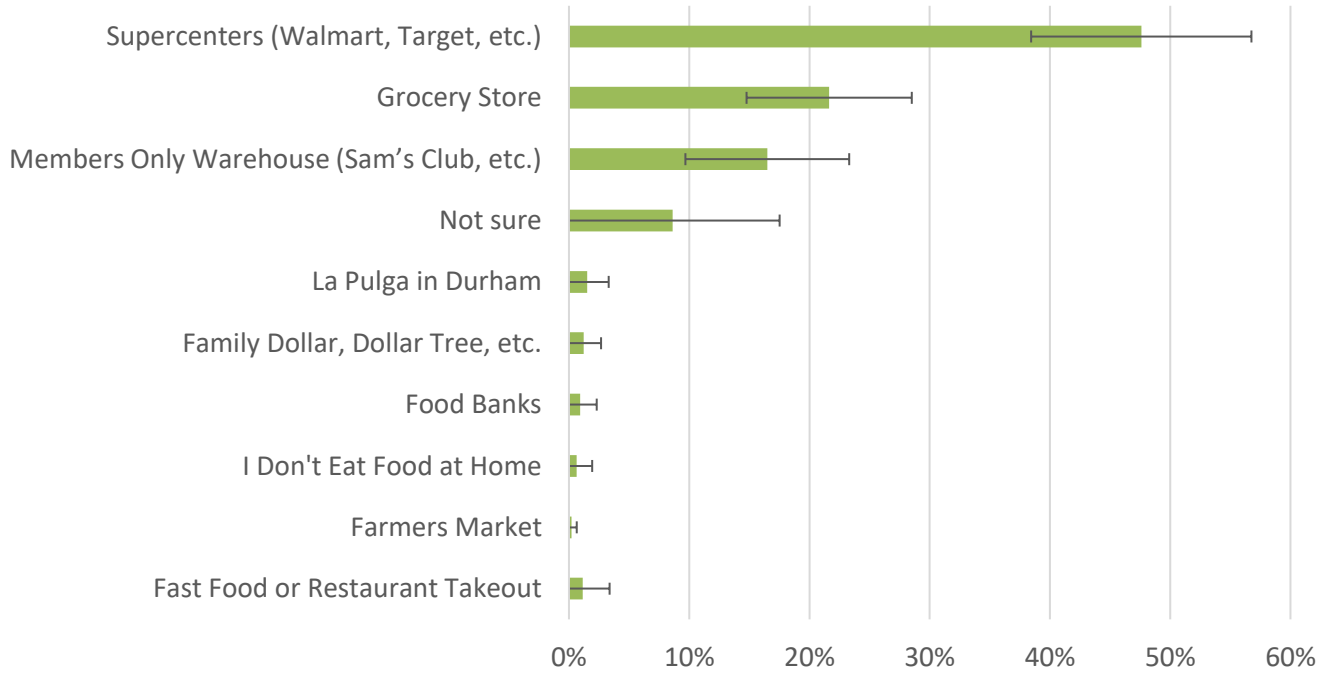
25. Whether you currently walk or not, would any of the following make you want to walk more? This includes for fun, for exercise, to get to a destination, etc.



Interpretation: The most common improvements that would motivate residents to walk more are safer neighborhoods, more lighting, more trails or off-road paths and more crosswalks.

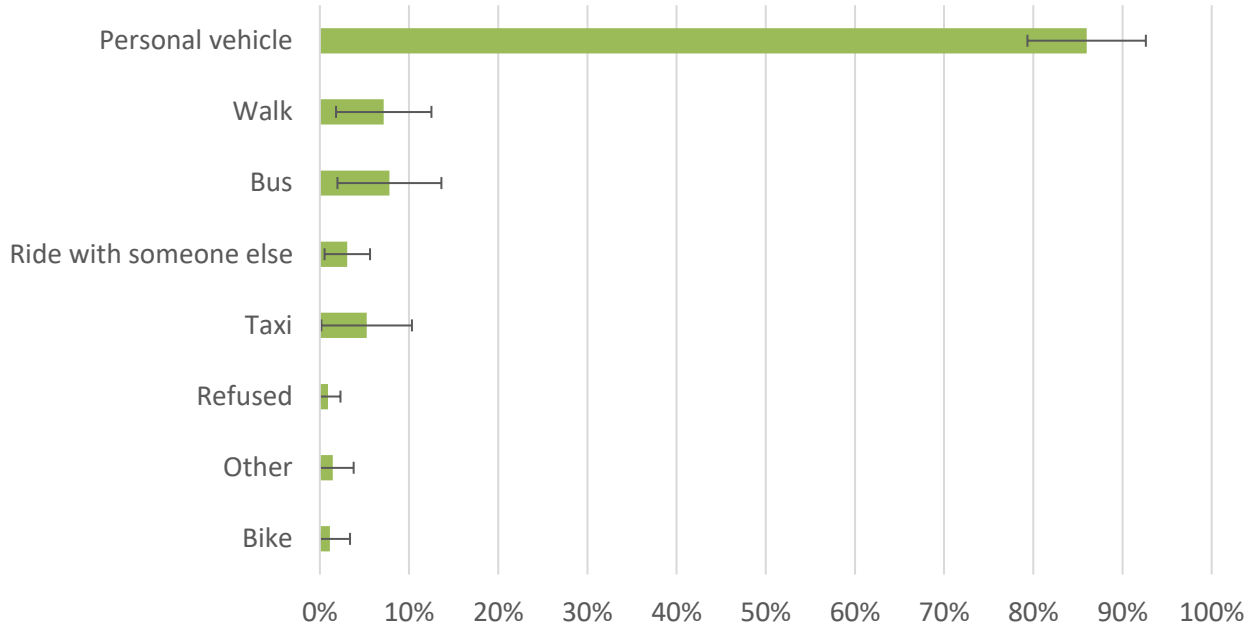
Diet and Food Access

26. Where do you get most of the food you eat at home?



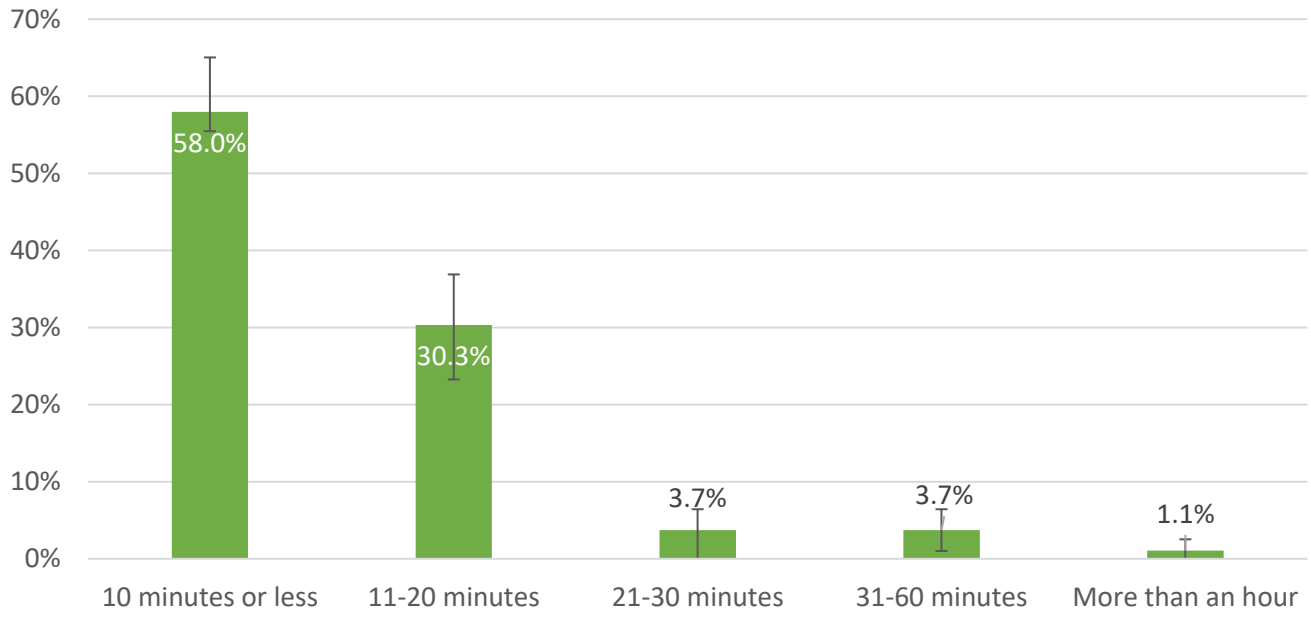
Interpretation: Nearly half of Latino and and Hispanic residents (47.5%) surveyed reported getting most of the food they eat at home from a supercenter such as Walmart or Target. About 1% bought most of their food from Family Dollar or Dollar Tree.

27. How do you usually get there?



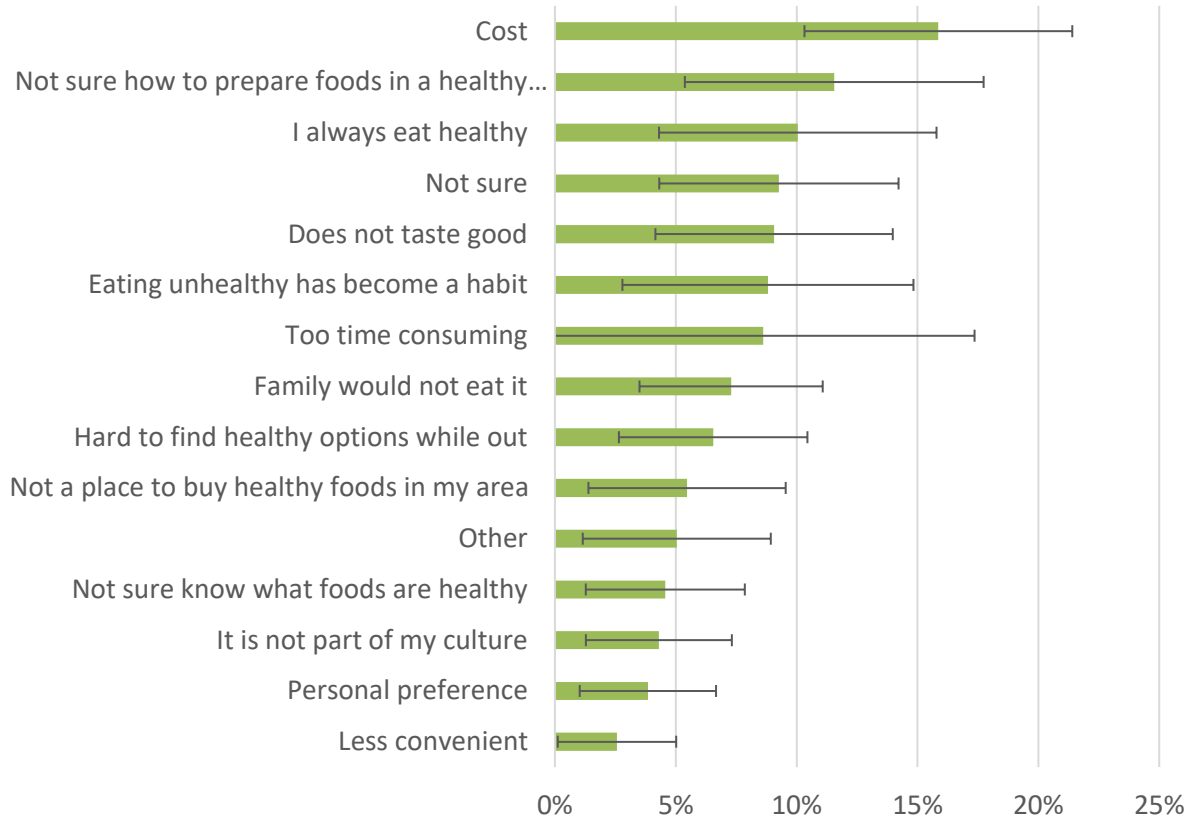
Interpretation: Most people (85.9%) drove a personal vehicle to buy the food they ate at home. However, 7.7% indicated they used the bus to buy food and 4.4% walked.

28. About how long does it take you to get there? Please only include the time it takes you to get there from your home, one way.



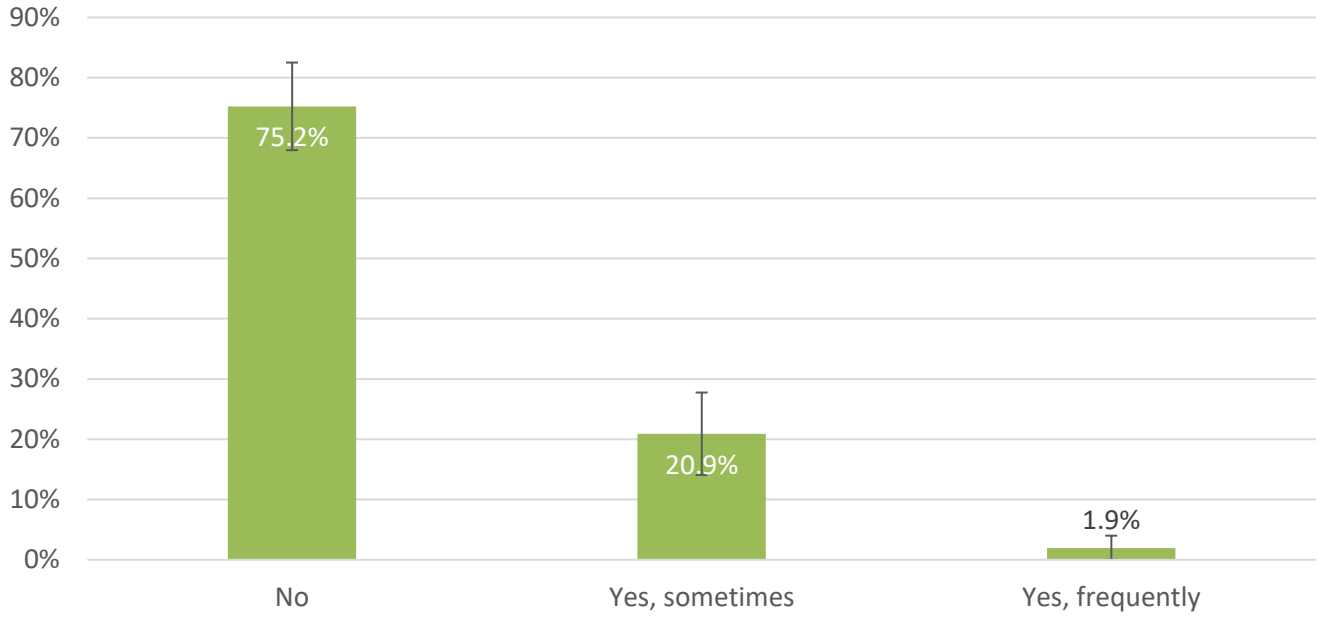
Interpretation: For most Hispanic or Latino residents (58%), it takes less than 10 minutes to get to the place where they buy most of their food they eat at home. About 8% of people spent more than 20 minutes getting to the place where they bought most of their food.

29. Most of us don't eat healthy all the time. When you aren't eating a healthy diet, what do you think makes it hard for you to eat healthy?



Interpretation: The number one reason cited among Hispanic or Latino residents for not eating healthy was the cost, followed by not sure how to prepare meals in a healthy way and healthy food does not taste good. Separately, 10% reported always eating healthy.

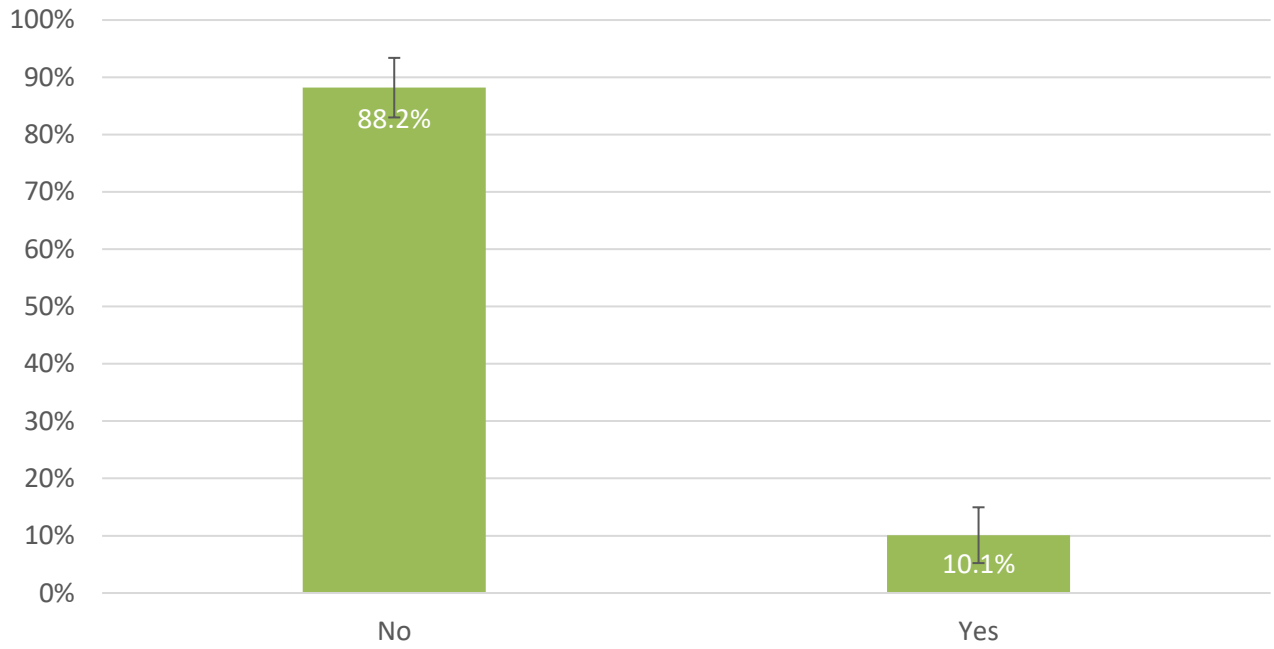
30. In the last 12 months, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?



Interpretation: About one-fifth of Hispanic or Latino residents (22.8%) skipped meals or cut the size of their meal because they didn't have enough money to buy food.

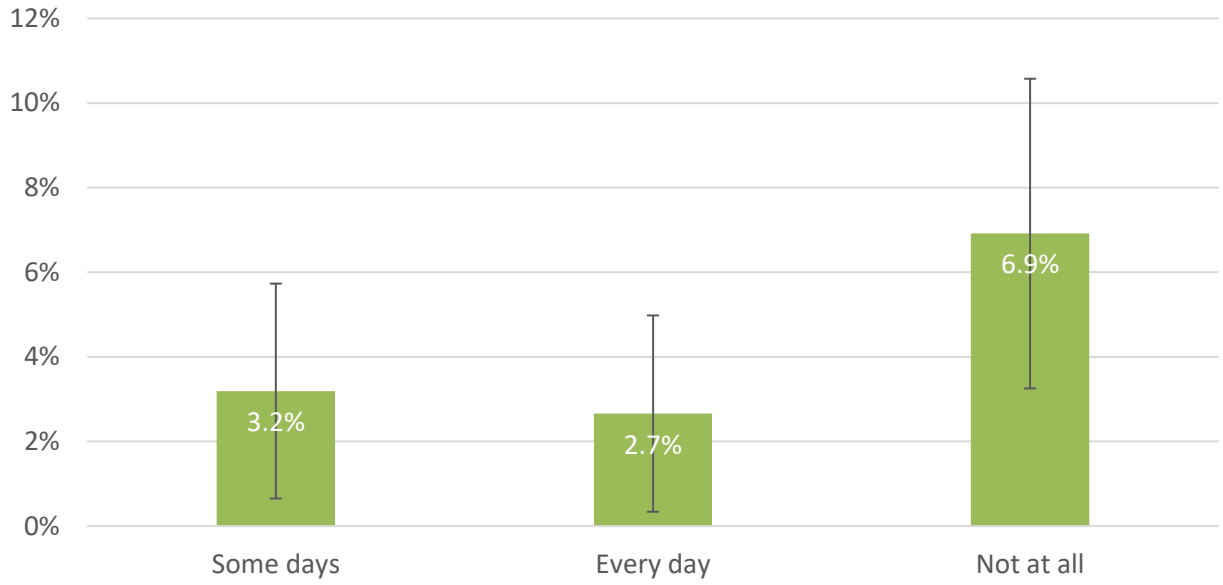
Tobacco Use

31. Have you smoked at least 100 cigarettes in your entire life?



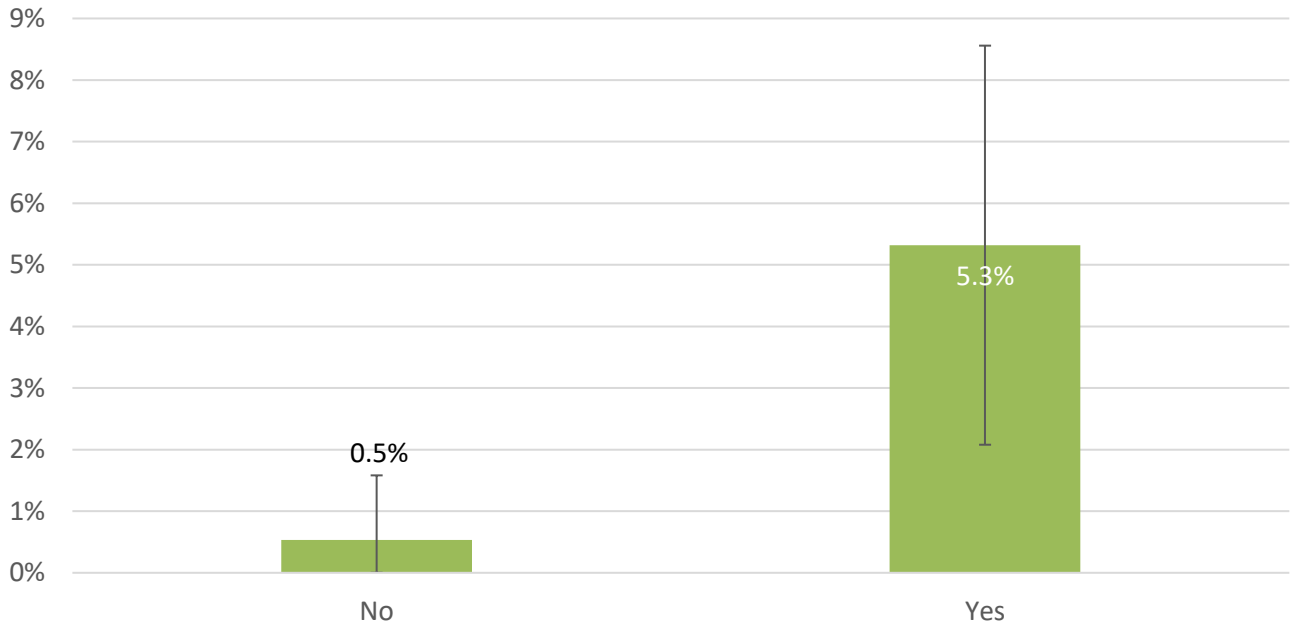
Interpretation: Most Hispanic or Latino residents (88.2%) have not smoked at least 100 cigarettes during their lifetime.

32. Do you NOW smoke cigarettes every day, some days, or not at all?



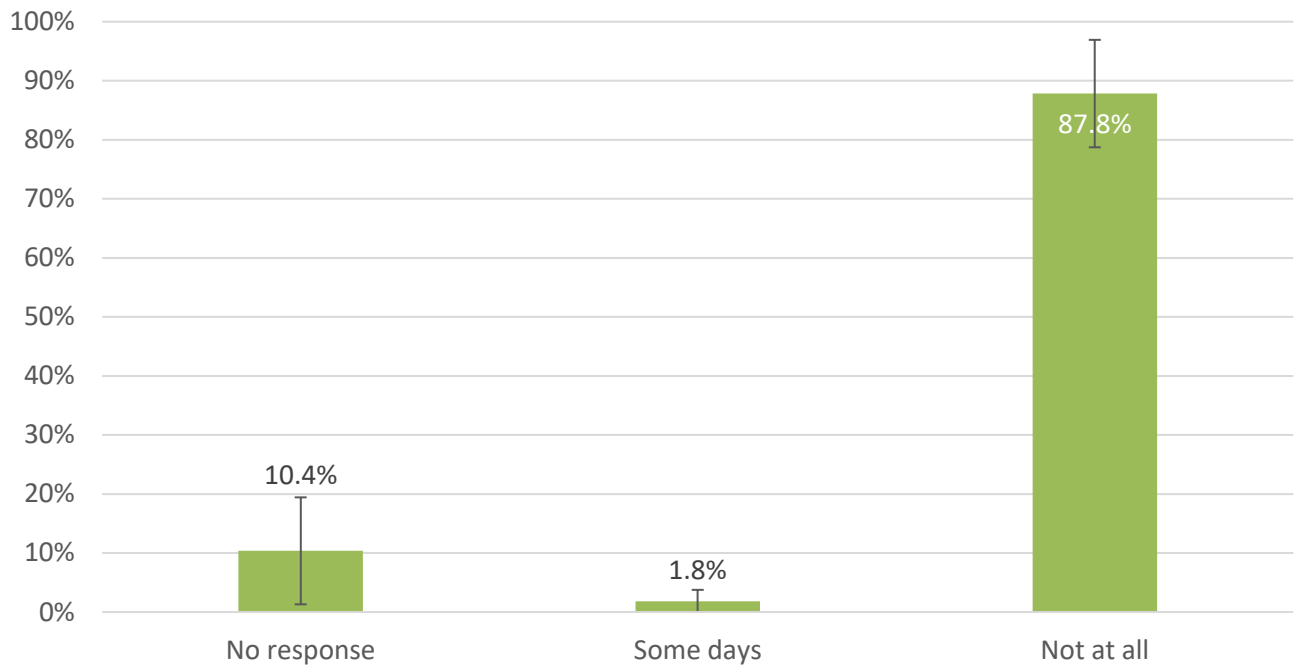
Interpretation: Please note that only people who responded that they had smoked at least 100 cigarettes during their lifetime answered this question (n=23). Most people who had smoked at least 100 cigarettes during their lifetime did not use e-cigarettes at all.

33. During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking?



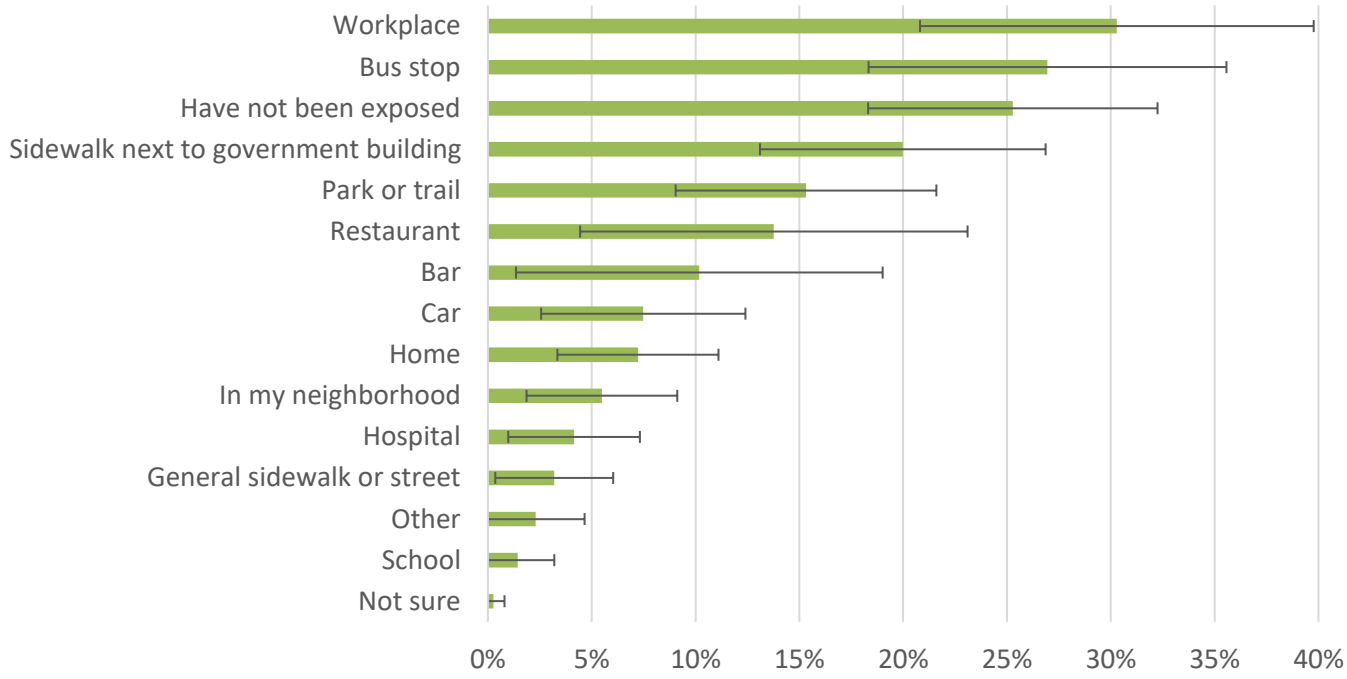
Interpretation: Please note that only people who responded that they had smoked at least 100 cigarettes during their lifetime and that they were currently smoking cigarettes every day or some days at the time of the survey answered this question (n=11) Among all respondents, 5.3% attempted to quit smoking for at least one day during the past year.

34. Do you NOW use e-cigarettes every day, some days, or not at all?



Interpretation: Most Hispanic or Latino residents (87.8%) surveyed do not use e-cigarettes at all. About 2% used e-cigarettes some days. No one reported using e-cigarettes daily.

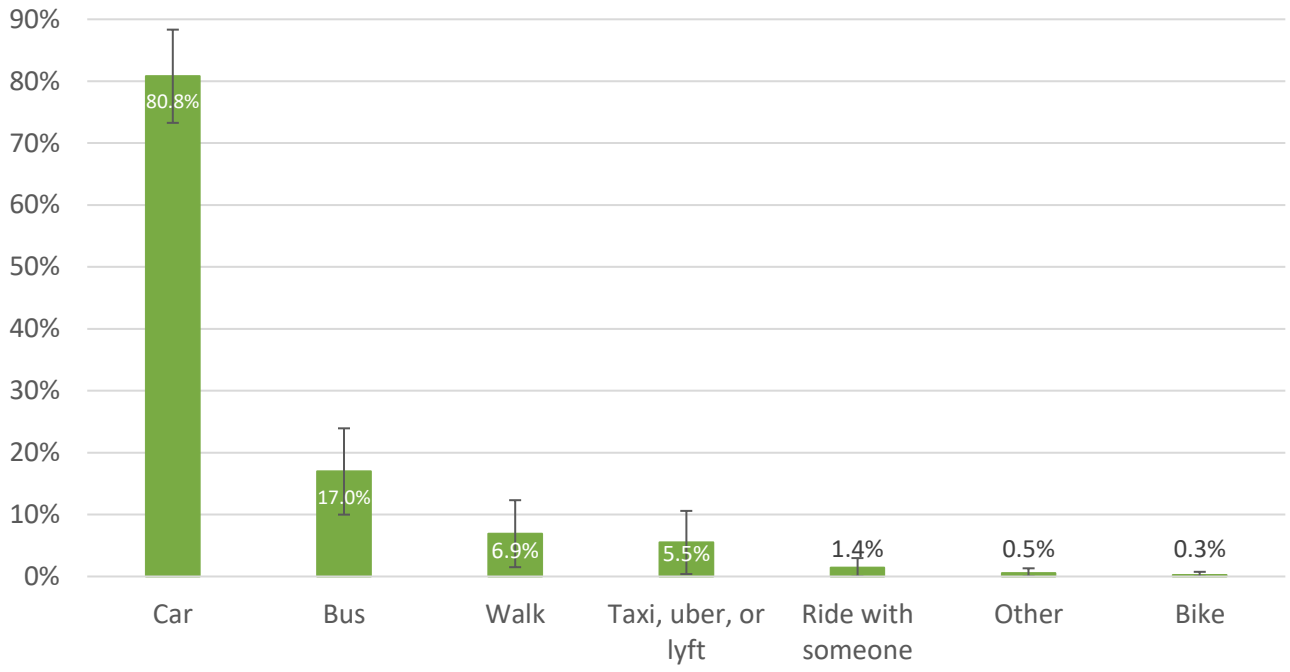
35. Have you been exposed to secondhand smoke in Durham County in the past year at any of these places:



Interpretation: Twenty-five percent of residents surveyed said they had not been exposed to secondhand smoke in Durham County in the past year. Of those who had been exposed to secondhand smoke, workplace, bus stop, sidewalk next to government building, park or trail and restaurants were the most commonly noted places where the exposure occurred.

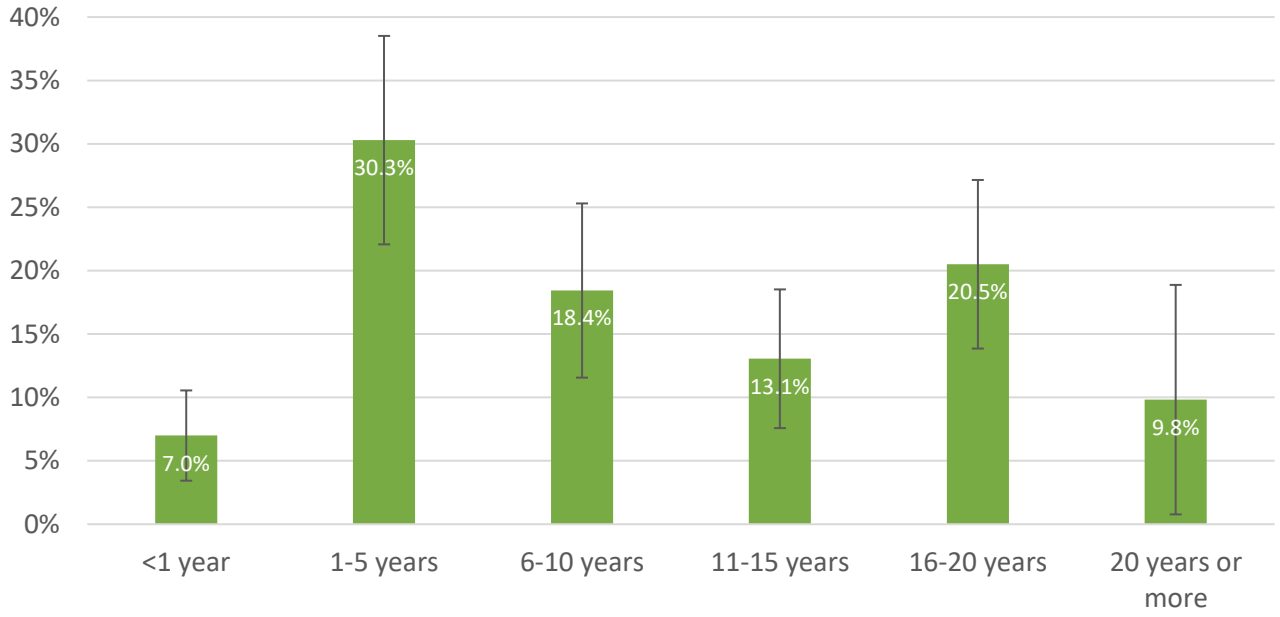
Household

36. In a typical week, what kinds of transportation do you use the most?



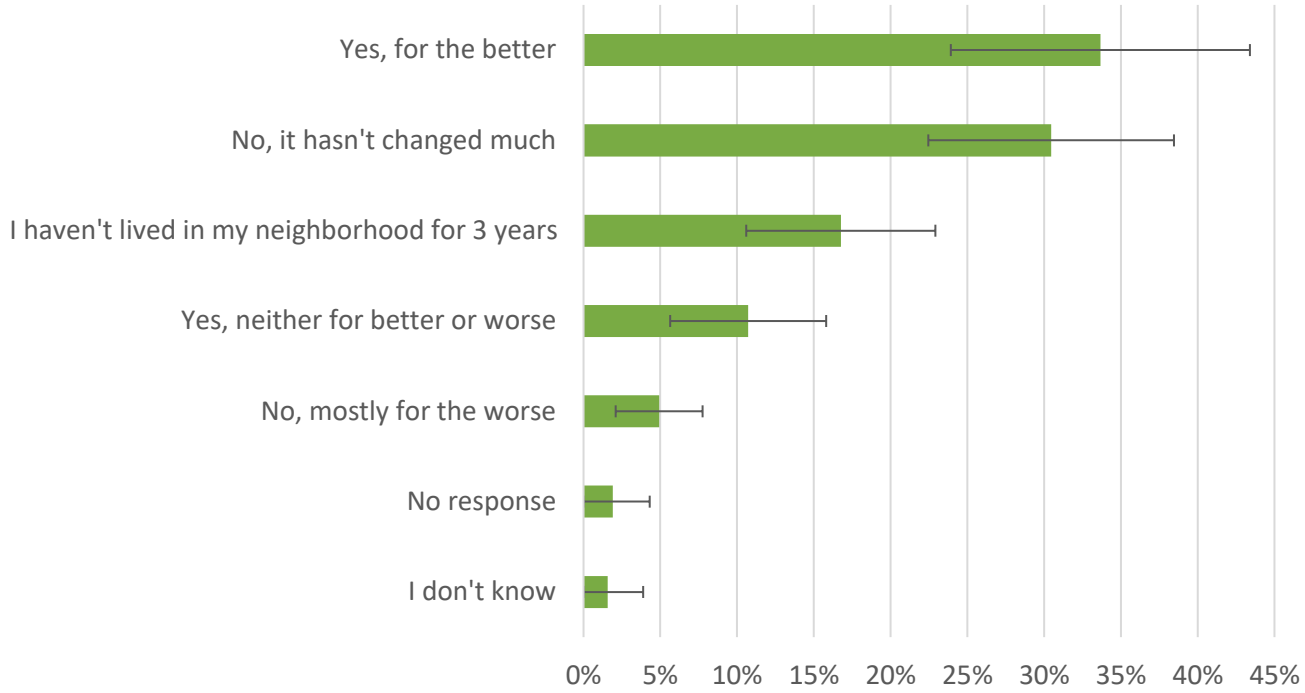
Interpretation: In a typical week, most Hispanic or Latino residents surveyed (80.8%) use a car to get around.

37. How long have you lived in Durham County?



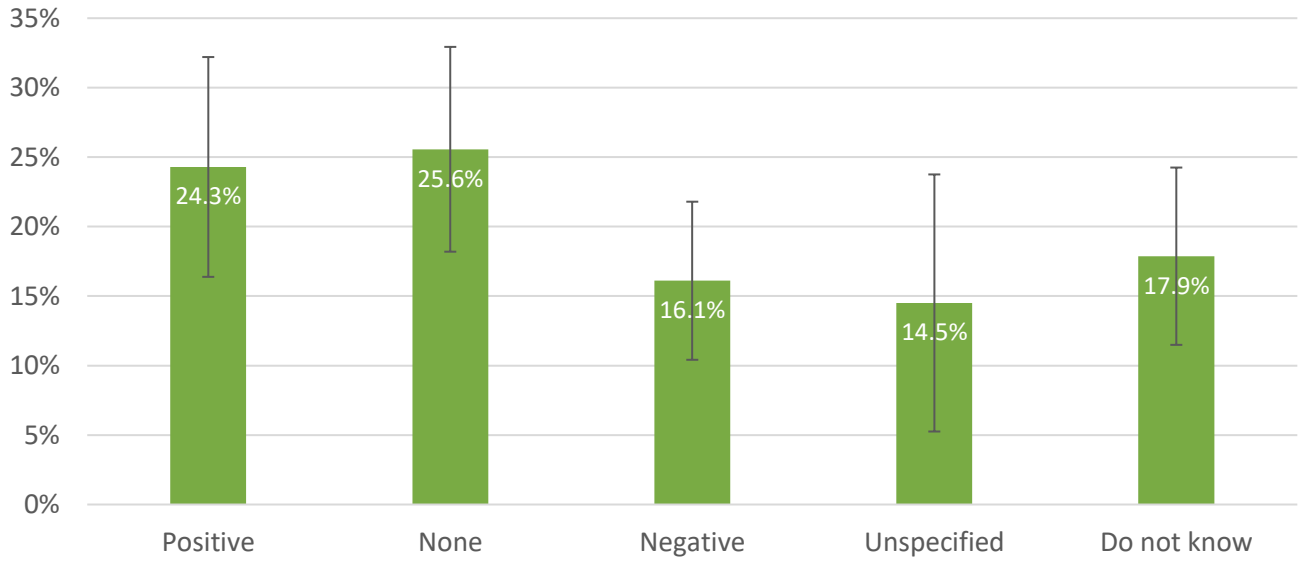
Interpretation: Most Hispanic or Latino residents surveyed (55.7%) had lived in Durham for 10 years or less.

38. Has your neighborhood changed over the past three years?



Interpretation: Few respondents (4.9%) felt their neighborhoods had changed for the worse in the past three years. About one-third of residents (33.6%) surveyed felt their neighborhoods had changed for the better in the past three years.

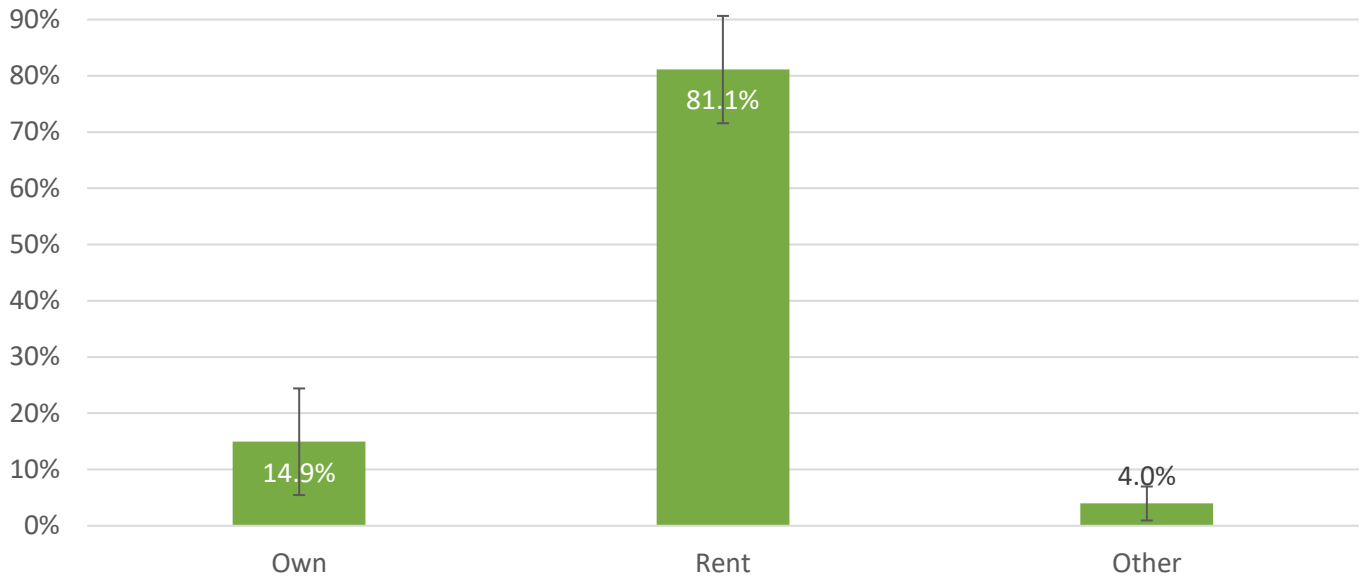
39. How do you think your current housing impacts your health?



Interpretation: More than one-third of residents (40.4%) seemed to be aware of how housing affected their health, with 24.3% reporting that housing had a positive effect on their health and 16.1% responding that housing had a negative effect on their health. However, 25.6% percent of residents

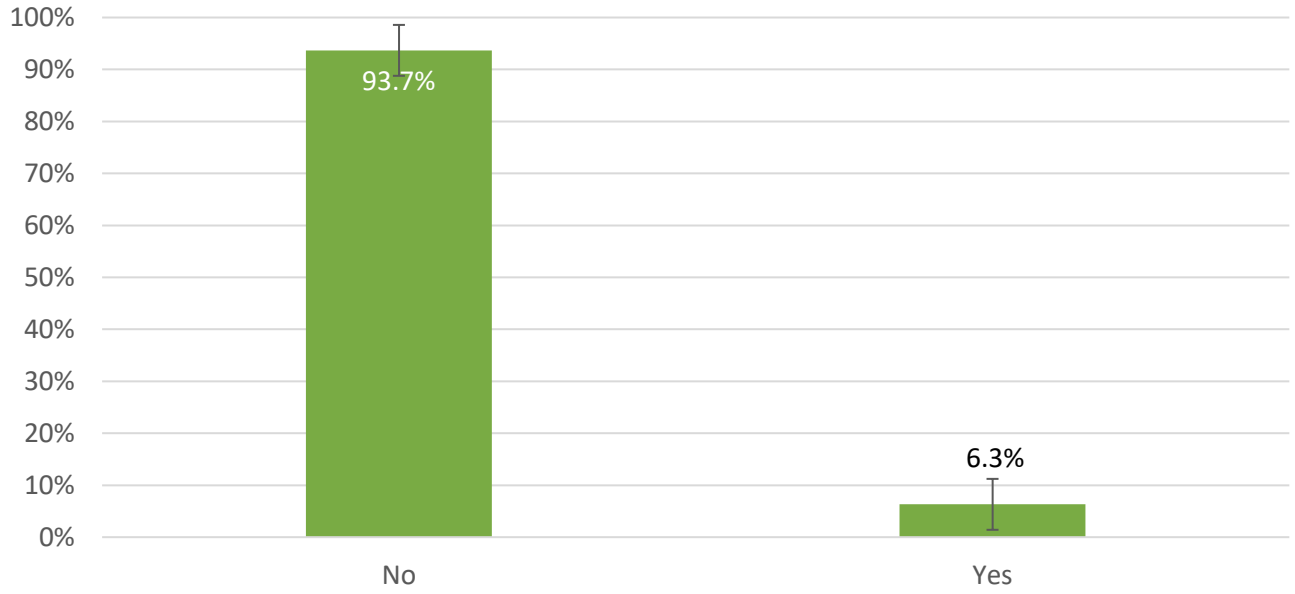
were unaware of any affect housing had on their health. Responses from 14.5% of residents were not specific enough to be categorized and as a result were put in the "unspecified" category.

40. Do you own or rent your home?



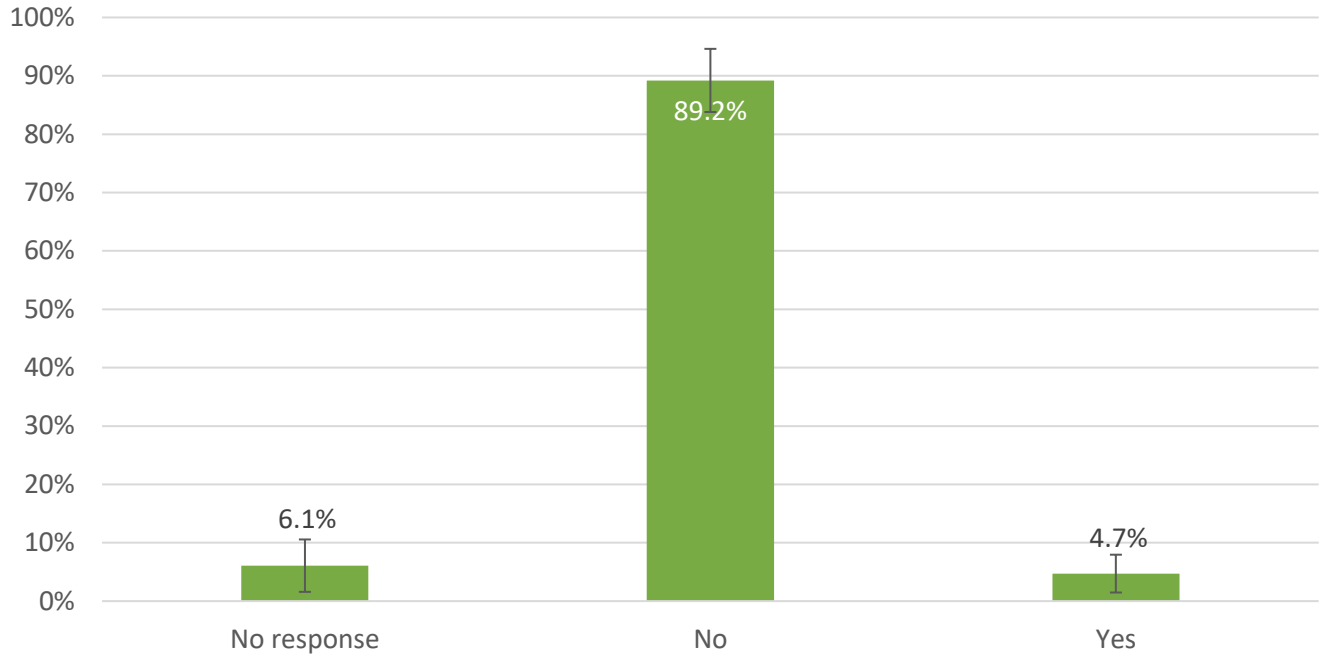
Interpretation: Most Hispanic or Latino residents surveyed (81.1%) did not own their own home.

41. Have you or someone in your household been evicted or displaced while living in Durham County in the past three years?



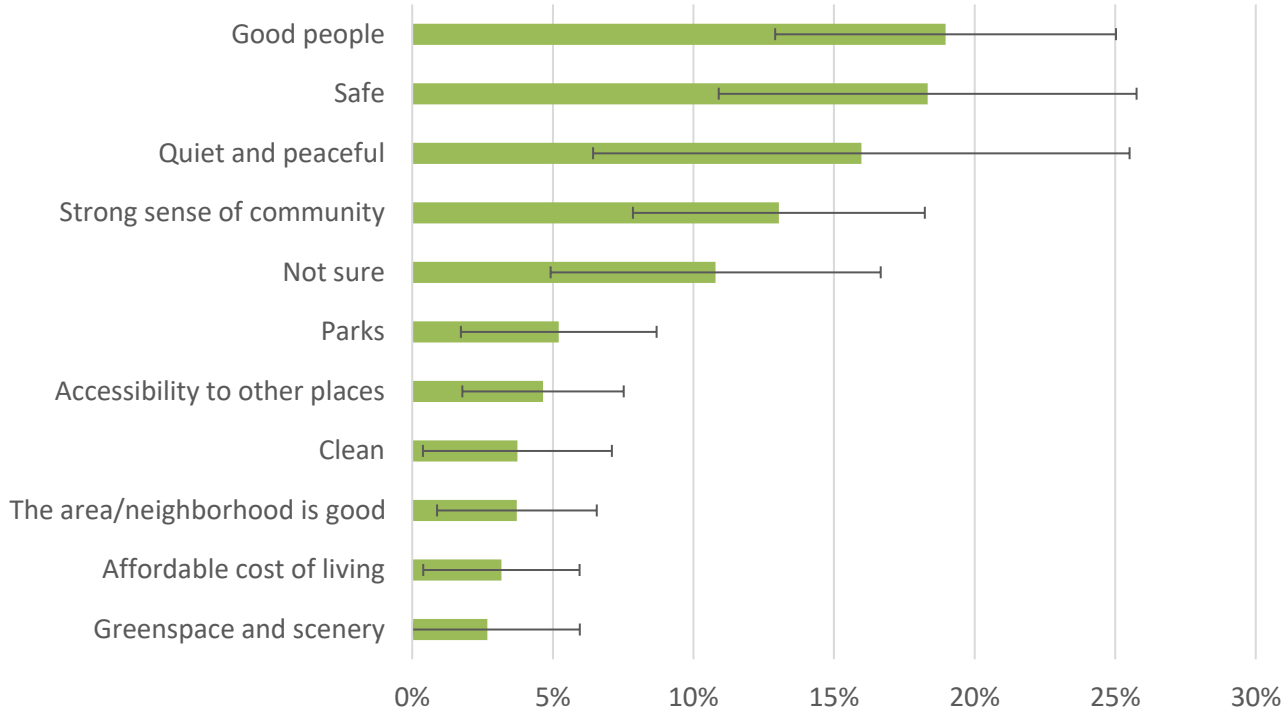
Interpretation: Among residents surveyed, 6.3% had been evicted or displaced while living in Durham the past three years or had a household member who had been.

42. Is it difficult to communicate with someone in your house because they prefer speaking another language?



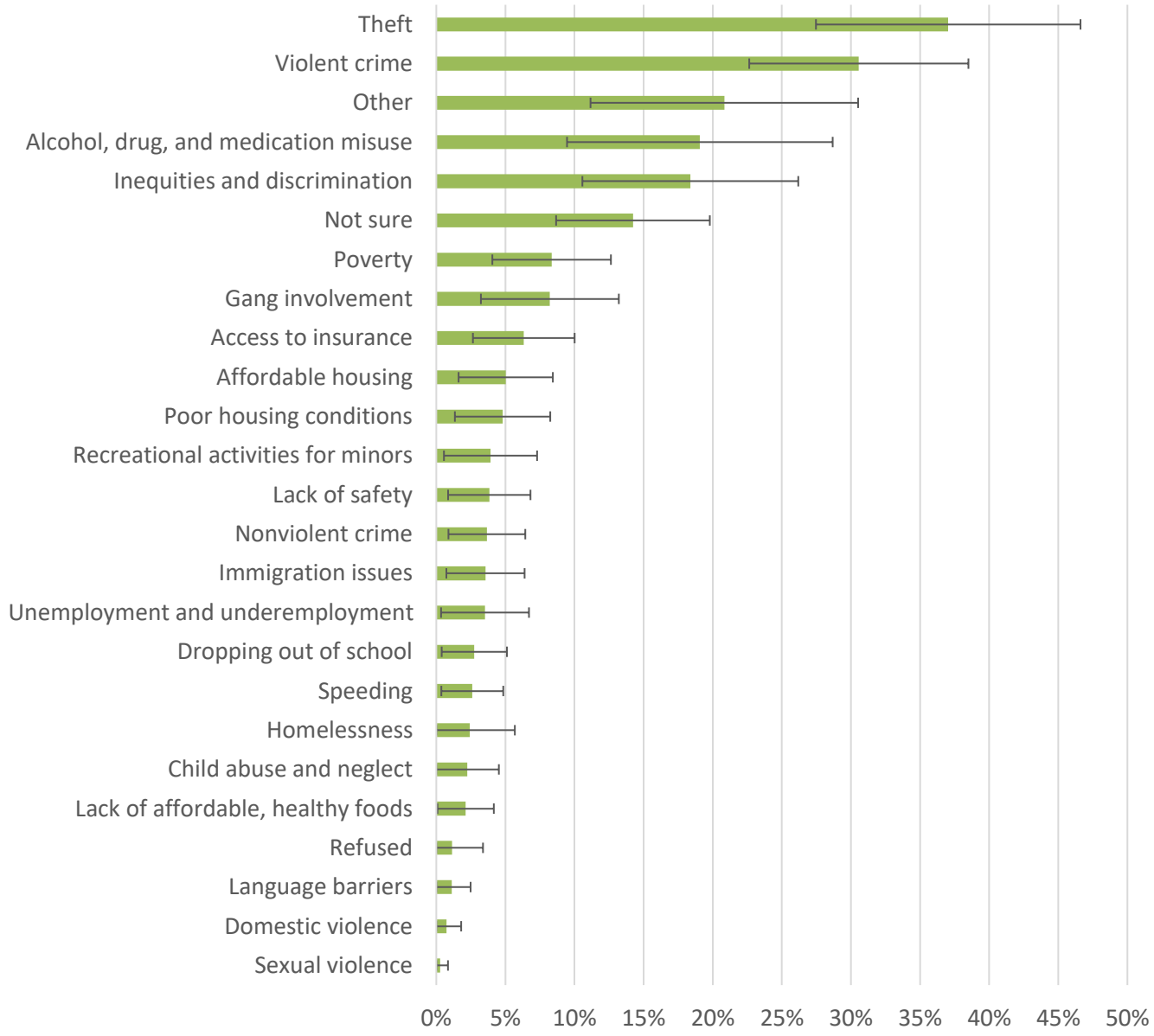
Interpretation: Most Hispanic or Latino residents surveyed (89.2%) reported that they did not have difficulty communicating with someone in their household who preferred to speak another language.

43. What people, places, or things make your neighborhood a good place to live?



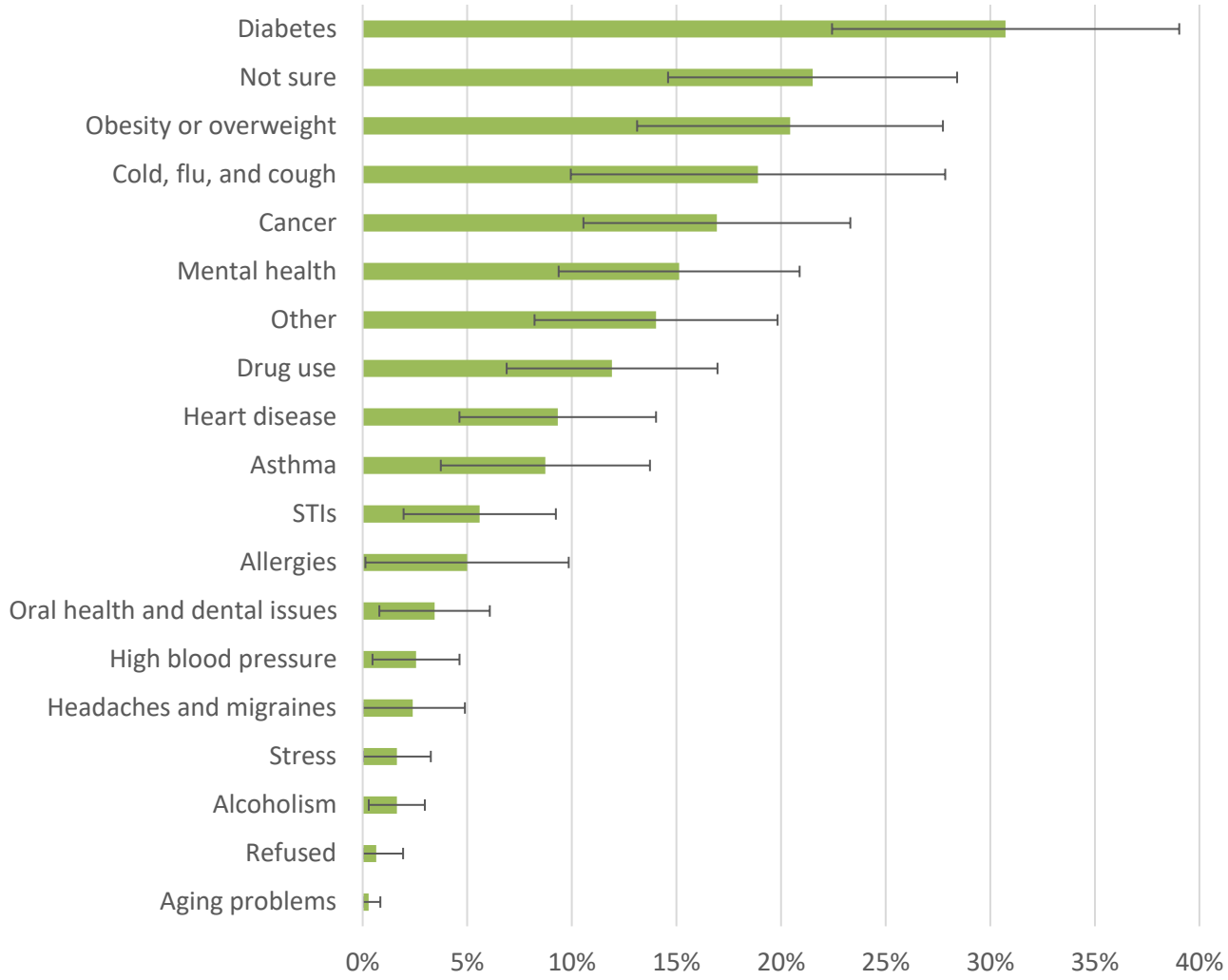
Interpretation: Among the people, places, or things that make neighborhoods in Durham a good place to live, good people were noted most often followed by safeness, quiet and peaceful, strong sense of community and parks.

44. What issues have the greatest effect on quality of life for you personally or your community in Durham County?



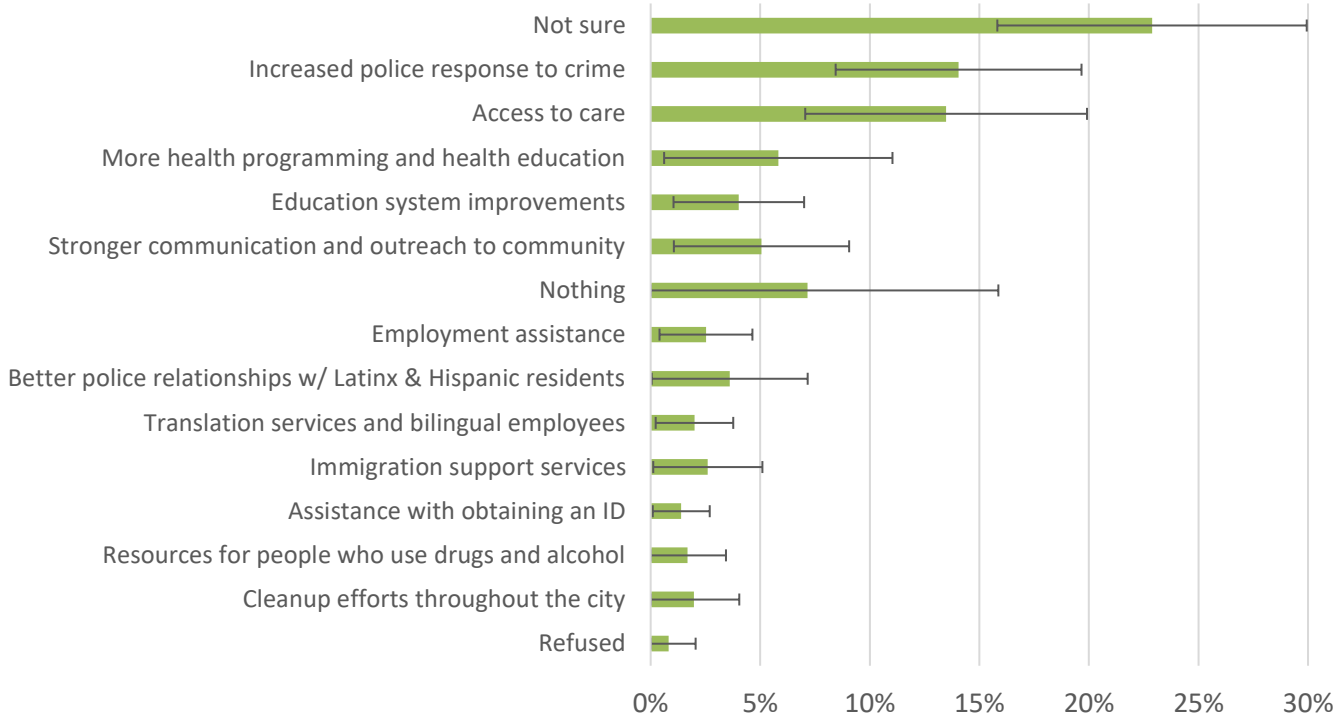
Interpretation: Theft, violent crime, alcohol, drug and medication misuse, inequities and discrimination and poverty were the five issues most commonly named as having the greatest effect on quality of life by Hispanic or Latino residents surveyed.

45. What are the most important health problems, that is, diseases or conditions, in Durham County?



Interpretation: Diabetes, obesity or overweight, cold, flu and cough, cancer and mental health were the top five health concerns noted among Hispanic or Latino residents surveyed.

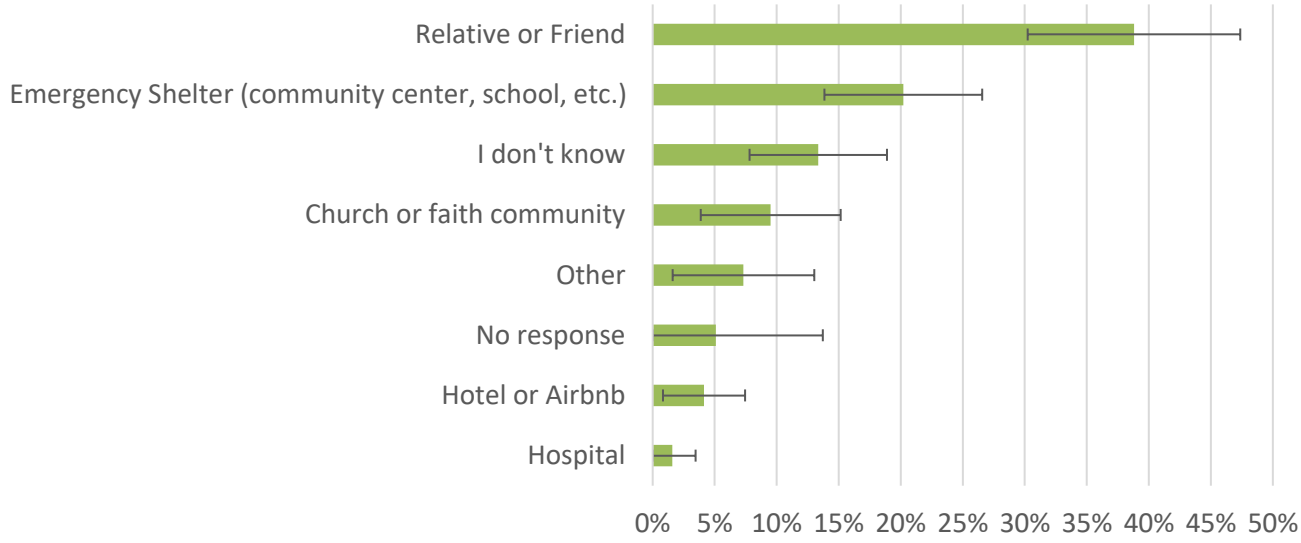
46. What could be done in Durham to support you and your community?



Interpretation: Residents indicated that top issues that could be addressed to better support their communities are increased police response to crime, access to care, more health programming and health education, education system improvements and stronger communication and outreach to the community.

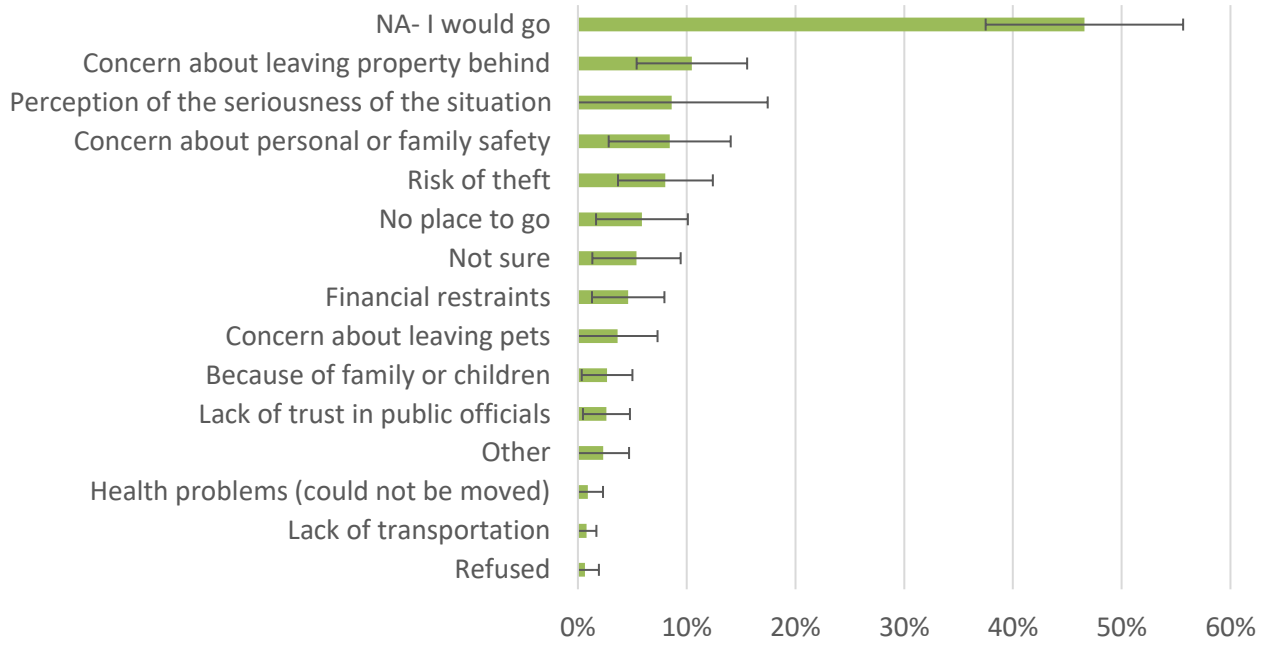
Emergency Preparedness

47. If you couldn't remain in your home, where would you go in a community-wide emergency?



Interpretation: Staying with a relative or friend was the most commonly reported place residents indicated they would go during a community wide emergency with 38.8% of Hispanic or Latino residents indicating that location. Emergency locations were the next most common response with 20.2% of residents indicating they would stay there. However, 13.3% of residents indicated they did not know where they would stay in an emergency.

48. What would be the main reasons you might not evacuate or leave your home if asked to do so?

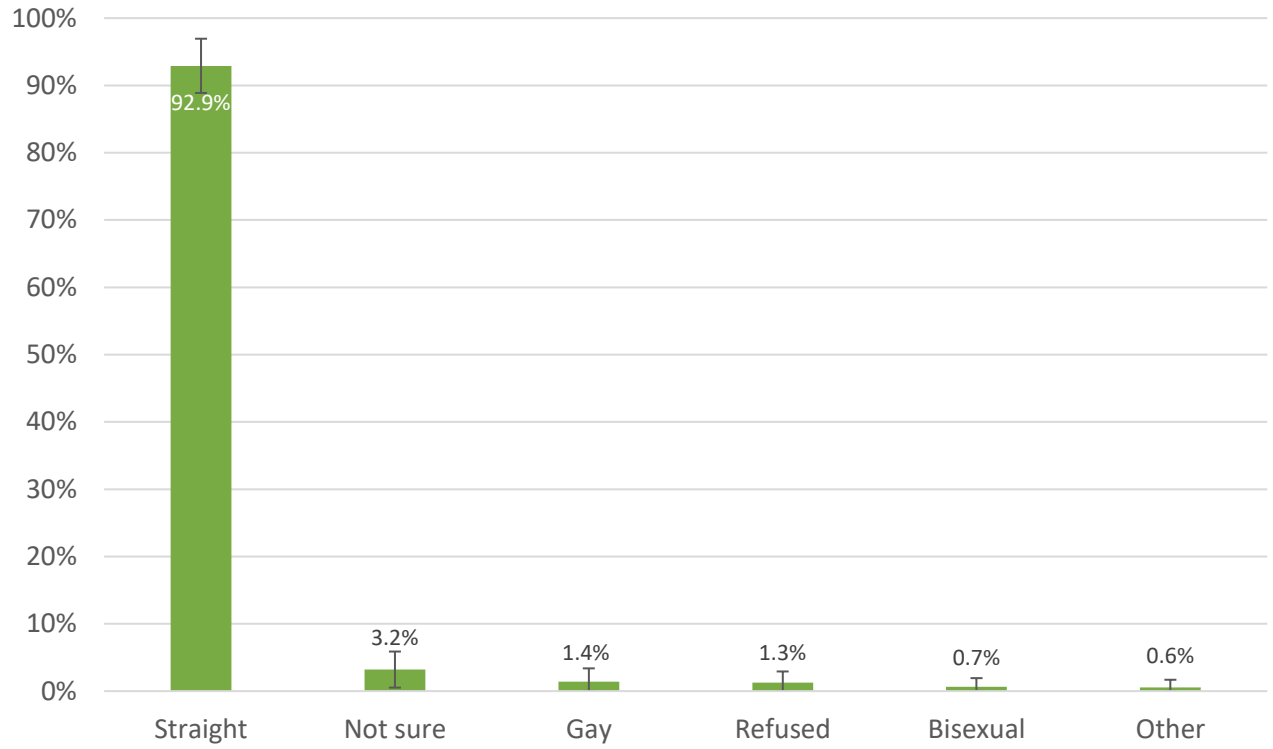


Interpretation: Concern about leaving property behind was the number one reason residents cited as a why they would not evacuate their homes if asked to do so. The next most common responses were perception of the seriousness of the situation, concern about personal or family safety, risk of theft or no place to go. It should be noted that 46.6% of respondents indicated that there would be no reason they would not leave their homes if asked to do so during an emergency.

Demographic Data

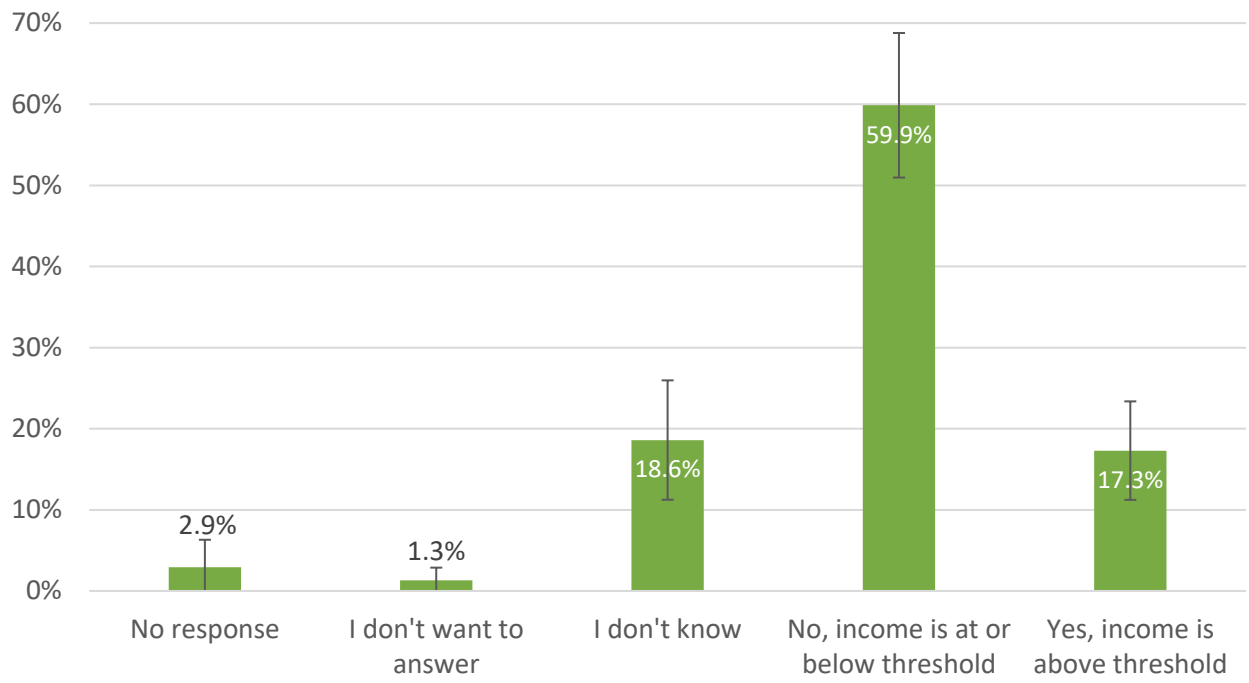
Note: Demographic data from the tables at the beginning of the document are not shown below.

1. How would you describe your sexual orientation?



Interpretation: Among survey respondents, 92.9% were heterosexual or straight and 2.7% were gay, bisexual or another sexual orientation. A little more than 3% of respondents answered that they were not sure of their sexual orientation.

2. Percent of survey respondents with an annual household income below and above the 200% poverty level.



Interpretation: Most residents (59.9%) had incomes below 200% of the Federal Poverty Level (FPL). Nearly one-fifth (17.3%) of residents had incomes above the FPL.

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