2017

Durham County Community Health Assessment

Public Health

DukeHealth

Partnership for a Healthy Durham
Better Together

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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, projects and solutions that evolve from this process to be driven by and for members of the Durham County community.

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EXECUTIVE SUMMARY

The goal of the 2017 Community Health Assessment (CHA) is to provide a comprehensive compilation of valid and reliable information about the health of the Durham community. This document summarizes the findings from the 18-month Community Health Assessment process led by the Partnership for a Healthy Durham, the Certified Healthy Carolinians program of Durham County. The Partnership's Community Health Assessment Team consisted of community members, representatives of the Durham County Department of Public Health as well as Duke Health, including Duke University Hospital and Duke Regional Hospital; City of Durham and Durham County governments, East Durham Children's Initiative, El Centro Hispano, Durham Partnership for Children, Partnership for Seniors, Project Access of Durham County, Durham Public Schools, TRY, LGBTQ Center of Durham, Duke University and many more partners. The team sought to include a variety of community health topics and to represent a broad range of opinions, ideas and data about the county. The CHA process utilized a variety of strategies to ensure the report represents the opinions of a significant portion of community members, health care providers and stakeholders.

As such, there are 14 chapters with 47 sections on various community health topics.
For more information on the Partnership for a Healthy Durham, visit www.healthydurham.org, Twitter or Facebook.

Community Health Assessment Process

The 2017 assessment process included 358 resident surveys from randomly selected households and three community listening sessions with 42 community members. For the past year, 93 individuals have contributed to the writing of this document. Individuals representing hospitals, universities, local government, schools, non-profit organizations, and faith-based organizations have worked to ensure that the activities of the assessment process and the written content reflect what is happening in Durham.

Each Durham Community Health Assessment process utilizes community input sessions and culminates in the selection of health priorities and the compilation of recommendations or ideas for how to address the top five health priorities. The priorities were identified in an

What is a Community Health Assessment?

A process by which community members gain an understanding of the health concerns that affect their county by collecting, analyzing, and disseminating information on community assets and needs. The process culminates in the selection of community health priorities.

The State of North Carolina requires that all Local Health Departments submit a comprehensive Community Health Assessment at least once every four years and a State of the County Health Report (SOTCH) in each of the interim years. The Federal Patient Protection and Affordable Care Act (health care reform), also requires non-profit hospital systems to conduct a community health assessment every three years. Current and previous assessments and health reports can be viewed at www.healthydurham.org.

online convenience sample conducted in January and February 2018. The next step is a strategic planning process to determine committees for the Partnership for a Healthy Durham and create a three-year community health improvement plan (CHIP) for Durham County based on our findings.

Sources

Data in the 2017 Community Health Assessment came from:

1. *County Community Health Assessment Survey:* This anonymous survey, conducted in October and November 2016, 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 2015 survey is included in this document; the most recent survey was conducted in 2017, 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 listening sessions:* Three listening sessions were held between November 2017 and March 2018. Community members who participated in listening sessions discussed health assessment findings and provided context and a richer picture of community needs and priorities in Durham County.
4. Vital statistics (births, deaths, fetal deaths, pregnancies, marriage, and divorce)
5. The Behavioral Risk Factor Surveillance Survey (health behaviors and risk factors and self-reported disease information)
6. Basic Automated Birth Yearbook (BABY Book - summary of infant and maternal characteristics, such as prenatal visits and birth weight)
7. Cancer surveillance data
8. North Carolina Hospital Discharge Data
9. Agencies and organizations in Durham County

Throughout the assessment, Durham's rates are compared with those of North Carolina and its five peer counties: *Cumberland, Forsyth, Guilford, Mecklenburg and Wake.* Data citations from each section appear at the end of the corresponding section.

Summary of findings

Areas to celebrate

Durham Exceeds State Health Goals[i]

North Carolina has set 40 statewide health objectives with targets to reach by 2020. Durham

State and County Overall Health Rankings, 2017

- North Carolina: 33 out of 50 states
- Durham County: 15 out of 100 counties

Sources: www.americashealthrankings.org
www.countyhealthrankings.org

has seen improvement in 10 of the 40 objectives since 2013 and is meeting the state goals in 12. Many of the objectives do not show improvement such as homicide rate, infant mortality racial disparity and adults with diabetes. While some of this is due to cuts in health services funding, the lack of improvement can be linked to health inequities which are the result of poverty, racism and discrimination. Many communities do not have equal opportunities because of lack of access to social determinants of health that have a strong impact on lives such as jobs, education, healthy foods and safe and affordable housing.

Research shows that factors such as poverty, unemployment, low educational attainment, poor quality housing and environment shape health and play a role in health inequities. For these reasons, many communities cannot achieve health equity.

These inequities to social determinants of health caused by practices, policies and legislation to maintain unequal distribution of power, most often affect communities of color. This is why there is an intersection between health and racial inequities.

However, some of the objectives showing improvement are linked to Durham's health priority areas (physical activity, alcohol consumption by high school students, life expectancy). This community can take pride in these improvements. Below are the 12 state goals Durham meets:

- Unintentional poisoning mortality rate
- Percentage of women who smoke during pregnancy
- Suicide rate
- Percentage of adults meeting Centers for Disease Control and Prevention aerobic recommendations
- Average number of critical violations per restaurant/food stand
- Percentage of children aged 1-5 years enrolled in Medicaid who received any dental service*
- Infant mortality rate
- Percentage of the population being served by community water systems (CWS) with no maximum contaminant level violations
- Percentage of traffic crashes that are alcohol-related
- Pneumonia and influenza mortality rate
- Percentage of air monitor sites meeting the current ozone standard of 0.070 ppm
- Average life expectancy

Durham County has many assets including the following:

<u>Education levels</u>
Durham County has more than twice the percentage of residents who have received a graduate or professional degree compared to North Carolina (21.6% vs. 10.2%).[ii,iii] Durham County is also home to several well respected institutions of higher learning, including Duke University, North Carolina Central University and Durham Technical Community College.

<u>Community Engagement</u>
Durham's residents are very engaged in what occurs in the City and County. Between civic groups such as the InterNeighborhood Council (INC), Durham CAN and organizations such as the Village of Wisdom and Partners Against Crime (PACs) districts, community members participate in a

variety of issues that impact Durham County residents. In 2018, three first-time members were elected to the City Council based on grassroots efforts and a desire for change in Durham.

High number of medical providers and clinics

Durham is a community rich in medical resources with an exceptionally good ratio of primary care providers to the number of residents (1:810). This compares to the state ratio of 1:1410 and far exceeds the top performing counties in the U.S. (1:1040).[iv] Durham County is ranked sixth in the state for Clinical Care.[v] As the home of Duke University Health System, there are many medical experts in all fields. There are also many clinics that serve low-income and indigent residents such as Samaritan Health Center and CAARE Inc. and Lincoln Community Health Center, one of the oldest Federally Qualified Health Centers in the country. Project Access of Durham County (PADC) links eligible low-income, uninsured, Durham County residents with access to specialty medical care fully donated to the patients by the physicians, hospitals, labs, clinics and other providers participating in the network.

Abundance of parks and open spaces

Durham Parks and Recreation operates seven recreation centers. Amenities of these facilities include: seven gymnasiums, five dance studios, two indoor pools, three fitness facilities and two indoor walking tracks. In addition, three outdoor pools are operated in the summer months. Durham has approximately 30 miles of accessible trails and greenways with approximately 178 miles of planned trails and greenways. Additionally, several trails in Durham provide key linkages to the North Carolina Mountains to Sea Trail.[vi]

Most pressing health concerns & priority issues

The 2016 Durham County Community Health Assessment Survey asked residents to rank their top three community issues, health problems and services needing improvement. A random sample of 210 households throughout the county were chosen in addition to a random sample of neighborhoods with more than 50% Latino households. Results are in the charts below:[vii]

Top Responses From the Durham Full County Sample		
Community Issues	**Health Problems**	**Services Needing Improvement**
1. Substance use	1. Obesity/overweight	1. Higher paying employment
2. Discrimination and racism	2. Mental health	2. Sidewalks and bike lanes
3. Poverty	3. Diabetes	3. Affordable housing

Top Responses from the Hispanic/Latino Neighborhood Sample

Community Issues	Health Problems	Services Needing Improvement
1. Violent crime	1. Diabetes	1. Positive teen activities
2. Theft	2. Cancer	2. More health care providers serving Medicaid and uninsured populations
3. Substance use	3. Obesity/overweight	3. Affordable housing

Durham County's top five health priorities were identified through an online survey in English and Spanish. The survey was also conducted in person at grocery stores, libraries, Durham County Department of Public Health clinics, and bus stations during January and February 2018. The purpose of the survey was to narrow down priority health issues in Durham County.

2017 Durham County Health Priorities

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

The five top health priorities are summarized below. The Partnership for a Healthy Durham will vote on which committees to focus on from 2018-2021 at the April 18, 2018 Quarterly meeting. The Partnership will then begin creating a community health improvement plan (CHIP) to address the top priorities.

Affordable Housing

Affordable housing, as defined by HUD, requires no more than 30% of a family's monthly income. If a family spends more than 30% of income on housing they are less able to pay for other expenses such as food and health care. The increased cost burden of unaffordable housing adds to psychosocial stressors that can negatively impact a family.[viii] Renters make up 40% of households in Durham and almost half of them are defined as cost-burdened (i.e., paying more than 30% of their monthly income for housing).[ix]

"I believe affordable housing is the most pressing issue we face in Durham. I don't have a solution but I feel this issue needs to be addressed immediately and with all resources available. Durham should be accessible to all its residents."

– Durham County resident, 2018 Community Health Assessment Prioritization survey

Access to healthcare and health insurance

Despite the number of low cost and free clinics in Durham County, there are still many Durham residents who have trouble accessing care when they need it. Barriers to obtaining health care can range issues with transportation, language barriers, or distrust of the healthcare system. According to the 2016 Community Health Assessment Survey, the top reasons identified by Durham County residents for why they or someone in their household could not access necessary healthcare included insurance didn't cover service, copay was too high, lack of insurance, couldn't get an appointment, didn't know where to go and provider didn't take their insurance. These factors will have to be addressed in order for all Durham County residents to access the healthcare they need.[x]

"Healthy citizens can be productive and have stable families. Housing, access to health care is critical."
– Durham County resident, 2018 Community Health Assessment Prioritization survey

Poverty

Poverty has a strong impact on health and is an important concern for Durham residents. Research now shows that even the risk of an adverse change in material conditions - economic and housing insecurity, as well as un- or underinsured health insurance coverage - affect health outcomes. Reasons for the association between economic insecurity and health include the health effects of stress resulting from economic insecurity, effects on food consumption of stress and spending limitations, and restricted use of health services.[xi,xii]

"…poverty is at the top of the list and that has a waterfall effect on the other areas- housing, food access, etc…"
– Durham County resident, 2018 Community Health Assessment Prioritization survey

Mental health

Mental health and substance use disorders have indirect costs such as prevention, treatment, and recovery supports; but 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; homelessness; among other problems.[xiii]

"Mental health needs more accessibility."
– Durham County resident, 2018 Community Health Assessment Prioritization survey

Obesity, diabetes and food access

As of 2016, 65% of adults in the Piedmont region, which includes Durham, were overweight or obese.[xiv] Additionally, 12% of Durham high schoolers were obese as of 2014.[xv] Obesity is a strong

contributor to diabetes. In 2015, 14.1% of Durham County residents aged 18 years or older who received some level of care from Duke Health and/or Lincoln Community Health Center had diabetes.[xvi] Many diseases are linked to nutrition including overweight or obesity, hypertension, high cholesterol, diabetes, and some cancers. Food insecurity, the state of being without reliable access to a sufficient quantity of affordable, nutritious food has a large impact on a person's diet. It is estimated that 17.9% of Durham residents (51,710 people) are food insecure.[xvii]

> *"Until healthy food is more affordable than fast food and junk food, we are unlikely to be able to significantly affect the issues of obesity, diabetes, and food access."*
> *– Durham County resident, 2018 Community Health Assessment Prioritization survey*

Emerging issues

Each section of the document includes data on emerging issues, but additional issues facing Durham County in coming years include the lack of data for the LGTQ+ population, lack of affordable housing and widening inequality.

Chapter 14 on LGBTQ+ issues was included for the first time in the 2017 Durham County Community Health Assessment. In writing this chapter, the authors found very little local primary or secondary data for this population. Data that was used was mainly from a national or statewide perspective. Durham County needs to collect data on those who identify as LGBTQ+ to detect disparities and best meet the needs of this community.

The 2018 Community Health Assessment Prioritization survey captured the feelings of Durham County residents about the widening inequality in Durham. Survey respondents listed several factors for this including jobs that don't pay a living wage, higher housing costs, gentrification and an overall increase in the cost of living. Several Durham residents stated that it is getting expensive to live in Durham. Coordinated efforts are needed to ensure Durham remains affordable for all residents.

Conclusion and next steps

The findings from this 2017 Community Health Assessment suggest that Durham is poised to become not only a ***City of Medicine*** but also a ***Community of Health***. The work of the *Partnership for a Healthy Durham*, which is currently planning and implementing several far-reaching health initiatives, will be critical to bringing about this transition.

The next steps are to:

- Allow a one-month period for Durham County residents to make comments on the substance of this report.
- Determine the committees the Partnership for a Healthy Durham will have 2018-2021 to address the health priorities.
- Share findings with community members and organizations throughout Durham County.

- Develop community health improvement plans to be submitted to the State of North Carolina by September 4, 2018.

References

[i] North Carolina Division of Public Health. *Healthy North Carolina 2020: A Better State of Health.* North Carolina Department of Health and Human Services. http://www.publichealth.nc.gov/hnc2020/. Accessed August 21, 2014.

[ii] U.S. Census Bureau. Durham County 2012-2016 American Community Survey 5-Year Estimates. Table S1501, Educational Attainment. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF. Accessed February 27, 2018.

[iii] U.S. Census Bureau. North Carolina 2021-2016 American Community Survey 5-Year Estimates. Table S1501. Educational Attainment. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF. Accessed February 27, 2018.

[iv] County Health Rankings: Durham County Overall Outcomes Rankings. http://www.countyhealthrankings.org/app/north-carolina/2017/rankings/durham/county/outcomes/overall/snapshot. Accessed July 30, 2017.

[v]County Health Rankings: Durham County Overall Outcomes Rankings. http://www.countyhealthrankings.org/app/north-carolina/2017/rankings/durham/county/outcomes/overall/snapshot. Accessed July 30, 2017.

[vi] City of Durham, Durham Trails and Greenways Master Plan, 2011. http://durhamnc.gov/DocumentCenter/View/2673. Accessed November 27, 2017

[vii] Partnership for a Healthy Durham. 2016 Durham County Community Health Assessment Survey Results. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 27, 2018.

[viii] Maqbool N, Viveiros J, Ault M. The impacts of affordable housing on health: a research summary. Center for Housing Policy; 2015.

[ix] United States Census Bureau [Internet]. American Fact Finder [cited 2017 Nov 21]. Available from: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

[x] Partnership for a Healthy Durham. 2016 Durham County Community Health Assessment Survey Results. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 27, 2018.

[xi] U.S. Census Bureau. American Fact Finder. U.S. 2011-2015 American Community Survey 5-Year Estimates.https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

[xii] Rohde, Nicholas; Tang, Kam Ki; Osberg, Lars; Rao, D.S. Prasada (2017).Is it vulnerability or economic insecurity that matters for health? Journal of Economic Behavior & Organization.134 (C): 307-319.

[xiii] Carolina's Mental Health and Substance Use Systems: A Report from the NCIOM Task Force on Mental Health and Substance Use. Morrisville, NC: North Carolina Institute of Medicine; 2016. http://nciom.org/transforming-north-carolinas-mental-health-and-substance-use-systems-a-report-from-the-nciom-task-force-on-mental-health-and-substance-use/. Retrieved February 12, 2018.

[xiv] North Carolina State Center for Health Statistics. 2016 BRFSS Survey Results: Piedmont North Carolina. http://www.schs.state.nc.us/data/brfss/2016/nc/all/rf2.html. Accessed 15 November 2017.

[xv] *Youth Risk Behavior Survey Durham County 2015 Report*. Durham, NC: Partnership for a Healthy Durham; 2016. healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf.

[xvi] Maxson, Pamela (Duke Center for Community and Population Health Improvement and Community Engagement, Clinical and Translational Science Institute, Duke University, Durham, NC). Correspondence from: Pamela Maxson. 31 July 2017.

[xvii] Map the Meal Gap. Feeding America. http://map.feedingamerica.org/. Accessed 8/29/2017.

Section 1.01 *Introduction*

Description of Durham County

Courtesy of Durham County Visitor's Bureau

Spanning almost 300 square miles, Durham is a single-city county in the Piedmont region of North Carolina.[i] Approximately 85% of all Durham County residents live within the city limits of Durham. Durham's economic roots are 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. 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. The once thriving business and residential district was dubbed "Black Wall Street." For many years, the city's prosperity depended on these industries, as well as the business generated by the "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/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 decade. Since 2000, Durham County's population has grown over 30% to 294,618 in 2016.[ii] Estimates for 2016 show that non-Hispanic African Americans and non-Hispanic whites make up similar proportions of Durham's population: 37.2% and 42.0% respectively. Hispanics make up an estimated 13.3% of the county population, and Native American, Asian, and other ethnicities make up the remaining 7.5%.[iii] As in many cities, immigration has impacted Durham's population. The Hispanic population has more than doubled in the last 16 years (2000-2016) from 17,039 to 39,257.[iv] In 2016 the proportion of residents who spoke a language other than English at home was 19.0%.[v]

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 over 500

community members and representatives of hospitals, universities, local government, schools, non-profit and faith-based organizations. 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.[vi]

Overview

A Community Health Assessment is a process by which community members gain an understanding of the health concerns that affect their county by collecting, analyzing, and disseminating information on community assets and needs. The process culminates in the selection of community health priorities.

The 2017 assessment process included 358 resident surveys and three community listening sessions that involved 42 community members. 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 29 community and Partnership volunteers, and this Community Health Assessment has 93 authors. The next step is a strategic planning process to generate a three-year Community Health Improvement Plan (CHIP) for Durham County.

The Partnership for a Healthy Durham Coordinator and Durham County led all activities of the assessment and the 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 work-group of the Durham Results-Based Accountability Initiative until this initiative ended in July 2011. 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 Health 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 14 areas:

1. Introduction
2. Community Priorities
3. Community Profile
4. Social, Economic, and Environmental Determinants of Health
5. Health Promotion
6. Chronic Disease
7. Reproductive Health
8. Communicable Disease
9. Injury and Violence
10. Oral Health
11. Environmental Health

12. Public Health Preparedness
13. Older Adults and People with Disabilities
14. LGBTQ+ Issues

The many hours volunteered by the Community Health Assessment Team, Partnership for a Healthy Durham members, community volunteers as well as the input provided by hundreds of Durham County residents, have assured that this assessment presents an accurate picture of issues needing attention and provides a solid basis for the community health improvement plan for our community for the next three years.

Goals

The primary goal of the 2017 Community Health Assessment was to provide a comprehensive compilation 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* and (b) the *Governor's Task Force for Healthy Carolinians*. The March 2017 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 new requirements of the Federal Patient Protection and Affordable Care Act (health care reform), one of which requires hospital systems to conduct a Community Health Assessment every three years. The Partnership for a Healthy Durham, Durham County Health Department 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 14 chapters, with a total of 47 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/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 – they 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- Cumberland, Forsyth, Guilford, Mecklenburg and Wake.

The majority of the sections follow a template intended to make the document consistent and easy to follow. However, some sections may include additional information or omit information based on the particular topic. In general, writers were asked to include an overview of the topic, any related Healthy North Carolina 2020 objectives, the most critical and current secondary and primary data, disparities, gaps and emerging issues, recommended strategies to address the issue, and current initiatives and resources. References are at the end of each chapter.

Authors were asked to use the chapter template below:

Overview of topic

Healthy NC 2020 Objective (from http://publichealth.nc.gov/hnc2020/index.htm)
There are 40 Healthy NC 2020 objectives. If a section relates to one of the objectives, it will be listed, in addition to the 2020 target and the most recent Durham County and North Carolina data.

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

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

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

Interpretations: *Disparities, gaps, emerging issues*

- Data interpretation
- Special populations highlighted
- Gaps, unmet needs and emerging issues identified

Recommended Strategies
Theory- and evidence-based, in addition to recommended strategies from the perspective of the writers as first steps to address the issue most effectively

- Many strategies come from the NC Prevention Action Plan, CDC Community Guidebook, and Healthy NC 2020 book and list of compiled recommended strategies

Current Initiatives & Activities
This is meant to give the readers an idea of the kinds of programs locally available, the breadth of response to these issues, and how to find more information about local initiatives. This is surely not an exhaustive list of all groups involved in this subject. It is possible that some of the programs mentioned have changed since this report was compiled.

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 go to 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 in October and November 2016, 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 2015 survey is included in this document; the most recent survey was conducted in 2017, 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:* Three listening sessions were held between November 2017 and March 2018. Community members who participated in listening sessions and focus groups discussed health assessment findings and provided context and a richer picture of community needs and priorities in Durham County.

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. At DCoDPH, we strive to make each assessment better than the last. This year, we are particularly proud of:

- The community involvement in our health assessment process from beginning to end. The result was a survey and overall assessment that reflects the wants and needs of people living and working in Durham County.
    - Community members and organizations were invited to help select survey questions and topics. Community members and partner agencies were approached at Partner Against Crime meetings, Ruritan Club meetings, End Poverty Durham meetings, Partnership for a Healthy Durham committees, bus stops, and via an online survey.
    - Volunteers from Durham and surrounding communities dedicated their time to surveying selected households door-to-door.
    - Survey results were presented back at meetings and events to gain community perspective on the meaning of the data.
    - Community members and organizations helped write the report. Rather than having one or two people write the assessment, 93 people contributed to this document, providing content expertise and a rich, community perspective to health in Durham County.
    - An online survey and a convenience sample of residents at grocery stores, libraries, bus stops, and DCoDPH guests helped narrow down and select the top health priorities.
- The continued use of a random sample and to survey Durham's Hispanic/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/Latino residents. Dedicating a separate sample to our Hispanic/Latino community continues to be an essential step in capturing the opinions and concerns of the Spanish speaking population in Durham.

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] Photo credit: Durham Downtown, Durham Convention and Visitors Bureau

[ii] US Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table S0101: Age and Sex. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S0101&prodType=table. Accessed on February 19, 2018.

[iii] US Census Bureau. 2012-2016 American Community Survey 5-Yeaer Estimates, Table DP05: ACS Demographic and Housing Estimates. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_DP05&prodType=table. Accessed on February 19, 2018.

[iv] US Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table DP05: ACS Demographic and Housing Estimates. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_DP05&prodType=table. Accessed on February 19, 2018.

[v] US Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table S1601: Language Spoken at Home. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1601&prodType=table. Accessed February 19, 2018.

[vi] B Nowell, K Albrecht, E McCartha, et al. Durham County Mapping Health Collaboration 2017. www.healthydurham.org/cms/wp-content/uploads/2018/01/Durham-Community-report_FINAL_121717.pdf. Accessed February, 18 2018.

Section 2.01 *Community priorities*

Survey Methods

Survey Development

The survey development process for the 2017 Community Health Assessment (CHA) involved collaboration from multiple community organizations and community members. Prior to developing the survey, presentations were given at two Partners Against Crime (PAC) meetings in Durham County to gain insight and feedback on the types of questions and information community members would be most interested in learning through the CHA process. A SurveyMonkey® link was also sent to members of the Partnership for a Healthy Durham to find out what information was most useful in the last CHA report and what topics would be most relevant to work being done in Durham County going forward.

A large group of community organizations was also engaged through email and phone conversations regarding upcoming organizational survey needs. Feedback from the PACs, Partnership for a Healthy Durham, and community organizations informed the creation of a draft survey, which was then re-circulated for feedback and comments. The following organizations were included in this process: Alliance Behavioral Healthcare, the Bicycle and Pedestrian Advisory Commission (BPAC), Duke Division of Community Health, Durham Congregations in Action, Durham Parks and Recreation, Durham's Partnership for Children, El Centro Hispano, El Futuro, Inter Denominational Ministerial Alliance of Durham and Vicinity, Inter-neighborhood Council, LGBTQ Center of Durham, Neighborhood Improvement Services, Partners against Crime, and SHIFT NC.

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, giving census blocks with the highest populations 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. Thirty five census blocks and 245 households were selected to participate in the full county sample, while 20 census blocks and 210 households were selected for the high proportion Hispanic/Latino

neighborhood sample. Maps for both samples are displayed below in Figure 2.01(a) and Figure 2.01(b).

Figure 2.01(a). Full county sample

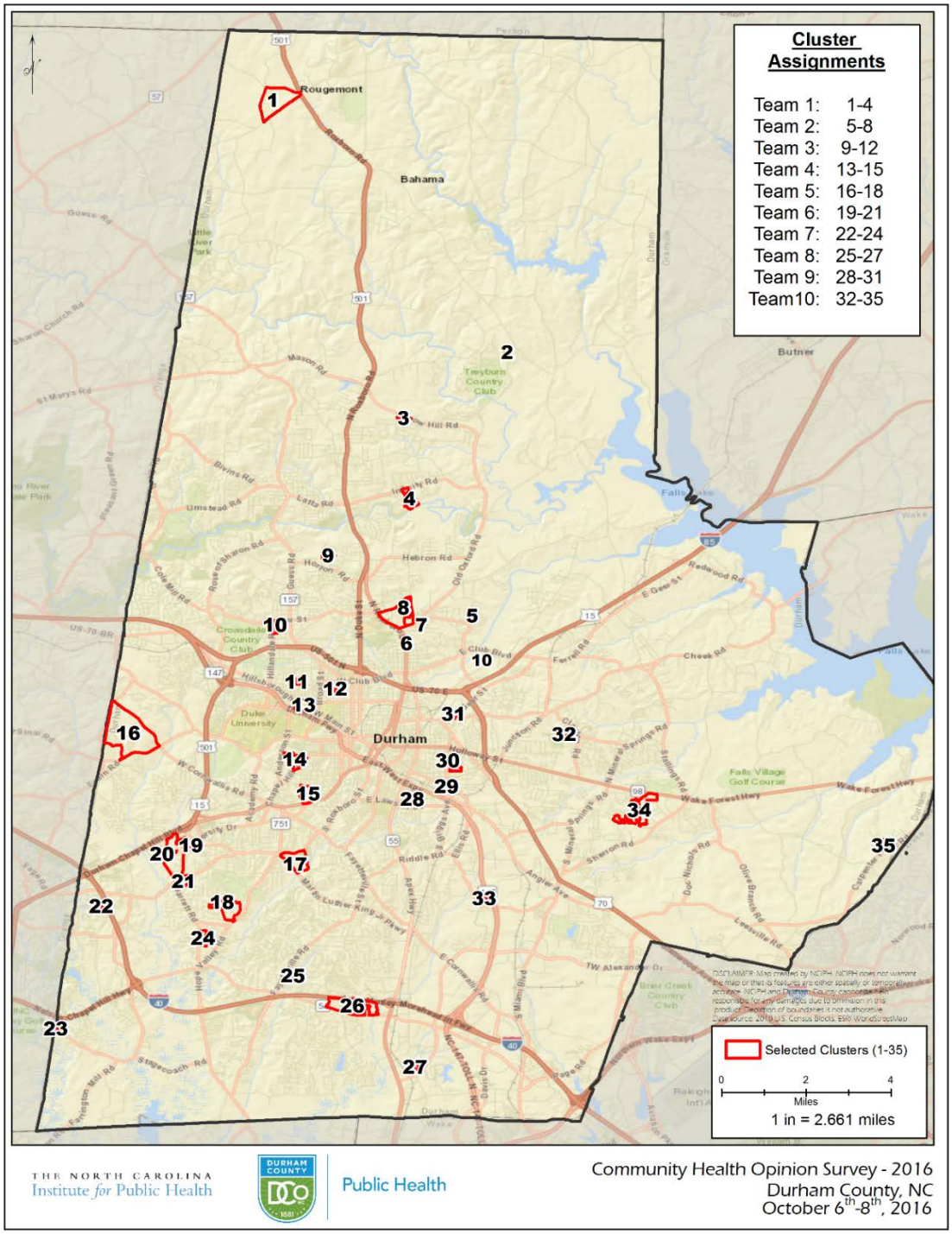
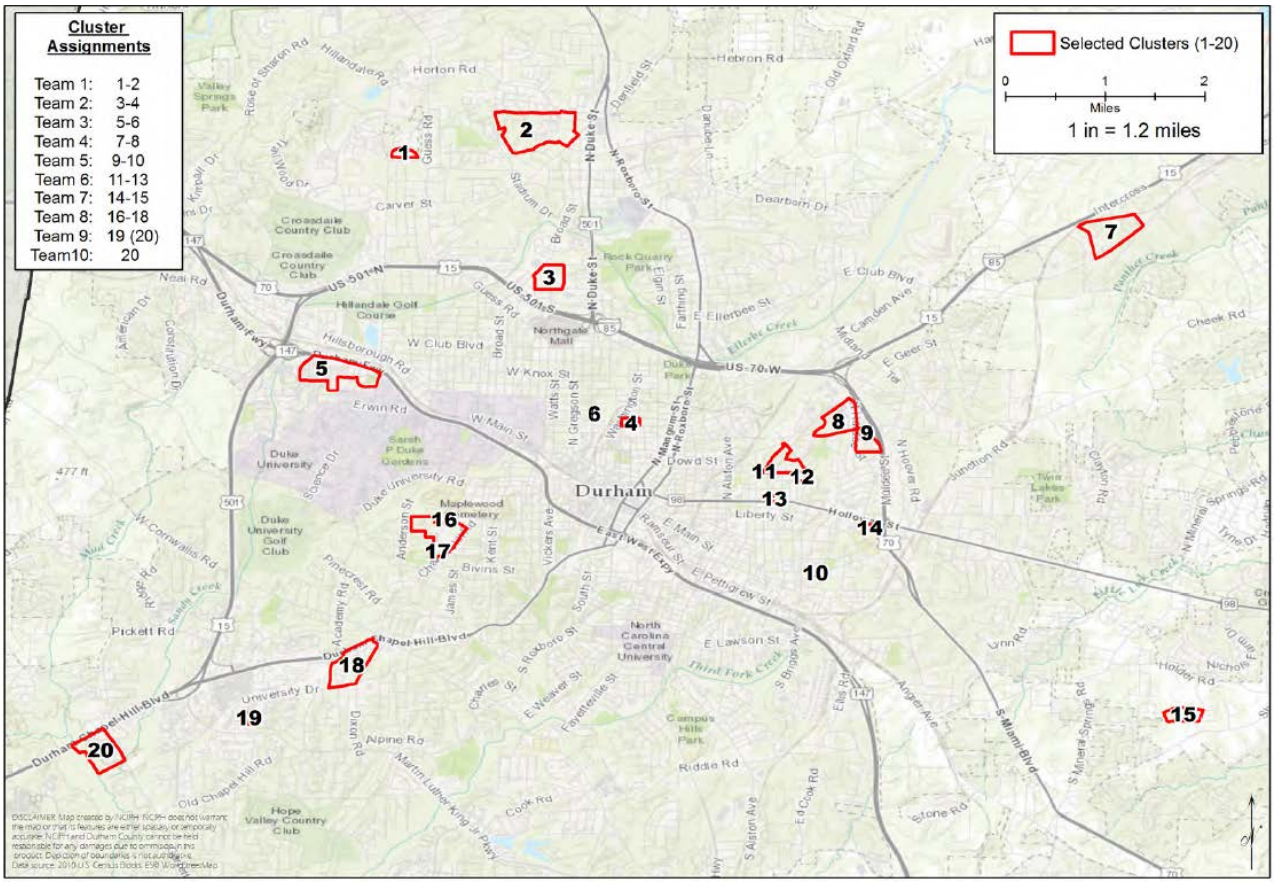


Figure 2.01(b). High proportion Hispanic/Latino neighborhood sample



Survey Administration

Volunteers were recruited from community organizations and universities in the Triangle to help administer the surveys for the full-county and Hispanic/Latino neighborhood samples. Prior to administering the surveys, two training sessions were held to prepare volunteers. The training included survey best practices, safety, cultural sensitivity, and a hands on component to familiarize the volunteers with the technology used to collect survey responses.

Seventy three volunteers assisted with the full county sample over the course of 11 survey days and 29 volunteers helped with the Hispanic/Latino neighborhood sample over the course of eight days. The surveys for both samples were administered between October 6, 2016 and November 15, 2016.

Survey teams were sent out in teams of two and were instructed to begin at the randomly selected starting points. If no one answered the door or the survey was refused, volunteers were instructed to go to the next closest residence. This process continued until a survey was completed. Then, volunteers continued to the next randomly selected start point.

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.

Survey Results

Analysis

Analysis was completed in SAS 9.4. Results were weighted to account for the sampling method to ensure that final results are generalizable to the sample population. The Center for Disease Control and Prevention (CDC) CASPER methodology was used to calculate sample weights. The methodology incorporates 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. Weights were also used to calculate standard error for each proportion.

There are 200 completed surveys included in the full county sample and 158 completed surveys in the Hispanic/Latino neighborhood sample. The response rates rate were 54.1% and 68.7% in the full county and Hispanic/Latino neighborhood samples, respectively.

Since the Hispanic/Latino sample was selected among neighborhoods with at least 50% or more Hispanic/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.

Key Findings

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

1. Keeping in mind yourself and the people in your neighborhood, tell me the three community issues that have the greatest effect on quality of life in Durham County.
2. Keeping in mind yourself and the people in your neighborhood, tell me the three most important health problems, that is, diseases or conditions, in Durham County.
3. Which three services need the most improvement in your neighborhood or 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. The top health issues identified in the full county sample and the Hispanic/Latino neighborhood sample were similar. Both samples selected obesity and overweight and diabetes as two of the top three issues. Substance use was named by both samples as a top community issue and affordable housing was named as a service needing improvement by both samples.

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

Community Issues	Health Problems	Services Needing Improvement
1. Substance use	1. Obesity/overweight	1. Higher paying employment
2. Discrimination and racism	2. Mental health	2. Sidewalks and bike lanes
3. Poverty	3. Diabetes	3. Affordable housing

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

Community Issues	Health Problems	Services Needing Improvement
1. Violent crime	1. Diabetes	1. Positive teen activities
2. Theft	2. Cancer	2. More health care providers serving Medicaid and uninsured populations
3. Substance use	3. Obesity/overweight	3. Affordable housing

The findings in the tables above are similar to the results of the 2013 survey. Poverty, violent crime and discrimination were among the top three responses for top community issues in the samples from the last survey. The responses to the top health problems in 2013 and 2016 are also similar, with diabetes, obesity, and cancer showing up in the top three in both surveys. Last, in the services needing improvements, positive teen activities, higher paying employment, and affordable housing were among the top three in both surveys.

In 2016, residents were asked what one thing would make Durham County a better place to live in an open ended question. Responses to this question largely mirrored the priorities identified above. Many respondents in the full county sample cited the need to reduce crime and violence and more interaction between people from different backgrounds. In the Hispanic/Latino neighborhood sample, many respondents noted a need for better access to police without the fear of deportation and less discrimination and profiling as well as cleaner neighborhoods.

Community Input

Following the random sample conducted in the fall of 2016, a survey was distributed in English and Spanish online and in person in grocery stores, libraries, Durham County Department of Public Health clinics, and bus stations in an effort to narrow down priority health issues in Durham County in January and February 2018. A list of eleven topics were included in the survey including: access to healthcare and health insurance; affordable housing; cancer; community relationships with police; discrimination and racism; HIV and Sexually Transmitted Infections

(STIs); mental health, obesity, diabetes and food access; poverty; substance use; violent crime; as well as a comment box for other responses. A total of 829 community members responded to the survey. The top issues selected by participants were affordable housing (70.9%), access to healthcare and health insurance (69.6%), poverty (59.8%), mental health (54.5%), and obesity, diabetes and food access (46.3%). Discrimination and racism was the sixth priority and will be included in the discussion of all five topics during the community input session that follow.

There were three community input sessions held between November 2017 and March 2018 reaching 42 Durham County residents. The sessions were held at a public library and other community locations. At least four more community listening sessions with various community stakeholders are planned between March 6 and March 24, 2018, as well as at least one Spanish language session.

The purpose of the sessions is to solicit community feedback on what the ideal state for each of the five aforementioned health priorities is, what barriers currently prevent community members from achieving the ideal state, and what solutions would help overcome the barriers listed. Community members will be encouraged to consider systems level changes during the listening sessions.

A qualitative analysis will be completed after the listening sessions are completed to capture community feedback and recommendations, which will be included in the action planning process under the umbrella of the Partnership for a Healthy Durham.

The Partnership for a Healthy Durham will vote on which committees to focus on from 2018-2021 at the April 18, 2018 Quarterly meeting.

2017 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: Healthy NC 2020 Objectives

As Durham County continues to work on these priorities, it is important to track our progress. In general, progress can be assessed by comparing Healthy North Carolina 2020 objectives. Healthy North Carolina 2020 identifies the most important state health priorities and tracks progress on improving outcomes.[i] The table below compares current county level data with state

level data on each Healthy NC 2020 objective. Cells highlighted in green indicate rates better than the 2020 target. Cells highlighted in yellow indicate measures where progress has been made, except where the data source differs. Current measures are compared to data from 2014 or prior, depending on availability. The last assessment was completed in 2014.

Durham has seen improvement in 19 of the 40 objectives since 2014, and is meeting the state goals in 12. Improvements have been made in nearly every priority area selected from the 2014 assessment, which included access to care, obesity and chronic illness, HIV and STIs, substance use and mental health, poverty, and education.

Notably, the HIV rate in Durham County has increased from 26.9 per 100,000 population in 2014 to 31.9 per 100,000 population in 2016. More work needs to be done to address the rising HIV incidence throughout the county.

Please note that comparisons to the state should not be made when the years of data do not match for a particular measure, or when the data sources is not the same.

Table 2.01(c). Healthy NC 2020 Objectives

Healthy NC 2020 Objectives	Durham County (historical)	Durham County (recent)	North Carolina	2020 Target
Tobacco Use				
1. Decrease the percentage of adults who are current smokers.	19.1% (2013)[ii]	23.5% (2016)[iii]	17.9% (2016)[iv]	13.0%
2. Decrease the percentage of high school students reporting current use of any tobacco product.	N/A	N/A	27.5% (2015)[v]	15.0%
3. Decrease the percentage of people exposed to secondhand smoke in the workplace in the past seven days.	N/A	N/A	7.7% (2016)[vi]	0%
Physical Activity and Nutrition				
1. Increase the percentage of high school students who are neither overweight nor obese.	68% (2013)[vii]	70.4% (2015)[viii]	67.7% (2015)[ix]	79.2%
2. Increase the percentage of adults meeting CDC aerobic recommendations.	46.7% (2013)[x] (not comparable with recent Durham data*)	61% (2016)[xi]	48.1% (2015)[xii]	60.6%

3. Increase the percentage of adults who report consuming fruits and vegetables five or more times per day.	12.4%[xiii]	N/A	13.0% (2015)[xiv]	84.7%
Injury				
1. Reduce the unintentional poisoning mortality rate (per 100,000 population).	8.8 (2014)[xv]	8.1 (2016)[xvi]	18.3 (2016)[xvii]	9.9
2. Reduce the unintentional fall mortality rate (per 100,000 population).	7.7 (2013)[xviii]	12.9 (2016)[xix]	10.8 (2016)[xx]	5.3
3. Reduce the homicide rate (per 100,000 population).	7.2 (2014)[xxi]	13.5 (2016)[xxii]	7.4 (2016)[xxiii]	6.7
Sexually Transmitted Diseases and Unintended Pregnancy				
1. Decrease the percentage of pregnancies among adults that are unintended.	N/A	N/A	27.9% (2015)[xxiv]	30.9%
2. Reduce the percentage of positive results among individuals aged 15 to 24 tested for chlamydia.	N/A	N/A	N/A	8.7%
3. Reduce the rate of new HIV infection diagnoses (per 100,000 population).	26.9 (2014)[xxv]	31.9 (2016)[xxvi]	16.4 (2016)[xxvii]	22.2
Maternal and Infant Health				
1. Reduce the infant mortality racial disparity between Whites and African Americans.	3.30 (2014)[xxviii]	3.63 (2016)[xxix]	2.41 (2016)[xxx]	1.92
2. Reduce the infant mortality rate (per 1,000 live births).	8.7 (2014)[xxxi]	6.2 (2016)[xxxii]	7.2 (2016)[xxxiii]	6.3
3. Reduce the percentage of women who smoke during pregnancy.	4.9% (2014)[xxxiv]	3.5% (2016)[xxxv]	8.9% (2016)[xxxvi]	6.8%
Substance Abuse				
1. Reduce the percentage of high school students who had alcohol on one or more of the past 30 days.	32.2% (2013)[xxxvii]	25.1% (2015)[xxxviii]	29.2% (2015)[xxxix]	26.4%

2. Reduce the percentage of traffic crashes that are alcohol-related.	3.4% (2014)[xl]	3.0% (2015)[xli]	4.6% (2015)[xlii]	4.7%
3. Reduce the percentage of individuals aged 12 years and older reporting any illicit drug use in the past 30 days.	N/A	N/A	N/A	6.6%
Mental Health				
1. Reduce the suicide rate (per 100,000 population).	8.9 (2014)[xliii]	6.6 (2016)[xliv]	13.0 (2016)[xlv]	8.3
2. Decrease the average number of poor mental health days among adults in the past 30 days.	N/A	5.1 (2016)[xlvi]	3.8 (2016)[xlvii]	2.8
3. Reduce the rate of mental health-related visits to emergency departments (per 10,000 population).	144.2 (2014)[xlviii]	156.2 (2016)[xlix]	584.2 (2016)[l]	82.8
Infectious Disease/Foodborne Illness				
1. Increase the percentage of children aged 19-35 months who receive the recommended vaccines.	71.3% (2014)[li]	73.7% (2016)[lii]	76.4% (2015)[liii]	91.3%
2. Reduce the pneumonia and influenza mortality rate (per 100,000 population).	15.6 (2014)[liv]	8.7 (2016)[lv]	16.5 (2016)[lvi]	13.5
3. Decrease the average number of critical violations per restaurant/food stand.	2.5[lvii] (2014)	1.6 (2016)[lviii]	1.7 (2016)[lix]	5.5
Oral Health				
1. Increase the percentage of children aged 1-5 years enrolled in Medicaid who received any dental service during the previous 12 months.	59.1% (2012)[lx]	58.8% (2015)[lxi]	41.7% (2015)[lxii]	56.4%
2. Decrease the average number of decayed, missing, or filled teeth among kindergartners.	1.76 (2011)[lxiii]	5.12 (2012-2013)[lxiv]	1.54 (2012-2013)[lxv]	1.1
3. Decrease the percentage of adults who have had a permanent teeth removed due to tooth decay or gum disease.	36.8% (2012)[lxvi]	N/A	47.6% (2016)[lxvii]	38.4%

Social Determinants of Health				
1. Decrease the percentage of individuals living in poverty.	18.1% (2014)[lxviii]	17.4% (2016)[lxix]	16.8% (2016)[lxx]	12.5%
2. Increase the four-year high school graduation rate.	81.5% (2013)[lxxi]	82.3% (2016)[lxxii]	85.9% (2016)[lxxiii]	94.6%
3. Decrease the percentage of people spending more than 30% of their income on rental housing.	51.1% (2014)[lxxiv]	48.8% (2016)[lxxv]	49.4% (2016)[lxxvi]	36.1%
Environmental Health				
1. Increase the percentage of air monitor sites meeting the current ozone standard of 0.070 ppm.	99% (2014)[lxxvii]	100% (2016)[lxxviii]	100% (2016)[lxxix]	100%
2. Increase the percentage of the population being served by community water systems (CWS) with no maximum contaminant level violations (among persons on CWS).	94.7% (2014)[lxxx]	100% (2016)[lxxxi]	97.0% (2016)[lxxxii]	95.0%
3. Reduce the mortality rate from work-related injuries (per 100,000 population).	N/A	N/A	3.4 (2015)[lxxxiii]	3.5
Chronic Disease				
1. Reduce the cardiovascular disease mortality rate (per 100,000 population).	176.0 (2014)[lxxxiv]	175.4 (2016)[lxxxv]	214.0 (2016)[lxxxvi]	161.5
2. Decrease the percentage of adults with diabetes.	N/A	14.1% (2015)[lxxxvii]	11.3% (2016)[lxxxviii]	8.6%
3. Reduce the colorectal cancer mortality rate (per 100,000 population).	15.9 (2014)[lxxxix]	12.4 (2016)[xc]	13.1 (2016)[xci]	10.1
Cross-Cutting				
1. Increase average life expectancy (years).	79.9 (2012-2014)[xcii]	80.0 (2014-2016)[xciii]	77.4 (2016)[xciv]	79.5
2. Increase the percentage of adults reporting good, very good, or excellent health.	82.2% (2013)[xcv]	84.1% (2016)[xcvi]	81.7% (2016)[xcvii]	90.1%

3.	Reduce the percentage of non-elderly uninsured individuals (aged less than 65 years).	17.4% (2014)[xcviii]	15.4% (2016)[xcix]	18.4% (2016)[c]	8.0%
4.	Increase the percentage of adults who are neither overweight nor obese.	40.3% (2013)[ci]	N/A	33.2% (2016)[cii]	38.1%

*County level data for the historical measure and most recent measure have differing data sources and should not be compared.

References

[i]North Carolina Division of Public Health. *Healthy North Carolina 2020: A Better State of Health.* North Carolina Department of Health and Human Services. http://www.publichealth.nc.gov/hnc2020/. Accessed August 21, 2014.
[ii] Durham County Department of Public Health. 2013 Community Health Assessment Survey. Internal Records.
[iii] Durham County Department of Public Health. 2016 Community Health Assessment Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 12, 2018.
[iv] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/nc/all/topics.htm#tu. Accessed February 12, 2018. Updated August 2017.
[v] Tobacco Prevention and Control. 2015 North Carolina Youth Tobacco Survey. http://www.tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/2015-NC-YTSFactSheet-WEBFINAL-v2.pdf. Accessed February 12, 2018.
[vi] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/nc/all/topics.htm#tu. Accessed February 12, 2018. Updated August 2017.
[vii] Durham County Department of Public Health. Youth Risk Behavior Survey Durham County 2013 Report. Durham, NC: Durham County Department of Public Health; 2014. http://healthydurham.org/cms/wp-content/uploads/2016/03/YRBS-2013-public-report-1.pdf. Accessed February 13, 2018.
[viii] Durham County Department of Public Health. *Youth Risk Behavior Survey Durham County 2015 Report*. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed February 12, 2018.
[ix] Durham County Department of Public Health. *Youth Risk Behavior Survey Durham County 2015 Report*. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed February 12, 2018.
[x] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2013 results. http://www.schs.state.nc.us/data/brfss/2013/nc/nccr/topics.htm#e. Accessed February 13, 2018. Updated July 2014.
[xi] Durham County Department of Public Health. 2016 Community Health Assessment Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 12, 2018.
[xii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2015 Results. http://www.schs.state.nc.us/data/brfss/2015/. Accessed February 12, 2018. Updated September 2016.
[xiii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2013 results. http://www.schs.state.nc.us/data/brfss/2013/nc/nccr/topics.htm#e. Accessed February 13, 2018. Updated July 2014.
[xiv] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2015 Results. http://www.schs.state.nc.us/data/brfss/2015/. Accessed February 12, 2018. Updated September 2016.
[xv] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.

[xvi] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xvii] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xviii] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xix] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xx] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xxi] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xxii] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xxiii] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xxiv] State Center for Health Statistics. 2015 North Carolina Pregnancy Risk Assessment Monitoring System Survey Results. http://www.schs.state.nc.us/data/prams/2015/#11. Accessed February 13, 2018.
[xxv] North Carolina HIV/STD Surveillance Unit. *2016 North Carolina HIV/STD/Hepatitis Surveillance Report.* http://epi.publichealth.nc.gov/cd/stds/figures/std16rpt_rev3.pdf. Accessed February 12, 2018.
[xxvi] North Carolina HIV/STD Surveillance Unit. *2016 North Carolina HIV/STD/Hepatitis Surveillance Report.* http://epi.publichealth.nc.gov/cd/stds/figures/std16rpt_rev3.pdf. Accessed February 12, 2018.
[xxvii] North Carolina HIV/STD Surveillance Unit. *2016 North Carolina HIV/STD/Hepatitis Surveillance Report.* http://epi.publichealth.nc.gov/cd/stds/figures/std16rpt_rev3.pdf. Accessed February 12, 2018.
[xxviii] State Center for Health Statistics. 2010-2014 North Carolina Infant Mortality Report, Table 3b. Infant Mortality Racial Disparities between White Non-Hispanics and African-American Non-Hispanics. http://www.schs.state.nc.us/data/vital/ims/2014/table3b.html. Accessed February 13, 2018.
[xxix] State Center for Health Statistics. 2016 North Carolina Infant Mortality Report, Table 3b. Infant Mortality Racial Disparities between White Non-Hispanics and African American Non-Hispanics: 2012-2016. http://www.schs.state.nc.us/data/vital/ims/2016/table3b.html. Accessed February 13, 2018.
[xxx] State Center for Health Statistics. 2016 North Carolina Infant Mortality Report, Table 3b. Infant Mortality Racial Disparities between White Non-Hispanics and African American Non-Hispanics: 2012-2016. http://www.schs.state.nc.us/data/vital/ims/2016/table3b.html. Accessed February 13, 2018.
[xxxi] State Center for Health Statistics. 2014 North Carolina Infant Mortality Report, Table 1. North Carolina 2014 Final Infant Death Rates (per 1,000 live births). http://www.schs.state.nc.us/data/vital/ims/2014/2014rpt.html. Accessed February 13, 2018.
[xxxii] State Center for Health Statistics. 2016 North Carolina Infant Mortality Report, Table 1. http://www.schs.state.nc.us/data/vital/ims/2016/2016rpt.html. Accessed February 12, 2018.
[xxxiii] State Center for Health Statistics. 2016 North Carolina Infant Mortality Report, Table 1. http://www.schs.state.nc.us/data/vital/ims/2016/2016rpt.html. Accessed February 12, 2018.
[xxxiv] State Center for Health Statistics. Durham County Resident Births for 2014 Risk Factors and Characteristics. http://www.schs.state.nc.us/data/databook2016/BirthIndicators/Durham.pdf. Accessed February 13, 2018.
[xxxv] State Center for Health Statistics. North Carolina Resident Births for 2016 Risk Factors and Characteristics. http://www.schs.state.nc.us/data/databook/BirthIndicators/NorthCarolina.pdf. Accessed February 12, 2018.

[xxxvi] State Center for Health Statistics. North Carolina Resident Births for 2016 Risk Factors and Characteristics. http://www.schs.state.nc.us/data/databook/BirthIndicators/NorthCarolina.pdf. Accessed February 12, 2018.
[xxxvii] Durham County Department of Public Health. 2013 Durham High School Youth Risk Behavior Survey Detailed Data Report. http://healthydurham.org/cms/wp-content/uploads/2016/03/YRBS-2013-High-School-Data-Tables-1.pdf. Accessed February 13, 2018.
[xxxviii] Durham County Department of Public Health. *Youth Risk Behavior Survey Durham County 2015 Report*. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed February 12, 2018.
[xxxix] Durham County Department of Public Health. *Youth Risk Behavior Survey Durham County 2015 Report*. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed February 12, 2018.
[xl] North Carolina Department of Transportation. North Carolina 2014 Traffic Crash Facts. https://connect.ncdot.gov/business/DMV/DMV%20Documents/2014%20Crash%20Facts.pdf. Accessed February 13, 2018.
[xli] North Carolina Department of Transportation. North Carolina 2015 Traffic Crash Facts. https://connect.ncdot.gov/business/DMV/DMV%20Documents/2015%20Crash%20Facts.pdf. Accessed February 12, 2018.
[xlii] North Carolina Department of Transportation. North Carolina 2015 Traffic Crash Facts. https://connect.ncdot.gov/business/DMV/DMV%20Documents/2015%20Crash%20Facts.pdf. Accessed February 12, 2018.
[xliii] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xliv] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xlv] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xlvi] Durham County Department of Public Health. 2016 Community Health Assessment Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 12, 2018.
[xlvii] Cassel, James (Manager, Survey Operations Unit). Email Correspondence with: Denver Jameson. February 15, 2018.
[xlviii] North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT). Custom Event Line Listing Reports- Mental Health: Cognitive disorders; Mental Health: Childhood developmental disorders; Mental Health: anxiety, mood, and psychotic disorders. Internal analysis. NC DETECT accessed February 13, 2018.
[xlix] North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT). Custom Event Line Listing Reports- Mental Health: Cognitive disorders; Mental Health: Childhood developmental disorders; Mental Health: anxiety, mood, and psychotic disorders. Internal analysis. NC DETECT accessed February 13, 2018.
[l] Ising, Amy (Program Director, NC DETECT). Email Correspondence with: Denver Jameson. May 23, 2017.
[li] North Carolina Immunization Registry. Internal data analysis for children born between December 30, 2011 and December 31, 2012 with an evaluation date of December 31, 2014. https://ncid.nc.gov/. Accessed February 12, 2018.

[lii] North Carolina Immunization Registry. Internal data analysis for children born between December 30, 2013 and December 31, 2014 with an evaluation date of December 31, 2016. https://ncid.nc.gov/. Accessed February 12, 2018.
[liii] Centers for Disease Control. 2015 Childhood Combined 7-vaccine Series Coverage Report. https://www.cdc.gov/vaccines/imz-managers/coverage/childvaxview/data-reports/7-series/reports/2015.html. Accessed February 12, 2018.
[liv] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[lv] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[lvi] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[lvii] Garrett, Alisha (Administrative Assistant, Division of Public Health, Environmental Health). Email Correspondence with: Denver Jameson. February 28, 2018.
[lviii] Garrett, Alisha (Administrative Assistant, Division of Public Health, Environmental Health). Email Correspondence with: Denver Jameson. May 12, 2017.
[lix] Garrett, Alisha (Administrative Assistant, Division of Public Health, Environmental Health). Email Correspondence with: Denver Jameson. May 12, 2017.
[lx] Durham County Department of Public Health. 2014 Durham County Community Health Assessment. http://healthydurham.org/cms/wp-content/uploads/2016/03/CHA-Final-Document.pdf. Accessed February 14, 2018.
[lxi] Niehaus, Virginia (Policy Analyst, Division of Medical Assistance). Email Correspondence with: Denver Jameson. May 5, 2017.
[lxii] Niehaus, Virginia (Policy Analyst, Division of Medical Assistance). Email Correspondence with: Denver Jameson. May 5, 2017.
[lxiii] Personal communication of HEALTHY NORTH CAROLINA 2020 OBJECTIVES: COUNTY & STATE LEVEL STATISTICS 2005-2009 from Eleanor Howell, North Carolina State Center for Health Statistics, December 31, 2013.
[lxiv] North Carolina Department of Health and Human Services Oral Health. 2012-2013 County Assessment Data. https://www2.ncdhhs.gov/dph/oralhealth/library/includes/AssessmentData/2012-2013%20County%20Level%20Summary%202-25-15.pdf. Accessed May 8, 2017.
[lxv] North Carolina Department of Health and Human Services Oral Health. 2012-2013 County Assessment Data. https://www2.ncdhhs.gov/dph/oralhealth/library/includes/AssessmentData/2012-2013%20County%20Level%20Summary%202-25-15.pdf. Accessed May 8, 2017.
[lxvi] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar Year 2012 results. http://www.schs.state.nc.us/data/brfss/2012/nc/nccr/topics.htm#oh. Accessed February 14, 2018.
[lxvii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/nc/all/topics.htm#tu. Accessed February 12, 2018. Updated August 2017.
[lxviii] United States Census Bureau, Population Division. Table S1701. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1701&prodType=table. Accessed February 14, 2018.
[lxix] United States Census Bureau, Population Division. Table S1701. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1701&prodType=table. Accessed February 12, 2018.

[lxx] United States Census Bureau, Population Division. Table S1701. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1701&prodType=table. Accessed February 12, 2018.
[lxxi] Department of Public Instruction. Accountability and Testing Results. 4-Year Cohort Graduation Report 2010-11 Entering 9th Graders Graduating in 2013-14 or Earlier. http://accrpt.ncpublicschools.org/app/2014/cgr/. Accessed February 14, 2018.
[lxxii] Department of Public Instruction. Accountability and Testing Results. 4-Year Cohort Graduation Report 2012-13 Entering 9th Graders Graduating in 2015-16 or Earlier. http://accrpt.ncpublicschools.org/app/2016/cgr/. Accessed February 12, 2018.
[lxxiii] Department of Public Instruction. Accountability and Testing Results. 4-Year Cohort Graduation Report 2012-13 Entering 9th Graders Graduating in 2015-16 or Earlier. http://accrpt.ncpublicschools.org/app/2016/cgr/. Accessed February 12, 2018.
[lxxiv] United States Census Bureau, Population Division. Table DP04. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_DP04&prodType=table. Accessed February 14, 2018.
[lxxv] United States Census Bureau, Population Division. Table DP04. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_DP04&prodType=table. Accessed February 12, 2018.
[lxxvi] United States Census Bureau, Population Division. Table DP04. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_DP04&prodType=table. Accessed February 12, 2018.
[lxxvii] North Carolina Division of Air Quality. Ambient Monitoring Section. North Carolina Division of Air Quality website. http://www.ncair.org/monitor/data/o3design/. Accessed March 25, 2014.
[lxxviii] Kritzer, Jamie. State Encourages People to Be Aware of Air Quality Forecasts as Ozone Season Starts. https://deq.nc.gov/state-encourages-people-be-aware-air-quality-forecasts-ozone-season-starts. Accessed February 12, 2018. Published March 1, 2017.
[lxxix] Kritzer, Jamie. State Encourages People to Be Aware of Air Quality Forecasts as Ozone Season Starts. https://deq.nc.gov/state-encourages-people-be-aware-air-quality-forecasts-ozone-season-starts. Accessed February 12, 2018. Published March 1, 2017.
[lxxx] North Carolina Division of Water Resources, Drinking Water Watch website. https://www.pwss.enr.state.nc.us/NCDWW2/index.jsp. Accessed March 30, 2014.
[lxxxi] Jarman, Andrew (Capacity Development Engineer, N.C. Public Water Supply Section). Email Correspondence with Denver Jameson. May 23, 2017.
[lxxxii] Jarman, Andrew (Capacity Development Engineer, N.C. Public Water Supply Section). Email Correspondence with Denver Jameson. May 23, 2017.
[lxxxiii] Bureau of Labor Statistics. Fatal Occupational Injury Rates by Industry, 2015, North Carolina. https://www.bls.gov/iif/oshwc/cfoi/rate2015nc.htm. Accessed May 23, 2017.
[lxxxiv] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 14, 2018.
[lxxxv] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[lxxxvi] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[lxxxvii] Maxson, Pam (Managing Director, Community Engagement Core and Duke Center for Community and Population Health Improvement). Email Correspondence with: Gayle Harris. July 18, 2017.

[lxxxviii] State Center for Health Statistics. North Carolina Resident Births for 2016 Risk Factors and Characteristics. http://www.schs.state.nc.us/data/databook/BirthIndicators/NorthCarolina.pdf. Accessed February 14, 2018.
[lxxxix] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 14, 2018.
[xc] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xci] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.
[xcii] State Center for Health Statistics. 2014 State of North Carolina and 2012-2014 County Life Expectancy at Birth. http://www.schs.state.nc.us/data/databook2016/CD8A%20State%20and%20County%20Life%20Expectancies%20at%20birth.html. Accessed February 14, 2018.
[xciii] State Center for Health Statistics. 2016 State of North Carolina and 2014-2016 County Life Expectancy at Birth. http://www.schs.state.nc.us/data/databook/CD8A%20State%20and%20County%20Life%20Expectancies%20at%20birth.html. Accessed February 12, 2018.
[xciv] State Center for Health Statistics. 2016 State of North Carolina and 2014-2016 County Life Expectancy at Birth. http://www.schs.state.nc.us/data/databook/CD8A%20State%20and%20County%20Life%20Expectancies%20at%20birth.html. Accessed February 12, 2018.
[xcv] State Center for Health Statistics. North Carolina Resident Births for 2013 Risk Factors and Characteristics. http://www.schs.state.nc.us/data/brfss/2013/nc/nccr/topics.htm#hs. Accessed February 14, 2018.
[xcvi] Durham County Department of Public Health. 2016 Community Health Assessment Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 12, 2018.
[xcvii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/nc/all/topics.htm#tu. Accessed February 12, 2018. Updated August 2017.
[xcviii] United States Census Bureau, Population Division. Table S2701. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_S2701&prodType=table. Accessed February 14, 2018.
[xcix] United States Census Bureau, Population Division. Table S2701. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S2701&prodType=table. Accessed February 12, 2018.
[c] United States Census Bureau, Population Division. Table S2701. American Fact Finder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S2701&prodType=table. Accessed February 12, 2018.
[ci] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2013 Results. http://www.schs.state.nc.us/data/brfss/2013/nc/nccr/topics.htm. Accessed February 14, 2018. Updated August 2017.
[cii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/nc/all/topics.htm#tu. Accessed February 12, 2018. Updated August 2017.

Community Profile

This chapter includes:

- ❖ Demographics
- ❖ Immigrant and refugee populations
- ❖ Racial and ethnic disparities
- ❖ Durham facts and history
- ❖ Land Use
- ❖ Built environment (e.g. sidewalks, bike lanes and greenways)
- ❖ Parks and recreation
- ❖ Faith and spirituality

Section 3.01 *Demographics*

Overview

Durham County is the sixth most populous county North Carolina, with an estimated population of 306,212.[i] Since 2010, Durham County has grown 13%, more than twice as fast as the statewide growth rate during the same period.[ii] The county is projected to continue to grow at approximately the same rate, of 1.7% annually. Currently the population is approximately 52% female and 48% male.[iii] While Durham County's median age has increased slightly to 34.4 years old in 2015, compared to 33.2 years old in 2010, it is still younger than the median ages in North Carolina (38.0) and the United States (37.6). The figure below compares the age distribution of populations in Durham County, North Carolina, and the United States during 2011-2015.

Breakdown of Age, Durham County, North Carolina and the U.S., 2011-2015

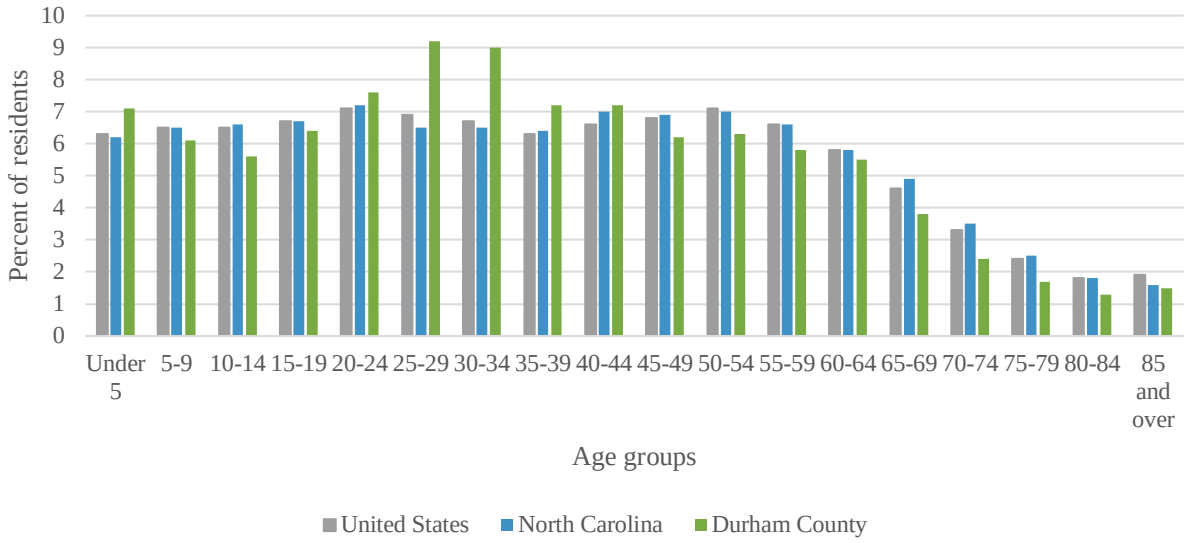


Figure 3.01(a): Breakdown of Age, Durham County, North Carolina, and the U.S., 2011-2015 [iv]

According to Census estimates, there are approximately 250,000 LGBT (lesbian, gay, bisexual, transgender) adults living in North Carolina, representing 3.5% of the population. The state's LGBT population is ethnically diverse, consisting of 25% African Americans and 12% Latinos. Among North Carolina counties, Durham has the second largest number of same-sex couples per 1,000 households.[v]

The proportions of Durham County's racially and ethnically diverse population have been relatively stable over the past five years. In 2015, the largest racial groups were White (121,493), Black or African American (107,085), and Hispanic or Latino (38,768) residents.[vi] Census data for Durham County depicting race are depicted in Figure 3.01 (b) below.

Durham County's population is more diverse than that of North Carolina or the U.S. The County has a greater proportion of African American residents (37.1%) than the state (21.2%) or the nation (12.3%). Durham County's Hispanic or Latino population (13.4%) is larger than the North Carolina population (8.8%), but smaller than the US population (17.1%). Over the next 20 years, the Hispanic/Latino population is projected to exceed 20% of the population.[vii]

Race and Ethnicity in Durham County, 2011-2015

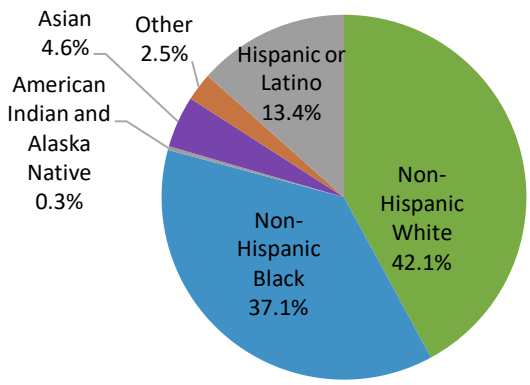


Figure 3.01(b) Race and Ethnicity in Durham County, 2011-2015[vi]

Out of every 20 Durham County residents, approximately 10 were born in North Carolina, seven were born in a different state, and three were foreign-born. Durham's foreign-born portion (13.8%) is almost the same as the national portion (13.5%), and nearly twice the state's foreign-born portion (7.9%).[viii] Within the foreign-born population in Durham, a little over half (51.7%) were born in Latin America and more than one quarter (29.7%) were born in Asia. Almost a tenth (8.6%) of Durham County's foreign-born residents are from Africa, which is over twice the national portion (4.8%). These proportions are displayed in Figure 3.01(c) below.

Origin of Foreign-born Residents, Durham County, 2011-2015

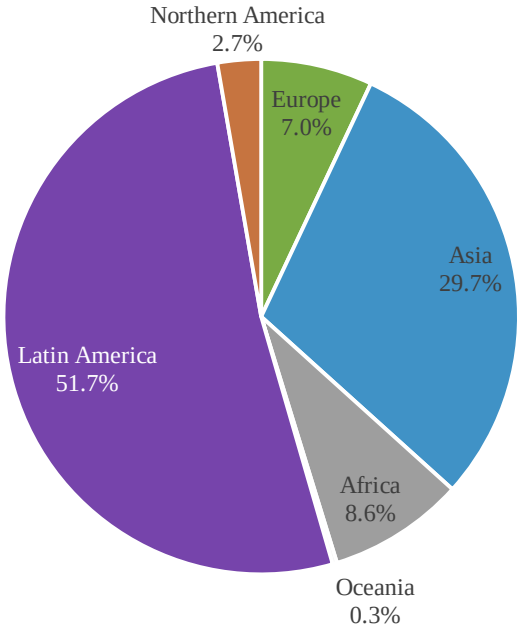


Figure 3.01(c): Origin of Foreign-Born Population in Durham County, 2011-2015[vii]

As of 2015, 90% of the residents in Durham County were U.S. citizens, which is lower than the state average (95%) and the national average (93%).[ix]

Language Spoken in the Home, 2011-2015

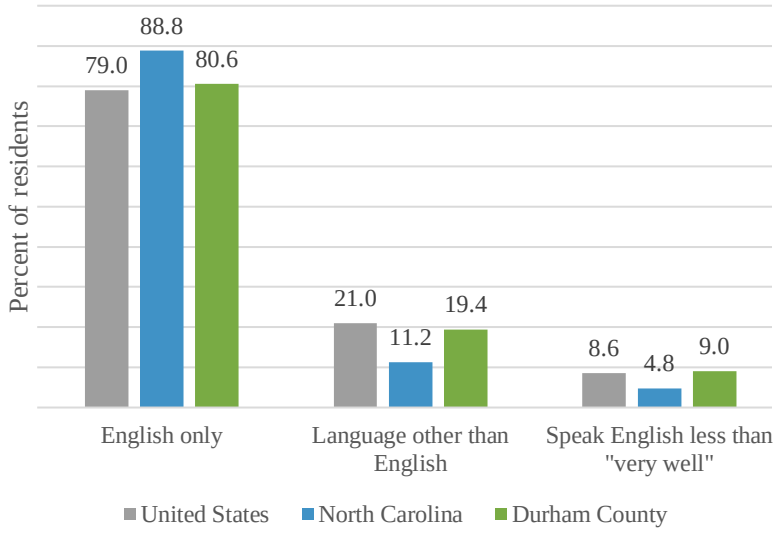


Figure 3.01(d): Language Spoken in the Home, Durham County, North Carolina and the U.S., 2011 – 2015[1]

Nearly one in five residents of Durham County speak a language other than English at home. About one in 10 residents (12.5%) speak Spanish at home. On average, one in 10 residents speak English less than "very well", shown in Figure 3.01(d).[x] English fluency is especially low in foreign born residents, with over half (50.9%) speaking English less than "very well."[xi] Overall, this makeup more closely represents national statistics than North Carolina statistics. Since 2010, there has been very little change in these numbers.

Durham County is home to an educated population. Two in three County residents have at least some college education, which is at least 10% above the state and national average (see figure 3.01(e)). Eighty-five point one percent of males and 89.5% of females have graduated with at least a high school diploma, or the equivalent.[xii]

Educational Attainment among Residents over Age 25, 2011-2015

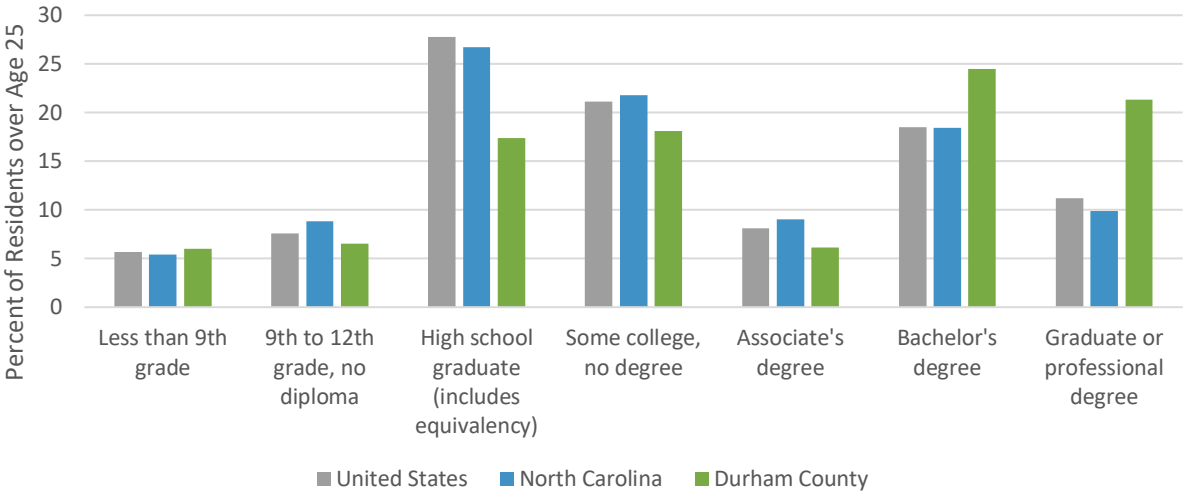


Figure 3.01(e): Educational Attainment among Residents over Age 25, Durham County, North Carolina and the U.S., 2011-2015[xiii]

Unemployment Trends, 2009-2015

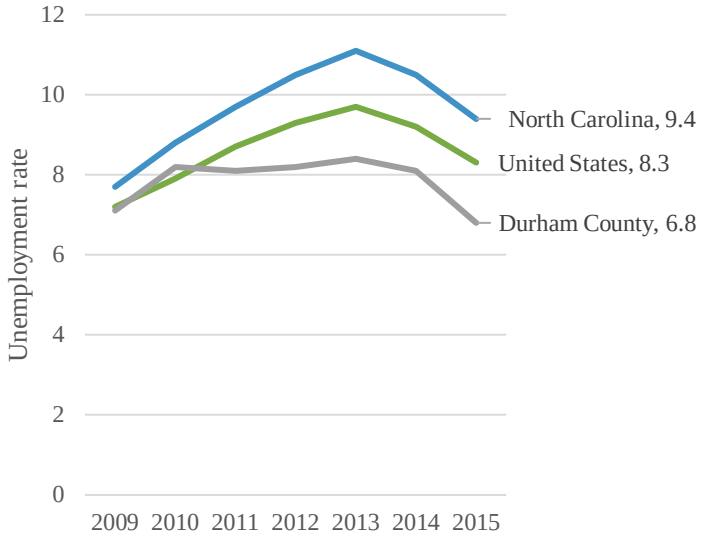


Figure 3.01(f) Unemployment Trends in Durham County, North Carolina and the US(American Community Survey, 2009 – 2015) [1]

The unemployment rate in Durham County is 6.8% for the population 16 years old and over, a slight decrease from 8.2% in 2010. Both rates are lower when compared to the national unemployment rates of 9.4% in 2015 and 7.9% in 2010. In Durham County, the lowest rates of unemployment were observed in Asians (3.9%) and non-Hispanic Whites (4.2%). Native Hawaiian and Pacific Islanders experienced the highest rates of unemployment at 38.8%, followed by American Indian/Alaska Natives (13.8%) and African Americans (11.1%).[xiv] Overall unemployment trends in Durham County, North Carolina and the United States are displayed in Figure 3.01(f).

The median income in Durham County is $52,503, meaning half of the households make more than this amount and half of the households make less than this amount in one year. This income is slightly below the national median of $53,889.[xv] [xvi] Since 2009, there has been an increase in higher income brackets and a decrease in lower income brackets. Trends in median income in Durham County are displayed in figure 3.01(g).

Trend in Median Household Income, Durham County, 2010-2015

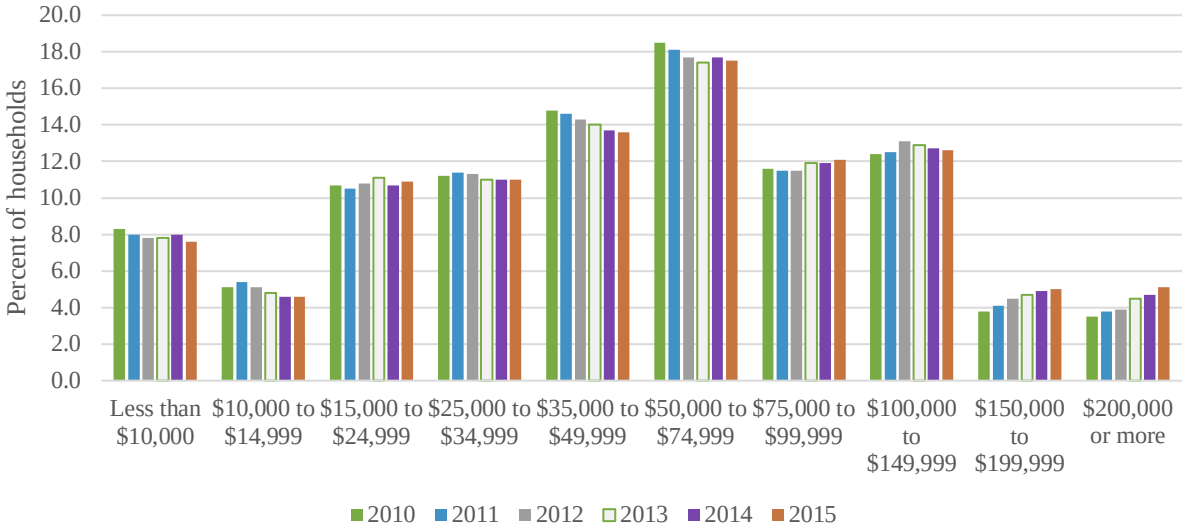


Figure 3.01(g): Trend in Median Income, Durham County, North Carolina and the U.S., 2010-2015[xvii]

References

[i] US Census Bureau. American Community Survey. Table PEPAGE SEX: Annual Estimates of the resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2016. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2016_PEPAGESEX&prodType=table. Accessed November 21, 2017.

[ii] US Census Bureau. Table PEPANNRES: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016, 2016 Population Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2016_PEPANNRES&prodType=table. Accessed September 5, 2017.

[iii] US Census Bureau. Table PEPAGESEX: Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipos: April 1, 2010 to July 1, 2016. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2016_PEPAGESEX&prodType=table. Accessed September 5, 2017.

[iv] US Census Bureau. Table PEPAGESEX: Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipos: April 1, 2010 to July 1, 2016. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2016_PEPAGESEX&prodType=table. Accessed September 5, 2017.

[v] Same-sex Couple and LGBT Demographic Data Interactive. (May 2016). 718 Los Angeles, CA: The Williams Institute, UCLA School of Law.

[vi] US Census Bureau. Table DP05: ACS Demographic and Housing Estimates, 2011-2015 American Community Survey 5-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP05&prodType=table. Accessed September 5, 2017.

[vii] US Census Bureau. Table DP05: ACS Demographic and Housing Estimates 2011-2015 American Community Survey 5-Year Estimates. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP05&prodType=table. Accessed November 21, 2017.

[viii] US Census Bureau. Table B05002: Place of Birth by Nativity and Citizenship Status, Total population in the United States, 2016 American Community Survey 1-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_1YR_B05002&prodType=table. Accessed September 5, 2017.

[ix] US Census Bureau. Table B05001: Nativity and Citizenship Status in the United States, Universe: Total population in the United States, 2016 American Community Survey 1-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_1YR_B05001&prodType=table. Accessed September 5, 2017.

[x] US Census Bureau. Table S1601: Language Spoken at Home, 2011-2015 American Community Survey 5-Year Estimates. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S1601&prodType=table. Accessed November 22, 2017.

[xi] US Census Bureau. Table B16005: Nativity by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over, 2011-2015 American Community Survey 5-Year Estimates. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_B16005&prodType=table. Accessed November 22, 2017.

[xii] US Census Bureau. Table S1501: Educational Attainment, 2011-2015 American Community Survey 5-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S1501&prodType=table. Accessed September 5, 2017.
[xiii] US Census Bureau. Table S1501: Educational Attainment, 2011-2015 American Community Survey 5-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S1501&prodType=table. Accessed September 5, 2017.
[xiv] US Census Bureau. Table S2301: Employment Status, 2011-2015 American Community Survey 5-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S2301&prodType=table. Accessed September 5, 2017.
[xv] US Census Bureau. Table: S1901: Income in the past 12 months (in 2015 inflation-adjusted dollars), 2011-2015 American Community Survey 5-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S1901&prodType=table. Accessed August 29, 2017.
[xvi] US Census Bureau. Table: S1901: Income in the past 12 months (in 2015 inflation-adjusted dollars), 2011-2015 American Community Survey 5-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S1901&prodType=table. Accessed August 29, 2017.
[xvii] US Census Bureau. Table DP03: Selected Economic Characteristics, 2011-2015 American Community Survey 5-Year Estimates. US Census Bureau website. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP03&prodType=table. Accessed September 5, 2017.

Section 3.02 *Immigrant and refugee health*

Overview

In 2015, the estimated Durham County population was 288,817, 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), temporary migrants (such as foreign students), humanitarian migrants (refugees and asylees), and unauthorized migrants.[ii]

Secondary Data

In Durham County, immigrants have helped grow the population as well as the local economy by starting families and opening new businesses.[iii] Table 3.02(a) compares immigrant characteristics between North Carolina and Durham County.

Characteristics of Immigrants in Durham County and North Carolina, 2011-2015[iv]

	North Carolina		Durham County	
	Estimate	**Percent**	**Estimate**	**Percent**
Total population	9,845,333		288,817	
Native	9,087,312	92.3%	248,851	86.2%
Born in state of residence	5,662,078	62.3%	143,751	57.8%
Born in different state	3,316,643	36.5%	101,409	40.8%
Born in Puerto Rico	25,237	0.3%	1,066	0.4%
Born in US island areas	4,725	0.1%	104	0.0%
Born abroad of American parent(s)	78,629	0.9%	2,521	1.0%
Foreign Born	758,021	7.7%	39,966	13.8%
Naturalized U.S. citizen	257,970	34.0%	11,035	27.6%
Europe	46,859	18.2%	1,201	10.9%
Asia	95,566	37.0%	4,626	41.9%
Africa	23,682	9.2%	1,936	17.5%
Oceania	819	0.3%	28	0.3%
Latin America	83,742	32.5%	2,794	25.3%
Northern America	7,302	2.8%	450	4.1%
Not a U.S. citizen	500,051	66.0%	28,931	72.4%
Europe	34,652	6.9%	1,711	5.9%
Asia	95,306	19.1%	5,588	19.3%
Africa	22,094	4.4%	1,893	6.5%
Oceania	2,036	0.4%	135	0.5%
Latin America	336,014	67.2%	19,058	65.9%
Northern America	9,910	2.0%	546	1.9%

Table 3.02(a) Characteristics of Immigrants in Durham County and North Carolina, 2011-2015[iv]

Relative to North Carolina, Durham County has a higher proportion of immigrants. The largest immigrant group in Durham County are Hispanics, an estimated 13.4% of the population.[v]

Immigrant Health

Health Services for Immigrants and the Uninsured in Durham County

In North Carolina, eligible immigrants (all legal permanent residents who have had status for five years or more; persons who have been battered or subjected to extreme cruelty by a U.S. citizen or LPR spouse; or whose children have been battered by their U.S. citizen or legal permanent resident spouse (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) can apply for Medicaid. Undocumented immigrants can get emergency care through Medicaid but must pay out-of-pocket expenses for non-emergency services. In Durham County, all uninsured persons (regardless of immigration status) can receive primary care at federally-funded health centers (FQHC), including Lincoln Community Health Center (LCHC).[vi]

LCHC has three satellite clinics distributed throughout the city of Durham; Lyon Park Clinic, Walltown Neighborhood Clinic, and Holton Wellness Center, which are operated by the Duke University Division of Community Health.[vii] The majority of the LCHC-affiliated clinics have Spanish-speaking capacity. Additionally, two free clinics are available to the uninsured in Durham County, Healing with CAARE and Samaritan Health Center.[viii,ix] The uninsured can also receive care at some private clinics that provide services on a sliding scale. Uninsured Durham County residents who need specialty medical care can also be referred by a LCHC provider to Project Access of Durham County, a program in which specialists donate their services to enrolled patients.[x]

All county residents (regardless of immigration status) can also obtain free 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).[xi] LATCH is a Duke Health care management program with Spanish-speaking care managers that connects the uninsured to primary care, provides care management to Project Access of Durham County and Durham Homeless Care Transitions patients, and provides assistance with disability, medication, durable medical equipment, transportation, and Medicaid applications among other services.

Refugee Health

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*." [xii,xiii]

Refugees frequently have complex health care needs "as a consequence of inequities in the social determinants of health: experiences of persecution, torture, and other forms of trauma, deprivation, unhealthy environmental conditions, and disrupted access to healthcare." [xiv]

Two refugee resettlement agencies are headquartered in Durham: Church World Service (CWS) and World Relief. [xv,xvi] Both agencies provide case management, assistance to navigate the health care system, cultural orientation classes, English as a Second Language (ESL), employment, and employer training.

Prevalence of Mental Health Distresses in Refugees

Half of all refugees have mental health concerns. The effect is higher healthcare costs, persistent and severe mental illness, and worse acculturation outcomes.[xvii] Refugees suffer from the Triple Trauma Paradigm: 1) Trauma from country of origin (oppression, discrimination, targeting, torture); 2) Trauma in flight (leaving home & family, extreme travel conditions, victims of crime); and 3) Trauma in new country (social isolation, forced family separation, loss of social role, loss of family identity, community and culture, acculturation stress, and anti-immigrant attitudes.[xviii]

Durham's arrivals through the U.S. Refugee Admissions Program[xix]

Country of Origin	Arrivals – Calendar Years 2015 and 2016
Afghanistan	110
Bhutan/Nepal	3
Burma	73
Central African Republic	11
Chad	1
China	1
Colombia	8
Democratic Republic of the Congo	189
El Salvador	14
Eritrea	25
Ethiopia	29
Honduras	2
Iran	1
Iraq	49
Nigeria	3
Pakistan	12
Republic of the Congo	6
Rwanda	14
Somalia	168
Sudan	9
Syria	120
Uganda	5
Total	**853**

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

The above table does not capture out-migration and in-migration to Durham. It also does not capture all other populations eligible for refugee benefits and services such as Cuban parolees, asylees and trafficking victims.

Primary Data

Health priorities among Hispanic residents of Durham County

In 2016, the Durham County Community Health Assessment Survey was conducted in Spanish with a random sample of households from census blocks that were more than 50% Hispanic in the 2010 census.[xx]

Survey respondents were asked: Keeping in mind yourself and the people in your neighborhood, name the most important health problems (that is, diseases or conditions). The top 10 are given here.

Top 10 Health Problems Identified among Hispanic/Latino Residents in Durham County, 2016[xx]

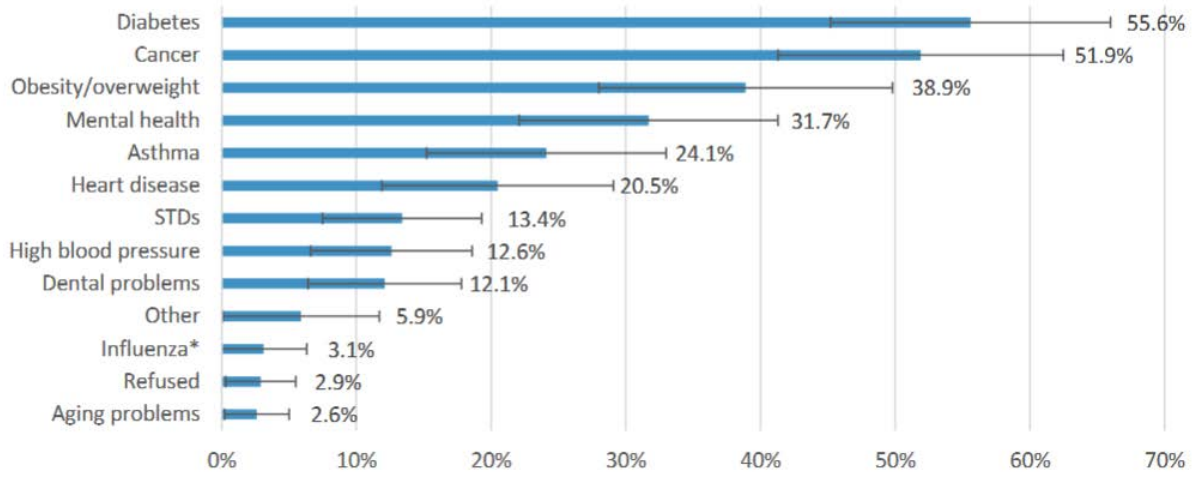


Figure 3.02(a) Top 10 Health Problems Identified among Hispanic/Latino Residents in Durham County, 2016[xx]

Interpretations: Disparities, Gaps, Emerging Issues

The legal, social and economic difficulties for immigrants, refugees and their families can differ widely and this can make accessing healthcare and health-related resources difficult. These are just some of the gaps and disparities that can make it problematic for immigrant groups and their families to access healthcare:

- Although eligible immigrants can apply for Medicaid, the undocumented are excluded from Medicaid and are barred from purchasing out-of-pocket private health insurance.
- Although any uninsured patient can seek care at Durham County safety-net clinics, these clinics require a sliding scale copay.
- Safety-net community clinics in Durham County do not provide specialty care. Project Access of Durham County connects uninsured county residents to donated specialty care and meets many of the needs of the uninsured, although this resource is limited.

- Insured or not, immigrant and refugee households still face language barriers, mistrust in government authorities, and other non-financial barriers that impede access to healthcare.
- U.S. born and lawful immigrant children of undocumented immigrants are eligible for all public programs, but still face barriers to healthcare due to concerns that undocumented family members might be identified and reported to immigration authorities as a result of their children's participation.

Citizen children of immigrant parents (lawful or unlawful) are less likely to be enrolled in healthcare than their peers with citizen parents.[xxi]

- Compared to legal immigrants and citizens, undocumented-headed households are more likely to live in poverty and be uninsured, making health care less accessible.
- Limited English proficiency & functional illiteracy (verbal & written) is likely to affect the quality of care immigrants receive, patient safety and the ability to correctly fill-out paper work.
- One of the emerging issues in Durham County is the increasing amount of Unaccompanied Alien Children (UAC). The UAC are children intercepted in the United States, under 18 years old, with no lawful immigration status in the U.S., no parent or legal guardian in the U.S., or, with no parent or legal guardian in the U.S. available to provide care or legal custody. Unaccompanied Alien Children (UAC) are referred to the Office of Refugee Resettlement (ORR) for placement by another Federal agency, usually the Department of Homeland Security. Durham County was the third top destination county in North Carolina with 127 UAC placed Oct 1, 2016 – Jun 30, 2017.

Recommended Strategies

Community-building Strategies

- Improve service coordination and partnerships among stakeholders to comprehensively address the health needs of Low English Proficiency populations. This may include developing policies, improving hiring practices and working to develop an institutional culture that produces enhanced culturally sensitive, multilingual and welcoming services.
- Increase funding to community-based organizations that work with immigrant and refugee communities in the area of healthcare.

Strategies to increase access to insurance and care

- Increase healthcare enrollment for eligible adults and children in immigrant and refugee households.
- Increase the availability of and use of affordable medical homes among undocumented immigrants.

References

[i] PewResearch Hispanic Trends Project. *Unauthorized Immigrant Population: National and State Trends, 2010.* http://www.pewhispanic.org/2011/02/01/iv-state-settlement-patterns/. Accessed August 28, 2017.
[ii] Gill H. *Durham's Immigrant Communities: Looking into the Future.* Chapel Hill, NC: The Latino Migration Project; 2012. http://isa.web.unc.edu/files/2013/02/Durhams-Immigrant-Communities.pdf. Accessed August 28, 2017.
[iii] Gill H. *Durham's Immigrant Communities: Looking into the Future.* Chapel Hill, NC: The Latino Migration Project; 2012. http://isa.web.unc.edu/files/2013/02/Durhams-Immigrant-Communities.pdf. Accessed August 28, 2017.
[iv] U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates. Place of Birth by Nativity and Citizenship Status. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_SPT_B05002&prodType=table. Accessed August 28, 2017.
[v] U.S. Census Bureau QuickFacts. https://www.census.gov/quickfacts/fact/table/durhamcountynorthcarolina/PST045216. August 28, 2017.
[vi] Lincoln Community Health Center. Patient Services. http://lincolnchc.org/?page_id=6351. Accessed August 28, 2017.
[vii] Community Clinics. https://cfm.duke.edu/division-community-health/access-care/community-clinics. Accessed August 28, 2017.
[viii] Healing with CAARE. http://www.caareinc.org/programs. Accessed August 28, 2017.
[ix] Samaritan Health Center, http://www.samaritanhealthcenter.org/patients/services-offered. Accessed August 28, 2017.
[x] Project Access of Durham County. For Patients. http://www.projectaccessdurham.org/index.php?pid=2. Accessed August 28, 2017.
[xi] LATCH Services. https://sites.duke.edu/latch/services. Accessed August 28, 2017.
[xii] UNHCR. (2015). The 1951 Refugee Convention. Found at: http://www.unhcr.org/pages/49da0e466.html. Accessed August 28, 2017.
[xiii] UNHCR. (2015). Asylum-Seekers. Found at: http://www.unhcr.org/pages/49c3646c137.html. Accessed August 28, 2017.
[xiv] A Narrative Synthesis of the Impact of Primary Health Care Delivery Models for Refugees in Resettlement Countries on Access, Quality and Coordination, C Joshi et al. Int J Equity Health 12, 88. 2013 Nov 07. https://www.ncbi.nlm.nih.gov/labs/articles/24199588. Accessed August 28, 2017.
[xv] Church World Service – Durham. http://cwsrdu.org. Accessed August 28, 2017.
[xvi] World Relief Durham, https://worldreliefdurham.org. Accessed August 28, 2017.
[xvii] Common mental health problems in immigrants and refugees: general approach in primary care https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3168672. Laurence J. Kirmayer, MD, Lavanya Narasiah, MD MSc, Marie Munoz, MD, Meb Rashid, MD, Andrew G. Ryder, PhD, Jaswant Guzder, MD, Ghayda Hassan, PhD, Cécile Rousseau, MD MSc, and Kevin Pottie, MD MClSc, for the Canadian Collaboration for Immigrant and Refugee Health (CCIRH), 2011. Accessed August 28, 2017.
[xviii] Social Work with immigrants and refugees: Legal issues, clinical skills and advocacy (pp. 135 - 172), http://www.springerpub.com/social-work-with-immigrants-and-refugees-second-edition.html. Editors: Fernando Chang-Muy JD, Elaine Congress DSW. New York: Springer Publishing Company. Accessed August 28, 2017.
[xix] Jennifer Morillo. NC Refugee Health Coordinator at NC Division of Public Health. Accessed April 12, 2017.
[xx] Durham County 2016 Community Health Assessment survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf.

Accessed August 28, 2017.

[xxi] Kaiser Commission on Medicaid and the Uninsured. *Key Facts on Health Coverage for Low-Income Immigrants Today and Under the Affordable Care Act.* The Kaiser Family Foundation website. http://kaiserfamilyfoundation.files.wordpress.com/2013/03/8279-02.pdf. Accessed August 28, 2017.

Section 3.03 *Racial and ethnic disparities*

Overview

The National Library of Medicine defines health disparities as "the variation in rates of disease occurrence and disabilities between socioeconomic and/or geographically defined population groups."[i] In this case, the groups are defined by race and ethnicity. However, not all disparities are a direct result of these factors. The major resources that allow people to have better health include education, income, occupation, and wealth (assets), with education and income levels being among the strongest predictors of health. When analyzing and discussing racial and ethnic disparities, one must consider access to these opportunities as a determinant of health outcomes. Groups that have historically been pushed to society's margins with inadequate access to key opportunities continue to be represented in the groups most heavily affected by these disparities.

Structural racism, an indirect social determinant of health, must also be considered for a complete analysis of disparities in health. 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 group inequity."[ii] The United States' history of chattel slavery and Jim Crow Laws laid the foundation for many of the conditions people of color experience today. Laws that regulated voting rights, defended low quality education, and justified discriminatory housing practices have reappeared today as a lack of opportunity and increased stress that can worsen medical conditions. For example, African Americans and Hispanics are more likely than Whites to be living below the poverty level. While the poverty rate for the population as a whole was 13.5% in 2015, for African Americans it was 24.1%, Hispanics (of any race) were at 21.4%, Asian with 11.4% and Non-Hispanic whites had the lowest rate of 9.1%.[iii] People living in poorer neighborhoods have higher stress levels, less access to resources, higher rates of unhealthy behaviors, and higher rates of early death. New research also suggests a link between the effects of structural racism on cardiovascular diseases such as heart attack.[iv]

The goal of achieving health equity requires the increase of fair and just opportunities for everyone. This means improving living conditions, increasing access to resources amongst other factors that strongly influence health outcomes. While health equity and health disparities are closely related to each other, health equity is a human rights principle. Therefore, a decrease of disparities in health and equitable access to key social determinants of health are valuable means by which to measure equity.[v]

Durham County Population by Race, 2012-2016

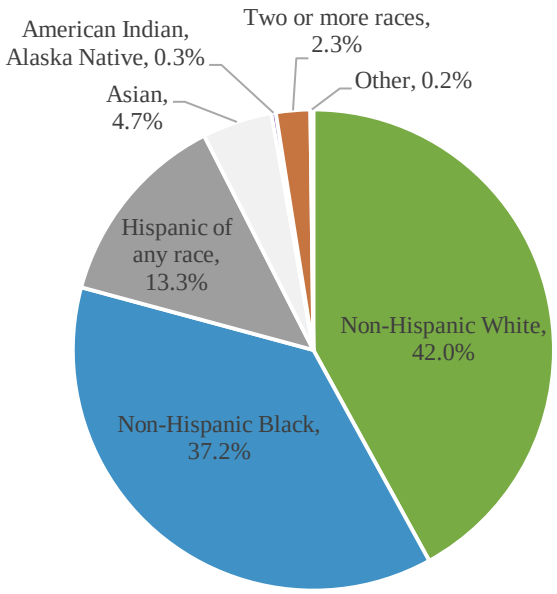


Figure 3.03(a): Durham County Population by Race, 2012-2016[vi]

Durham is a diverse county rich with ethnic and racial diversity. In fact, the *majority* of Durham is comprised of racial minorities. See *Figure 3.03a* for more information. Yet despite this diversity, ethnic and racial disparities in health exist.

Maternal-child health is often a good indicator of a population's health. Younger maternal age has been linked to many poor health outcomes for children such as low birth weight, preterm birth, and failure to complete secondary school.[vii] Racial discrimination creates an additional risk factor for marginalized groups. Poverty, trouble doing well in school, and access to alcohol and drugs heighten the risk for multiple problems for young women. Some of these problems include teenage pregnancy, substance use, and delinquent behavior. These outcomes have ripple effects as they may influence the growth and development of the unborn baby. Further downstream, these outcomes may ultimately influence life choices and opportunities.

Some of these trends in maternal-child health are observable in Durham County. The greatest disparity in birth weight is seen among Black or African American newborns in Durham. These serve as examples of disparities in health early in a life cycle that may have everlasting implications.

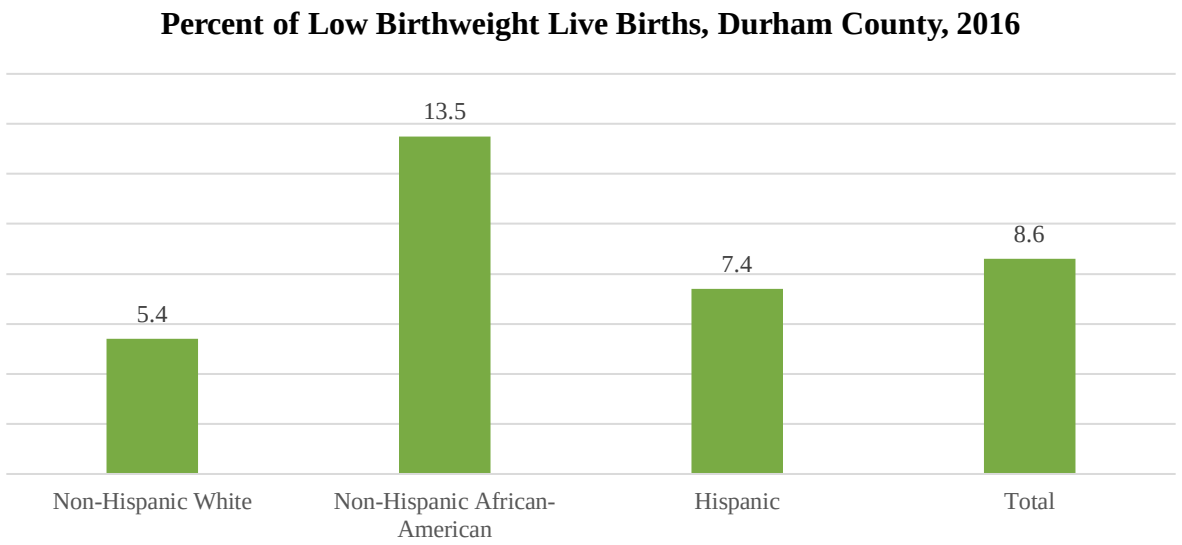


Figure 3.03(c): Percent of Low Birthweight Live Births, Durham County, 2016[viii]

The number of age-adjusted deaths per 100,000 population is higher among non-Hispanic African Americans compared to Whites, Hispanics and the overall population. (Figure 3.03d).

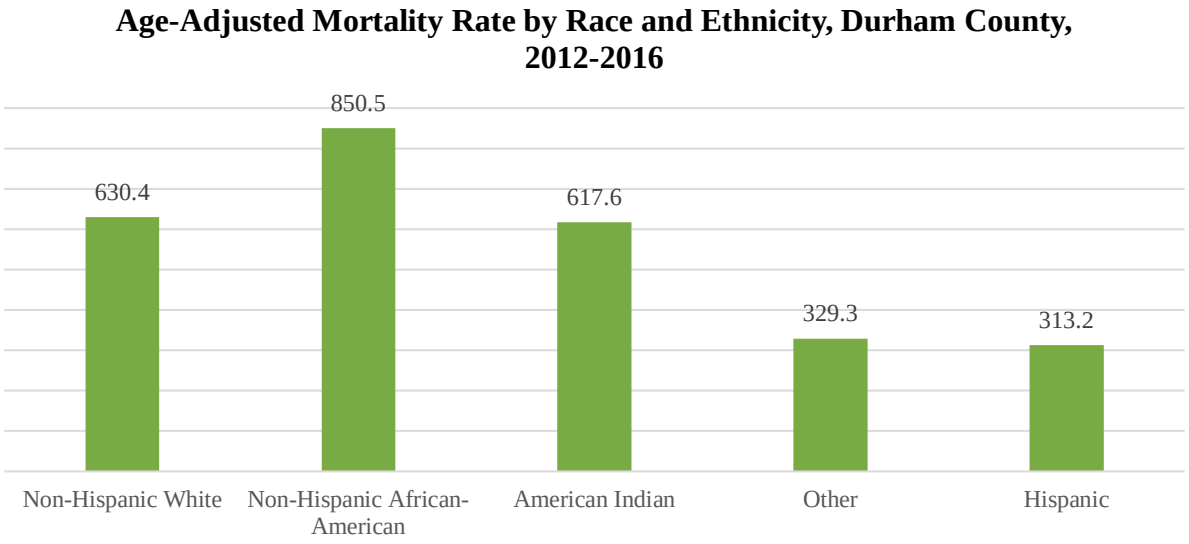


Figure 3.03(d): Age-Adjusted Mortality Rate by Race and Ethnicity, Durham County, 2012-2016[ix]

Cancer and heart disease are leading causes of death among many groups nationwide. A similar trend is seen in Durham: cancer is the leading cause of death and heart disease is the second leading cause of death among non-Hispanic Whites and non-Hispanic Blacks, while diabetes makes the top 5 list for Hispanics (Table 3.03a). Many of the top five killers of Whites in Durham are chronic diseases which evolve over time and are the result of the complex interplay between genetics, the environment, and lifestyle choices. However, for Blacks and Hispanics, the leading causes of death

are also comprised of *preventable* causes such as unintentional injury, motor vehicle accidents, and homicide (Table 3.03a).

Leading Causes of Death in Durham County among non-Hispanic White and African Americans, 2012-2016

Leading Cause of Death	Non-Hispanic White	Non- Hispanic African American
1	Diseases of the heart	Cancer
2	Cancer	Heart disease
3	Unintentional injuries	Cerebrovascular diseases
4	Cerebrovascular diseases	Nephritis
5	Chronic lower respiratory diseases	Unintentional Injuries

Table 3.03a: Leading causes of Death in Durham County among non-Hispanic White and African-Americans, 2012-2016[x]

Recommended Strategies

It is imperative that any initiative seeking to address health disparities is responsive to the historical and socioeconomic environment that has produced these outcomes. As a general principle, to be effective, public health interventions should apply a racial equity lens to targeted, critical points in the lifecycle. For Durham, targeting the two extremes of the life cycle through a racial equity lens may be helpful. Common public health initiatives to reduce smoking, drunk driving, sexually transmitted infections, obesity and environmental exposures will always be important and should also continue.

It is important to keep women and children healthy early on. Otherwise, children could be left playing "catch-up" for the rest of their lives. Additionally, working to lower the rate of unintended and/or teen pregnancies among minority women may lead to improved newborn outcomes. Centering Pregnancy is an evidence-based model for prenatal care in which pregnant women meet in groups throughout their pregnancy to receive prenatal healthcare. The Centering model has been shown to increase breastfeeding, decrease low birth weight and preterm babies, and promote well-being throughout pregnancy and beyond.[xi] This or similar models should be implemented to improve the lives of women and their children.

At the other end of the spectrum, resources aimed at causes of preventable death are particularly helpful. Education about safety and efforts aimed at reducing violence and crime, may help decrease preventable causes of death among people of color.

Improved health equity will involve the action of removing obstacles to health and increasing opportunities for everyone to be healthier, focusing especially on those who face the greatest barriers to optimal health. Including marginalized groups in identifying and addressing their health

equity goals, specific to their lived experiences and exposure to racial discrimination, will be important to this process. It is hard to capture data about the prevalence and impact of structural racism, as it is hard to quantify within traditional scientific measurements. However, moving forward, data collection about perceived racism (as this influences mental health) and overt cases of prejudice, will be necessary to reverse and eliminate racial/ ethnic health disparities. Encouraging all sectors of the Partnership for a Healthy Durham to attend sponsored anti-racism trainings by the Racial Equity Institute, lays a foundation for approaching solutions with a "racial equity lens." Interventions aimed at dismantling structural racism, which may seem unrelated to health at first glance, will improve the health and overall lives of People of Color in Durham County.

Current Initiatives & Activities

- ***Durham Connects Nurse Home Visits***
  www.durhamconnects.org/
- ***Durham County Department of Public Health***
  www.dconc.gov/publichealth
- ***Organizing Against Racism (OAR)***
  www.oaralliance.org/
- ***Together for Resilient Youth (TRY)***
  www.durhamtry.org/
- ***Racial Equity Institute (REI)***
  www.racialequityinstitute.org
- ***Village of Wisdom***
  www.villageofwisdom.org/

References

[i] HSRIC: Health Disparities https://www.nlm.nih.gov/hsrinfo/disparities.html. Retrieved August 23, 2017.
[ii] Glossary for Understanding the Dismantling Structural Racism/Promoting Racial Equity Analysis. (n.d.). https://assets.aspeninstitute.org/content/uploads/files/content/docs/rcc/RCC-Structural-Racism-Glossary.pdf. The Aspen Institute. Retrieved August 23, 2017.
[iii] Proctor, Bernadette D., Jessica L. Semega, and Melissa A. Kollar U.S. Census Bureau, Current Population Reports, P60-256(RV), Income and Poverty in the United States: 2015, U.S. Government Printing Office, Washington, DC, 2016. https://www.census.gov/content/dam/Census/library/publications/2016/demo/p60-256.pdf
[iv] Lukachko, A., Hatzenbeuhler, M. L., & Keyes, K. M. (2014). Structural racism and myocardial infarction in the United States. Social Science and Medicine, 103, 42-50. Retrieved August 23, 2017, from http://www.sciencedirect.com/science/article/pii/S0277953613004206.
[v] Braveman P, Arkin E, Orleans T, Proctor D, and Plough A. What Is Health Equity? And What Difference Does a Definition Make? Robert Wood Johnson Foundation. http://www.rwjf.org/en/library/research/2017/04/what-is-health-equity-.html. Retrieved August 25, 2017.
[vi] United States Census Bureau. American Community Survey 5-year Estimates 2012-2016. Retrieved from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF
[vii] Fall, C. H., Sachdev, H. S., Osmond, C., Restrepo-Mendez, M. C., Victora, C., Martorell, R., … Richter, L. M. (2015). Associations of young and old maternal age at childbirth with childhood and adult outcomes in the offspring; prospective study in five low and middle-income countries (COHORTS collaboration). The Lancet. Global Health, 3(7), e366–e377. http://doi.org/10.1016/S2214-109X(15)00038-8.
[viii] North Carolina State Center for Health Statistics. Selected Vital Statistics for 2016 and 2012-2016. http://www.schs.state.nc.us/data/vital/volume1/2016/durham.html. Accessed February 19, 2018.
[ix] North Carolina State Center for Health Statistics. 2018 County Health Data Book. 2012-2016 Race-Specific and Sex-Specific Age-Adjusted Death Rates by County. Retrieved from http://www.schs.state.nc.us/data/databook/
[x] North Carolina State Center for Health Statistics. 2012-2016 NC Resident Race/Ethnicity-Specific and Sex-Specific Age-Adjusted Death Rates. http://www.schs.state.nc.us/data/databook/. Accessed February 19, 2018.
[xi] Walker, D. S., & Worrell, R. (2008). Promoting Healthy Pregnancies Through Perinatal Groups: A Comparison of CenteringPregnancy® Group Prenatal Care and Childbirth Education Classes. The Journal of Perinatal Education, 17(1), 27–34. http://doi.org/10.1624/105812408X267934

Section 3.04 *Durham facts and history*

Durham Facts

Durham County 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. The county is 25 miles long, 16 miles wide and 28 miles from corner to corner. 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.[i]

Durham is a county of neighborhoods. In 2016, the City of Durham counted 244 neighborhood associations.[ii] Durham is known as the City of Medicine, U.S.A. with healthcare as a major industry. Durham includes more than 300 medical and health-related companies and medical practices with a combined payroll that exceeds $1.2 billion annually.[iii]

In addition to Duke University and North Carolina Central University (NCCU), Durham also has the North Carolina School of Science & Math, Durham Technical Community College, many private schools, charter schools and Durham Public Schools, which is the eighth largest school district in the state with 33,151 students and 4,600 employees.[iv,v]

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. RTP accommodates more than 170 major research companies employing 39,000 full-time and 10,000 contract workers. Treyburn is a 5,300-acre corporate park, country club and residential area in northeast Durham. Treyburn houses several companies and is home to more than 100 families.[vi]

History of Durham[vii]

Durham County has a rich and colorful history. Long before the Bull City was named for Dr. Bartlett Durham in the 1800's, Durham was home to two Native American tribes – the Eno and the Occaneechi. Durham is thought to be the site of an ancient Native American village named Adshusheer. Additionally, the Great Indian Trading Path is traced through Durham. 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 coming to Durham consisting of Scots, Irish and English colonists.

During the period between the Revolutionary and Civil Wars, large plantations were established. By 1860, Stagville Plantation lay at the center of one of the largest plantation holdings in the South. There were free African Americans in the area as well including several who fought in the Revolutionary War. In 1849, Dr. Bartlett Durham provided land for a railroad station. Due to a disagreement between plantation owners and farmers, North Carolina was the last state to secede from the Union. Durhamites fought in several North Carolina regiments. Seventeen days after Lee

surrendered his army at Appomattox, Union General Sherman and Confederate General Johnston negotiated the largest surrender and the end of the Civil War at Bennett Place in Durham. Shortly after the Civil War, Brightleaf tobacco was discovered by locals. 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. 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.

In 1887, Trinity College moved from Randolph County to Durham. Washington Duke and Julian Carr donated money and land to facilitate the move. Following a $40 million donation by Washington Duke's son, James Buchanan Duke, Trinity College was renamed Duke University in 1924. In 1910, Dr. James E. Shepard founded North Carolina Central University, the nation's first publicly supported liberal arts college for African Americans.

After the Civil War, the African American economy progressed through a combination of vocational training, jobs, land and business ownership and community leadership. 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. With its founding in 1907, M&F Bank became one of the nation's strongest African American owned and managed bank. So many other businesses joined these two in Durham's Parrish Street neighborhood that the area became famously known across the country as "Black Wall Street."

The Durham Committee on the Affairs of Black People organized in 1935 by C.C. Spaulding and Dr. James E. Shepard, has been cited nationally for its role in the sit-in movements of the 1950s and 1960s. The committee has also used its voting strength to pursue social and economic rights for African Americans and other ethnic groups.

In the late 1950s, Reverend Douglas Moore, minister of Durham's Asbury Temple Methodist Church along with other religious and community leaders, pioneered sit-ins throughout North Carolina to protest discrimination at lunch counters that only served whites. A sit-in at a Woolworth's counter in Greensboro, NC, captured the nation's attention. Within days, Dr. Martin Luther King, Jr. met Reverend Moore in Durham where Dr. King coined his famous rallying cry of "Fill up the jails," during a speech at White Rock Baptist Church.

In the 1950s and 1960s, at what is now the world's largest university-related research park and vast Triangle region namesake was carved from Durham pinelands as a special Durham County tax district. Research Triangle Park is encompassed on three sides by the City of Durham with a small portion now spilling into Wake County toward Cary and Morrisville. RTP scientists have developed inventions from Astroturf® to HIV drug, AZT and won Nobel Prizes in the process. Currently, more than 170 RTP located major research and development companies including Bayer, GlaxoSmithKline, IBM, Underwriters Laboratories and agencies such as the EPA employ more than 39,000.

In the early 1960s, Durham began building the Durham Freeway or Highway 147 to connect the relatively new RTP to downtown. The planned route was part of an urban renewal process to rebuild major city areas. Highway 147 cut through the middle of the African American Hayti community which extended along Fayetteville, Pettigrew and Pine streets.[viii]

During the early 20th century, the Hayti community was known for "Black Wall Street" as well as homes, churches and dozens of businesses such as a hotel and theater. Hayti was a thriving black business center and residential neighborhood. Activist and writer W.E.B. Dubois once commented on the success of Durham's black middle class in his often quoted 1912 article "The Upbuilding of Black Durham."[ix]

Highway 147 was completed 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.[x] Little remains today of the historic Hayti community, but it's legacy continues.

In recent years, many of the buildings in downtown Durham that were once tobacco factories and warehouses have been converted into businesses and residences. The American Tobacco District, West Village and Brightleaf Square are all examples of such conversions. These developments have also led to the revitalization and beautification of Downtown Durham and Durham Central Park.

References

i. Durham County Visitor's Bureau Website. Durham Overview and Facts. https://www.durham-nc.com/maps-info/durham-facts/#d. Accessed 6/13/2017.
ii. City of Durham website. Neighborhood Associations, updated 1/28/2016. https://durhamnc.gov/documentcenter/view/8950. Accessed 6/13/2017.
iii. Durham County Visitor's Bureau Website. Durham Overview and Facts. https://www.durham-nc.com/maps-info/durham-facts/#d. Accessed 6/13/2017.
iv. Durham Public Schools. Demographic/Enrollment Numbers. Modified March 6, 2017. https://www.dpsnc.net/site/handlers/filedownload.ashx?moduleinstanceid=309&dataid=2316&FileName=Enrollment%20Numbers%202016-17.pdf. Accessed 6/13/2017.
v. Durham Chamber of Commerce. Economic Profile. http://durhamchamber.org/economic-development/economic-profile. Accessed 6/13/2017.
vi. Durham County Visitor's Bureau Website. Durham Overview and Facts. https://www.durham-nc.com/maps-info/durham-facts/#d. Accessed 6/13/2017.
vii. Durham County Visitor's Bureau Website. Durham History. https://www.durham-nc.com/maps-info/durham-history/. Accessed 6/13/2017.
viii. Promises Made, the Legacy of Urban Renewal in Durham. Campus Echo Online. 2/2/2017. http://campusecho.com/video-promises-made-the-legacy-of-urban-renewal-in-durham/ Accessed 6/14/2017.
ix. Promises Made, the Legacy of Urban Renewal in Durham. Campus Echo Online. 2/2/2017. http://campusecho.com/video-promises-made-the-legacy-of-urban-renewal-in-durham/ Accessed 6/14/2017.
x. The downfall of Durham's historic Hayti: Propagated or preempted by urban renewal? Frederick E. Ehrsam. Duke University. May 3, 2010. https://sites.duke.edu/djepapers/files/2016/10/Ehrsam-Fred_DJE.pdf. Accessed 6/14/2017.

Section 3.05 *Land use*

Overview

Local government land use policies and regulations can profoundly impact the health and safety of a community. 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]

Primary Data

Currently, approximately 46 percent of the land in Durham County is dedicated to non-residential land uses, including agricultural uses and land set aside as recreation/open space. Residential uses account for 28 percent and vacant land accounts for 25 percent (See Table 3.05a). 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.

Existing Land Use, Durham County, July 2017[iv]

	Acres	Square Miles	Percent
Total Land Area	190,615	297.8	100.00%
Unincorporated Durham County	117,951	184.3	61.9%
City of Durham	71,486	111.7	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	9,634	15.1	5.1%
Commercial	4,354	6.8	2.3%
Office/Institutional	9,940	15.5	5.2%
Agriculture	13,614	21.3	7.1%
Recreation/Open Space	39,474	61.7	20.7%
Rights-of-Way	11,112	17.4	5.8%
Vacant Land	48,363	75.6	25.4%
High-Density Residential (greater than 20 units per acre)	274	0.4	0.1%
Medium-High Density Residential (12-20 units per acre)	1,208	1.9	0.6%
Medium-Density Residential (8-12 units per acre)	2,189	3.4	1.1%
Low-Medium Density Residential (4-8 units per acre)	6,024	9.4	3.2%
Low-Density Residential (2-4 units per acre)	10,464	16.3	5.5%
Very Low-Density Residential (0.5 to 2 units per acre)	12,935	20.2	6.8%
Rural Density Residential (less than 0.5 units per acre)	21,030	32.9	11.0%

Sources: Parcel data provided by the Durham County Tax Assessors Office. Parcel land uses were classified by the Durham City-County Planning Department using land use categories defined in the *Durham Comprehensive Plan*, http://durhamnc.gov/346/Comprehensive-Plan Table 3.05(a). Household Income, Existing Land Use, Durham County, July 2017

Interpretations: Disparities, Gaps, Emerging Issues

Following decades of suburbanization and decline of the City of Durham's urban core, the past decade has seen a renaissance for downtown Durham and surrounding neighborhoods. Fortunately, much of Durham's rich architectural heritage is being preserved through creative reuse of many historical structures, eschewing demolition and replacement. Particularly important has been conversion of former industrial properties, such as the American Tobacco campus and former Liggett-Meyer corporate headquarters and warehouses, to mixed-use and high-density residential within Durham's historical urban core. The occupancy rate for office space in the downtown area is over 95 percent and new office construction is rushing to meet demand. Additionally, over 1,200 new high-density housing units have been added to Durham's housing stock, with several hundred additional units currently under construction. The influx of new residents has created a vibrant market that has resulted in a host of new businesses in downtown Durham and creation of hundreds of service sector jobs.

Durham's urban renaissance creates challenges as well as opportunities. Employment growth, as well as substantial suburban housing growth over that past two decades, has contributed to increasingly congested highways and thoroughfares. According to projection prepared by the Durham City-County Planning Department, Durham's population is expected to grow by almost 50 percent by 2045 and this presents a daunting transportation planning challenge. Durham's growth has also been accompanied by a decline in the percent of housing that is affordable to low-income households. Particularly challenged are households earning 60 percent or less than median household income (See Table 3.05(b)). The relative dearth in affordable housing options for service sector workers in the downtown area makes it difficult for these workers to find housing relatively close to their places of employment. Thus, these workers find it necessary to seek housing options farther afield and commute longer and longer distances to their places of employment. This in turn adds to Durham's traffic congestion during peak travel hours.

Housing Affordability, Durham County, 2000-2015				
	2000	**2005**	**2010**	**2015**
Percent of housing affordable to three-person households earning 60 percent of median household income	23.0%	n/a	20.4%	14.0%
Affordable renter-occupied housing as a percent of total renter-occupied housing	38.9%	n/a	26.6%	17.4%
Affordable owner-occupied housing as a percent of total owner-occupied housing	15.2%	n/a	15.2%	11.0%
Sources: American Community Survey (ACS) for 2015, tables S1903, B25068, and B25087; U.S. Department of Housing and Urban Development (HUD); Durham City-County Planning Department. **Note:** Affordability calculations are based on ACS data on "monthly gross rent" and "monthly housing costs for owner-occupied housing with a mortgage." "Affordable" means "affordable to a three-person household earning 60% of median household income in Durham County."				

Table 3.05(b): Housing Affordability, Insert Geographic Location, 2000-2015

Land Use Trends and Predictions

Industrial, commercial, and office/institutional lands comprise approximately 11 percent of Durham County. These uses are Durham County's economic engine, generating approximately 243,000 jobs in 2015. Land use demand is largely a function of population and employment. The Durham City-County Planning Department has recently projected land use demand based on anticipated population and employment growth through the year 2045. The results are shown in Table 3.05(c).

Projections for Population, Key Employment Sectors, and Land Use Demand, Durham County, 2015-2045

	2015	2020	2025	2030	2035	2040	2045
Population	288,817	314,188	337,410	360,632	383,853	406,969	430,296
Employment							
Industrial	37,602	39,464	39,464	41,326	43,189	45,051	46,913
Commercial (Retail and Services)	40,508	42,619	44,729	46,840	48,951	51,061	53,172
Office/Institutional	158,025	166,259	174,493	182,727	190,961	199,194	207,428
Other Employment	6,932	7,390	9,711	10,169	10,626	11,086	11,544
Land Use Demand in Acres							
Industrial	7,247	7,324	7,687	8,049	8,412	8,775	9,137
Commercial (Retail and Services)	4,354	4,699	5,047	5,394	5,741	6,089	6,436
Office/Institutional	9,940	10,432	10,432	10,432	10,432	10,432	10,432

Sources:
Durham City-County Planning Department; U.S. Office of Economic Analysis; Durham County Tax Assessor.

Recommended Strategies, Current Initiatives, and Activities

Planning for a regional rail system connected Triangle communities and the Research Triangle Park continues apace. The Federal Transit Administration recently granted permission to GoTriangle, the regional planning agency responsible for the *Durham-Orange Light Rail Project*, to begin the engineering phase for the rail system.[ii]

The Durham City-County Planning Department's Comprehensive Planning and Urban Design team are currently working with other City and County departments, land developers, local housing non-profit organizations, and other community stakeholders to identify new strategies for provision of affordable housing, particularly in proximity to downtown Durham and future light rail and commuter rail stations. This initiative was undertaken in response to a resolution adopted by both Durham County and City of Durham elected bodies in 2014.[iii]

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 our community should grow and develop.

The *Durham Comprehensive Plan,*[iv] in support of regional rail planning, designates a series of "compact neighborhoods" in the vicinity of planned transit stations. Recently, seven of these compact neighborhoods were rechristened as "design districts." These districts will serve as transit, bicycle, and pedestrian-friendly support areas for transit hubs (See Figure 3.05a). Higher-density housing located within these areas will provide opportunities for urban living conveniently close to, and efficiently served by, mass transit. Design district locations and future rail stations are shown in on Durham's adopted Future Land Use Map on the following page. (See Figure 3.05(a))

The *Durham Comprehensive Plan* was adopted by the Board of County Commissioners and the City Council in 2005 and is updated annually via the Planning Department's *Evaluation and Assessment Report.*[v] Additional adopted reports and plans on a variety of land use topics, including local historic district plans, open space plans, industrial land supply, and 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.

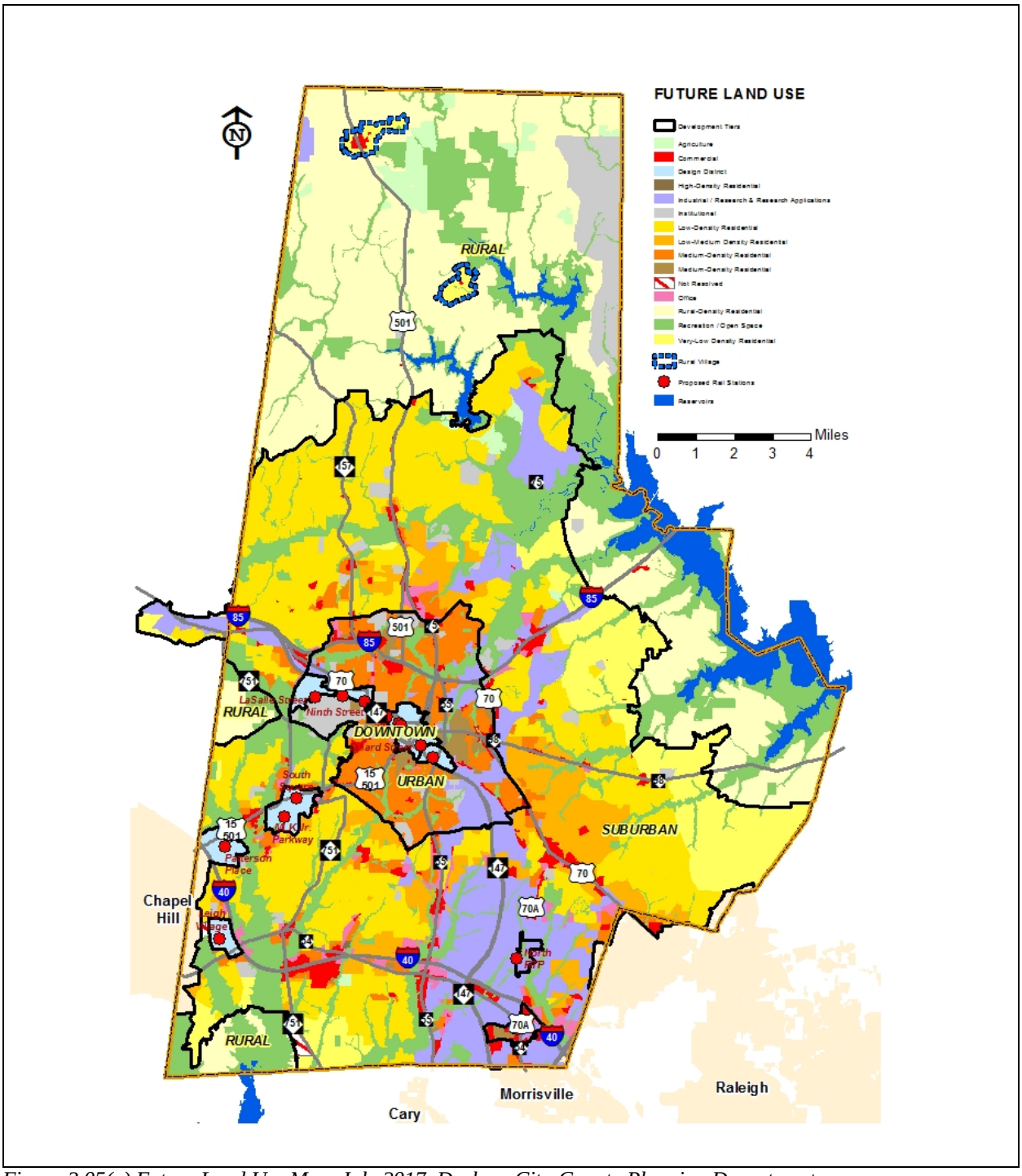


Figure 3.05(a) Future Land Use Map, July 2017, Durham City-County Planning Department.

References

[i] Dannenberg, AL, Jackson, RJ, Frumking H, Schieber, RA, Pratt, M, Kochtitzky, C, et al. The impacts of community design and land use choices on public health: A scientific research agenda, 2003, American Journal of Public Health.

[ii] Ohnesorge, Lauren K., Feds approve next step for Durham-Orange Light Rail Transit, 2017, Triangle Business Journal, https://www.bizjournals.com/triangle/news/2017/07/31/feds-approve-next-step-for-durham-orange-light.html. Accessed in July 2017.

[iii] Durham Board of Commissioners and Durham City Council, Resolution by the Durham City Council and Durham Board of Commissioners supporting Affordable Housing around the Transit Stations and Neighborhood Transit Centers, 2014. Adopted by the Durham City Council and Durham County Board of Commissioners.

[iv] Durham City-County Planning Department, Durham Comprehensive Plan, 2005, the City of Durham, NC and Durham County, NC, http://durhamnc.gov/346/Comprehensive-Plan. Accessed in July 2017.

[v] Durham City-County Planning Department, Annual Evaluation and Assessment Report (EAR) of the Durham Comprehensive Plan (A1600001), 2016. Adopted by the Durham City Council and Durham County Board of Commissioners.

Section 3.06 *Built environment and transportation*

Overview

The built environment can have a profound effect on human health. According to the National Institute of Environmental Health Sciences, the built environment encompasses the buildings, spaces, and products created or modified by people. For example: buildings (housing, schools, workplaces); land use (industrial or residential); public resources (parks, museums); zoning regulations; and transportation systems.[i]

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 Centers for Disease Control and Prevention, healthy places are those designed and built to improve the quality of life for all people who live, work, worship, learn, and play within their borders - where every person is free to make choices amid a variety of healthy, available, accessible, and affordable options.[ii]

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 provide 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. 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.

Primary Data

The 2016 Durham City and County Resident Survey found that residents are supportive of improving the conditions for walking and bicycling in Durham.[iii] 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 maintenance is identified as number three on the list of city maintenance services that should receive the most emphasis over the next two years.

- Sidewalks and greenways/trails are number three and four on the list of capital projects that respondents would be willing to pay higher taxes to support, behind streets and schools.

Five-year estimates for 2012 to 2016 from the American Community Survey (U.S. Census) show the percent of commuters who walk and bicycle to work. In the City of Durham, 2.8 percent walk to work and 0.9 percent bike to work. In Durham County as a whole, 2.5 percent walk to work and 0.7 percent bike to work.[iv]

Secondary Data

The City of Durham has more than 575 miles of sidewalks.[v] 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 N.C. Department of Transportation, but that agency does not build or maintain sidewalks.

In 2000, there were no bike lanes in Durham. Since then, about 40 miles of bike lanes have been created.[vi] 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 29 miles of paved trails and greenways, with about 189 miles of planned trails and greenways.[vii] The American Tobacco Trail was completed in 2014, providing a 23 mile regional trail in Durham, Chatham, and Wake counties.

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.[viii,ix] One objective is to increase transportation choices 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.

Several compact neighborhood areas have been designated in the vicinity of proposed light rail and commuter rail stations 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 be walkable and bikeable with an improved street-level experience.[x]

The Triangle is one of the fastest growing regions in the county. Growth brings prosperity and new employment opportunities, but also adds congestion to our roadways. By providing a congestion free alternative, light rail will help manage future growth while creating vibrant, walkable communities and connecting residents to jobs, education, and healthcare.

The Durham-Orange Light Rail Transit Project is a 17.7-mile project that will connect three major universities, three major medical facilities, and three of the top ten employers in the state (Duke University, UNC- Chapel Hill and UNC Health Care). The light rail will provide 18 stations, nine park-and-ride locations and connections to other transit services. The project is planned to be opened in 2028.[xi]

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.[xii] 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. What options are available for these streets? A number of other bicycle/pedestrian projects are currently funded and in various stages of development. In addition, the Bike+Hike Plan identifies a number of opportunities for bicycle and pedestrian improvements that are and will continue to be pursued, including the following:

- 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, the Durham-Orange Light Rail project, and other transit projects
- Adding bicycle and pedestrian facilities to N.C. 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***

A coalition of individuals and organizations working for bicycle-friendly change in Durham. http://www.bikedurham.org

- ***The Durham Bicycle Cooperative***

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)***

An appointed commission that advises City Council and County Commissioners on bicycle and pedestrian issues. There are four committees: Development Review, Plan Implementation, Bike Plan Implementation, and Communications/Outreach. http://www.bikewalkdurham.org

- ***Durham Bicycle Boulevards***

Advocacy group focused on developing a dedicated bicycle network of low-stress neighborhood streets. https://www.facebook.com/bicycleboulevards/

- ***Durham Bike+Walk Implementation Plan***

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***

The Partnership for a Healthy Durham has developed the Healthy Mile Trail program to encourage residents to walk in their neighborhoods. Healthy Mile Trails are one-mile marked loops that use existing neighborhood sidewalks. To date, five Healthy Mile Trails have been established, with more on the way. http://healthydurham.org/committees/obesity-and-chronic-illness-committee/healthy-mile-trails

- ***Durham Open Space and Trails Commission (DOST)***

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. www.durhamost.org

- ***Vision Zero Durham***

Vision Zero is a multi-national road traffic safety project, originating in Sweden but now being utilized by cities and states across the United States, including 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***

The "Watch for Me NC" program 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] National Institute of Environmental Health Sciences. http://www.niehs.nih.gov/health/topics/index.cfm. Accessed December 6, 2017.
[ii] Centers for Disease Control and Prevention. Designing and building healthy places. http://www.cdc.gov/healthyplaces/. Accessed December 6, 2017.
[iii] ETC Institute. http://www.dconc.gov/home/showdocument?id=20268. Durham City and County Resident Survey. Accessed December 6, 2017.
[iv] United States Census Bureau. http://factfinder2.census.gov/. 2012-2016 American Community Survey 5-Year Estimates. Accessed December 8, 2017.
[v] City of Durham. http://durhamnc.gov/DocumentCenter/View/16104. 2017 Sustainability Report. Accessed December 6, 2017.
[vi] City of Durham. http://durhamnc.gov/DocumentCenter/View/16104. 2017 Sustainability Report. Accessed December 6, 2017.
[vii] City of Durham. Durham Trails and Greenway Master Plan. 2011.
[viii] City of Durham. http://durhamnc.gov/183/Strategic-Plan. City of Durham FY2016-2018 Strategic Plan. Accessed December 8, 2017.
[ix] Durham County. http://www.dconc.gov/government/departments-a-e/county-manager/planning-and-strategizing-for-the-future. Durham County Strategic Plan. Accessed December 8, 2017.
[x] Durham City-County Planning Department. https://durhamnc.gov/364/Compact-Neighborhood-Planning. Compact Neighborhood Planning in Durham. Accessed December 8, 2017.
[xi] Durham and Orange Counties' Light Rail Project. http://ourtransitfuture.com/projects/lrt/. Accessed December 8, 2017.
[xii] City of Durham. http://durhamnc.gov/3092/BikeWalk-Plan-2017. Durham Bike+Walk Implementation Plan. Accessed December 8, 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.

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.

DPR became nationally accredited by the Commission for Accreditation of Park and Recreation Agencies (CAPRA) in 2008 and is being considered for its second re-accreditation 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 166 nationally accredited parks and recreation departments; ten of those departments are in North Carolina.[i] DPR has won several state and national awards for its programming and partnerships. 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, three fitness facilities and two indoor walking tracks. In addition, three outdoor pools are operated in the summer months. DPR registered programming reaches over 10,000 individuals (both adults and youth) annually with a variety of offerings including athletics, fitness, outdoor recreation, dance, martial arts and programs for mature adults.[ii] 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 with approximately 178 miles of planned trails and greenways.[iii] Additionally, several trails in Durham provide key linkage of the North Carolina Mountains to Sea Trail.

Snapshot: Durham Parks and Recreation

- 68 parks with 1,800 acres
- 30 miles of trails
- 11 program sites
  - 7 gymnasiums
  - 5 dance studios
  - 2 indoor pools
  - 3 outdoor pools
  - 2 fitness facilities
  - 2 indoor walking tracks

DPR offers several classes on healthy cooking and eating for adults and children as well as after-school and summer care programs for youth ages five to 17 years old. After-school and summer camp 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 2016, 78% of the children attending summer day camp received some level of discount.[iv]

Other programming offered by DPR includes care and recreational programming for persons with disabilities, programming for mature adults, parent-child programming, teen outreach programming, environmental education, outdoor adventure programming and cultural programming.

Primary Data

In 2012, DPR worked with the National Research Center, Inc. to conduct The Parks and Recreation Community Survey (PARCS) in Durham. The PARCS provides "…an in-depth sounding of residents' attitudes about community park, recreation and leisure services."[v] Residents were asked to rate the importance of 10 broad overall priorities that they believe are most important for DPR. The chart below illustrates that opportunities for health and wellness is a high priority for Durham residents. The data consistently indicates that a fitness/training facility and programming are rated as "Essential" or "Very Important."

Community Ranked Parks and Recreation Priorities, Durham County, 2012

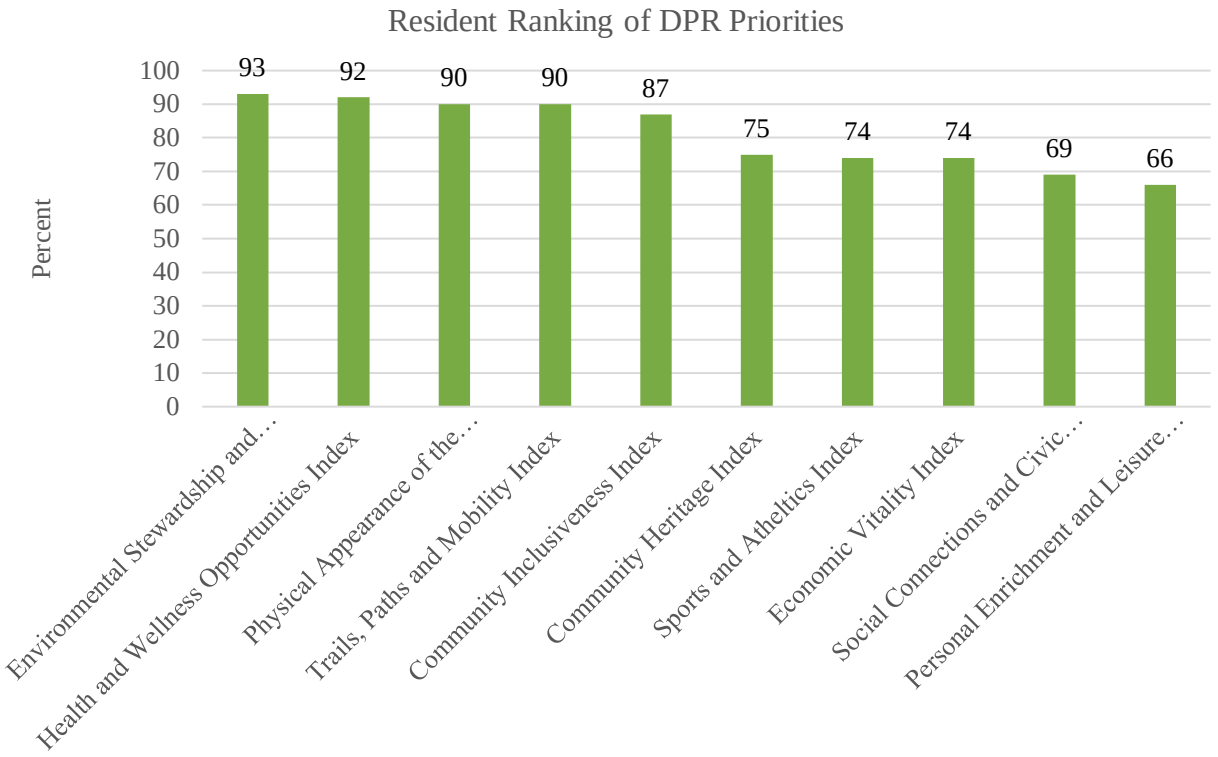


Figure 3.07(a): Community Ranked Parks and Recreation Priorities, Durham County, 2012[vi]

Seventy-six percent of respondent households cited a "Fitness/training facility with a walking track" as Essential or Very Important in a new recreation center; thirty-three percent ranked this amenity as most important.[vii]

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.[viii] The plan addresses parks, centers and trails, programming and events, maintenance, and organizational structure.

Residents indicate in the 2016 Community Health Assessment Survey that they exercise or engage in physical activity most often at home and in their neighborhood.[ix] Given that parks and recreation centers play a significant role in the physical activity of the community, access to recreational programming and facilities plays a critical role in the health and well-being of Durham residents. The data collected in the Master Planning process by DPR confirms this finding. While delving deeper into this sentiment, the Master Plan Steering Committee learned that residents want more connecting trails between neighborhoods and parks and between parks.[x]

Preferred Location for Physical Exercise, Durham County, 2016

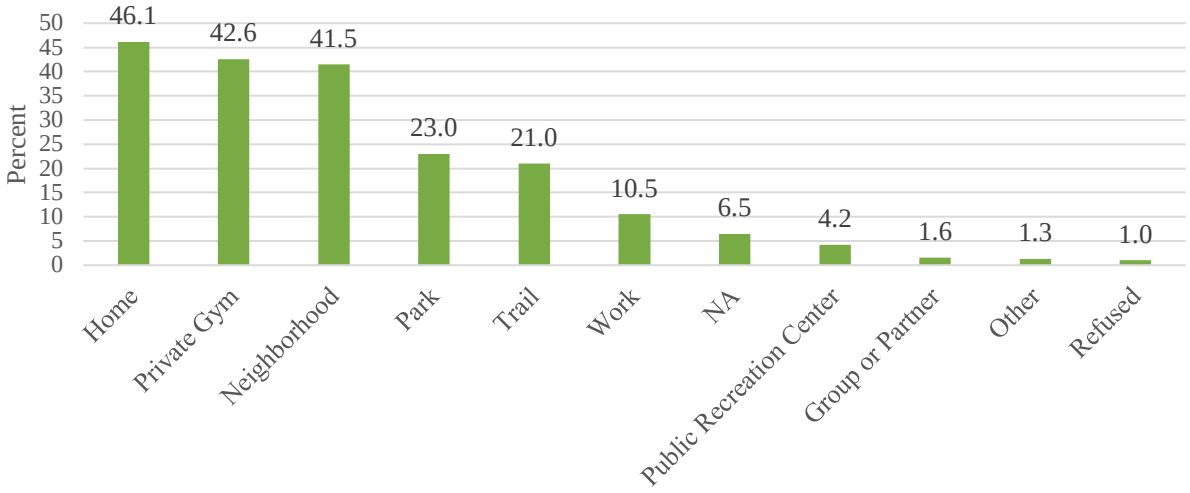


Figure 3.07(b): Preferred Location for Physical Exercise, Durham County, 2016[xi]

Interpretations: *Disparities, gaps, emerging issues*

Gaps in access to DPR facilities and programs are largely due to program cost and lack of transportation. 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 a discount card for community members to use at any of the recreation facilities to help alleviate some of this cost. For a minimal fee, a *Play More Card* can be purchased to allow for discounted lap swim, fitness classes, and other DPR programming. In addition to the sliding fee scale available for DPR child care programs, DPR also has a fee waiver program for families receiving support through the Department of Social Services. Families who qualify do not have to pay registration

fees to participate in DPR programming. All DPR programming offers limited spaces for fee waiver registrants.

DPR is piloting a transportation program for children attending select after school programs. The city is hopeful that if successful, this transportation service can be scaled to serve all of DPR after school sites.

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.

Lastly, there are some instances of demand being higher than the capacity of the agency. This is especially true for programming for youth with disabilities and care programs for children and youth during the summer months.

Recommended Strategies

Continued vigilance is needed in the promotion of DPR programming and facilities to the community. It is important to continue sliding scale fees for DPR programs in efforts to reach residents from all socioeconomic backgrounds. In order to become more accessible for all residents countywide, DPR programs and facilities need to expand into the more rural areas of the county. Finally, an alternate form of transportation to DPR activities for those utilizing Durham public transportation is recommended.

Current Initiatives & Activities

DPR Strategic Plan

The newly updated Mission and Strategic Plan indicate that DPR's programmatic focus has shifted to promotion and support for greater wellness activities. The mission: *Playmore: 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.[xii] New initiatives are in process to serve this revised mission:

- The *My Durham* program offers continuous and responsive programming to youth ages 13-18, Monday – Friday from 3:00 p.m. – 7:00 p.m. Weekly programs change regularly but always include fitness options.
- *All Play* is a new initiative to upgrade select parks and trails with fitness equipment for whole family.
- There is a significant push to move the planned trails for Durham to completion. Current estimates will increase built trail mileage by approximately seven miles by 2023 with the completion of four new multi-use (bicycle and pedestrian) trails connecting neighborhoods to parks, schools, and commercial districts.

- The Partnership for a Healthy Durham's Healthy Mile Trail program is expanding. DPR will identify and mark paved walking circuits in parks beginning in spring of 2018.

- ***City of Durham Parks and Recreation Department***

Durham Parks and Recreation 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***

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***

The 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-environmental-services/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***

Gravel Roads and dirt footpaths throughout forest land owned and maintained by Duke University 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/

- ***Sarah P Duke Gardens***

Duke Gardens creates and nurtures an environment in the heart of Duke University for learning, inspiration and enjoyment through excellence in horticulture. http://www.hr.duke.edu/dukegardens/

References

[i] National Recreation and Parks Association. CAPRA Accredited Agencies. http://nrpa.org/accreditedagencies/ Accessed November 27,2016.
[ii] City of Durham. Durham Parks and Recreation Registration Database. Accessed May 2, 2014.
[iii] City of Durham, *Durham Trails and Greenways Master Plan, 2011*. http://durhamnc.gov/DocumentCenter/View/2673 . Accessed November 27, 2017
[iv] City of Durham, Parks and Recreation, *Summer Camp Summary Report*, Durham, NC 2016
[v] National Research Center, *City of Durham, NC Parks and Recreation Report of Results, PARCS Parks and Recreation Community Survey™*, December 2012.
[vi] National Research Center, *City of Durham, NC Parks and Recreation Report of Results, PARCS Parks and Recreation Community Survey™*, December 2012.
[vii] National Research Center, *City of Durham, NC Parks and Recreation Report of Results, PARCS Parks and Recreation Community Survey™*, December 2012.
[viii] City of Durham. *Department of Parks and Recreation Master Plan -2013-2023. http://durhamnc.gov/DocumentCenter/Home/View/7496*. Accessed May 5, 2014.
[ix] 2016 Durham County Community Health Opinion Survey. Partnership for a Healthy Durham website. http://healthydurham.org/docs/2013%20Survey%20results%20-%20Full%20county%20sample.pdf. Accessed November 27, 2017
[x] City of Durham. *Department of Parks and Recreation Master Plan -2013-2023. http://durhamnc.gov/DocumentCenter/Home/View/7496.* Accessed May 5, 2014
[xi] 2016 Durham County Community Health Opinion Survey. Partnership for a Healthy Durham website. http://healthydurham.org/docs/2013%20Survey%20results%20-%20Full%20county%20sample.pdf. Accessed November 27, 2017
[xii] City of Durham, *Department of Parks and Recreation Strategic Plan FY17-18. http://durhamnc.gov/DocumentCenter/Home/View/13725*. Accessed November 27, 2017.

Section 3.08 *Faith and spirituality*

Overview

Institutions of faith are integral elements of every community. They often are the places many seek for safety, comfort and refuge. In faith communities people often find a network of encouragement, hope and many other resources.

Health and healing have been important components of religions. Most stress the importance of paying attention to health, caring for the sick and making positive behavioral choices. A growing number of faith communities have incorporated health aspects into their programs and outreach. Often, health is addressed through organized groups such as a health committee or ministry. Such groups within the faith institutions focus on the health and healing needs of the members and its extended community.

Faith-based organizations have the potential to create healthy environments, increase access to healthy foods and drinks, increase access to physical activity and most of all provide spiritual and social support. Often located within the heart of communities, they are already sites where people congregate. This alone provides an opportunity to communicate messages of health and well-being as well as to connect with families across generational lines.

Primary Data

Faith-based organizations are often a trusted source for community members. Although there are numerous sources to receive health information, church was amongst the choices respondents gave in the 2016 Community Health Assessment Survey. When asked if a friend or family member needed counseling for a mental health or drug/alcohol abuse problem, "religious official" was selected by 27.0% of the full county sample and 6.2% of the Hispanic and Latino neighborhood sample.[i]

Top Choices for Mental Health and Drug/Alcohol Counseling, Full County Durham County Sample, 2016

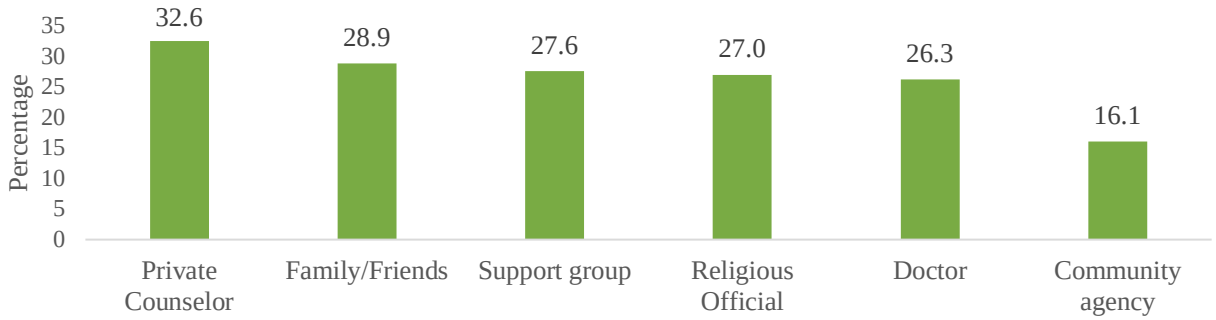


Figure 3.08(a): Top Choices for Mental Health and Drug/Alcohol Counseling, Full County Durham County Sample, 2016[i]

In the 2016 Community Health Assessment Survey, when asked "if you couldn't remain in your home, where would you go in a community-wide emergency", faith community/church remained in the top five responses in both the full county sample and the Hispanic/Latino neighborhood sample.[ii]

Secondary Data

Durham has more than 350 faith communities, including at least 15 denominations. Directories exist to attract visitors to organizations but are often not a database.

Interpretations: Disparities, Gaps, Emerging Issues

Durham's close proximity to local universities has proven to be both beneficial and an area of concern. While research has been helpful to gain knowledge, it has also been a source of contention with jeopardizing the trust of community members once the research has been completed. Unfortunately, faith-based organizations are often one of the first sources sought to reach community members for research studies and to implement behavior change programs.

Many faith-based organizations in Durham approach health through a dedicated faith leader or health ministry. However, there are a few organizations that may have a staffed parish nurse who performs duties such as visiting the homebound or sick, providing support and monitoring individual concerns or needs. This position may work alongside a health ministry which provides activities encouraging healthy lifestyles through awareness, education and prevention. The presence of a trained parish nurse increased during the late 1990s through programs offered by Duke University with various training programs and resources, but a decline occurred within a span of ten years due to funding. [iii]

Trends

Over the last decade, Durham has seen a growing number of multisite and mega church organizations. Nationwide, multisite and mega churches are on the rise, becoming a new normal. A multisite church is one organization that meets in two or more different locations. A mega church has an average of 2000 participants in regular weekend attendance. It is believed that roughly one third of mega churches are non-denominational.[iv]

Multisite churches are becoming more and more common. According to Christianity Today, multisite churches now number more than 5,000 nationwide and growing.[v] Previously, expansion meant that an organization's building was at capacity and no longer able to hold those attending weekly services. As a result, many have moved to multiple services within the same building but offered numerous times throughout the day. Today, even smaller faith-based organizations have expanded to multiple sites sometimes within the same town while others spread into neighboring communities. This creates a challenge with regard to the social bond of attendees and places a strain on resources such as services and activities offered by leadership and health ministries.

Also trending is the rise in the use of video streaming, sermon broadcasts and the delivery of service through satellite affiliates. Single leadership positions stream or televise the sermon and at other times, such sites require multiple leadership positions. Although the reach may be greater, there can be a disconnect in relationships with leadership and other members.

Although very little research exists that identifies reasons for shifts, comparison data in Figure 3.08(b) does indicate a rise in non-denominational affiliation over a seven year period.[vi] The support for this data is visible when looking at the landscape of faith-based organizations that exist in Durham County, especially with regard to mega and multisite locations that may not have existed in the last decade.

Nondenominational Affiliation, North Carolina

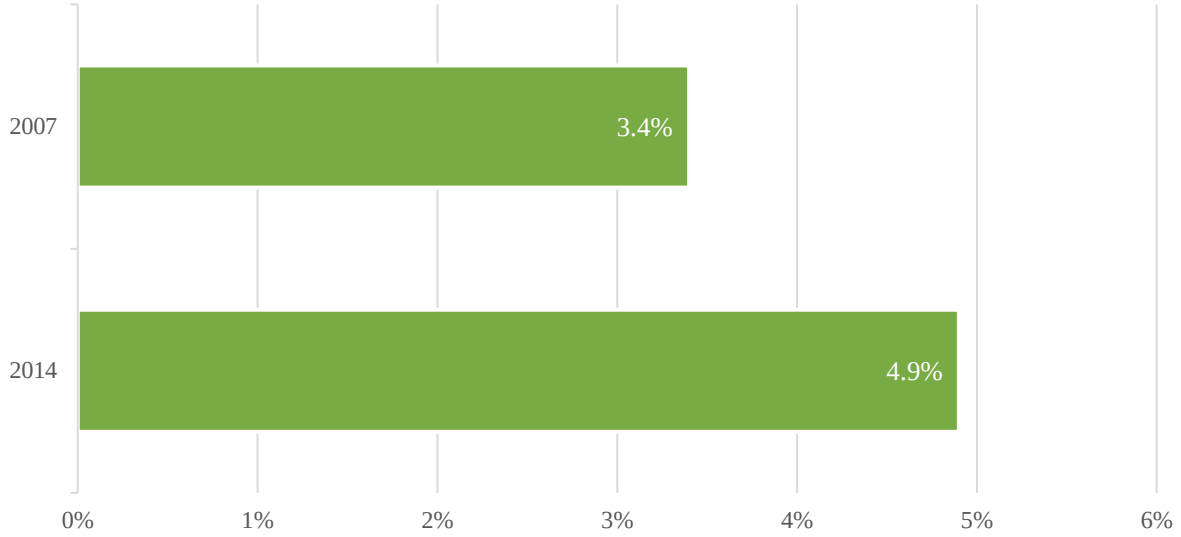


Figure 3.08(b): Nondenominational Affiliation, North Carolina[vi]

Recommended Strategies

Many community approaches and evidence-based strategies can be modified for use with faith-based organizations. However, the best strategies involve collaborative efforts between faith-based, community and service organizations such the Durham County Department of Public Health, Cooperative Extension and local medical facilities.

Building partnerships with religious organizations and facilitating the development of health ministries within them is an excellent example of a mission-driven strategy that contributes to the building of healthy communities.

Faith-based partnerships have the potential to spread health information, actively manage chronic diseases, and encourage appropriate diagnostic screenings, support, and management. Thus, they

are great examples of expanding preventive and awareness strategies to chronic diseases and injury prevention.

Current Initiatives & Activities

- ***Durham County Health Ministry Network***

Develops, supports and connects health ministries in faith-based organizations located in Durham. Representatives from faith-based organizations meet quarterly to network, share resources and participate in skills-building trainings to include grant writing, developing exercise opportunities, developing policies and healthy eating activities. http://www.durhamhealthministry.org

- ***Partners in Health & Wholeness***

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. By improving the health and well-being of people of faith to impact the larger community and ultimately reduce the health care burden on the state. http://healthandwholeness.org

- ***Community Health Coalition***

Brings together and focuses existing community resources to provide culturally sensitive and specific health education, promotion and disease prevention activities to and in Durham's African-American community. The Coalition works with approximately 175 faith-based organizations and mails tips of the month to 300 contacts. http://www.chealthc.org

- ***Durham Congregations in Action (DCIA)***

An interfaith, inter-racial 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 Health and Durham faith leaders to improve health in the community. Discussions and trainings are offered quarterly on interests identified by faith leaders and key issues facing the community.
https://communityrelations.duhs.duke.edu/programs-initiatives

- ***Faithful Families***

A program series of workshops providing guidance for faith based organizations to implement nutrition and physical activity interventions. The program relies on a lay volunteer paired with a health prevention specialist (from the Health Department or Cooperative Extension) to conduct educational sessions, promoting healthy eating and physical activity in communities of faith. http://www.faithfulfamiliesesmm.org

- ***Interdenominational Ministerial Alliance of Durham and Vicinity (IMA)***

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)***

A multi-racial, multi-faith, strictly non-partisan, countywide citizens organization dedicated to: building relationships across race, social and religious lines; identifying common concerns; developing the skills of leaders inside member institutions and acting together for the common good. CAN leaders translate deeply felt concerns into real innovative solutions that benefit the whole community. https://www.durhamcan.org

References

[i] Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed August 29, 2017.
[ii] Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed August 29, 2017.
[iii] Appalachian State University. *North Carolina Nursing History.* https://nursinghistory.appstate.edu/parishfaith-based-nursing Accessed August 29, 2017.
[iv] Hartford Institute for Religion Research. Exploring the Megachurch Phenomena: Their Characteristics and Cultural Context. http://hirr.hartsem.edu/bookshelf/thumma_article2.html. Accessed August 20, 2017.
[v] Christianity Today. Multisite Churches Are Here, and Here and Here To Stay. http://www.christianitytoday.com/edstetzer/2014/february/multisite-churches-are-here-to-stay.html Accessed August 26, 2017.
[vi] Pew Research Center. Religion and Public Life. http://www.pewforum.org/religious-landscape-study/state/north-carolina/. Accessed August 21, 2017.

Appendices

Determinants of Health

This chapter includes:

- ❖ Poverty, Economic Security and Toxic Stress
- ❖ Homelessness and Housing
- ❖ Education
- ❖ Access to Healthcare, Insurance and Information
- ❖ Employment
- ❖ Crime and Safety

Section 4.01 *Poverty, economic security and toxic stress*

Overview

Poverty

The United Nations defines poverty as a violation of human dignity; a lack of resources essential for daily life, such as stable and safe housing, reliable sources of food, clothing, and access to basic healthcare services.[i] Individuals living in poverty become powerless to their condition, which significantly affects their well-being. In the social context, poverty is a relative measure of income inequality. Education, occupation, income, and assets are a set of factors used to measure socioeconomic status (SES).[ii] A low SES is commonly tied to poverty, which results in marked health disparities and poorer health outcomes compared to populations with higher levels of SES. Discussions in health policy primarily focus on access to health care (health insurance) and individual health behaviors (health promotion), however, material factors such as substandard housing, food insecurity, and unemployment all affect health as well.

The median annual household income in Durham County, North Carolina is $52,503 and $53,889 nationally.[iii,iv] Figure 4.01(a) illustrates the proportion of residents in each income bracket for 2011-2015 in Durham County and the United States. During this time period, household incomes in Durham County mirrored national averages.

Household Income, Durham County and the United States, 2011-2015 Estimate

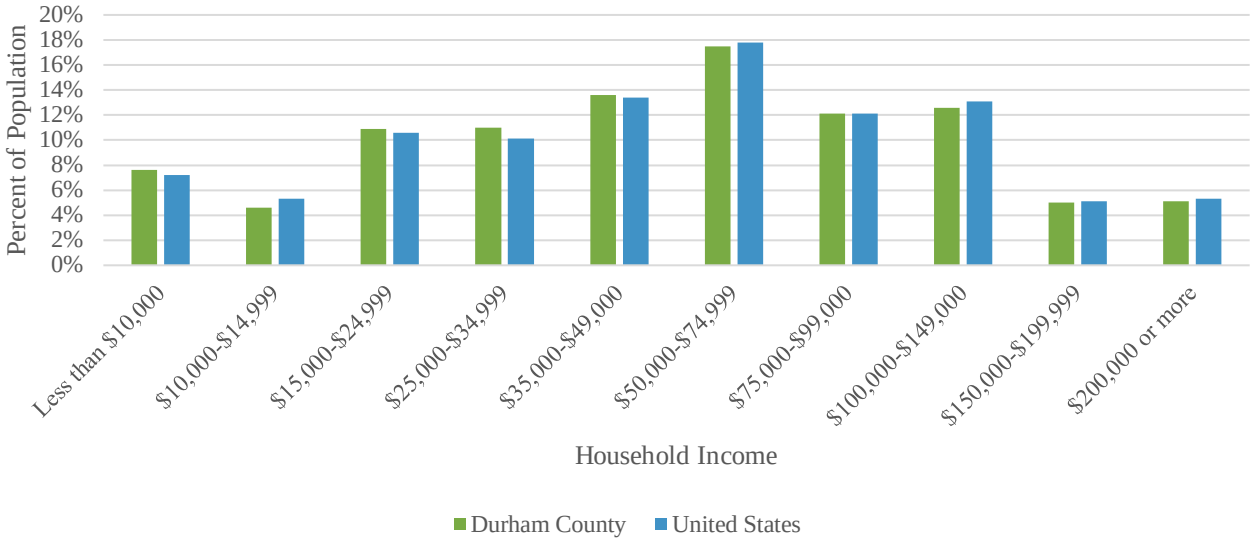


Figure 4.01(a). Household Income, Durham County and the United States, 2011-2015 Estimate[iii,iv]

Economic Insecurity

As described, poverty has a strong impact on health and is an important concern for Durham residents. Research now shows that even the risk of an adverse change in material conditions - economic and housing insecurity, as well as un- or underinsured health insurance coverage - affect health outcomes. Reasons for the association between economic insecurity and health include the health effects of stress resulting from economic insecurity, effects on food consumption of stress and spending limitations, and restricted use of health services.[iv,v] Multiple household moves, for example, are associated with poor child health and developmental risks.[vi] Adverse health events can heighten economic insecurity because of the drain on financial resources resulting from out-of-pocket medical costs, other health-related expenses, and the impact of illness on employment. Even those who are insured may be underinsured, meaning that, due to cost of premiums, deductibles, and co-pays, they are still at high risk for substantial out-of-pocket health care costs. In 2014, 31 million Americans were underinsured in the United States.[vii]

Below, the four dimensions of economic insecurity in Durham County are highlighted: unemployment or underemployment, housing insecurity, lack of or inadequate health insurance, and cost of living.

Unemployment, labor underutilization, and wage trends

Table 4.01(a). Unemployment Rate, Durham-Chapel Hill Metro Area and North Carolina, August 2017 [viii,ix]

	Unemployment rate (%)	Net change from 07/16
Durham-Chapel Hill Metro Area	4.0	-0.8%
North Carolina (seasonally adjusted)	4.1	-1.0%

After a significant jump in the last decade, the unemployment rate in Durham has dropped to 4%, which is nearly the same as the rate observed statewide.[viii,ix] Current projections predict an ongoing increase in employment in North Carolina outpacing population growth. Another key consideration is labor underutilization – the sum of people who are unemployed, employed only part-time for economic reasons, and marginally attached to the labor force.[x]

Unemployment and labor underutilization rates have dropped and are projected to continue to decline. The proportion of Durham residents in either designation represents tens of thousands and significantly impacts the county as a whole.

Housing

Housing insecurity, economic insecurity associated with housing costs, and homelessness are all significant issues in Durham. In 2016, 39.4% of residents from the Durham City and County

Resident Survey reported that they were dissatisfied or very dissatisfied with the availability of affordable housing in Durham.[xii] A breakdown of residents paying mortgages or rent in excess of 30% of income by income level is displayed in Table 4.01(b).

Table 4.01(b). Proportion with monthly housing costs of 30% or more in past 12 months, Durham County, 2016[xi]

Income Level	Owner Occupied	Renter Occupied
Less than $20000	5.9%	18.9%
$20000 to $34999	4.6%	15.5%
$35000 to $49999	4.1%	9.0%
$50000 to $74999	2.7%	3.7%
$75000 or more	1.6%	0.2%

An estimated 53.7% of homes in Durham County are owner-occupied and the remaining 46.3% are renter-occupied.[xi] As expected, the majority of residents with low incomes rent, while very few residents with high household incomes rent. Figure 4.01(b) below depicts the proportion of households who rent and own the home they live in by income in Durham County during 2011-2015.

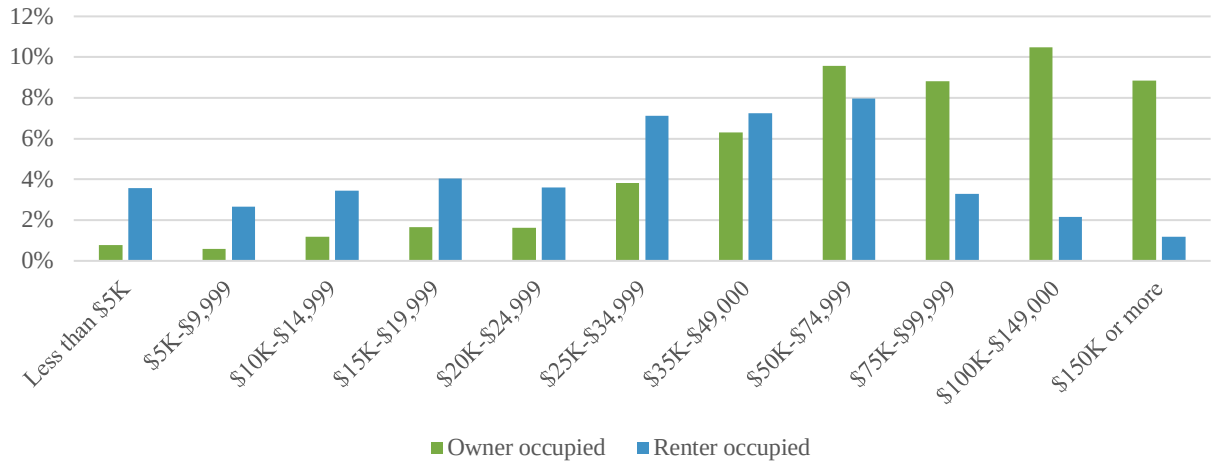


Figure 4.01(b). Income and Residence Type in Durham County, 2015[xi]

Health insurance

During 2011-2015, 16.7% of non-elderly individuals in Durham County were uninsured, including 4,716 children, or 7.4% of those aged 18 and under.[xi] North Carolina's 2011-2015 statistics show a decrease of 1.3 percentage points in the proportion of the non-elderly population that was uninsured compared to estimates from 2008-2012.[xi] The decrease was experienced across almost

all racial and ethnic groups with the exception of white and Native Hawaiians.[xi] This decrease in the proportion of uninsured residents may have been impacted by the Patient Protection and Affordable Care Act, meaning that repeal of the act would threaten gains in the state's insurance rates. An important unknown for the quality of public insurance in North Carolina is potential changes to Medicaid at both the federal and state levels. Most notably, the federal government is currently reviewing a proposal to change the state's Medicaid program from fee-for-service to managed care.

Toxic Stress

According to the National Scientific Council on the Developing Child, toxic stress can occur when a child experiences "strong, frequent, and/or prolonged adversity without adequate adult support." The over activity of stress-induced responses at an early age can disrupt the development of a child's brain and negatively impact their health outcomes for the future. The impacts of these conditions are exacerbated when the resources available to caretakers and/or the community are underprepared to support the many needs of the children who are living in this perpetual state of toxicity.[xiii]

The term used to describe overstressed conditions are referred to as Adverse Childhood Experiences (ACEs). ACEs are qualified under three categories: abuse (physical, sexual, and emotional), neglect (physical and emotional), and household dysfunction (witnessing a caretaker managing severe mental illness, caregiver under incarceration, witness to domestic abuse, witness to substance abuse, and divorce or separation).[xiv] Harvard scholars have found that over time, chronic stress can disrupt development of the brain and increase the risk of stress-related disease well into their adult years. Adulthood chronic diseases such as diabetes, cancer, and heart disease have been linked to exposure to ACEs in childhood.

The positive correlation between ACEs and low-wealth is echoed throughout research. Also heavily documented is the correlation between gaps in wealth and race. According to the U.S. Census Bureau, deep poverty is defined as living in a household with income at less than 50% of the poverty threshold. In Durham County, 8.7% of residents were living in deep poverty and 11.4% of children in Durham County were living in deep poverty.[xv] Financial insecurity contributes to ACEs, thus indicating that these children may be experiencing at least one or more ACEs that could negatively impact them for a lifetime. The prevalence of low-income is higher in single-income households which are also more likely to be led by African American and Hispanic/Latino women. In Durham County, children of single-led households are almost eight times more likely to experience extreme poverty than children of married couples as illustrated in Table 4.01(c).

Table 4.01(c). Families whose Income in the Past 12 Months were Below the Poverty Level, Durham County, 2011-2015 [xv]

All Families	12.7%
With related children of the household under 18 years	20.6%
Married Couple Families	5.1%
With related children of the household under 18 years	8.2%
Families with female household lead, no husband present	30.4%
With related children under 18 years	38.5%

Household interventions are one way to thwart the proliferation of these conditions, but the environment both within the household and community predetermine the likelihood of a child's exposure to ACEs. The causal relationship between barriers such as racial discrimination, lower wages received by women, and social disenfranchisement of formerly incarcerated men can account for some of the inequities in wealth but all of these indicators directly affect a caretaker's capacity to meet the needs of their dependents. Under the burden of these stressors, it is less likely that caretakers will be able to stretch themselves enough to care for themselves, disrupt these systems, and effectively meet the needs of children experiencing toxic stress. Access to community resources available from trauma-informed service providers has the potential to dramatically reduce ACEs as a determinant of health in adulthood.

References

i. United Nations Human Rights- Office of the High Commissioner. Human Rights Dimension of Poverty. http://www.ohchr.org/EN/Issues/Poverty/DimensionOfPoverty/Pages/Index.aspx. Accessed November 20, 2017.

ii. University of Wisconsin-Madison Institute for Research on Poverty. Poverty Fact Sheet: Poor and in Poor Health. https://www.irp.wisc.edu/publications/factsheets/pdfs/PoorInPoorHealth.pdf

iii. U.S. Census Bureau. American Fact Finder. Durham County 2011-2015 American Community Survey 5-Year Estimates. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

iv. U.S. Census Bureau. American Fact Finder. U.S. 2011-2015 American Community Survey 5-Year Estimates.https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

v. Rohde, Nicholas; Tang, Kam Ki; Osberg, Lars; Rao, D.S. Prasada (2017).Is it vulnerability or economic insecurity that matters for health? Journal of Economic Behavior & Organization.134 (C): 307-319

vi. Berkwowitz, Seth A. et al (2015, February). Material Need Insecurities, Control of Diabetes Mellitus, and Use of Health Care Resources Results of the Measuring Economic Insecurity in Diabetes. JAMA Intern Med. 2015;175(2):257-265. doi:10.1001/jamainternmed.2014.6888

vii. The Commonwealth Fund. 31 Million People were Underinsured in 2014; Many Skipped Needed Health Care and Depleted Savings to Pay Medical Bills. http://www.commonwealthfund.org/publications/press-releases/2015/may/underinsurance-brief-release. Published May 20, 2015. Accessed November 11, 2017.

viii. Bureau of Labor and Statistics. Southeast Labor Force Statistics - Durham-Chapel Hill Metro. https://data.bls.gov/timeseries/LAUMT372050000000003?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true

ix. Bureau of Labor and Statistics. Southeast Labor Force Statistics - North Carolina.https://www.bls.gov/regions/southeast/data/xg-tables/ro4xg02.htm

x. U.S. Bureau of Labor Statistics. Durham Area Economic Summary. https://www.bls.gov/regions/southeast/summary/blssummary_durham.pdf. Updated August 30, 2017. Accessed September 11, 2017.

xi. U.S. Census Bureau. American Fact Finder. Durham County 2016 American Community Survey 5-Year Estimates. Tables S2503, B25118, and S2701. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

xii. Durham County.*2016 Durham City and County Resident Survey.* Durham, NC: ETC Institute; 2016. http://www.dconc.gov/home/showdocument?id=20268. Accessed November 20, 2017.

xiii. Harvard University Center for the Developing Child. Toxic Stress. Retrieved from https://developingchild.harvard.edu/science/key-concepts/toxic-stress/.

xiv. Substance Abuse and Mental Health Services Administration. Adverse Childhood Experiences. Retrieved from: https://www.samhsa.gov/capt/practicing-effective-prevention/prevention-behavioral-health/adverse-childhood-experiences

xv. U.S. Census Bureau. American Fact Finder. Durham County 2011-2015 American Community Survey 5-Year Estimates. Tables S1703 and S1702. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml. Accessed November 20, 2017.

Section 4.02 *Homelessness and housing*

Overview

Affordable and safe housing is critical to Durham residents' health. Housing is inextricably linked to nourishment, self-care, well-being, and recuperation from illness. As homeless Durham resident with a chronic illness said: "I don't need a big place, just one with a medicine cabinet for my pills so I can keep track of them and be healthy."[i] Housing is a healthcare intervention having a direct impact on quality of life, health, and life expectancy. Unhoused persons are three to four times more likely to die than their housed counterparts. The disproportionate risk of death is particularly striking for men and women under 50.[ii,iii]

Homelessness

Homeless persons are enumerated though a process known as the Point-in-Time (PIT) Count that comprises physically counting all persons experiencing homelessness in a designated 24-hour period annually. Since it is difficult to reach all people experiencing homelessness, PIT data are considered low and rough estimates of the actual homeless population.[iv] Much of the government funding for homeless services comes from U.S. Department of Housing and Urban Development (HUD) through regional homeless services governing bodies known as Continuums of Care (CoC). In North Carolina, the North Carolina Coalition to End Homelessness (NCCEH) compiles and maintains CoC. The data from similar organizations in all states are then combined to determine the total homeless population in the United States.

In Durham there are a number of agencies that work to address homelessness. The Durham Department of Community Development houses the Durham Opening Doors program which is Durham's CoC. The CoC submits grants to HUD on behalf of Durham thereby generating funding for homeless services. In 2017, there were 1.27 million dollars of HUD funding available to Durham through the CoC process. The Homeless Services Advisory Committee (HSAC) serves as the board of the CoC, advises the Durham City Council and the Board of County Commissioners, and leads efforts to address homelessness in Durham. The HSAC membership is diverse and includes elected officials, non-profit agencies, and formerly homeless individuals.

The HUD definition of homelessness includes residing in places not intended for human habitation (e.g., tent, vehicle) but excludes "couch homeless" or "couch surfing." HUD funded housing requires use of the HUD definition and prioritizes available housing for people who are chronically homeless. In Durham, the prioritization process includes use of a standardized assessment tool, the vulnerability index service prioritization decision assistance tool (VI-SPDAT), to create an unbiased, fair, and transparent process. Federally funded non-housing services for people experiencing homelessness who do not meet the HUD definition are available through Durham Public Schools and the Lincoln Community Health Center Healthcare for the Homeless Clinic.

Housing Quality and Affordability

Poor housing quality has a direct impact on a health.[v] Housing improvements (e.g., pest control, plumbing and appliance repairs) can have an immediate impact on improving health.[vi] The Durham City Council has set out clear definitions of standards for housing quality, fines for violations, and authorizes the city inspectors to monitor housing quality issues. Durham's Neighborhood Improvement Services Department enforces the housing code and has inspectors available to provide support to neighbors and tenants as needed. An innovative partnership between Duke Law students and children's medical providers provides legal representation for parents of children whose health is negatively impacted by substandard rental housing.

Affordable housing, as defined by HUD, requires no more than 30% of a family's monthly income. If a family spends more than 30% of income on housing they are less able to pay for other expenses such as food and health care. The increased cost burden of unaffordable housing adds to psychosocial stressors that can negatively impact a family.[vii] Affordability (or lack of it) often necessitates relocation as a family searches for less expensive rental options. Frequent moves are associated with a substantial decrease in high school graduation rates.[viii]

Primary Data

In the 2016 representative county sample of Durham residents surveyed as part of the Community Health Assessment, two of the top five items of concern related to housing as shown in Figure 4.02(a).

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

Six percent of the sampled residents reported a history of eviction. When asked about services needed in Durham to improve quality of life for people over 60 respondents selected housing as a priority area (39% of the full sample and 52% of the Hispanic sample).

Secondary Data

In the five year period from 2011 – 2015, homelessness decreased by 11.2% nationwide and 17.2% in North Carolina but increased by 25% in Durham.[ix,x] In 2016, the nationwide and NC downward trends continued and Durham demonstrated a substantial 130% drop (from 813 in 2015 to 354 in

2016).[x] This precipitous decline resulted from the Durham CoC no longer including Durham Rescue Mission residents in the total homeless count. The 354 number held steady in 2017, however a greater percentage of homeless people were unsheltered.[x] It will take several years of data collection following the 2016 change to identify new trends in total homeless persons.

U.S. Census Bureau demonstrates housing units in Durham have increased over time. The median gross rent was $895 on the 2011-2015 survey and the median mortgage $1,404. Almost a quarter of the Durham population had lived in a different household in the previous year.[xi] Renters make up 40% of households in Durham and almost half of them are defined as cost-burdened (i.e., paying more than 30% of their monthly income for housing).[xii] The percentage of renters paying more than is defined as affordable in rent is unchanged from 2006-2010 but the rental vacancy rate has decreased from 9% at that time to 6% in the 2011-2015 report. Fair market rent information from HUD uses local rental information to identify the dollar amount to be paid for housing vouchers on the open market.[xiii] In Durham, fair market rate has increased for all size apartments at approximately 5% but at a rate of 11% for efficiency apartments.[xiv]

Durham has two emergency shelters that participate in the CoC; Urban Ministries of Durham (UMD) and Families Moving Forward (FMF). UMD has 149 beds and 25 overflow mats that supplement the bed space when needed, especially during severe weather. In 2015-2016, UMD provided 899 people with emergency shelter while 189 people connected to permanent housing through their time at the shelter.[xv] FMF, founded in 2016 from the merger of Genesis Home and Durham Interfaith Hospitality Network, can serve up to 21 families at a time for up to three months each. In sum, they serve 80 – 100 families, including 180 children, per year. In 2015-2016, FMF provided shelter to 67 families and 79% moved into permanent housing on exit.[xvi]

Durham Housing Authority (DHA) is a source of affordable housing for low income renters. DHA owns properties and manages a voucher program (commonly known as Section 8 or housing choice vouchers) which pays fair market rate for units on the open market. There are 1,409 public housing units owned by DHA. There are currently 2,791 active Housing Choice Vouchers. Renters using their own funds or receiving support through housing choice vouchers may face eviction if they fall behind on rent. Durham has an average of 887 eviction filings per month which is the highest rate among North Carolina's ten largest counties.[xvii]

Interpretations: Disparities, Gaps, Emerging Issues

Durham has an affordable housing crisis. The increased interest in downtown living has created an escalation of rent in previously affordable areas. The federal minimum wage ($7.25 since 2009) and state law (HB2) enacted in 2016 limits the ability of a city to set a pay standard for private employers. Given the link between wages and access to housing these externally controlled factors are critically important. Additionally, DHA has adopted the HUD model program “Rental Assistance Demonstration” (RAD). This will have an impact on affordable housing in Durham allowing for the revitalization of some properties but also the possible decrease in number of units available to people with no or very low income.

Recommended Strategies

Durham's affordable housing goals 2016 - 2021 include:

- Preserving and expanding affordable rental housing with a focus on households below 50% of Area Mean Income (AMI)
- Protecting low income residents in neighborhoods experiencing price appreciation
- Engaging the entire community to make affordable housing a priority

Accountability for housing initiatives is important. This includes providing clear and easily accessible information on how to apply for affordable housing programs, the housing prioritization process, and outcomes (e.g., number of applications, wait time, placement data, and prioritization category). Funding for inspectors to expedite HUD voucher requirements should be a priority.

Employer sponsored housing assistance through land donations, down payment support, rental support, or actual building of housing units is being used by some hospital systems and insurance companies nationwide and is an opportunity that Durham may wish to explore.

Homeless or housing insecure persons with ongoing medical needs are particularly vulnerable. Thus, identifying homeless and housing unstable individuals in the healthcare system should be a priority. There are specific diagnosis codes that healthcare providers can enter in both inpatient and outpatient settings medical records, to indicate homelessness (Z59.0) and housing problems (Z59.9). This could be used to trigger for appropriate referrals for assistance.

Current Initiatives & Activities

Initiatives targeting housing affordability and quality:

- ***Durham Living Wage Project***

Voluntary certified living wage businesses are a pathway to increasing access to affordable and quality housing. http://www.durhamlivingwage.org/

- ***City of Durham***

Strategic Plan includes a focus on affordable housing code compliant rental units. The city Neighborhood Improvement Team has a Proactive Rental Inspection Program. http://durhamnc.gov/

- ***CASA***

CASA and Alliance Behavioral Healthcare partnered to provide affordable housing for persons with disabilities and veterans. https://www.casanc.org/

- ***Durham CAN (Congregations, Associations, and Neighborhoods)***

Organized a task force focused on affordable housing and supported city initiatives to provide

DHA funding and to dedicate city property for affordable housing purposes. http://www.durhamcan.org/

- ***Eviction Diversion Program***

Developed by Duke Civil Justice Clinic in partnership with Legal aid to support people staying in their homes and preventing evictions. https://law.duke.edu/

Initiatives targeting homelessness:

- ***Alliance Behavioral Healthcare***

Has funding for the DASH program which provides housing vouchers for the chronically homeless who are disabled and connected to Alliance for services. Funds housing support specialist for the Health and Housing pilot program. https://www.alliancebhc.org/

- ***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/

- ***Durham Housing Authority (DHA)***

Prioritizes 3% of housing units for homeless persons. http://www.durhamhousingauthority.org/

- ***The Unlocking Doors initiative***

A partnership between DHA, homeless service providers, and landlords which focuses on making vouchers available and improvement in landlord / tenant relationships. https://www.unlockingdoorsdurham.org/theinitiative/

- ***NC Housing Finance Agency Targeting Program***

Provides homeless, low income and disabled persons with the opportunity to rent affordable units developed with low income housing tax credits. https://www.nchfa.com/community-living-programs

References

i. Gamble, Julia C. (Nurse practitioner, Duke Outpatient Clinic, Durham, NC.). Conversation with patient. 2016 Dec 28.
ii. O'Connell, JJ. Premature mortality in homeless populations: a review of the literature Nashville (TN): National Health Care for the Homeless Council; 2005.
iii. Cheung AM, Hwang SW. Risk of death among homeless women: a cohort study and review of the literature. CMAJ. 2004 Apr13;170(8):1243–1247.
iv. Alacron, J. Inconsistently wrong: point-in-time homeless counts in the United States. Proceedings of the National Health Care for the Homeless Council Conference and Policy Symposium, 2015 May; Washington, DC.
v. Krieger J, Higgins DL. Housing and health: time again for public health action. Am J Public Health. 2002;92:758-768.
vi. Raymond, J, Wheeler, W, Brown, MJ. Inadequate and unhealthy housing, 2007 and 2009. MMWR. 2011;60(01 Suppl):21-27.
vii. Maqbool N, Viveiros J, Ault M. The impacts of affordable housing on health: a research summary. Center for Housing Policy; 2015.
viii. Haveman, R, Wolfe B, Spaulding J. 1991. Childhood events and circumstance influencing high school completion. Demography. 1991;28(1):133–157.
ix. U.S. Department of Housing and Urban Development. HUD Exchange [Internet]. AHAR Reports, Guides, Tools, and Webinars [cited 2017 Nov 21]. Available from: https://www.hudexchange.info/programs/hdx/guides/ahar/#reports
x. North Carolina Coalition to End Homelessness [Internet]. North Carolina Point-in-Time Count Data [cited 2017 Nov 21]. Available from: http://www.ncceh.org/pitdata/
xi. United States Census Bureau [Internet]. Quick Facts Durham North Carolina [cited 2017 Nov 21]. Available from: https://www.census.gov/quickfacts/fact/table/durhamcountynorthcarolina/PST045216
xii. United States Census Bureau [Internet]. American Fact Finder [cited 2017 Nov 21]. Available from: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml
xiii. U.S. Department of Housing and Urban Development Office of Policy Development and Research [Internet]. Fair Market Rents [cited 2017 Nov 21]. Available from: https://www.huduser.gov/portal/datasets/fmr.html
xiv. U.S. Department of Housing and Urban Development. HUD User. FY 2017 Fair Market Rent Documentation System [cited 2017 Nov 21]. Available from: https://www.huduser.gov/portal/datasets/fmr/fmrs/FY2017_code/2017summary.odn
xv. Urban Ministries Durham [Internet]. 2016 Annual Report [cited 2017 Nov 21]. Available from: www.umdurham.org/assets/files/UMD_2016AnnualReport_Online.pdf
xvi. Families Moving Forward [Internet]. 2016 Annual Report [cited 2017 Nov 21]. Available from: https://static1.squarespace.com/static/5603ebede4b008bd0ada10ad/t/593ede052e69cf8f5d0de94d/1497292306070/FMF_AnnualReport_2016_ONLINE_6-9-17.pdf
xvii. Willets S. Durham county has an eviction crisis. Can a new diversion program help? Indy Week. 2017 July 19; Sect. News: Durham County [cited 2017 Nov 21]. Available at: https://www.indyweek.com/indyweek/durham-county-has-an-eviction-crisis-can-a-new-diversion-program-help/Content?oid=7102818&storyPage=2

Section 4.03 *Education*

Overview

Good health and academic success form a symbiotic cycle: students who enjoy good physical, mental and emotional health tend to perform well in school, and success in school leads to a much greater chance of future health. Conversely, children who face abuse, illness, hunger or other forms of trauma often struggle in school, and a lack of academic success is a predictor of future health challenges.[i]

From a community health standpoint, improving school performance is increasingly seen as a vital health intervention, while programs that address child and adolescent health and trauma are also critical supports for improved academic performance.[ii]

Primary Data

Four-Year High School Graduation Rate, 2009-2017

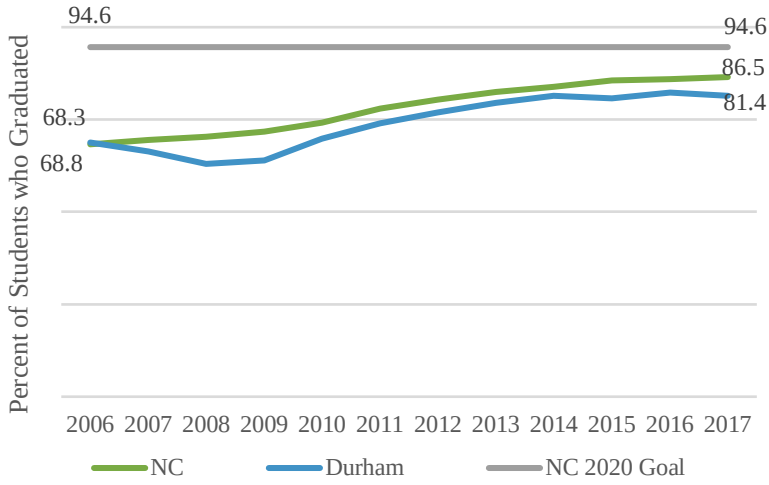


Figure 4.03(a): Four-Year High School Graduation Rate, 2009-2017[ii,iii]

The four-year cohort graduation rate in Durham County and North Carolina is displayed in Figure 4.03 (a). Although the graduation rate in Durham is below the overall rate in North Carolina, there has been an upward trend since 2009.

The Youth Risk Behavior Survey (YRBS) is a national school-based survey produced by the Centers for Disease Control and Prevention (CDC) and is administered every other year. The 2015 YRBS was administered to randomly selected classrooms of middle and high school students in Durham Public Schools (DPS).[iv] This survey monitors health behaviors of adolescents. Key findings in the 2015 YRBS related to school success include the following:

- Sleep: The CDC recommends 9-10 hours of sleep each night for teenagers. Nearly half of middle school students and only 19% of high school students reported getting eight hours or more of sleep on school nights.[iv]
- Physical activity: It is recommended that youth 17 years of age and younger participate in at least 60 minutes of physical activity each day. Almost half of middle school students and about 37% of high school students reported being physically active 60 minutes or more at least five days per week.[iv]

- Safety at school: 5% of middle school students reported feeling unsafe at school in the past 30 days. The percent of high school students who felt unsafe at school was 8%.[iv]
- Bullying: 65% of middle school and 54% of high school students reported seeing another student bullied at school.[iv]
- Mental health: 26% of middle school students and 28% of high school students reported feelings of depression. 18% of middle school students and 14% of high school students reported making a plan to attempt suicide.[iv]

Several key policy changes and initiatives currently being undertaken by DPS could have implications for health related behaviors of adolescents. In 2015, DPS delayed the start time of high schools. DPS' Office of Equity Affairs has worked with Bull City Schools United to introduce anti-bullying efforts, such as the #Day1 pledge, at every school.[v] The school system is also in the middle of a three-year professional development project, Capturing Kids Hearts, focused on building positive relationships between students and staff. The percentage of middle school students reporting having seen another student bullied at school decreased from 80% in 2013 to 65% in 2015.[iv, vi] The percentage of high school students who reported feeling unsafe at school also decreased since 2013 from 18% to 8%.[iv,vi] Mental health continues to be a significant concern for middle and high school students. Recent initiatives have included co-locating mental health services/clinics in DPS schools. Community members have continued to raise concerns regarding the lack of guidance counselors, social workers, and school nurses who would have the ability to positively impact school related health behaviors.

Durham County has launched a major expansion of high-quality pre-kindergarten programs. Durham's Community Early Education/Task Force included representation from Durham's Partnership for Children, city and county government, local universities, the school system, and the community. The task force recommended that the county provide universal access to high-quality pre-kindergarten.[vii] Research has shown that significantly more children enrolled in child care programs arrive at school proficient when compared to children who stayed at home or with a family member or caregiver.[viii]

Secondary Data

While the percentage of Durham's population that is under 18 is slightly below the state average, the number of students living in poverty, the percentage of children of color and the percentage of immigrant children is considerably higher than the N.C. average as shown in Tables 4.03(a) and 4.03(b).[ix, xi,xii] All of these factors correlate with health challenges and with barriers to academic success. This correlation is rooted in the social realities of institutional racism and the physical and psychological traumas of long-term poverty.[x]

Table 4.03(a). Demographics, Durham County and North Carolina, 2015-2017 [ix, xi]

Population	Durham County	North Carolina
Under 18 years old	22.0%	23.2%
Non-Hispanic Black or African American	37.1%	21.2%
Hispanic or Latino	13.4%	8.8%
Non-Hispanic White	42.1%	64.2%
Foreign Born	13.8%	7.8%
Public School Students Receiving Free/Reduced Lunch	65.6%	59.8%

Table 4.03(b). Race and Ethnicity among Youth under 18 Years, Durham County and North Carolina, 2012-2015 [xii]

Population	Durham County	North Carolina
Non-Hispanic Black or African-American	40.9%	53.7%
Hispanic or Latino	22.2%	14.7%
Non-Hispanic White	29.7%	23.1%

The challenges of immigrant children are particularly acute as many families face obstacles to health care eligibility and live in poverty, in addition to facing language hurdles within school. DPS hosts 4,760 English Language Learners; 9,800 students speak a language other than (or in addition to) English, using 91 languages.[xiii] At least 450 refugees (many are not reported) come from 14 different countries.[xiii]

Organizing an educational response to poverty and childhood health needs is constrained by the multiplicity of educational institutions in Durham. In 2016, students were distributed as follows:

- Durham Public Schools: 34,168 students (53 schools) [xiv]
- Charter schools: 5,947 students (13 schools) [xiv]
- Private schools: 4,585 students (37 schools) [xv]
- Home schools: 1,983 students [xvi]

There is currently no administrative relationship between the public school system and any of the alternative educational institutions. Each charter and private school is an independent entity. Any educational or health initiative seeking to reach all of Durham's children is faced with reaching out to fifty different schools along with the traditional school system.

For example, DPS passed a comprehensive resolution in support of advancing health in the community that committed the system to a number of actions:

> WHEREAS, the district uses the Center for Disease Control and Prevention's Coordinated School Health approach to comprehensive school wellness which includes eight areas of school health: (1) safe environment; (2) physical education; (3) health education; (4) staff wellness; (5) health services; (6) mental and social health; (7) nutrition services; and (8) parent/family involvement.[xvii]

The DPS School Wellness Policy has more than twenty subsections addressing a range of health and wellness topics.[xvii] To guide implementation, the Superintendent, Wellness Coordinator, or District designee are charged with establishing a School Health Advisory Council (SHAC) that follows the CDC Whole School, Whole Community, Whole Child model to govern their work. SHAC members must include a parent or guardian, a student, a local health department representative, member(s) of the public, a district representative, a school nurse, a physical education teacher, and a representative from Whole School, Whole Community, and Whole Child areas.[xviii]

This wellness initiative, however, reaches only 72% of Durham's children and youth.[xiv-xvi] Charter, private, and home schools all carry out efforts to promote health, but these efforts are not at present coordinated with other sectors of the community.

Community groups and the school system developed a new code of conduct in an effort to reduce the suspension rate in DPS. Overall, a significant gap remains between Non-Hispanic Black or African-American students, Hispanic and Latino students and Non-Hispanic White students with regard to the likelihood of suspension. However, rates of suspension in DPS are well below the state averages as shown in Table 4.03(c).[xix]

Table 4.03(c). Long and Short Term Suspension Rates by Race and Ethnicity among High School Students, Durham County and North Carolina, 2015-2016 [xix]

Student Population	Durham County	North Carolina
Non-Hispanic Black or African-American	20.7%	31.7%
Hispanic or Latino	4.8%	8.9%
Non-Hispanic White	3.0%	7.2%

DPS students have achieved incremental growth over the past several years - evidence of progress, but still leaving many students well below proficient in reading and math. A full analysis of student achievement is available in the annual data release from North Carolina; table 4.03(d) showing elementary school student proficiency can be viewed as representative.

Table 4.03(d). Elementary Student Achievement by Grade Level, Durham County, 2015-2017 [xx,xxi]

	2015		2016		2017	
Grade and Subject	**Grade Level**	**College Career Ready**	**Grade Level**	**College Career Ready**	**Grade Level**	**College Career Ready**
Third Grade Math	46.3%	35.7%	52.2%	39.8%	48.5%	37.6%
Fourth Grade Math	42.6%	35.5%	43.5%	38.5%	46.9%	39.1%
Fifth Grade Math	44.6%	38.4%	47.0%	39.9%	47.1%	40.8%
Third Grade Reading	45.4%	35.1%	45.7%	36.9%	44.6%	34.6%
Fourth Grade Reading	44.0%	33.3%	44.9%	34.1%	45.9%	32.6%
Fifth Grade Reading	41.0%	31.8%	44.0%	33.6%	45.7%	33.8%
Fifth Grade Science	55.5%	42.9%	63.9%	52.8%	60.9%	48.8%

Recommended Strategies

Address achievement and opportunity gaps

Several focus areas have been identified to help address disparities in student performance including enhanced cultural competence, comprehensive supports for students, family engagement, extended learning opportunities, supportive schools, strong district support, access to qualified staff, and adequate resources and funding.[xxii,xxiii] Various strategies to address these areas are being implemented by DPS and community-based organizations. Additional efforts to address educational inequality and systemic barriers impacting certain groups of students (e.g., LGBTQ, economically disadvantaged, students of color) should be further explored and strategies implemented, such as racial equity training for administration and school staff.

Support grade level reading

According to The Campaign for Grade Level Reading, reading proficiency by third grade is the most important predictor of high school graduation and career success.[xxiv] Recommended strategies focus on improving school readiness, chronic absence, summer learning, and parent engagement. Additional emerging issues include supports for English language learners and students with learning disabilities, retention policies, and Science, Technology, Engineering and Math (STEM) learning.[xxv]

Current Initiatives & Activities

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

- ***Durham Nativity School***
  Durham Nativity School provides a tuition-free, learning environment and a twelve-year support system for middle school boys. Website: https://www.durhamnativity.org

- ***Durham's Partnership for Children***
  DPfC 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. Website: 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. Website: http://www.durhamleap.org

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

- ***Emily K Center***
  The Emily Krzyzewski 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. Website: http://www.emilyk.org

- ***Gateway to College***
  The 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. Website: http://www.durhamtech.edu/gateway

- ***Student U***
  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. Website: http://www.studentudurham.org

- ***The Hill Center***
  The Hill Center offers a variety of services that transform students with learning differences into confident, independent learners. Website: http://www.hillcenter.org

References

i. Centers for Disease Control and Prevention – Adolescent and School Health. Health & Academics. https://www.cdc.gov/HealthyYouth/health_and_academics/. Accessed October 9, 2017. Updated Oct. 15, 2015.
ii. NC Health and Human Services, Department of Public Health. Healthy North Carolina 2020: Focus Areas, Objectives, and Evidence-Based Strategies. http://publichealth.nc.gov/hnc2020/objectives.htm. Accessed October 9, 2017. Updated October 13, 2016.
iii. NC Department of Public Instruction. Accountability Services Division-Cohort Graduation Rates. http://www.ncpublicschools.org/accountability/reporting/cohortgradrate. Accessed October 9, 2017.
iv. Partnership for a Healthy Durham. 2015 Youth Risk Behavior Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed October 9, 2017. Updated May 2016.
v. The Herald Sun. DPS wants to take a stand against bullying. Here's why. http://www.heraldsun.com/news/local/counties/durham-county/article169557702.html. Accessed October 9, 2017. Updated August 26, 2017.
vi. Partnership for a Healthy Durham. 2013 Youth Risk Behavior Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/YRBS-2013-public-report-1.pdf. Accessed October 9, 2017. U
vii. The Herald Sun. Pre-K Task Force Recommends Preschool for All 4-year-olds in Durham. http://www.heraldsun.com/news/local/counties/durham-county/article147227269.html. Accessed October 9, 2017. Updated April 27, 2017.
viii. Dodge K, Bai Y, Gifford B, & Muschkin C. Impact of North Carolina's Early Childhood Programs and Policies on Educational Outcomes in Elementary School. Duke Center for Child and Family Policy. 2016.https://pdfs.semanticscholar.org/3d76/3fa66edffcf4309edac6d8c5ad5d657c3993.pdf Accessed November 28, 2017.
ix. United States Census Bureau, Population Division. ACS Demographic and Housing estimates- Table DP05. 2011-2015 American Community Survey 5-Year Estimates. American Fact Finder. https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml Accessed October 6, 2017.
x. Teach for America, "Race, Class and the Achievement Gap: The Promise of Student Potential." http://teachingasleadership.org/sites/default/files/Related-Readings/DCA_Ch1_2011.pdf. Accessed December 15, 2017.
xi. NC Department of Public Instruction. Data & Reports. Free and Reduced Meals Application. http://www.dpi.state.nc.us/fbs/resources/data/. Accessed October 6, 2017.
xii. Centers for Disease Control and Prevention. The Data Web- Data Ferrett. American Community Survey 2012-2015. https://dataferrett.census.gov/. Accessed October 9, 2017.
xiii. Personal communication with Sashi Rayasam, Director of K-12 ESL Services, Durham Public Schools. August 2017.
xiv NC Department of Public Instruction, Division of School Business. Charter School Membership by Region. http://www.dpi.state.nc.us/docs/fbs/resources/data/csmembersregion15-16.pdf. Accessed October 9, 2017.

xv. NC Division of Non-Public Schools. 2016 North Carolina Directory of Non Public Schools. https://ncdoa.s3.amazonaws.com/s3fs-public/documents/files/2015-2016%20Conventional%20Schools%20-%20Stats%20Report_0.pdf. Accessed October 9, 2017.
xvi. NC Division of Non-Public Schools. 2016 North Carolina Home School Statistical Summary. https://ncdoa.s3.amazonaws.com/s3fs-public/documents/files/15-16%20Home%20School%20Report_0.pdf. Accessed October 9, 2017.
xvii. NC Durham Public Schools Board of Education. Resolution in Support of Advancing Health in Durham. https://www.dpsnc.net/cms/lib/NC01911152/Centricity/Domain/77/8-Resolution%20to%20Advance%20Health%20Together%20-%20DPS%20Final%2002%2002%2017%20docx.pdf. Accessed October 9, 2017. Updated February 2, 2017.
xviii. Centers for Disease Control and Prevention. Whole School, Whole Community, Whole Child. https://www.cdc.gov/healthyschools/wscc/index.htm. Accessed October 9, 2017. Updated August 26, 2015.
xix. Public Schools of North Carolina State Board of Education. Report to the North Carolina General Assembly- Consolidated Data Report, 2015-16. http://www.ncpublicschools.org/docs/research/discipline/reports/consolidated/2015-16/consolidated-report.pdf. p. 62. Accessed October 9, 2017. Updated March 15, 2017.
xx. Durham Public Schools. North Carolina READY Data Release 2015-2016. https://www.dpsnc.net/cms/lib/NC01911152/Centricity/Domain/4/5-FINAL-%20Data%20Release%20Board%20Meeting%209.01.16%20js.pdf. Accessed October 9, 2017.
xxi. Durham Public Schools. 2016-2017 NC READY Accountability Model results. https://www.dpsnc.net/cms/lib/NC01911152/Centricity/Domain/77/Data%20Release%20Final%20Packet.9.7.17.pdf. Accessed October 9, 2017. Updated September 7, 2017.
xxii. National Education Association. Effective practices in Closing Achievement Gaps. http://www.nea.org/home/20609.htm. Accessed August 25, 2017.
xxiii. National Education Association. C.A.R.E.: Strategies for Closing the Achievement Gaps. National Education Association, Fourth Edition, 2011. http://www.nea.org/assets/docs/CAREguide2011.pdf. Accessed August 25, 2017.
xxiv. The Campaign for Grade Level Reading. The Campaign's Work. http://gradelevelreading.net/our-work. Accessed August, 25, 2017.
xxv. The Campaign for Grade Level Reading. Emerging Issues. http://gradelevelreading.net/resources/emerging-issues. Accessed: August 25, 2017.

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 consistent medical provider for their primary and specialty care needs and ability to receive that care without encountering significant barriers. Special populations who face unique barriers include those who are experiencing homelessness, mental illness or non-English speakers such as some immigrants and refugees.

In 2010, President Barack Obama signed the Patient Protection and Affordable Care Act (ACA) into law. The aim of the ACA was to decrease the uninsured population through the expansion of Medicaid, creation of the Insurance Marketplace and other provisions set in place. "The ACA's major coverage provisions went into effect in January 2014 and have led to significant coverage gains. As of the end of 2015, the number of uninsured nonelderly Americans stood at 28.5 million, a decrease of nearly 13 million since 2013."[i]

Community Assets

Durham has strengths that offset some of these barriers. There are many medical experts in all fields and a high number of physicians per resident. Lincoln Community Health Center (LCHC), a Federally Qualified Health Center, offers primary care at a sliding scale per federal poverty guidelines. The Durham County Department of Public Health provides free or sliding scale clinical services. There are also several free health clinics in Durham County such as Healing with CAARE, Inc. and the Samaritan Health Center. Senior PharmAssist helps seniors with medication access, medication management, and tailored community referral. Project Access of Durham County (PADC) links eligible low-income, uninsured, Durham County residents who use Lincoln Community Health Center access to specialty care.

Future of the Affordable Care Act[ii]

The ACA required most people to have health insurance or pay a tax penalty by 2014. The law has closed the coverage gap by allowing states to expand Medicaid to low-income residents and through the introduction of the Insurance Marketplaces; however, North Carolina did not opt to expand Medicaid. The 2016 presidential election resulted in a political party change for the White House. As of now, it is unclear what this new legislation will look like, when it will be enacted and what changes it may bring to the face of healthcare.

Healthy NC 2020 Objective

The Healthy NC 2020 Objectives included a crosscutting goal to reduce the percentage of non-elderly uninsured individuals aged less than 65 years over a ten year span. Neither Durham County

nor North Carolina have reached the goal. During 2015, other geographic areas had similar rates of uninsured elderly populations, at 13.7% in Durham County and 13.0% in North Carolina as shown in Table 4.04(a) below.[iv,v]

Table 4.04(a). Crosscutting Healthy NC 2020 Objective [iii,iv,v]

Healthy NC 2020 Objective	Current Durham	Current NC	2020 Target
Reduce the percentage of non-elderly uninsured individuals (aged less than 65 years).[iii]	13.7% (2015)[iv]	13.0%(2015)[v]	8.0%

Primary Data Interpretations: Disparities Gaps, Emerging Issues

The National Center for Health Statistics (NCHS) and the North Carolina State Center for Health Statistics (NCSCHS) present measures reporting the lack of health insurance coverage. The share of the nonelderly population that lacked insurance coverage has decreased since the year of 2009. As early provisions of the ACA went into effect in 2010, and as the economy improved, the uninsured rate began to drop dramatically for the nation.[i] Durham County is experiencing slower decreases but at a steady pace as shown in Figure 4.04(a) below.[xii]

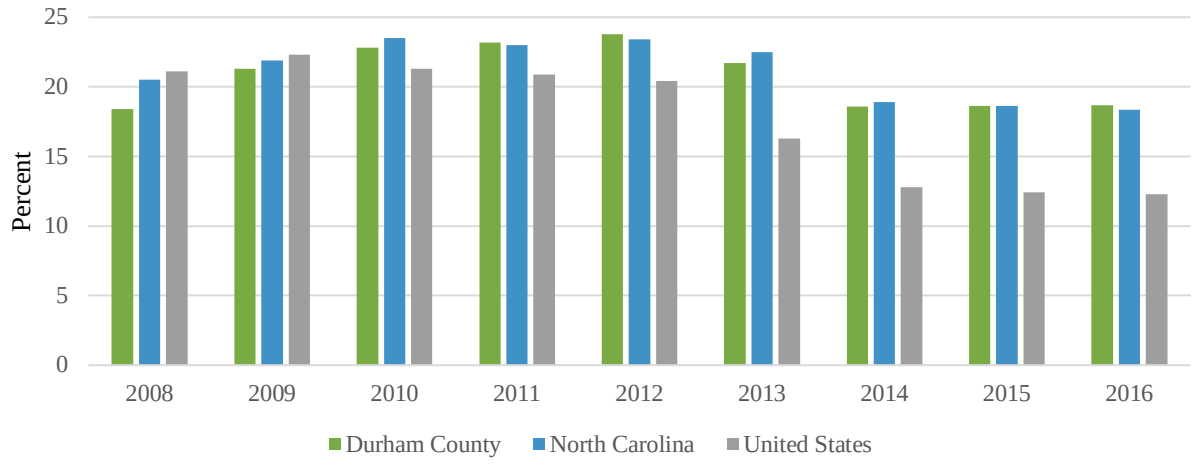


Figure4.04 (a) Percentage of Uninsured among Population Aged 18-64, 2009-2016, Durham, North Carolina & the United States [xii]

The results for the 2016 Durham County Community Health Assessment Survey regarding access to healthcare are listed as follows:[xi]

Insurance Coverage

The survey identified approximately 80% of Durham County residents were insured over the past 12 months. Those that were uninsured listed cost, employer, and immigration as their three primary

reasons for lack of coverage. About 15% of Durham County residents reported that they or someone in their household had difficulty accessing health care in the past 12 months. Of those respondents, fifty percent reported insurance coverage as a barrier to obtaining necessary healthcare while 33.3% reported that the cost of the co-pay was a factor in preventing obtainment of necessary healthcare.

Access to Providers

Seventy-five percent of Durham County residents have one person they think of as a personal doctor or health care provider. In the past 12 months, 83% of Durham County residents did not have a problem getting the healthcare needed for themselves and/or someone in their household. Those who did have problems reported dental, primary care, and eye care as the most difficult services to access. Ninety-one percent of the Durham County population reported only going to the emergency room for emergencies.

Community Issues

Inadequate health insurance remains one of the top five concerns for members of the Hispanic and Latino community in Durham County. Healthcare facilities accepting Medicaid were ranked second in services needing the most improvement by members of Hispanic and Latino communities. Health services were also ranked as the number one service to improve the quality of life of adults ages 65 and older.

Secondary Data

Durham County is currently ranked number six in the state for access to clinical care. Durham remains a leader in the nation with access to healthcare despite the social and economic factors that adversely affect Durham County residents. In Table 4.04(b) you will find 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.[vi]

Table 4.04(b). County Health Ranking Clinical Care Data, 2017, Durham County, North Carolina, and the United States.[vi]

Clinical Care	Durham County	Top U.S. Performers	North Carolina
Primary care physicians ratio	810:1	1,040:1	1,410:1
Dentists	1,390:1	1,320:1	1,890:1
Mental health providers	200:1	360:1	490:1
Preventable hospital stays	43	36	49
Diabetes monitoring	91%	91%	89%
Mammography screening	69%	71%	68%

Interpretations: Disparities, Gaps, and Emerging Issues

Durham is a community rich in medical resources. Although the convenience of having so many providers is a strong asset, it does not always translate from availability to accessibility. The county has been particularly hampered by a lack of health insurance coverage (whether private or public, such as Medicaid) for many of its residents.

The Affordable Care Act has helped reduce the number of uninsured Durham County residents. As of 2015 there are approximately 35,000 (was approximately 47,700 in 2012) uninsured individuals in Durham. About 14,000 (approx. 19,000 in 2012) have incomes between 138-400% of the federal poverty level (potentially eligible for health insurance subsidies and mandated to purchase health insurance or receive tax penalty), and about 17,000 (approx. 23,000 in 2012) have income below 138% of federal poverty level (would be potentially eligible for Medicaid if NC had expanded under ACA and not penalized if do not purchase health insurance).[viii] However, it is critical to note that these figures do not factor in legal status. Undocumented immigrants will remain uninsured.

Recommended Strategies

- Continue to disseminate useful health coverage information and advocate for basic access to care and expansion of coverage options.
- Make sure low-cost or free transportation to medical services is available, improved coordination and collaboration can make the most of limited resources.
- Continue to encourage clinics providing care to the uninsured or underinsured on a sliding scale or free basis.
- Improve access to Social Security disability benefits for individuals with physical, mental or co-occurring medical conditions.
- Make sure low-cost or free transportation to medical services is available.
- Continue to develop Partnership for a Healthy Durham inclusive of local organizations.
- Develop Durham wide agency based online referral network to exchange referrals with agencies Durham wide, utilize existing resources such as Network of Care.

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

- ***Dental Workgroup (subcommittee of The Partnership for a Healthy Durham)***
  Develops community and agency-based strategies to make measurable improvements in access to dental care for the uninsured and underinsured residents in Durham and advocates for changes that will affect dental access for residents. http://www.healthydurham.org

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

- ***HELP-Health Equipment Loan Program*** 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*** 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

- ***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. http://dconc.gov/index.aspx?page=379

- ***Alliance Behavioral 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.alliancebhc.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/

- ***Enrollment of Affordable Care Act,*** Medical Options for the Uninsured and Underinsured. http://www.healthydurham.org/index.php?page=resources_pubs

References

i. The Kaiser Family Foundation http://www.kff.org/uninsured/fact-sheet/key-facts-about-the-uninsured-population/ Accessed on July 30, 2017
ii. US Department of Health and Human Services . Healthcare.gov: The Health Care Law and You. US Department of Health and Human Services website. http://www.healthcare.gov/law/introduction/index.html Accessed on July 30, 2017.
iii. North Carolina Institute of Medicine. Healthy North Carolina 2020: A Better State of Health. Morrisville, NC: North Carolina Institute of Medicine; 2011. http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-Marchrevised.pdf. Accessed July 30, 2017.
iv. United States Census Bureau. http://www.census.gov/did/www/sahie/data/index.html (see SAHIE Interactive Data Tool for Small Area Health Insurance Estimates). Accessed July 30, 2017.
v. http://www.census.gov/did/www/sahie/data/index.html (see SAHIE Interactive Data Tool for Small Area Health Insurance Estimates). Accessed July 30, 2017.
vi. County Health Rankings: Durham County Overall Outcomes Rankings http://www.countyhealthrankings.org/app/north-carolina/2017/rankings/durham/county/outcomes/overall/snapshot. Accessed July 30, 2017.
vii. National Health Interview Survey Early Release Program: Early Release of Selected Estimates Based on Data From the 2016 National Health Interview Survey https://www.cdc.gov/nchs/data/nhis/earlyrelease/earlyrelease201705.pdf Accessed July 30, 2017.
viii. United States Census Bureau. https://www.census.gov/data-tools/demo/sahie/sahie.html (see SAHIE Interactive Data Tool for Small Area Health Insurance Estimates). Accessed July 30, 2017.
ix. 2017 Substance Abuse and Mental Health Services Administration. SOAR Works. https://soarworks.prainc.com/content/what-soar. Social Security Administration. Accessed July 25, 2017.
x. North Carolina Coalition to End Homelessness, 2016. NC SOAR: SSI/SSDI Outreach, Access and Recovery. http://www.ncceh.org/files/8396/. Accessed July 6, 2017.
xi. 2016 Durham County Community Health Opinion Survey. http://www.healthydurham.org/index.php?page=health_recent. Accessed July 6, 2017.
xii. Open Data Network™: Durham County, North Carolina, and United States. https://www.opendatanetwork.com/entity/0400000US37-0500000US37063/North_Carolina-Durham_County_NC/health.health_insurance.pctui?year=2014&age=18%20to%2064&race=All%20races&sex=Both%20sexes&income=All%20income%20levels. Accessed July 6, 2017.

Section 4.05 *Employment*

Overview

Employment and income are important social determinants of health because sustainable incomes contribute to longer life expectancies. Employment status and income inequality can impact health in multiple ways. First, employment is a primary source by which health insurance is obtained by individuals and their families. Second, the nature of one's employment status (hourly, part time, etc.) determines to an extent one's income and ability to afford health insurance or access to quality healthcare. Third, employment allows for individuals to create a level of present and future financial security to address core living and health needs. Fourth, lack of employment, underemployment, unsustainable or loss of income or unhealthy working conditions may contribute to poor health conditions such as high blood pressure, obesity, and depression.[i]

Durham is at the center of the Research Triangle area, geographically and in terms of employment. Research Triangle Park and Duke University provide a strong employment base for the community, offering employment opportunities for Durham residents as well as for residents of other counties in the surrounding region.

Secondary Data

In July 2015, 243,067 persons were employed in Durham County.[ii] This represents about 54 percent of the Durham-Chapel Hill Metropolitan Statistical Area's employment and about three (3) percent of employment in North Carolina. The unemployment rate for Durham County was 5.6 percent in July 2015. This rate was slightly lower than the 5.7 percent rate for the state.[iii] Durham County's unemployment rate has consistently remained lower than the State of North Carolina's rate since 2000 (See Figure 4.05a).

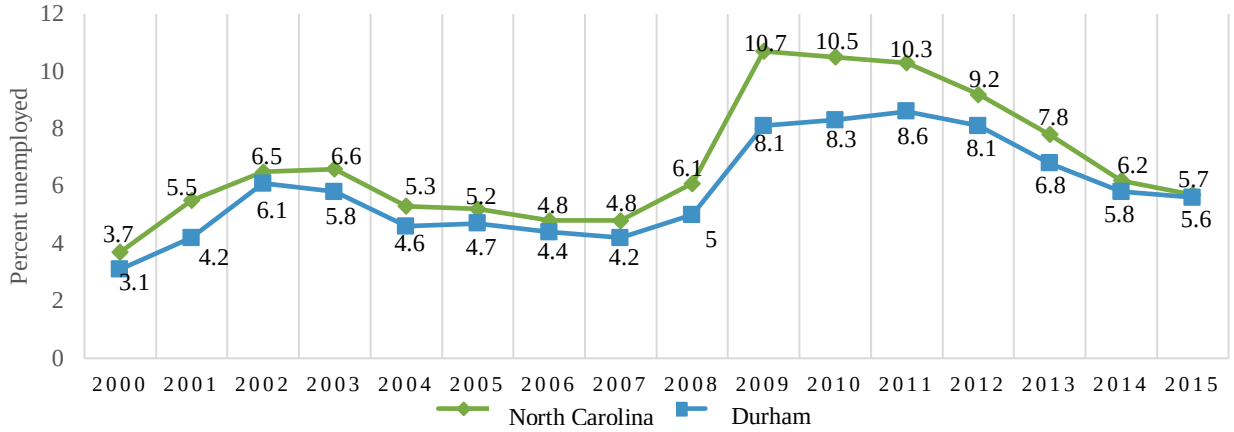


Figure 4.05(a). Percent of Durham County workforce unemployed, compared to percent of North Carolina workforce unemployed, 2000-2015[iv]

The 10 largest employers in Durham County are listed in Table 4.05(a). Health care is an economic cornerstone to Durham, contributing to a significant employment base. Durham's nickname, "City of Medicine," is reflective of the presence of Duke University Hospital, the largest hospital in the state with 1,124 beds and approximately 1,400 medical doctors. Between 2001 and 2015, health care and social assistance was the fastest growing employment sector in the county, increasing from 14 percent of the total workforce in 2001 to over 17 percent in 2015. Duke University and Health System with nearly 35,000 employees, is the largest non-governmental employer in the state of North Carolina. IBM, the second largest employer in Durham County, is the third largest non-government employer in the state.

The health care industry's importance to Durham's economy may also be seen in the presence of many biotechnology companies, pharmaceutical industries, and research organizations. The pharmaceutical firm, GlaxoSmithKline with approximately 2,400 employees, maintains dual headquarters in Durham and Philadelphia, suggesting Durham's importance in the industry. The firm is complemented by the presence of the world's largest contract research company Quintiles, which employs approximately 3,000 employees. This company specializes in conducting product research for drug companies. In addition, many smaller companies involved in medical research and technology are located in the Triangle area.

Table 4.05(a). Durham County's Top 20 Employers, 2017[v]

Rank	Employer	Employees, 2017
1	Duke University and Health System	35,998
2	International Business Machines (IBM)	7,000
3	Durham Public Schools	4,600
4	Blue Cross and Blue Shield of North Carolina	4,000
5	Fidelity Investments	3,700
6	Quintiles Transnational Corporation	3,000
7	Cree, Inc.	2,600
8	Durham City Government	2,466
9	GlaxoSmithKline	2,400
10	Research Triangle Institute (RTI)	2,200

Accommodation and food services also had a significant rise in number of jobs, as did educational services. During the same period, manufacturing had a significant decrease as a percent of total workforce as well as an actual decline in the number of jobs. In 2001, Durham County had almost 40,000 manufacturing jobs. By 2015, the number of jobs of manufacturing jobs had declined to just under 25,000 (See Table 4.05b).

Table 4.05(b). Employment Trends in Durham County, 2001-2015[vi]

North American Industry Classification System (NAICS)	Percent of Total Employment			
	2001	**2005**	**2010**	**2015**
Total Number of Jobs	197,927	205,410	221,664	243,067
Utilities	0.1%	0.1%	0.1%	0.1%
Construction	3.9%	3.7%	3.0%	3.1%
Manufacturing	20.1%	15.7%	13.3%	10.2%
Wholesale trade	2.0%	3.3%	3.3%	3.0%
Retail trade	7.9%	7.6%	6.8%	7.1%
Transportation and warehousing	1.3%	1.4%	1.3%	1.4%
Information	2.7%	1.7%	1.6%	1.8%
Finance and insurance	2.7%	3.6%	4.8%	5.3%
Real estate and rental and leasing	2.0%	2.4%	2.5%	2.6%
Professional, scientific, and technical services	10.4%	10.1%	11.5%	12.2%
Management of companies and enterprises	1.3%	0.9%	0.6%	0.5%
Administrative support, waste management, and remediation services	6.9%	6.1%	5.7%	5.3%
Educational services	4.9%	7.2%	7.3%	7.3%
Health care and social assistance	13.8%	15.3%	16.8%	17.3%
Arts, entertainment, and recreation	1.5%	1.4%	1.6%	1.9%
Accommodation and food services	5.0%	5.7%	5.9%	6.6%
Other services (except public administration)	4.2%	4.5%	4.3%	4.7%
Government and government enterprises	8.9%	9.1%	9.4%	9.0%
All other sectors	0.4%	0.3%	0.2%	0.5%

The median household income for Durham County in 2015 was $52,503.[vii] This income was greater than the median household income for North Carolina ($46,868) and slightly lower than median household income for the U.S. as a whole ($53,889). The difference between median household income for Durham County and the United States as a whole has increased slightly over the past five years. In 2015 Durham County's median household income was 96.1 percent of national median household income while in 2010 Durham County's median household income ($49,894) was 97.1 percent of the United States median ($51,914).

Emerging Issues

By the beginning of the 21st century the City of Durham, like many communities throughout the nation, had suffered decades of suburbanization at the expense of an increasingly declining downtown. Commercial and office vacancies were high and few residential options were available. Urban renewal of Durham's traditional downtown was deemed an economic priority. In response, the City undertook a multi-year revamping of downtown infrastructure. Downtown was rezoned as a "design district."

Design districts, instead of regulating and segregating land uses in the manner of traditional zoning, regulate urban form and design, allowing a mix of uses including vertical mixtures. Additional flexibility was added in the form of parking standards quite different from the standards applicable to suburban commercial and office uses. A downtown Durham tax district was adopted by elected officials in 2012 with the purpose of incentivizing revitalization of Durham's downtown. As a result of these and other renewal tools, decades of decay and abandonment were reversed. Vacancies, particularly for office space, are now minimal and downtown is enjoying a building boom. The revitalization of downtown has led to the creation of hundreds of new jobs and construction of over 1,200 high-density housing units. However, creation of a vibrant economy in downtown has resulted in a significant increase in commercial rents charged and concerns about affordable housing options in and near downtown.

In the future, there will likely be a growing need for industrial and office space. These segments of the local economy are not dependent upon demand solely within Durham but provide employment opportunities and produce goods for consumption in a larger market. The supply of office and industrial land should be re-evaluated based upon these factors as well as the specific location factors including access of industries within the community. New employment centers may need to be provided but should be placed in areas that will not undermine downtown revitalization efforts.[viii]

Approximately 17,200 acres of land in Durham County is zoned for industrial uses with approximately 5,300 acres or nearly 31 percent of the land zoned industrial currently utilized for industrial purposes. A study conducted by the Durham City-County Planning Department in 2013 determined that: (1) By 2035, Durham will need approximately 3,500 additional acres for industrial land uses; (2) Much of the land zoned for industrial purposes is not marketable for such uses; and (3) Durham has an adequate supply of vacant, marketable industrial land to meet demand through the year 2035. A relative dearth of vacant, very large parcels of land (over 100 acres) impedes Durham's ability to attract large-scale industrial/manufacturing employers.[ix]

Currently, there are about six million jobs available in the United States. However, employers often complain that workers do not have the skills needed for the jobs available.[x] Durham's economy is weighted toward medicine, research and technology, government, and educational services. Many jobs in these sectors, including entry-level jobs, require levels of education and technical experience that a significant number of Durham workers may lack.

Recommended Strategies

- Continue to monitor the availability of marketable industrial land;
- Adopt design district standards for station areas surrounding Durham's proposed light rail and commuter rail systems;
- Continue to incentivize downtown revitalization;
- Identify and adopt strategies for provision of affordable housing in the vicinity of downtown and Durham's urban core;

- Provide training and apprenticeship opportunities for Durham's workforce.

Current Initiatives & Activities

- ***Office of Economic Development Technical Assistance***
  The City of Durham's Office of Economic Development provides technical assistance, project coordination, small business assistance, workforce development, planning activities, incentive management and regulatory guidance in support of neighborhood commercial redevelopment. Services are provided to businesses, commercial property owners, individuals seeking employment, community-based organizations and developers.
  https://durhamnc.gov/446/Office-of-Economic-Workforce-Development

- ***Industrial Land Study***
  The Durham City-County Planning Department has compiled a database of marketable industrial properties in order to facilitate recruitment of new industries to Durham County.
  https://durhamnc.gov/339/Adopted-Plans-Guidelines

- ***Vocational Training***
  The City and County are working with Durham Technical Community College, four-year universities, private proprietary vocational training providers, and Durham Public Schools to provide appropriate vocational education and customized training to enable citizens to take advantage of opportunities for employment. The YouthWork Internship Program, operated by a partnership including Durham Public Schools, Durham Workforce Development Board, Durham Technical Community College, Made in Durham, My Brother's Keeper, and the Raleigh-Durham Electrical Joint Apprenticeship Training Council, provides youths 14-24 an opportunity to gain experience and develop skills through paid summer internships with local business, nonprofits, and the City and County governments.
  https://durhamnc.gov/598/Durham-Youthwork-Internship-Program

References

[i] Pickett, Kate and Richard Wilkinson. *The Spirit Level: Why Greater Equality Makes Societies Stronger*. New
York: Bloomsbury Press, 2010.
[ii] Bureau of Economic Analysis, 2015, Employment by County, U.S. Commerce Department, https://www.bea.gov/regional/index.htm. Data accessed, July 2017.
[iii] Labor and Economic Analysis Division, 2015, *North Carolina's July County and Area Employment Figures Released*, North Carolina Department of Commerce, http://www.nccommerce.com/LinkClick.aspx?fileticket=Snsm2N9P7bE%3d&tabid=4544&mid=11730. Data accessed July 2017.
[iv] Local Area Unemployment Status, North Carolina Department of Commerce, 2017, http://d4.nccommerce.com/LausSelection.aspx Data accessed, July 2017.
[v] County of Durham, NC Comprehensive Annual Financial Report. http://www.dconc.gov/home/showdocument?id=24336. Data accessed, February 2018.

[vi] U.S. Office of Economic Analysis. https://www.bea.gov/ Data accessed, July 2017.
[vii] American Community Survey, 2015, Table S1903, *Median Income in the Past 12 Months (in 2015 Inflation-Adjusted Dollars)*, Unites States Census Bureau. https://factfinder.census.gov/.
[viii] Laura D. Woods, 2012, *Durham Comprehensive Plan, Existing Conditions Part 1*, Durham City-County Planning Department.
[ix] Laura D. Woods, 2013, *Durham Industrial Land Study*, Durham City-County Planning Department. http://durhamnc.gov/DocumentCenter/View/1033. Report accessed July 2017.
[x] Ydistie, John, 2017, *U.S. Employers Struggle to Match Workers with Open Jobs*, National Public Radio, http://www.npr.org/2017/08/31/547646709/u-s-employers-struggle-to-match-workers-with-open-jobs. Report accessed July 2017.

Section 4.06 *Crime and safety*

Overview

Crime and violence have many health effects on the community, both seen and unseen. In addition to the direct effects of violence on health, community-level exposure to violence has been linked to chronic health problems that include asthma, heart disease, ulcers, diabetes and lung disease[i] For this reason, crime and safety are important public health issues, and an overview of crime and safety information for Durham County from 2014-2016 is presented in this section.

After several years of declines in both violent and property crimes, total violent crimes in Durham increased during the period between 2014 and 2016.[ii,iii]

The largest increases occurred among homicides, aggravated assaults, and robberies.

Healthy NC 2020 Objective

Healthy NC 2020 Objective[iv]	Current Durham[v]	Current NC[vi]	2020 Target
Reduce the homicide rate (per 100,000 population)	16.50 (2016)	5.8 (2015)	6.7

Primary Data

After a long downward trend in both violent and property crimes, violent crimes in Durham increased by 20.7% over the period from 2014 to 2016. From 2007 to 2016, violent crimes per 100,000 residents increased by 21%, from 740 in 2007 to 895 in 2016. Property crimes decreased by 26.5%, from 5,670 property crimes per 100,000 in 2007 to 4,166 property crimes per 100,000 residents in 2016.[vii]

2014-2016 Part 1 Crime Statistics, Durham County					
	2014	**2015**	**2016**	**3 year average**	**2014-16 % Change**
Homicide	22	37	42	34	+95.4%
Aggravated Assault	1090	1336	1,250	1226	+14.9%
Robbery	657	736	862	752	+31.2%
Rape	101	101	103	102	+1.9%
Total Violent Crimes	**1870**	**2210**	**2257**	**2112**	**+20.7%**
Burglary	3657	3187	2578	3141	-29.5%
Larceny	6851	6815	6579	6748	-4%
Motor Vehicle Theft	565	592	683	613	+20.9%
Property Crimes	**11073**	**10594**	**9840**	**10502**	**-11.1%**

Table 4.07(*b*) 2014-2016 Part 1 Crime Statistics, Durham County[viii]

After experiencing drops in aggravated assaults from 2007 to 2012, Durham saw dramatic increases in this crime category from 2013 to 2016. Robberies also grew by almost one third (31.2%) between 2014 and 2016.

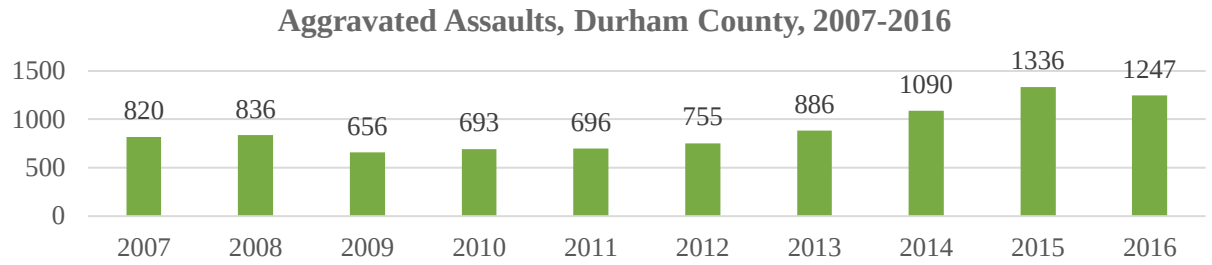


Figure 4.06(a) Aggravated Assaults, Durham County, 2007-2016[ix][xxi]

In a comparison of 2015 crime rates between Durham and similar cities in North Carolina, Durham's violent crime rate of 847 crimes per 100,000 people is considerably higher than the rate in Greensboro (597) and Raleigh (429), and slightly higher than Winston Salem's (759).[xii] However, Durham's 2015 property crime rate of 4,116 crimes per 100,000 people substantially lower than Winston Salem's (5,502).

Gang Activity and Crime

According to the Gang Crime Report, which reviewed gang-involved crime between 2009 and 2016, there are close to 2,000 indexed gang members in Durham.[xiii] This report shows a strong correlation between gang membership and violent crime in Durham. In 2016, 76.7% of homicides involved a suspect or victim that was indexed by Durham Police Department as a validated gang member.

Percentage of Gang Involvement in Homicides, Durham County, 2014 – 2016			
Year	**Total Homicides**	**# gang involved**	**%**
2014	22	13	59.1%
2015	37	12	32.4%
2016	43	33	76.7%

Table 4.06 (e) Percentage of Gang Involvement in Homicides, Durham County, 2009-2016[xiv]

Validated gang members were also involved as suspects or victims in 11.3% of robberies, 11.9% of aggravated assaults, and 2.8% of rapes during 2016. Firearms were used in 74.8% of gang-involved Part 1 violent crimes.[12]

Juvenile Involvement in Crime

During the period between 2013 and 2016, juvenile offenses in Durham dropped significantly. According to Tasha Jones-Butts, the Chief Court Counselor for the Juvenile Court in Durham

County, this reduction was accomplished as court counselors increasingly diverted potential juvenile delinquency cases to local Juvenile Crime Prevention Council-funded intervention programs.[xv] In 2015, Durham County also implemented a misdemeanor diversion program for 16-17 year olds with misdemeanor offenses, which has also likely played a role in this reduction.

2011-2016 Delinquent and Status Offenses by Juveniles Ages 10-17, Durham County					
	Class A-E Felonies (Violent)	**Class F-I Felonies (Serious)**	**Class 1-3 (Minor)**	**Infraction**	**Status Offenses**
2016	29	125	180	0	18
2015	104	136	244	0	11
2014	56	452	423	1	7
2013	29	269	621	2	53

Table 4.06 (f) 2011 – 2016 Delinquent and Status Offenses by Juveniles ages 10-17 in Durham County[xvi,xvii,xviii,xix]

Youth Risk Behavior Survey Data (YRBS)[xx]

The YRBS survey was conducted with 446 middle school and 1,713 high school students attending Durham Public Schools in spring 2015. During 2015, 24% of middle school and 16% of high students reported carrying a weapon during the past month (defined as gun, knife or club). The percentage of high school students reporting that they had carried a weapon decreased by 33% between 2013 and 2015. Approximately 4% of high school students surveyed had carried a weapon at school during the past 30 days. This represents a 75% reduction in the percent of high school students who reported that they had carried a weapon at school in 2013, down from 16%. During 2015, 30% of middle school students and 49% of high school students surveyed reported the presence of gang activity in their school. This is a slight decrease in the percentage of middle school students reporting gang activity in school (32%) in 2013, and represents an 11% reduction in the percent of high school students reporting gang activity at school compared to the 2013 YRBS survey.

Current Initiatives & Activities

- ***Bull City United***

Implemented in November, 2016, this program uses the evidence-based Cure Violence strategy, a public health model that works to reduce shootings and killings in two specific Durham neighborhoods. Two target areas for this initiative were chosen based on an analysis per capita violence in Durham census tracts (McDougald Terrace and Southside communities). Bull City United team members rely on their experiences and relationships to serve as trusted messengers who connect with high risk individuals in order to resolve conflicts and promote peace. www.bullcityunited.org

- ***Criminal Justice Resource Center***

The mission of the Criminal Justice Resource Center (CJRC) is to promote public safety through support for the local criminal justice system and to supervise and rehabilitate justice involved individuals through a wide array of supportive services so that they may achieve their full potential as contributing members of their community. http://dconc.gov/index.aspx?page=144&redirect=1

- ***Durham Partners Against Crime (PAC)***

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 to community crime problems and quality of life issues. http://durhamnc.gov/ich/op/DPD/Pages/PAC.aspx

- ***Durham Police Department (DPD)***

In addition to traditional policing activities, DPD supports crime reduction through:

- Crisis Intervention Team supports residents in mental health crisis and links them to care
- Community Resource unit works with local residents to solve neighborhood issues
- The Explorers and Police Athletic League programs engage youth in positive activities
- Victim Services Unit provides support, links to other agencies, and information on cases

https://durhamnc.gov/149/Police-Department

- ***Project BUILD***

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. www.projectbuild.org

- **C.H.O.I.C.E.S. Program**

The Durham County Sheriff's Office operates the C.H.O.I.C.E.S. Program, an intervention program for youth ages 11-15 that introduces them to the criminal justice system and engages them with a mentor.

- ***Misdemeanor Diversion Program***

The Durham County Misdemeanor Program (MDP) is a 90 day diversion program that seeks to avoid a first arrest for many low-risk young people, ages 16-21.
http://durham6.visioninternet.net/government/departments-a-e/criminal-justice-resource-center/youth-services/misdemeanor-diversion-program

- ***Juvenile Crime Prevention Council (JCPC)***

The JCPC reviews the needs of juveniles in Durham County, who are at risk of delinquency, reviews the resources available to address those needs, and distributes funds to local programs and services that address the identified strategies.
http://durham6.visioninternet.net/government/departments-a-e/criminal-justice-resource-center/youth-services/jcpc

References

[i] Urban Networks to Increase Thriving Youth Through Prevention, Prevention Institute. Violence and chronic illness. [Internet]. Oakland, CA; 2010 May [Cited 2017 August 24]. Available at http://www.ncdsv.org/images/UNITY_FactSheet-ViolenceAndChronicIllness.pdf.
[ii] Schiess, Jason (Director, Crime Analysis United, Durham Police Department, Durham, NC). Crime Stats [Internet]. Message to: Michelle Young. 2017 August 29. [cited 2017 August 29]). [1 screen].
[iii] Eidson, Arianna (Crime Analyst, Crime Analysis Unit, Durham Police Department, Durham, NC). Crime Stats [Internet]. Message to: Michelle Young. 2017 August 29. [cited 2017 August 29]). [2 screens].
[iv] North Carolina Division of Public Health [Internet]. Raleigh, NC: Healthy North Carolina 2020: A Better State of Health. Focus Areas, Objectives, and Evidence-Based Strategies Summary Tables. [Cited 2017 August 28]. Available at: http://publichealth.nc.gov/hnc2020/foesummary.htm.
[v] Schiess, Jason (Director, Crime Analysis United, Durham Police Department, Durham, NC). Crime Stats [Internet]. Message to: Michelle Young. 2017 August 29 [cited 2017 August 29]). [1 screen].
[vi] North Carolina Department of Justice, State Bureau of Investigation [Internet]. Raleigh, NC: Crime in North Carolina – 2015. 2017 June [Cited 2017 August 29]. Available at: http://crimereporting.ncsbi.gov/public/2015/ASR/2015%20Annual%20Summary.pdf.
[vii] Eidson, Arianna (Crime Analyst, Crime Analysis Unit, Durham Police Department, Durham, NC). Crime Stats [Internet]. Message to: Michelle Young. 2017 August 29. [cited 2017 August 29]). [2 screens].
[viii] Schiess, Jason (Director, Crime Analysis United, Durham Police Department, Durham, NC). Crime Stats [Internet]. Message to: Michelle Young. 2017 August 29. [cited 2017 August 29]). [1 screen].
[ix] Stuit, Jim. Gang Crime Report: 2009 – 2016. Durham, NC: Gang Reduction Strategy Steering Committee Report; 2017 June.
[x] North Carolina Department of Justice, State Bureau of Investigation [Internet]. Raleigh, NC: Crime in North Carolina – 2007. 2008 June [Cited 2017 August 28]. Available at: http://www.ncdoj.gov/Files/Crime/2-1-4-View-Crime-Statistics/2007-Crime-Statistics-summary-report.aspx.
[xi] North Carolina Department of Justice, State Bureau of Investigation [Internet]. Raleigh, NC: Crime in North Carolina – 2008. 2009 June [Cited 2017 August 28]. Available at: http://www.ncdoj.gov/getdoc/524af3d9-7287-4c1e-be11-9fdb7d7d7f5b/2008-Crime-Statistics.aspx
[xii] U.S. Department of Justice, Federal Bureau of Investigation [Internet]. Washington, DC: Crime in the United States – 2015. 2017 June [Cited 2017 August 29]. Available at: https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables/table-8/table-8-state-pieces/table_8_offenses_known_to_law_enforcement_north_carolina_by_city_2015.xls
[xiii] Stuit, Jim. Gang Crime Report: 2009 – 2016. Durham, NC: Gang Reduction Strategy Steering Committee Report; 2017 June.
[xiv] Stuit, Jim. Gang Crime Report: 2009 – 2016. Durham, NC: Gang Reduction Strategy Steering Committee Report; 2017 June.
[xv] Jones-Butts, Tasha (Chief Court Counselor, District 14 Juvenile Court, North Carolina Department of Public Safety, Durham, NC). Juvenile Crime Question [Internet]. Message to: Michelle Young. 2017 August 31. [cited 2017 August 31]). [1 screen].
[xvi] 2013 County Databook [Internet]. Raleigh, NC: North Carolina Department of Public Safety; [About 3 screens] [Cited 2017 August 31]. Available at: https://www.ncdps.gov/div/JJ/2013%20County%20Databook_FINAL.xlsx.

[xvii] 2014 County Databook [Internet]. Raleigh, NC: North Carolina Department of Public Safety; [About 3 screens] [Cited 2017 August 31]. Available at: https://www.ncdps.gov/div/JJ/2014%20County%20Databook_Final.xlsx.
[xviii] 2015 County Databook [Internet]. Raleigh, NC: North Carolina Department of Public Safety; [About 3 screens] [Cited 2017 August 31]. Available at: https://www.ncdps.gov/document/2015-county-databook.
[xix] 2016 County Databook [Internet]. Raleigh, NC: North Carolina Department of Public Safety; [About 3 screens] [Cited 2017 August 31]. Available at: https://www.ncdps.gov/county-databook-2016.
[xx] Partnership for a Healthy Durham [Internet]. Durham, NC: 2015 Youth Risk Behavior Survey [about 5 screens] 2015 [cited 2017 August 31]. Available at: http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf.

Health Promotion

This chapter includes:

- Physical Activity
- Nutrition 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 and promotes a sense of well-being. These *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]

The Healthy People 2020 goals (https://www.healthypeople.gov/) are based on the 2008 Physical Activity Guidelines for Americans.[v] These guidelines recommend that children and adolescents, six to 17 years of age, should perform 60 minutes or more of physical activity each day including muscle strengthening exercises three days per week. The guidelines for adults provide recommendations for both aerobic and muscle-strengthening activities: 150 minutes of moderate- or 75 minutes of vigorous intensity aerobic activity per week and strengthening activities on two or more days per week.

Primary Data

2016 Durham County Community Health Opinion Survey

When asked about specific types of exercise, both the full county and the Hispanic and Latino neighborhood samples reported that structural changes such as better lighting, sidewalks, and crosswalks in addition to more trails, bike lanes, and groups/programs would make them want to walk or bike more. Responses can be seen in figures 5.01(a) and 5.01(b).

Improvements Needed to Increase Walking Ranked by County Residents, Durham, 2016

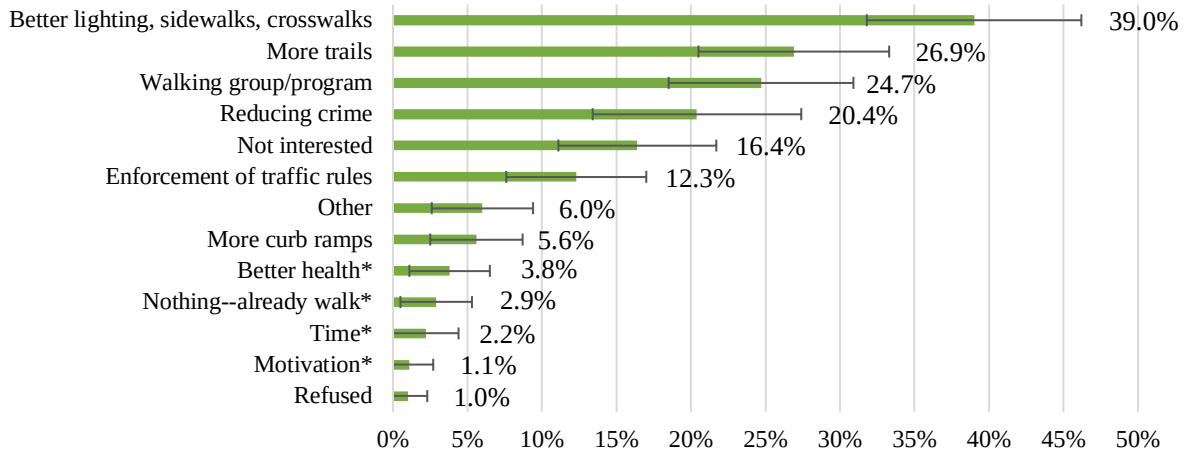


Figure 5.01(a): Improvements Needed to Increase Walking Ranked by County Residents, Durham, 2016[vi]

Improvements Needed to Increase Walking Ranked by Hispanic and Latino Residents, Durham, 2016

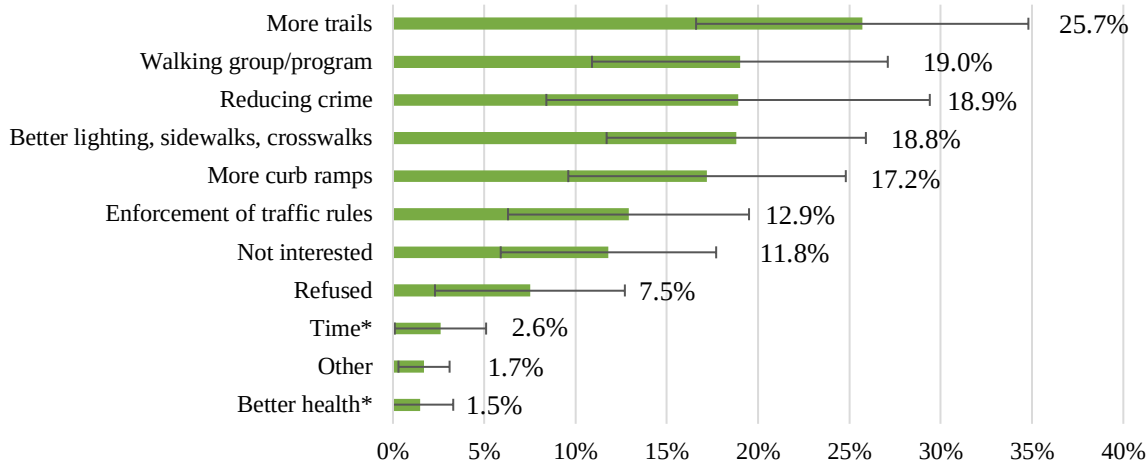


Figure 5.01(b): Improvements Needed to Increase Walking Ranked by Hispanic and Latino Residents, Durham, 2016[vii]

Interpretations: Disparities, Gaps, Emerging Issues

Disparities

Results of the 2016 Durham County Community Health Assessment Survey highlight a large racial disparity in the percentage of people who meet the Centers for Disease Control and Prevention (CDC) recommendation for physical activity in a given week. Twenty-seven percent of the Hispanic and Latino neighborhood sample met the recommendation for 150 minutes of moderate-intensity activity per week compared to 61.6% of the full county sample. Despite the substantial difference in physical activity reported between the two samples, the data should be interpreted with caution due to the potential for recall bias. Many respondents had difficulty estimating their average physical activity per week, which may have biased the results of the question. Any real differences between the two samples may stem from a lack of access to exercise facilities among the Hispanic and Latino community compared to the full county sample. Figures 5.01(c) and 5.01(d) below depicts that while about 42.6% of the full county sample exercises at a private gym or their neighborhood, only 9.2% of the Hispanic and Latino community reported exercising at a private gym and only 15.3% reported exercising in their neighborhood. The majority of the Hispanic and Latino sample (42.7%) reported their main place for exercise is at a park.

Physical Activity among County Residents, Durham, 2016

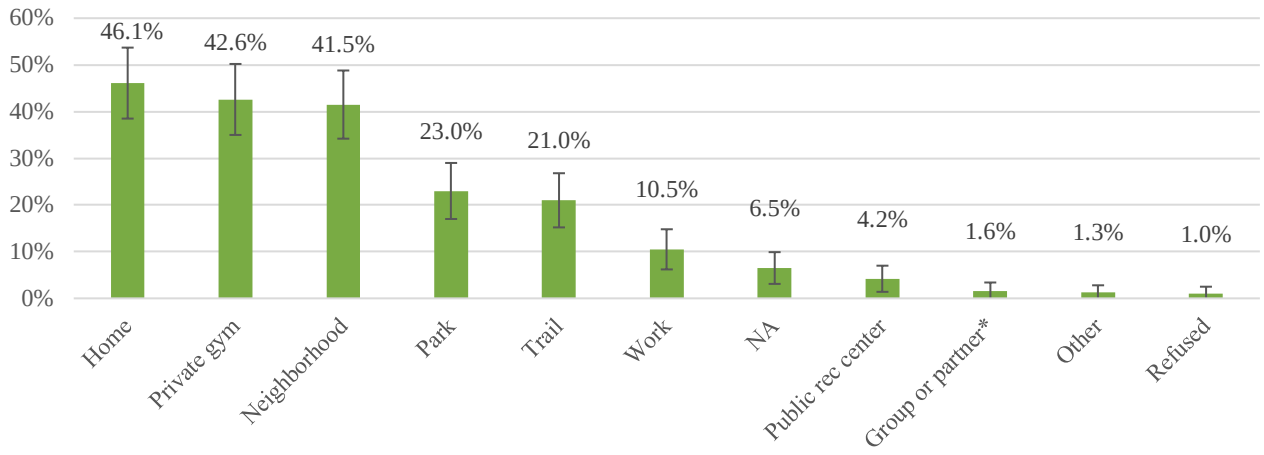


Figure 5.01(c): Physical Activity among County Residents, Durham, 2016[viii]

Physical Activity among Hispanic and Latino Residents, Durham, 2016

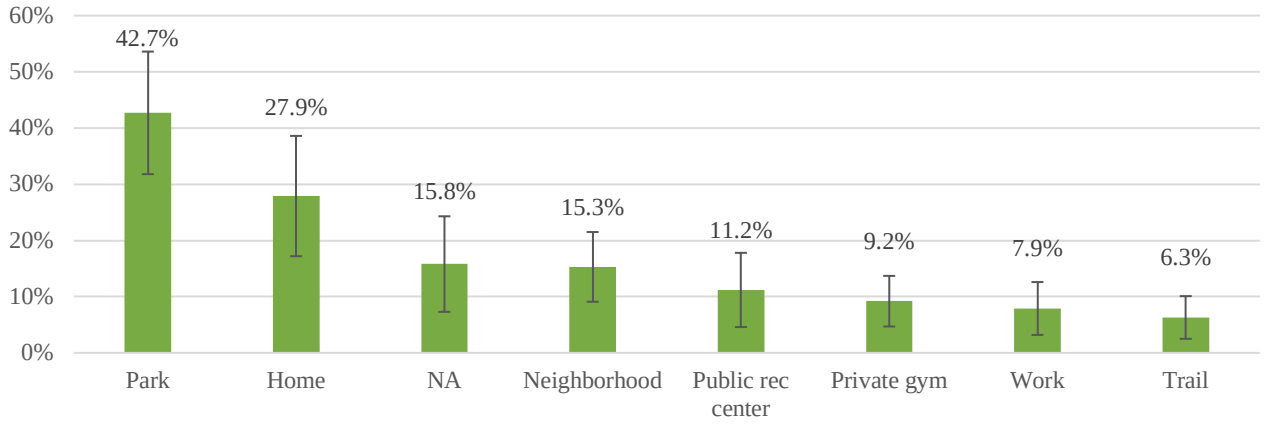


Figure 5.01(d): Physical Activity among Hispanic and Latino Residents, Durham, 2016[ix]

Disparities in physical activity exist in communities where groups of people are not given similar opportunities in social, economic and/or environmental contexts. There are neighborhoods that are not conducive to physical activity and with 46.1% and 41.5% of the full county sample population exercising at home or in the neighborhood respectively, individuals living in communities with poor lighting, sidewalks and/or crosswalks engage less in physical activity.[x]

City and County residents' overall feeling of safety has decreased from 50% to 33% from 2015 to 2016. One-third of residents do not feel safe walking alone in their neighborhood during the day or at night. Satisfaction has also decreased in the condition of neighborhood streets (59% to 51%), the condition of parks (61% to 51%), and the condition of neighborhood sidewalks (44% to 42%). According to the walkability result, Durham is a car-dependent city and has minimal bike infrastructure. However, there are a few neighborhoods with high walkability and bike scores:

Duke University-East Campus (75/75), Old West Durham (74/71), Walltown (72/69), Burch Avenue (64/71), and Lakewood Park (62/57).[xi]

Gaps

There are several opportunities for physical activity but the built environment in some neighborhoods has limited their accessibility to engage. This section will focus on gaps within the school system.

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 K-8 get 225 minutes of physical activity daily, and that teachers 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 increase in teen activities was identified as one of the services needing the most improvement in the community (17.7% full sample; 31.2% Latino sample).[xii]

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. This concept incorporates physical activity breaks, classroom energizers, or other activities into academic lessons and 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. Middle and high school students are watching TV and using other computer devices more than three hours on an average school day. As new technologies are developed, there are applications that support tracking and engaging in physical activity.

Recommended Strategies

The results of the 2016 Community Health Assessment survey reveal several strategies for increasing physical activity among Durham residents. Implementing these strategies would increase access to participation in evidence based practices for getting the recommended amount of physical activity.

- Target safety improvements to increase resident's confidence in being outdoors, including improved sidewalks, better lighting, crosswalks, and reduced crime.
- Develop physical activity for adolescents, particularly Hispanic/Latino youth.
- Improve the number and quality of parks and recreation programs, particularly for Hispanic/Latino residents.
- Offer walking programs to help residents meet the moderate physical activity recommendation.
- Build trails connecting neighborhoods and parks to encourage walking.
- Although most residents do not ride a bike (76% full sample, 93% Hispanic/Latino sample), many in both samples would consider riding with bike access, bike trails, safe intersections, and partner encouragement.
- Many residents (if they exercise) exercise at home (46%) or in their neighborhood (41.5%). Create opportunities for neighborhood-based physical activity, including neighborhood walking groups or home fitness "teams."

Current Initiatives & Activities

- ***City of Durham Transportation Department***

The Durham Transportation Department oversees planning and implementation for road, crosswalk, sidewalk and street light amenities in Durham. https://durhamnc.gov/1002/Transportation

- ***Parks and Recreation***

Durham Parks and Recreation Department oversees Durham's many parks, trails and recreation facilities. https://durhamnc.gov/753/Parks-Recreation

- ***The Bicycle Pedestrian Advisory Commission (BPAC)***

BPAC is an advisory board that advised the City Council and the Board of County Commissioners on matters related to walking and biking in Durham. https://durhamnc.gov/1383/Bicycle-Pedestrian-Advisory-Commission

- ***The Durham Open Space and Trails Commission (DOST)***

DOST is an advisory board that advises the City Council and the Board of County Commissioners on matters relating to the preservation of open space and trails.
https://durhamnc.gov/1652/Durham-Open-Space-and-Trails-Commission-

- ***Bull City Fit***

Bull City Fit partners Duke Health and Durham Parks & Recreation to offer free, safe, inclusive wellness programming for children who have obesity. www.kohlsbullcityfit.org

References

i. Global Recommendations for Physical Activity and Health. World Health Organization. http://www.who.int/dietphysicalactivity/factsheet_recommendations/en/. Accessed October 1, 2017.
ii. Physical Activty Facts. CDC. https://www.cdc.gov/healthyschools/physicalactivity/facts.htm. Accessed October 1, 2017.
iii. Michael SL, Merlo C, Basch C, et al. Critical connections: health and academics. Journal of School Health. 2015; 85(11):740-758.
iv. Rathor 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. Syst Rev. 2017 Jun 30;6(1):124
v. US Department of Health and Human Services. 2008 Physical Activity Guidelines for Americans. Washington, DC: US Department of Health and Human Services; 2008.
vi. Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed October 1, 2017.
vii. Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed October 1, 2017.
viii. Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed October 1, 2017.
ix. Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed October 1, 2017.
x. Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed October 1, 2017.
xi. Walk Score. Living in Durham. https://www.walkscore.com/NC/Durham. Accessed July 12, 2017.
xii. Chriqui JF, Evler A, Carnoske C, Slater S. State and district policy influences on district wide elementary and middle school physical education practices. J Public Health Manag Pract. 2013 May-Jun;19(3 Suppl 1):S41-8.

Section 5.02 *Nutrition and access to healthy food*

Overview

What and how much we eat affects our health in many ways. From emotional to physical health, success in work and school, the ability to sleep or to participate in sports: nutrition plays a major role. Many diseases are linked to nutrition including overweight or obesity, hypertension, high cholesterol, diabetes, and some cancers. However, people do not make food choices based solely on their physical needs. Food choices are made based upon taste preference, culture, environmental and social cues, and what foods are available. Durham County's nutrition environment—the availability of foods and the culture surrounding eating—strongly influences what its residents eat, and ultimately, their health.

Primary Data

The 2016 Durham County Community Health Assessment Survey included several questions about food and nutrition. Data related to food, nutrition, and food access obtained through the Durham County Community Health Assessment Survey are displayed in Table 5.02(a) below.

Nutrition and Food Access in Durham County, 2016

	Full County Sample	Hispanic/Latino Neighborhood Sample
Percent who cut the size of their meal or skipped a meal because there was not enough money for food	15.8%	26.8%
If yes, percent who cut meals frequently	4.0%	4.0%
Percent who selected more affordable healthy food options as a service needing improvement in Durham	11.5%	20.2%
Percent who selected more affordable healthy food options as a service needing improvement for older adults living in Durham	25.5%	27.3%
Percent who selected "lack of health food choices or affordable healthy food" as an issue greatly effecting quality of life in Durham	8.5%	6.8%
Percent who identified obesity as a top health problem in Durham	47.5%	38.9%
Percent who identified diabetes as a top health problem in Durham	37.5%	55.6%

Table 5.02(a): Nutrition and Food Access in Durham County, 2016[i]

Notably, the table above highlights the significant increase in stated need for older adults seeking out healthy and affordable food options compared to the population as a whole. Home cooked meals can also be an indicator for healthy meals. When respondents were asked how often they eat meals that are not prepared at home, 22.0% percent (6.4% Hispanic/Latino neighborhood sample) stated they ate out more than three times a week, 38.7% (30.7% Hispanic/Latino neighborhood sample) answered two to three times a week, 30.1% (50.4% Hispanic/Latino neighborhood sample) answered once a week and 7.7% (12.6% Hispanic/Latino neighborhood sample) stated never.[i]

Figure 5.02(a) below illustrates the response to the question, *"When you aren't eating a healthy diet, what do you think makes it hard for you to eat healthy? (Check all that apply.)* Time and cost were the largest barriers that stopped people from eating healthier.[i]

Barriers to Healthy Eating, Durham County, 2016

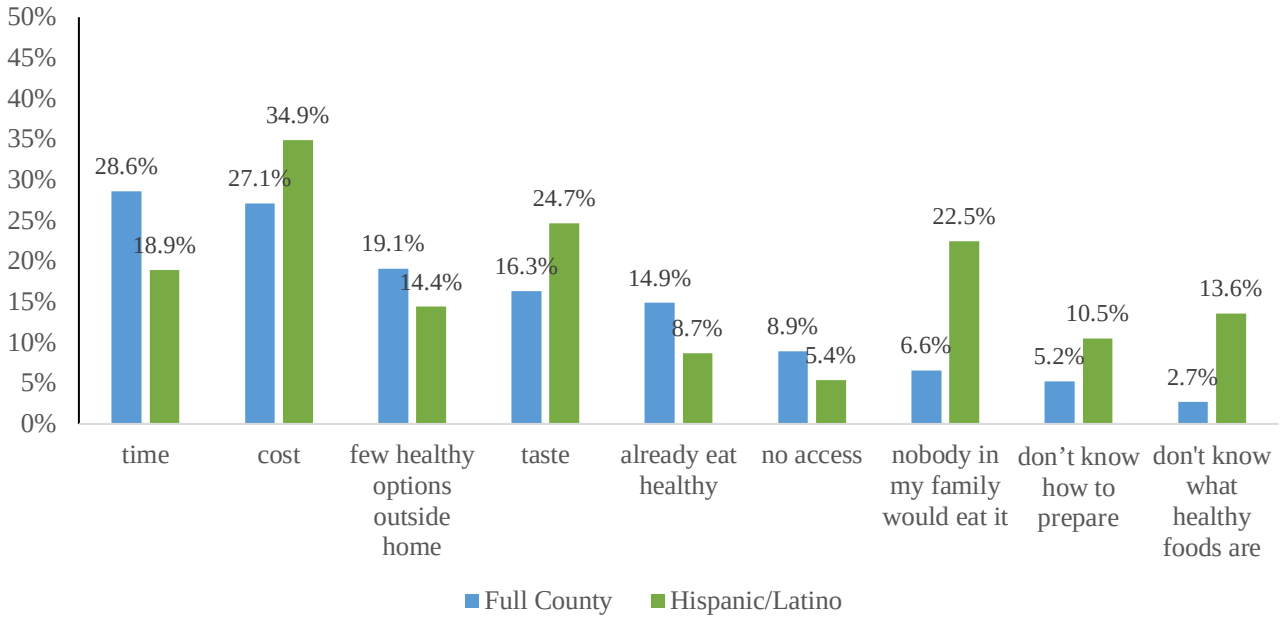


Figure 5.02(a): Barriers to Healthy Eating, Durham County 2016[i]

Secondary Data

Two surveys, the Youth Risk Behavior Survey (YRBS) for middle school and high school students and Behavior Risk Factor Surveillance Survey (BRFSS) for adults over 18 years collect information about the eating habits of Durham County residents. The BRFSS currently collects data in regions that include multiple counties. BRFSS survey data from 2015 are displayed in Table 5.02(b).

Fruit and Vegetable Consumption, Region 5 North Carolina, 2015

Percent of respondents who consume fruit one or more times per day	
North Carolina	56.7%
Region 5	56.7%
Race	
Non-Hispanic White	56.2%
Non-Hispanic Black	55.0%
Other	NA
Education	
High School or less	51.5%
Some college or more	60.3%
Percent of respondents who consume vegetables one or more times per day	
North Carolina	78.4%
Region 5	77.1%
Race	
Non-Hispanic White	80.9%
Non-Hispanic Black	64.4%
Other	NA
Education	
High School or less	69.5%
Some college or more	82.5%
Percent of respondents who consume fruits or vegetables or beans five or more times per day	
North Carolina	13.0%
Region 5	13.6%
Race	
Non-Hispanic White	13.4%
Non-Hispanic Black	13.5%
Other	15.6%
Education	
High School or less	11.5%
Some college or more	15.1%

Table 5.02(b): Fruit and Vegetable Consumption, Region 5 North Carolina, 2015[i]

Data for Region 5 in North Carolina, which includes Alamance, Caswell, Chatham, Durham, Guilford, Orange, Person, Randolph, and Rockingham counties, is displayed in the table to the left. The largest disparities were seen in vegetable consumption by race, with 80.9% of non-Hispanic White respondents reportedly consuming one or more vegetables per day compared to 64.4% of non-Hispanic African-American respondents. Most other fruit and vegetable consumption did not vary by geographic region, race, or educational attainment.[ii] It is notable that Durham specific data from 2011 showed that 19.0% of adults surveyed consumed five or more fruits and vegetables daily, which is higher than the proportions reported for Region 5 during 2015 at 13.6%.[iii] However, aggregating county data into regions may have lowered the percent of respondents who reported eating fruits and vegetables.

Data on fruit consumption and meal habits are available for youth in Durham County through the biannual YRBS survey. During 2015, the percent of students who reported eating breakfast once or more per week varied by race, with Hispanic and Latino students at the lower end of the spectrum (79.1%) compared to non-Hispanic African-American (84.3%) and White (93.7) students. Similar patterns were seen with the percent of students who reported eating one or more pieces of fruit per day. Non-Hispanic African-American students reported the lowest fruit consumption (26.4%) compared to Hispanic (38.0%) and non-Hispanic White (42.1%) students. In total, 14.7% of high school students reported not eating fruit at all.[iv]

The trends for vegetable consumption is similar to that of fruit consumption. Food insecurity, the state of being without reliable access to a sufficient quantity of affordable, nutritious food has a large impact on a person's diet. It is estimated that 17.9% of Durham residents (51,710 people) are food insecure.[v] Currently, there are 32,787 people living in Durham who receive Food and Nutrition Services (FNS, formerly known as food stamps or Supplemental Nutrition Assistance Program (SNAP)).[vi] This number has decreased by about 25% in the last four years while the number of food insecure households has remained constant. In the 2016-2017 school year, 66.2% of students enrolled in the Durham Public Schools (DPS) qualified for free and reduced lunch in school cafeterias, further supporting widespread vulnerability to hunger and food insecurity in the county.[vii] All DPS students have the option of receiving universal free breakfast.

Food Desserts by Census Tract, Durham County, 2015

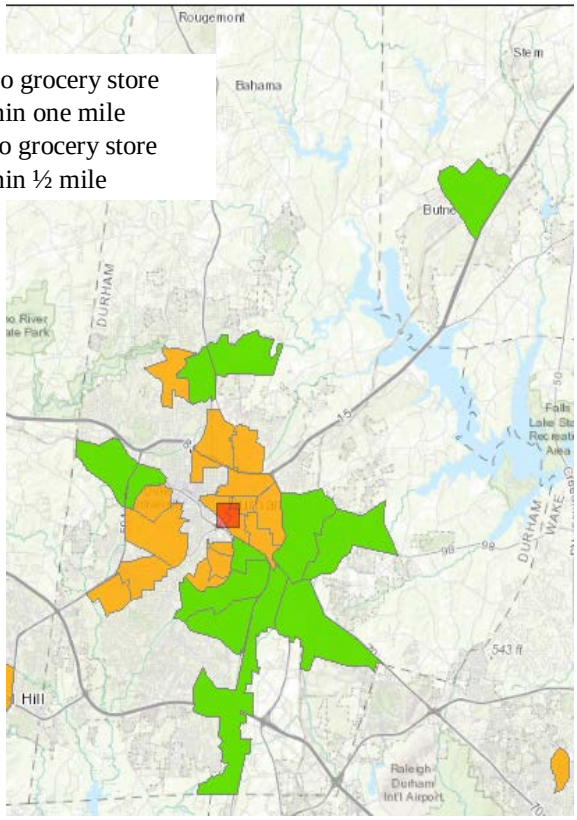


Figure 5.02(b): Food Desserts by Census Tract, Durham County, 2015[ix]

Limited access to grocery stores that sell healthy foods is also a barrier to eating healthier. A food desert is defined as a community in which people lack access to affordable and nutritious food and are of low socioeconomic status. Durham's Food Environment index is 6.5, falling below the state average of 6.8.[viii] Figure 5.02(b) above depicts Durham food deserts. As is seen nationally, the Durham food deserts coincide with census tracts that have high levels of poverty.[x]

Interpretations: Disparities, Gaps, Emerging Issues

The 2016 Durham County Community Health Assessment Survey results show that Durham County residents' top health concerns are chronic illnesses that have proven links to diet and nutrition. Respondents with a greater frequency of fruit and vegetable consumption also report having completed at least some college which indicates a correlation exists between education level and food choice. Socioeconomic differences when combined with respondents perceived barriers to healthy eating (time, cost, and access) could conceivably contribute to a nutritional disparity in Durham residents.

Proposed cuts to Food and Nutrition Service (FNS), school meals and other low-income programs could have a severe effect on food insecure households and overall nutrition in Durham County. The current state of and budget proposals relating to the nation's food assistance programs can be found at www.frac.org.

Reinvestment Partners has received four years of funding through the United States Department of Agriculture (USDA) Food Insecurity Nutrition Incentive grant program to provide nutrition incentive benefits to SNAP recipients. Partners on this project include Lincoln Community Health Center, Food Lion, and Duke's Division of Community Health. This program plans to increase the affordability of healthy food and serve as a model for preventive health care programming.

Recommended Strategies

The following key strategies are seen as best practices: (1) improving individual's knowledge of healthy food and beverage choices, (2) creating healthy schools, worksites, and childcare settings, (3) mobilizing the medical community, and (4) increasing access to healthy foods throughout communities. Even though Durham is recognized as an innovation hub and also considered the tastiest city in the South, creative collaborations between the booming technology community and the restaurant and food truck culture are needed. This type of inventive collaboration could potentially be a resource to bring nutrition to the communities that need it most. Useful tools in implementing these strategies can be found at:

- ***Eat Smart Move More North Carolina*:** http://eatsmartmovemorenc.com and www.myeatsmartmovemore.com; *Obesity Prevention Plan*: http://www.eatsmartmovemorenc.com/ESMMPlan/ESMMPlan.html
- ***Center for Training and Research Translation*:** http://www.centertrt.org/?new *SNAP Ed Intervention Toolkit.* http://snap.nal.usda.gov/snap/SNAP-EdInterventionsToolkit.pdf

Current Initiatives & Activities

- ***Durham County Cooperative Extension*** offers nutrition education workshops and programs. https://durham.ces.ncsu.edu
- ***Durham County Department of Public Health (DCoDPH) Nutrition Division*** offers low cost personalized nutrition counseling to adults and children. http://www.dconc.gov/government/departments-f-z/public-health/services/nutrition
- ***DCoDPH DINE*** offers group nutrition education and programming. www.dineforlife.org
- ***Durham County Department of Social Services Food and Nutrition Services*** provides food assistance to those in need. http://www.dconc.gov/government/departments-f-z/social-services/food-nutrition-services-food-stamps
- ***Durham Farmers' Markets Double Bucks*** doubles SNAP/EBT up to $10 per visit, adds value to WIC and Senior Farmers' Market vouchers. www.durhamfarmersmarket.com; www.southdurhamfarmersmarket.org

- ***Durham Public Schools Hub Farm*** 30+ acre farm and outdoor learning lab aimed at increasing physical activity and healthy eating. https://www.facebook.com/DPSHubFarm
- ***Durham Public Schools, Student Nutrition Services*** offers meals to students; universal free breakfast, After School Snack, Summer Food Service, Fresh Fruit and Vegetable Grant Program, Farm to School. https://www.dpsnc.net/domain/117
- ***End Hunger Durham*** forms collaborations of partners to reduce food insecurity. www.endhungerdurham.org
- ***Farmer Foodshare*** increases the availability of local food and ensures farmers make a healthy living; donation stations at farmers markets and wholesale market. www.farmerfoodshare.org
- ***Food Bank of Central and Eastern NC*** distributes food, summer meals, backpack buddies. http://www.foodbankcenc.org
- ***Inter-Faith Food Shuttle (IFFS)*** food rescue and distribution organization; summer meals, gardening, culinary job training, backpack buddies, and nutrition education. http://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. http://www.lincolnchc.org/
- ***Meals on Wheels of Durham County*** provides home-delivered meals to senior citizens. www.mowdurham.org
- ***Medical Nutrition Therapy, Duke University Health System*** personalized nutrition counseling at Duke Hospital, Duke Regional Hospital, and various clinics. https://dieteticinternship.duhs.duke.edu/department-nutrition-services
- ***More in My Basket*** promotes outreach education about the Food Nutrition Service Program, provides assistance with applications in person and over the phone. www.morefood.org
- ***Reinvestment Partners Bull City Cool*** works to strengthen the food system; programs include Bull City Cool Food Hub and Bull City Bucks. www.reinvestmentpartners.org
- ***SEEDS*** develops the capacity of young people to respect life, the earth and each other through growing, cooking and sharing food. www.seedsnc.org

References

[i] 2016 Community Health Assessment Survey Results. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed 8/29/2017, 2017.
[ii] State Center for Health Statistics. 2016 Behavioral Risk Factor Surveillance System Results: North Carolina. http://www.schs.state.nc.us/data/brfss/2016/nc/all/rf1.html. Accessed October 3, 2017.
[iii] State Center for Health Statistics. 2011 Behavioral Risk Factor Surveillance System Results: North Carolina Counties and AHEC Regions.
[iv] Durham County Department of Public Health. Youth Risk Behavior Survey Durham County 2015 Report. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed December 7, 2017.
http://www.schs.state.nc.us/data/brfss/2011/nc/nccr/DAILY_5.html. Accessed 12/7/2017.
[v] Map the Meal Gap. Feeding America. http://map.feedingamerica.org/. Accessed 8/29/2017.
[vi] Email with Pinky Davis Boyde, Durham County Department of Social Services. 8/21/2017.
[vii] Durham Public Schools. Free and Reduced Lunch Statistics. https://www.dpsnc.net/Page/483. Accessed 8/29/2017.
[viii] County Health Rankings and Roadmaps Food Environment Index http://www.countyhealthrankings.org/measure/food-environment-index. Accessed 8/29/2017.
[ix] Food Access Research Atlas. United States Department of Agriculture. https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx. Accessed 8/29/2017.
[x] United States Department of Agriculture. Economic Research Services Food Access Research Atlas. https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx. Accessed 8/29/2017.

Section 5.03 *Tobacco*

Overview

Tobacco use remains the number one cause of preventable death in the United States and in North Carolina. Although overall rates of tobacco use are decreasing, there are some groups who use tobacco at higher rates than the general population. These groups include Native Americans and American Indians, the LGBTQ (lesbian, gay, bisexual, transgender, and questioning and/or queer) community, and people with mental health and/or substance abuse diagnosis.[i] Tobacco companies continue to target these and other populations in advertising and marketing campaigns.[ii] Additionally, some groups experience higher death rates from tobacco, such as African Americans. This disparity exists because menthol products have been heavily marketed to African Americans and are more addictive than non-menthol products.[iii]

Non-combustible tobacco products such as e-cigarettes have become widely available and use of these products is steadily rising.[iv] Although combustible cigarette use among youth is declining, e-cigarette use has sharply increased.[v] The Surgeon General's Report released in 2016 focused on the effect of e-cigarettes on youth and young adults. The report made clear that e-cigarettes, like any nicotine-containing product, are detrimental to the developing adolescent brain. Steps must be taken to curb adolescent and young adult use in order to stop this emerging public health crisis.[vi] The long-term health effects of e-cigarettes are still somewhat unknown.

The 2016 Surgeon General's Report provided the impetus for Durham County to add e-cigarettes to the Board of Health Smoking Rule, a county-wide policy which prohibits smoking and e-cigarette use in public outdoor spaces such as parks and bus stops. Following a directive from the federal Department of Housing and Urban Development (HUD), Durham is also working towards implementing smoke-free public housing. In addition, Durham is supporting market rate and affordable housing providers in going smoke-free. Creating more smoke-free places helps protect people from secondhand smoke and vapor, reduces triggers for people trying to quit, and decreases initiation among youth.

Primary Data

Adult Smoking

The 2016 Behavioral Risk Factor Surveillance Survey (BRFSS) data shows that adult smoking rates in Region 5, which comprises Alamance, Caswell, Chatham, Durham, Guilford, Orange, Person, Randolph, and Rockingham counties are at 18%, which is on par with the overall adult smoking rate in North Carolina.[vii] In the 2016 Durham County Community Health Assessment (CHA) Survey, 23.5% of Durham County residents reported that they had smoked a cigarette in the past 30 days. This percentage is higher than the adult smoking rate for North Carolina and Region 5. It is important to consider that the 23.5% captures occasional smokers as well as daily

smokers. The adult smoking rate for the Durham County CHA Hispanic/Latino neighborhood sample was much lower at 7.4%.[viii]

The Durham County CHA survey data also shows that 8.4% of Durham County residents have used an e-cigarette or vapor product in the last 30 days.[ix] A question from the Durham County Community Health Assessment Survey asked respondents what they would do if they wanted to quit using tobacco products. The most frequently cited option was using nicotine replacement therapy (29.6%) followed by quitting cold turkey (22.2%) and then seeing a doctor (13.0%).[x]

A majority of Durham residents (55.1%) reported knowing about the Board of Health Smoking Rule which prohibits smoking in many outdoor public spaces. A question on the Durham County Community Health Assessment Survey asked where respondents had been exposed to secondhand smoke. The most frequently cited answer was bus stops for the full county sample (20.9%). Among the Hispanic/Latino neighborhood sample, the most frequently cited answer was the workplace (15.5%).[xi]

Youth Smoking

The 2015 Durham County Youth Risk Behavior Survey (YRBS) reports that 9% of Durham County high school students currently smoke cigarettes. This rate is down from 19% in the 2013 Durham County YRBS.[xii] According to the 2015 North Carolina Youth Tobacco Survey, the rate of smoking among high school students in North Carolina is also 9%. The use of cigarettes among North Carolina high school students has steadily declined since 1999. However, use of electronic cigarettes among North Carolina high school students has increased 888% between 2011 and 2015, as shown in figure 5.03(a).[xiii]

High School Current Smoking and Electronic Cigarette Use, North Carolina, 2011-2015

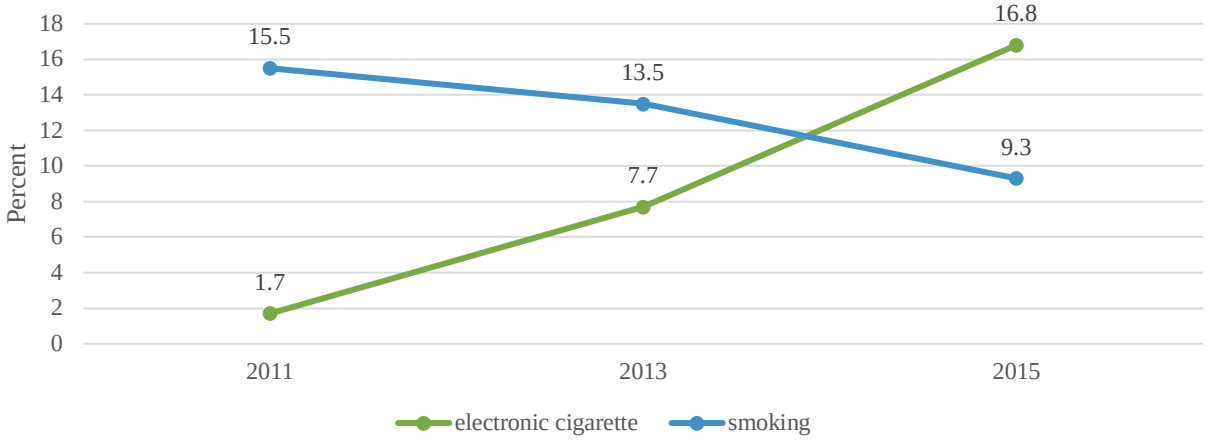


Figure 5.03(a) Current NC High School Smoking and Electronic Cigarette Use, 2011-2015

The 2015 North Carolina Youth Tobacco Survey reports that 16.8% of high school students currently use electronic cigarettes.[xiv] Durham County 2015 YRBS data reports that 24% of Durham County high school students currently use electronic cigarettes.[xv] Cigarette use and electronic cigarette use among high school students does not differ by race/ethnicity; however, males reported higher use of both.[xvi]

Secondary Data

Healthy NC 2020 Objectives

Healthy NC 2020 Objective[xvii]	Current Region 5	Current NC	2020 Target
Decrease percentage of adults who are current smokers.[xviii]	18.4% (2016)	17.9% (2016)	13%
Decrease percentage of high school students reporting current use of any tobacco product[xix]	Data not available	27.5% (2015)	15%
Decrease the percentage of people exposed to secondhand smoke in the workplace in the past seven days[xx]	5.9% (2016)	7.7% (2016)	0%

Table 5.03(b) Current Progress on Healthy 2020 Objectives for North Carolina[xvii-xix]

Table 5.03(b) shows current progress on three tobacco-related Healthy NC 2020 Objectives. The BRFSS data no longer reports on county-specific data, so the table depicts statewide data and data from Region 5, which includes Durham.[xxi]

Age-Adjusted Death Rates from Lung and Bronchus Cancer, 2011-2015

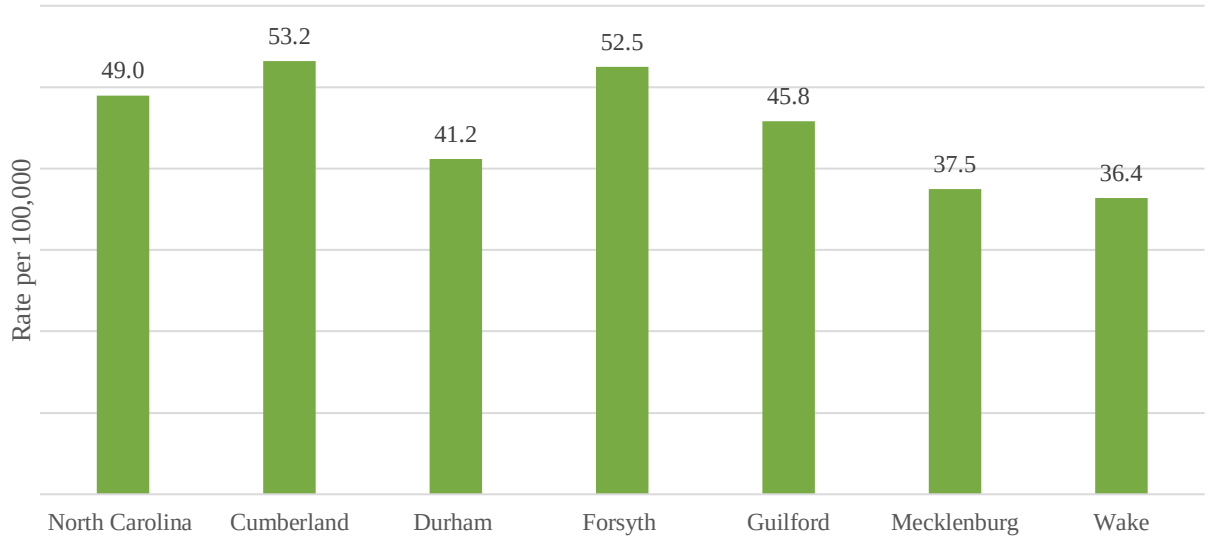


Figure 5.03(c) 2011-2015 Age-Adjusted Death Rates from Lung and Bronchus Cancer[xxii]

Figure 5.03(c) depicts death rates from lung and bronchus cancer in Durham and its peer counties. Durham's death rate is lower than the statewide death rate but it is higher than two of its peer counties.[xxiii] Death rates from trachea, bronchus, and lung cancer have steadily decreased since 2011 in Durham County and statewide.[xxiv]

Interpretations: Disparities, Gaps, Emerging Issues

When talking about youth initiation to smoking and disparities in tobacco use, the use of menthol flavoring cannot be overlooked. Tobacco companies have specifically marketed menthol products to young people and African Americans for decades.[xxv] Menthol flavored cigarettes are the starter product for many lifelong smokers. Close to 88% of African American smokers use mentholated products.[xxvi] This is not by coincidence. Menthol cigarettes were marketed as a healthy alternative to regular cigarettes, and that misbelief has continued years after research has proven that claim to be false. Currently, menthol product advertising is still more prevalent near schools and in African American communities.[xxvii]

African American men who smoke are 50% more likely to get lung cancer than white men. Tobacco-related deaths continue to kill more African Americans than AIDS, violence, drug/alcohol, and accidents combined.[xxviii]

Recommended Strategies

Program and Policy Recommendations for Tobacco Control

Recommendation[xxix]	North Carolina Initiatives	Durham County Initiatives
100% smoke-free policies	• Smoke-free Restaurants and Bars Law, implemented 2010	• Board of Health Smoking Rule, implemented 2012 • Dining Al Fresco campaign
Access to cessation support	• NC Quitline telephone counseling, text support, and website	• Fresh Start smoking Cessation Class • Stay Quit Support Group
High-impact media campaigns	• TIPS from Former Smokers national TV ad campaign to promote quitting	• Bull City Breathes campaign with Durham-based videos and print/digital ads to promote smoke-free laws and quit resources

Table 5.03(c): Program and Policy Recommendations for Tobacco Control

Current Initiatives & Activities

- ***QUITLINE NC***

QuitlineNC provides North Carolinians with free, on-one-one support that can make all the difference when you're ready to quit for good. QuitlineNC is free, confidential and available 8 AM – 3 AM, seven days a week. http://www.QuitlineNC.com

- ***Fresh Start Quit Smoking Program***

Fresh Start is an effective quit smoking program that was developed by the American Cancer Society, and is facilitated by staff at the Durham County Health Department. http://www.dconc.gov/government/departments-f-z/public-health/services/health-education/health-promotion-and-wellness

- ***Stay Quit Support Group***

Stay Quit is a free support group for people who have recently quit smoking or are in the process of quitting. The group meets monthly for one hour at Durham County Department of Public Health, and people may attend any or all scheduled meetings. Contact: Natalie Rich 919-560-7895 or nrich@dconc.gov. .

- ***Pathways to Freedom***

Pathways to Freedom: Leading the Way to a Smoke Free Community© is a free resource designed to assist individuals and community leaders in their efforts to become smoke free, and end smoking-related diseases and death among African Americans. http://www.naatpn.org/pathways

- ***T.R.Y. 2 QUIT***

TRY 2 Quit is a mentor guided smoking awareness program designed by the National Cancer Institute. The program consists of six lessons and quizzes, with a duration of 15 to 20 minutes each. http://www.durhamtry.org/TRY-2-QUIT-PROGRAM-DESCRIPTION

- ***Durham County Board of Health Smoking Rule***

The BOH smoking rule bans smoking in public places including City of Durham grounds, parks athletic fields, playgrounds, bus stops, Durham County grounds, Durham Station Transportation Center and most sidewalks. http://www.dconc.gov/home/showdocument?id=15070

- ***Bull City Breathes***

Bull City Breathes is a Durham-based media campaign promoting smoke-free policies in Durham, such as the Board of Health Smoking Rule and providing education to Durham residents about the danger of smoking. http://www.bullcitybreathes.com

- ***Smoke-free Multi-Unit Housing***

Durham County provides free technical assistance to property managers and property owners who would like to implement a smoke-free policy in their building. http://www.smokefreehousingnc.com/

- ***Dining Al Fresco***

Dining Al Fresco is a media campaign to promote smoke-free outdoor dining in restaurants. Durham County is working with local restaurants to voluntarily adopt a smoke-free outdoor dining policy. Contact: Natalie Rich, 919-560-7895 or nrich@dconc.gov.

References

[i] Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion. Smoking & Tobacco Use: Data and Statistics. Center for Disease Control and Prevention website. https://www.cdc.gov/tobacco/data_statistics/index.htm. Accessed September 6, 2017.
[ii] Centers for Disease Control and Prevention. Tobacco Industry Marketing. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/tobacco_industry/marketing/index.htm. Accessed February 18, 2018.
[iii] Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion. Smoking & Tobacco Use: African Americans and Tobacco Use. Center for Disease Control and Prevention website. https://www.cdc.gov/tobacco/disparities/african-americans/index.htm. Accessed September 6, 2017.
[iv] U.S. Department of Health and Human Services. Electronic Nicotine Delivery Systems Key Facts Infographic. Center for Disease Control and Prevention website. https://chronicdata.cdc.gov/Policy/Electronic-Nicotine-Delivery-Systems-Key-Facts-Inf/nwhw-m4ki. Accessed September 6, 2017.
[v] U.S. Department of Health and Human Services. E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General. Rockville, MD: U.S. Public Health Service, Office of the Surgeon General; 2016. https://e-cigarettes.surgeongeneral.gov/documents/2016_SGR_Exec_Summ_508.pdf. Accessed September 6, 2017.
[vi] U.S. Department of Health and Human Services. E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General. Rockville, MD: U.S. Public Health Service, Office of the Surgeon General; 2016. https://e-cigarettes.surgeongeneral.gov/documents/2016_SGR_Exec_Summ_508.pdf. Accessed September 6, 2017.
[vii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/. Accessed September 7, 2017. Updated August 2017.
[viii] Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed September 8, 2017.
[ix] Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed September 8, 2017.
[x] Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed September 8, 2017.
[xi] Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed September 8, 2017.
[xii] Durham County Department of Public Health. *Youth Risk Behavior Survey Durham County 2015 Repor*t. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed September 6, 2017.
[xiii] North Carolina Tobacco Prevention and Control Branch. *North Carolina Youth Tobacco Survey Middle and High School Factsheet*. http://tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/2015-NC-YTSFactSheet-WEBFINAL-v2.pdf. Accessed September 6, 2017.

[xiv] North Carolina Tobacco Prevention and Control Branch. *North Carolina Youth Tobacco Survey Middle and High School Factsheet*. http://tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/2015-NC-YTSFactSheet-WEBFINAL-v2.pdf. Accessed September 6, 2017.

[xv] Durham County Department of Public Health. *Youth Risk Behavior Survey Durham County 2015 Repor*t. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wpcontent/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed September 6, 2017.

[xvi] Durham County Department of Public Health. *Youth Risk Behavior Survey Durham County 2015 Repor*t. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wpcontent/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed September 6, 2017.

[xvii] North Carolina Institute of Medicine. *Healthy North Carolina 2020: A Better State of Health: Focus Areas, Objectives, and Evidence-Based Strategies Summary Tables.* North Carolina Health and Human Services. http://publichealth.nc.gov/hnc2020/foesummary.htm. Accessed September 6, 2017.

[xviii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/. Accessed September 7, 2017. Updated August 2017.

[xix] North Carolina Tobacco Prevention and Control Branch. *North Carolina Youth Tobacco Survey Middle and High School Factsheet*. http://tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/2015-NC-YTSFactSheet-WEBFINALv2.pdf. Accessed September 6, 2017.

[xx] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/. Accessed September 7, 2017. Updated August 2017.

[xxi] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/. Accessed September 7, 2017. Updated August 2017.

[xxii] North Carolina State Center for Health Statistics. *2011-2015 Cancer Mortality Rates by County for Selected Sites*. http://www.schs.state.nc.us/schs/CCR/mort1115cnty.pdf. Accessed September 14, 2017. Published December 2016.

[xxiii] North Carolina State Center for Health Statistics. *2011-2015 Cancer Mortality Rates by County for Selected Sites*. http://www.schs.state.nc.us/schs/CCR/mort1115cnty.pdf. Accessed September 14, 2017. Published December 2016.

[xxiv] North Carolina State Center for Health Statistics. *North Carolina Statewide and County Trends in Key Health Indicators: Durham County*. http://www.schs.state.nc.us/data/keyindicators/reports/Durham.pdf. Accessed September 14, 2017. Published February 2017.

[xxv] Campaign for Tobacco Free Kids. *Tobacco Company Marketing to African Americans*. Washington, DC; Campaign for Tobacco Free Kids; 2017. https://www.tobaccofreekids.org/research/factsheets/pdf/0208.pdf. Accessed September 5, 2017.

[xxvi] Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion. Smoking & Tobacco Use: African Americans and Tobacco Use. Center for Disease Control and Prevention website. https://www.cdc.gov/tobacco/disparities/african-americans/index.htm. Accessed September 5, 2017.

[xxvii] Counter Tobacco. *Disparities in Point-of-Sale Advertising and Retail Density.* University of North Carolina. http://countertobacco.org/resources-tools/evidence-summaries/disparities-in-point-of-sale-advertising-and-retailer-density/. Accessed September 5, 2017.
[xxviii] African American Tobacco Control Leadership Council. *Our Mission.* https://www.savingblacklives.org/about. Accessed September 5, 2017.
[xxix] The Community Guide. *Task Force Findings for Tobacco.* Center for Disease Control and Prevention. https://www.thecommunityguide.org/content/task-force-findings-tobacco. Accessed September 19, 2017.

Chronic Disease

This chapter includes:

- Cancer
- Diabetes
- Heart disease and Stroke
- Obesity
- Mental Health and Substance Use Disorder
- Asthma

Section 6.01 *Cancer*

Overview

The Centers for Disease Control and Prevention (CDC) highlights cancer as the second leading cause of death in the United States, exceeded only by heart disease. According to the American Cancer Society, in 2016 more than 15.5 million Americans were living with a history of cancer (excluding non-invasive cancer, as well as basal cell and squamous cell skin cancer), with 428,800 residing in North Carolina.[i] It is estimated that about 1,688,780 new cancer cases will be identified in 2017, of which 56,900 are expected to occur in North Carolina.[ii]

Cancer is the uncontrolled growth and division of abnormal cells located within the body. Cancer is made up of over 100 different diseases and is often referenced based on the disease site such as the breast, colon or prostate. When cancer spreads from the initial cancer site to other parts of the body including the lymph nodes, it is said to have metastasized. The extent of the metastasis or spreading of cancer has a significant impact on survival outcomes. With appropriate screenings, early detection of some cancers can save lives.

A cancer diagnosis can happen to anyone regardless of age, race or gender. The risk of certain cancers can be influenced by any of these characteristics and particularly as they interplay with genetics, health behaviors and other social and environmental factors. Over eleven million of the 15.5 million people living with cancer in 2016 were ages 60 years or older.[iii] In 2017, approximately 87% of cancer diagnoses will be in people over the age of 50.[iv] Increased age is associated with heightened risk of a cancer diagnosis. However, other social determinants of health and demographic characteristics also play a significant role in determining cancer risk and outcomes such as race, ethnicity, gender, socioeconomic status, citizenship, housing, educational attainment, and health insurance status.

Cancer incidence refers to the number of people who are diagnosed with cancer in a given year and is usually reported in rates per 100,000 of the population. Mortality rates refer to the number of people who die from cancer in a given year per 100,000 of the population.

Although cancer incidence and mortality rates have been declining over the years according to the North Carolina Vital Statistics report, cancer still remains the leading cause of death besides heart disease in the United States and in North Carolina.[v] Unlike other counties across the country, cancer is the primary cause of death in Durham County. Comorbidity is the presence of one or more health issues that exist alongside a primary disease. Comorbidities in cancer patients can compromise overall health requiring significant monitoring of each health issue. When not managed well, a person with cancer and other comorbidities may have heighten complications which can lead to poor outcomes.

The National Cancer Institute (NCI) defines “cancer health disparities” as adverse differences in cancer incidence (new cases), cancer prevalence (all existing cases), cancer death (mortality), cancer survivorship and burden of cancer or related health conditions that exist among specific population groups. Population groups may be characterized by age, disability, education, ethnicity, gender,

geographic location, income, race or sexual orientation." For example, African American men have a higher incidence and mortality rate of prostate cancer compared to their white counterparts.[vi] Although white women have a higher incidence of breast cancer, black women are more likely to die from the disease.[vii] People who are part of racial and ethnic minority groups, the uninsured or underinsured, rural populations, and the elderly are more likely to have poor outcomes for a myriad of reasons which span across individual, community, societal and health system factors.[viii]

North Carolina is home to three world renowned National Cancer Institute designated cancer centers. Two centers are in the greater Triangle; UNC Lineberger in Chapel Hill and the Duke Cancer Institute (DCI) in Durham. These centers are among the nation's highest ranked cancer facilities and are leaders in cancer care and treatment. Residents of Durham County may benefit from receiving cancer services at these two outstanding centers.

Healthy NC 2020 Objective

The North Carolina Institute of Medicine is targeting colorectal cancer as one of its three objectives for chronic disease reduction in 2020. There are several factors that lead to this decision. First, colorectal cancer affects both men and women and is the second leading cause of cancer deaths, besides to lung cancer in the U.S. and N.C. Lung cancer and colorectal cancer are highly correlated with smoking and reducing the rate of smoking is currently a NC Healthy 2020 objective, making it advantageous to address colon cancer deaths. In addition, since colorectal cancer can be easily prevented if caught at an early stage through screening, it is ideal to be a focus area for the state of North Carolina.[ix]

Table 6.01(a). Healthy NC 2020 Objectives

Healthy NC 2020 Objective	Current Durham	Current NC	2020 Target
1. Reduce the colorectal cancer death rate per 100,000 population[x]	12.4 (2016)[xi]	13.1(2016)	10.1%
2. Decrease the percentage of Adults who are current smokers per 100,000[xii]	23.5 (2016)[xiii]	17.9 (2016)	13.0%

Between 2012 and 2016, the incidence rate for colon and rectal cancer in North Carolina was 36.1 per 100,000 persons per year. Non-Hispanic other races had the highest incidence rate of colon and rectal cancer at 53.7 per 100,000.[xiv] When diagnosed at an early stage, the colon cancer five-year survival rate is 90%. Once the cancer has metastasized, the five-year relative survival rate goes down to 70%. If cancer has spread to distant organs, (such as the liver or lung) the survival rate is about 13%.[xv] Unfortunately, only about 40% of colorectal cancer cases are found at an early stage. Given these data, it is fitting to have the goal to reduce colon cancer deaths from 15.7 per 100,000 to 10.7 as one of the NC Healthy 2020 objectives.

Primary Data

Cancer screening is an important tool of the medical community to decrease morbidity and mortality. Screening is a proven aid in identifying cancers and helping guide treatment decisions. Because cancer screening rates are measured and reported, they are a good indicator to monitor and compare cancer treatment and prevention strategies.

According to the 2016 Durham County Community Health Opinion Survey results, cancer ranked fourth along with depression as an important health problem in Durham County. When residents were asked to cite their top five health problems that impacted the overall health of Durham County, 34.2% of respondents chose cancer as one of their top five.[xvi] This is consistent with priorities identified through listening sessions held in partnership with Duke and the community. Interestingly, despite cancer being the second leading cause of death in Durham County, it ranks as 4th in community identified priority.[xvii]

1. Obesity/overweight (47.5%)
2. Mental Health (43.8%)
3. Diabetes (37.5%)
4. Cancer (34.2%)
5. High Blood Pressure (31.8%)

Secondary Data

Where heart disease is the leading cause of death in most counties and states across the country, cancer was the primary cause of death in North Carolina in 2016.[xviii] Consistent with national trends, NC, and Durham County both have the highest incidences of breast and prostate cancer, yet lung cancer has a significantly higher mortality rate than all other cancers.[xix] As illustrated in Figure 6.01(a), Durham has a slightly higher breast cancer incidence rate compared to the state. Colon/rectal and prostate cancer incidence rates in Durham County are also comparable to state rates.

Cancer Incidence Rate by Cancer Site, North Carolina and Durham County, 2012-2016

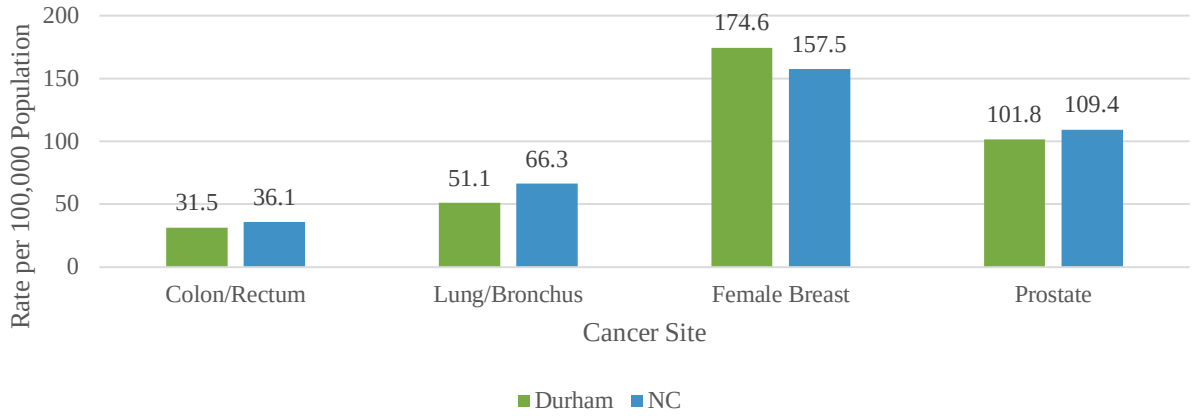


Figure 6.01(a). Cancer Incidence Rate by Cancer Site, North Carolina and Durham County, 2010-2014[xx]

Age-Adjusted Cancer Mortality Rate by Site, North Carolina and Durham County, 2012-2016

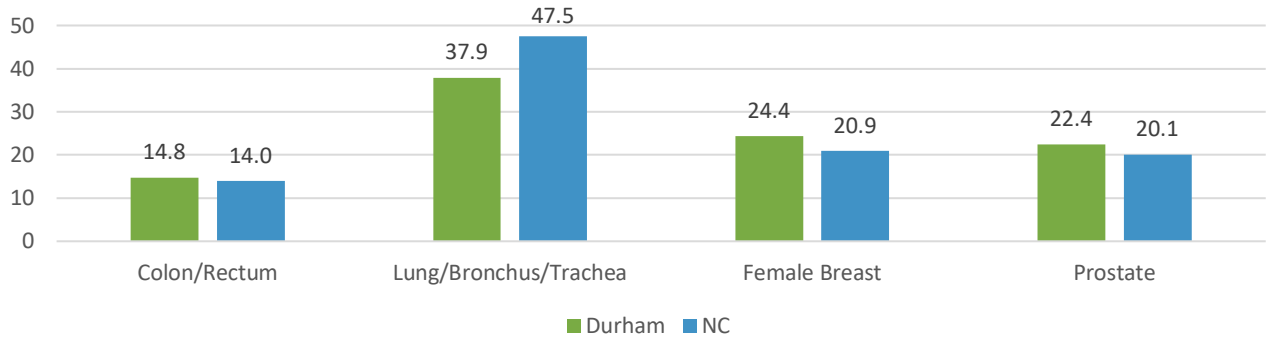


Figure 6.01(b) Age-Adjusted Cancer Mortality Rate by Site, North Carolina and Durham County, 2012-2016[xxi]

Cancer is the leading cause of death in Durham County. Durham County has an age-adjusted cancer rate of 160.9 per 100,000 people from 2012-2016, which is higher than the rate of heart disease at 130.0 per 100,000 people.[xxii] Figure 6.01(c) shows the proportion of cancer deaths attributable to the top four cancer sites in Durham County during 2012-2016. Trachea, bronchus and lung cancer are the most common causes of cancer deaths followed by breast, prostate, and colon rectum.[xxiii]

Percentage of Total Cancer Mortality by Site, Durham County, 2012-2016

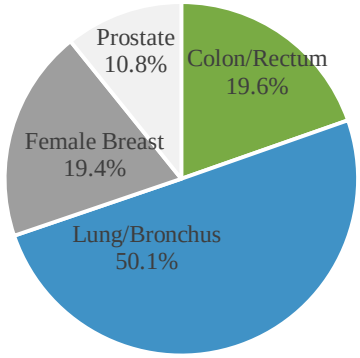


Figure 6.01(c) Percentage of Total Cancer Mortality by Site, Durham County, 2012-2016[xxiv]

Table 6.01(b) Cancer Incidence Rates in North Carolina for Top Sites by Race and Ethnicity, North Carolina, 2012-2016[xxv]

Site	Non-Hispanic African Americans	Non-Hispanic American Indians	Non-Hispanic Other Races	Non-Hispanic Whites	Hispanics
Female breast	160.5	93.0	194.0	159.7	100.0
Cervical	8.2	4.7	9.3	6.7	9.8
Colorectal	41.3	27.3	53.7	35.2	24.4
Lung	63.8	53.8	61.2	68.2	31.7
Prostate	168.1	88.6	316.4	94.3	76.0

Interpretations: Disparities, Gaps, Emerging Issues

Qualitative and quantitative data show that despite some decline in cancer incidence and mortality, there are key opportunities to promote prevention and early detection of most cancers. For example, smoking is a key risk factor for several cancers including lung cancer and colon cancer. As illustrated, cancer disparities exist across age, race, ethnicity and gender. The role geography plays when living in rural communities with heightened challenges such as limited access to resources, information and services has yet to be fully appreciated. The impact physical ability, sexual minorities and other disenfranchised groups face in Durham County as they seek cancer services is not known. With the growing number of cancer survivors in the county and across the state, the focus to develop programs to address diverse needs is becoming imminent.

Cancer disparities exist as a result of societal factors that shape individuals' opportunities and lived experience and are often framed within the context of the Social Determinants of Health (SDOH). The Social Determinants of Health are conditions in which people are born, grow, live, work and age and include the health system.[xxvi] An individual's environment is shaped by the distribution of money, power, and resources at national, local and global levels, which are influenced by policy choices.[xxvii] SDOH are key factors responsible for health inequities; these avoidable factors can be addressed by evidence based interventions focused on reducing the burden of these factors and improving overall health.

Recommended Strategies

Effective strategies designed to address cancer needs within the community and the healthcare system must incorporate a comprehensive, coordinated effort that is seamless across the cancer continuum. The strategies must appropriately address cancer disparities including the psychosocial-cultural, system and economic factors that can lead to poor outcomes. The following is a general overview of factors to consider when developing programs to address cancer risk and continuum of care.

Risk of Cancer and Targeted Preventive Efforts

When integrated with chronic diseases and other related issues, education and prevention efforts provide a framework for implementing evidence-based early detection guidelines. Many cancers are preventable with lifestyle modifications (i.e. smoking, diet, exercise), making cancer prime for public health interventions. Key prevention-intervention opportunities include smoking cessation, nutrition, physical activity and vaccinations for infectious agents such as the Human Papillomavirus Virus (HPV). Cancer risks can also be attributed to genetics/hereditary factors and environmental effects such as radiation, chemical contaminants, pollution and infection.[xxviii] Knowing one's family history plays a key role in understanding cancer risk, likewise developing or increasing environmental regulations and laws (such as no-smoking policies), to continually limit the amount of pollution can be helpful. Making genetic counseling and testing more readily available can serve as vehicle to ascertain one's risk proactively. Vaccines, isolation and other infection control measures and disease monitoring can all contribute to lowered cancer incidence.

Critical to prevention and early detection strategies is ensuring that screening programs and activities reach underserved communities and have a clear follow-up plan for patients who have an abnormal result requiring further

Screening and Early Detection

Screening can detect the disease at an early stage when it has a higher potential for cure. Interventions should explain the benefits and risks of general screening tests and connect candidates to appropriate screenings, and follow-up as needed.

Survivorship

As the number of cancer survivors continues to increase, understanding and addressing the long-term effects of cancer including the physical and psychosocial are critical elements of effective strategies designed to focus on this growing need. The increase of cancer survivors is due to many factors such as a growing aging population, early detection, improved diagnostic methods, more effective treatment and improved clinical follow-up after treatment. Survivorship is the management of late and continuing effects of cancer and cancer treatment by means of identifying and accessing resources, family/caregiver support, pain and or symptom management and continuing treatment if needed.[xxix]

Treatment, Palliative and End-of-Life-Care

Palliative and end-of-life-care meet the needs of patients requiring relief from symptoms and psychological and supportive care. End-of-life-care is particularly for those with advance stages who have a very low chance of being cured or who are facing the terminal phase of the disease. Support services are needed to aid with the management of the emotional, spiritual, social and economic challenges for patients and their family members. Creating opportunities to discuss palliative care, end-of-life care/decisions, and hospice are needed within the context of cancer and more broadly as proactive conversations within families and with providers.[xxx]

Current Initiatives & Activities

- ***American Cancer Society***
  http://www.cancer.org
- ***Duke Cancer Institute***
  http://www.cancer.duke.edu/
- ***Durham County Department of Public Health Breast and Cervical Cancer Control Program* (BCCCP)**
  http://www.dconc.gov/government/departments-f-z/public-health/services/women-s-health/breast-and-cervical-cancer-prevention-program-bcccp
- ***Duke Cancer Support Group Programs***
  http://durham.nc.networkofcare.org/mh/services/advanced-search.aspx?k=cancer
- ***Duke Community and Patient Navigation, Office of Health Equity and Disparities***
  http://www.dukecancerinstitute.org/office-health-equity-and-disparities

- ***UNC Lineberger Comprehensive Cancer Center NC Cancer Hospital***
  http://unclineberger.org/

References

[i] American Cancer Society. *Cancer Treatment & Survivorship Facts & Figures 2016-2017*. Atlanta: American Cancer Society; 2016. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/cancer-treatment-and-survivorship-facts-and-figures/cancer-treatment-and-survivorship-facts-and-figures-2016-2017.pdf. Accessed December 4, 2017.

[ii] American Cancer Society. *Cancer Facts & Figures 2017*. Atlanta: American Cancer Society; 2017. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2017/cancer-facts-and-figures-2017.pdf. Accessed December 4, 2017.

[iii] American Cancer Society. *Cancer Treatment & Survivorship Facts & Figures 2016-2017*. Atlanta: American Cancer Society; 2016 https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/cancer-treatment-and-survivorship-facts-and-figures/cancer-treatment-and-survivorship-facts-and-figures-2016-2017.pdf. Accessed December 4, 2017.

[iv] American Cancer Society. *Cancer Facts & Figures 2017*. Atlanta: American Cancer Society; 2017. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2017/cancer-facts-and-figures-2017.pdf. Accessed December 4, 2017.

[v] North Carolina Vital Statistics 2011. *Leading Causes of Death*. Volume 2. State Center for Health Statistics. Jan. 2013. http://www.schs.state.nc.us/schs/deaths/lcd/2011/pdf/Vol2_2011_PRT.pdf. Accessed June 2014.

[vi] American Cancer Society. Colorectoral Cancer Facts & Figures 2017-2019. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/colorectal-cancer-facts-and-figures/colorectal-cancer-facts-and-figures-2017-2019.pdf. Accessed February 28, 2018.

[vii] American Cancer Society. Breast Cancer Facts & Figures 2017-2018. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/breast-cancer-facts-and-figures/breast-cancer-facts-and-figures-2017-2018.pdf. Accessed February 28, 2018.

[viii] American Cancer Society. Cancer Treatment & Survivorship Facts & Figures 2016-2017. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/cancer-treatment-and-survivorship-facts-and-figures/cancer-treatment-and-survivorship-facts-and-figures-2016-2017.pdf. Accessed February 28, 2017.

[ix] North Carolina Division of Public Health. *Cancer in North Carolina 2013 Report.* January 2014 http://www.schs.state.nc.us/schs/pdf/CancerNCReport2013_Overall_FINAL_20140113.pdf. Accessed July 15, 2014.

[x] HEALTHY NORTH CAROLINA 2020: *A Better State of Health.* North Carolina Institute of Medicine 630 Davis Drive, Suite 100, Morrisville, NC 27560. January 2011 (revised March 2011). http://www.nciom.org/wp-content/uploads/2011/01/HNC2020_FINAL-March-revised.pdf Accessed June 5, 2014.

[xi] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/. Accessed February 12, 2018.

[xii] HEALTHY NORTH CAROLINA 2020: *A Better State of Health.* North Carolina Institute of Medicine 630 Davis Drive, Suite 100, Morrisville, NC 27560. January 2011 (revised March 2011). http://www.nciom.org/wp-content/uploads/2011/01/HNC2020_FINAL-March-revised.pdf Accessed June 5, 2014.

[xiii] Durham County Department of Public Health. 2016 Community Health Assessment Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 12, 2018.

[xiv] 2012-2016 North Carolina Cancer Incidence Rates by Race and Ethnicity per 100,000 Population Age-Adjusted to the 2000 Census. Produced by the NC Central Cancer Registry, December 2017. http://www.schs.state.nc.us/schs/CCR/incidence/2016/5yearRatesbyRaceEth.pdf.
[xv] North Carolina Medical Journal. Cancer Care Research in North Carolina: The State of the State. Stephanie B. Wheeler, Ethan Bash. NCMJ vol. 75, no. 4. Ncmedicaljournal.com. http://riversdeveloper.com/wp- content/uploads/2014/07/75404.pdf.
[xvi] Partnership for a Healthy Durham. *2016 Durham County Community Health Assessment*. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 28, 2018.
[xvii] Partnership for a Healthy Durham. *2016 Durham County Community Health Assessment*. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed February 8,, 2018.
[xviii] North Carolina State Center for Health Statistics. *2012-2016 NC Resident Race/Ethnicity-Specific and Sex- Specific Age-Adjusted Death Rates*. Standard=Year 2000 U.S. Population. 2018 County Health Data Book.
http://www.schs.state.nc.us/data/databook/. Accessed February 26, 2018.
[xix] North Carolina State Center for Health Statistics. *2012-2016 NC Resident Race/Ethnicity-Specific and Sex- Specific Age-Adjusted Death Rates*. Standard=Year 2000 U.S. Population. 2018 County Health Data Book.
http://www.schs.state.nc.us/data/databook/. Accessed February 26, 2018.
[xx] North Carolina State Center for Health Statistics. 2018 County Health Data Book. Preliminary 2012-2016 cancer incidence rates by county. North Carolina Department of Health and Human Services website. http://www.schs.state.nc.us/schs/CCR/incidence/2016/5yearRates.pdf. Accessed February 27, 2018. Published December 2017.
[xxi] North Carolina State Center for Health Statistics. *2012-2016 NC Resident Race/Ethnicity-Specific and Sex- Specific Age-Adjusted Death Rates*. Standard=Year 2000 U.S. Population. 2018 County Health Data Book.
http://www.schs.state.nc.us/data/databook/. Accessed February 26, 2018.
[xxii] North Carolina State Center for Health Statistics. *2012-2016 NC Resident Race/Ethnicity-Specific and Sex- Specific Age-Adjusted Death Rates*. Standard=Year 2000 U.S. Population. 2018 County Health Data Book.
http://www.schs.state.nc.us/data/databook/. Accessed February 26, 2018.
[xxiii] North Carolina State Center for Health Statistics. *2012-2016 NC Resident Race/Ethnicity-Specific and Sex- Specific Age-Adjusted Death Rates*. Standard=Year 2000 U.S. Population. 2018 County Health Data Book.
http://www.schs.state.nc.us/data/databook/. Accessed February 26, 2018.
[xxiv] North Carolina State Center for Health Statistics. Statistics and Reports. 2012-2016 Cancer mortality rates by county. North Carolina Department of Health and Human Services website. http://www.schs.state.nc.us/schs/CCR/mort1216cnty.pdf. Accessed February, 2018. Published December 2017.
[xxv] North Carolina State Center for Health Statistics. Statistics and Reports. 2011-2015 North Carolina cancer mortality rates by race and ethnicity. North Carolina Department of Health and Human Services website. http://www.schs.state.nc.us/schs/CCR/mort2015re.pdf. Accessed February, 2018. Published December 2016.
[xxvi] National Cancer Institute Health Cancer Control and Population Sciences. *Health Disparities*. U.S. National Institutes of Health. U.S. Department of Health and Human Services. National Institutes of

Health. http://cancercontrol.cancer.gov/research-emphasis/health-disparities.html. Accessed March 27, 2014.

[xxvii] National Cancer Institute Health Cancer Control and Population Sciences. *Health Disparities*. U.S. National Institutes of Health. U.S. Department of Health and Human Services. National Institutes of Health. http://cancercontrol.cancer.gov/research-emphasis/health-disparities.html. Accessed March 27, 2014.

[xxviii] National Cancer Institute Health Cancer Control and Population Sciences. *Health Disparities*. U.S. National Institutes of Health. U.S. Department of Health and Human Services. National Institutes of Health. http://cancercontrol.cancer.gov/research-emphasis/health-disparities.html. Accessed March 27, 2014.

[xxix] National Cancer Institute Health Cancer Control and Population Sciences. *Cancer Control Continuum.* U.S. National Institutes of Health. U.S. Department of Health and Human Services. National Institutes of Health. http://cancercontrol.cancer.gov/od/continuum.html

[xxx] National Cancer Institute Health Cancer Control and Population Sciences. *Cancer Control Continuum.* U.S. National Institutes of Health. U.S. Department of Health and Human Services. National Institutes of Health. http://cancercontrol.cancer.gov/od/continuum.html

Section 6.02 *Diabetes*

Overview

Diabetes is the inability of the body to properly regulate glucose, a sugar, in the blood.[i] There are four types of diabetes: prediabetes, type 1, type 2, and gestational.[ii] Type 1 diabetes occurs when the body's own immune system improperly fights and eliminates helpful insulin cells in the pancreas.[iii] Various genetic and environmental factors can contribute to type 1 diabetes, and these contributors are still undergoing research.[iv] Type 2 diabetes occurs when a person's cells become resistant to insulin and the pancreas cannot make enough insulin to outdo that resistance. This causes sugar to accumulate in the bloodstream instead of aiding in the body's energy metabolism.[v] Between 90-95% of all diagnosed cases of diabetes in adults are type 2 diabetes.[vi] Gestational diabetes occurs in pregnant women when the woman's pancreas cannot produce enough insulin to overcome the insulin resistance of hormones generated by the placenta; this results in an excess of glucose in the blood.[vii]

Prediabetes can be considered a precursor or warning sign to type 2 diabetes. The condition occurs when people have blood glucose levels that are above the normal range (normal is between 4% and 5.6%), but the levels are not high enough for a person to be diagnosed with diabetes.[viii] Most people with type 2 diabetes had prediabetes first.[ix] However, people diagnosed with prediabetes may be able to avoid or delay developing diabetes by taking steps to lower their blood glucose levels.[x]

Diabetes is a major health concern in North Carolina and affects all socioeconomic groups. If not managed correctly, diabetes can lead to several other health complications including, but not limited to nervous system impairments, heart disease, high blood pressure, stroke, blindness, dental disease, and kidney disease.[xi]

Primary Data

According to the residents who participated in the 2016 Durham County Community Health Assessment survey, diabetes rated as the third-most important health problem affecting Durham County.[xii] Overweight and obesity, a risk factor for type 2 diabetes, was ranked first among those surveyed. Residents surveyed in the Hispanic and Latino neighborhood sample ranked diabetes as the top-most important health concern, followed by cancer and overweight/obesity, respectively.[xiii] Hispanic and Latino residents are more likely to be diagnosed with diabetes and experience poorer outcomes living with the disease.[xiv]

In 2015, 14.1% of Durham County residents aged 18 years or older who received some level of care from Duke Health and/or Lincoln Community Health Center had diabetes.[xv] In 2014, 89% of diabetic Medicare enrollees aged 65-75 in North Carolina, and 91% in Durham received diabetes monitoring through HbA1c testing. (The hemoglobin A1c ((HbA1c)) test measures the amount of glucose attached to hemoglobin cells over the past two to three months; this measurement helps

people with diabetes and providers know if and how current treatment(s) are working.[xvi]) Eighty-four percent of diabetic Medicare enrollees aged 65 to 75 years in Cumberland County receive diabetes monitoring, 88% in Forsyth County, and 89% in Guilford County, making Durham's rate favorable in comparison.[xvii]

Table 6.02(a). Healthy NC 2020 Objective [xviii, xix]

Healthy NC 2020 Objective	Current Durham	Current North Carolina	2020 Target
Decrease percentage of adults with diabetes	14.1% (2016)[xviii]	10.7% (2016)[xix]	8.6%

Secondary Data

Diabetes is extremely expensive to the economy: it is estimated to cost the U.S. more than $105 billion every year.[xx] The disease cost the U.S. $5 billion in absenteeism, $20.8 billion in reduced productivity, and $21.6 billion as a result of diabetes-related disability in 2012.[xxi] People with diabetes have medical costs approximately 2.3 times higher than people without diabetes.[xxii] Across the nation, one in five health care dollars is spent to care for people who have been diagnosed with diabetes; over half of this amount is used to treat diabetes-related issues.[xxiii] Diabetes is on track to cost North Carolina's public and private sectors more than $17 billion per year by 2025.[xxiv]

Diabetes is also a leading cause of mortality, as the seventh-highest cause of deaths in both North Carolina and the United States.[xxv,xxvi] Durham County has a diabetes mortality rate lower than most of its peer counties in North Carolina. During 2015, Forsyth County had a mortality rate of 25.2 per 100,000 followed by Guilford and Cumberland County, which both had mortality rates of 24.7 per 100,000. In comparison, the diabetes mortality rate in Durham County for all residents was 19.9 per 100,000. Mecklenburg and Wake counties had lower diabetes mortality rates than Durham County.[xxvii]

Many other health conditions are risk factors for diabetes. Overweight and obesity are strong contributors to type 2 diabetes.[xxviii] However, not everyone with type 2 diabetes is overweight or obese and people can have type 2 diabetes without being overweight or obese.[xxix] As of 2016, 65% of adults in the Piedmont region, which includes Durham, were overweight or obese.[xxx] Additionally, 12% of Durham high schoolers were obese as of 2014, which is a concern for the future rates of diabetes in Durham.[xxxi]

Tobacco use also affects diabetes negatively. Smokers are 30-40% more likely to develop type 2 diabetes and they also have more complications such as heart disease, reduced circulation in their feet and legs (often leading to amputation), and retinopathy.[xxxii] In 2016, 23.5% of Durham residents reported smoking a cigarette in the past thirty days, making smoking a serious issue when dealing with diabetes in Durham.[xxxiii]

Diabetes is a contributing factor to many other health concerns. It is a leading cause of lower-limb amputation not related to trauma, new cases of blindness, and kidney failure in the United States.[xxxiv] It is also a major contributor to cardiovascular disease, the number one cause of death in this country. Cardiovascular disease is the leading cause of death for people with diabetes: about 68% of people 65 and older with diabetes die from cardiovascular disease.[xxxv] Diabetes is also a leading contributor to end stage renal disease; the main reported causes of new cases of this are diabetes and high blood pressure.[xxxvi]

Interpretations: Disparities, Gaps, Emerging Issues

Diabetes affects minorities and low-income populations disproportionately. Race is a factor: as of 2015, 10.9% of white Durham residents had diabetes compared to 20.2% of black residents.[xxxvii] Income is also a source of disparities: people with lower income are more likely to report that they have been diagnosed with diabetes. In 2016, 16.1% of survey respondents in the Piedmont region with household incomes less than $15,000 reported having diabetes, compared to 6.1% of respondents with household incomes of more than $75,000.[xxxviii] Rates also differ based on education: people with less education have higher rates of diabetes. In 2016, respondents in the Piedmont region with a high school education or less had a diabetes rate of 14.5%, compared to 6.1% of respondents who were college graduates.[xxxix]

Insurance status almost certainly affects how people are able to manage their diabetes. Ten percent of Durham County residents report that they pay for their own insurance or are uninsured.[xl] The self-insured or uninsured are less likely to receive regular diabetes care. Special consideration should be given to how to assist uninsured and underinsured populations.

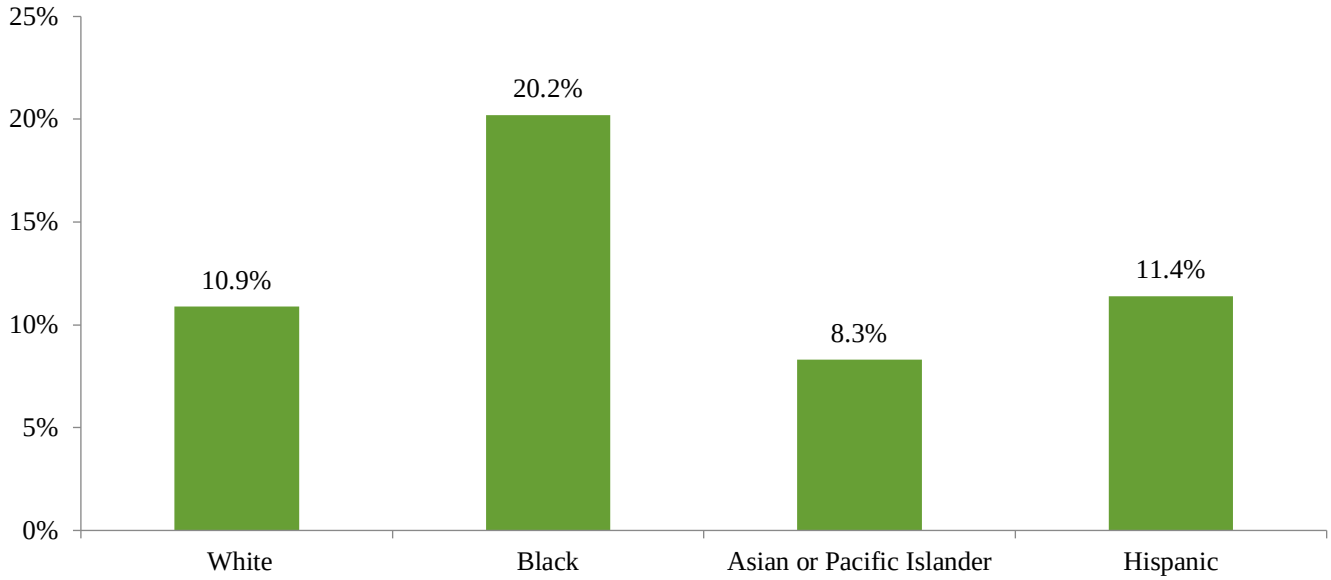


Figure 6.02(a): Diabetes Prevalence in Durham County, 2015[xli]

There are also clear gaps in self-care practices and healthy behaviors, which are essential components of a diabetes management plan. In 2010, nearly 40% of Durham County residents with diabetes reported never attending a class or course on diabetes self-management and only 50% of respondents reported checking their feet at least once a day, which is the recommended frequency to prevent complications.[xlii] In 2016, 7.6% 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.[xliii] This highlights the difficulty many patients have with many aspects of diabetes management – many parts of which are often outside their control.

Recommended Strategies

- **Increase access to Diabetes Self-Management Education/Diabetes Self-Management Programs (DSME/DSMP)**: Evidence-based diabetes self-management programs such as DSME/DSMP help people manage their diabetes, reducing complications and lower medical costs. One way of increasing participation in DSME/DSMP programs is to set up referral systems between health care providers and community DSME providers. Physicians would be able to directly refer patients to community classes, likely increasing participation. Supporting new or alternative methods of providing classes such as online classes may also make classes accessible to more people.[xliv]
- **Utilize the services of community health workers** (CHW): CHWs can work with diabetes care providers to help identify and overcome cultural barriers to diabetes-self management, make referrals to providers, coordinate patient care, and provide health information in a culturally sensitive and specific manner. Training CHWs to deliver information can have a great impact on self-management behaviors in people affected by diabetes in their communities. Increasing funding for these workers and expanding their reach would be a great help in addressing diabetes in Durham.[xlv]
- **Combined diet and physical activity programs**: These programs would entail trained providers in clinical or community settings who work directly with program participants for at least three months using a combination of counseling, coaching, and extended support. Multiple sessions related to diet and physical activity would be necessary.[xlvi]
- **Case management and disease management**: These are strongly recommended and have been shown to have a strong effect on improving glycemic control. Providing more funding and support for case managers and case management services could help people with diabetes better manage their disease.[xlvii]
- **Increase diagnoses and awareness in people with prediabetes**.[xlviii] Offering free public and on-site screening events and allowing employees time off for testing could help identify people who have prediabetes and diabetes earlier. Earlier diagnoses leads to improved outcomes. Early detection is crucial. Offering such screenings at places of employment and allowing employees to use work time could help with diagnosis rates.[xlix]

Current Initiatives & Activities

- ***Duke Medicine's Adult Diabetes Education Group Classes***

Duke Health offers group diabetes classes led by certified diabetes educators. Individual consultation are also available. Patients need a referral from their doctor to attend these classes. https://www.dukehealth.org/treatments/endocrinology/diabetes/duke-adult-diabetes-education-program

- ***CAARE Diabetes Day***

Healing With CAARE, Inc. hosts a weekly support group and educational session for people with diabetes. https://www.caareinc.org/

- ***Chronic Disease Self-Management Classes and Diabetes Self-Management Classes***

The Durham County Department of Public Health currently offers both Chronic Disease and Diabetes Self-Management Programs. These six-week programs are free of cost to participants and have been shown to improve disease management. The classes are offered on a regular basis and held at various locations in the community.

- ***Diabetes Prevention Program at the YMCA***

The Triangle area YMCAs offers a Diabetes Prevention Program. 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-services/health-and-wellness/diabetes-prevention-program-0

- ***Minority Diabetes Prevention Program***

Diabetes Prevention Program classes focus on how to make better food choices, become more physically active, and find ways to manage problems and stress. By eating healthier and increasing physical activity, participants learn how to reduce the risk or delay onset of type 2 diabetes. Classes are available in English and Spanish. www.dontbe1in3.com

References

[i] Mayo Clinic Staff. Diabetes Causes. Mayo Clinic. http://www.mayoclinic.org/diseases-conditions/diabetes/basics/causes/con-20033091. 31 July 2014. Accessed 8 September 2017.
[ii] NC's Guide to Diabetes Prevention and Management: 2015-2020. P. 1, 2.
[iii] Mayo Clinic Staff. Diabetes Causes. Mayo Clinic. http://www.mayoclinic.org/diseases-conditions/diabetes/basics/causes/con-20033091. 31 July 2014. Accessed 8 September 2017; Type 1 Research Highlights. American Diabetes Association. http://www.diabetes.org/research-and-practice/we-are-research-leaders/type-1-research-highlights/. Accessed 5 September 2017.
[iv] Mayo Clinic Staff. Diabetes Causes. Mayo Clinic. http://www.mayoclinic.org/diseases-conditions/diabetes/basics/causes/con-20033091. 31 July 2014. Accessed 8 September 2017.
[v] Mayo Clinic Staff. Diabetes Causes. Mayo Clinic. http://www.mayoclinic.org/diseases-conditions/diabetes/basics/causes/con-20033091. 31 July 2014. Accessed 8 September 2017.
[vi] Type 2 Diabetes in North Carolina. Raleigh, NC: Community and Clinical Connections for Prevention and Health Branch, Chronic Disease and Injury Section, Division of Public Health; 2017. http://www.diabetesnc.com/downloads/0617/CCCPH_FactSheet_Diabetes_FINAL_May2017.pdf.
[vii] Mayo Clinic Staff. Diabetes Causes. Mayo Clinic. http://www.mayoclinic.org/diseases-conditions/diabetes/basics/causes/con-20033091. 31 July 2014. Accessed 8 September 2017.
[viii] NC's Guide to Diabetes Prevention and Management: 2015-2020. P. 2, 3. Raleigh, NC: N.C. Diabetes Advisory Council; 2015. http://www.diabetesnc.com/downloads/1215/NCsGuideToDiabetesPreventionandManagment2015-2020_FINAL.PDF.
[ix] Healthwise Staff. Prediabetes. Durham Network of Care. http://durham.nc.networkofcare.org/mh/library/article.aspx?hwid=uz1410. Accessed 8 September 2017. 21 March 2017.
[x] NC's Guide to Diabetes Prevention and Management: 2015-2020. P. 3. Raleigh, NC: N.C. Diabetes Advisory Council; 2015. http://www.diabetesnc.com/downloads/1215/NCsGuideToDiabetesPreventionandManagment2015-2020_FINAL.PDF.
[xi] Healthy North Carolina 2020: A Better State of Health. P. 10. Morrisville, NC: North Carolina Institute of Medicine; 2011. http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf.
[xii] Durham County 2016 Community Health Assessment Survey results. Durham, NC: Durham County Department of Public Health: 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf
[xiii] Durham County 2016 Community Health Assessment Survey results. Durham, NC: Durham County Department of Public Health: 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf
[xiv] Spanakis EK, Golden SH. Race/Ethnic Difference in Diabetes and Diabetic Complications. Current Diabetes Reports. 2013;13(6):814–23.
[xv] Maxson, Pamela (Duke Center for Community and Population Health Improvement and Community Engagement, Clinical and Translational Science Institute, Duke University, Durham, NC). Correspondence from: Pamela Maxson. 31 July 2017.

[xvi] American Diabetes Association: A1c and eAG. http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/a1c/?referrer=http://google.diabetes.org/search?site=Diabetes&client=diabetes&entqr=3&oe=ISO-8859-1&ie=ISO-8859-1&ud=1&proxystylesheet=diabetes&output=xml_no_dtd&proxyreload=1&q=A1c Accessed 14 September 2017.
[xvii] County Health Rankings and Roadmaps. North Carolina Diabetes Monitoring. http://www.countyhealthrankings.org/app/north-carolina/2017/measure/factors/7/data. Accessed 14 September 2017.
[xviii] Maxson, Pamela (Duke Center for Community and Population Health Improvement and Community Engagement, Clinical and Translational Science Institute, Duke University, Durham, NC). Correspondence from: Pamela Maxson. 31 July 2017.
[xix] 2016 Annual Report, Measure: Diabetes. America's Health Rankings. United Health Foundation. https://www.americashealthrankings.org/explore/2016-annual-report/measure/Diabetes/state/NC. Accessed 8 September 2017. 2016.
[xx] Cost of Diabetes Hites 825 Billion Dollars a Year. Harvard T.H. Chan School of Public Health. https://www.hsph.harvard.edu/news/press-releases/diabetes-cost-825-billion-a-year/. Accessed 8 September 2017. 6 April 2016.
[xxi] Economic Costs of Diabetes in the U.S. in 2012. American Diabetes Association. http://care.diabetesjournals.org/content/36/4/1033. April 2013. Accessed 8 September 2017.
[xxii] NC's Guide to Diabetes Prevention and Management: 2015-2020. P. 5. Raleigh, NC: N.C. Diabetes Advisory Council; 2015. http://www.diabetesnc.com/downloads/1215/NCsGuideToDiabetesPreventionandManagment2015-2020_FINAL.PDF.
[xxiii] Morgan M, Downer S, and Lopinsky T. 2014 North Carolina State Report, PATHS (Providing Access to Healthy Solutions), The Diabetes Epidemic in North Carolina: Policies for Moving Forward. Jamaica Plain, MA: The Center for Health Law and Policy Innovation of Harvard Law School; 2014. http://www.chlpi.org/wp-content/uploads/2014/05/2014-New-Carolina-State-Report-Providing-Access-to-Healthy-Solutions-PATHS.pdf.
[xxiv] Morgan M, Downer S, and Lopinsky T. 2014 North Carolina State Report, PATHS (Providing Access to Healthy Solutions), The Diabetes Epidemic in North Carolina: Policies for Moving Forward. Jamaica Plain, MA: The Center for Health Law and Policy Innovation of Harvard Law School; 2014. http://www.chlpi.org/wp-content/uploads/2014/05/2014-New-Carolina-State-Report-Providing-Access-to-Healthy-Solutions-PATHS.pdf.
[xxv] https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm.
[xxvi] Table A: Leading Causes of Death by Age Group: North Carolina Residents, 2015. Raleigh, NC: North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics; 2016. http://schs.state.nc.us/data/vital/lcd/2015/pdf/TblsA-F.pdf.
[xxvii] Underlying Cause of Death 1999-2015. CDC WONDER Online Database. Centers for Disease Control and Prevention, National Center for Health Statistics. http://wonder.cdc.gov/ucd-icd10.html. Accessed 21 June 2017. December 2016. Data is from the Multiple Cause of Death Files, 1999-2015, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.
[xxviii] US Department of Health and Human Services. Risk Factors for Type 2 Diabetes. National Institute of Diabetes and Digestive and Kidney Diseases. https://www.niddk.nih.gov/health-information/diabetes/overview/risk-factors-type-2-diabetes. Accessed 11 September 2017.

[xxix] Mayo Clinic Staff. Diabetes Causes. Mayo Clinic. http://www.mayoclinic.org/diseases-conditions/diabetes/basics/causes/con-20033091. 31 July 2014. Accessed 8 September 2017.
[xxx] North Carolina State Center for Health Statistics. 2016 BRFSS Survey Results: Piedmont North Carolina. http://www.schs.state.nc.us/data/brfss/2016/nc/all/rf2.html. Accessed 15 November 2017.
[xxxi] *Youth Risk Behavior Survey Durham County 2015 Report*. Durham, NC: Partnership for a Healthy Durham; 2016. healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf.
[xxxii] Smoking and Diabetes: What is Diabetes? Tips from Former Smokers. Centers for Disease Control and Prevention. https://www.cdc.gov/tobacco/campaign/tips/diseases/diabetes.html. Accessed 8 September 2017. 23 January 2017.
[xxxiii] Durham County 2016 Community Health Assessment Survey results. Durham, NC: Durham County Department of Public Health: 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf
[xxxiv] Diabetes—A Major Health Problem. Atlanta, GA: National Diabetes Education Program; 2014. https://www.cdc.gov/diabetes/ndep/pdfs/ppod-guide-diabetes-major-health-problem.pdf.
[xxxv] American Heart Association. Cardiovascular Disease & Diabetes. American Heart Association. http://www.heart.org/HEARTORG/Conditions/More/Diabetes/WhyDiabetesMatters/Cardiovascular-Disease-Diabetes_UCM_313865_Article.jsp#.WbrMlOmQyM8. Accessed 12 September 2017.
[xxxvi] National Chronic Kidney Disease Fact Sheet, 2017. Atlanta, GA: National Center for Chronic Disease Prevention and Health Promotion, Division of Diabetes Translation, Centers for Disease Control and Prevention; 2017. https://www.cdc.gov/diabetes/pubs/pdf/kidney_factsheet.pdf.
[xxxvii] Maxson, Pamela (Duke Center for Community and Population Health Improvement and Community Engagement, Clinical and Translational Science Institute, Duke University, Durham, NC). Correspondence from: Pamela Maxson. 31 July 2017.
[xxxviii] North Carolina State Center for Health Statistics. 2016 BRFSS Survey Results: Piedmont North Carolina. http://www.schs.state.nc.us/data/brfss/2016/pied/DIABETE3.html. Accessed 15 November 2017.
[xxxix] North Carolina State Center for Health Statistics. 2016 BRFSS Survey Results: Piedmont North Carolina. http://www.schs.state.nc.us/data/brfss/2016/pied/DIABETE3.html. Accessed 15 November 2017.
[xl]Spratt S E, et al. Methods and initial findings from the Durham Diabetes Coalition: Integrating geospatial health technology and community interventions to reduce death and disability. J Clin Transl Endocrinol. 2015;2(1):26-36. Accessed at http://www.sciencedirect.com/science/article/pii/S221462371400043X. Accessed 8 September 2017.
[xli] Maxson, Pamela (Duke Center for Community and Population Health Improvement and Community Engagement, Clinical and Translational Science Institute, Duke University, Durham, NC). Correspondence from: Pamela Maxson. 31 July 2017.
[xlii] 2010 BRFSS topics for Durham County. North Carolina State Center for Health Statistics. Diabetes. North Carolina Department of Health and Human Services. http://www.schs.state.nc.us/SCHS/brfss/2010/durh/topics.html#pcs. Accessed 29 August 2017. 21 June 2017.
[xliii] North Carolina State Center for Health Statistics. 2016 BRFSS Survey Results: Piedmont North Carolina. http://www.schs.state.nc.us/data/brfss/2016/pied/nc05q03.html. Accessed 15 November 2017.

[xliv] Morgan, M., Downer, S., and Lopinsky, T. 2014 North Carolina State Report, PATHS (Providing Access to Healthy Solutions), The Diabetes Epidemic in North Carolina: Policies for Moving Forward. Jamaica Plain, MA: The Center for Health Law and Policy Innovation of Harvard Law School; 2014. http://www.chlpi.org/wp-content/uploads/2014/05/2014-New-Carolina-State-Report-Providing-Access-to-Healthy-Solutions-PATHS.pdf.
[xlv] Community Health Workers in Diabetes Management and Prevention. Chicago, IL: American Association of Diabetes Educators; 2015. https://www.diabeteseducator.org/docs/default-source/default-document-library/community-health-workers-in-diabetes-management-and-prevention.pdf?sfvrsn=0
[xlvi] Centers for Disease Control. Diabetes: Combined Diet and Physical Activity Promotion Programs to Prevent Type 2 Diabetes Among People at Increased Risk. The Community Guide. https://www.thecommunityguide.org/findings/diabetes-combined-diet-and-physical-activity-promotion-programs-prevent-type-2-diabetes. Accessed 12 September 2017.
[xlvii] Diabetes Prevention and Control: Case Management Interventions to Improve Glycemic Control. Atlanta, GA: Community Preventive Services Task Force; 2014. https://www.thecommunityguide.org/sites/default/files/assets/Diabetes-Case-Management.pdf.
[xlviii] NC's Guide to Diabetes Prevention and Management: 2015-2020. P. 25. Raleigh, NC: N.C. Diabetes Advisory Council; 2015. http://www.diabetesnc.com/downloads/1215/NCsGuideToDiabetesPreventionandManagment2015-2020_FINAL.PDF.
[xlix] NC's Guide to Diabetes Prevention and Management: 2015-2020. P. 20. Raleigh, NC: N.C. Diabetes Advisory Council; 2015. http://www.diabetesnc.com/downloads/1215/NCsGuideToDiabetesPreventionandManagment2015-2020_FINAL.PDF.

Section 6.03 *Heart disease and stroke*

Overview

Heart disease, also called cardiovascular disease (CVD), is a top health concern for our country, state, and county. Heart disease and stroke (a type of cerebrovascular disease) were the second and third leading causes of death in Durham County in 2015.[i] An estimated 19% of 2015 Durham deaths were caused by some form of heart disease, and 6% of deaths were the result of stroke or another form of cerebrovascular disease. 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.[ii]

Heart disease, which causes heart attack and stroke, is 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. 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.[iii]

Objective 1 of Healthy NC 2020 Chronic Disease is to reduce the cardiovascular disease mortality rate (per 100,000).

Chronic Disease Healthy NC 2020 Objective[iv]

Healthy NC 2020 Objective[v]	Durham County	North Carolina	2020 Target
Reduce the cardiovascular disease mortality rate (per 100,000 population)	180.8 (2015)	251.2 (2015)	161.5

Primary Data

According to the 2016 Durham County Community Health Assessment Survey, about 20% of Durham County residents believe that heart disease is an important health problem facing the County. The following health problems however were ranked as more important: obesity/overweight, mental health, diabetes, cancer, high blood pressure, aging problems, and asthma (Hispanic and Latino neighborhood sample only).[vi]

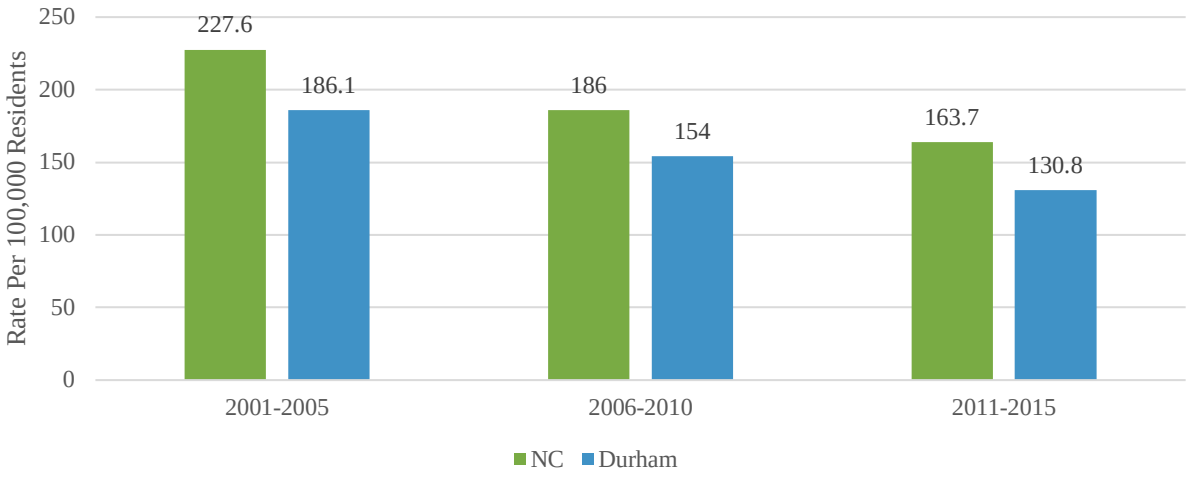
Secondary Data

Heart Disease

As Figure 6.03(a) displays, heart disease-related deaths have been declining across North Carolina and Durham County since 2001.[vii] Durham County also has lower rates of heart disease-related deaths than North Carolina overall. In the latest data available (2011-2015), Durham County's

heart disease death rate was 130.8 per 100,000 residents compared to 163.7 per 100,000 residents for all of North Carolina.[viii] County-level estimates by race, gender, or age are not available. The Healthy NC 2020 objective was to reduce cardiovascular-related deaths to 161.5 per 100,000 residents by 2020.[ix]

Age-Adjusted Heart Disease Death Rates

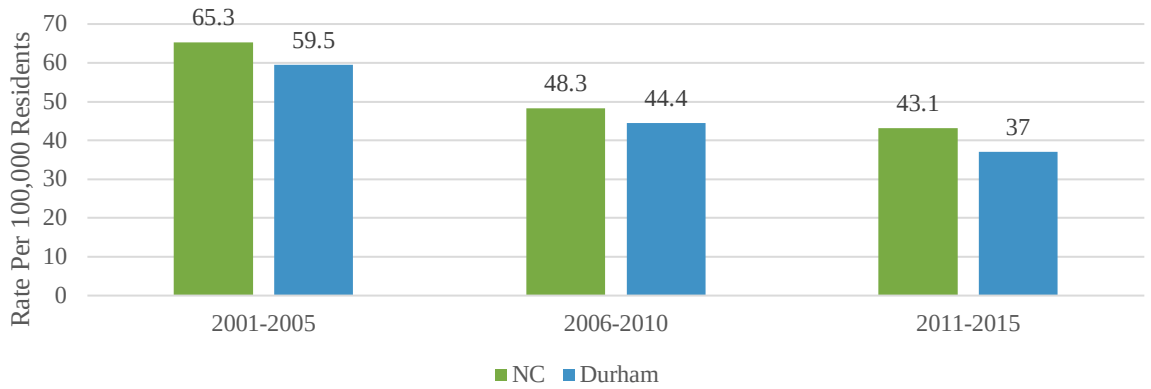


6.03(a) Age-Adjusted Heart Disease Death Rates for North Carolina and Durham County, 2001-2015

Stroke

Stroke-related deaths are also declining across North Carolina and Durham County, as shown in Figure 6.03(b).[x] In the most recent data available (2011-2015), Durham County's death by stroke rate is lower than North Carolina's (37 versus 43.1 per 100,000 residents, respectively).[xi] These rates may vary by demographic indicators, but county-level estimates by race, gender, or age are not available.

Age-Adjusted Stroke Death Rates



6.03(b) Age-Adjusted Stroke Death Rates for North Carolina and Durham County, 2001-2015

Interpretations: Disparities, Gaps, Emerging Issues

Results from the 2016 Behavioral Risk Factor Surveillance System (BRFSS) indicate that men have higher rates of cardiovascular disease (i.e., heart attack, heart disease, or stroke) (10.9%) than women (8.6%) across North Carolina.[xii] Non-Hispanic Black or African American men and women also report a history of cardiovascular disease at slightly higher rates (11.2%) than Non-Hispanic White men and women (10.4%). However, disparities are most pronounced when examining race and gender: 11.2% of Non-Hispanic Black or African American women have a history of cardiovascular disease compared to 8.5% of Non-Hispanic White women. This section examines disparities in more detail.

Socioeconomic Status Disparities

The mortality associated with heart disease and stroke varies across Durham County with highest rates identified in zip codes 27706, 27710, and 27701. The highest incidence of hypertension is in zip codes 27706, 27701 and 27704.[ii] Based on market segment research, these zip codes are composed of some of the lowest income older adults in the county. The Claritas Lifestyle Segmentation profiles elderly in these zip codes as the following:[xiii]

1. Park Bench Seniors (Downscale Older Adults)
    a. Demographic Traits- Income: Low Income (Over 50% of this population has an annual household Income of < $35K), Age Ranges: Age 55+, Employment Levels: Mostly Retired, Education Levels: High School
2. Family Thrifts (Low Income Middle Age)
    a. Demographic Traits- Income: Low Income (Over 50% of this population has an annual household Income of < $35K), Age Ranges: Age <55, Employment Levels: Mix, Education Levels: High School
3. Lo-Tech Singles (Downscale Mature)
    a. Demographic Traits- Income: Downscale (Over 50% of this population has an annual household Income of < $50K), Age Ranges: Age 65+, Employment Levels: Mostly Retired, Education Levels: High School

Racial Disparities

Racial minorities of nonwhite descent, carry a disproportionately greater burden of heart disease and stroke than Whites.[xiv] Despite having a lower total heart disease death rate than the state of North Carolina, people of color in Durham County have a heart disease death rate nearly two-thirds higher than whites. The 63% higher rate of death is due to numerous factors such as language and cultural differences, immigration status, lack of medical research, lower rates of insurance and access to care, less educational attainment, and lower literacy levels.[ii]

Gaps & Opportunities

Durham Health Innovations Project conducted research and identified four gaps and opportunities for improved heart disease and stroke management in Durham County. They are listed as followed:

Disproportionate access to care along socioeconomic and racial segments, resulting in differences in access between insured and underinsured/uninsured persons in Durham County; Fragmentation of health care delivery among health care providers (e.g. pharmacies, support services, safety net organizations); Lack of patient education about heart disease and availability of community resources provides significant challenges for managing heart disease; and Continuity of care requires a method that ensures patients are not lost in the health care system.[ii]

Recommended Strategies

The Centers for Disease Control and Prevention recommends evidence-based six-step approach in clinical, community and individualized strategies for reducing risk and mortality rates of heart disease and stroke.[xv]

1. **Policy Change:** Durham County policy and environmental change addresses fundamental social and environmental conditions that operate early in heart disease development; this approach will influence later phases of the disease process. Examples include improving accessibility, use, and quality of health care.
2. **Health Promotion and Prevention:** Individual behavioral change, county-wide, can reduce the effects of adverse social and environmental conditions. It can also reinforce the approaches that follow. Examples include fostering community awareness and support for heart disease and stroke prevention.
3. **Community Zip Code Analysis:** Detecting and controlling risk factors for high-risk populations within Durham County is a priority that can be addressed by understanding where high-risk populations reside. Examples include identifying food deserts.
4. **Clinical Care:** Emergency care and acute case management for those who experience heart attack or stroke is a necessity. This strategy continues to apply when survivors of previous acute heart disease and stroke events experience recurrent ones.
5. **Cardiac Rehab**: Rehabilitation should be applied following all acute cardiac events which evolves into long-term management that will continue throughout the person's life.
6. **Palliative Care & Hospice:** End-of-life care continues to aid how our community lives with heart disease and stroke. Ensuring all are informed and properly educated about opportunities for a better quality of life after all medical treatments have been exhausted.

Current Initiatives & Activities

- ***American Heart Association (AHA) – Triangle, Morrisville, NC***

The AHA is the nation's leader in CPR education training. This branch advocates to keep communities healthy – free of cardiovascular disease and stroke. They also offer an online patient portal with educational tools and resources.
http://www.heart.org/HEARTORG/Affiliate/Morrisville/NorthCarolina/Home_UCM_MAA007_AffiliatePage.jsp

- ***Community Health Coalition***

The Community Health Coalition is fortified by its linkage with the Durham Academy of Medicine, Dentistry and Pharmacy (an association for African-American medical professionals) to provide both volunteer leadership and medical grounding. The Health Coalition brings together and focuses existing community resources to provide culturally sensitive and specific health education, promotion and disease prevention activities to Durham's African American community. http://www.chealthc.org/

- ***Duke Heart Center, Duke University Health System***

The Duke Heart Center offers state-of-the-art cardiovascular service with a dual focus on clinical services and cardiovascular research. It is home to the Duke Databank for Cardiovascular Disease, the world's largest and oldest repository of outcomes data on heart patients. The program includes a Community Outreach and Education Program that offers heart health screenings, discussions, and health-education events. Volunteers assist with education events, health screenings and community outreach. https://www.dukehealth.org/treatments/heart

- ***Durham County Department of Public Health***

The Department of Public Health provides several health promotion and wellness programs aimed at improving the health of the community by preventing disease. Health educators address issues related to health promotion/disease prevention, wellness, chronic diseases and injuries.
Intervention and educational activities are provided at community sites, schools and clinics. http://www.dconc.gov/publichealth

- ***Healing with CAARE, Inc.***

CAARE 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. http://www.caareinc.org/

References

[i] North Carolina State Center for Health Statistics. Leading Causes of Death in North Carolina: Health Data Query System. North Carolina Health and Human Services Department. http://www.schs.state.nc.us/interactive/query/lcd/lcd.cfm. Accessed August 15, 2017. Updated October 9, 2015.
[ii] Cardiovascular Team: Vascular Intervention Project. The Durham Health Innovations Project. https://sites.duke.edu/durhamhealthinnovations/files/2015/09/CVD-report.pdf. Accessed July 5, 2017.
[iii] Healthy People 2020. Heart Disease and Stroke. https://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke. Accessed July 5, 2017.
[iv] Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database, released December, 2016. Data are from the Multiple Cause of Death Files, 1999-2015, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at http://wonder.cdc.gov/ucd-icd10.html. Accessed September 27, 2017.
[v] North Carolina Institute of Medicine. Healthy North Carolina 2020: A Better State of Health. Morrisville, NC: North Carolina Institute of Medicine; 2011. Accessed at http://www.publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf. Accessed November 16, 2017.
[vi] 2016 Durham County Community Health Opinion Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf.
[vii] North Carolina State Center for Health Statistics. North Carolina Statewide and County Trends in Key Health Indicators: Durham County. North Carolina Health and Human Services Department. http://www.schs.state.nc.us/data/keyindicators/reports/Durham.pdf. Accessed August 15, 2017. Updated February 2017.
[viii] North Carolina State Center for Health Statistics. North Carolina Statewide and County Trends in Key Health Indicators: Durham County. North Carolina Health and Human Services Department. http://www.schs.state.nc.us/data/keyindicators/reports/Durham.pdf. Accessed August 15, 2017. Updated February 2017.
[ix] North Carolina Institute of Medicine. Healthy North Carolina 2020: A Better State of Health. Morrisville, NC: North Carolina Institute of Medicine; 2011. Accessed at http://www.publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf. Accessed November 16, 2017.
[x] North Carolina State Center for Health Statistics. North Carolina Statewide and County Trends in Key Health Indicators: Durham County. North Carolina Health and Human Services Department. http://www.schs.state.nc.us/data/keyindicators/reports/Durham.pdf. Accessed August 15, 2017. Updated February 2017.
[xi] North Carolina State Center for Health Statistics. North Carolina Statewide and County Trends in Key Health Indicators: Durham County. North Carolina Health and Human Services Department. http://www.schs.state.nc.us/data/keyindicators/reports/Durham.pdf. Accessed August 15, 2017. Updated February 2017.
[xii] North Carolina State Center for Health Statistics. 2016 Behavioral Risk Factor Surveillance System Survey Results: North Carolina. Chronic Health Conditions. History of Any Cardiovascular Diseases (heart attack or coronary heart disease or stroke). http://www.schs.state.nc.us/data/brfss/2016/nc/all/cvdhist.html. Accessed November 17, 2017. Updated August 2017.

[xiii] Claritas. Zip Code Look-Up. Lifestyle Segementation. https://segmentationsolutions.nielsen.com/mybestsegments/Default.jsp?ID=20&menuOption=ziplookup&pageName=ZIP%2BCode%2BLookup. Accessed July 5, 2017.

[xiv] Justus-Warren Heart Disease & Stroke Prevention Task Force. The Burden of Cardiovascular Disease in North Carolina September 2012 Update. http://startwithyourheart.com/Data/_downloads/Burden%20of%20CVD%20in%20NC_TEXT_2012%20update_Posted_12-21-2012_2.pdf. Accessed July 8, 2017.

[xv] U.S. Department of Health and Human Services Centers for Disease Control and Prevention. A Public Health Action Plan to Prevent Heart Disease and Stroke. https://www.cdc.gov/dhdsp/action_plan/pdfs/action_plan_full.pdf. Accessed July 6, 2017.

Section 6.04 *Obesity*

Overview

Overweight and obesity are defined as excess adipose (fat) accumulation, such that weight is higher than what would be considered "healthy" for a given height.[i,ii] Although energy intake and expenditure are key drivers of body weight, keeping weight stable is a complex process, and may affect individuals differently. A combination of causes and factors contribute to weight gain and obesity including genetics and disease, as well as behaviors related to diet and physical activity (more information on physical activity and nutrition can be found in Community Health Assessment sections 5.01 and 5.02).

Weight is used to calculate Body Mass Index (BMI), which is a common measure used to determine weight status. BMI is an individual's weight in kilograms divided by their squared height in meters (k/m^2). For children, this calculation is also age- and sex-specific, and BMI percentile determines weight status. The table below shows weight status categories and their corresponding values/percentiles for adults and children.

Weight Status	**Adults** BMI Value	**Children** BMI Percentile
Underweight	Below 18.5	Less than 5th percentile
Healthy Weight	18.5 to 24.9	5th to less than 85th percentile
Overweight	25.0 to 29.9	85th to less than 95th percentile
Obesity	30.0 or above	95th percentile or above

Overweight and obesity are serious concerns, and are associated with many physical and psychological comorbidities for both adults and children. People with overweight or obese may also have health issues that include asthma, hypertension, high blood pressure, type 2 diabetes, gastrointestinal problems, sleep disorders, depression, and anxiety.[iii,iv] Individuals with overweight and obesity often report facing weight stigma and weight-based discrimination.[iv] Obesity is also related to lower health-related Quality of Life.[v, vi] Overweight and obesity in childhood are linked to increased risk of overweight/obesity in adulthood.[vii]

Primary Data

Community Feedback

Nearly half (47.5%), of Durham County residents identified obesity/overweight as one of the most important health problems in the county, according to results of the 2016 Durham County

Community Health Assessment Survey. Diabetes (selected by 37.5% of residents as one of the most important health problems in the county), cancer (34.2%), high blood pressure (31.8%), and heart disease (20.0%), all of which are conditions related to obesity, also emerged as important.[viii]

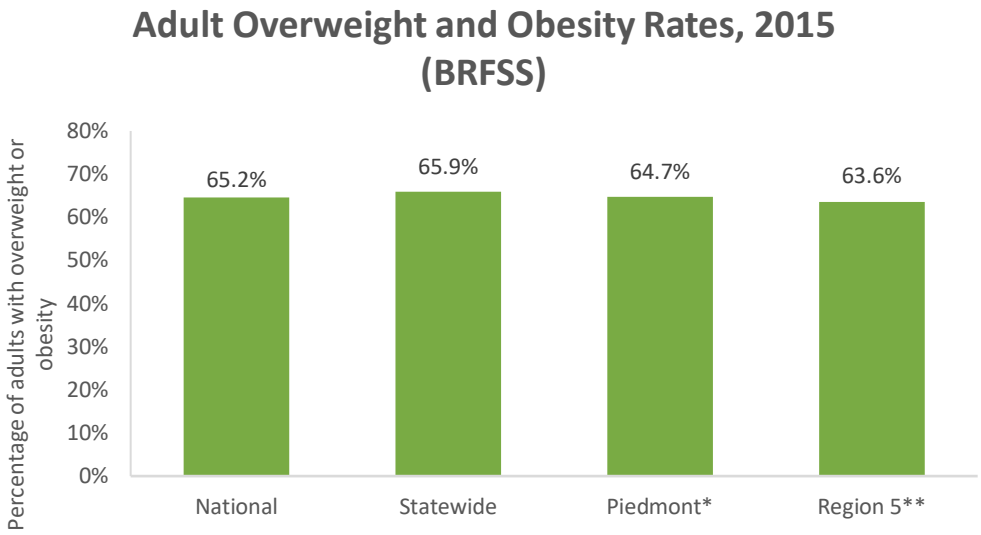
Secondary Data

National Prevalence

Recent reports on obesity in the United States state that prevalence of obesity is approximately 16.9% among children and adolescents ages 2 to 19 and 34.9% among adults age 20 and older. Approximately 31.8% of children and 68.5% of adults meet the criteria for either overweight or obesity.[ix]

Local Prevalence

Local obesity rates have remained consistent in recent years. According to recent survey data from adolescents, the prevalence of overweight and obesity among adolescents in grades 9 through 12 in North Carolina is 32.3%, while the national prevalence is 29.9%.[x] For obesity only, prevalence among this age group is 16.4% in North Carolina and 13.9% in the U.S.[x] For local adults, rates are more similar to those nationally, shown in the graph below.[xi, xii]



*Piedmont is defined as one of 3 state regions (others being Eastern NC and Western NC), and includes Alamance, Alexander, Anson, Cabarrus, Caswell, Catawba, Chatham, Cleveland, Davidson, Davie, Durham, Forsyth, Franklin, Gaston, Granville, Guilford, Iredell, Lee, Lincoln, Mecklenburg, Montgomery, Moore, Orange, Person, Randolph, Richmond, Rockingham, Rowan, Stanly, Stokes, Union, Vance, Wake, Warren, and Yadkin counties.
**Region 5 is defined as one of the North Carolina Association of Local Health Directors Regions, and includes Alamance, Caswell, Chatham, Durham, Guilford, Orange, Person, Randolph, Rockingham counties,

Cost

In addition to health risks, overweight and obesity result in substantial economic costs. Individuals with obesity experience significantly higher medical expenditures than those without obesity, regardless of whether they are publicly or privately insured.[xiii-xv] Nationally, the proportion of annual medical costs attributable to obesity was estimated at approximately $147 billion during 2008, and obesity-related medical costs have increased to 9.1% of annual medical spending, up from 6.5% of annual medical spending in 1998.[xv] In North Carolina specifically, recent reports estimate that 9.9% of N.C. medical expenditures are attributable to obesity.[xvi]

Interpretations: Disparities, Gaps, Emerging Issues

Disparities

Identifying overweight and obesity prevalence by race/ethnicity can help target where health disparities are occurring as well. While race or ethnicity does not "cause" overweight or obesity, it is likely that related factors such as access to healthcare, healthy nutrition, exercise, income, education, and racism affect decisions that contribute to the prevalence of cases of unhealthy weight. Overweight and obesity rates in North Carolina are greater for Hispanic/Latino groups of all races, with 41.7% considered overweight in comparison to an overall average of 35.8% for all races and ethnicities. The African American, Non-Hispanic group had the greatest percentage of adults with obesity, at 40.1% compared to an average of 30.1% among all races/ethnicities in North Carolina.[xii]

Disparities data on overweight or obesity rates in children ages two to 18 from low-income families who participate in the WIC Program (Women, Infants, and Children, a special supplemental nutrition program for pregnant, breastfeeding, and postpartum women, infants, and children up to age five with a family income less than 185% of the federal poverty guidelines) and Child Health Clinics shows the highest rates of overweight or obesity among Native Hawaiian/other Pacific Islander (34.4%) and American Indian or Alaska Native (34.1%) groups in comparison to the overall sample (29.2%). Among White, Black or African-American, and Asian children, those who were of Hispanic ethnicity had higher rates of obesity than those who were non-Hispanic. Caution should be used in comparing this pediatric information to information about rates in adult groups, as the grouping classifications for race and ethnicity are different, and rates reported here for children are for aggregated overweight and obesity data.[xvii]

Gaps and Emerging Issues

The 2016 Durham County Community Health Assessment Survey highlights several important gaps. Although the full sample and the Hispanic/Latino neighborhood sample highlighted obesity and diabetes as top health priorities, the most commonly reported community needs focus on employment, housing and safety. Physical activity and access to healthy food are lower priority issues behind these crucial necessities. Access to quality healthcare is a critical component in managing the obesity epidemic. Yet many Durham residents report barriers to healthcare largely

centered on lack of insurance or underinsurance. One potential emerging issue is the need for a medical home to deliver effective, high-quality and non-judgmental obesity care. Those seeking care with a provider they do not know are less likely to discuss personal habits and set goals for change. Yet, only 75% of the full county sample and only 48% of the Hispanic/Latino neighborhood sample reported having a doctor.[viii]

Recommended Strategies

North Carolina has developed evidence-based resources and guides suggesting ways to address obesity and support children and adults achieving a healthy weight and healthy lifestyle.[xviii]

Below are strategies for weight management that will help individuals lead a healthy lifestyle:

1. Increase physical activity. Recommendations suggest adults do at least 150 minutes of moderate-intensity aerobic activity per week, and children do at least 60 minutes daily. In addition to aerobic activities, activities that strengthen muscles and bones are also encouraged.
2. Eat more fruits and vegetables. Federal Dietary Guidelines for Americans recommend 2 cups of fruit and 2.5 cups of vegetables each day, with encouragement to choose fruits and vegetables of a variety of colors.
3. Drink fewer sugar-sweetened beverages like soda, sweet tea, energy drinks, and sports drinks, which will help reduce calorie intake.
4. Eat fewer foods that contain a high number of calories from fat and sugar, or decrease portion sizes
5. Watch less television and decrease other screen time

More detail about these strategies can be found in the resources developed by Eat Smart Move More NC[xviii] and the Centers for Disease Control and Prevention.[xix]

Current Initiatives & Activities

- ***Partnership for a Healthy Durham, Obesity and Chronic Illness Subcommittee***

This group meets monthly to discuss and act on ways to move the people of Durham toward a healthier weight. They collaborate on actions such as writing letters of support for issues like creating walking trails in Durham neighborhoods, advocating for healthier food options in DPS, and promoting breastfeeding-friendly workplaces. http://www.healthydurham.org

- ***Durham County Department of Public Health (DCoDPH)***

DCoDPH (http://www.dconc.gov/publichealth) offers multiple services addressing healthy weight within their Nutrition Division and Health Education Division. Some of these include:

- DINE for LIFE offers nutrition education to schools and parts of the community which have high proportions of Supplemental Nutrition Education Program (SNAP, formerly Food Stamps) participants.
- Clinical Nutrition Services offers one-on-one nutrition counseling on a variety of medical nutrition issues including weight management. Offers group Diabetes Self-Management Education classes which include instruction on healthy weight management.

- Health Promotion and Wellness provides educational programs to adults in community, faith-based and workplace settings. Some program topics include cardiovascular health, fitness/exercise, wellness, and diabetes. For more information, call (919) 560-7760.
- 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. For more information call (919) 560-7771

- ***Duke University Health System***
  - Healthy Durham 20/20 convenes a multi-sector coalition of public & private entities committed to addressing social determinants of health, and promoting existing & newly-developed systems and policy changes to reduce health disparities and improve health. https://www.facebook.com/healthydurham2020/
  - Duke Healthy Campus Initiative engages students, faculty, and staff across the Duke community to improve health and quality of life for Duke affiliates. Among their focus areas are food & nutrition and physical activity & movement.
  - Healthy Lifestyles Program provides childhood obesity treatment by offering caring providers, family-centered treatment programs, highly trained educators and researchers, and strong community partnerships. http://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.kohlsbullcityfit.org
  - Duke Center for Childhood Obesity Research (DCCOR) conducts innovative and interdisciplinary research related to obesity prevention and treatment (including weight stigma) that seeks to change practice and policy to help children lead healthier lives.
  - 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. https://hr.duke.edu/wellness/live-life
  - 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. https://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. http://www.dukedietandfitness.org
- ***Durham Public Schools*** www.dpsnc.net
  - School Health Advisory Council (SHAC): The DPS SHAC makes recommendations to the school system on aspects of the school health programs, and these recommendations inform the DPS Wellness Policy.
  - School Nutrition Services (SNS): DPS SNS has implemented healthy menu changes, which are intended to promote healthier weight, ahead of the schedule dictated by federal regulations. The CNS should work with the students' medical

provider on a case by case basis to implement a special diet order when needed.
http://www.dpsnc.net/about-dps/departments/child-nutrition-services/about-cns

- ***Durham Parks and Recreation Department (DPR)***
  - DPR offers many fitness options and sometimes classes about healthy eating.
    http://www.DPRPlayMore.org
    http://www.facebook.com/DurhamParksandRecreation

References

i. World Health Organization. Obesity and Overweight Fact Sheet. Available at: http://www.who.int/mediacentre/factsheets/fs311/en/. Accessed August 1, 2017.
ii. Centers for Disease Control and Prevention. Defining Adult Overweight and Obesity. Available at: https://www.cdc.gov/obesity/adult/defining.html. Accessed August 1, 2017. Updated June 16, 2016.
iii. Pulgarón ER. Childhood obesity: a review of increased risk for physical and psychological comorbidities. Clinical therapeutics. 2013 Jan 31;35(1):A18-32.
iv. Taylor VH, Forhan M, Vigod SN, McIntyre RS, Morrison KM. The impact of obesity on quality of life. Best practice & research Clinical endocrinology & metabolism. 2013 Apr 30;27(2):139-46.
v. Jia H, Lubetkin EI. The impact of obesity on health-related quality-of-life in the general adult US population. Journal of public health. 2005 Jun 1;27(2):156-64.
vi. Swallen KC, Reither EN, Haas SA, Meier AM. Overweight, obesity, and health-related quality of life among adolescents: the National Longitudinal Study of Adolescent Health. Pediatrics. 2005 Feb 1;115(2):340-7.
vii. Singh AS, Mulder C, Twisk JW, Van Mechelen W, Chinapaw MJ. Tracking of childhood overweight into adulthood: a systematic review of the literature. Obesity reviews. 2008 Sep 1;9(5):474-88.
viii. Partnership for a Healthy Durham. 2016 Durham County Community Health Assessment Survey. Partnership for a Healthy Durham. Available at: http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf.
ix. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of childhood and adult obesity in the United States, 2011-2012. Jama. 2014 Feb 26;311(8):806-14.
x. Centers for Disease Control and Prevention. 2015 Youth Risk Behavior Survey (YRBS) Questionnaire. Available at: http://www.cdc.gov/yrbs. Accessed August 1, 2017.
xi. Centers for Disease Control and Prevention. 2015 Behavioral Risk Factor Surveillance System (BRFSS) Survey Data. Available at: https://www.cdc.gov/brfss/brfssprevalence/. Accessed August 1, 2017.
xii. North Carolina State Center for Health Statistics. 2015 BRFSS Survey Results: North Carolina Regions. Available at: http://www.schs.state.nc.us/data/brfss/2015/nc/nccr/rf1.html. Accessed August 1, 2017. Updated September 21, 2016.
xiii. Padula WV, Allen RR, Nair KV. Determining the cost of obesity and its common comorbidities from a commercial claims database. Clinical obesity. 2014 Feb 1;4(1):53-8.
xiv. Withrow D, Alter DA. The economic burden of obesity worldwide: a systematic review of the direct costs of obesity. Obesity reviews. 2011 Feb 1;12(2):131-41.
xv. Finkelstein EA, Trogdon JG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: payer-and service-specific estimates. Health affairs. 2009 Sep 1;28(5):w822-31.
xvi. Trogdon JG, Finkelstein EA, Feagan CW, Cohen JW. State-and payer-specific estimates of annual medical expenditures attributable to obesity. Obesity. 2012 Jan 1;20(1):214-20.
xvii. Eat Smart, Move More North Carolina. North Carolina Pediatric Nutrition and Epidemiology Surveillance System (NC-PedNESS), Available at http://www.eatsmartmovemorenc.com/Data/Texts/0617/2015NC-PedNESS_ObesityinChildren2to18byrace.pdf. Accessed September 1, 2017.
xviii. Eat Smart, Move More North Carolina. NC Obesity Prevention Plan: NC Obesity Prevention Plan 2013-2020. Available at: http://www.eatsmartmovemorenc.com/ESMMPlan/Texts/NC%20Obesity%20Prevention%20Plan%202013-2020_LowRes_FINAL.pdf. Accessed October 16, 2017.

xix. Centers for Disease Control and Prevention. Strategies to Prevent Obesity. Available at: https://www.cdc.gov/obesity/strategies/index.html. Accessed October 16, 2017.

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 indirect costs such as prevention, treatment, and recovery supports; but 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; homelessness; among other problems.[ii] As of 2014, approximately five percent of North Carolinians 18 and over had serious mental illness.[iii] In 2014, 6.1% of North Carolinians 12 and over were dependent on or abused alcohol and 2.8% of North Carolinians in this same age group were dependent on or abused illicit drugs.[iv]

Healthy NC 2020 Objectives

Substance Use/Mental Health

Healthy NC 2020 Objective[v]	Current Durham	Current NC	2020 Target
1. Reduce the percentage of high school students who had alcohol on one or more of the past 30 days	25% (2015)[vi]	29.2% (2015)	26.4%
2. Reduce the suicide rate (per 100,000 population)	8.1 (2012-16)[vii]	13.4 (2015)	8.3
3. Reduce the rate of mental health-related visits to emergency departments (yearly admits per 10,000 population)	156.2 (2016)[viii]	584.2 (2016)[ix]	82.8

Secondary Data

Individuals with Medicaid or without insurance and no ability to pay are served by the public mental health system, managed by Alliance Behavioral Healthcare Managed Care Organization (MCO). Alliance Behavioral Healthcare 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 Behavioral Healthcare 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 2017, Alliance Behavioral Healthcare partnered with a network of over 2200 private providers.[x] During this same period, the organization served 46,204 individuals on Medicaid and another

18,143 individuals through state funding.[xi] Also during fiscal year 2017, Alliance Behavioral Healthcare spent $2,124,408 to address naloxone.[xii]

Alliance Behavioral Health Care has worked to fill a gap in the Durham crisis continuum with a Behavioral Health Urgent Care program run by Carolina Outreach. The clinic served on average almost 100 people a month during its first six months. The clinic is designed to serve individuals with Medicaid or those uninsured within Alliance's catchment area.[xiii]

Durham County also has a private mental health providers. According to the Robert Wood Johnson Foundation (RWJF) County Health Rankings, Durham County had one mental health provider for every 200 Durham County residents in 2017. The ratio was 490:1 for North Carolina and 360:1 for top performing counties in the U.S.[xiv]

Opioids

North Carolina is experiencing an opioid epidemic similar to other communities across the country. Between 1999 and 2016, more than 12,000 North Carolinians died from opioid-related overdoses.[xv] Deaths due to medication/drug overdoses have been steadily increasing since 1999, and the vast majority (~85%) of these are unintentional.[xvi] The number of medication/drug deaths has increased 410%, from 363 in 1999 to 1,851 in 2016.[xvii] In Durham County, throughout 2016, naloxone, a drug used to reverse opioid overdoses, was administered to 232 people in Durham County via Emergency Medical Services (EMS).[xviii] This data has been used as a proxy to estimate the number of opioid related overdoses resulting in an Emergency Department (ED) visit in Durham County due data inaccuracies that made surveillance data predating 2017 inaccurate.

The NC Injury and Violence Prevention branch has estimated the average medical costs and work loss costs from medication and drug fatalities based on 2010 prices, then indexed to 2015 prices in the state. These estimates do not include costs associated with treatment and recovery.[xix]

Total Medical Costs in Durham County, 2016	$ 181,380
Total Work Loss Costs in Durham County, 2016	$ 40,954,195
Combined Cost	**$ 41,135,575**

ACEs

ACEs are adverse childhood experiences that harm children's developing brains and lead to changing how they respond to stress. This damages their immune systems so profoundly that the effects show up decades later. ACEs cause much of adults' burden of chronic disease, most mental illness, and are at the root of most violence.[xx]

The 10 ACEs the researchers measured include: physical, sexual and verbal abuse; physical and emotional neglect; a family member who is depressed or diagnosed with other mental illness, addicted to alcohol or another substance, in prison; witnessing a mother being abused and losing a parent to separation, divorce or other reason.

Resilience

Resilience is the process of adapting while in the face of adversity, trauma, tragedy, threats, or even significant sources of stress — such as family and relationship problems, serious health problems, or workplace and financial stressors.[xxi] It means "bouncing back" from difficult experiences. Research has shown that resilience is ordinary, not extraordinary.

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 resilience and capacity to address challenges and adverse events as an adult. 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. In January 2017, the Durham County Board of County Commissioners (BOCC) began a collaborative effort with Durham County Department of Public Health and other community organizations in the County to address ACEs in the Durham community. The ACEs workgroup and subcommittees are currently developing an implementation plan to address ACEs in Durham County, with a pilot focusing on women of reproductive age.

Primary Data

2016 Durham County Community Health Assessment Survey

The 2016 Durham County Community Health Assessment respondents were asked to identify the top three health problems in their community.[xxii] In the full county sample, mental health was ranked second, with 43.8% of respondents indicating it being an issue in their communities. Substance abuse was ranked twelfth by 2% of respondents. In the Hispanic/Latino neighborhood sample, mental health was the fourth most cited health issue (31.7%) in the community and substance use was not listed.[xxiii]

Youth Risk Behavior Survey (YRBS)

The YRBS is a Centers for Disease Control and Prevention (CDC) survey designed to monitor priority risk behaviors. It is administered every two years and uses a random sample of middle schools and high schools in the Durham Public Schools system.

Findings from Durham's 2015 YRBS indicated that of the high school students surveyed:[xxiv]

- 27% reported depression in the past year (feeling so sad or hopeless almost every day for 2 weeks or more in a row that they stopped doing usual activities)
- 14% made a plan to attempt suicide
- 25% had one or more drinks of alcohol in the past 30 days

These percentages were not statistically different from the statewide results.

Findings for the 2015 YRBS showed that middle school students who answered the survey:[xxv]

- 26% reported depression in the past year (feeling so sad or hopeless almost every day for 2 weeks or more in a row that they stopped doing usual activities)

- 18% made a plan to attempt suicide

The percentage of middle school students who made a plan to attempt suicide was 4% higher than the state average.

Interpretations: Disparities, Gaps, Emerging Issues

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.[xxvi]

Treatment of mental health and substance use disorders is difficult for many reasons. There is no single "system" for mental health and substance use services. Services and providers are often fragmented with agencies providing funding and oversight.[xxvii] This fragmentation of the mental health and substance use service systems cause disparities in access to high-quality, effective prevention, treatment, and recovery services, lack of integration between mental health and substance use services and physical health services, and the nearly constant changes over the past 15 years to North Carolina's public mental health and substance use system.[xxviii] All of these factors create significant systemic barriers to delivering the prevention, treatment, and recovery services that are needed.[xxix]

Those who experience disparities in mental health and substance use treatment include: [xxx, xxxi]

- Blacks
- Latinos
- American Indians/Alaska Natives
- Asian Americans
- Lesbian, gay, bisexual, transgender, and questioning (LGBTQ) population
- People with disabilities
- Transition-age youth
- Young adults

Recommended Strategies

Selected recommendations to address issues with mental health and substance use treatment in North Carolina include:[xxxii]

- Provide case management and recovery navigation
- Require North Carolina agencies to share data cross-agency
- Assess and address disparities in the LME/MCO system
- Expand access to mental health and substance use services
- Educate communities on available mental health and substance use services
- Develop a common access point for the mental health and substance use prevention, treatment, and recovery system
- Increase the number of North Carolinians trained in Mental Health First Aid
- Educate school personnel on the behavioral health needs of adolescents

- Support the implementation of trauma-informed child and family serving systems across North Carolina counties
- Increase care management services for older adults

Current Initiatives & Activities

- ***Alliance Behavioral Healthcare***

Manager of public behavioral health and developmental disability services.
http://www.alliancebhc.org/

- ***Carolina Outreach Behavioral Health Urgent Care***

Walk-in clinic for hose experiencing a mental health crisis or substance use problems. Evening and some weekend hours available.
https://carolinaoutreachbhuc.com/

- ***Durham Network of Care***

Online directory of behavioral health services and information place for the individuals, families, and agencies. http://durham.nc.networkofcare.org

- ***Partnership for a Healthy Durham***

Mental Health and Substance Abuse Committee develops strategies to address mental health and substance use disorder concerns in Durham County. http://www.healthydurham.org/

- ***Durham System of Care***

Durham System of Care is a framework for organizing and coordinating services and resources into a comprehensive and interconnected network. http://www.alliancebhc.org/about-alliance/system-of-care/

- ***Durham VA Medical Center***

Provides comprehensive medical and behavioral health services to veterans in central and eastern North Carolina. http://www.durhamva.gov

- ***Together for Resilient Youth (TRY)***

Works to prevent substance abuse among youth and adults by reducing community risk factors through advocacy, education, mobilization and action. www.DurhamTRY.org

- ***Duke Children's Evaluation Center***

Ensures that youth access timely and appropriate care for emerging and critical mental health needs. DCEC provides evaluation and short-term treatment for infants, children, and young adults (ages 0-25). https://ipmh.duke.edu/content/dcec

- ***NC Harm Reduction Coalition***

NCHRC gives out naloxone kits and instructions throughout the state. Kits are available on Fridays from 4-6 pm at the Sunrise Recovery House during the summer.
http://www.nchrc.org/

References

i. Carolina's Mental Health and Substance Use Systems: A Report from the NCIOM Task Force on Mental Health and Substance Use. Morrisville, NC: North Carolina Institute of Medicine; 2016. http://nciom.org/transforming-north-carolinas-mental-health-and-substance-use-systems-a-report-from-the-nciom-task-force-on-mental-health-and-substance-use/. Retrieved February 12, 2018.

ii. Carolina's Mental Health and Substance Use Systems: A Report from the NCIOM Task Force on Mental Health and Substance Use. Morrisville, NC: North Carolina Institute of Medicine; 2016. http://nciom.org/transforming-north-carolinas-mental-health-and-substance-use-systems-a-report-from-the-nciom-task-force-on-mental-health-and-substance-use/. Retrieved February 12, 2018.

iii. Substance Abuse and Mental Health Services Administration. *Behavioral Health Barometer: North Carolina, 2015*. HHS Publication No. SMA–16–Baro–2015–NC. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2015. https://www.samhsa.gov/data/sites/default/files/2015_North-Carolina_BHBarometer.pdf. Retrieved February 12, 2018.

iv. Substance Abuse and Mental Health Services Administration. *Behavioral Health Barometer: North Carolina, 2015*. HHS Publication No. SMA–16–Baro–2015–NC. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2015. https://www.samhsa.gov/data/sites/default/files/2015_North-Carolina_BHBarometer.pdf. Retrieved February 12, 2018.

v. Healthy North Carolina 2020: A Better State of Health. *Focus Areas, Objectives, and Evidence-Based Strategies Summary Tables.* North Carolian Division of Public Health. http://publichealth.nc.gov/hnc2020/foesummary.htm. Retrieved February 12, 2018.

vi. Durham County 2016 Youth Risk Behavior Survey Report. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Accessed February 12, 2018.

vii. North Carolina Center for State Statistics. 2012-2016 Durham County Resident Race/Ethnicity-Specific and Sex-Specific Age-Adjusted Death Rates. http://www.schs.state.nc.us/data/databook/. Retrieved February 12, 2018.

viii. North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT). Custom Event Line Listing Reports- Mental Health: Cognitive disorders; Mental Health: Childhood developmental disorders; Mental Health: anxiety, mood, and psychotic disorders. Internal analysis. NC DETECT accessed February 13, 2018.

ix. Ising, Amy (Program Director, NC DETECT). Email Correspondence with: Denver Jameson. May 23, 2017.

x. Robinson, R. (2018). *Alliance Resources*. Presentation, Durham County Leadership Forum on Substance Abuse.

xi. Robinson, R. (2018). *Alliance Resources*. Presentation, Durham County Leadership Forum on Substance Abuse.

xii. Robinson, R. (2018). *Alliance Resources*. Presentation, Durham County Leadership Forum on Substance Abuse.

xiii. Crawford, Vaughn (Director of Systems Engagement, Alliance Behavioral Healthcare). Email correspondence with: Marissa Mortiboy, February 23, 2018.

xiv. 2017 County Health Rankings and Roadmaps. Durham County, North Carolina Snapshot. Robert Wood Johnston Foundation. http://www.countyhealthrankings.org/app/north-carolina/2017/rankings/durham/county/outcomes/overall/snapshot-. Retrieved February 12, 2018.

xv. Sena, A. (2018). Planning for a Coordinated Response to the Opioid Epidemic in Durham County, North Carolina [White paper]. February 2018.

xvi. Sena, A. (2018). Planning for a Coordinated Response to the Opioid Epidemic in Durham County, North Carolina [White paper]. February 2018.

xvii. Sena, A. (2018). Planning for a Coordinated Response to the Opioid Epidemic in Durham County, North Carolina [White paper]. February 2018.

xviii. Sena, A. (2018). Planning for a Coordinated Response to the Opioid Epidemic in Durham County, North Carolina [White paper]. February 2018.

xix. Sena, A. (2018). Planning for a Coordinated Response to the Opioid Epidemic in Durham County, North Carolina [White paper]. February 2018.

xx. About the CDC-Kaiser ACE Study. Centers for Disease Control and Prevention. https://www.cdc.gov/violenceprevention/acestudy/about.html. Retrieved February 12, 2018.

xxi. The Road to Resilience. American Psychological Association http://www.apa.org/helpcenter/road-resilience.aspx. Retrieved on February 12, 2018.

xxii. Partnership for a Healthy Durham. 2016 Durham County Community Health Assessment Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Retrieved February 12, 2018.

xxiii. Partnership for a Healthy Durham. 2016 Durham County Community Health Assessment Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Retrieved February 12, 2018.

xxiv. Partnership for a Healthy Durham. 2015 Durham County Youth Risk Behavior Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Retrieved February 12, 2018.

xxv. Partnership for a Healthy Durham. 2015 Durham County Youth Risk Behavior Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf. Retrieved February 12, 2018.

xxvi. Carolina's Mental Health and Substance Use Systems: A Report from the NCIOM Task Force on Mental Health and Substance Use. Morrisville, NC: North Carolina Institute of Medicine; 2016. http://nciom.org/transforming-north-carolinas-mental-health-and-substance-use-systems-a-report-from-the-nciom-task-force-on-mental-health-and-substance-use/. Retrieved February 12, 2018.

xxvii. Carolina's Mental Health and Substance Use Systems: A Report from the NCIOM Task Force on Mental Health and Substance Use. Morrisville, NC: North Carolina Institute of Medicine; 2016. http://nciom.org/transforming-north-carolinas-mental-health-and-substance-use-systems-a-report-from-the-nciom-task-force-on-mental-health-and-substance-use/. Retrieved February 12, 2018.

xxviii. Carolina's Mental Health and Substance Use Systems: A Report from the NCIOM Task Force on Mental Health and Substance Use. Morrisville, NC: North Carolina Institute of Medicine; 2016. http://nciom.org/transforming-north-carolinas-mental-health-and-substance-use-systems-a-report-from-the-nciom-task-force-on-mental-health-and-substance-use/. Retrieved February 12, 2018.

xxix. Carolina's Mental Health and Substance Use Systems: A Report from the NCIOM Task Force on Mental Health and Substance Use. Morrisville, NC: North Carolina Institute of Medicine; 2016. http://nciom.org/transforming-north-carolinas-mental-health-and-substance-use-systems-a-report-from-the-nciom-task-force-on-mental-health-and-substance-use/. Retrieved February 12, 2018.

xxx. Disparities in Mental Health Status and Mental Health Care. American Psychological Association. http://www.apa.org/advocacy/health-disparities/health-care-reform.aspx. Retrieved February 12, 2018.

xxxi. Health Disparities. Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/health-disparities. Retrieved February 12, 2018.

xxxii. Carolina's Mental Health and Substance Use Systems: A Report from the NCIOM Task Force on Mental Health and Substance Use. Morrisville, NC: North Carolina Institute of Medicine; 2016. http://nciom.org/transforming-north-carolinas-mental-health-and-substance-use-systems-a-report-from-the-nciom-task-force-on-mental-health-and-substance-use/. Retrieved February 12, 2018.

Section 6.06 *Asthma*

Overview

Asthma is a common chronic disorder of the airways in lungs that causes difficulty in breathing. "Asthma attacks" or "episodes" are caused by severe narrowing of the airways, restricting air coming in and out of the lungs. Asthma attacks can have varying severity. They may be mild, moderate or severe enough to become life-threatening. Common symptoms of an asthma attack include wheezing, coughing, shortness of breath and chest tightness or pain.

In most cases, the cause(s) of asthma is unknown; however, multiple host and environmental factors may be involved in the development of asthma and asthma attacks. Exposures associated with asthma attacks include exercise, airway infections, airborne allergens (e.g., pollen, mold, animal dander, dust mites), occupational exposures and air pollution (e.g., environmental tobacco smoke, particulate matter, and volatile organic compounds). Although there is no cure, asthma can be controlled with appropriate medical care, allergen avoidance and control and pharmacotherapy.

Asthma attacks can also be prevented by identifying triggers and avoiding exposures that are known to cause attacks.[i]

Healthy People 2020 Objectives

There is no Healthy North Carolina 2020 objective for asthma. However, the U.S. Department of Health and Human services (DHHS), has established national objectives for asthma in the Healthy People 2020 Initiative. "Healthy People" is a set of goals and objectives, with 10 year targets, to guide national health promotion and disease prevention efforts that can improve the health of all people in the United States. The objectives for asthma are as follows:[ii]

- Reduce asthma deaths
- Reduce hospitalizations
- Reduce emergency department (ED) visits
- Reduce activity limitations among persons with current asthma
- Reduce the proportion of person with asthma who miss school or works days
- Increase the proportion of persons with current asthma who receive formal patient education
- Increase the proportion of persons with current asthma who receive appropriate asthma care according to the National Asthma Education and Prevention Program (NAEPP) guidelines

North Carolina Leading Causes of Death[iii]

In 2015 chronic lower respiratory diseases (CLRD) was one of the top causes of death for both Durham County and the state of North Carolina. CLRD includes both asthma and chronic

obstructive pulmonary disease (COPD), but deaths are mainly attributable to COPD. For adults, CLRD is the fifth cause of death in Durham County and the third leading cause of death in the state. At both the state and county level, CLRD is ranked higher in Whites than African Americans. For Durham County, CLRD is ranked ninth for African Americans and fifth for Whites. CLRD is ranked seventh for African Americans and third for Whites in the state.

Secondary Data

Asthma rates are rising for all age groups in urban and rural areas regardless of race, income and region of the country. According to the Centers for Disease Control and Prevention (CDC), the number of people diagnosed with asthma increased by 4.3 million from 2001 to 2009, with the most significant increase in black children. In 2011, 26 million people (1 in 12) had asthma; 8.2% of all adults and 9.5% of all children. In 2010, there were approximately 14.2 million visits to primary care providers, 1.8 million visits to emergency department and 439,400 hospitalizations with asthma listed as the primary diagnosis in the U.S.[i,iv]

The burden of asthma also extends to North Carolina. In 2015, approximately 13.4% of North Carolina adults have ever been told that they had asthma and 8.2% of North Carolina adults still have asthma, compared to 11.7% and 7.7% in 2012, respectively. Among children, 17.9% of North Carolina children have reported ever being told that they have asthma and 10.5% of North Carolina children still had asthma, according to 2013-2014 survey estimates.[vi]

Although prevalence data for Durham County are unavailable, it was noted as being an important health problem in Durham County by residents who participated in the Community Health Assessment Opinion survey in 2016. Specifically, 7.3% of the full county survey participants noted asthma as being a significant problem as well as 24.1% of the Hispanic and Latino neighborhood survey respondents.

Interpretations: Disparities, Gaps, Emerging Issues

Asthma disproportionately affects persons of low socioeconomic status and minority groups. Household income and educational attainment are directly related to disease severity, poor lung function and functional limitation.[vii] African Americans are three times more likely to die as a consequence of asthma compared to Non-Hispanic whites, with African-American children being admitted to the hospital at four times the rate of Non-Hispanic white children for asthma.[ix] Hispanic/Latino are admitted to the ED at two times the rate of Non-Hispanic whites for asthma related complications.[x]

The National Asthma Education and Prevention Program Expert Panel Report 3 Guidelines (NAEPP-EPR3) suggests that most patients with asthma can significantly control their disease and reduce their symptoms if they receive quality medical care, use inhaled corticosteroids when prescribed and modify their environment to reduce or eliminate exposure to allergens and irritants.

These guidelines have been shown to improve asthma control and decrease health care utilization in several high-risk populations, including inner-city populations, African Americans and Hispanics. [xiii, xiv, xv, xvi, xvii] However, despite the presence of these guidelines and evidence that they are effective, disparities in asthma-related outcomes persist. Health disparities result from a complex interaction of several health determinants such as genetics, biology, individual behavior, health services, socioeconomic status, discrimination, literacy levels and legislative policies.[xviii] In order to eliminate disparities, one must identify factors that drive disparate outcomes, understand how the health determinants interact with each other, increase the inclusion of historically underrepresented populations in clinical research and design interventions to target several health determinants simultaneously.

Recommended Strategies

The NAEPP EPR-3 Guidelines for Diagnosis and Management of Asthma provides the framework for quality asthma clinical care. It includes a step-wise approach that consists of assessments and monitoring, education for partnership in asthma care, control of environmental factors and comorbid conditions that affect asthma and the initiation of medications for asthma control.[xix] There are several care models that use the EPR-3 guidelines to improve asthma outcomes. The Chronic Care Model aids in transforming health care from a system that is reactive to one that is proactive in responding to the needs of patients. The Chronic Care Model has six elements that consist of the following:[xx]

1. Community: Mobilize community resources to meet the needs of patients
2. Health System: Creating culture, organization and mechanisms that promote safe and high quality care
3. Self-Management Support: Empower and prepare patients to manage their health and health care
4. Delivery System Design: Assure the delivery of effective, efficient clinical care and self-management support
5. Decision Support: Promote clinical care that is consistent with scientific evidence and patient preferences
6. Clinical Information Systems: Organize patient and population data to facilitate efficient care.

The Chronic Care Model facilitates an ongoing quality improvement process which allows one to monitor patients with asthma and make adjustments to medications to prevent emergency department visits and hospitalizations. Through this model, the patient becomes informed and is active in the care management process. Providers are prepared and proactive with providing quality care with the patient's input. This leads to productive interactions, effective communications and improved outcomes.[xxi]

The Guide to Community Preventive Services recommends a home-based multi-trigger, multicomponent intervention with an environmental focus for children and adolescents with asthma. Their recommendation is based on strong evidence of effectiveness in improving overall quality of life and productivity as exemplified by improved asthma symptoms and reduced number

of school days missed. The Guide to Community Preventive Services report supports expanding asthma education beyond the clinical setting to eliminate and/or reduce asthma environmental triggers in the home and to have improved patient outcomes through case management services. [xxii]

Of note, the Guide to Community Preventive Services found insufficient evidence to support the use of home-based, multi-trigger, multicomponent interventions in adults secondary to the small number of studies with inconsistent results.

Current Initiatives & Activities

- ***North Carolina Asthma Program***

The North Carolina Asthma Program developed the Asthma Education Curriculum for School Nurses and Other Elementary and Middle School Professionals as a resource to address asthma in the school setting. The Asthma Program offers a train – the - trainer session to train school nurses on how to use the curriculum in their schools and school staff to understand the needs of students with asthma. The curriculum includes resources and tools such as asthma action plans, educational handouts on asthma triggers, signs and symptoms, how to use your metered-dose inhaler, etc. For more information about the North Carolina Asthma Program, need for trainings, educational materials, updates on asthma visit the program's website. www.asthma.ncdhhs.gov

- ***Duke Asthma, Allergy and Airways Center***

The Duke Asthma, Allergy and Airways Center are a project of the Departments of Medicine and Pediatrics to develop a state-of-the-art clinic for patients with asthma and other lung and allergic problems. The Center brings together specialists in lung disease and allergy to offer care for adults and children in a caring environment at a site conveniently located in Durham. The Center is a part of Duke University Medical Center. In addition to comprehensive medical care, the Center's goal is to educate patients so that they are empowered to control their disease. https://www.dukehealth.org/locations/duke-asthma-allergy-and-airway-center

- ***Duke Division of Community Health***

The Division of Community Health in the Department of Community and Family Medicine at the Duke University School of Medicine, began in 1996 as the Office of Primary Care Initiatives; it formally became a division in 1998. The division has launched and currently operates more than 47 collaborative, community-based clinical, care management, educational, and research initiatives across six North Carolina counties. These counties include Durham, Franklin, Granville, Person, Vance, and Warren. https://cfm.duke.edu/division-community-health

- ***National Heart, Lung, and Blood Institute***

National Asthma Control Initiative (NACI): http://naci.nhlbi.nih.gov

- ***Allergy & Asthma Network Mothers of Asthmatics***

http://www.aanma.org

- ***American Academy of Allergy, Asthma, and Immunology***
  www.aaaai.org
- ***American Academy of Pediatrics***
  www.aap.org
- ***American Association of Respiratory Care***
  www.aarc.org
- ***American College of Chest Physicians***
  www.chestnet.org
- ***American College of Allergy, Asthma & Immunology***
  www.acaai.org
- ***American Lung Association***
  www.lungusa.org
- ***American School Health Association***
  www.ashaweb.org
- ***Asthma and Allergy Foundation of America***
  http://aafa.org
- ***Centers for Disease Control and Prevention***
  www.cdc.gov/asthma
- ***Environmental Protection Agency/ Asthma Community Network***
  www.asthmacommunitynetwork.org; www.epa.gov/asthma/publications.html
- ***National Association of School Nurses***
  www.nasn.org

References

[i] Centers for Disease Control. Vital Signs: Asthma in the US. 2011 Asthma Facts: CDC national Asthma Control Program Grantees, CDC: 2013 available at www.cdc.gov/asthma/pdfs/asthma_facts_program_grantees.pdf accessed on June 23, 2017.
[ii] HealthyPeople.gov. Respiratory Diseases. U.S. Department of Health and Human Services website. http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=36 Accessed on March 24,2014
[iii] North Carolina Department of Health and Human Services: 2015 Leading Causes of Death. http://www.schs.state.nc.us/interactive/query/lcd/lcd.cfm accessed on June 30th, 2017.
[iv] Akinbami, L.J., et al., Trends in asthma prevalence, health care use, and mortality in the United States, 2001-2010. NCHS Data Brief, 2012(94): p. 1-8.
[v] North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. North Carolina Behavioral Risk Factor Surveillance System (NC BRFSS), 2015. http://www.schs.state.nc.us/data/brfss/2015/nc/nccr/topics.htm#chd Accessed June 30, 2017.
[vi] North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. Child Health Assessment and Monitoring Program (CHAMP), 2013-2014. http://www.schs.state.nc.us/data/champ/201314/topics.htm#as Accessed July 1, 2017.
[vii] Blanc, P.D., et al., Area-level socio-economic status and health status among adults with asthma and rhinitis. Eur Respir J, 2006. 27(1): p. 85-94.
[viii] Control, C.f.D. 2011 National Health Interview Survey (NHIS) Data: Asthma Supplement. [cited 2013 August 8].
[ix] U.S. Department of Health and Human Services: Office of Minority Health. Asthma and African Americans. https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=15. Accessed December 22, 2017
[x] U.S. Department of Health and Human Services: Office of Minority Health. Asthma and Hispanic Americans. https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=60. Accessed December 22, 2017
[xi] 2006, C.f.D.C. The State of Childhood Asthma, United States, 1980–2005. [cited 2013 August 8].
[xii] Akinbami, L.J., et al., Status of childhood asthma in the United States, 1980-2007. Pediatrics, 2009. 123 Suppl 3: p. S131-45.
[xiii] Evans, R., 3rd, et al., A randomized clinical trial to reduce asthma morbidity among inner-city children: results of the National Cooperative Inner-City Asthma Study. J Pediatr, 1999. 135(3): p. 332-8.
[xiv] Kattan, M., et al., A randomized clinical trial of clinician feedback to improve quality of care for inner-city children with asthma. Pediatrics, 2006. 117(6): p. e1095-103.
[xv] Szefler, S.J., et al., Management of asthma based on exhaled nitric oxide in addition to guideline-based treatment for inner-city adolescents and young adults: a randomised controlled trial. Lancet, 2008. 372(9643): p. 1065-72.
[xvi] Okelo, S.O., et al., in Interventions to Modify Health Care Provider Adherence to Asthma Guidelines. 2013: Rockville (MD).
[xvii] National Asthma, E. and P. Prevention, Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma-Summary Report 2007. J Allergy Clin Immunol, 2007. 120(5 Suppl): p. S94-138.

[xviii] Services., U.D.o.H.a.H. Healthy People 2020. [cited Available at http://healthypeople.gov/2020/default.aspx. June 30th, 2017.
[xix] National Asthma Education and Prevention Program Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. National Heart Lung, and Blood Institute website. Available at www.nhlbi.nih.gov/guidelines/asthma/asthsumm.htm. Accessed on June 30th, 2017.
[xx] Improving Chronic Illness Care. The Chronic Care Model. Group Health Research Institute. 2006-2014. Available at http://www.improvingchroniccare.org/index.php?p=Health_System&s=20. Accessed on June 30th, 2017.
[xxi] Improving Chronic Illness Care. The Chronic Care Model. Group Health Research Institute. 2006-2014. Available at http://www.improvingchroniccare.org/index.php?p=The_Chronic_CareModel&s=2. Accessed on June 30th, 2017.
[xxii] The Guide to Community Preventive Services. Available at www.thecommunityguide.org/asthma/multicomponent.html. Accessed on June 30th, 2017.

Reproductive Health

Reproductive health is an important topic to all persons in Durham County, regardless of age, gender, or position in life. Good reproductive health means all individuals are able to have a responsible, safe, and satisfying sex life and the capability to reproduce, along with the freedom to decide if, when, and how often to do so.

A key part of good reproductive health is women and men's right to be informed of and have access to safe, effective, and affordable contraceptive methods of their choice. This also means the right to access appropriate health care services that will enable women (and their partners) to safely access reproductive services and/or go through pregnancy, prenatal care, birth, and the postpartum period in order to provide the best chance of having a healthy infant.

Maternal health encompasses the health of a woman before conception and during her pregnancy, birth, and postpartum period. Maternal health is an important predictor of newborn health and well-being. Focusing on the health of a woman *before* pregnancy is also essential to help poor birth outcomes such as low birth weight, pre-term birth, and infant death.[i] This strategy has been shown to improve the lives of women and their babies and families.[ii] Healthy birth outcomes and addressing health conditions among infants early can prevent death or disability and enable children to reach their full potential.

Maternal health is also an important indicator of the health of a society, due to the important and complex role women play in families and communities. Addressing women's health effectively is essential in improving the health of new mothers and birth outcomes, which in turn affects their families and communities. Many factors affect maternal health including individual health knowledge and behaviors, access to appropriate care, and socioeconomic factors.

This chapter includes:

- ❖ Pregnancy, Fertility and Abortion

Section 7.01 *Pregnancy, fertility, and abortion*

Overview

For reproductive health, it is important for individuals to think about goals for having or not having children, and how to achieve those goals. This process is called reproductive life planning, and there are many kinds of reproductive life plans. Plans will depend on an individual's personal goals such as educational, job, or career goals, living situation, amount of social support, and personal health behaviors such as diet, exercise, and sleep habits.[iii] Reproductive life planning will help individuals recognize what steps are needed for having children or not having children, prevent unintended pregnancies, and ensure healthy outcomes for women, children, and families.

The term *unintended pregnancy* refers to a pregnancy that was mistimed, unwanted, or unplanned at the time of conception. Nearly half of all pregnancies in North Carolina were unintended in 2015.[vi] Unintended pregnancies can result in serious health, social, and economic consequences for women, families, and communities. Further, North Carolina data shows significant disparities in unintended pregnancies when looking at age, race, income, and education, which are highlighted below in the secondary data subsection.[vi]

Primary Data

2016 Durham County Community Health Assessment Survey

The 2016 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. In the full county sample, 15.2% responded "yes". Of these respondents, 10.0% listed obstetrician/gynecologist (OB-GYN) as the type of provider. This was similar to the Hispanic and Latino sample, in which 17.7% indicated having trouble getting needed healthcare. Of those respondents, 9.1% had trouble accessing an OB-GYN and had trouble accessing 3.0% sexual health services.[iv]

Survey respondents were also asked to rank their top three neighborhood concerns related to community issues, risky behaviors and health problems. Fourteen percent of respondents believe that sexually transmitted diseases (STDs) are among the most important health problems in Durham County.[iv]

Secondary Data

Healthy NC 2020 Objective

Healthy NC 2020 Objective[v]	North Carolina[vi]	2020 Target
Decrease the percentage of pregnancies that are unintended.	27.9% (2015)	30.9%

Table 7.01(a). Healthy NC 2020 Objectives: Sexually Transmitted Diseases/Unintended Pregnancy[v,vi,]

Pregnancy, Fertility, and Abortion

Figure 7.01(a) below gives an overview of North Carolina's and Durham County's 2015 pregnancy, fertility and abortion rates per 1,000 population, by age group. The Durham County pregnancy rate and fertility rate are both lower compared to North Carolina for ages 15-29, and higher for ages 30-44. During 2015, the abortion rate in Durham County (7.0 per 1,000) was similar to the rate in North Carolina (6.4 per 1,000) among women aged 15-19.[vii] In contrast, the abortion rate for women aged 15-19 in Durham County was almost twice as high compared to the average rate in North Carolina during 2012 (13.7 per 1,000 population compared to 7.0 per 1,000 population).[viii] However, abortion rates in Durham County remain higher among all ages when compared to North Carolina.[viii]

	Durham County			North Carolina		
	Pregnancy Rate	Fertility Rate	Abortion Rate	Pregnancy Rate	Fertility Rate	Abortion Rate
15-19	29.9	22.5	7	30.2	23.5	6.4
20-24	88.2	62.5	25.1	105.4	84.4	20.4
25-29	95.8	77.3	18.2	123.5	104.8	18
30-34	113.3	99.8	12.9	107.8	95.8	11.4
35-44	42.5	36.8	5.6	31.1	26.4	4.4

Table 7.01(a): Pregnancy, Fertility and Abortion Rates per 1,000 Population by Age, North Carolina and Durham County, 2015[vii]

Unintended Pregnancy

There is no recent Durham County-specific data available for unintended pregnancies. In 2015, the North Carolina Pregnancy Risk Assessment Monitoring System (PRAMS) Survey asked women if their pregnancy was intended. Out of 891 respondents in North Carolina, 27.9% (n= 236) said their pregnancy was unintended, and 14.7% (n= 128) said they were not sure, meaning nearly half of these pregnancies were unintended.[ix] These percentages are significantly lower compared to survey results from 2010, in which 45.2% of respondents indicated that their pregnancy was unintended.[x] The survey results also show disparities in unintended pregnancies by age and race. See Figures 7.01(*b-c*) for these results from the 2015 NC PRAMS Survey.

Interpretations: Disparities, Gaps, Emerging Issues

As seen in Figures 7.01(*b*-*c*) below, significant disparities in unintended pregnancies exist across age groups and races and ethnicities in North Carolina. During 2015, mothers less than 24 years of age were more than twice as likely to have an unintended pregnancy compared to women 25 years old and older. African-American women were also nearly twice as likely to have an unintended pregnancy compared to Whites, who have the least risk compared to all other races.[xi] Women with a high school education or less, Medicaid recipients, and respondents who answered "other" to marital status were also at a much higher risk of unintended pregnancy.[xii] Adolescents and women of color, particularly those with less education and/or income, are at a higher risk for adverse health outcomes, reliance on social services, and poorer quality of life.

Figure 7.01 (b) Percent of Mothers who Reported having an Unintended Pregnancy by Age, North Carolina, 2015[ix]

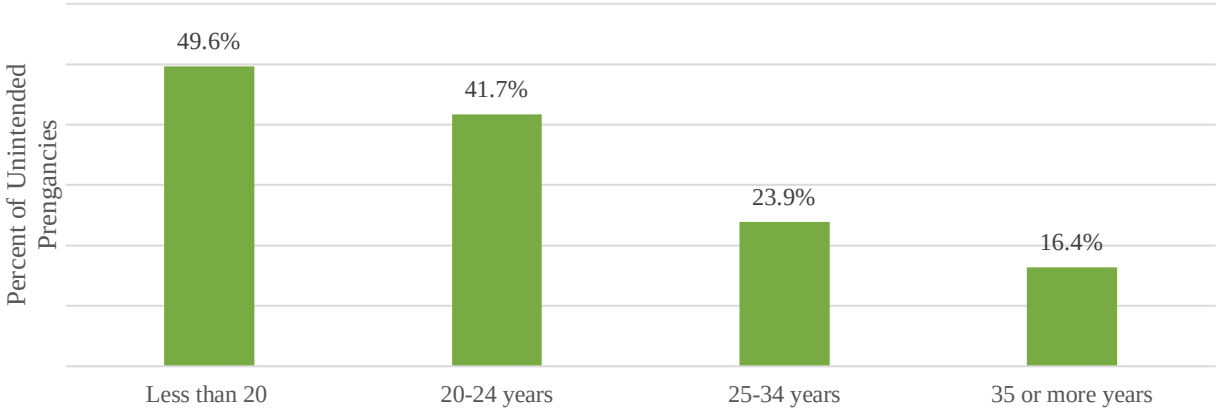
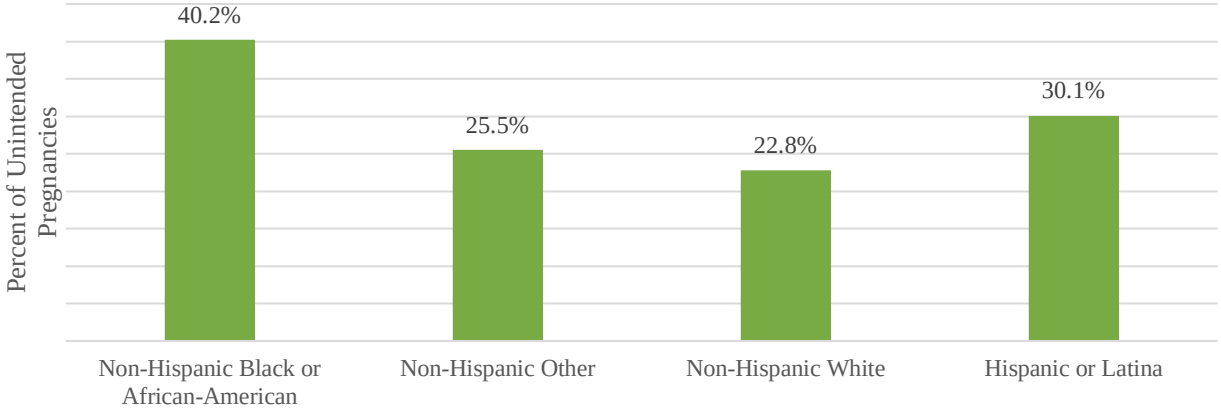


Figure 7.01 (c) Percent of Mothers who Reported having an Unintended Pregnancy by Race, North Carolina, 2015[ix]



Recommended Strategies

Better access to birth control means fewer unintended pregnancies. There are various ways to ensure women have access to birth control, including:

- Emergency contraception, when used up to five days after sex
- Outlawing pharmacies from refusing to fill women's prescription for birth control
- Government provision of affordable birth control for low-income women at family planning clinics
- Requirements for insurance companies that provide prescription drug coverage to also provide birth control
- Legislation requiring pharmacies to dispense birth control regardless of moral or religious beliefs
- Media campaigns for contraceptive options, particularly long-acting reversible contraception (or LARCs, such as intrauterine devices (IUDs) and implants)
- Increased visibility of clinics that provide low-cost or no-cost family planning services

Even with improved access to birth control methods, unintended pregnancy may continue to be a problem. 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.[xiii] Resources such as the Center for Disease Control and Prevention (CDC's) "Are You Ready Sex and Your Future" guide can help initiate conversations about reproductive life planning and raise important questions that can lead to making better health decisions.[xiv]

Current Initiatives & Activities

- ***Durham Department of Public Health***

The Maternal Health clinic offers several low-cost to no-cost contraceptive services and supplies for women of childbearing age. Physical examinations and prenatal services are also offered and include all recommended assessments and information to help women have a healthy pregnancy and baby. Community education and health promotion also available.
http://www.dconc.gov/government/departments-f-z/public-health/services/women-s-health

- ***Planned Parenthood of Central North Carolina***

High quality, affordable sexual and reproductive health care for millions of women, men, and teens. Teen Voices and Jove a Joven Adolescent Pregnancy Prevention programs available.
http://www.plannedparenthood.org/centralnc/local-education-training- 2836.htm

- ***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 the underserved members of our 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, this is a great resource to help women find their preferred birth control method and learn how to use it consistently and effectively. https://www.bedsider.org/

References

i. NC Division of Public Health. Health North Carolina 2020: A Better State of Health. NC Department of Health and Human Services. http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf. Accessed September 15, 2017. Updated June 13, 2017.

ii. Office of Women's Health. Preconception Health. US Department of Health and Human Services. https://www.womenshealth.gov/pregnancy/you-get-pregnant/preconception-health. Accessed September 15, 2017. Updated February 1, 2017.

iii. Centers for Disease Control and Prevention. My Reproductive Life Plan. U.S. Department of Health and Human Services. https://www.cdc.gov/preconception/reproductiveplan.html. Accessed September 14, 2017. Updated August 27, 2014.

iv. Partnership for a Healthy Durham. *2016 Community Health Assessment Survey Results: County Sample*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed September 15, 2017.

v. NC Division of Public Health. Healthy North Carolina 2020: A Better State of Health. NC Department of Health and Human Services. http://publichealth.nc.gov/hnc2020/foesummary.htm. Accessed September 11, 2017. Updated May 9, 2017.

vi. North Carolina State Center for Health Statistics. 2015 North Carolina Pregnancy Risk Assessment Monitoring System Survey Results- Intendedness of Pregnancy. NC Department of Health and Human Services. http://www.schs.state.nc.us/data/prams/2015/intent32.html. Accessed November 21, 2017. Updated October 26, 2017.

vii. North Carolina State Center for Health Statistics. Pregnancy, Fertility, Abortion, and Fetal Death Rates. NC Department of Health and Human Services. http://www.schs.state.nc.us/data/vital/pregnancies/2015/. Accessed September 12, 2017. Updated March 31, 2017.

viii. North Carolina State Center for Health Statistics. 2012 Pregnancy, Fertility, Abortion, and Fetal Death Rates. NC Department of Health and Human Services. http://www.schs.state.nc.us/data/vital/pregnancies/2012/. Accessed September 14, 2017. Updated March 28, 2017.

ix. North Carolina State Center for Health Statistics. 2015 North Carolina Pregnancy Risk Assessment Monitoring System Survey Results- Intendedness of Pregnancy. NC Department of Health and Human Services. http://www.schs.state.nc.us/data/prams/2015/intent32.html. Accessed September 13, 2017. Updated October 26, 2017.

x. North Carolina State Center for Health Statistics. 2010 North Carolina Pregnancy Risk Assessment Monitoring System Survey Results- Intendedness of Pregnancy. NC Department of Health and Human Services. http://www.schs.state.nc.us/data/prams/2010/intend.html. Accessed September 13, 2017. Updated November 16, 2012.

xi. North Carolina State Center for Health Statistics. 2014 North Carolina Pregnancy Risk Assessment Monitoring System Survey Results- Intendedness of Pregnancy. NC Department of Health and Human Services. http://www.schs.state.nc.us/data/prams/2014/intent32.html. Accessed September 13, 2017. Updated April 17, 2017.

xii. North Carolina State Center for Health Statistics. 2014 North Carolina Pregnancy Risk Assessment Monitoring System Survey Results- Intendedness of Pregnancy. NC Department of Health and Human Services. http://www.schs.state.nc.us/data/prams/2014/intent32.html. Accessed September 13, 2017. Updated April 17, 2017.

xiii. The National Campaign to Prevent Teen and Unplanned Pregnancy. Making the Case: For Wanted and Welcomed Pregnancy. The National Campaign. https://thenationalcampaign.org/why-it-matters. Accessed September 15, 2017. Updated 2017.

xiv. NC Division of Public Health. Focus Areas, Objectives, and Evidence-Based Strategies Summary Tables. NC Department of Health and Human Services. http://publichealth.nc.gov/hnc2020/docs/objectives/stdpregnancy-obj1-final.pdf. Accessed September 15, 2017. Updated Summer 2013.

Communicable Diseases

This chapter includes:

- ❖ Vaccine-Preventable Diseases
- ❖ Infectious Diseases (not sexually transmitted)/TB
- ❖ Sexually Transmitted Infections
- ❖ Outbreaks and Food Safety

Section 8.01 *Vaccine-preventable diseases*

Overview

Vaccines are valuable public health tools used to reduce morbidity and mortality associated with infectious diseases. According to the Centers for Disease Control and Prevention (CDC), vaccines prevent nearly 42,000 deaths and 20 million cases of disease in each birth cohort. They provide an estimated savings of $13.6 billion dollars in direct costs.[i]

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 quickly be replicated in the future if the body encounters the disease.[ii]

Vaccines prevent against many dangerous and deadly diseases and reduce the overall prevalence of a disease in populations with high immunization rates. It is even possible to completely eliminate some infectious diseases through vaccination. When a high proportion of the population is immunized, the spread of disease is reduced because the chain of infection cannot be maintained. This is called herd immunity. The proportion of immunized population needed to achieve herd immunity varies by disease, but generally requires vaccination among 80-95% of the population. Herd immunity is particularly important for vulnerable populations including infants, pregnant women, and immune-compromised individuals, who are unable to receive some vaccinations due to medical reasons.[iii]

Although herd immunity is effective in reducing the spread of disease, continued vaccination is crucial unless a disease has been completely eradicated. As vaccination rates decline in a given population, the proportion of people susceptible to infection increases. Disease can spread faster among these and in severe cases, an epidemic can ensue. Clusters of susceptible persons magnifies this problem.

Secondary Data

Infants, Children and Adolescents

Though vaccines provide demonstrated benefits to infants, children, and adolescents, there are significant barriers for many parents making a decision about whether or not to vaccinate their children. Commonly cited barriers include perceived vaccine safety, apprehension regarding administration of multiple vaccines during a single visit, low perceived risk of vaccine-preventable diseases, anxiety related to pain from vaccines, and lack of access to vaccines. One of the most familiar barriers related to vaccine safety is the fear of a causal link between vaccine administration and the development of autism. Although scientific studies have failed to show a causal link, celebrity-led campaigns and scientifically unfounded information disseminated through anti-vaccine news sources continue to incite fear among parents.[iv]

Fear that receiving multiple vaccines during a single visit will negatively affect a child's immune system has also been cited as a barrier among parents. However, studies demonstrate that children are exposed to more antigens during a typical day than through vaccinations. Healthy infants' and children's' immune systems are fully capable of inciting an appropriate immune response to multiple vaccines given in a single visit.[iv]

To reduce financial barriers related to access to care, North Carolina works with Vaccines for Children, a federal vaccine supply program, to provide vaccines free of charge to eligible children at public and private providers. Children who are Medicaid enrolled, uninsured, American Indian or Alaskan Native qualify. In some cases, underinsured children are also eligible to receive free vaccines at Federally Qualified Health Centers, Regional Health Centers, Local Health Departments, and at some private providers.

The North Carolina General Statutes (G.S. 130-A-152(a)) mandate that each child receives diphtheria, tetanus, pertussis (whooping cough), poliomyelitis, red measles (rubeola) and rubella vaccinations, and that the parent or guardian is responsible for ensuring these requirements are met.[vi] Further, children in North Carolina are required to receive vaccinations against ten different diseases by the time they enter kindergarten and 12 diseases before entering seventh grade.[vii]

Vaccination rates among children and adolescents in Durham County and North Carolina are displayed in the graphic below. It is important to note that vaccination coverage data for Durham County may be less complete than data for North Carolina, as the data source for county level data relies upon physicians reporting vaccinations online. Not all providers use the data reporting system and others do not use the system appropriately, which results in incomplete data. The statewide data is validated by the CDC periodically and is more complete.

Compared to North Carolina, children ages 24-35 months in Durham had lower vaccination rates during 2015-2016. The same is true for adolescents, with the exception of varicella vaccination rates. The varicella vaccination rate for adolescents in 2016 was 69.1% compared to 17.4% statewide.[viii,ix] See Tables 8.01(a) and (b) below for detailed data.

Vaccination Coverage for Children Ages 24-35 Months, 2015-2016

	Durham County	North Carolina
Combined 7-series vaccine (4 DTaP, 3 Polio, 1 MMR, Hib full series, 3 Hep B, 1 Var, 4 PCV)	74.3%	76.4%
DTaP (4)	77.7%	94.1%
Hepatitis B (3)	87.7%	93.4%
Hib (3)	85.7%	91.4%
MMR (1)	85.7%	94.3%
Pneumococcal (4)	81.6%	92.8%
Polio (3)	88.0%	94.1%
Varicella (1)	84.5%	92.7%

Table 8.01(a) Vaccination Coverage for Children Ages 24-35 Months, 2015-2016[viii,ix]

Vaccination Coverage for Adolescents Ages 13-17 Years, 2016

	Durham County	North Carolina
Hepatitis B (complete)	76.8%	92.5%
HPV (3)	34.3%	57.5%
Meningococcal (1)	68.6%	75.7%
MMR (2)	72.5%	87.5%
Tdap (up to date)	66.2%	89.1%
Varicella (1)	69.1%	17.4%

Table 8.01(b) Vaccination Coverage for Adolescents Ages 13-17 Years, 2016[viii,ix]

College Students

North Carolina students attending public, private, and religious universities are required to be vaccinated against diphtheria, tetanus, pertussis, polio, measles, mumps, rubella, and hepatitis B unless living off-campus AND registering for a combination of the following:

- Off-campus courses
- Evening courses beginning after 5 p.m.
- Weekend courses
- No more than four day credit hours in on-campus courses[x]

In addition to the state mandated vaccines, Duke University requires students to receive a meningococcal vaccination. North Carolina Central University (NCCU) strongly encourages students to be vaccinated for meningitis.

Older Adults

The vaccine preventable diseases most relevant to routine vaccination of older adults are influenza, pneumococcal disease and herpes zoster.

Although the incidence of influenza is typically highest in children, persons aged 65 years and older are at highest risk for complications. Pneumonia, myocardial infarction, stroke, exacerbation of underlying conditions and functional decline are common complications of influenza in older persons. Rates of hospitalization are markedly increased for older persons compared to younger persons. Nationally, approximately 90% of influenza deaths occur among persons aged 65 years and older.[xi] The risk for influenza-associated death is highest among persons aged 85 years and older, who are 16 times more likely to die from an influenza-associated illness than persons aged 65--69 years.[xii] In Durham County, NC, the influenza and mortality rate for persons aged 65 years and older is 100.3 per 100,000 compared to 3.3 per 100,000 in persons below age 65 years.[xiii]

Pneumococcal disease, caused by the bacterium *Streptococcus pneumonia*, includes pneumonia and invasive pneumococcal disease (IPD): bacteremia and meningitis. The risk of developing pneumococcal disease increases with age.[xiv] Cognitive impairment, functional decline, and cardiac disease are well documented complications of pneumococcal disease in older adults.[xv] Like influenza, hospitalization and death from pneumococcal disease is significantly higher in older

patients compared to younger patients.[xvi] Interestingly, the incidence of IPD is declining in older adults with the use of pneumococcal conjugate vaccine in children suggesting indirect protection, or herd immunity. In Durham County, there were no reported cases of pneumococcal meningitis in 2016 in persons aged 65 years and older and only four cases in North Carolina in the same age group.

The incidence of herpes zoster increases dramatically with aging such that the great majority of zoster cases occur among persons aged 60 years and older. The main complication of zoster is both acute and chronic pain postherpetic neuralgia (complication of shingles which causes burning pain that after shingles rashes and blisters disappear). Postherpetic neuralgia greatly interferes with the functional status and quality of life of older adults. Patients can suffer from chronic fatigue, insomnia, depression, social isolation and interference with activities of daily living like taking a shower.[xvii,xviii] Other complications include eye inflammation and visual impairment in the setting of ophthalmic herpes zoster, cranial neuropathies, spinal cord inflammation, and muscle dysfunction in the area of the zoster rash.[xix]

Vaccination rates for persons 65 years and older in the United States during 2014-2015 are displayed below. Compared to pneumococcal and herpes zoster vaccination rates, the influenza vaccination rate is highest among older adults in the United States.

Vaccination Rate for Persons ≥65 Years and Older, U.S., 2014-2015

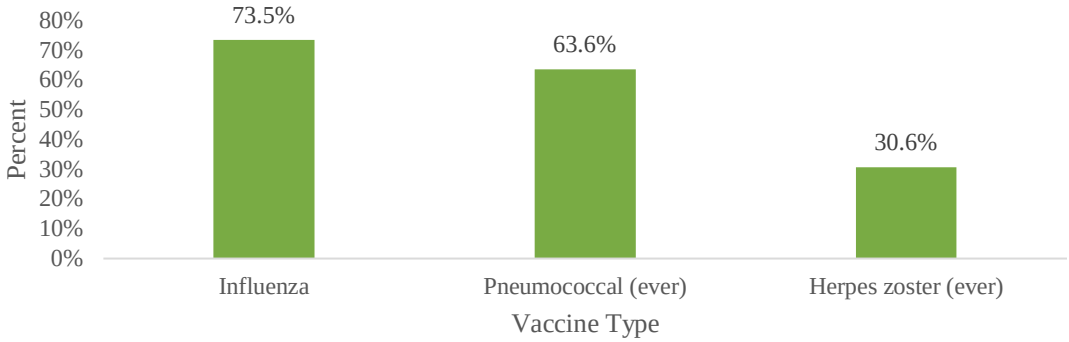


Figure 8.01(a): Vaccination Rate for Persons ≥65 Years and Older, U.S., 2014-2015[xx]

Common barriers to vaccination in older adults include fear of adverse reactions, concern that vaccination may actually cause disease, fear of the pain of injection or needles, concerns about vaccine efficacy and perceived lack of physician recommendation for vaccination. Lack of transportation and cognitive impairment are barriers that are much more common in older adults than younger adults. For the live zoster vaccine, lack of understanding of the harm of herpes zoster by older adults, storage and handling requirements, and cost are additional barriers.

Refugees

Refugees require age appropriate vaccines recommended for the general U.S. population. Without

vaccination records, refugees are considered unvaccinated and are asked to restart the vaccination process. Proof of age appropriate vaccination is required for all refugees applying for a green card.

The biggest barriers to vaccinating the refugee population are language and education. The Durham County Department of Public Health utilizes interpreters to communicate with refugees when appropriate to help reduce language barriers.

During 2016, the Durham County Department of Public Health (DCoDPH) Immunizations Program provided vaccines to 513 refugees from countries including Iraq, Congo, Burma, Syria, Somalia and Afghanistan. A total of 2,341 vaccines were supplied to the Refugee Health program. In total, 214 refugees completed their vaccines with DCoDPH.[xi]

Recommended Strategies

- Promote the North Carolina Immunization Registry (NCIR) to all providers.
  Immunization providers can access all recorded immunizations administered in North Carolina, regardless of where the immunizations were given. The primary goals of the NCIR are to:
    - Give patients, parents, health care providers, schools and child care facilities timely access to complete, accurate and relevant immunization data;
    - Assist in the evaluation of a child's immunization status and identify children who need (or are past due for) immunizations;
    - Assist communities in accessing their immunization coverage and identifying areas of under-immunization; and
    - Fulfill federal and state immunization reporting needs.
- Promote the National Adult Immunization Plan.
  https://www.hhs.gov/sites/default/files/nvpo/national-adult-immunization-plan/naip.pdf

Current Initiatives & Activities

- ***Durham County Department of Public Health (DCoDPH) Immunization Clinic***

The clinic provides vaccines to children, adults, refugees, and individuals planning foreign travel. http://dconc.gov/government/departments-f-z/public-health/clinics/immunization

- ***North Carolina Immunization Branch***

The Immunization Branch oversees the North Carolina Immunization Program, which seeks to eliminate the cost of age-appropriate vaccinations for qualifying children through 18 years old. http://www.immunize.nc.gov/

- ***North Carolina Immunization Program (NCIP)***

The North Carolina Immunization Program works collaboratively with the federal Vaccines for Children (VCF) supply program to provide free vaccines for eligible children at public and private provider locations. http://www.immunize.nc.gov/family/nc_immnz_program.htm

References

[i]Tami Hendriksz, Philip Malouf, Stella Sarmiento, James Foy. Overcoming Patient Barriers to Immunizations. American Osteopathic Association. http://www.cecity.com/aoa/healthwatch/oct_13/print3.pdf. Accessed May 22, 2017.
[ii]Centers for Disease Control and Prevention. Understanding How Vaccines Work. Centers for Disease Control and Prevention. https://www.cdc.gov/vaccines/hcp/conversations/downloads/vacsafe-understand-color-office.pdf. Accessed April 26, 2017. Updated February 2013.
[iii]College of Physicians of Philadelphia. The History of Vaccines. The College of Physicians of Philadelphia. https://www.historyofvaccines.org/content/herd-immunity-0. Accessed April 26, 2017.
[iv]Tami Hendriksz, Philip Malouf, Stella Sarmiento, James Foy. Overcoming Patient Barriers to Immunizations. American Osteopathic Association. http://www.cecity.com/aoa/healthwatch/oct_13/print3.pdf. Accessed May 22, 2017.
[v]North Carolina Immunization Branch. North Carolina Immunization Program. North Carolina Health and Human Services. http://www.immunize.nc.gov/family/nc_immnz_program.htm. Accessed May 22, 2017.
[vi]North Carolina General Assembly. Immunization required. North Carolina General Assembly. http://www.ncga.state.nc.us/EnactedLegislation/Statutes/HTML/BySection/Chapter_130A/GS_130A-152.html. Accessed May 22, 2017.
[vii]North Carolina Immunization Branch. K-12 School Requirements. North Carolina Health and Human Services. http://www.immunize.nc.gov/schools/k-12.htm. Accessed May 22, 2017.
[viii]North Carolina Immunization Registry. 2016. ncir.dhhs.state.nc.us. Accessed May date, 2017.
[ix]Centers for Disease Control and Prevention. VaxView. https://www.cdc.gov/vaccines/vaxview/index.html. Accessed October 9, 2017.
[x]North Carolina Immunization Branch. Colleges and Universities. North Carolina Health and Human Services. http://www.immunize.nc.gov/schools/collegesuniversities.htm. Accessed May 22, 2017.
[xi]Thompson WW, Shay DK, Weintraub E, et al. Mortality associated with influenza and respiratory syncytial virus in the United States. JAMA 2003;289:179--86.
[xii]Fiore AE, Shay DK, Broder K t al. Prevention and Control of Influenza: Recommendations of the Advisory Committee (ACIP), 2008, MMWR 2008;75(RR07):1-60
[xiii] Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research. Underlying Cause of Death Detailed Mortality 2013-2015. https://wonder.cdc.gov/ucd-icd10.html. Accessed May 22, 2017.
[xiv]Morrill HJ, Caffrey AR, Noh E, Laplante KL. Epidemiology of pneumococcal disease in a national cohort of older adults. Infect Dis Ther. 2014;3:19–33.
[xv]Musher DM, Rueda AM, Kaka AS, Mapara SM. The association between pneumococcal pneumonia and acute cardiac events. Clin Infect Dis. 2007
[xvi]Ricketson LJ, Nettel-Aguirre A, Vanderkooi OG, Laupland KB, Kellner JD. Factors influencing early and late mortality in adults with invasive pneumococcal disease in Calgary, Canada: a prospective surveillance study. PLoS ONE. 2013;8, e71924.
[xvii]Johnson RW, Bouhassira B, Kassianos G, Leplège A, Schmader KE, Weinke T. The impact of herpes zoster and post-herpetic neuralgia on quality-of-life. BMC Medicine 2010;8:37.
[xviii]Schmader KE, Sloane R, Pieper C, Coplan PM, Nikas A, Saddier P, Chan ISF, Choo P, Levin MJ, Johnson GR, Williams HM, Oxman MN. The impact of acute herpes zoster pain and discomfort on functional status and quality of life in older adults. Clin J Pain 2007;23:490-497.
[xix] Schmader KE, Dworkin RH,. Herpes zoster and postherpetic neuralgia. In Benzon H, Fishman S, Liu S, Molloy R, Raja SN, eds.. Essentials of Pain Medicine and Regional Anesthesia, Fourth Edition. Philadelphia: Elsevier, 2016

[x] Williams WW, Lu P, O'Halloran A, et al. Surveillance of Vaccination Coverage among Adult Populations — United States, 2015. MMWR Surveill Summ 2017;66(No. SS-11):1–28. DOI: http://dx.doi.org/10.15585/mmwr.ss6611a1

[xxi]Durham County Department of Public Health. 2016 Immunizations Branch Internal Records. Accessed October 9, 2017.

Section 8.02 *Infectious diseases (not sexually transmitted)/TB*

Overview

Infectious diseases are caused by bacteria, viruses, parasites or fungi, and can be spread directly or indirectly from one person to another. As the foundation of public health practice, many infectious diseases can now be prevented using immunizations, especially among those who receive recommended vaccinations. However, the Tuberculosis (TB) vaccine (Bacille Calmette-Guerin [BCG]) given to infants and small children in countries where TB is prevalent is not widely used in the U.S. The vaccine does not always protect individuals from getting TB.[i] Infectious food-borne diseases like salmonellosis and campylobacter are not vaccine preventable. Emerging infectious diseases (e.g., Zika virus) and Zoonotic diseases (e.g., rabies) have been on the rise in recent years.

Secondary Data

Tuberculosis (TB)

TB, an air-borne disease caused by bacteria that often affect the lungs, is one of the top 10 causes of death worldwide. TB is a leading cause of death among people with HIV.[ii] In 2016, a total of 219 TB cases were reported in North Carolina, which represents a 10% increase in the rate of cases compared to 2015.[iii] While the rate of TB cases increased statewide and countywide in 2016, the increase in Durham County was larger at 22.2%.[iv] During this time period, the average TB rate in Durham County was 3.6 per 100,000 persons (see figure 8.02(a)),[v] which was higher than the national average of 2.9 per 100,000.[vi] Figure 8.02(a) below depicts the trend in TB cases in Durham County and in North Carolina between 2011 and 2016. The TB rate in North Carolina remained relatively stable during this time period, while the rate in Durham County was more variable.

TB Trends in Durham County and North Carolina, 2011-2016

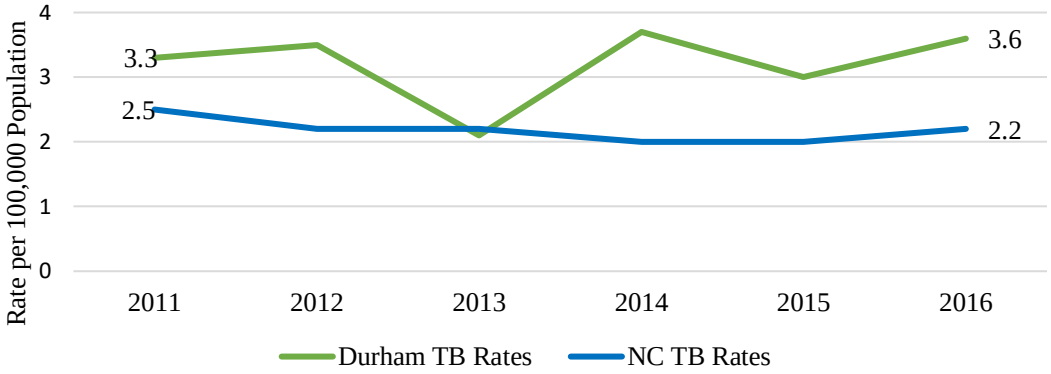


Figure 8.02(a) TB Trends in Durham County and North Carolina 2011-2016[vii]

In the past few years, TB cases in North Carolina have been almost evenly split between individuals born in the United States and individuals who were born in foreign countries. This trend is shown in Figure 8.02(b) below. In 2016, 50.2% of TB cases occurred among U.S.-born persons and 49.8% cases occurred in foreign-born persons.[viii]

Percent of Tuberculosis Cases in North Carolina by Country of Birth, 2011-2016

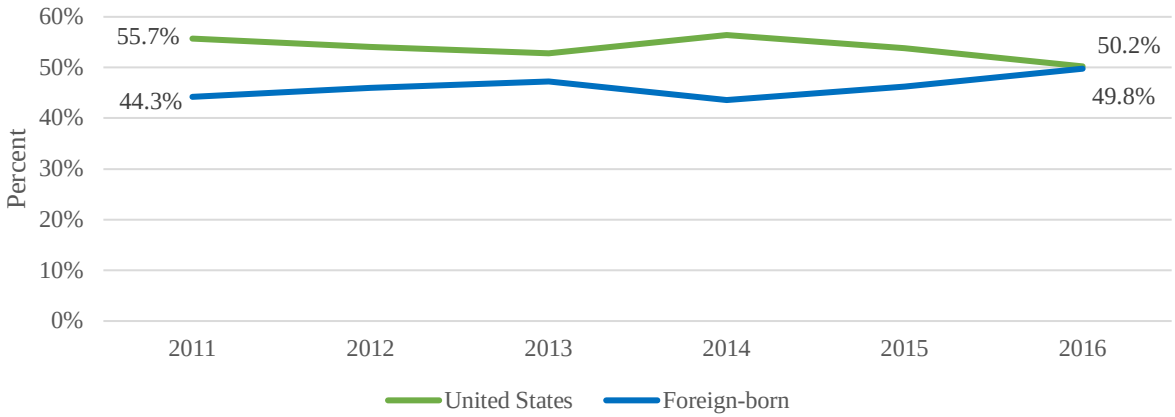


Figure 8.02(b): Percent of Tuberculosis Cases in North Carolina by Country of Birth, 2011-2016[ix]

Other communicable diseases

Based on information provided on the top five reportable communicable diseases in Figure 8.02(c) below, food-borne illnesses Salmonellosis and Campylobacter Infection are among the top three reportable communicable diseases. However, as the number of reported Salmonellosis cases in North Carolina decreased from 2015 to 2016, cases increased in Durham County. In contrast, as the number of Campylobacter cases in North Carolina increased from 2015 to 2016, cases decreased in Durham County. This was also the case with reported Shigellosis, a bacterial infection spread by oral-fecal transmission. In both the state and the county, Shigellosis cases in Durham County decreased by half from 2015 to 2016.[x] As shown in Figure 8.02(c), reportable communicable diseases in Durham represent a small proportion of what is observed for the state as whole.

Reportable Communicable Diseases, Durham County and North Carolina, 2016

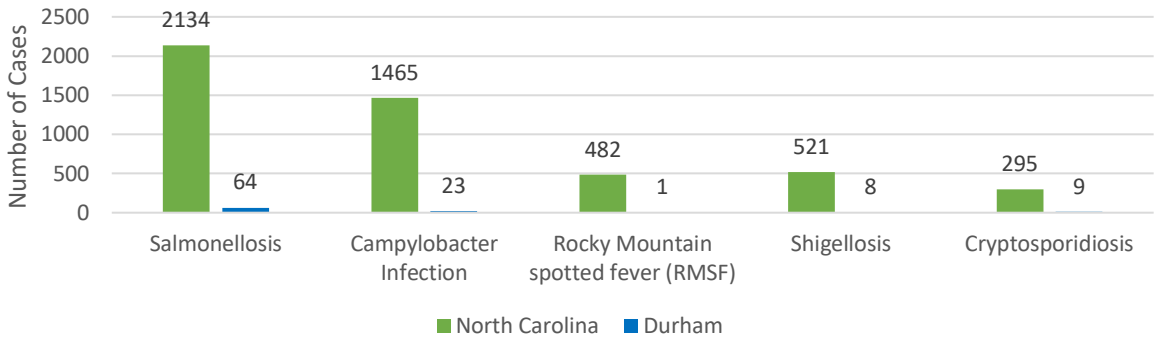


Figure 8.02(c) NC Reportable Communicable Diseases in Durham County and North Carolina 2015-2016[xi]

Interpretations: Disparities, Gaps, Emerging Issues

Disparities

Persons reported with TB are classified as U.S.-born or foreign-born (i.e., born outside of the United States, U.S. insular areas, and the freely associated states [except persons born abroad to a U.S. citizen parent]) persons.[xii] (Insular areas include American Samoa, Guam, Puerto Rico, U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands. Freely associated states are the sovereign nations that have signed compacts of free association with the United States to include the Federated States of Micronesia, Republic of the Marshall Islands, and the Republic of Palau.) Although the overall rate of TB in the United States has declined substantially since 1992, the rate of decrease has been much smaller among foreign-born persons than U.S.-born persons. Among TB cases reported in 2015 in the United States, foreign-born persons accounted for 66.4% cases. The case rate among foreign-born persons (15.1 cases per 100,000 persons) was approximately 13 times higher than among U.S.-born persons (1.2 cases per 100,000 persons). In 2015, there was a 3.2% decrease in TB incidence among foreign-born persons, but an 8.4% decrease in TB incidence among U.S.-born persons.[xiii] The majority of foreign-born cases are among persons who have been in the United States five years or longer. In North Carolina, the number of TB cases from 2011 to 2016 disaggregated by country of birth indicate that 691 (53.8%) of the TB cases occurred among U.S.-born residents of North Carolina and 593 (46.2%) cases occurred among foreign-born persons.[xiv]

Gaps

Most people who become infected with TB do not get sick because their bodies are able to fight the germs, leading to the development of a latent TB infection (LTBI). If left untreated, the infection can progress to active TB disease. Both LTBI and active TB disease require medical attention. Free care is provided for individuals with LTBI who are considered to be at high risk for infection through local health departments in North Carolina. North Carolina and Durham County in particular need to strengthen existing programs such as Centers for Disease Control and Prevention (CDC) funded programs to identify and treat active TB disease. Increasing measures such as conducting targeted testing is also needed to identify and treat LTBI among populations at high risk to accelerate progress toward TB elimination. According to the Durham County Department of Public Health website, TB skin testing can be requested by individuals who are at risk for developing TB infection.[xv] Programs that increase measures to identify and treat LTBI of those considered to be at high risk without requiring someone to individually requesting the skin test would be beneficial. Ultimately decisions on LTBI treatment should take into consideration the individual's risk for developing TB disease compared with the risk of adverse reactions to TB medication.[xvi]

Emerging Issues

Zika virus disease cases were first reported in the United States in 2016 and immediately became a nationally notifiable condition. In 2016, Durham County saw an emergence of Zika virus, a disease spread through infected Aedes species mosquitos. In North Carolina, 97 laboratory-

confirmed symptomatic Zika virus cases were reported.[xvii] Of those, nine cases were reported in Durham County.[xviii]

Many Zika cases are likely to go unreported because people infected with Zika virus rarely get sick, and hence do not realize that they have been infected. Provisional data in 2016 indicate that 5,102 laboratory-confirmed symptomatic Zika virus disease cases were reported in the United States. Approximately 4,830 of these cases occurred among travelers returning from affected areas. Of these, 224 cases were acquired through presumed local mosquito-borne transmission in Florida (218) and Texas (6), and 48 cases were acquired through other routes including sexual transmission (46), laboratory transmission (1), and person-person through unknown route (1).[xix] In 2017, provisional data indicate that 278 laboratory-confirmed symptomatic Zika virus disease cases have been reported in the United States. Of these, 274 cases occurred among travelers returning from affected areas, three cases were acquired through sexual transmission, and one case was acquired through presumed local mosquito-borne transmission. There were five laboratory-confirmed symptomatic cases in North Carolina in 2017.[xx]

Recommended Strategies

Current programs to identify and treat active TB disease need to be maintained and strengthened in order to lower incidence and move towards TB elimination. Additionally, measures to identify and treat latent TB infection (LTBI), including targeted testing and treatment need to be increased. Hepatitis B and C have been on the rise in North Carolina in conjunction with the increase in the use of heroin and other injected opioid drugs. Preventing the sharing of needles is one of the main strategies for curbing the spread of hepatitis B and C. People can also get vaccinated for hepatitis B. It is important to educate people on hepatitis B including modes of transmission, signs and symptoms, as well as prevention and treatment. A consumer education program needs to be developed and provided to help prevent the spread of foodborne diseases in Durham County. This can be modeled from the Wake County's Produce Pro program.[xxi]

Current Initiatives & Activities

Durham County Department of Public Health has:

- ***Communicable Disease Prevention and Control Program*** provides services to residents of Durham County, including investigation and reporting of communicable diseases while enforcing statutes and rules through implementation of appropriate measures. http://www.dconc.gov/government/departments-f-z/public-health/services/communicable-diseases/communicable-diseases
- ***TB Clinic*** provides routine TB control services are offered, and people who request for TB skin testing are assessed and tested either at a cost or none, depending on their risk category for developing TB. http://www.dconc.gov/government/departments-f-z/public-health/services/communicable-diseases/tuberculosis
- ***Durham County Department of Public Health Division of Environmental Health*** provides regulatory oversight in addition to guidance and education relevant to multiple

types of foodservice establishments. The division works directly with the Communicable disease section to investigate and find causes of and solutions for correcting foodborne outbreaks. http://www.dconc.gov/government/departments-f-z/public-health/services/environmental-health

References

[i] Basic TB Facts. Vaccines. CDC website. http://www.dconc.gov/government/departments-f-z/public-health/services/communicable-diseases/tuberculosis. Accessed May 5, 2017.
[ii] Fact Sheet. Tuberculosis. 2017. World Health Organization. http://www.who.int/mediacentre/factsheets/fs104/en/. Accessed May 5, 2017. Reviewed March 2017.
[iii]State Center for Health Statistics. Number of Reported Tuberculosis Cases, Rates and Rank North Carolina 1980-2016. http://epi.publichealth.nc.gov/cd/tb/figures/rank1980_2016.pdf. Accessed November 27, 2017.
[iv] State Center for Health Statistics. North Carolina Tuberculosis Cases and Case Rates by County, 2011-2016. http://epi.publichealth.nc.gov/cd/tb/figures/ratebycounty2011_2016.pdf. Accessed November 27, 2017.
[v] North Carolina Tuberculosis Cases and Case Rates by County, 2011-2016. North Carolina Department of Public Health. http://epi.publichealth.nc.gov/cd/tb/figures/ratebycounty2011_2016.pdf. Accessed August 8, 2017.
[vi]Schmit KM, Wansaula Z, Pratt R, Price SF, Langer AJ, Tuberculosis- United States, 2w016. MMWR Morb Mortal Wkly Rep 2017; 66:289. DOI: http://dx.doi.org/10.15585/mmwr.mm6611a2. Accessed August 8, 2017.
[vii] North Carolina Tuberculosis Cases and Case Rates by County, 2011-2016. North Carolina Department of Public Health. http://epi.publichealth.nc.gov/cd/tb/figures/ratebycounty2011_2016.pdf. Accessed August 8, 2017.
[viii] Tuberculosis Cases in North Carolina by Country of Birth, 2011-2016. North Carolina Department of Public Health. http://epi.publichealth.nc.gov/cd/tb/figures/foreignborn2011_2016.pdf. Accessed August 8, 2017.
[ix] Tuberculosis Cases in North Carolina by Country of Birth, 2011-2016. North Carolina Department of Public Health. http://epi.publichealth.nc.gov/cd/tb/figures/foreignborn2011_2016.pdf. Accessed August 8, 2017.
[x] TATP Reported Case Counts Communicable Diseases. North Carolina Electronic Disease Surveillance System. https://ncedss.ncpublichealth.com/login.do. Accessed August 7, 2017.
[xi] TATP Reported Case Counts Communicable Diseases. North Carolina Electronic Disease Surveillance System. https://ncedss.ncpublichealth.com/login.do. Accessed August 7, 2017.
[xii] Tsang CA, Langer AJ, Navin TR, Armstrong LR. Tuberculosis Among Foreign-Born Persons Diagnosed ≥10 Years After Arrival in the United States, 2010–2015. MMWR Morb Mortal Wkly Rep 2017; 66:295–298. DOI: http://dx.doi.org/10.15585/mmwr.mm6611a3. Accessed September 21, 2017.
[xiii] Fact Sheet. Trends in Tuberculosis, 2015. https://www.cdc.gov/tb/publications/factsheets/statistics/tbtrends.htm. Accessed August 8, 2017. Updated November 29, 2016
[xiv] Tuberculosis Cases in North Carolina by Country of Birth, 2011-2016. North Carolina Department of Public Health. http://epi.publichealth.nc.gov/cd/tb/figures/foreignborn2011_2016.pdf. Accessed August 8, 2017.
[xv]Tuberculosis. Durham County Department of Public Health. http://www.dconc.gov/government/departments-f-z/public-health/services/communicable-diseases/tuberculosis. Accessed September 20, 2017
[xvi] Targeted Testing and Treatment of Latent Tuberculosis Infection (LTBI). http://epi.publichealth.nc.gov/cd/lhds/manuals/tb/Chapter_III_2017.pdf. Accessed September 20, 2017.
[xvii] Zika Virus. 2016 Case counts in the US. https://www.cdc.gov/zika/reporting/2016-case-counts.html. Accessed September 21, 2017. Updated May 25, 2017.

[xviii] TATP Reported Case Counts Communicable Diseases. North Carolina Electronic Disease Surveillance System. https://ncedss.ncpublichealth.com/login.do. Accessed August 7, 2017.
[xix] Zika Virus. 2016 Case counts in the US. https://www.cdc.gov/zika/reporting/2016-case-counts.html. Accessed September 21, 2017. Updated May 25, 2017.
[xx] Zika Virus. 2017 Case counts in the US. https://www.cdc.gov/zika/reporting/2017-case-counts.html. Accessed October 3, 2017. Updated September 28, 2017.
[xxi] Wake County Human Services Public Health Report. Communicable Disease 2016. http://www.wakegov.com/humanservices/data/Documents/Communicable%20Disease%20Report%202016%20FINAL%207.1.16.pdf. Accessed September 20, 2017.

Section 8.03 *Sexually transmitted infections*

Overview

HIV and other sexually transmitted infections (STIs) significantly impact both Durham County and North Carolina broadly. STIs include a broad class of pathogens, including viruses, bacteria, parasites and yeasts, that are transmitted through sexual contact.[i,ii] HIV, syphilis, gonorrhea, and chlamydia are discussed in this report. STIs account for 20 million new infections and $16 billion in medical costs in the United States, annually.[iii]

STIs are of notable public health significance, impacting the morbidity and mortality of a community. They can cause infertility of women, sterility in men, ectopic pregnancies, cancer, cirrhosis or liver failure, and early death.[iv,v] Durham county residents are particularly vulnerable to STI infection. Durham county ranks 5th in the state for the three-year average rate of newly diagnosed HIV cases and 1st in the state for newly diagnosed early syphilis cases between 2013 and 2015.[vi] In particular, young people and people of color have the highest rates of HIV and STI infection.

While STIs are both prevalent in Durham and of great public health significance, ameliorating STI rates in any community, including Durham, is complex. Prevention, testing and treatment are critical elements to local infection control efforts, however, the risk factors for HIV and other STIs are complex. There is a dynamic interplay between the prevalence of STIs, prevention strategies, and social determinates of health, including race and ethnicity, income and social capital, and sexual orientation.[vii,viii,ix,x]

Below is a discussion of the burden of HIV/STIs in Durham county, health disparities, and current initiatives and activities.

Primary Data

From the 2016 Durham County Community Health Assessment survey:[xi]

A random sample of Durham residents was asked to select three priority health issues in Durham County. Of the full county sample, 14.0% of respondents considered STIs to be a priority health issue.[xi]

Secondary Data

HIV

The rate of new cases of HIV in Durham County decreased slightly from 2013 to 2015, although Durham County continues to have a higher incidence rate than the state. Durham County ranks 5th in the state for the three-year average rate of new HIV cases.[vi]

Three-year HIV Trends in North Carolina, Durham and Peer Counties, 2013-2015

Rank*	County/State	New Cases			Incidence Rate**			3-year AVG Rate
		2013	2014	2015	2013	2014	2015	
5	**Durham**	**70**	**64**	**61**	**24.3**	**21.7**	**20.3**	**22.1**
6	Guilford	116	97	121	22.9	18.9	23.4	21.7
4	Cumberland	73	76	83	22.4	23.3	25.6	23.8
23	Wayne	18	12	17	14.4	9.6	13.7	12.6
	NC	1320	1323	1345	13.4	13.3	13.4	13.4

*****Rank based on three-year average rate.
**Rates are per 100,000.

8.03(a) Three-year HIV Trends in North Carolina, Durham and Peer Counties, 2013-2015 [vi]

Syphilis

Durham County experienced a notable increase in reported early syphilis cases from 2013 to 2015, with rates increasing from 15.9 to 44.5 per 100,000 during the three-year period.[vi] This increase was similar to other North Carolina counties, with many counties seeing rates two to three times higher than previous years. In 2015, Durham County was ranked highest in the state for reported early syphilis cases.[vi] Table 8.03(b) illustrates the increase in North Carolina counties during the three-year period.

Three-year Syphilis Trends in North Carolina, Durham and Peer Counties, 2013-2015

Rank*	County/State	New Cases			Incidence Rate**			3-year AVG Rate
		2013	2014	2015	2013	2014	2015	
1	**Durham**	**46**	**73**	**134**	**15.9**	**24.7**	**44.5**	**28.4**
5	Cumberland	47	75	116	14.4	23.0	35.8	24.4
6	Guilford	51	89	198	10.1	17.4	38.3	21.9
16	Wayne	17	8	24	13.6	6.4	19.3	13.1
	NC	688	1,137	1,866	7.0	11.4	18.6	12.3

*****Rank based on three-year average rate.
** Rates are per 100,000.

8.03(b) Three-year syphilis trends in North Carolina, Durham and Peer Counties, 2013-2015 [vi]

Chlamydia and Gonorrhea

While rates of both Gonorrhea and Chlamydia remain higher in Durham County than the state average, rates have remained steady over a five-year period.

Five-year Chlamydia and Gonorrhea Trends, Durham County, 2013-2015

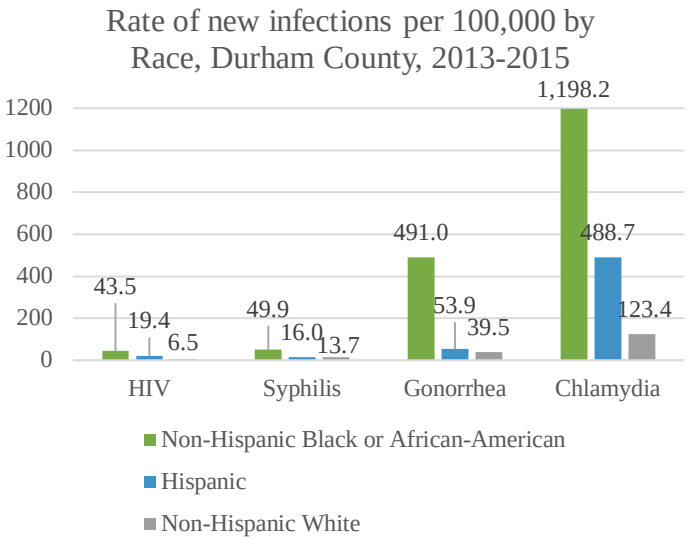
	New Cases					Incidence Rate*				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Chlamydia	2070	1859	2185	2160	2284	748.5	657.8	757.0	731.4	758.9
Gonorrhea	767	640	798	752	738	277.3	226.5	276.5	254.6	245.2

*Rates are per 100,000

8.03(c) Five-year chlamydia and gonorrhea trends, Durham County, 2011-2015 [vi]

Interpretations: Disparities, gaps, emerging issues

Certain groups are disproportionately impacted by STI/HIV rates in Durham County. First, young people, ages 20-29, have the highest incidence rates for HIV, syphilis, gonorrhea and chlamydia. Second, men are more likely than women to be infected with all STIs and HIV (excluding chlamydia). Lastly, when examined by race, African Americans have the highest incidence rates for all STIs and HIV. In 2015 in Durham County, the rate of HIV infection for Black residents was nearly 9 times that of Whites, with rates of 39.3 and 4.6 per 100,000, respectively.[xii]



8.03(d) Rate of new infections per 100,000 by Race, Durham County, 2013-2015

Overall, young black men who have sex with men (MSM) seem to have the greatest risk of syphilis infection.[xii] In 2015, the early syphilis rate among black men ages 20-29 was 12 times greater than the county average.[xii] Additionally, the rate of early syphilis infection was significantly higher for men (541.1) than women (87.3), potentially indicating infection through male same sex relationships.[xii] Furthermore, nearly 25% of the early syphilis cases diagnosed in 2015 were black men coinfected with HIV.[xii] Early syphilis infection is a risk factor for HIV and young black MSM in Durham need support to prevent HIV infection.

According to the Centers for Disease Control and Prevention (CDC), three complex risk factors make people of color more susceptible to STI and HIV infection.[xiii] First, the higher prevalence of HIV and STIs in communities of color put individuals at a higher risk of infection at each sexual

encounter, since most people are more likely to engage in sexual relationships with people who are from the same racial or ethnic background. Second, racial discrimination may keep people of color from seeking testing or treatment since they are more likely to be stigmatized for risky sexual behavior or identify as a sexual minority. Finally, socioeconomic risk factors (including poverty, trauma, incarceration and lack of access to health care) are more common in communities of color. This perpetuates a system that keeps people of color at greater risk of infection.[xiii]

Recommended Strategies

Testing continues to increase across Durham and North Carolina. HIV rapid testing continues to expand with the State offering a variety (5) of rapid tests to community health centers, emergency departments, health departments and community-based organizations. The State is now offering rapid Syphilis test kits 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. Several agencies also offer HIV/STI screening and testing at no cost to the client.

Durham has responded to historically high rates of HIV infection, specifically among young black men who have sex with men (MSM), by championing pre-exposure prophylaxis (PrEP) as an HIV prevention tool. The Durham County Department of Public Health (DCoDPH), Duke University Medical Center, and Lincoln Community Health Center have worked to make PrEP available to high-risk clients in Durham since 2015. The DCoDPH has partnered with PrEP prescribing agencies to smoothly refer high risk clients to a PrEP provider, by offering free HIV/STI testing and counseling. Duke Infectious Disease Clinic and Lincoln Primary Care Clinic have both dedicated providers and clinical time to prescribing PrEP to high-risk clients. As a result, hundreds of high-risk individuals have been referred for PrEP in Durham County.

DCoDPH serves as a lead agency for Integrated Targeted Testing Services (ITTS) for Region VI which includes 11 North Carolina counties. Durham works with subcontractors and North Carolina Central University to increase and coordinate the amount of HIV and STIs testing done among high-risk populations within Region VI. In addition, ITTS is charged with getting individuals who are newly diagnosed as HIV-positive into care, tracking all clients who test positive for STIs within the region to ensure care, treatment, active referrals and reduce duplication of testing within the region. The health department also contracts with a community-based organization to implement safe spaces to effectively identify, engage and help to retain MSM living with HIV in care and treatment.

Durham Knows, a joint project of the HIV/STI committee of the Partnership for a Healthy Durham and the Durham County Department of Public Health, is a public health campaign promoting HIV testing. One goal of the campaign is for everyone in DURHAM age 15 to 65, to be tested at least once in their life time. If everyone knows their HIV status, they can get life-saving treatment and available prevention resources.

Current Initiatives and Activities

- ***HIV/STD Prevention & Care Branch***
  http://epi.publichealth.nc.gov/cd/stds/program.html
- ***Partnership for a Healthy Durham HIV/STI Committee***
  The HIV/STI Committee brings together community members and agencies to focus on strategies to prevent the spread of syphilis and HIV/AIDS.
  http://www.healthydurham.org/index.php?page=committees_std
- ***Alliance of AIDS Services – Carolinas (AAS-C)***
  The mission of AAS-C is to serve people living with HIV/AIDs, and their communities at large, through compassionate and non-judgmental care, prevention, education and advocacy.
  http://www.aas-c.org/
- ***El Centro Hispano***
  El Centro Hispano is a grassroots community based organization dedicated to strengthening the Latino community and improving the quality of life of Latino residents in the triangle area. http://www.elcentronc.org/ElCentroHispano/Main.html
- ***CAARE, Inc.***
  Healing with CAARE, Inc. a nonprofit community-based organization has helped decrease a broad range of health disparities, including those surrounding HIV/STIs. http://caare-inc.org/
- ***Duke AIDS Research and Treatment Center (DART)***
  DART provides outstanding HIV/AIDS patient care, fosters innovative but responsible clinical research, and trains medical practitioners in HIV/AIDS clinical care.
  http://www.dukehealth.org/services/dart/about
- ***Planned Parenthood***
  Planned Parenthood is the nation's leading sexual and reproductive health care provider and advocate. They work to improve the sexual health and well-being of people everywhere.
  https://www.plannedparenthood.org/planned-parenthood-south-atlantic
- ***Lincoln Community Health Center – Early Intervention Clinic***
  The Lincoln Community Health Center's early Intervention clinic provides medical treatment and social work services to people with HIV/AIDS. http://www.lincolnchc.org
- ***Durham County Department of Public Health***
  The Durham County Department of Public Health (DCoDPH) provides confidential HIV Testing and Counseling, STD Screening, HIV/STD outreach, education and testing.
  http://www.dconc.gov
- ***Wellness and Education Community Action Network (WECAHN)***
  WECAHN promotes health and wellness by offering prevention education, testing, access to care, and support services for people infected or at high risk for HIV/AIDS, STDs.
  https://www.wecahn.org/

References

[i] NIH. Sexually transmitted diseases. MedlinePlus. https://medlineplus.gov/sexuallytransmitteddiseases.html. Published 2017.

[ii] NIH. Sexually transmitted diseases (STDs): Overview. National Institutes of Health. https://www.nichd.nih.gov/health/topics/stds/Pages/default.aspx. Published 2017. Accessed August 13, 2017.

[iii] CDC. Incidence, Prevalence, and Cost of Sexually Transmitted Infections in the United States. Atlanta, GA; 2013. https://www.cdc.gov/std/stats/sti-estimates-fact-sheet-feb-2013.pdf. Accessed August 13, 2017.

[iv] Forman D, de Martel C, Lacey CJ, et al. Global burden of human papillomavirus and related diseases. Vaccine. 2012;30:F12-F23. doi:10.1016/j.vaccine.2012.07.055.

[v] CDC. STD facts - Gonorrhea. Centers for Disease Control and Prevention. https://www.cdc.gov/std/gonorrhea/stdfact-gonorrhea.htm. Published June 29, 2017. Accessed August 13, 2017.

[vi] North Carolina HIV/STD Surveillance Unit. 2015 North Carolina HIV/STD Surveillance Report. Raleigh, NC: North Carolina Department of Health and Human Services; 2016. http://epi.publichealth.nc.gov/cd/stds/figures/std15rpt_rev10112016.pdf.

[vii] Dean HD, Fenton KA. Guest editorial: addressing social determinants of health in the prevention and control of HIV/AIDS, viral hepatitis, sexually transmitted infections, and tuberculosis. Public Health Rep. 2010;125:1-5. doi:10.2307/41434912.

[viii] Adimora AA, Schoenbach VJ. Contextual factors and the black-white disparity in heterosexual HIV transmission. Epidemiol Soc. 2002;13(6):707-712. doi:10.1097/01.EDE.0000024139.60291.08.

[ix] Zack B, Kramer K. What Is the Role of Prisons and Jails in HIV Prevention? University of California San Francisco; 2009. https://effectiveinterventions.cdc.gov/Files/revincarceratedFS.pdf.

[x] Herbst JH, Jacobs ED, Finlayson TJ, et al. Estimating HIV prevalence and risk behaviors of transgender persons in the united states: A systematic review. AIDS Behav. 2008;12(1):1-17. doi:10.1007/s10461-007-9299-3.

[xi] 2016 Durham County Community Health Survey. Partnership for a Healthy Durham website. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed August 15, 2017.

[xii] North Carolina HIV/STI Surveillance Unit. (2017). Durham County STD/HIV Data. Division of Public Health, Department of Health and Human Services. [Personal Communication].

[xiii] Centers for Disease Control and Prevention, "HIV among African Americans," Centers for Disease Control and Prevention, August 2016. [Online]. Available: https://www.cdc.gov/nchhstp/newsroom/docs/factsheets/cdc-hiv-aa-508.pdf. Accessed 20 September 2017.

Section 8.04 Outbreaks and food safety

Overview

The Food and Drug Administration (FDA) defines a foodborne outbreak as two or more people getting the same illness from the same contaminated food or drink. Most foodborne illness is associated with viral or bacterial pathogens that find their way into food through poor hygienic practices and poor food handling.[i] Other types of foodborne illness can occur due to food adulteration or contamination and include biological, physical, or chemical contamination. The contamination may be intentional or unintentional.

Because communicable diseases, including foodborne illnesses, can have so much impact on the population, the surveillance and control of such diseases is an important part of protecting the public's health. The Communicable Disease Branch of the Division of Public Health primarily deals with infectious diseases that are *reportable by law* to the state health department. Physicians, school administrators, child care operators, medical facilities and operators of restaurants and other food or drink establishments must report cases or suspected cases of reportable diseases to their local health department, which in turn reports this information to the N.C. Division of Public Health (G.S. § 103A-140).

Following the initial notification, the Durham County Department of Public Health will begin an epidemiologic investigation. A communicable disease nurse with the aid of environmental health staff, or epidemiologist will collect demographic, clinical, epidemiologic and sometimes case contact information and will verify that a reported case meets the reporting requirements in the standardized case definitions. The collected case information is entered into the North Carolina Electronic Disease Surveillance System (NC EDSS) for confidential reporting to the Division of Public Health.[ii]

Primary Data

Norovirus, although not *reportable by law*, is the leading cause of illness and outbreaks from contaminated food in the United States and Durham County. The virus is extremely tiny and a very small amount of virus particles can make a person sick. Most norovirus contamination occurs when infected persons have stool or vomit on their hands and touch food or food preparation surfaces. Tiny droplets of vomit from an infected person can spread through the air and find their way onto food and preparation surfaces. Produce can become contaminated in the field while shellfish may contain the virus if harvested from contaminated waters. People infected with norovirus shed billions of particles and are most contagious when exhibiting symptoms and during the first few days after recovery. The virus causes inflammation of the stomach or intestines or both (acute gastroenteritis). Onset of symptoms typically occurs from 12 to 48 hours after exposure and commonly include diarrhea, nausea, vomiting, and stomach pain. Infected persons may also experience fever, headache, and body aches. Most people recover within one to three days.

However, extreme vomiting and diarrhea may cause severe dehydration and present dangerous complications for older adults and children.[iii]
There were 19 total confirmed Norovirus or Noro-like illness outbreaks in Durham County from 2014 through 2017. Many of those outbreaks occurred in Adult Care facilities and schools. It's not uncommon for more than half of residents as well as a large number of staff members to become ill during outbreaks. Noteworthy outbreaks include 30 of 70 residents reported ill, 159 of 670 students reported ill, and 20 of 40 staff members reported ill (three separate Durham County outbreaks). The Durham County Department of Public Health's Communicable Disease staff, Environmental Health staff, and Medical Director worked together to educate facility operators and suggest control measures designed to limit disease spread and decrease outbreak persistence. Identifying cases early, along with rapid deployment of control measures was, and always is, paramount in limiting disease spread and the severity of outbreaks.[iv]

Durham County's Environmental Health Division completed 6,948 foodservice inspections for FY15 through FY17. During those 3 years, they also conducted 757 "Priority" and "Priority Foundation" verification visits. Priority and Priority Foundation categories are those that are most likely to lead to illness if not maintained within compliance parameters.[v] While the division is a regulatory agency, one of their primary functions and services provided is that of education and guidance for food establishment operators and their staff. Building goodwill and trust promotes more effective regulation and greater levels of compliance thus leading to safer consumer options in Durham County. Posted inspection scores located near establishment entrances along with detailed inspection reports online are tools that consumers use to empower themselves in making informed decisions that could directly impact their health.[v]

Common pathogens associated with foodborne illness in Durham County include E. coli, Campylobacter, Hepatitis A, Salmonella, Listeria, Cryptosporidium, and Shigella. Of the seven listed, Salmonella was by far the leading cause of foodborne illness during 2015-2017 in Durham County (see figure 8.04a).[vi]

Confirmed Cases of Foodborne Illness, Durham County, 2015-2017

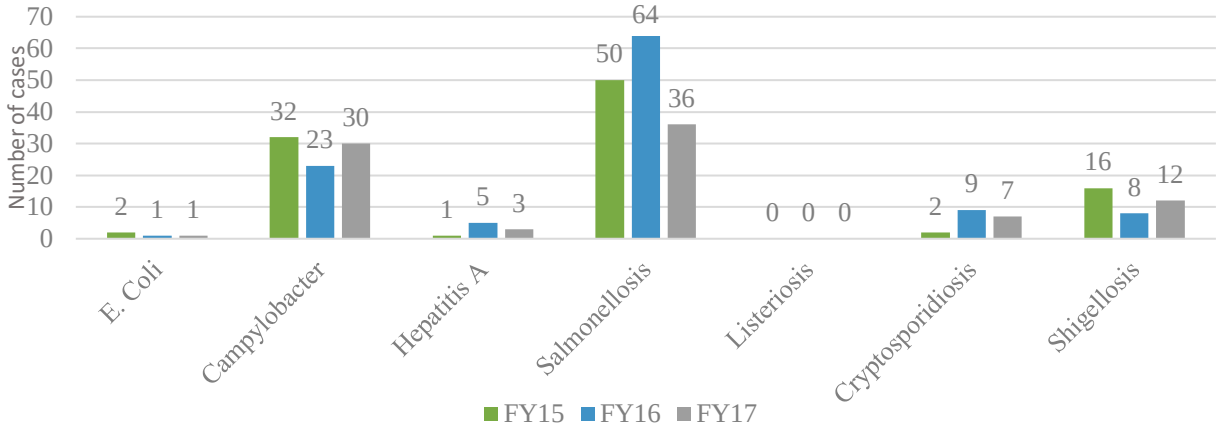


Figure 8.04(a): Confirmed Cases of foodborne illness, Durham County, 2015-2017[vi]

There have been no major foodborne illness outbreaks in Durham County since May 2013 when a catering event caused at least 41 persons to become ill with Norovirus. Many reports of foodborne illness do not involve large numbers of people or clusters. Durham County Environmental Health's Food, Lodging, and Institutions program received 576 foodservice complaints for fiscal years 2015 through 2017. Of those complaints, 148 were directly associated with illnesses and many involved more than one person. While most were not officially diagnosed, many cases reported symptoms consistent with Norovirus infection.[v]

Interpretations: Disparities, Gaps, Emerging Issues

An emerging issue for Durham is the overwhelmingly large number of Mobile Food Units (MFUs) permitted by the County. Second only to Charlotte-Mecklenburg, Durham County has roughly 150 MFUs. The transient nature of MFU operations makes cases of associated illness hard to track. An outbreak could also impact operations of many others as food preparation spaces are shared within common commissaries and shared kitchens.

Recommended Strategies

- Continue educational efforts with foodservice and institution staff pertaining to outbreak prevention and safe food handling methods.
- Environmental Health staff should adopt a "Perfect Service" approach to inspections and regulatory activities concentrating on gaining compliance through education and partnerships.
- Environmental Health should enter into the FDA Standards program which will help ensure a more uniform and correct application of codes and rules. This should result in greater compliance and lower risk of foodborne illness in Durham County.
- Increase efforts to educate food employees about their responsibilities to report to Persons in Charge conditions about their health as it relates to food and possible spread of foodborne illness.

Current Initiatives & Activities

- ***Durham County Environmental Health*** holds an annual in-service for Mobile Food Unit and Commissary operators. The intent is to help the operators better understand the codes and requirements that must be followed to remain legal and to operate in a more responsible and safe manner thus reducing the risk of foodborne illness not only in Durham, but in counties across the state.

- ***The NC Food Code*** was adopted by North Carolina in September of 2012. The code allows for a more "science based" approach to foodservice inspections. The higher quality, more "food driven" inspection concentrates on aspects of food handling that are more likely to cause foodborne illness. Durham County Environmental Health staff have become more

effective in applying the code and gaining compliance resulting in lower risk of foodborne illness.
http://ehs.ncpublichealth.com/faf/docs/foodprot/NC-FoodCodeManual-2009-FINAL.pdf

- ***Durham County Department of Public Health Division of Environmental Health*** provides regulatory oversight in addition to guidance and education relevant to multiple types of foodservice establishments. The division works directly with the Communicable Disease Section to investigate and find causes of and solutions for correcting foodborne outbreaks. http://www.dconc.gov/government/departments-f-z/public-health/services/environmental-health

References

[i] Food and Drug Administration. Outbreak Investigations. https://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks/ucm272351.htm Accessed 9/13/2017

[ii] North Carolina Division of Health and Human Services. Department of Public Health/ Epidemiology. http://epi.publichealth.nc.gov/. Accessed 9/13/2017

[iii] Centers for Disease Control and Prevention. Norovirus. https://www.cdc.gov/norovirus/index.html. Accessed 9/07/2017

[iv] Durham County Department of Public Health. Communicable Disease Outbreaks Internal Data. Accessed 9/15/2017.

[v] Durham County Department of Public Health. Division of Environmental Health. Custom Data Processing data request. http://www.dconc.gov/government/departments-f-z/public-health/services/environmental-health. Accessed 9/12/2017.

[vi] North Carolina Electronic Disease Surveillance System. Durham County reportable disease data. https://ncedss.ncpublichealth.com/login.do. Accessed 9/12/2017

Injury and Violence

This chapter includes:

- ❖ Unintentional Injuries
- ❖ Intimate Partner Violence (IPV)
- ❖ Sexual Violence
- ❖ Homicide

Section 9.01 *Unintentional injuries*

Overview

Injury and violence are significant problems in North Carolina, causing thousands of deaths and disabilities each year. During 2010-2013, injuries in Durham County resulted in more than 6,184 hospitalizations, 55,079 emergency department (ED) visits, and an unknown number of outpatient visits.[i] The effects of injuries resulting in fatalities are very costly with an estimated $7 billion in medical costs and lost productivity in North Carolina.[ii] The three leading causes of death and hospitalizations due to unintentional injury in North Carolina are motor vehicle crashes, poisoning and falls.[iii]

Healthy NC 2020 Objective

Healthy NC 2020 Objectives: Injury and Violence and Environmental Health

Healthy NC 2020 Objective[iv]	Durham	NC	2020 Target
1. Reduce the unintentional poisoning mortality rate to 9.9 (per 100,000 population).*	8.6 (2015)[v]	14.3 (2015)[vi]	9.9
2. Reduce the unintentional falls mortality rate to 5.3 (per 100,000 population)	8.3 (2015)[vii]	11.7 (2015)[viii]	5.3
3. Reduce mortality rate from work-related injuries (per 100,000 population)	Unavailable	3.4 (2015)[ix]	3.5

Table 9.01(a). Healthy NC 2020 Objectives: Injury and Violence and Environmental Health

Secondary Data

During 2010-2013, there were far more hospitalizations (6,184) and visits to the Emergency Department (55,079) due to injuries than there are deaths (566) in Durham.[x] However, unintentional injuries were the fourth leading cause of death during 2012-2016 in Durham.[xi] Motor vehicle accidents (MVA) (n=88), poisonings (n=85), and falls (n=80) were the top unintentional injuries during 2010-2013.[xii]

The two leading causes of unintentional injury hospitalization and injury-related emergency department visits in Durham County during 2010-2013 were falls and motor vehicle trauma.[xiii]

Motor Vehicle Injuries

Motor vehicle injuries were the leading cause of unintentional injury death in North Carolina and Durham County during 2010-2013.[xiv] They were also the second leading cause of unintentional injury hospitalization and injury-related emergency department visits in Durham County. Factors

that largely contribute to this pervasive public health issue include speeding, driving while intoxicated (DWI), driving while distracted (DWD), non-use or misuse of seatbelts/child restraints, poor conditions on the road and the vehicle and the driver's risk-taking behavior, inexperience and immaturity. Figure 9.01(a) below shows the trend in deaths resulting from unintentional motor vehicle injuries in North Carolina, Durham, and peer counties. The mortality rate resulting from unintentional motor vehicle injuries was lower in Durham compared to the state average and the rates in Cumberland, Guilford, and Wayne counties.

Age-Adjusted Unintentional Motor Vehicle Injury Related Deaths, Rolling Averages 2009-2013

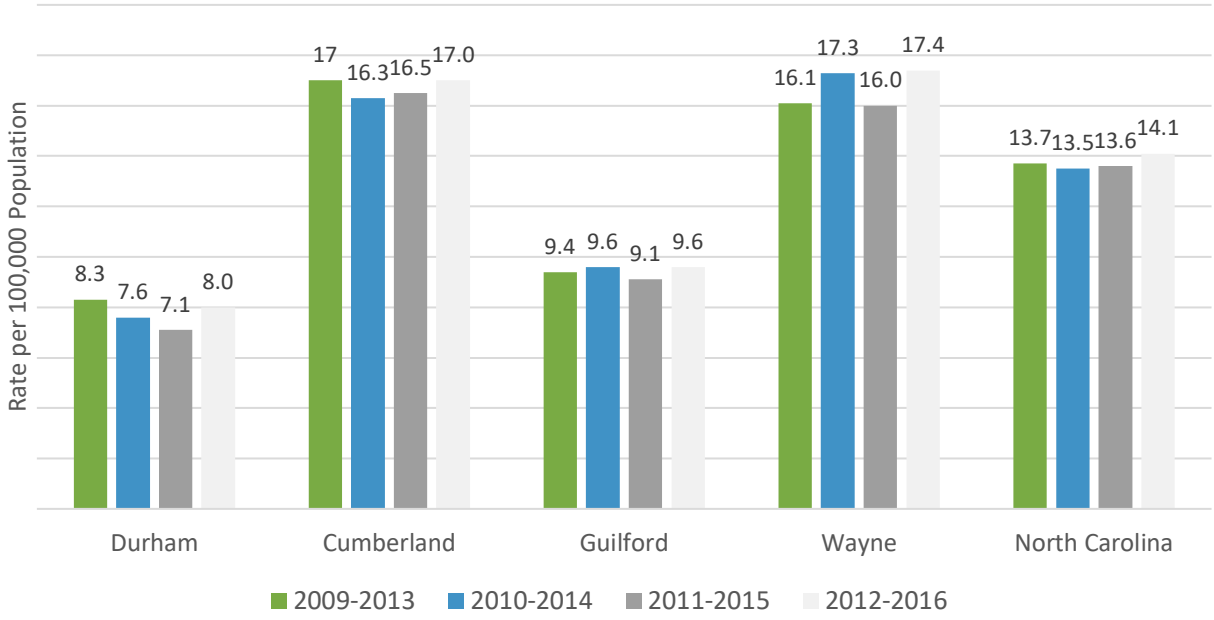


Figure 9.01(a). Unintentional Motor Vehicle Injury Related Deaths, Rolling Averages 2009-2013[xv]

Unintentional Poisonings

Unintentional poisonings are the second leading cause of unintentional injury-related deaths in North Carolina and the third leading cause in Durham County during 2010-2013.[xvi] Efforts to improve pain management have resulted in quadrupled rates of opioid prescribing, which propelled a tightly correlated epidemic of addiction, overdose, and death from prescription opioids that is now further evolving to include increasing use and overdoses of heroin and illicitly produced fentanyl.[xvii] The rate of unintentional poisoning deaths has increased by more than 300% since 1999 in Durham County, from 7 deaths in 1999 to 29 fatalities in 2016.[xviii] Unintentional poisoning mortality rates for Durham County, peer counties, and the state are displayed in Figure 9.01(b).

The NC Injury and Violence Prevention Branch has estimated the average medical costs and work loss costs from medication and drug fatalities based on 2010 prices, then indexed to 2015 prices in the state. The following estimates do not include costs associated with treatment and recovery.

In Durham County in 2016, total medical costs added up to $181,380 and work lost costs for were $40,954,195. This is a per capita cost of $134.34 for each person in Durham County.[xix]

Figure 9.01 (b) below reflects the upward trend in the unintentional poisoning mortality rate in North Carolina and Durham, Cumberland, Guilford and Wayne counties from 2009 to 2016. Since 1999, the number of unintentional medication and drug poisoning deaths increased statewide from 234 to 1,726. In Durham County, the number of deaths during this same time period increased from 7 to 29.[xx]

Age-Adjusted Unintentional Poisoning Mortality Rate, Rolling Averages 2009-2016

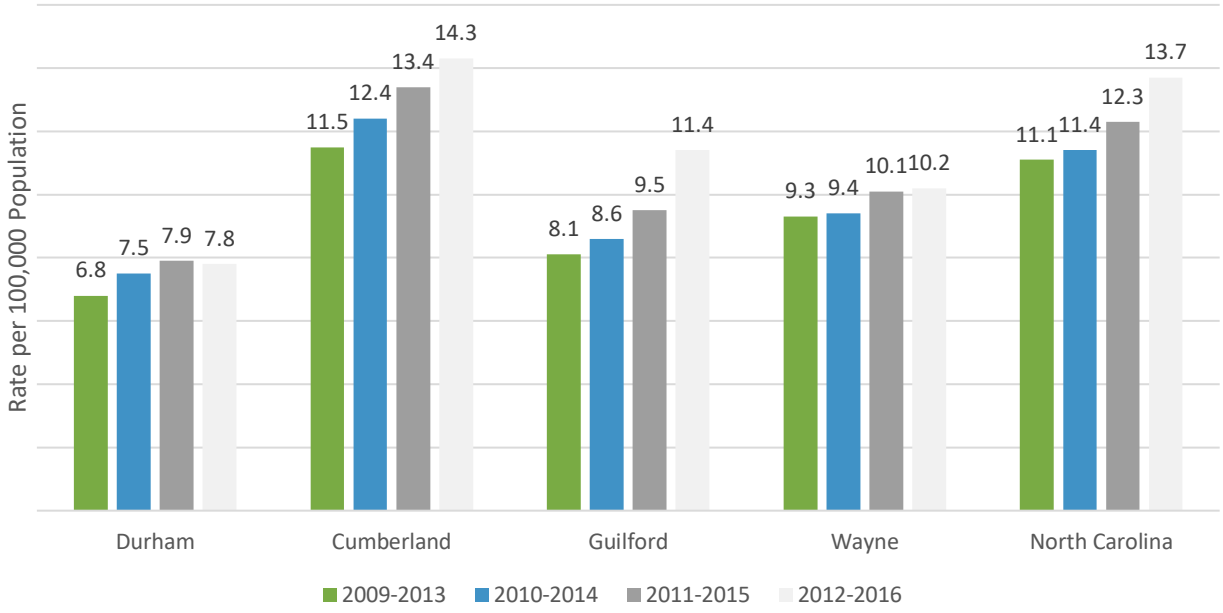


Figure 9.01(b). Unintentional Poisoning Mortality Rate, Rolling Averages 2009-2016[xxi]

Unintentional Falls

Unintentional falls were the fourth leading cause of unintentional injury related deaths and the leading cause of injury-related emergency department visits in Durham County during 2010-2013.[xxii] In adults, alcohol and drugs are large contributors to unintentional falls; and in children, contributing factors include inadequate supervision around playground equipment, trampolines, stairs and open windows. In the elderly, however, the list of contributing factors to unintentional falls is longer, and may include: polypharmacy (the use of multiple medications); environment, such as poor lighting and irregular floor surfaces; and physical and cognitive deficits, such as impaired gait or strength, alteration in mentation, acute or chronic medical conditions.[xxiii] An estimated 10% of those persons over 65 will die of complications related to a fall, and falls are associated with 40% of admissions to long term facilities.[xxiv] Additionally, persons over the age of 65 in North Carolina account for 88% of all deaths related to falls and 73% of nonfatal hospitalizations related to falls. It is estimated that costs associated with injuries due to falls in North Carolina among persons aged 65 and older is $1.4 billion.[xxv]

The trend in the age-adjusted mortality rate related to falls is shown below for North Carolina and four peer counties, including Durham. Although the mortality rate associated with falls has been somewhat variable in each of the counties highlighted below, the rate at the state level has been increasing since 2010.[xxvi] The unintentional fall mortality rate among older adults in North Carolina and Durham County during 2014-2016 was significantly higher than that for the general population, at 72.4 and 68.7 per 100,000 population, respectively.[xxvii]

Age-Adjusted Unintentional Fall Mortality Rate, Durham County and North Carolina, 2010-2016

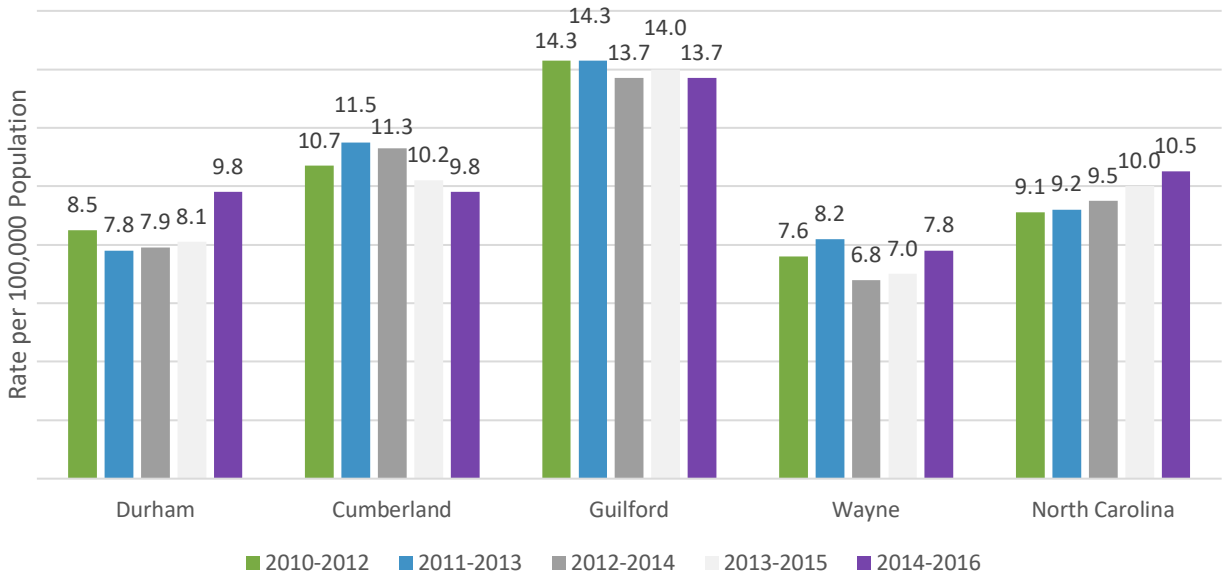


Figure 9.01 (c). Age-Adjusted ***Unintentional Fall Mortality Rate, Durham County and North Carolina, 2010-2016***[xxviii]

Interpretations: Disparities, Gaps, Emerging Issues

Disparities

During 2012-2016, the age-adjusted death rate due to falls in Durham County was twice as high among the non-Hispanic white population (11.5 per 100,000 population) compared to the non-Hispanic African American population (4.9 per 100,000 population).[xxix] Older adults are also significantly more at risk for injuries and death due to falls compared to younger populations. During 2012-2016 in Durham County the crude unintentional mortality rate associated with falls was 1.1 among the population aged 64 and younger compared to 66.1 in the population aged 65 and older.[xxx]

Emerging Issues

Unintentional prescription drug poisoning, mostly from painkillers is a growing epidemic in North Carolina. Prescription drugs are commonly sold like illegal drugs such as heroin, marijuana and cocaine. Abuse of the prescription drugs is perceived by many teens and young adults to be "safer" because it is a drug that has been prescribed by a doctor. In 2010, a White House white paper on drug abuse indicated that nearly 56% of people 12 years of age or older who abuse drugs obtained them from the household medicine chest, a family member or friend.[40] Safety issues emerge because the abuser does not know the appropriate dose for their age and weight, whether it will have an adverse reaction to other medications (prescribed, illicit or over the counter) being taken, how the medicine will react if mixed with alcohol or if they will develop an allergic reaction to the medicine. Prescription medicines are more readily available to this age group at home, in school and at social gatherings.

Current Initiatives & Activities

- ***North Carolina Buckle Up Program***

Safe Kids Durham County, through grant funding from Governor's Highway Safety Program, distributes car seats to at-risk families. Car seats are distributed at permanent checking stations and community checkup events. www.buckleupnc.org

- ***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***

There are three locations in Durham County where 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. Resources are available at the following websites: www.co.durham.nc.us, www.pvfd.com, www.bethesdavfd.org.

- ***Together for Resilient Youth (TRY)***

As a grassroots community coalition TRY works to prevent substance use among youth, young adults and over time adults by reducing community risk factors through advocacy, education, mobilization and action. TRY and its members provide peer education on the dangers of opioid and prescription medication abuse, awareness about Narcan policies and provides education on and access to safe storage and prescription drug disposal options. http://www.durhamtry.org/

- ***NC Harm Reduction Coalition (NCHRC)***

NCHRC gives out naloxone kits and instructions throughout the state. Kits are available on Fridays from 4-6 pm 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. They also link individuals to treatment, provide condoms and test for hepatitis. http://www.nchrc.org/

References

[i] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. All Ages: Leading Causes of Injury Death, Hospitalization and ED Visits by County, 2010-2013. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/FinalTop5TablesByCountyAllAges-2010-2013c.pdf. Accessed January 10, 2018. Created July 14, 2017.

[ii] Injury Prevention and Control, Centers for Disease Control. Costs of Injuries for States. https://www.cdc.gov/injury/wisqars/cost/state_costs.html. Accessed January 10, 2018. Updated January 12, 2017.

[iii] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. All Ages: Leading Causes of Injury Death, Hospitalization and ED Visits by County, 2010-2013. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/FinalTop5TablesByCountyAllAges-2010-2013c.pdf.

[iv] North Carolina Institute of Medicine. *Healthy North Carolina 2020: A Better State of Health.* Morrisville, NC: North Carolina Institute of Medicine; 2011. http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf. Accessed January 10, 2018.

[v] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed September 1, 2017.

[vi] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed September 1, 2017.

[vii] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed September 1, 2017.

[viii] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed September 1, 2017.

[ix] Fatal Occupational Injury Rates by Industry, 2015, North Carolina. Bureau of Labor Statistics. https://www.bls.gov/iif/oshwc/cfoi/rate2015nc.htm. Accessed January 10, 2018. Updated December 16, 2016.

[x] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. All Ages: Leading Causes of Injury Death, Hospitalization and ED Visits by County, 2010-2013. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/FinalTop5TablesByCountyAllAges-2010-2013c.pdf. Accessed January 10, 2018. Created July 14, 2017.

[xi] State Center for Health Statistics. 2018 County Health Data Book. 2012-2016 Race-Specific and Sex-Specific Age-Adjusted Death Rates by County. http://www.schs.state.nc.us/data/databook/. Accessed January 12, 2018.

[xii] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. All Ages: Leading Causes of Injury Death, Hospitalization and ED Visits by County, 2010-2013. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/FinalTop5TablesByCountyAllAges-2010-2013c.pdf. Accessed January 10, 2018. Created July 14, 2017.

[xiii] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. All Ages: Leading Causes of Injury Death, Hospitalization and ED Visits by County, 2010-2013. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/FinalTop5TablesByCountyAllAges-2010-2013c.pdf. Accessed January 10, 2018. Created July 14, 2017.

[xiv] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. All Ages: Leading Causes of Injury Death, Hospitalization and ED Visits by County, 2010-2013. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/FinalTop5TablesByCountyAllAges-2010-2013c.pdf. Accessed January 10, 2018. Created July 14, 2017.

[xv] State Center for Health Statistics. 2015-2018 County Health data Books. http://www.schs.state.nc.us/data/databook/. Accessed January 12, 2018.

[xvi] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. All Ages: Leading Causes of Injury Death, Hospitalization and ED Visits by County, 2010-2013. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/FinalTop5TablesByCountyAllAges-2010-2013c.pdf. Accessed January 10, 2018. Created July 14, 2017.
[xvii] Califf, R., Woodcock, J., Ostroff, S. A Proactive Response to Prescription Opioid Abuse. The New England Journal of Medicine. http://www.nejm.org/doi/pdf/10.1056/NEJMsr1601307. Accessed January 12, 2018. Created April 15, 2016.
[xviii] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. Unintentional Medication and Drug Poisoning Deaths by county, 1999-2016. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/Poisoning.htm. Accessed January 12, 2018.
[xix] Durham County Department of Public Health. Sena, A. Planning for a Coordinated Response to the Opioid Epidemic in Durham County, North Carolina. Personal communication on November 22, 2017.
[xx] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. Unintentional Medication and Drug Poisoning Deaths by County: North Carolina Residents, 1999-2016. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/poisoning/DTH-2-UnintentionalMedicationandDrugPoisoningsbycounty-1999-2016.pdf. Accessed January 17, 2018.
[xxi] State Center for Health Statistics. County Health Data Book. Unintentional Poisoning Mortality Rates per 100,000. http://www.schs.state.nc.us/data/databook/. Accessed January 17, 2018.
[xxii] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. All Ages: Leading Causes of Injury Death, Hospitalization and ED Visits by County, 2010-2013. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/FinalTop5TablesByCountyAllAges-2010-2013c.pdf. Accessed January 17, 2018.
[xxiii] Fuller G. Falls in the Elderly. *Am Fam Physician.* 2000 Apr 1;61(7):2159-2168. American Academy of Family Physicians website. http://www.aafp.org/afp/2000/0401/p2159.html. Accessed June 11, 2011.
[xxiv] Stevens JA, Corso PS, Finkelstein EA, Miller TR. The costs of fatal and non-fatal falls among older adults. 2006 Oct;12(5):290-5. https://www.ncbi.nlm.nih.gov/pubmed/17018668. Accessed January 17, 2018.
[xxv] Injury and Violence Prevention Branch, North Carolina Health and Human Services Branch. North Carolina Special Emphasis Report: Fall Injuries among Older Adults 2005-2014. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/Falls-SER-NC-2016-FINAL.pdf. Accessed January 18, 2018.
[xxvi] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed January 18, 2018.
[xxvii] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed January 18, 2018.
[xxviii] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed January 18, 2018.
[xxix] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed January 18, 2018.
[xxx] CDC WONDER. Underlying Cause of Death Detailed Mortality. https://wonder.cdc.gov/ucd-icd10.html. Accessed January 18, 2018.

Section 9.02 *Intimate partner violence (IPV)*

Overview

Intimate partner violence (IPV) refers to any physical, sexual, or psychologically/emotionally aggressive behavior that is part of a systematic pattern of power and control perpetrated by one intimate partner against another.[i] IPV can occur among heterosexual or same-sex couples, and affects people of all ages, races, and income levels.[ii] More than 37.3% of women and 30.9% of men in the United States have experienced physical or sexual violence, and/or stalking by an intimate partner in their lifetime.[iii]

IPV affects not only primary victims (those who are abused), but also has a substantial negative effect on secondary victims (e.g., children, family members, friends and co-workers), and the community at large. Victims often experience social and physical problems and are at increased risk of future victimization. Children exposed to IPV are at higher risk for adverse life outcomes including victimization, physical health problems, depression, and substance abuse.[iv]

While common depictions of domestic violence involve physical abuse, intimate partner violence takes many forms including emotional abuse, isolation, financial control, intimidation, and threats. Consequences for a victim's mental health can include depression, anxiety, and attempted suicide.[v] Approximately half of women in violent relationships are physically injured by their partners and many sustain multiple injuries.[vi] Injuries range from minor (e.g., scratches and bruises) to chronic and stress-induced (e.g., fibromyalgia and irritable bowel syndrome) to severe (e.g., traumatic brain injury, consequences of strangulation, death).[vii] Long-term effects of the trauma of IPV include decreased overall health, higher likelihood of reporting a disability, higher rates of HIV and poorer HIV-related outcomes.[viii] In 2015, more than half of all female homicides in the U.S. were related to intimate partner violence.[ix]

Victims are at the highest risk of being killed immediately after leaving an abusive relationship. If a victim of IPV is planning to end the relationship, it is critical that a safety plan is established.

Primary Data

IPV is also a serious concern for Durham youth. The 2015 Youth Risk Behavior Survey (YRBS) data indicate that 7.9% of Durham high school student respondents had been hit, slammed into something, or injured with an object or weapon by someone they were dating during the preceding year.[x]

Secondary Data

Durham Crisis Response Center (DCRC) is the only agency in Durham with a dedicated 24-hour

phone line to assist victims of domestic and sexual violence. In 2016, DCRC received 1,875 calls for domestic violence on its English and Spanish crisis lines.[xi]

The Durham Police Department's Domestic Violence Unit is dedicated to handling cases of IPV in Durham. In 2016, 310 cases of intimate partner violence were reported, including 18 rapes/sexual offenses and 10 robberies. In addition, Durham Police investigated one intimate partner homicide in 2014, 3 in 2015, and 3 in 2016.[xii]

Interpretations: Disparities, Gaps, Emerging Issues

Although IPV affects all groups of people, certain communities have been found to be disproportionately affected. Women and racial and ethnic minorities are more frequently exposed to IPV and appear to experience more severe consequences than men and White women. For example, African-American and Native American women have been found to have higher rates of IPV and suffer from more negative consequences such as homicide and Post Traumatic Stress Disorder (PTSD) than White women.[xiii,xiv] Socioeconomic disparities experienced by women and racial and ethnic minorities can intersect with the control tactics often used by abusive partners. This further makes these communities vulnerable to abuse, its consequences, and access to resources (e.g., access to health and social services) that may protect them.[xv]

Language and immigration status can also serve as a significant barrier to accessing help in IPV situations, especially among undocumented immigrants. In Durham County, the Hispanic/Latino population is the fastest growing minority group, increasing from 7.6% in 2000 to 13.4% in 2015.[xvi,xvii] To better serve the growing Hispanic/Latino population, DCRC has increased its staff to offer services for this population including a Spanish Crisis Line and bilingual legal assistance. DCRC serves all victims of IPV, regardless of immigration status. Although control tactics used by abusers of undocumented immigrants include fostering fear of deportation, these services can provide access to legal protections covered by the Violence Against Women Act. The act provides victims of crime and their family members with temporary visas.[xviii]

There are also special concerns regarding IPV within Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex (LGBTQQI) communities. Research demonstrates that LGBTQQI individuals experience additional barriers to accessing help. These barriers include some legal definitions of IPV that exclude same-sex couples, stigma and discrimination based on gender identity and sexual orientation, a fear of being "outed," and lack of access to high quality, LGBTQQI-friendly services, among others.[xix] Additionally, first responders such as police may not correctly identify violence as being IPV when the victim and perpetrator are of the same sex, leading to an underestimation of the problem and a lost opportunity to provide appropriate referrals to resources. In Durham, shelters have been working on various initiatives to make their accommodations and services accessible to the diverse LGBTQQI communities. DCRC has been collaborating with the LGBTQ Center of Durham to develop, implement, and evaluate outreach and services for these members of the Durham community.
Individuals with physical, cognitive, or developmental disabilities are another vulnerable group. Research indicates that both women and men with disabilities experience a higher prevalence of

IPV.[xx,xxi] This is problematic as victims with disabilities may not be aware that the abuse is taking place, and are less likely or able to report the abuse and access services.

Although IPV occurs more frequently among women, men also experience abuse and may be less likely to report it and access services. The same social norms that ascribe strong, controlling, and aggressive behaviors work to stigmatize men who are victimized as weak.[xxii] Additionally, male victims of IPV may experience limited access to services as shelters have not traditionally permitted male residents in order to protect the safety of women. In Durham, DCRC provides services to all victims regardless of sex at birth, gender identity, and sexual orientation.

Recommended Strategies

IPV is an important determinant of health which is often overlooked in public health efforts. Better surveillance data is needed to estimate the extent and nature of the problem among Durham residents and disparities experienced by vulnerable sub-populations. This data can also be used to evaluate the impact of public health strategies. Questions from national surveys such as the National Intimate Partner and Sexual Violence Survey should be incorporated into future community health assessments to obtain a population-based assessment of IPV which can complement data available from the YRBS, DCRC, and law enforcement.

Given the widespread prevalence and consequence of IPV, the Centers for Disease Control and Prevention (CDC) recommends preventing IPV before it occurs.[xxiii] Prevention strategies that promote healthy, respectful and nonviolent relationships, and address individual, relationship, community, and societal influences are recommended. Several school-based programs have been demonstrated to be effective in increasing knowledge and changing attitudes related to IPV among youth, but more strategies are needed to build skills related to intimate relationships and address the role of bystanders.[xxiv]

The U.S. Preventative Taskforce recommends that clinicians routinely screen women of childbearing age for IPV using screening tools that have been validated for this purpose. Screening is recommended only when providers are able to provide or refer victims to effective intervention services.[xxv] A variety of interventions for women have been found to be effective in addressing IPV, including counseling, home visits, referrals to community services such as DCRC, mentoring support, and information cards. If women decide to leave a violent relationship, a safety plan is needed to mitigate against the increased risk victims of IPV face when leaving an abusive relationship.

Many victims of IPV have limited resources and extensive needs including the need for housing, legal assistance, counseling, employment, transportation, and other forms of formal and informal support. Navigating the complex systems can be difficult and re-traumatizing for victims. Durham continues to improve its collaborative efforts across disciplines to minimize the traumatic impact on IPV victims and increase access to all services, regardless of a victim's point of entry into the system. New and ongoing programs to create a more coordinated and victim-centered system include the Durham County Domestic Violence Response Team and a new Family Justice Center located within the Durham County Courthouse.

Current Initiatives & Activities

- ***Durham Crisis Response Center***

DCRC offers free, confidential services to victims of sexual assault. Services include 24-hour crisis lines in English and Spanish, information and referrals, case management, crisis intervention and ongoing emotional support, support groups in English and Spanish, counseling, advocacy, and accompaniment to the police, court, hospital, and follow-up medical appointments. www.durhamcrisisresponse.org

- ***InStepp***

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***

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***

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 custody matters involving children exposed to violence. www.legalaidnc.org

- ***LGBTQ Center of Durham***

The LGBTQ Center's vision is to create a community where all LGBTQ+ lived experiences are affirmed, supported, and celebrated. DCRC and the LGBTQ Center are implementing a joint initiative to provide support services to LGBTQ+ victims who have experienced sexual or intimate partner violence. www.lgbtqcenterofdurham.org

- ***Duke Health***

Sexual Assault Nurse Examiners (SANEs) conduct medical exams and collect evidence from 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.[xxvi] www.dukehealth.org

- ***Durham Police Department – Domestic Violence Unit***

The Durham Police Department seeks to represent and enforce the Durham community's intolerance of violent behavior, whether it occurs outside or inside the home. www.durhampolice.com/dvu/

References

[i] National Coalition against Domestic Violence. *What is Domestic Violence?* National Coalition Against Domestic Violence. http://ncadv.org/learn-more/what-is-domestic-violence. Accessed September 6, 2017.
[ii] Centers for Disease Control. *Intimate Partner Violence*. Centers for Disease Control. https://www.cdc.gov/ViolencePrevention/intimatepartnerviolence/index.html. Accessed September 1, 2017. Updated August 22, 2017.
[iii] Smith SG, Chen J, Basile KC, Gilbert LK, Merrick MT, Patel N, Walling M, and Jain A. *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010-2012 State Report.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2017. https://www.cdc.gov/violenceprevention/pdf/NISVS-StateReportBook.pdf.
[iv] The National Child Traumatic Stress Network. *Children and Domestic Violence*. http://www.nctsn.org/content/children-and-domestic-violence. Accessed September 6, 2017.
[v] Centers for Disease Control and Prevention (CDC). *Preventing Intimate Partner and Sexual Violence: Program activities guide*. Atlanta, GA: Centers for Disease Control and Prevention. http://www.cdc.gov/violenceprevention/pdf/IPV-SV_Program_Activities_Guide-a.pdf. Accessed September 10, 2017.
[vi] World Health Organization. *Global and Regional Estimates of Violence against Women: Prevalence and Health Effects of Intimate Partner Violence and Non-Partner Sexual Violence*. Geneva, Switzerland: WHO; 2013. http://apps.who.int/iris/bitstream/10665/85239/1/9789241564625_eng.pdf?ua=1.
[vii] Centers for Disease Control. *Intimate Partner Violence*. Centers for Disease Control. https://www.cdc.gov/violenceprevention/intimatepartnerviolence/consequences.html. Accessed September 8, 2017. Updated August 22, 2017.
[viii] National Center on Domestic Violence, Trauma & Mental Health. *Current Evidence: Intimate Partner Violence, Trauma-Related Mental Health Conditions & Chronic Illness.* National Center on Domestic Violence, Trauma & Mental Health. http://www.nationalcenterdvtraumamh.org/wp-content/uploads/2014/10/FactSheet_IPVTraumaMHChronicIllness_2014_Final.pdf. Accessed September 8, 2017.
[ix] Petrosky E, Blair JM, Betz CJ, Fowler KA, Jack SPD, Lyons BH. *Racial and Ethnic Differences in Homicides of Adult Women and the Role of Intimate Partner Violence — United States, 2003–2014.* MMWR Morb Mortal Wkly Rep 2017;66:741–746. https://www.cdc.gov/mmwr/volumes/66/wr/mm6628a1.htm?s_cid=mm6628a1_w
[x] Durham County Department of Public Health. *Youth Risk Behavior Survey Durham County 2015 Report*. Durham, NC: Durham County Department of Public Health; 2016. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf.
[xi] Wilson, Juliana. (Volunteer & Crisis Line Coordinator, Durham Crisis Response Center, Durham, NC.) Message to Charlene Reiss. 2017 August 2. [Cited 2017 August 2].
[xii] Roberts, Ann. (Crime Analysis Supervisor, Data Analysis Unit, City of Durham Police Department, Durham NC.). Message to Charlene Reiss. 2017 July 13. [Cited 2017 July 14].
[xiii] Smith SG, Chen J, Basile KC, Gilbert LK, Merrick MT, Patel N, Walling M, and Jain A. *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010-2012 State Report.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2017. https://www.cdc.gov/violenceprevention/pdf/NISVS-StateReportBook.pdf.
[xiv] Petrosky E, Blair JM, Betz CJ, Fowler KA, Jack SPD, Lyons BH. *Racial and Ethnic Differences in Homicides of Adult Women and the Role of Intimate Partner Violence — United States, 2003–2014.* MMWR Morb Mortal Wkly Rep 2017;66:741–746. https://www.cdc.gov/mmwr/volumes/66/wr/mm6628a1.htm?s_cid=mm6628a1_w

[xv] Stockman JK1, Hayashi H, Campbell JC. Intimate partner violence and its health impact on ethnic minority women [corrected]. *J Womens Health.* 2015;24(1):62-79.
[xvi] Pew Hispanic Research Center. *Hispanic Population Growth and Dispersion across U.S. Counties, 1890-2014*. http://www.pewhispanic.org/interactives/hispanic-population-by-county/. Accessed July 26, 2017
[xvii] U.S. Census Bureau. *2011-2015 American Community Survey 5-Year Estimates.* US Census Bureau. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF. Accessed July 26, 2017.
[xviii] U.S. Immigration Support. *U Visas for Immigrants of Violence Crimes*. https://www.usimmigrationsupport.org/visa-u.html. Accessed September 18, 2017.
[xix] Brown TNT, Herman JL. *Intimate Partner Violence and Sexual Abuse among LGBT People*. Los Angeles, CA: The Williams Institute. 2015. http://williamsinstitute.law.ucla.edu/wp-content/uploads/Intimate-Partner-Violence-and-Sexual-Abuse-among-LGBT-People.pdf.
[xx] Breiding MJ, Armour BS. *The association between disability and intimate partner violence in the United States. Ann Epidemiol*. 2015; *25*(6),455-457.
[xxi] Mitra M, Mouradian VE. *Intimate partner violence in the relationships of men with disabilities in the United States: relative prevalence and health correlates. J Interpers Violence*. 2014;*29*(17):3150-3166.
[xxii] Shuler CA. *Male victims of intimate partner violence in the United States: An examination of the review of literature through the critical theoretical perspective.* International Journal of Criminal Justice Sciences. 2010;*5*(1):163-173. http://www.sascv.org/ijcjs/pdfs/carolettaijcjs2010vol5iss1.pdf
[xxiii] Centers for Disease Control and Prevention. *Teen Dating Violence*. Centers for Disease Control and Prevention. https://www.cdc.gov/violenceprevention/intimatepartnerviolence/teen_dating_violence.html. Accessed September 28, 2017. Updated August 3, 2017.
[xxiv] De La Rue L, Polanin JR, Espelage DL, Pigott TD. *A meta-analysis of school-based interventions aimed to prevent or reduce violence in teen dating relationships.* Rev Educ Res. 2017;*87*(1):7-34.
[xxv] U.S. Preventive Services Task Force. *Final Recommendation Statement: Intimate Partner Violence and Abuse of Elderly and Vulnerable Adults: Screening.* U.S. Preventive Services Task Force. 2016. https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/intimate-partner-violence-and-abuse-of-elderly-and-vulnerable-adults-screening. Accessed July 26, 2017.
[xxvi] End Violence Against Women International. Forensic Compliance. EVAWI. http://www.evawintl.org/PAGEID2/Forensic-Compliance/Background. Accessed July 27, 2017.

Section 9.03 *Sexual violence*

Overview

Sexual violence encompasses a broad array of offenses from rape to sexual assault to sexual offenses involving no physical contact such as voyeurism and verbal threats of sexual assault. The term "force" includes psychological as well as physical coercion. While North Carolina has maintained a narrower definition of rape, the Durham Police Department uses the same definition for reporting as the Federal Bureau of Investigation (FBI): "Penetration, no matter how slight, of the vagina or anus with any body part or object, or oral penetration by a sex organ of another person, without the consent of the victim. Attempts or assaults to commit rape are also included; however, statutory rape and incest are excluded."[i] Similar to other crimes, including intimate partner violence, sexual violence is about power and control of one individual over another.[ii]

While sexual violence affects individuals of all ages, recent research has highlighted the frequency of assault and dating violence among young people, including middle and high school students.[iii] Easy and ubiquitous access to technology can lead to cyber-bullying, sharing of explicit photos, and grooming youth for commercial exploitation. Although considerable focus remains on sexual assaults on college campuses, youth are experiencing sexual violence as young teens. Education about consent and healthy relationships is needed before youth graduate from high school.

The trauma of sexual violence continues to be a significant problem with far-reaching negative effects on not only the primary victims, but also the victims' loved ones (secondary victims), the Durham community, and society as a whole. Primary victims of sexual violence often experience physical, psychological and behavioral health concerns, many of which can become chronic without adequate and appropriate treatment. Some possible health consequences associated with the trauma of sexual violence include chronic disease, gynecological complications, depression, Post Traumatic Stress Disorder (PTSD), and increased likelihood of engaging in risky behaviors, including substance abuse and unprotected sex.[iv,v] Individuals who have experienced sexual assault are at increased risk for future victimization and suicide.[vi,vii]

Primary Data

According to the Youth Risk Behavior Survey (YRBS) in 2015, approximately 8.9% of high school students in Durham County reported having been physically forced to have sexual intercourse when they did not want to. Rates were similar across races and ethnicities, with 7.8% of African-Americans, 8.3% of Hispanic and Latinos, 7.9% of whites, and 13.7% of people of other races reporting forced sexual intercourse.

Secondary Data

Crimes Reported to Police

National research estimates that 43.9% of women and 23.4% of men have experienced rape or other sexual violence during their lifetimes.[viii] In the city of Durham in 2016, the Durham Police Department investigated 78 rapes of female and male victims ranging in age from 9-59.[ix] Contrary to myths of "stranger danger," more than 85% of these rapes were committed by a perpetrator known to the victim, as shown below in Figure 9.03(a). In addition, Durham Police investigated 132 cases of sexual offenses in 2016. In 2015, only an estimated 32% of rape or sexual assaults were reported to the police.[x] For a variety of reasons, many individuals who have experienced a sexual assault do not report to law enforcement while seeking services from other providers, including healthcare and victim service agencies. Stigma, fear of being blamed or not believed, and normalization of violence or unhealthy behaviors contribute to victims underreporting and not seeking services.

Reported Rapes by Relationship to Offender, City of Durham, 2016

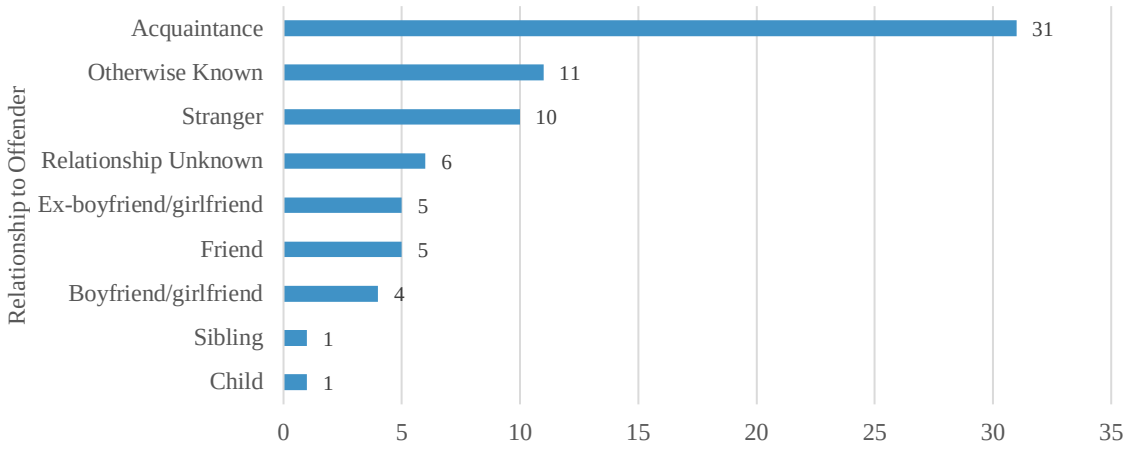


Figure 9.03 (a). Reported Rapes by Relationship to Offender, City of Durham, 2016[ix]

Reported Rapes by Age, City of Durham, 2016

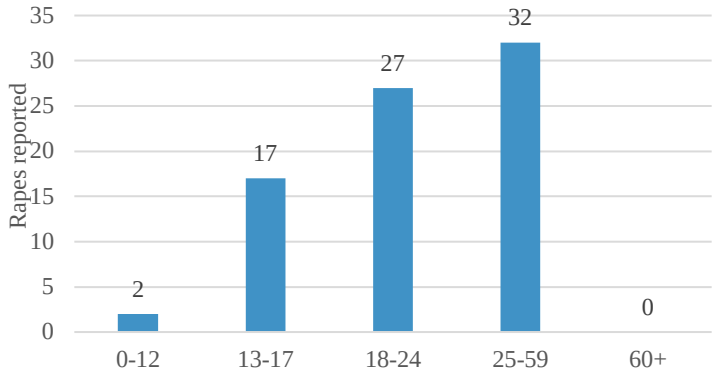


Figure 9.03(b). Reported Rapes by Age, City of Durham, 2016[i]

While Figure 9.03(b) shows a wide age-range of rape victims who reported to Durham Police Department in 2016, the age of highest risk is 18-24 years. According to the National Crime Victimization Survey for 1995-2013, college-age females are at highest risk of sexual violence. While the problem of campus sexual violence is significant,

females ages 18-24 who are not enrolled in post-secondary education are 1.2 times more likely to experience sexual assault or victimization compared to females of the same age enrolled in post-secondary education.[xi]

The Campus Sexual Violence Elimination Act, a 2013 amendment to the federal Jeanne Clery Act and special White House taskforce on sexual violence on college campuses, has called upon colleges and university to increase transparency about the extent and nature of sexual violence on college campuses.[xii,xiii] Duke University's sexual assault experiences survey, conducted in 2016, found that 40% of undergraduate females and 10% of males reported being victims of sexual assault since enrolling at Duke, with African-American, Hispanic, and gay, lesbian and bisexual undergraduate students reporting the highest rates of sexual assault.[xiv] In 2015, various criminal offenses resulting from rape were reported at Duke University (13 charges) and North Carolina Central University (8 charges)[xv]. These rates likely underestimate rape and other forms of sexual violence and may be more indicative of the success of institutions in reporting the problem.

Victim Services

Durham Crisis Response Center (DCRC) is the only agency in Durham County with the sole mission of offering comprehensive services to support victims of sexual and intimate partner violence. Victims contact DCRC through their English and Spanish crisis lines, at the county courthouse, and by referrals from other agencies. DCRC works closely with Duke Health Systems at both Duke and Duke Regional to accompany victims undergoing forensic evidence collection by specially-trained Sexual Assault Nurse Examiners (SANEs). In 2016, DCRC received 443 calls about sexual violence on their crisis line and advocates accompanied 162 victims at the hospitals.[xvi]

Interpretations: Disparities, Gaps, Emerging Issues

Underreporting of sexual violence continues to be a significant problem in Durham and across the country. Victims may choose not to report their experiences for many reasons including guilt, self-blame, fear that they would not be believed, and lack of trust in the criminal justice system.[xvii] Male victims of sexual violence may face additional barriers to reporting such as stigma related to social norms ascribed to males that label male victims as being weak, and lack of concern from the criminal justice system for male victims.[xviii]

Race, ethnicity, class, language and immigration status often serve as significant barriers to accessing help following sexual violence. In a national study on sexual violence among Latinas, only 21% sought any form of formal help and only 6.6% of victims sought services from the criminal justice system.[xix] Immigration-related factors, language barriers, and lack of knowledge of where to access services may serve as additional barriers. Durham Crisis Response Center (DCRC) provides culturally and linguistically appropriate services to Latinos and other immigrants to overcome the lack of trust and fear of deportation that often interferes with seeking services.

Research indicates that members of Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex (LGBTQQI) communities face a greater risk of being sexually assaulted in their lifetimes

than heterosexuals.[xx] Transgender individuals are particularly vulnerable with approximately 1 out 2 people identifying as transgender reporting sexual abuse or assault in their lifetime.[xxi] DCRC, NCCU, and Duke University all have initiatives to serve the unique needs of this community.

Individuals with disabilities and the elderly are also particularly vulnerable to sexual violence. The rate of violent crimes, including rape and sexual assault, against people with disabilities is more than three times that of people without disabilities.[xxii] Individuals with disabilities and the elderly have additional barriers to accessing help, as they are more likely to be dependent on others, including the perpetrator, and may lack resources. Additionally, service providers are often ill-prepared to address the unique needs of these populations.[xxiii]

Inmates in jails and prisons are at high risk of sexual violence. In 2012, researchers estimated that 4% of state and federal prison inmates and 3.2% of jail inmates had reported sexual victimization by another inmate or by a facility staff member in the past 12 months[xxiv]. Prison staff at the Federal Correctional Institution in Butner is working with Duke University Health System, DCRC, and local agencies to provide appropriate services to prisoners who have been sexually assaulted.

Recommended Strategies

Given the underreporting of sexual violence, continuing to monitor lifetime and past-year exposure to sexual violence using population-based strategies that do not rely on disclosure to a service provider or criminal justice entity is essential. While data for sexual violence are available for students (e.g., YRBS, university climate surveys), similar data are not available for the general Durham community. Including questions related to sexual violence in future Durham Community Health Assessments would allow for better understanding of the prevalence in Durham and the effectiveness of interventions.

Primary prevention programs to reduce exposure to sexual violence and identify and intervene early are also needed. In a recent systematic review of prevention strategies for sexual violence perpetration, the CDC identified three primary prevention strategies as effective:[xxv]

- Safe Dates, a school based prevention program for 8th and 9th grade students addressing sexual violence in dating relationships. DCRC currently provides this program at no charge to some schools and youth groups in Durham.[xxvi]
- Shifting Boundaries, a comprehensive program addressing sexual harassment, sexual violence, and dating violence that includes an environmental school-wide approach that includes rules, “hot spot” maps, temporary school-based restraining orders, and posters.[xxvii]
- 1994 U.S. Violence Against Women Act, a law aimed at increasing the prosecution and penalties associated with sexual violence, protecting victims, and funding research and programs addressing sexual violence.[xxviii,xxix]

Studies by the National Institute of Justice have also noted that Sexual Assault Nurse Examiner (SANE) programs and Sexual Assault Response Teams (SART) improve the quality of health care

for victims, the quality of forensic evidence collected, and lead to increased rates of prosecution over time.[xxx] Duke University Health System employs a roster of SANEs to respond to sexual assault cases in the Emergency Departments of both Duke Hospital and Duke Regional Hospital. In addition, Durham Crisis Response Centers coordinates the multidisciplinary SART for Durham County. The team, comprising DCRC, law enforcement, SANEs, prosecutors and other agencies meet bimonthly to ensure that the community response to sexual violence is victim-centered, appropriate, coordinated, and informed. In addition, the SART partners with other groups and agencies to increase awareness and promote prevention of sexual assault in the community.

Current Initiatives & Activities

- ***Durham Crisis Response Center***

DCRC offers free, confidential services to victims of sexual assault. Services include 24-hour crisis lines in English and Spanish, information and referrals, case management, crisis intervention and ongoing emotional support, support groups in English and Spanish, counseling, advocacy, and accompaniment to the police, court, hospital, and follow-up medical appointments. www.durhamcrisisresponse.org

- ***Duke Health***

Sexual Assault Nurse Examiners (SANEs) conduct medical exams and collect evidence from 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 regardless of their decision to report their assault to law enforcement.[xxxi] www.dukehealth.org

- ***Durham Police Department Special Victims Unit***

The DPD SVU investigates crimes of sexual assault, child pornography, child physical abuse, allegations of child neglect, and other matters at the direction of the Criminal Investigations Division commander. durhamnc.gov/217/Special-Victims-Unit

- ***Duke University Women's Center***

The Women's Center provides confidential crisis support and information for people of all genders who are survivors of gender violence at Duke. studentaffairs.duke.edu/wc

- ***North Carolina Central University Women's Center***

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. www.nccu.edu/womenscenter/violence.cfm

- ***LGBTQ Center of Durham***

The LGBTQ Center's vision is to create a community where all LGBTQ+ lived experiences are affirmed, supported, and celebrated. DCRC and the LGBTQ Center are implementing a joint initiative to provide support services to LGBTQ+ victims who have experienced sexual or intimate partner violence. www.lgbtqcenterofdurham.org

- ***InStepp***

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

References

[i] Criminal Justice Information Services Division. Preliminary Semiannual Uniform Crime Report, January—June, 2016. Federal Bureau of Investigation. https://ucr.fbi.gov/crime-in-the-u.s/2016/preliminary-semiannual-uniform-crime-report-januaryjune-2016. Accessed July 25, 2017.
[ii] Sexual Assault Prevention and Awareness Center. Sexual Assault Misconceptions. Ann Arbor: University of Michigan; 2017. https://sapac.umich.edu/article/52
[iii] Kann L, Olsen EO, McManus T, et al. Sexual identity, sex of sexual contacts, and health-related behaviors among students in grades 9-12 – United States and selected sites, 2015. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report. 2016. https://www.cdc.gov/mmwr/volumes/65/ss/pdfs/ss6509.pdf.
[iv] Santaularia J, Johnson M, Hart L, Haskett L, Welsh E, and Faseru B. Relationships between sexual violence and chronic disease: a cross-sectional study. BMC Public Health 2014 14:1286.
[v] National Center for Injury Prevention and Control, Division of Violence Prevention. Sexual Violence: Consequences. Centers for Disease Control and Prevention. https://www.cdc.gov/violenceprevention/sexualviolence/consequences.html. Accessed July 26, 2017. Updated June 6, 2017.
[vi] Tjaden P, Thoennes N. *Extent, nature, and consequences of rape victimization: Findings from the National Violence Against Women Survey*. Washington, DC: US Department of Justice Office of Justice Programs; 2006. https://www.ncjrs.gov/pdffiles1/nij/210346.pdf.
[vii] Tomasula JL, Anderson LM, Littleton HL, Riley-Tillman TC. The association between sexual assault and suicidal activity in a national sample. Sch Psychol Q. 2012 Jun;27(2):109-19.
[viii] Breiding MJ, Smith SG, Basile KC, Walters ML, Chen J, Merrick MT. Prevalence and Characteristics of Sexual Violence, Stalking, and Intimate Partner Violence Victimization — National Intimate Partner and Sexual Violence Survey, United States, 2011. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report. 2014. https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6308a1.htm?s_cid=ss6308a1_e.
[ix] Roberts, Ann. (Crime Analysis Supervisor, Data Analysis Unit, City of Durham Police Department, Durham NC.). Message to Charlene Reiss. 2017 July 13. [Cited 2017 July 14].
[x] Truman JL, Morgan RE. *Criminal victimization, 2015*. Washington, DC: Bureau of Justice Statistics; 2016. https://www.bjs.gov/content/pub/pdf/cv15.pdf.
[xi] Sinozich S, Langton L. *Rape and Sexual Assault Victimization Among College-Age Females, 1995-2013*. Washington, DC: Bureau of Justice Statistics; December 2014. https://www.bjs.gov/content/pub/pdf/rsavcaf9513.pdf . Accessed November 30, 2017.
[xii] Carter SD. Jeanne Cleary Act: The Campus Sexual Violence Elimination Act. Jeanne Clery Act Information. http://www.cleryact.info/campus-save-act.html. Accessed July 27, 2017.
[xiii] White House Task Force to Protect Students from Sexual Assault. *Preventing and Addressing Campus Sexual Misconduct: A Guide for University and College Presidents, Chancellors, and Senior Administrators*. Washington, DC: The White House; 2017. https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Documents/1.4.17.VAW%20Event.Guide%20for%20College%20Presidents.PDF.
[xiv] Fox K. University survey reveals 'startling' sexual misconduct statistics. The Chronicle (Duke University). 2017 Mar 8. http://www.dukechronicle.com/article/2017/03/student-affairs-survey-reveals-startling-sexual-misconduct-statistics.
[xv] Campus Safety and Security. *Compare Data for Multiple Schools*. US Department of Education. https://ope.ed.gov/campussafety/#/compare/search. Accessed July 27, 2017.
[xvi] Wilson, Juliana. (Volunteer & Crisis Line Coordinator, Durham Crisis Response Center, Durham, NC.) Message to Charlene Reiss. 2017 August 2. [Cited 2017 August 2].

[xvii] National Institute of Justice. *Reporting of Sexual Violence Incidents*. Office of Justice Programs. https://www.nij.gov/topics/crime/rape-sexual-violence/Pages/rape-notification.aspx. Accessed July 27, 2017.
[xviii] Stemple L., Meyer IH. The sexual victimization of men in America: New data challenge old assumptions. *Am J Public Health.* 2014;104(6):e19–e26. http://doi.org/10.2105/AJPH.2014.301946
[xix] Cuevas CA, Sabina C, Picard EH. Interpersonal victimization patterns and psychopathology among Latino women: Results from the SALAS study. *Psychol Trauma.* 2010;2(4):296.
[xx] National Center for Injury Prevention and Control Division of Violence Prevention. *NISCS: An overview of 2010 findings on Victimization and sexual orientation.* Centers for Disease Control. https://www.cdc.gov/violenceprevention/pdf/cdc_nisvs_victimization_final-a.pdf. Accessed July 27, 2017.
[xxi] Office for Victims of Crime. *Responding to Transgender Victims of Sexual Assault*. Office of Justice Programs. https://www.ovc.gov/pubs/forge/index.html. Accessed July 27, 2017.
[xxii] Harrell E. *Crime Against Persons with Disabilities, 2009-2015 – Statistical Tables*. Washington, DC: Bureau of Justice Statistics; July 2017. https://www.bjs.gov/content/pub/pdf/capd0915st.pdf
[xxiii] Davis LA. *People with Intellectual Disabilities and Sexual Violence*. Washington, DC: The Arc; 2011. http://www.thearc.org/document.doc?id=3657.
[xxiv] Review Panel on Prison Rape. Report on Sexual Victimization in Prisons and Jails. Washington, DC: US Department of Justice; 2012. http://www.ojp.usdoj.gov/reviewpanel/reviewpanel.htm.
[xxv] DeGue S, Valle LA., Holt MK, Massetti GM, Matjasko JL, Tharp AT. A systematic review of primary prevention strategies for sexual violence perpetration. *Aggress Violent Behav.* 2014;19(4):346-362.
[xxvi] Foshee VA, Bauman KE, Ennett ST, Linder GF, Benefield T, Suchindran C. Assessing the long-term effects of the Safe Dates program and a booster in preventing and reducing adolescent dating violence victimization and perpetration. *Am J Public Health*. 2004 Apr;94(4):619-24.
[xxvii] Taylor BG, Mumford EA, Stein ND. Effectiveness of "shifting boundaries" teen dating violence prevention program for subgroups of middle school students. *J Adolesc Health.* 2015 Feb;56(2 Suppl 2):S20-6
[xxviii] H.R.3355 - Violent Crime Control and Law Enforcement Act of 1994. https://www.congress.gov/bill/103rd-congress/house-bill/3355.
[xxix] Boba R, Lilley D. Violence Against Women Act (VAWA) funding: a nationwide assessment of effects on rape and assault. *Violence Against Women*. 2009 Feb;15(2):168-85.
[xxx] National Institute of Justice. *Responses to Sexual Violence: Effectiveness of SANE/SART Programs*. Office of Justice Programs. Accessed July 27, 2017.
[xxxi] End Violence Against Women International. Forensic Compliance. EVAWI. http://www.evawintl.org/PAGEID2/Forensic-Compliance/Background. Accessed July 27, 2017.

Section 9.04 Homicide

Overview

According to the Centers for Disease Control and Prevention (CDC), in 2015 over 17,000 people were killed as a result of homicide in the United States. Firearms accounted for 73% of those deaths. The average cost per homicide in the U.S. is $1.5 million in lost productivity and $10,944 in medical costs.[i] In 2015, there were 593 homicides in North Carolina; 438 (81%) were caused by firearms.[i] From 2011 to 2015 in Durham County, homicide was the leading cause of death among 20-39 year-olds. Homicide was also the second leading cause of death among 0-19 year-olds.[ii]

In addition to the immeasurable physical, emotional and psychological impact endured by the survivors and perpetrators' families, loved ones and neighborhoods; there are far reaching community consequences such as community fear and disengagement. Homicide can also cause a strain on local resources and personnel. In 2005, the Durham County EMS system responded to an average of 14 gunshot wounds each month.[iii]

In North Carolina, reported fatal and nonfatal injuries due to firearms resulted in 3,908 visits to the emergency department in 2016.[iv] Nationwide, the majority of homicides are committed with a firearm, most often a handgun. Likewise, in Durham County approximately 77% of homicides were committed with a firearm between 2005 and 2014. Suspicion of intoxication was reported in 20% of homicides and in most incidences the victims knew the assailant.[v]

Primary Data

Durham County Community Health Assessment Survey[vi]

The 2016 Durham County Community Health Assessment Survey randomly selected Durham County households. One section of the survey asked respondents to look at several lists and rank their top three neighborhood concerns. One question had a list of community issues. Respondents were asked, “Keeping in mind yourself and the people in your neighborhood, tell me the community issues that have the greatest effect on quality of life in Durham County. Please choose up to 3.” Overall, the sixth most popular response was “gangs” (19%) while “violent crime” was selected by 18% of residents. Violent crime was the most frequent response within the Hispanic and Latino sample (30%).[vi]

When residents were asked to choose the primary causes of stress that they experience, 10% of residents chose “violence”. Violence was the sixth leading cause of stress in Durham County. Finally, residents were asked, “What one thing would make Durham County or your neighborhood a better place to live? (Open ended response)” and responses were grouped into themes. The most common response was the reduction of crime and violence (19%).[vi]

Gun Crime and Gun Arrests in Durham

Gun arrests have dropped approximately 36% from 2010 to 2015. After the end of the Bull's Eye Initiative, there was a 23% drop in gun arrests. During this time frame, almost 30% of the arrests involved youth and young adults between the ages of 16 and 25 who were already convicted felons. The most frequent gun charge is carrying a concealed weapon illegally, followed by possession of a stolen firearm and possession of a firearm by a convicted felon. There has been over a 125% increase in the number of Durham County residents that applied for or renewed a concealed carry permit between 2010 and 2015.[vii]

Secondary Data

The North Carolina Violent Death Reporting System (NC-VDRS) collects detailed information on deaths that result from violence, such as homicide, suicide, undetermined intent and unintentional firearm deaths. From 2005 to 2014, there were 543 violent deaths from injuries sustained in Durham County. Homicides and suicides comprised the vast majority of the violent deaths. There were 281 homicides (52%) and 236 suicides (44%).[v] This is in contrast to national data whereby suicides outnumber homicides. From 2005 to 2014, there has been an average of 28 homicides per year in Durham County. The trend line in Figure 9.04(a) illustrates that homicides have slightly decreased over this same time period. In 2014, there were 26 homicides. Nevertheless, similar to the U.S., homicide was the leading cause of death among 20-39 year-olds and the second leading cause of death among 0-19 year-olds in Durham County (2011-2015).[ii]

Number of Homicides, Durham County, 2005-2014

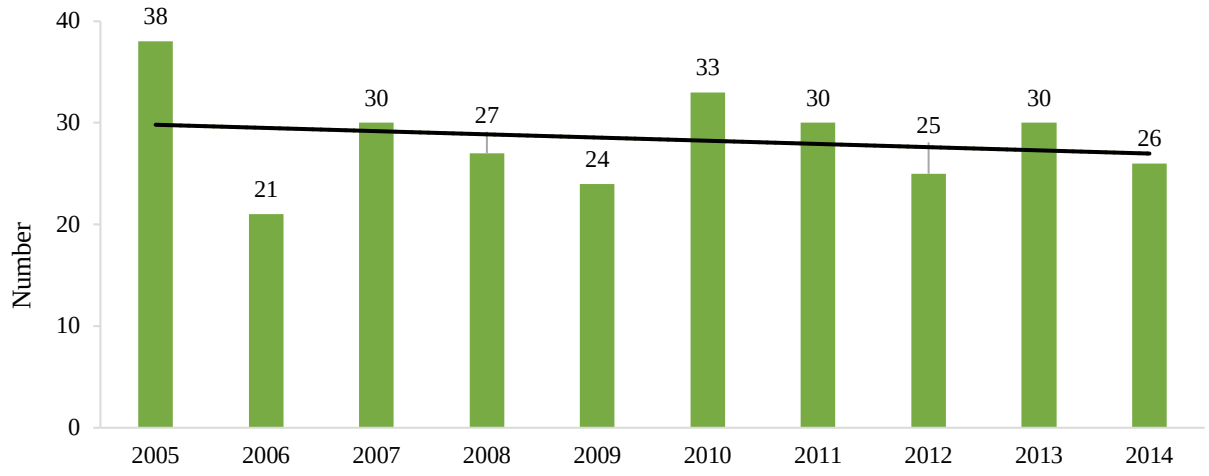


Figure 9.04(a) Number of Homicides, Durham County, 2005-2014[viii]

Figure 9.04(b) illustrates the identified and reported circumstances that contributed to homicides in Durham County between 2005 and 2014. The most commonly known reported circumstances in which homicides occurred in Durham County included: arguments/conflicts (43%), precipitated

by another crime such as robbery or burglary (38%), drug involvement (20%) and intimate partner violence (13%).[viii]

Circumstances of Homicides, Durham County, 2005-2014

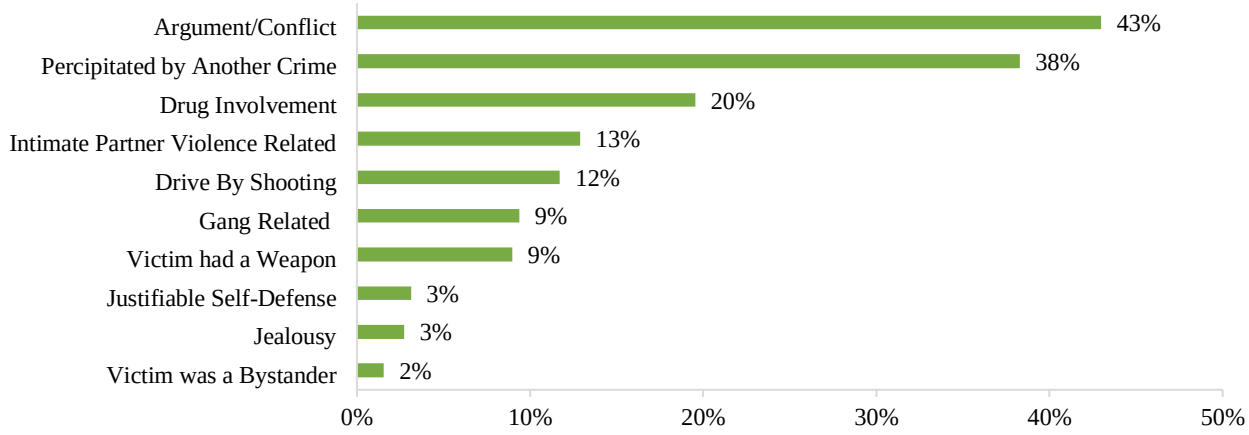


Figure 9.04(b) Circumstances of Homicides, Durham County, 2005-2014[viii]

Among North Carolinas most populous counties, Durham ranks second in homicide rate with 10.3 homicides per 100,000 residents, as illustrated in Figure 9.04(c). This is above the North Carolina rate of 5.4 per 100,000. Durham's rate is higher than the Healthy People 2020 goal of 6.7 per 100,000 individuals.[viii]

Homicide Rate among North Carolina's Most Populous Counties, 2010-2014

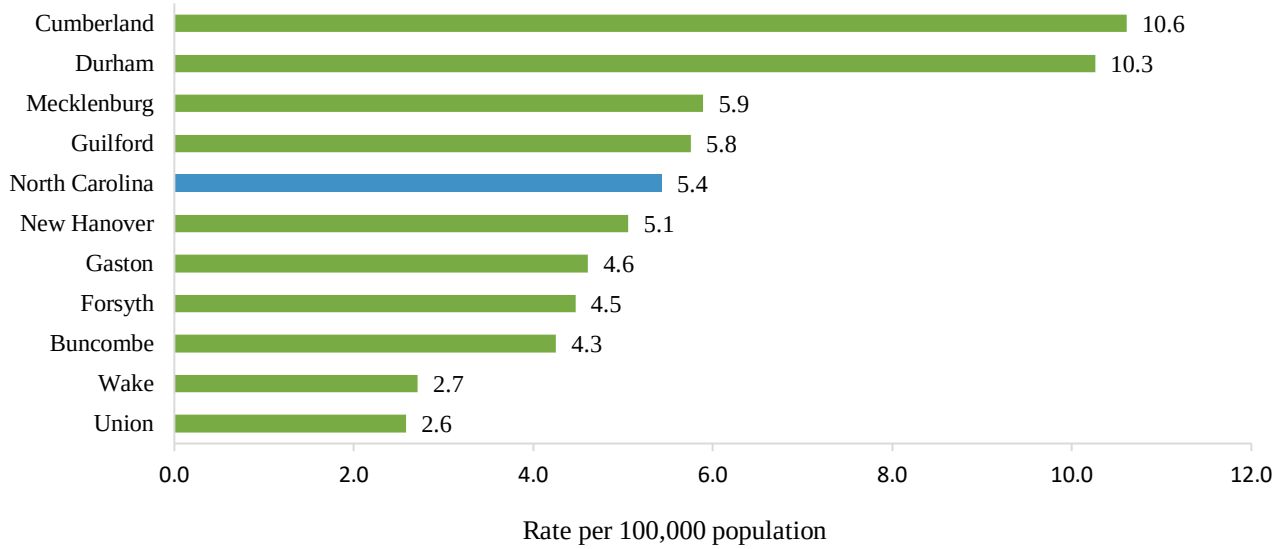


Figure 9.04(c) Homicide Rate Among NC's Most Populous Counties, 2010-2014[viii]

Interpretations: Disparities, Gaps, Emerging Issues

Specific groups of individuals are at greater risk of being homicide victims. In general, males, young people ages 24-34 and African-Americans are disproportionately impacted. However, evidence demonstrates that race is often a marker of other social determinants related to homicide such as poverty, unemployment, poor education and discrimination.

North Carolina: Of all racial and ethnic groups in North Carolina, African-Americans and American Indians are at greatest risk of homicide with rates of 15.4 and 13.8 deaths per 100,000 respectively, versus 2.9 deaths per 100,000 for whites in 2015.[viii]

Durham County: In Durham County during 2015, there were 46 homicides; 76% of the homicides were among males. Most victims were African-American (70%) followed by whites (28%) and other (2%). The most common age group is 25-34 years, followed by those age 45 and older (22%) and 20-24 years old (20%). Firearms were the most common weapon, used in 78% of homicides. Most homicides occurred in a house or apartment (33%), rather than in the street or alley (26%) or motor vehicle (26%).[v]

Emerging Issues

It has been consistently demonstrated that the proportion of safely stored firearms increases when a health care provider informs patients and their parents of the risks of having an unlocked gun in the home.[ix] Firearm safety counseling and safe household firearm storage should be encouraged particularly when there is a family member with mental illness, including depression. Firearms used in the majority of suicides and school shootings were obtained from the households of the shooter or the home of a family member or friend.

Recent gun legislation, House Bill 937, allows for more guns to be legally present at community venues such as parts, restaurants and sporting events. Previous to this legislation, guns were prohibited at these venues. Another more prominent and emerging issue, particularly in communities of color nationwide is police shootings. Stand your ground laws that permit the use of deadly force without a duty to retreat in any place a person believes they have a lawful right to be if they believe that deadly force is necessary to prevent imminent death or great bodily harm to themselves or another is another emerging issue.

Current Initiatives & Activities

- ***Durham County Gun Safety Team***

Supported by the Durham County Department of Public Health and community volunteers. The mission is to reduce death and injury related to firearms through education and outreach and the promotion of a safe and violence free environment for our children. Free gunlocks are distributed as well as education on asking adults about the presence of firearms in places where your child plays and visits.

- ***North Carolinians Against Gun Violence (NCGV)***

The mission of NCGV is to make North Carolina safe from gun violence through the education of the public about preventing gun violence, the enforcement of current gun laws, and the enactment of needed new laws. www.ncgv.org

- ***Religious Coalition for a Non-Violent Durham***

The Religious Coalition for a Nonviolent Durham (RCND) is a 501c3 nonprofit organization comprised of individuals who as an expression of their faith and goodwill actively seek an end to the violence that is plaguing Durham neighborhoods. We are an interfaith and inter-racial organization whose purpose and success depend on inclusiveness. Their activities include prayer vigils, luncheon roundtables, a reconciliation and reentry ministry and restorative justice. www.nonviolentdurham.org

- ***Bull City United***

Bull City United is a Durham County Department of Public Health program that works to stop shootings and killings in two specific Durham neighborhoods (Southside and McDougald Terrace). www.bullcityunited.org

- ***Project Build***

Project BUILD is a multi-disciplinary gang prevention and intervention program that provides coordinated case management and services to youth and young adults between the ages of 14 and 21 who are at high risk of gang involvement. Project BUILD is based in the Durham County Department of Public Health, and is a joint project of Durham County and the City of Durham.Project BUILD's street outreach workers work one-on-one with young people to model pro-social behavior, provide behavior coaching, support positive decision-making, encourage education and employment success, and support involvement in pro-social activities. Services for Project BUILD clients are coordinated by a team of professionals representing education, social services, mental health, substance abuse, and criminal justice agencies. www.projectbuild.org

- ***Durham Police Department School Resource Officers***

Durham Police Department provides mentoring relationships and student safety resources in 5 Middle Schools.

References

[i] The Centers of Disease Control and Prevention, US Department of Health and Human Services. Injury violence and control. http://www.cdc.gov/injury/index.html. Accessed June 21, 2017.
[ii] North Carolina State Center for Health Statistics. 2017 County Health Data Book. North Carolina Department of Health and Human Services website. http://www.schs.state.nc.us/SCHS/data/databook/. Accessed June 19, 2017.
Published November 2010. Updated April 19, 2017.
[iii] Holland WM. Fire/emergency medical services and coping methods: mitigating traumatic stress symptomatology in emergency services professionals. A dissertation submitted to the faculty of Liberty University in partial fulfillment of the requirements for the degree of doctor of philosophy, June 2008. http://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1109&context=doctora. Accessed September 1, 2011.
[iv] NC DETECT, 2016. Analyzed by the Injury and Violence Prevention Branch, Chronic Disease and Injury Section, North Carolina Division of Public Health.
[v] North Carolina Injury and Prevention Branch. *Violent Death in North Carolina: Durham County Incidents: 2005-2014*. Raleigh, NC: North Carolina Department of Health and Human Services; 2016. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/VDRS/NC-VDRSDurham2005-2014Nov2016.pdf. Accessed July 5, 2017.
[vi] Partnership for a Healthy Durham. *2016 Durham County Community Health Assessment Survey*. Partnership for a Healthy Durham. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed July 5, 2017.
[vii] Stuit, J. Gun Crime and Gun Arrests in Durham, 2010-2015. Durham County Criminal Justice Resource Center http://www.dconc.gov/home/showdocument?id=16377. Accessed July 5, 2017.
[viii] North Carolina Injury and Prevention Branch. Homicide in North Carolina: 2014. Raleigh, NC: North Carolina Department of Health and Human Services; 2016. http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/VDRS/NC-VDRSHomicideNorthCarolina2014_Dec2016.pdf. Accessed September 11, 2017.
[ix] Parent B. Physicians Asking Patients About Guns: Promoting Patient Safety, Respecting Patient Rights J Gen Intern Med. 2016 Oct; 31(10): 1242–1245. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5023592/. Accessed March 2, 2018.

Oral Health

An individual's oral health plays an important role in their overall health. Studies have shown direct links between oral infections and other conditions, such as diabetes, heart disease, stroke, and poor pregnancy outcomes. Dental caries are the most common chronic infectious disease among children; if untreated, dental caries can result in problems with speaking, playing, learning, and receiving proper nutrition. In addition, untreated oral health problems in children and adults can cause severe pain and suffering. Those who delay care often have higher treatment costs when they finally receive it.

Despite major improvements in oral health for the overall population, oral health disparities exist. Oral health disparities are profound in the United States because of one or more barriers such as poor access to care, oral health literacy, level of education, age, language barriers, cultural factors, ability to perform daily oral health care, and geography. The economic factors that often relate to poor oral health include lack of access to dental services as well as the lack of an individual's ability to obtain and retain dental insurance.

Healthy North Carolina 2020 includes three objectives for oral health. Their rationale for inclusion is:[i]

- Children of low-income families are more likely to have tooth decay. One reason is that many children with public coverage lack access to dental care. On average, fewer than half of all North Carolinians aged one to five years enrolled in Medicaid receive any dental care in a year.
- Dental decay in children can be measured by the number of teeth affected by decay, the number of teeth that have been extracted, or the number of teeth successfully filled. The prevalence of decayed, missing, or filled teeth in young children is higher in low-income populations and in rural communities without fluoridated water.
- Untreated tooth decay and gum disease can lead to permanent tooth loss among adults. According to the Centers for Disease Control and Prevention (CDC), nationally, one in three adults has untreated tooth decay, and one in seven adults have gum disease.

This chapter includes:

- ❖ Section 10.01 Oral Health of Children
- ❖ Section 10.02 Adult Oral Health

Section 10.01 *Oral health in children*

Overview

Dental caries, the disease process that causes tooth decay, is the most prevalent childhood disease and according to the Centers for Disease Control and Prevention affects more than 25% of U.S. children aged two to five and half of those aged 12 to 15.[ii]

Dental decay is five times more prevalent than asthma and seven times more prevalent than hay fever.[iii] Fortunately, most oral diseases can be prevented. Instilling proper oral habits in children at an early age that will be continued throughout life is the best way to ensure a child does not get cavities.[iv] Good personal care, such as brushing with fluoride toothpaste, daily flossing, drinking optimally fluoridated water, maintaining a healthy diet, and regular professional treatment is critical for good oral health.

Healthy NC 2020 Objectives

Public health and prevention experts identified two measures for objectives in the oral health for children focus area that are listed in Table 10.01(a).

Table 10.01(a) ***Healthy NC 2020 Oral Health Objectives***

Healthy NC 2020 Objective[v]	Current Durham	Current NC	2020 Target
1. Increase the percentage of children ages 1-5 years enrolled in Medicaid who received any dental service during the previous 12 months.	58.8% (2015)[vi]	41.7% (2015)[vii]	56.4%
2. Decrease the average number of decayed, missing, or filled teeth among kindergarteners.	1.75 (2015-16)[viii]	1.58 (2015-16)[ix]	1.1

In the spring of 2013, the NC Department of Health and Human Services, Division of Public Health, Oral Health Section reported that North Carolina had already surpassed the Healthy People 2020 goal. Dental screening in Durham Public Elementary Schools shows that Durham County has also surpassed the Healthy People 2020 goal of 25.9% untreated decay.[x,xi] The health of primary teeth is important to the health of permanent teeth because primary teeth act as space savers for permanent teeth. Healthy primary teeth also reduce the risk for caries in permanent teeth.

Secondary Data

According to data from North Carolina Department of Health and Human Services, the percentage of children in Durham County ages 1-5 years enrolled in Medicaid who received dental services in Durham County has slightly decreased over the past five years, from 60.4% in 2010 to 58.8%

in 2015. A more substantial decrease was seen at the state level during this time frame, with a drop from 51.7% to 41.7%.[xii,xiii] Despite the small drop, Durham County is still surpassing the Healthy NC 2020 objective for this measure, which was set at 56.4% as shown in Table 10.01(b) below.

Table 10.01(b): ***Percentage of Children Ages 1 to 5 Years Enrolled in Medicaid Who Received Dental Services***[xiv,xv]

	2010	2015
Healthy NC 2020 Target	56.4%	56.4%
North Carolina	51.7%	41.7%
Durham	60.4%	58.8%

Table 10.01(c) below highlights the high proportion of children enrolled in Medicaid in Durham County who received an oral evaluation during 2015.. In Durham, 94.7% of children aged 3-5 received an oral evaluation compared to 64.3% statewide. Percentages among children 0-2 years old were substantially less at 31.3% and 22.5%, respectively. On average, oral evaluations in Region 5 were utilized less than in Durham County and North Carolina.

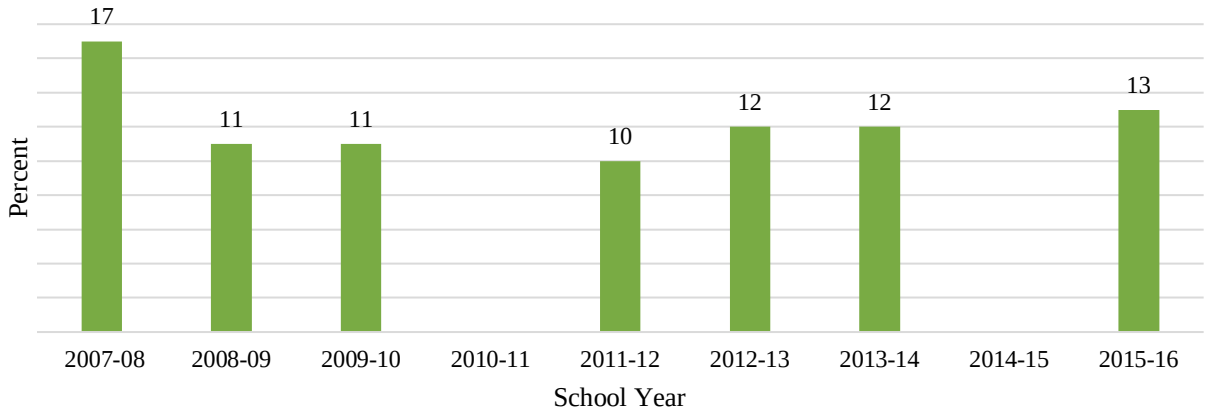
Table 10.01(c). ***Number and Percent of Children Enrolled in Medicaid who Received Oral Evaluations, 2015***[xvi]

		2015					
		State		Region 5		Durham	
Age	Office Type	Frequency	Percent	Frequency	Percent	Frequency	Percent
0-2 yrs	Medical	81,861	30.2%	10,230	25.5%	2,471	28.8%
	Dental	60,921	22.5%	8,970	22.3%	2,684	31.3%
3-5 yrs	Medical	9,316	4.1%	1,004	3.0%	220	3.0%
	Dental	149,223	64.3%	18,336	54.4%	6,853	94.7%

Note: These statistics represent data for oral evaluation and exam procedural codes D0120, D0145, and D0150.

Though there was a substantial decrease in the percentage of kindergarteners who were observed to have decayed teeth in Durham Public Schools after the 2007-2008 school year, the percentage since then has slowly increased from 11% during 2008-2009 to 13% during 2015-2016. Data for the 2010-2011 and 2014-2015 school years are missing. The trend over time is displayed below in Figure 10.01(a).

Figure 10.01(a): ***Percent Kindergarten Children Observed to have Decayed Teeth in Durham Public Schools***[xvii,xviii]



Interpretations: Disparities, gaps, emerging issues

Compared to Non-Hispanic Whites, African-Americans living in North Carolina were significantly more likely to report having a permanent tooth removed because of tooth decay or gum disease. During 2016, 45.5% or non-Hispanic Whites reported having a permanent tooth removed compared to 58.6% of African-Americans.[xix] County level statistics were unavailable for this measure.

Table 10.1 (d) below highlights the number of children enrolled in Medicaid who received dental services in North Carolina, Region 5, and Durham County during 2014 and 2015. The Government Accountability Office found that despite the increase in dental services among Medicaid enrolled low income children, they still visit the dentist less often than privately insured children due to access barriers that continue to exist.[xx]

Table 10.01 (d) ***Number of Medicaid Claims Paid for Children Receiving Dental Treatment***[xxi]

		2014			2015		
Age	Procedure	State	Region 5	Durham	State	Region 5	Durham
0-5							
	Sealant	28,541	3,810	801	26,898	3,222	742
	Fillings	77,821	10,501	3,151	74,175	10,187	2,652
6-12							
	Sealant	78,765	8,295	2,266	78,671	7,931	2,239
	Fillings	169,987	21,462	6,671	173,264	21,433	6,068
13-15							
	Sealants	16,554	1,644	420	17,163	1,560	388
	Fillings	71,352	8,577	2,407	73,936	8,815	2,352

Note: These statistics represent data for oral evaluation and exam procedural codes D1351, D2330, D2331, D2332, D2335, D2390, D2391, D2392, D2393, D2395, D2140, D2150, D2160, D2161).

Recommended Strategies

The increase in the number of children ages one to five years accessing dental preventive services should decrease the number of children observed in Durham County Public Schools with decayed, missing, and filled teeth. This would increase the chance of Durham County reaching, if not surpassing, the Healthy NC 2020 objectives. Programs in Durham County such as the "baby Oral Health programs (bOHP)[xxii]" as well as "Into the Mouth of Babes (IMB)"[xxiii]in medical and dental clinics [Table 10.1(d)] have been shown to be effective in improving access to preventive dental services for children one to five years of age and reducing childhood tooth decay in children.[xxiv, xxv] In addition to providing training for staff in medical offices, these programs provide training for parents and daycare staff. The training emphasizes the importance of providing good oral hygiene and good nutrition from their first tooth for children up to five years old.

Examples of evidenced-based and promising practices shown to yield a reduction in decay are: Community water fluoridation, oral health school surveillance programs, and dental homes established for children found to have dental needs. Preventive measures and education have also been found to yield significant savings.[xxvi,xxvii]

Current Initiatives & Activities

- ***Durham County Department of Public Health Dental Clinic***
  The Durham County Department of Public Health Dental Clinic provides low cost dental care for children 6 months through 20 years of age and also pregnant women from third month through their sixth month of pregnancy. http://www.dconc.gov/government/departments-f-z/public-health/services/dental-clinic

- ***"baby Oral Health Program (bOHP)"***
  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/

References

[i] North Carolina Institute of Medicine. *Healthy North Carolina 2020: A Better State of Health.* Morrisville, NC: North Carolina Institute of Medicine; 2011. http://publichealth.nc.gov/hnc2020/. Accessed June 5, 2014.

[ii] Centers for Disease Control and Prevention. Oral Health. https://www.cdc.gov/oralhealth/index.html. Health. Accessed 2017 May 4.

[iii] Edelstein BS. Disparities in Oral Health and Access to Care: findings of National Surveys. *Ambulatory Pediatrics* 2002: 2(suppl): 141-147.

[iv] Norman, Charles H., Dec. 2013, Action for Dental Health: Bringing Disease Prevention into Communities, www.ADA.org

[v] North Carolina Institute of Medicine. *Healthy North Carolina 2020: A Better State of Health.* Morrisville, NC. 2011. http://publichealth.nc.gov/hnc2020/. Accessed June 5, 2014.

[vi] Niehaus, Virginia (Policy Analyst, Division of Medical Assistance, Policy and Regulatory Affairs). Email correspondence. Message to: Denver Jameson. 2017 May 4.

[vii] Niehaus, Virginia (Policy Analyst, Division of Medical Assistance, Policy and Regulatory Affairs). Email correspondence. Message to: Denver Jameson. 2017 May 4.

[viii] NC SCHS: 2015-2016 Kindergarten Oral Health Status; County Level Summary Grouped by Region. https://www2.ncdhhs.gov/dph/oralhealth/stats/MeasuringOralHealth.htm. Accessed February 2, 2018.

[ix] NC SCHS: 2015-2016 Kindergarten Oral Health Status; County Level Summary Grouped by Region. https://www2.ncdhhs.gov/dph/oralhealth/stats/MeasuringOralHealth.htm. Accessed February 2, 2018.

[x] Healthy People.gov. http://www.healthypeople.gov/2020/topicsobjectives2020. Accessed Dec.1, 2017

[xi] Durham County Dept. of Public Health, Dental Division. Oral communication. July 2017

[xii] NC SCHS: Indicator Profile View Numbers – Children Age 1 to 5 yrs. Enrolled in Medicaid Who Received Dental Services, 2010, 2011. http://healthstats.publichealth.nc.gov/indicator/view/MdcdChildDentalSvc.HNC2020.html. Accessed Dec. 1, 2017

[xiii] Niehaus, Virginia (Policy Analyst, Division of Medical Assistance, Policy and Regulatory Affairs). Email correspondence. Message to: Denver Jameson. 2017 May 4.

[xiv] NC SCHS: Indicator Profile View Numbers – Children Age 1 to 5 yrs. Enrolled in Medicaid Who Received Dental Services, 2010, 2011. http://healthstats.publichealth.nc.gov/indicator/view/MdcdChildDentalSvc.HNC2020.html.

[xv] Niehaus, Virginia (Policy Analyst, Division of Medical Assistance, Policy and Regulatory Affairs). Email correspondence. Message to: Denver Jameson. 2017 May 4.

[xvi] Casey, Mark (Dental Officer, Division of Medical Assistance). Email correspondence. Message to: Miriam McIntosh. 2018 February 2.

[xvii] http://www.ncdhhs.gov/dph/oralhealth/stats. Accessed Dec 1, 2017.

[xviii] Durham County Dept. of Public Health, Dental Division. Oral communication July 2017.

[xix] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System Calendar year 2016 Results. http://www.schs.state.nc.us/data/brfss/2016/. Accessed February 6, 2017. Updated August 2017.

[xx] US Government Accountability Office. Dental Services: Information on Coverage, Payments, and Fee Variation. 2013 Sept. (GAO-13-754).

[xxi] Casey, Mark (Dental Officer, Division of Medical Assistance). Email correspondence. Message to: Miriam McIntosh. 2018 February 2.

[xxii] Baby Oral Health Program. http://www.babyoralhealthprogram.org. Accessed Dec. 1, 2017

[xxiii] North Carolina Department of Health and Human Services. *Healthy North Carolina 2020: A Better State of Health:* Update. July 2013. http://www.ncdhhs.gov/dph. Accessed Dec.1, 2017
[xxiv] North Carolina Department of Health and Human Services. *Healthy North Carolina 2020: A Better State of Health:* Update. July 2013. http://publichealth.nc.gov/hnc2020. Accessed Dec.1, 2017
[xxv] Savage, MF, Lee, JY, Kotch, JB, Vann, WF. Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs. 2004. Pediatrics 114 (4) 418-423.
[xxvi] Savage, MF, Lee, JY, Kotch, JB, Vann, WF. Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs. 2004. Pediatrics 114 (4) 418-423.
[xxvii] Savage, MF, Lee, JY, Kotch, JB, Vann, WF. Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs. 2004. Pediatrics 114 (4) 418-423.

Section 10.02 *Adult oral health*

Overview

For adults, oral health includes preventing or treating dental caries (tooth decay) and tooth loss, periodontal (gum) diseases, dry mouth, and oral infections, sores and cancers. Poor oral health may affect a person's ability to eat, speak, and smile, impacting one's overall physical health and mental well-being.

Healthy People 2020 recommends brushing with fluoride toothpaste, daily flossing and professional treatment, and avoiding tobacco use, excessive alcohol consumption and poor diet, for good oral health.[i] Healthy People 2020 goals for adult oral health include:

- Reduce the proportion of adults with untreated dental decay
- Reduce the proportion of adults who have ever had a permanent tooth extracted because of dental caries or periodontal disease
- Reduce the proportion of adults aged 45 to 74 years with moderate or severe periodontitis
- Increase the proportion of oral and pharyngeal cancers detected at the earliest stage
- Increase the proportion of adults who used the oral health care system in the past year
- Increase the proportion of patients who receive oral health services at Federally Qualified Health Centers (FQHCs) each year
- Increase the proportion of adults who receive preventive interventions in dental offices (information on reducing tobacco use or on smoking cessation, oral and pharyngeal cancer screening, and/or tests or referrals for glycemic control)[ii]

Secondary Data

Prior Community Health Assessments included oral health data specific to Durham County collected through the Behavioral Risk Factor Surveillance System (BRFSS). In 2016, North Carolina was only able to report BRFSS data by regions rather than county and grouped Durham with Caswell, Chatham, Person, Randolph, Rockingham, Alamance, Orange and Guilford Counties. This change makes it difficult to compare Durham's performance on these key indicators over the years. The Oral Health Section of the N.C. Division of Public Health released a North Carolina Oral Health Surveillance Plan 2016-2020, which in the future will provide new sources of data on access to oral health care, oral health outcomes, community interventions and infrastructure.[iii]

With the exception of Orange County (where UNC School of Dentistry is located), Durham County has more dentists than the other counties in the region (ratio of 1,390 residents: 1 dentist) and is close to the top performing counties in the U.S. (ratio of 1,320 residents: 1 dentist).[iv] The ratio of dentists to residents in Durham County and peer counties in North Carolina is highlighted in Table 10.02(a) below. It is important to note that the a large quantity of providers does not always equate to greater access, as factors like transportation, health insurance, and economic factors also affect access to care.

Table 10.02(a). Ratio of Dentist to Residents[v]

Geographic Location	Ratio
Top US Performers (90th Percentile)	1:1,320
NC	1:1,890
Alamance	1:2,140
Caswell	1:5,740
Chatham	1:2,290
Durham	1:1,390
Guilford	1: 1,860
Orange	1: 510
Person	1:2,450
Randolph	1:3,480
Rockingham	1:3,060

Though county level data are no longer available through the BRFSS, state and regional level indicators continue to be collected every two years. Figure 10.02(a) below depicts the length of time since residents' last dental exam. The majority of residents in North Carolina and Region 5 reported being seen by a dentist in the past year (63.6% and 61.0%, respectively). The percentage of residents who reported being seen between 1-5 years ago were similar, ranging from approximately 11-15%. On average, residents in North Carolina and Region 5 reported similar behavior in terms of frequency of dental visits during 2016.

Length of Time since Last Dental Exam, North Carolina and Region 5, 2016

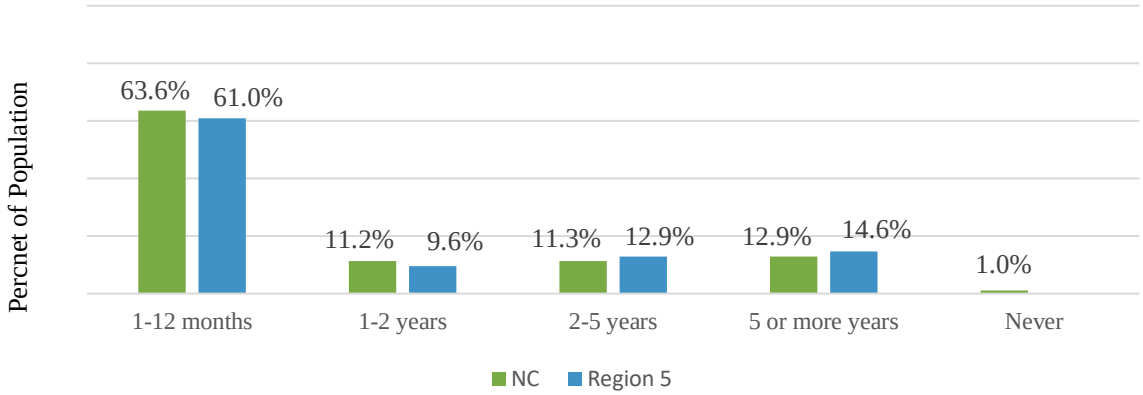


Figure 10.02(a). Length of Time since Last Dental Exam, North Carolina and Region 5, 2016[vi]

State and regional level data on the number of teeth removed due to decay, displayed below in Figure 10.02(b), are similar across each domain. The figure below shows that the majority of residents in North Carolina and in Region 5 have not had a tooth removed due to decay. To be specific, 52.4% of residents in North Carolina surveyed and 56.2% of residents in Region 5 reported not having any teeth removed due to decay when surveyed in 2016. Over a quarter of residents in North Carolina and in Region 5 have had between 1 and 5 teeth removed during their lifetime due to decay.[vii]

Similarly, figure 10.02(c) shows the percent of adults over 65 years old who have had all teeth extracted in North Carolina and Region 5 during 2016. In Region 5, 16.1% of survey respondents indicated that they had all teeth removed and in North Carolina, 18.1% of survey respondents reported having all their teeth extracted.[viii] These data are similar to trends seen regionally and nationally.[ix]

Number of Teeth Removed Due to Decay, North Carolina and Region 5, 2016

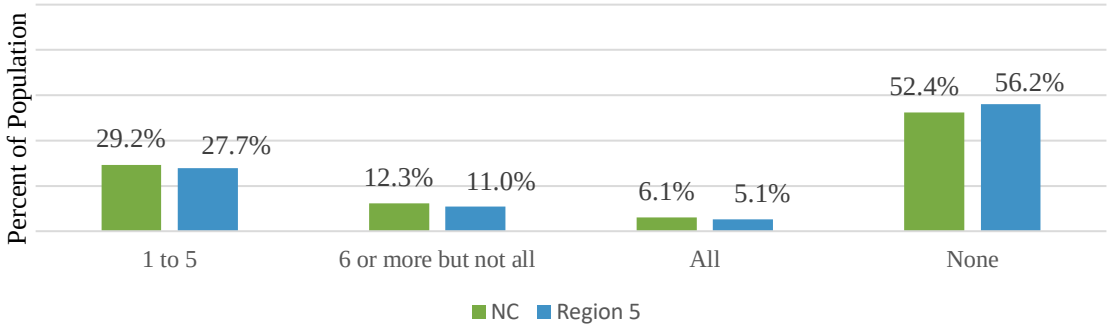


Figure 10.02(b). Number of Teeth Removed Due to Decay, North Carolina and Region 5, 2016[x]

Percent of Adults 65 and Older with All Teeth Extracted, North Carolina and Region 5, 2016

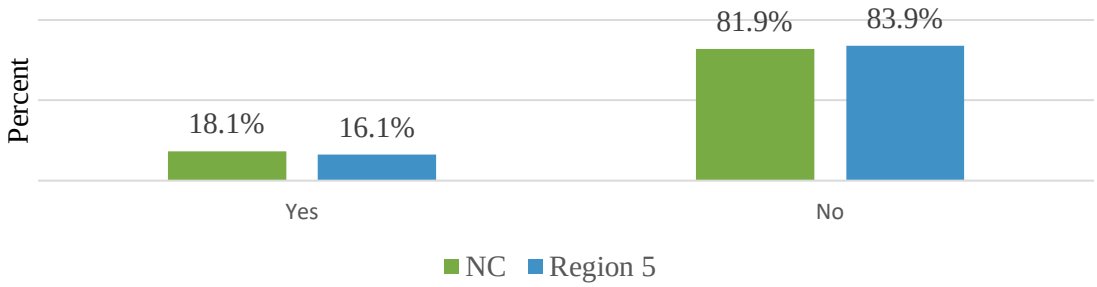


Figure 10.02(c). Percent of Adults 65 and Older with All Teeth Extracted, North Carolina and Region 5, 2016[xi]

The 2016 Durham County Community Health Assessment Survey asked respondents whether they had a problem getting the health care they needed for themselves or for someone in their household. Among the respondents from the full County sample (30) who answered they had a problem getting the health care they needed for themselves or for someone in their household, 53% listed dental care as the type of health care (higher than other types of health care). Among the respondents from the Hispanic and Latino sample who stated they had a problem getting the healthcare they needed for themselves or someone in their household (33), 42% listed dental care as a need (second only to primary care). [xii]

The American Dental Association Health Policy Institute reports that 15% of low income adults in North Carolina say their mouth or teeth are in poor condition and report problems such as pain, avoiding smiling, and reducing participation in social activities. Seventy-four percent of low income adults, compared to 45% of high income adults, report that they "accept I will lose some

teeth with age." Cost was by far the biggest reason given among those who have not visited a dentist in the past year.[xiii]

Secondary Data

Satomi Imai and Christopher Mansfield, researchers at the Department of Public Health Brody School of Medicine, East Carolina University, analyzed the N.C. BRFSS data to better understand the relationship between oral health and general health and quality of life. They found that adults who had lost six or more teeth (especially those less than 65 years old) were more likely to say their health was fair or poor. Education, income, race, and ethnicity have a large impact on access to dental care and overall health. Persons with less education and income, and those who smoke or have diabetes, are more likely to have lost six or more teeth.[xiv]

Interpretations: Disparities, Gaps, Emerging Issues

The NC Oral Health Collaborative issued a "Portrait of Oral Health in North Carolina." In his perspective, R. Gary Rozier, DDS, notes that while significant progress has been made in the last 50 years to reduce tooth loss, dental disease remains a significant burden among lower-income persons. He proposes three strategies to address the social determinants of oral health:

1. Address access barriers through innovative solutions such as integration of oral health services into medical care and social service programs.
2. Improve the interactions with dental care patients, especially those with low literacy or language barriers, to create more patient-centered care.
3. Implement policies to reduce inequalities, such as oral health services in long term care and prevention and early intervention.[xv]

In North Carolina, adults with most forms of Medicaid are covered for dental services, including exams, cleanings, fillings, sealants, x-rays, extractions, partial dentures or complete dentures. Adults who sign up for subsidized health insurance through the federal insurance marketplace may also purchase separate dental health insurance plans. The dental insurance plans through the federal marketplace are similar in cost and design to those available to any consumer – including high out-of-pocket expenses, wait times for certain procedures, and limited annual benefits. Medicare does not cover dental services although dental coverage can be added on most Medicare Advantage Plan. This leaves many older adults, especially those in assisted living and long term care facilities, to experience oral diseases.

Fortunately, Durham County does have a Department of Public Health which provides dental care for youth until age 21 and pregnant women. Lincoln Community Health Center, a Federally Qualified Health Center, provides dental care for all ages. Durham County also has two free clinics at Samaritan Health Center and Student National Dental Association (SNDA) CAARE Dental Clinic. Nonetheless, these clinics annually are only able to serve about 4,000 adults. The UNC School of Dentistry is close enough in Chapel Hill that many Durham County residents travel there for dental services at reduced rates. Although the cost for dental services at UNC School of

Dentistry is reduced, the amount of fees for most of their services and transportation issues are barriers for many uninsured/low income patients.

Recommended Strategies

The Oral Health Workgroup of the Partnership for a Healthy Durham Access to Care committee recommends these strategies to improve the oral health of Durham County residents and reduce disparities over the next three years:

1. Create Oral Health Champions to identify and develop best practices in oral health and represent oral health concerns in other health and community contexts.
2. Identify and support funding opportunities to expand capacity at existing safety net dental clinics, including Department of Public Health, Lincoln Community Health Center, Samaritan Health Center, and SNDA CAARE Dental Clinic.
3. Identify and support opportunities to expand the safety net through donated dental care provided by dentists in private practice.
4. Develop oral health program for patients with diabetes and/or heart disease receiving primary care at Lincoln Community Health Center, and evaluate outcomes.
5. Develop educational materials regarding dental insurance for Department of Social Services (DSS) workers, Certified Application Counselors, and Navigators to use with persons signing up for Medicaid or health insurance through the federal marketplace.
6. Support the efforts of the NC Oral Health Collaborative.

Current Initiatives & Activities

- ***Lincoln Community Health Center***

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/

- ***Samaritan Health Center Dental Clinic***

Samaritan Health Center Dental Clinic provides preventive, basic oral surgery and limited restorative care for residents of Durham Rescue Mission. There is no charge for patients who lack dental insurance. http://www.samaritanhealthcenter.org/

- ***SNDA CAARE Dental Clinic***

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.

- ***UNC School of Dentistry***

UNC 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/

References

[i] Healthy People 2020. Oral Health. US Department of Health and Human Services, Office of Disease Prevention and Health Promotion. https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health. Accessed October 1, 2017.
[ii] Healthy People 2020. Oral Health. US Department of Health and Human Services, Office of Disease Prevention and Health Promotion. https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health/objectives. Accessed October 1, 2017.
[iii] North Carolina Oral Health Section. North Carolina Oral Health Surveillance Plan 2016-2020. NC Division of Public Health. https://www2.ncdhhs.gov/dph/oralhealth/library/includes/OHS_Surveillance_Plan%20Executive%20Summary%202016.pdf. Accessed October 1, 2017
[iv] County Health Rankings and Roadmaps. 2016 Durham County Demographics. University of Wisconsin Population Health Institute. http://www.countyheathrankings.org/. Accessed October 1, 2017.
[v] County Health Rankings and Roadmaps. North Carolina 2017. http://www.countyhealthrankings.org/app/north-carolina/2017/rankings/durham/county/outcomes/overall/snapshot. Accessed February 15, 2018.
[vi] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System. 2016 BRFSS Survey Results: Local Health Director Regional 5 Demographics. Oral Health North Carolina Health and Human Services. http://www.schs.state.nc.us/data/brfss/2016/region5/topics.htm#oh. Accessed October 1, 2017.
[vii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System. 2016 BRFSS Survey Results: Local Health Director Regional 5 Demographics. Oral Health North Carolina Health and Human Services. http://www.schs.state.nc.us/data/brfss/2016/region5/topics.htm#oh. Accessed October 1, 2017.
[viii] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System. 2016 BRFSS Survey Results: Local Health Director Regional 5 Demographics. Oral Health North Carolina Health and Human Services. http://www.schs.state.nc.us/data/brfss/2016/region5/topics.htm#oh. Accessed October 1, 2017.
[ix] Centers for Disease Control and Prevention. Indicator Definitions-Oral Health. https://www.cdc.gov/cdi/definitions/oral-health.html. Accessed February 15, 2018.
[x] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System. 2016 BRFSS Survey Results: Local Health Director Regional 5 Demographics. Oral Health North Carolina Health and Human Services. http://www.schs.state.nc.us/data/brfss/2016/region5/topics.htm#oh. Accessed October 1, 2017.
[xi] North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System. 2016 BRFSS Survey Results: Local Health Director Regional 5 Demographics. Oral Health North Carolina Health and Human Services. http://www.schs.state.nc.us/data/brfss/2016/region5/topics.htm#oh. Accessed October 1, 2017.
[xii] Partnership for a Healthy Durham. Durham County Department of Public Health. 2016 Durham County Community Health Opinion Survey results.
[xiii] Health Policy Institute. North Carolina's Oral Health and Well-Being. American Dental Association. http://www.ada.org/en/science-research/health-policy-institute/oral-health-and-well-being/North-Carolina-facts. Accessed October 1, 2017
[xiv] Imai, Satomi and Christopher K. Mansfield, Oral Health in North Carolina: Relationship with General Health and Behavioral Risk Factors, NCMJ 76(3): 142-147.
[xv] R. Gary Rozier, DDS, MPH. Perspective on the State's Oral Health: Is It Time for a North Carolina Dental Moonshot? Portrait of Oral Health in North Carolina. NC Oral Health Collaborative. http://oralhealthnc.org/wp-content/uploads/2014/06/POH_FINAL_52517_FOR-WEB_COMPRESSED.pdf. Accessed October 1, 2017.

Environmental Health

This chapter includes:

- Air Quality
- Water Quality
- Lead Poisoning

Section 11.01 *Air quality*

Overview

Healthy air is essential to public health. Air pollution is responsible for 200,000 premature deaths per year in the United States.[i] The main causes of death linked to air pollution are heart disease, stroke, chronic obstructive pulmonary disease and lung disease.[ii] [See Chapter 6 for information on heart and respiratory diseases in Durham.] There are many sources of air pollution, including fossil fuel energy generation, transportation, industrial manufacturing, and open burning of yard waste.[iii] Legislation and regulations regarding air pollution have been enacted at both federal and state levels to protect the environment and public health, such as the Clean Air Act.

While there are many types of air pollutants, particulate matter ($PM_{2.5}$, 2.5 microns in diameter or smaller) and ozone are of the most concern to public health.[ii] Both of these pollutants are invisible and can be inhaled. $PM_{2.5}$ can be composed of solid or liquid particles. In addition, PM is heterogeneous, meaning that it is comprised of many different substances. A typical fine particle can include hazardous heavy metals, air toxics, and various types of carbon. $PM_{2.5}$ can reach deep in the lungs, causing inflammation, oxidative stress and imbalance of the autonomic nervous system.[iv] Ground level ozone is the same chemical that blocks the sun's rays higher in the atmosphere. Higher level ozone is a good thing, but ground level ozone can harm individuals' lungs and hearts. The allowable concentrations of $PM_{2.5}$ and ozone in our air are regulated by the Environmental Protection Agency (EPA) under the National Ambient Air Quality Standards.

Air pollution will also be exacerbated by climate change, which causes many health issues aside from those related to air quality. Climate change is a global problem that 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.[v] 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.

Public health in Durham could be affected in two ways. First, health problems that are normally related to climate or weather could be worsened with changed severity or frequency of extreme weather conditions. These include heat stress, strokes, asthma, allergies, heart diseases, respiratory diseases, and infectious diseases such as Lyme disease and Rocky Mountain Spotted Fever.[vi] Second, Durham residents could experience health problems that have traditionally not been a problem here, such as tropical diseases like Zika and Chikungunya.[vii]

Primary Data

Outdoor Air Quality

High-quality $PM_{2.5}$ measurements have been collected across the US since 2000. The annual $PM_{2.5}$ concentrations in Durham, as well as other NC counties, has been steadily decreasing over time (Fig. 11.01(a)). $PM_{2.5}$ concentrations in Durham County are very similar to other counties in the state. Durham County is currently well below the annual federal and state $PM_{2.5}$ standard of 12 $\mu g/m^3$, indicating that with regards to $PM_{2.5}$, air quality in Durham County has been consistently improving over time and is generally good. The average concentrations of other states in the U.S. is not shown due to problems accessing the data.

Annual $PM_{2.5}$ Average, North Carolina Counties, 2000-2016

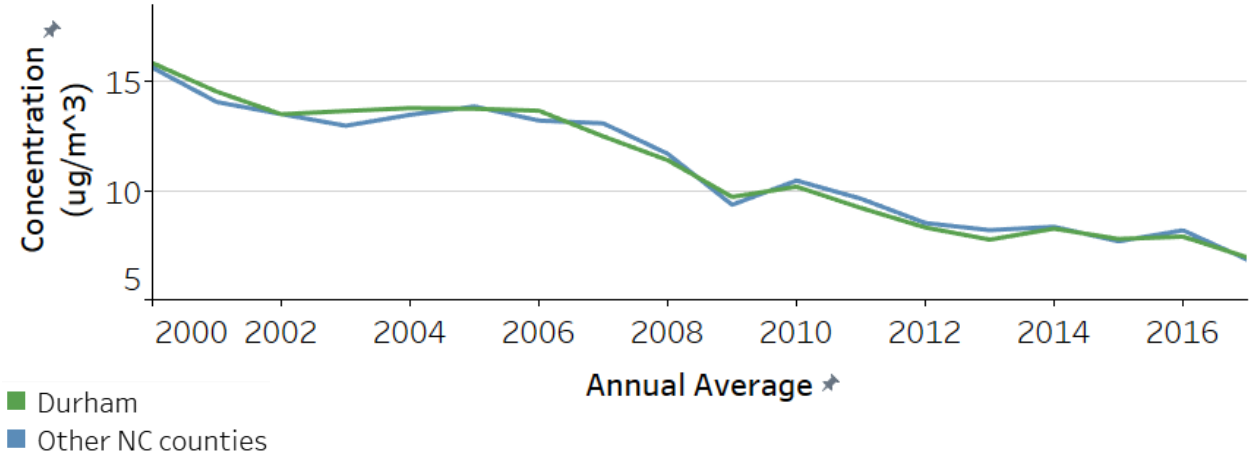


Figure 11.01(a). Annual $PM_{2.5}$ Average, North Carolina Counties, 2000-2016[viii]

Ozone measurements have also been collected since 2000 in NC. Ozone levels are low in the winter and high in the summer due to various atmospheric and meteorological reasons. As such, most areas in the U.S. only reach hazardous ozone concentrations in the summer and regulations only require that ozone be measured during this high ozone season. 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 shown above are overestimated (Figure 11.01(b)). This overestimation is due to other counties in N.C. collecting ozone concentrations throughout the entire year, whereas Durham only collects ozone measurements between April and November, as required by the EPA. Like $PM_{2.5}$, ozone levels are also significantly below the ozone standard of around 0.07 parts per million (ppm) (although the standard has a different form than a simple annual average), which further supports the idea that Durham has generally good air quality. Unlike $PM_{2.5}$, which has been decreasing over time, ozone levels have remained fairly constant over the past 18 years.

Annual Ozone Average, Durham County and North Carolina Counties, 2001-2017

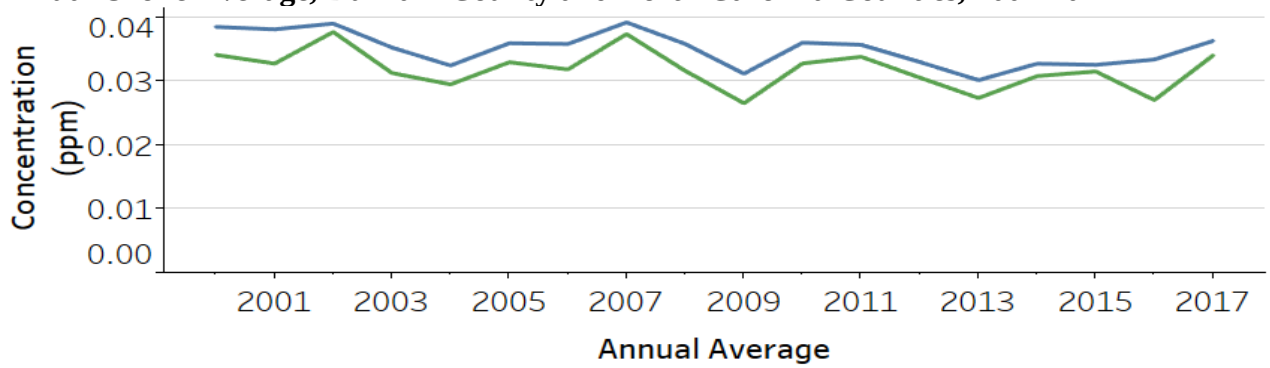


Figure 11.01(b). Annual ozone Average, Durham County and North Carolina Counties, 2001-2017[ix]

Climate Change

Days with Maximum Temperature above 95ºF, Durham County, 1950-2035

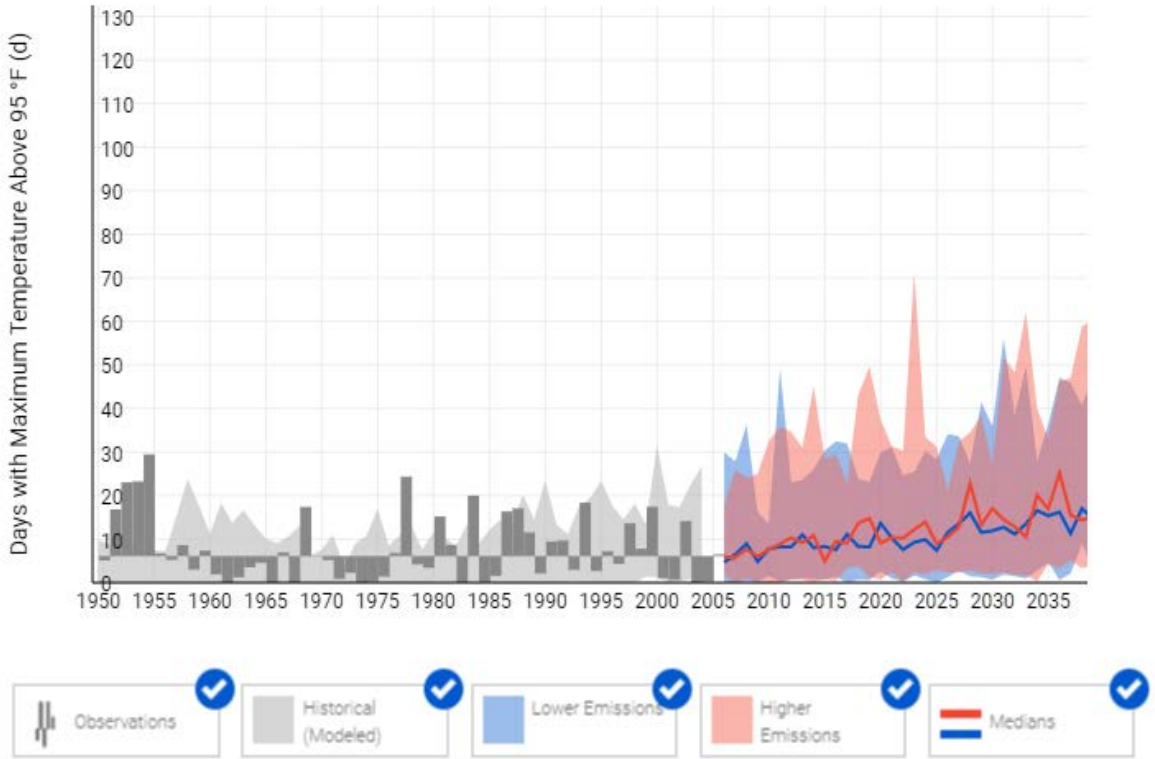


Figure 11.01(c). Days with Maximum Temperature above 95ºF, Durham County, 1950-2035[x]

As shown above in Figure 11.01(c), the number of days with a maximum temperature above 95ºF is expected to increase under scenarios that include both reducing greenhouse gas emissions (blue)

and regular emissions (red).[x] More days with high maximum temperatures could lead to increased incidences of heat related problems such as heat stroke, heart attacks,[xi] and asthma.[xii]

Interpretations: Disparities, Gaps, Emerging Issues

Air pollution is not evenly distributed across the country, or even within the state. Affected by factors such as weather patterns, air pollution often impacts areas and communities that are not directly causing the pollution. Certain populations – such as children, older adults, people with lung diseases, such as asthma, or heart disease, and those who are active outdoors – are more vulnerable, and therefore, at greater risk from ground-level ozone, particulate pollution, and other pollutants.[xiii] Research has shown that facilities which report to the Environmental Protection Agency's Toxics Release Inventory (TRI) are more concentrated in communities of color and that these communities are also more likely to be characterized by low median income, low homeownership, and are more linguistically isolated.[xiv]

Recommended Strategies

1) Trees provide many environmental and social benefits including removing pollution from air and water, creating shade, and reducing stress. The City of Durham currently has a 52% urban canopy, but that is expected to change in the next decade as larger, older trees die and more forest land is developed. Durham should increase activities to plant and maintain tree coverage throughout the urban areas of the county. [xv]

2) Air quality education is essential to improving public health and our community. To reach more Durham residents, Durham should implement the Air Quality Flag Program at all public schools and county facilities. The Air Quality Flag Program uses colored flags based on the Air Quality Index (AQI) from the EPA to indicate the outdoor air quality for each day. By making the day's AQI more visible, residents and visitors will be better able to take actions to protect their health.

3) The transportation sector is a large contributor to air pollution that local municipalities can address. Durham should invest in and promote transportation choices that have low or no air pollution emissions. This includes expanding public transportation, bike and walking options; encouraging electric vehicles that do not emit air pollutants locally; and educating private and commercial drivers about the importance of reducing vehicle idling.

4) Even though Durham's air quality meets federal standards, research has shown that there are no acceptable levels of exposure to ozone and fine particulate matter, so the county needs to continue to improve its air quality, regardless of the standards, to ensure it is protecting public health.

Current Initiatives & Activities

- ***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. https://deq.nc.gov/about/divisions/air-quality/air-quality-outreach/air-quality-public-involvement/air-awareness

- ***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. www.epa.gov/environmental-topics/air-topics

- ***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

- ***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

- ***Trees Across Durham***

Trees Across Durham is a broad-based partnership dedicated to making Durham a healthier and greener community now and in the future through the planting and protection of trees, the education of tree care-takers and the general public about how to maintain healthy trees, and the measurement and communication of the benefits trees provide to our environment and community. TreesAcrossDurham.org

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, Vincent 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: http://circ.ahajournals.org/cgi/doi/10.1161/01.CIR.0000013838.94747.64

[iii]World Health Organization. Ambient Air Pollution: A global assessment of exposure and burden of disease [Internet]. World Health Organization. [cited 2013 Feb 28];2016. Available from: www.who.int.org

[iv]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

[v]USGCRP. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. Glob Clim Chang Impacts United States. 2016;312.

[vi]North Carolina Division of Public Health. North Carolina Climate and Health Profile [Internet]. Raleigh, NC; [cited 2013 Feb 28];2015. Available from: http://epi.publichealth.nc.gov/oee/climate/ClimateAndHealthProfile.pdf

[vii]Balbus J, Crimmins A, Easterling DR, Kunkel KE. the Impacts of Climate Change on Human Health in the United States Introduction: Climate Change and Human Health. US Glob Chang Res Progr [Internet]. [cited 2017 Oct 9];2016;1:25–42. Available from: http://dx.doi.org/10.7930/J0VX0DFW

[viii] US Environmental Protection Agency. Air Quality System Data Mart [internet database] available via https://www.epa.gov/airdata. Accessed September 14, 2017.

[ix]US Enviornmental Protection Agency. Air Quality System Data Mart. https://www.epa.gov/airdata. Accessed September 14, 2017.

[x]U.S. Climate Resilience Toolkit. Climate Explorer [Internet]. [cited 2017 Oct 9]. Available from: https://toolkit.climate.gov/climate-explorer2/location.php?county=Durham+County&city=Durham,NC&fips=37063&lat=35.9940329&lon=-78.898619

[xv]Skerrett PJ. Heat is hard on the heart; simple precautions can ease the strain - Harvard Health Blog - Harvard Health Publishing [Internet]. Harvard Health Blog. 2011 [cited 2017 Oct 9]. Available from: https://www.health.harvard.edu/blog/heat-is-hard-on-the-heart-simple-precautions-can-ease-the-strain-201107223180

[xii]The Lung Association. Heat and humidity: How to protect your lungs on hot and humid days [Internet]. Expert Opinions. 2016 [cited 2017 Oct 9]. Available from: https://www.lung.ca/news/expert-opinions/pollution/heat-and-humidity

[xiii]U.S. Environmental Protection Agency. AirNow: Your Health [Internet]. 2017 [cited 2017 Oct 9]. Available from: https://www.airnow.gov/index.cfm?action=topics.health
[xiv]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
[xv]Durham Urban Forestry Department. City of Durham Tree Canopy Assessment and Street Tree Inventory Results City Council Work Session [Internet]. Durham, NC: City of Durham; 2017 [cited 2017 Oct 9]. Available from: http://cityordinances.durhamnc.gov/OnBaseAgendaOnline/Documents/ViewDocument/WS-PublishedAttachment-11696-PRESENTATION-URBANTREECANOPYASSESSMENT.pdf?meetingId=188&documentType=Agenda&itemId=3970&publishId=13962&isSection=f

Section 11.02 *Water quality*

Overview

Water is one of the vital natural resources upon which all life depends. Clean water is essential for healthy living. According to the Centers for Disease Control and Prevention (CDC), the United States is fortunate to have one of the safest public drinking water supplies in the world.[i] The U.S. public drinking water systems are comprised of both community and non-community systems. Community water systems (CWS), supply water to the same population year-round. These systems include municipalities, subdivisions, mobile park homes and more. Non-community water systems are comprised of both transient and non-transient water systems. Transient non-community water systems (TNCWS) supply water to 25 or more people for at least two months out of the year, but not to the same people and not on a regular basis (for example, gas stations, campgrounds).[ii] Non-transient non-community water systems (NTNCWS) regularly supply water to at least 25 of the same people at least six months per year, but not year-round (for example, schools, factories, office buildings, and hospitals which have their own water systems).[iii]

The water source for a CWS may be lakes serving as reservoirs or wells constructed to CWS standards. Other Durham residents have their water provided by private wells constructed to private well water standards. These private wells are typically found outside of the city limits. The Little River and Lake Michie reservoirs, both located in northern Durham County, supply raw water to The City of Durham's treatment plants for distribution to properties connected to municipal water. As of October 13, 2017 there are 20 active water supply systems in Durham County classified as CWS.[iv]

Secondary Data

Municipal Drinking Water

Durham County has two drinking water reservoirs, Lake Michie and the Little River. Surface waters treated for public water supplies in Durham are stored in these two reservoirs. 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.

Lake Michie and the Little River Reservoir have a combined safe yield of 27.9 million gallons per day (MGD), which is treated in one of two plants.[v] The Williams Water Treatment Plant at Hillandale Road has a capacity of 22 MGD. The Brown Water Treatment Plant at Infinity Road has a capacity of 30 MGD. These plants treat raw water to meet stringent State and Federal water quality criteria before pumping into Durham's distribution system. The annual daily average water production of the combined facilities was approximately 27.5 MGD for 2016.[vi]

Healthy NC 2020 Objective

Healthy NC 2020 Objective[vii]	Durham County	North Carolina[viii]	2020 Target
Increase the percentage of the population being served by community water systems (CWS) with no maximum contaminant level violations (among persons on CWS) to 95%.	90.0% (2016)[ix]	93.8% (2011)	95%

Quality of Drinking Water

The City of Durham produces an annual water quality report for its 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 constituents in the drinking water. During 2016, all detected substances were below the water quality levels allowed by the Environmental Protection Agency (EPA) thus achieving 100% compliance.[x]

Interpretations: Disparities, Gaps, Emerging Issues

Infrastructure Improvement

There are numerous concurrent infrastructure improvements being implemented by the City of Durham. The Brown plant is undergoing improvements to increase production capacity from 30 to 42 MGD.[xi] The Williams plant is also being improved through remodel of the operations facility and replacement of the reservoir apron.[xii,xiii]

Private Drinking Water Well Sampling

Aside from new well construction, private drinking water well sampling is not mandatory as is with community water supplies. Well owners and users may be unaware of potential contaminants within their water supply. The Durham County Department of Public Health provides well water testing services for a fee.

Recommended Strategies

Continued community outreach and education is advisable for those residents utilizing well water. The Durham County Department of Public Health Environmental Health Division staff regularly educates well owners during the course of normal duties. Staff also participates in community outreach events such as the “Think Blue” Durham Community outreach event held August 6, 2017.

Environmental Health staffed a booth with education displays, materials, handouts, and fielded questions from the community regarding water quality issues.

Current Initiatives & Activities

- ***City of Durham Water Management Infrastructure Improvements***

Upgrades of existing facilities including treatment plants and distribution systems.
https://durhamnc.gov/944/Water-Management

- ***Environmental Protection Agency (EPA) – Drinking Water Contaminants***

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 – Drinking Water***

The CDC approaches 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***

The Hotline responds to factual questions in the following program areas:

- 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

https://durhamnc.gov/944/Water-Management

- ***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]Centers for Disease Control and Prevention (CDC). Drinking Water: Public Water Systems. CDC website. http://www.cdc.gov/healthywater/drinking/public/index.html. Accessed October 13, 2017.
[ii]United States Environmental Protection Agency (USEPA) Public Drinking Water Systems: Facts and Figures website. http://water.epa.gov/infrastructure/drinkingwater/pws/factoids.cfm Accessed October 13, 2017.
[iii] United States Environmental Protection Agency (USEPA) Public Drinking Water Systems: Facts and Figures
website. http://water.epa.gov/infrastructure/drinkingwater/pws/factoids.cfm Accessed October 13, 2017.
[iv] North Carolina Division of Water Resources, Drinking Water Watch website. https://www.pwss.enr.state.nc.us/NCDWW2/index.jsp. Accessed October 31, 2017.
[v] City of Durham. Water Quality Report 2016. Page 2. http://durhamnc.gov/ArchiveCenter/ViewFile/Item/2889. Accessed October 31, 2017.
[vi] City of Durham. Water Quality Report 2016. Page 2. http://durhamnc.gov/ArchiveCenter/ViewFile/Item/2889. Accessed October 31, 2017.
[vii] North Carolina Institute of Medicine. *Healthy North Carolina 2020: A Better State of Health.* Morrisville, NC: North Carolina Institute of Medicine; 2011. http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf. Accessed October 13, 2017.
[viii] North Carolina State Center for Health Statistics, Indicator Reports webpage. http://healthstats.publichealth.nc.gov/indicator/view_numbers/CWSnoMCL.HNC2020.html. Updated February 12, 2013. Accessed October 13, 2017.
[ix] North Carolina Division of Water Resources, Drinking Water Watch website. https://www.pwss.enr.state.nc.us/NCDWW2/index.jsp. Accessed October 31, 2017.
[x] City of Durham. *Water Quality Report 2016.* Durham, NC: City of Durham; 2016. https://durhamnc.gov/ArchiveCenter/ViewFile/Item/2889. Accessed November 20, 2017.
[xi] City of Durham. Water Quality Report 2016. Page 8. http://durhamnc.gov/ArchiveCenter/ViewFile/Item/2889. Accessed October 31, 2017.
[xii] City of Durham. Water Quality Report 2016. Page 8. http://durhamnc.gov/ArchiveCenter/ViewFile/Item/2889. Accessed October 31, 2017.
[xiii] City of Durham. Water Management website. https://durhamnc.gov/CivicAlerts.aspx?AID=997. Accessed October 31, 2017.

Section 11.03 *Lead poisoning*

Overview

Lead poisoning remains a major environmental health concern in the United States. Approximately half a million children, ages 1-5, 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.[i] Lead poisoning is preventable, yet the negative health effects can be life-long if it is not treated early.[ii] Early detection is a tool that is used to identify sources of lead exposure and help families limit exposure, in order to decrease its potential damaging health effects. "The most important step parents, doctors, and others can take is to prevent lead exposure before it occurs."[iii]

Lead can affect anyone, but children, ages six and younger are affected more because their body's nervous systems have not yet fully developed.[iv] Lead interferes with and can impair the development of children's bodies because their growing bodies absorb four to five times as much ingested lead as adults from a given source, and their brains and nervous systems are more sensitive to the damaging effects of lead.[v,vi] Young children are particularly vulnerable to lead hazards present in their surrounding environment. They also expose themselves to the harmful effects of lead by putting their hands and other objects in their mouths.[vii]

Lead poisoning poses particular risks to people of color and low-income children, because they are more likely to live in substandard housing and polluted communities, which increases their risk of exposure.[viii] Many adults and children don't realize that lead may be present in their homes, in many forms. While lead-based paint and paint chips inside and around homes are the most common and dangerous source of lead exposure (especially in residential buildings built before 1978), lead has been found in some 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).[ix,x,xi]

Currently, at least four million households have children that are being exposed to high levels of lead.[xii] There is no known safe blood lead concentration.[xiii] However, it is known that as lead exposure increases, the range and severity of symptoms and effects also increase.[xiv]

Lead exposure in young children and pregnant women can cause serious health effects, and "can affect almost every organ and system in the body".[xv] "Lead can accumulate in the body over time, where it is stored in bones along with calcium. During pregnancy, lead is released from bones as maternal calcium and is used to help form the bones of the fetus".[xvi] This risk increases if the pregnant mom is calcium deficient.[xvii] Lead can also pass from a mother to her unborn child through the placenta.[xviii]

- Even levels of lead in children's blood as low as 5 µg/dL, once thought to be a "safe level," can contribute to:
  - Learning problems (lower IQ, ADHD)
  - Reduced attention span
  - Behavioral problems (e.g. Juvenile delinquency/criminal behavior)
  - Delayed growth
  - Hearing problems
  - Anemia[xix]

- In pregnant women, lead exposure can:
  - 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[xx]

Healthy NC 2020 Objective

There is currently no Healthy NC 2020 Objective for lead poisoning.

Primary Data

The data show that since CDC has lowered the action level to 5 µg/dL, the number of children that have an elevated blood lead level has increased in the children tested at six months and six years old. The positivity rate among children tested, shown in Table 11.03(a) below, shows an upward trend in the proportion of children with high elevated blood levels in Durham County from 2012 to 2016. The number of cases also increased from 2012 to 2016, with a spike in cases and the positivity rate during 2015.[xxi]

Trend in Elevated Blood Lead Levels, Durham County, 2012-2016

Year	Number Tested	Confirmed 5-9	Confirmed ≥10	Total Cases	Percent Confirmed among Those Tested
2012	5,204	N/A	6	6	0.1%
2013	5,024	10	4	14	0.3%
2014	4,663	9	2	11	0.2%
2015	4,736	21	6	27	0.6%
2016	4,709	15	3	18	0.4%

Table 11.03(a) Children ages 6 months - 6 years in Durham County Tested for Elevated Blood Lead Levels in Durham County, 2012-2016[xxii]

Interpretations: Disparities, Gaps, and Emerging Issues

A new North Carolina state law, 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] This aligns the North Carolina law with the CDC's 2012 federal guidelines. State implementation is planned to begin on January 1, 2018.[xxv]

Durham County is currently responding to the mandated lowering of the blood lead action level for children and pregnant women by reviewing the new guidelines issued by the Children's Environmental Health Unit. This change has the potential to greatly affect the County's current caseload. Since the state program is the primary program for the implementation of this new law, Durham County will have to determine what its involvement will be in working with organizations such as Partnership Effort for the Advancement of Children's Health (PEACH) and Reinvestment Partners, in reviewing the past environmental sampling results of the residences of children that have been assessed.

Recommended Strategies

- Parents, doctors, and other providers should seek blood lead level testing and monitoring for children early in order to prevent lead poisoning and its negative health effects from occurring.[xxvi]
- The addition of a designated full-time lead nurse for lead poisoning diagnosis and treatment would be helpful to increase the testing, monitoring, and treatment of Durham County citizens.
- If there is a substantial number of children and pregnant women at risk for lead poisoning, it may be in the County's interest to develop and implement its own lead investigation program, so that the County's Department of Public Health can more efficiently and effectively provide this service to its citizens. However, this will involve investment in expensive lead testing equipment.
- Currently Durham County is providing assistance to the state lead program. If Durham operated its own program, it would share state funding with other counties from the state's anticipated expanded Medicaid funding. This move could allow for additional funding for Durham's lead poisoning services.
- Durham County could implement its own Healthy Homes Initiative and include lead testing in its investigation of homes for pregnant women and children with asthma, in coordination with the investigation of other asthma triggers, including moisture, rodents, odors, chemical storage, and other indoor air quality concerns.

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://www.dconc.gov/government/departments-f-z/public-health

- ***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/lead-poisoning/

- ***Partnership Effort for the Advancement of Children's Health (PEACH)***
  PEACH works to create healthy homes in Durham, North Carolina, and addresses community health and economics by creating a substantial workforce to reduce environmental hazards in the community. http://www.peachdurham.org/

- ***Reinvestment Partners***
  Reinvestment Partners promotes safe, fair, and affordable housing in Durham, N.C.
  https://www.reinvestmentpartners.org/

References

[i] Lead. Centers for Disease Control and Prevention. https://www.cdc.gov/nceh/lead/. Accessed 10/2/2017. Updated 2/9/2017.

[ii] Lead poisoning and health. World Health Organization. http://www.who.int/mediacentre/factsheets/fs379/en/. Accessed 10/9/2017. Updated 8/2017.

[iii] Lead Exposure: Steps to Protect Your Family. American Academy of Pediatrics. https://www.healthychildren.org/English/safety-prevention/all-around/Pages/Lead-Screening-for-Children.aspx. Accessed 10/13/2017. Updated 6/14/2017.

[iv] Preventing Lead Poisoning in Young Children: Chapter 2. Centers for Disease Control and Prevention. https://www.cdc.gov/nceh/lead/publications/books/plpyc/chapter2.htm#Effects%20of%20lead. Accessed 10/9/2017. Updated 10/1/1991.

[v] Lead poisoning and health. World Health Organization. http://www.who.int/mediacentre/factsheets/fs379/en/. Accessed 10/9/2017. Updated 8/2017.

[vi] Learn about lead. Environmental Protection Agency. https://www.epa.gov/lead/learn-about-lead. Assessed 10/2/2017. Updated 5/26/2017.

[vii] Preventing Lead Poisoning in Young Children: Chapter 2. Centers for Disease Control and Prevention. https://www.cdc.gov/nceh/lead/publications/books/plpyc/chapter2.htm#Effects%20of%20lead. Accessed 10/9/2017. Updated 10/1/1991.

[viii] Learn about lead. Environmental Protection Agency. https://www.epa.gov/lead/learn-about-lead. Assessed 10/2/2017. Updated 5/26/2017.

[ix] Sources of Lead. Centers for Disease Control and Prevention. National Center for Environmental Health, Division of Emergency and Environmental Health Services. https://www.cdc.gov/nceh/lead/tips/sources.htm. Accessed 9/25/2017. Updated 5/29/2015.

[x] Lin CG, Schraider LA, Brabander DJ, Woolf AD. Pediatric Lead Exposure From Imported Indian Spices and Cultural Powders. Peds. 2010;125(4):e828-e835. 10.1542/peds.2009-1396.

[xi] Protect Your Family From Exposures to Lead. United States Environmental Protection Agency. https://www.epa.gov/lead/protect-your-family-exposures-lead. Accessed 10/2/2017. Updated 8/30/2017.

[xii] CDC's Childhood Lead Poisoning Prevention Program. Centers for Disease Control and Prevention. https://www.cdc.gov/nceh/lead/. Accessed 10/2/2017. Updated 4/4/2017.

[xiii] Lead poisoning and health. World Health Organization. http://www.who.int/mediacentre/factsheets/fs379/en/. Accessed 10/9/2017. Updated 8/2017.

[xiv] Lead poisoning and health. World Health Organization. http://www.who.int/mediacentre/factsheets/fs379/en/. Accessed 10/9/2017. Updated 8/2017.

[xv] Learn about lead. Environmental Protection Agency. https://www.epa.gov/lead/learn-about-lead. Assessed 10/2/2017. Updated 5/26/2017.

[xvi] Learn about lead. Environmental Protection Agency. https://www.epa.gov/lead/learn-about-lead. Assessed 10/2/2017. Updated 5/26/2017.

[xvii] Learn about lead. Environmental Protection Agency. https://www.epa.gov/lead/learn-about-lead. Assessed 10/2/2017. Updated 5/26/2017.

[xviii] Lead. Centers for Disease Control and Prevention. https://www.cdc.gov/nceh/lead/. Accessed 10/2/2017. Updated 2/9/2017.

[xix] Learn about lead. Environmental Protection Agency. https://www.epa.gov/lead/learn-about-lead. Assessed 10/2/2017. Updated 5/26/2017.

[xx] Lead poisoning and health. World Health Organization. http://www.who.int/mediacentre/factsheets/fs379/en/. Accessed 10/9/2017. Updated 8/2017.

[xxi] Childhood Lead Poisoning Prevention Program: Data. NC Health and Human Services: Environmental Health Section. http://ehs.ncpublichealth.com/hhccehb/cehu/lead/data.htm. Accessed 10/9/2017. Updated 4/6/2017.
[xxii] Childhood Lead Poisoning Prevention Program: Data. NC Health and Human Services: Environmental Health Section. http://ehs.ncpublichealth.com/hhccehb/cehu/lead/data.htm. Accessed 10/9/2017. Updated 4/6/2017.
[xxiii]Norman E. *Childhood Lead Poisoning Prevention Program Expansion Implementation Plan*. Raleigh, NC: N.C. Department of Health and Human Services, Division of Public Health; 2017. https://nchealthyhomes.com/files/2017/10/ChildhoodLeadExpansionImplementationPlan7312017.pdf.
[xxiv] Learn about lead. Environmental Protection Agency. https://www.epa.gov/lead/learn-about-lead. Assessed 10/2/2017. Updated 5/26/2017.
[xxv] Learn about lead. Environmental Protection Agency. https://www.epa.gov/lead/learn-about-lead. Assessed 10/2/2017. Updated 5/26/2017.
[xxvi] What do Parents need to Know to Protect their Children? Centers for Disease Control and Prevention. https://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm. Accessed 10/9/2017. Updated 5/17/2017.

Public Health Emergency Preparedness

This chapter includes:

- Public Health Emergency Preparedness

Section 12.01 *Public health emergency preparedness*

When disasters occur, citizens expect government leaders to take the appropriate actions to ensure their safety and protection. Since the health of the community is seen as the responsibility of the local health authority, it is vital that local public health be prepared to respond in the event of a disaster. The Public Health Emergency Preparedness program focuses on the capability of local public health to effectively plan for and respond to a wide range of public health threats. The goal is to create a more resilient community by reducing illness or the risk of injuries caused by acts of terrorism, natural disasters, and communicable disease outbreaks.

Overview

Public Health Emergency Preparedness focuses on the ability of the health department 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 (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]

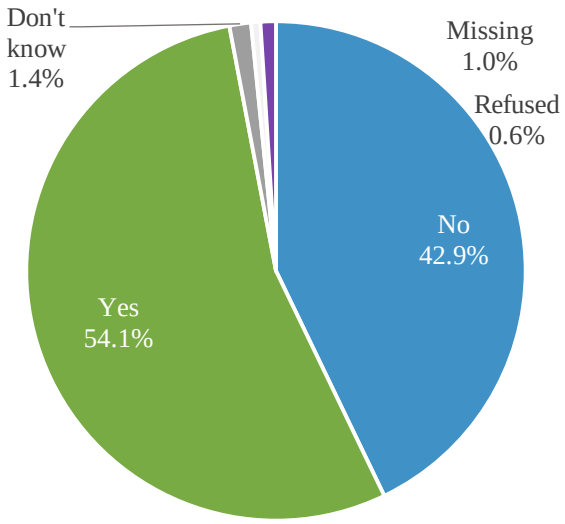
Primary Data

During the 2016 Durham County Community Health Assessment Survey, respondents were asked the following questions assessing their level of preparedness: (1) "Does your family have a basic 3-day emergency supply kit and plan? Emergency kits often include water, non-perishable food, prescriptions, first aid supplies, flashlight and batteries, non-electric can opener, blankets etc.", (2) "What would be your three top sources of information in a major disaster or emergency in Durham County?", (3) "If you couldn't remain in your house, where would you go in a community-wide emergency?", and (4) "What would be the main reason you might not evacuate or leave your home if asked to do so?".

The following graphs illustrate the findings from these emergency preparedness questions.

Percent of Families with a Basic 3-day Emergency Supply Kit and Plan, Durham County, 2016

Full County Sample



Hispanic and Latino Neighborhood Sample

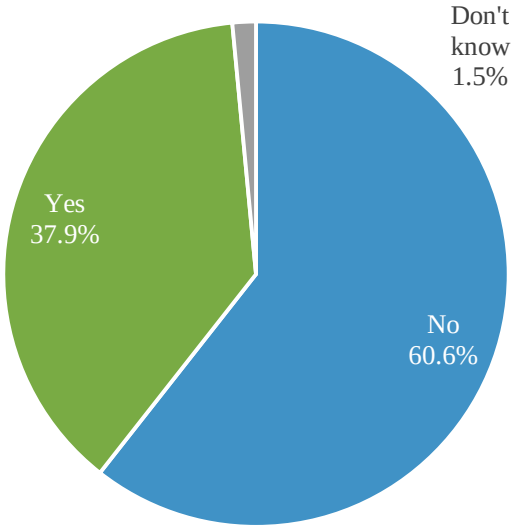


Figure 12.01(a): Percent of Families with a Basic 3-day Emergency Supply Kit and Plan, Durham County, 2016[ii]

The percentage of Durham residents who report having an emergency kit and a plan slightly increased in 2016. The full county sample revealed that 54.1% of residents reported having a 3-day emergency kit and plan, whereas the 37.9% of respondents from the Hispanic and Latino neighborhood sample reported having an emergency kit and plan.[ii] In 2013, 50.2% of Durham County residents reported having an emergency kit and a plan. Of the 2013 Latino sample, 35.5% reported having an emergency kit and plan.

Similar to the 2010 and the 2013 survey, the vast majority of Durham County residents in the Full County and Hispanic and Latino neighborhood samples (68. 8% and 60.3%, respectively) reported television as their primary source of information. The internet was the second highest rated source of information for both sample groups, at 61.0% and 45.6%, respectively. Text message was the third highest rated response for both the Full County sample (40.5%) and the Hispanic and Latino sample (39.2%).[ii]

When asked where they would go during a community-wide emergency if they couldn't remain in their homes, the top response for both the Full County sample (47.6%) and the Hispanic and Latino sample respondents (39.6%) was to stay with relatives/friends. The second highest response for both the Full County sample (19.0%) and the Hispanic and Latino neighborhood sample (34.8%) was an emergency shelter. In 2013 the second sample response (12.8%) was "other" compared to the 2016 Full County sample "other" response (3.0%). The third response was "don't know" for the Full County sample (13.2) while the third response for the Hispanic and Latino sample (16.0%) was Church or faith community.[ii]

Reasons for Not Evacuating the Home during an Emergency, Full County Sample, Durham County, 2016

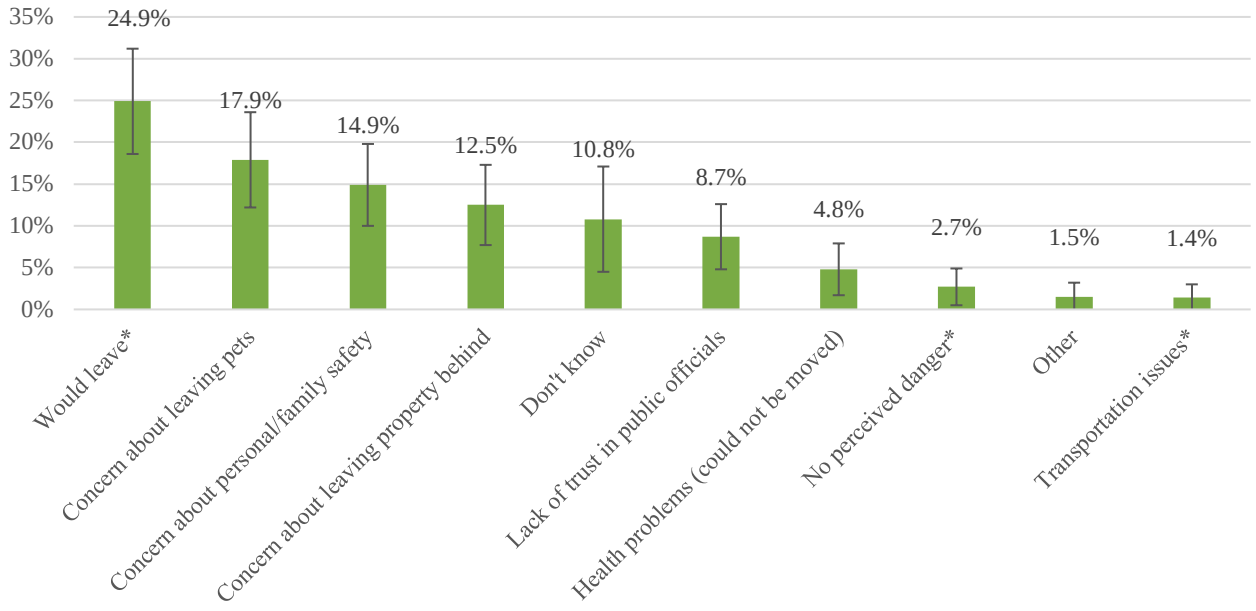


Figure 12.01(b): Reasons for Not Evacuating the Home during an Emergency, Full County Sample, Durham County, 2016[ii]

Reason for Not Evacuating the Home during an Emergency, Hispanic and Latino Neighborhood Sample, Durham County, 2016

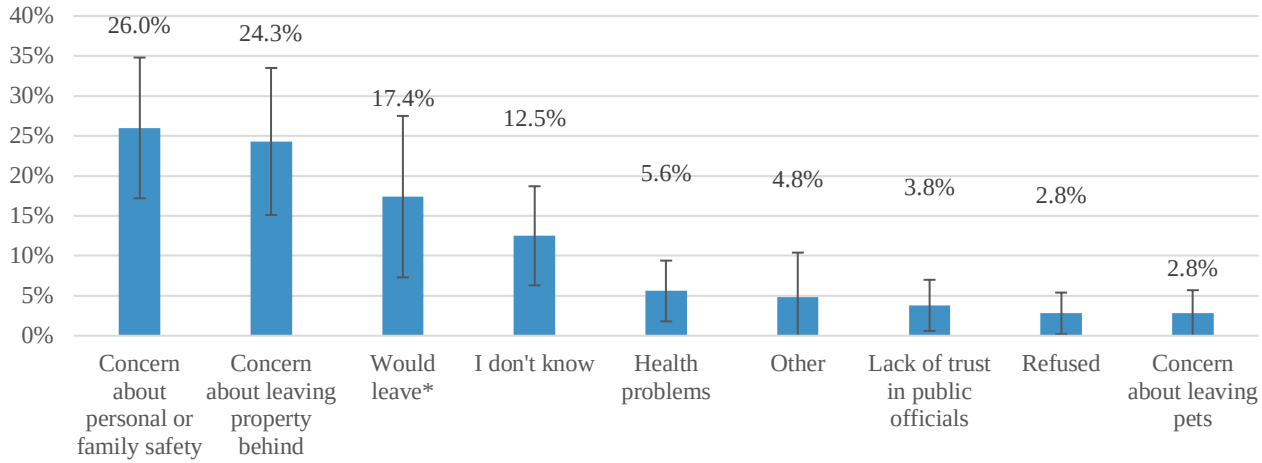


Figure 12.01(b): Reasons for Not Evacuating the Home during an Emergency, Hispanic and Latino Neighborhood Sample, Durham County, 2016[ii]

Data from the question "what would be the main reason you might not evacuate or leave your home if asked to do so" is displayed above. Although not leaving the home was not a pre-written option on the survey, a substantial proportion of respondents from both surveys indicated that they

would leave their homes if asked to do so. In fact, the top Full County sample response (24.9%) was "would leave" and the top response from the Hispanic and Latino sample response (26.0%) was "concern about personal or family safety". The second highest response to the question from the Full County sample (17.9%) was concern for their pets, while the second highest response for the Hispanic and Latino sample (24.3%) was concern about leaving property behind. The third highest response when asked the reason for not evaluating from the Full County sample (14.9%) was concern about personal or family safety, while the third highest response from the Hispanic and Latino sample (17.4%) was "would leave".[ii]

In 2013 when residents were asked the main reason they might not evacuate if asked to do so, the most common response was health problems, could not be moved (39.5%), followed by concern about leaving pets behind (14.7%). In 2016 only 4.8% of the Full County sample and 5.6% of the Hispanic and Latino sample would not evacuate due to health problems.[ii]

Interpretations: Disparities, Gaps, Emerging Issues

The 2016 Community Health Assessment Survey responses identified gaps and emerging issues that exist within the level of preparedness in the community. The most common of these gaps are: Community Preparedness, CDC Public Health Capability 1, Emergency Public Information and Warning, CDC Public Health Capability 4 and Mass Care, CDC Public Health Capability 7. Upon examining the data, there are key issues that need to be addressed in the future of the Public Health Emergency Preparedness program. These issues are:

Community Preparedness: The survey results identified that only 37.9% of the Hispanic and Latino sample stated they had a 3- day basic emergency supply kit and emergency plan.

Mass Care: The survey reveals a large number of Hispanic and Latino residents (34.8%) would stay in an emergency shelter if asked to leave their homes during an emergency. For mass care planning purposes the capability to ensure ongoing surveillance and health assessments for non-English speaking at-risk populations will require translation services at emergency shelters.

Mass Care: When asked "what would be the main reason you might not evacuate or leave your home if asked to do so", top responses included concern about personal or family safety and concern for pets. These results indicate a need to better educate all Durham County residents on emergency shelter services.

Recommended Strategies

Issue 1, Community Preparedness: A function of the CDC Community Preparedness Capability is to coordinate training or guidance to ensure community engagement in preparedness efforts. Since only 37.9% of the Hispanic and Latino sample stated they had a 3-basic day emergency supply kit and emergency plan, the health department will continue to work with community partners to

identify and provide preparedness education to the at-risk populations such as the non-English speaking communities. Increasing awareness of the need to build an emergency kit and develop a family emergency plan will decrease the confusion for non-English speaking Durham residents while improving resiliency for the whole community during an emergency.

Issue 2, Emergency Public Information and Warning: The survey results identified that the majority of Durham County residents identified television/radio, the internet and text messages as their primary sources of information. By maintaining a current knowledge of what communications platforms are being monitored by the public, the Public Information Officer (PIO) and the Joint Information Center (JIC) will be better equipped to target those media outlets during an event. Having JIC staff who are not only trained in Crisis Communications but can also monitor and post information on the internet and other social media platforms will be a crucial component of keeping the public informed.

Issue 3, Mass Care: Top responses to the question "where would you go if couldn't remain in your home due to community-wide emergency" for both the Full County sample and the Hispanic and Latino neighborhood sample included relatives/friends and an emergency shelter. The high proportion of Hispanic and Latino residents indicating that they would stay in an emergency shelter reveals a need for ongoing surveillance and health assessments for non-English speaking at-risk populations. Translation services at the shelter will be needed to ensure adequate communication with non- English residents.

Issue 4, Mass Care: Residents citied concern about personal and family safety and concern about their pets as main reasons they might not evacuate or leave your home if asked to do so. These concerns highlight the need to better educate all Durham County residents on emergency shelter services, which include law enforcement at all shelters and the availability of pet-friendly emergency shelters. Providing more education concerning emergency sheltering will ensure Durham residents are not only safe while staying at an emergency shelter but their pets are provided shelter as well.

Current Initiatives & Activities

- ***Public Health Preparedness***

The Durham County Department of Public Health has a full-time Public Health Preparedness Coordinator who writes the Durham County Department of Public Health's plans for responding to public health needs after natural and man-made disasters, as well as during communicable disease outbreaks. 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. http://www.dconc.gov/government/departments-f-z/public-health/services/environmental-health/public-health-preparedness.

References

[i] CDC Public Health Capabilities. http://www.cdc.gov/phpr/capabilities/dslr_capabilities_july.pdf. Accessed October 11, 2017, Updated 2011.
[ii] Partnership for a Healthy Durham. 2016 Community Health Assessment Survey. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed November 7, 2017.

Older Adults and Adults with Disabilities

This chapter includes:

- Older Adults and Adults with Disabilities

Section 13.01 *Older adults and adults with disabilities*

Overview

Durham County is experiencing a substantial 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. This 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.

In addition to the growing older adult population, the number of adults 18-64 years old who are living with a disability is also increasing in Durham. These individuals are significantly more likely to report being in fair or poor health than adults without disabilities.[i] According to the North Carolina Office on Disability and Health, a disability can be physical, mental, emotional, intellectual, or communication-related and it can be present at birth or begin later in life as a result of injury, chronic disease, or aging. People with disabilities experience more health disparities than people without disabilities. While the determinants for these disparities are not fully understood, evidence shows low socioeconomic status, higher rates of unemployment, lower educational attainment, limited access to preventive care, and the cost of health care contribute to this disparity.[ii]

Secondary Data:

Demographic Trends in Durham County and North Carolina

Ages	Durham			North Carolina		
	2016	2035	% Change	2016	2035	% Change
0 – 17	23.4%	22.8%	-2.5%	22.7%	20.7%	-9.0%
18 – 59	59.6%	55.0%	-7.6%	55.9%	52.9%	-5.5%
60 +	17.0%	22.2%	30.0%	21.4%	26.5%	+23.9%

Table 13.01(a) Demographic Trends in Durham County, 2016 and 2035[iii]

In 2030, the last baby boomers will turn 60. Table 13.01(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 51,388 to 86,428, reaching an estimated 22.2% of the total population in Durham by 2035. This represents a 30.0% increase in the less than 20 years.[iv]

Race of Older Adults in Durham County, 2016 and 2035

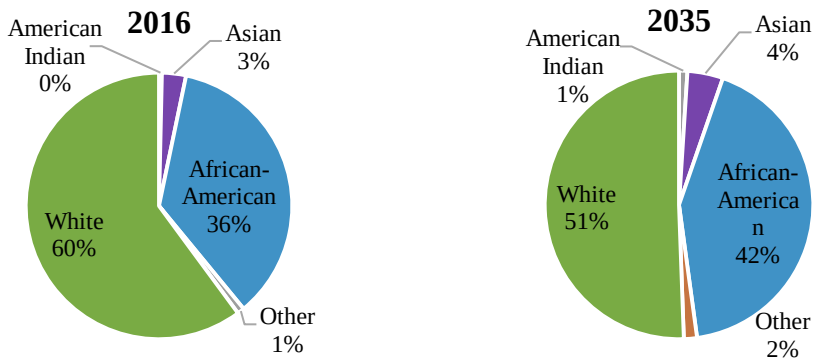


Figure 13(a) Race of Older Adults in Durham County, 2016 and 2035[v]

Figure 13.01(a) and Table 13.01(b) demonstrate that Durham County is significantly more diverse than North Carolina. This data is important because 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.[vi]

Race of Older Adults in Durham County and North Carolina, 2016 and 2035

Race (60 years and over)	Durham County		North Carolina	
	2016	2035	2016	2035
American Indian	0.4%	1.0%	1.1%	1.6%
Asian	2.9%	4.3%	1.4%	3.0%
Black	35.8%	42.5%	16.4%	18.5%
Other	0.9%	1.6%	0.6%	1.2%
White	60.1%	50.6%	80.5%	75.7%

Table 13.01(b) Race of Older Adults in Durham County and North Carolina, 2016 and 2035[vii]

Poverty Status of Older Adults in Durham County and North Carolina, 2016

Poverty Status in the Past 12 Months (60 years and over)	Durham County	North Carolina
Below 100 percent of the poverty level	9.3%	10.2%
100 – 149 percent of the poverty level	8.1%	11.0%
With Supplemental Security income	5.7%	6.1%
With cash public assistance income	1.4%	1.5%
With Food Stamp/SNAP benefits	9.2%	10.7%

Table 13.01(c) Poverty Status of Older Adults in Durham County and North Carolina, 2016[viii]

In 2016, 17% of older adults in Durham County were living in or near poverty.[ix] Across the United States income varies dramatically by race. In 2016, the national median income for White Medicare beneficiaries was $30,050, $17,350 for Blacks, and $13,650 for Hispanics.[x] Health care costs can pose a substantial financial burden for poor and low-income older adults and 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.[xi] In North Carolina, it is

estimated that 12.7% of older adults are food insecure and 60.0% of seniors who would qualify for food stamps/SNAP do not participate in this program.[xii] [xiii]

Housing Status of Older Adults in Durham County and North Carolina, 2016

Housing (60 years and over)	Durham County	North Carolina
Owner-occupied housing units	72.0%	80.2%
Gross rent 30 percent or more of household income	24.7%	24.9%
Renter-occupied housing units	28.0%	19.8%
Gross rent 30 percent or more of household income	54.1%	49.0%

Table 13(d) Housing Status of Adults in Durham County and North Carolina, 2016[xiv]

Affordable housing is an issue in Durham County, especially among older adults who rent. A recent study identified excessive housing costs and renting as two barriers for aging in place.[xv]

Disability Data of Adults in Durham County and North Carolina, 2016

Age by Number of Disabilities	Durham County	North Carolina
18 to 64 years with one type of disability	4.5%	6.1%
18 to 64 years with two or more types of disability	3.7%	5.6%
With a hearing difficulty	1.3%	2.2%
With a vision difficulty	1.8%	2.3%
With a cognitive difficulty	3.4%	4.8%
With an ambulatory difficulty	4.1%	6.2%
With a self-care difficulty	1.5%	2.2%
With an independent living difficulty	2.8%	4.2%
65 years and over with one type of disability	14.7%	16.6%
65 years and over with two or more types of disability	19.6%	20.4%
With a hearing difficulty	14.5%	15.0%
With a vision difficulty	6.2%	7.2%
With a cognitive difficulty	9.9%	9.7%
With an ambulatory difficulty	22.0%	23.9%
With a self-care difficulty	8.0%	8.6%
With an independent living difficulty	13.9%	15.5%

Table 13(e) Disability Data of Adults in Durham County and North Carolina, 2016[xvi] [xvii]

Adults with disabilities are more likely to experience difficulties or delays in getting the health care they need, including important preventive screenings than adults without disabilities. They are also more likely to use tobacco, be overweight or obese, have high blood pressure, experience symptoms of psychological distress, receive less social-emotional support, have lower employment rates, and not engage in physical fitness activities.[xviii]

Primary Data

The 2016 Durham County Health Assessment Survey included these questions on older adults and adults with disabilities: [xix]

- *Keeping in mind yourself and the people in your neighborhood, tell me the most important health problems, that is, diseases or conditions, in Durham County.* 22.4% of respondents in the county sample answered "aging problems."

- *Are there services and supports needed in Durham County to help improve the quality of life for adults age 60 and older?* 56.4% of respondents in the county sample answered "yes." The services and supports that were selected included health services (59.1%), financial assistance (59.1%), transportation (54.5%), navigating programs (40%), housing (39.1%), dementia care (37.3%), elder abuse/neglect (31.8%), and food (25.5%).

- *Which services need the most improvement in your neighborhood or community?* 16.5% of respondents in the county sample answered "older adult care" and 10.2% responded "disability services."

- *What are the primary causes of stress that you experience?* 27.2% of respondents in the county sample answered "caring for family member with chronic illness/disability" and 13.1% answered "own disability."

Interpretations: Disparities, Gaps, Emerging Issues

A recent American Association of Retired Persons (AARP) survey detailed that 78% of people over age 45 want to remain in their own homes for as long as possible and that 80% believe they will always live in their current community.[xx] A livable community is one that is safe and secure, has affordable and appropriate housing and transportation options, and offers supportive community features and services. Once in place, those resources enhance personal independence, allow residents to age in place, and foster residents' engagement in the community's civic, economic, and social life.[xxi] A livable community action plan must address any barriers to aging in place that exist as a result of inequities and disparities that stem from race, poverty, and disability status. Creating a livable community can increase the contributions of both older and younger people and build a community that is better for all Durham residents. A livable community is a "great place to grow up and grow old."[xxii]

Recommended Strategies

- Develop an Aging Plan that includes the World Health Organization and 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, which works to facilitate a "no wrong door" to long-term service and supports by eliminating information silos among providers.

- Develop a Care Transitions Coalition that will connect hospitals and skilled nursing facilities with community-based organizations to ensure safe and effective transitions for older adults and adults with disabilities as they move from the hospital/nursing home back to their home.

- Increase access to healthy food for older adults and adults with disabilities by mapping the food ecosystem that serves older adults and adults with disabilities and increasing their knowledge about and enrollment in Food and Nutrition Services.

Current Initiatives & Activities

- ***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. http://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. http://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. http://www.dconc.gov/government/departments-f-z/social-services/aging-and-adult-services

- ***Duke Geriatric Resource Hub***

Link to training and resources that improves the care of older adults, including information on local workshops and national conferences, learning resources and best practices, and information on clinical support services and community resources. http://GeriatricHub.nursing.duke.edu

- ***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. https://www.mowdurham.org/

- ***Senior PharmAssist***

Promotes healthier living for Durham seniors by helping them obtain and better manage needed medications, and by providing health education, Medicare insurance counseling, community referral advocacy. https://seniorpharmassist.org

References

[i] Havercamp SM, Scandlin D, Roth M. (2004). Health disparities among adults with developmental disabilities, adults with other disabilities, and adults not reporting disability in North Carolina. *Public Health Reports.* 2004;119(4):418. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1497651/pdf/15219799.pdf. Accessed December 15, 2017.

[ii] NC Office on Disability and Health. *North Carolina's Plan to Promote the Health of People with Disabilities: Everywhere, Everyday, Everybody 2010-2020* (2nd ed.). Chapel Hill, NC: The University of North Carolina, FPG Child Development Institute; 2013. http://fpg.unc.edu/sites/fpg.unc.edu/files/resources/reports-and-policy-briefs/NC_Plan_Health_People_with_Disabilities_2013.pdf. Accessed December 15, 2017.

[iii] North Carolina Office of State Budget and Management. *County/State Population Projections.* Raleigh, NC: Office of the Governor; 2017. https://www.osbm.nc.gov/demog/county-projections. Accessed December 15, 2017.

[iv] North Carolina Office of State Budget and Management. *County/State Population Projections.* Raleigh, NC: Office of the Governor; 2017. https://www.osbm.nc.gov/demog/county-projections. Accessed December 15, 2017.

[v] North Carolina Office of State Budget and Management. *County/State Population Projections.* Raleigh, NC: Office of the Governor; 2017. https://www.osbm.nc.gov/demog/county-projections. Accessed December 15, 2017.

[vi] National Research Council Panel on Race, Ethnicity, and Health in Later Life. *Critical Perspectives on Racial and Ethnic Differences in Health in Late Life.* Washington, DC: National Academies Press; 2004. http://www.ncbi.nlm.nih.gov/books/NBK25532/. Accessed December 15, 2017.

[vii] North Carolina Office of State Budget and Management. *County/State Population Projections.* Raleigh, NC: Office of the Governor; 2017. https://www.osbm.nc.gov/demog/county-projections. Accessed December 15, 2017.

[viii] US Census Bureau. 2016 American Community Survey 5-Year: S0102 – Population 60 years and over in the United States. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S0102&prodType=table. Accessed December 15, 2017.

[ix] US Census Bureau. 2012 - 2016 American Community Survey 5-Year: S0102 – Population 60 years and over in the United States. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S0102&prodType=table. Accessed December 15, 2017.

[x] Jacobson G, Griffin S, Neuman T, Smith K. *Income and Assets of Medicare Beneficiaries, 2016-2035.* Menlo Park, CA: Kaiser Family Foundation, 2017. https://www.kff.org/medicare/issue-brief/income-and-assets-of-medicare-beneficiaries-2016-2035/. Accessed December 15, 2017.

[xi] O'Brien E, Wu KB, Baer D. *Older Americans in Poverty: A Snapshot.* Washington, DC: AARP Public Policy Institute; 2010. http://assets.aarp.org/rgcenter/ppi/econ-sec/2010-03-poverty.pdf. Accessed December 15, 2017.

[xii] Zilak J, Gunderson C. *The State of Senior Hunger in America in 2015.* http://nfesh.org/wp-content/uploads/state-of-senior-hunger-2015-supplement.pdf. Alexandria, VA: National Foundation to End Senior Hunger, 2017. Accessed December 15, 2017.

[xiii] National Council on Aging. SNAP and Senior Hunger Facts. https://www.ncoa.org/news/resources-for-reporters/get-the-facts/senior-hunger-facts/. Accessed December 15, 2017.

[xiv] US Census Bureau. 2012 - 2016 American Community Survey 5-Year: S0102 – Population 60 years and over in the United States.

https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S0102&prodType=table. Accessed December 15, 2017.

[xv] Kenan Institute of Private Enterprise. *Vulnerable Older Adults and the Challenges of Aging in Place.* Chapel Hill, NC: Kenan Institute of Private Enterprise; 2017. http://www.kenaninstitute.unc.edu/wp-content/uploads/2017/10/ChallengesOfAgingInPlace_10032017.pdf. Accessed December 15, 2017.

[xvi] US Census Bureau. 2012 – 2016 American Community Survey 5-Year: C18108 – Age by number of disabilities. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_C18108&prodType=table. Accessed December 15, 2017.

[xvii] US Census Bureau. 2012 – 2016 American Community Survey 5-Year: S1810 – Disability characteristics. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1810&prodType=table. Accessed December 15, 2017.

[xviii] Healthy People 2020. *Disability and Health.* Atlanta, GA: US Department of Health and Human Services; 2014. http://www.healthypeople.gov/2020/topicsobjectives2020/nationalsnapshot.aspx?topicId=9. Accessed December 15, 2017.

[xix] Partnership for a Healthy Durham. *2016 Durham County Community Health Opinion Survey.* Partnership for a Healthy Durham website. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf. Accessed December 15, 2017.

[xx] AARP Programs/Livable Communities Team. *The Livability Economy: People, Places, and Prosperity.* Washington, DC: AARP; 2015. http://www.aarp.org/content/dam/aarp/livable-communities/documents-2015/LivabilityEconomyReportOnlineDownload.pdf. Accessed December 15, 2017.

[xxi] AARP Livable Communities. *What is a Livable Community?* https://www.aarp.org/livable-communities/about/info-2014/what-is-a-livable-community.html. Accessed December 15, 2017.

[xxii] Grantmakers in Aging. Community AGEnda. Grantmakers in Aging website. http://www.giaging.org/programs-events/community-agenda/. Accessed on October 15, 2015.

LGBTQ+ Issues

This chapter includes:

- ❖ Barriers to Healthcare
- ❖ Mental Health
- ❖ Economic Disparities
- ❖ Violence
- ❖ Chronic Disease
- ❖ Infectious Disease

LGBTQ+ Issues

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. 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. Durham County houses the second largest concentration of same-sex households among N.C. counties, with an estimated 9.7 same-sex households per 1,000 households.[i] According to the 2016 Durham County Community Health Assessment Survey, approximately 4% of residents personally identified as gay, lesbian, or bisexual (the options provided on the survey). An additional 5% indicated that someone in their household identified as such. In the Hispanic and Latino neighborhood sample, approximately 1% personally identified and 2% indicated that someone in their household identified as gay, lesbian, or bisexual (note: these values were not calculated by race or gender). Less than 1% of residents surveyed in either sample reported identifying as transgender.[ii] These rates are higher among Durham adolescents, where data indicates as many as 12% of Durham high school students identified as gay, lesbian, or bisexual, according to the 2015 Youth Risk Behavior Survey (YRBS).[iii]

CHAPTER 14 LGBTQ+ Issues

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 emerged is the dearth of reference data specific to Durham County to accurately depict the state of LGBTQ+ health in Durham. As a result, one of the aims of this first-time chapter in the Community Health Assessment is 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
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.

Section 14.01 *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.[iv]

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.[v]

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.[vi] This also prevents them from accessing group-based coping resources that buffer against the negative effects of stigma. In a 2013 study of 396 LGB New York City residents, they found that 39% of bisexual men, 32.6% of bisexual women, 12.9% of lesbians and 10% of gay men did not report their sexual orientation to their healthcare providers.[vii]

Discrimination

LGBTQ+ individuals seeking services are also more likely to be discriminated against. According to a Lambda Legal study focusing on discrimination of transgender people in healthcare, 50% of the participants had to teach their physician how to care for them, 28% percent experienced verbal harassment in medical settings, 19% had been refused medical care, and 2% had been physically assaulted in a physician's office.[viii]

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.[ix] LGBTQ+ comprehensive education is not provided in most graduate or medical programs concentrated on health professions. Most clinicians have found that workshops or continued education on LGBTQ+ issues are a necessity to providing comprehensive clinical care.

Insurance

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. In the same study, it was found that the percentage of LGBTQ+ Americans without insurance dropped due to the Affordable Care Act (ACA), from 22% at the end of 2013 to 17.6 percent during the second quarter of 2014. In the same study, it was found that 25% of LGBTQ+ Americans (21% of men and 29% of women) reported not having enough money for health care needs at least once in the past year compared to 17% of their straight peers.[x]

Many people in the U.S. are uninsured, and transgender people are the least likely to have access to healthcare and specifically access to insurance. Transgender people are less likely to be employed and have more difficulty obtaining documents with the appropriate name and gender and have more difficulty applying for public insurance.[xi] According to the Human Rights Campaign's (HRC) Corporate Equality Index, 340 private companies offer one transgender-inclusive insurance plan. 28% of Fortune 500 companies cover comprehensive care for transgender employees.[xii]

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 are 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

1. Lack of data / No accurate representation of LGBTQ+ clients in healthcare
2. Lack of education for healthcare providers
3. Lack of accountability for turning away clients
4. Lack of financial ability to seek adequate education to provide services

Emerging Issues

1. 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."
2. Transgender and gender non-binary youth are experiencing acceptance in school and with peers but not at home
3. Political figures denouncing identities and creating more stigma
4. 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***

Creating Visibility. Encouraging Partnerships. Fostering Community. Standing for Justice. And just simply providing Durham with a "Family Room." https://www.lgbtqcenterofdurham.org/

- ***Gender and Sexual Diversity Initiative***

The 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.carolinapartners.com/gender-sexual-diversity-initiative

- ***Duke Child and Adolescent Gender Care***

Provides treatment, support, education and counseling to transgender youth who are exploring their gender identity and gender expression, as well as their families. We also treat people with gender dysphoria, which occurs when sex and gender assigned at birth do not align with a person's gender identity. https://www.dukehealth.org/locations/duke-child-and-adolescent-gender-care

- ***Healing with CAARE***

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***

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***

Planned Parenthood Federation of America, Inc., or Planned Parenthood, 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] The Williams Institute. *Same-sex Couple and LGBT Demographic Data Interactive.* Los Angeles, CA: The Williams Institute, UCLA School of Law; May 2016. https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=SS&area=37063&compare=total#comparison.
[ii] Partnership for a Healthy Durham. *2016 Durham County Health Opinion Survey results.* Durham, NC: Partnership for a Healthy Durham; 2016; *pp* 3,32. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-County-2016-Community-Health-Assessment-Survey-results-1.pdf.
[iii] Partnership for a Healthy Durham. *Youth Risk Behavior Survey: Durham County 2015 Report.* Durham, NC: Partnership for a Healthy Durham; 2016. *p* 4. http://healthydurham.org/cms/wp-content/uploads/2016/03/Durham-YRBS-2015-Report-FINAL_corrected-08052016.pdf.
[iv] Erickson-Schroth, L. (2014). "Trans bodies, Trans selves: A resource for the transgender community." Oxford University Press
[v] Erickson-Schroth, L. (2014). "Trans bodies, Trans selves: A resource for the transgender community."
[vi] Capuzzi, D., & Gross, D. R. (2008). *Youth at risk: A prevention resource for counselors, teachers, and parents*. Alexandria, VA: American Counseling Association.
[vii] David Deschamps, Bennett Singer (2017). 72-89 Health and Aging. The New Press "LGBTQ Stats: lesbian, gay, bisexual, transgender, and queer people by the numbers"
[viii] David Deschamps, Bennett Singer (2017). 72-89 Health and Aging. The New Press "LGBTQ Stats: lesbian, gay, bisexual, transgender, and queer people by the numbers"
[ix] Carolina Partners in Mental Healthcare (December 2016). Survey of Mental Health Clinicians. Unpublished raw data. Confirmed January 29, 2018 with Adrienne Michelle, LMFT.
[x] David Deschamps, Bennett Singer (2017). 72-89 Health and Aging. The New Press "LGBTQ Stats: lesbian, gay, bisexual, transgender, and queer people by the numbers"
[xi] Erickson-Schroth, L. (2014). "Trans bodies, trans selves: A resource for the transgender community."
[xii] Human Rights Campaign Corporate Equality Index (2013). https://issuu.com/humanrightscampaign/docs/corporateequalityindex_2013. Accessed January 7, 2018.

Section 14.02 *Mental health*

Overview

The issues of discrimination and violence as ever-present concerns for LGBTQ+ people come to the forefront when issues of psychological health are concerned. Recent legislation including bills contesting marriage equality and attempting to regulate the use of public restrooms by transgender people ("bathroom bills") are just one of many sources of public debate about the rights and access that should be granted LGBTQ+ citizens. Throwing these debates into the limelight has resulted in increased awareness regarding LGBTQ+ and specifically transgender issues. However, this means an increase in both acceptance and violence, and makes the issue of visibility a heavy factor in an LGBTQ+ individual's safety. On a personal level, the relationships which normally act as supports are often strained or even broken by the same stigma which can lead to physical violence from strangers. The constant stress of these concerns, along with the gatekeeping of necessary medical care for transgender people and barriers to resources like employment and housing inevitably lead to poor mental health. The Meyer Minority Stress Model lays out an array of both internal and external stressors which adversely affect the emotional and mental well-being of any member of a minority group.[i] These layers of stress and the obstacles they pose regarding access to resources create a unique adverse effect on the mental and emotional health of members of the LGBTQ+ community.

These experiences of systemic, interpersonal violence and psychosocial stressors are magnified for LGBTQ+ individuals living at the intersections of multiple, salient marginalized identities (ie. LGBTQ+ who are also disabled, undocumented, poor, or people of color, etc.). It is increasingly clear that that future research and mental health praxis must explain the within-group differences of LGBTQ+ communities and explore how the intersections of sexual identity, gender identity, sex, race/ethnicity, age, population cohort, socioeconomic status, nationality/nativity, immigration status, geographic location, and disability status inform people's lived experiences, as well as their mental health outcomes and treatment. Currently most statistics regarding LGBTQ+ mental health are considered conservative numbers. More information is needed to truly shed light on the disparities of mental health these communities face.

Primary Data

The impact of various levels of oppression and continued stigma are reflected in disproportionately high rates of "poor mental health,[ii-iii] psychological distress,[iv-viii] suicidal ideation, and mental health disorders (e.g., depression and anxiety) compared with heterosexuals" as well as higher rates of substance and drug abuse. The higher rates of mental health problems can be attributed to the systemic oppression, trauma, and stressors disproportionately endured by LGBTQ+ communities i.e. poverty, employment discrimination, housing discrimination, lack of accessible and affirming care/discrimination when accessing services, intimate partner violence, incarceration, deportation, physical violence, murder, sexual assault, and homelessness.[ix]

Due to insufficient data collected by N.C. and Durham County, this report relies heavily on national data explicating LGBTQ+ communities living in the U.S. South and will cite N.C. specific data when possible.

Secondary Data

North Carolina is the first Southeastern state to include sexual orientation identity on its Behavioral Risk Factor Surveillance System (BRFSS), and many of the results were consistent with other studies of adult LGB populations. For example, LGB adults in North Carolina experienced poorer mental health.[x-xii] The North Carolina BRFSS is part of a national health surveillance system and is conducted jointly by North Carolina and the Centers for Disease Control and Prevention. This anonymous questionnaire is intended to provide data at the state and regional level about a variety of health behaviors and health outcomes. One study reviewed NC BRFSS data from 2011 (the year that sexual orientation was first introduced in data collection efforts) to 2014 and found that mental health was consistently poorer for sexual minorities, including:

- LGB men and women showed inequities in mental health, with 34.9% of gay or bisexual men and 33% of lesbian or bisexual women reporting having an average of 5 or more poor mental health days in the past month, compared to 16.0% of heterosexual men and 24.0% of heterosexual women. as Additionally, LGB men and women were three times as likely to be diagnosed with a depressive disorder compared to their heterosexual peers.[xiii]
- Sexual minority women had higher rates of alcohol abuse compared with heterosexual women and showed higher instances of binge and heavy drinking.[xiv]
- Unexpectedly, sexual minority women were more likely to experience worry or stress about paying rent or mortgage, even though they were less likely to be living below 300% Federal Poverty Guidelines (FPG). This finding may be related to the adverse mental health sexual minority women experience.[xv]
- Overall, "there are substantial health inequities for LGB adults living in N.C. compared to their heterosexual counterparts. Areas of concern include health status and mental health, secondhand smoke exposure, and, for women, respiratory health, obesity, smoking, and alcohol abuse."[xvi]

Pathologizing of LGBTQ+ Identities in Psychology

Pathologizing is the practice of seeing a symptom as indication of a disease or disorder. In mental health, the term is often used to indicate over-diagnosis or the refusal to accept certain behavior as normal. Mental health professions have a longstanding history of pathologizing and criminalizing of LGBTQ+ identities. Until its removal from the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) in 1973[xvii], homosexuality was treated as a "sociopathic personality disorder." While the DSM-5 reclassified "Gender Identity Disorder" in 2013 as "Gender Dysphoria," which is no longer pathological per se, the diagnosis continues to be used to stigmatize transgender people. Multiple individual accounts have been given by LGBTQ+ and especially transgender patients regarding attempts to "convert" them to cisgender and/or heterosexual identities by mental health professionals. Accounts reflect an interruption in access to transgender patients' transition-related care on the basis that their identities were pathological symptoms correlated with Axis I mental health disorders such as bipolar disorder or schizophrenia. Pathologizing LGBTQ+

identities in mental health professions is reinforced and perpetuated by the lack of evidence-based data related to the mental health disparities they face.

Barriers to Access

Organizations from the Williams Institute to Funders of LGBTQ+ Issues have documented that 25% of LGBTQ+ identified adults in the U.S. live in the South and are more likely to "lack employment protections, earn less than $24,000 a year, and report that they cannot afford food or healthcare...and are also less likely to have insurance than anywhere else in the country." [xviii,xix] These disparate experiences leave low-income, LGBTQ+ Southerners less likely to access mental health services when they are available. LGBTQ+ people still face gatekeeping of necessary care due to mental health providers' lack of training and/or understanding of LGBTQ+ experiences and needs. Some reports are concerned with providers who "lack knowledge and experience working with members of the LGBTQ+ community may focus more on a person's sexual orientation and/or gender identity than a person's mental health condition".[xx] Throughout the research available, substantial knowledge gaps worsened by the scarcity of LGBTQ+ specific resources, data, overt discrimination, and evaluation uplifting the experiences of low-income LGBTQ+ communities are all cited as significant barrier to treatment and mental wellness for LGBTQ+ people of all ages.

Substance Abuse Risks

Research suggests that LGBTQ+ adults as well as youth are at greater risk for substance abuse compared with those that identify as heterosexual.[xxi] Many federally funded surveys have only recently begun to identify sexual minorities in their data collections. In 2015, the National Survey on Drug Use and Health (NSDUH) added two questions on sexual orientation, one for sexual identity and one for sexual attraction, making it the first nationally representative, comprehensive source of federally collected information on substance use and mental health issues among sexual minority adults.[xxii]

Findings specific to the mental health of Trans and Gender Non-Conforming North Carolinians included that over a quarter of the respondents misused drugs or alcohol specifically to cope with the mistreatment they faced due to their gender identity or expression.[xxiii]

Mental Health and Law Enforcement

Data has confirmed that LGBTQ+ people continue to be targets for human rights abuses by law enforcement in the United States, based on real or perceived gender identity and/or sexual orientation.[xxiv] LGBTQ+ individuals who have mental or physical disabilities, are people of color, are engaged in sex work, are undocumented, are experiencing poverty, etc. are at increased risk for abuse by law enforcement. [xxv] In addition to physical harm, these types of human rights abuses can lead to post-traumatic psychological and psychosomatic symptoms in survivors. Transgender North Carolinians in particular experience high levels of police violence with one study citing that "in the past year, of respondents who interacted with police or other law enforcement officers who thought or knew they were transgender, 54% experienced some form of mistreatment. This included being verbally harassed, repeatedly referred to as the wrong gender, physically assaulted,

or sexually assaulted, including being forced by officers to engage in sexual activity to avoid arrest."[xxvi]

Interpretations: Disparities, Gaps, Emerging Issues

Transgender and Gender Non-Conforming Mental Health

Of the 683 transgender and gender nonconforming respondents to the U.S. 2015 Transgender Survey residing in North Carolina, 15% of them were unemployed; 29% were living in poverty; 29% of those in N.C. who saw a health care provider in the past year reported being refused treatment, verbally harassed, or physically or sexually assaulted, or having to teach the provider about transgender people in order to get appropriate care (33% nationwide). Twenty-six percent of N.C. respondents did not see a doctor when they needed to because of fear of being mistreated as a transgender person (23% nationwide); and 42% did not see a doctor when needed because they could not afford it (33% nationwide).[xxvi] Lastly, "a staggering 41% of respondents in a national survey reported attempting suicide compared to 1.6% of the general population".[xxvii] This presents a compelling case for a profound gap in healthcare and mental healthcare provision for transgender people in North Carolina.

The U.S. 2015 Transgender Survey did not release more specific data regarding the individual states covered in their data, but the national data for mental health among transgender people is as follows:[xxviii]

- Lifetime incidence of suicidal ideation that resulted in planning was a staggering 82% of the subjects surveyed.
- Lifetime incidence of attempted suicide was 40%, which is almost ten times the national average at 4.6%.
- Significantly, the percentage of American Indian respondents who had ever made an attempt was the highest risk group when racially divided at 57%, followed by Multiracial at 50% and Black at 47%.
- The age of first attempt was most frequently reported as being under the age of 13 (34%) or between the ages of 14 and 17 (39%), indicating a serious need for mental health care for transgender youth.
- Overall, 29% of respondents reported illicit drug use, marijuana consumption, and/or nonmedical prescription drug use in the past month, nearly three times the rate in the U.S. population (10%).

Another area of growing concern with regard to transgender healthcare is the lack of data regarding the mental health of transitioning and surgical patients. While there is some data available for the mental health aftereffects of invasive and/or significant surgical procedures in general, none at all exists that records the process of recovery from gender confirmation surgery. Additionally, the mental health of patients on hormone replacement therapy has not been statistically measured or recorded in any amount that would reflect meaningful data.

Bisexuality and Mental Health

According to recent studies people who identify as bisexual are far more likely to experience depression and poorer mental health.[xxix]

- Bisexuals have higher suicidality rates: one study found bisexuals were four times more likely and lesbian and gay adults two times more likely to report attempted suicide than straight adults.[xxx]
- Alarmingly, bisexuals are also far more likely to feel suicidal than their heterosexual, gay, and lesbian counterparts. Studies found that bisexual men were 6.3 times more likely to seriously consider suicide in their lifetime and gay men 4.1 times more likely than straight men; with bisexual women at 5.9 times more likely and lesbian/gay women 3.5 times more likely than straight women.[xxxi]
- A recent study in the Journal of Adolescent Health found that bisexual teens who reported suicidal thoughts did not report a decrease in these thoughts as they aged into adulthood, unlike their straight peers.[xxxii]

Despite these disparities, and perhaps compounding them, bisexual people are less likely than gay men or lesbians to be out to their health care providers. The body of research on bisexual health is growing, but more data is always helpful when trying to show the health disparities facing bisexuals. LGBTQ+ Americans face higher rates of poverty, unemployment, and negative health outcomes than straight Americans, but among LGB people, bisexuals face disproportionately higher rates of these negative outcomes than lesbians and gay men.[xxxiii] This may be because bisexual people face discrimination from within the LGBTQ+ community as well as outside of it.

Crisis Prevention & Extended Care

There is currently no statistical data available regarding LGBTQ+ people and their relationship with crisis care. However, a growing need has been indicated simply by the increase in statistical data regarding LGBTQ+ and especially transgender people's use of substances, concerns about mental health, and barriers to regular, extended care from affirming primary care providers.

Youth & Aging

What individuals need varies throughout their lives. What is known is that the impact of various levels of oppression are reflected in higher rates of substance abuse and depression, disproportionately high rates of unemployment, and that 20–40% of all homeless youth identify as LGBTQ.[xxxiv] The research over the past several decades about the lives and experiences of LGBTQ youth (youth is loosely defined as adolescents to young adults ages 13–24) overwhelmingly links suicide and suicidality with a non-heterosexual identity.[xxxv, xxxvi, xxxvii]

There is very little information being gathered on the particular needs of the elders in the LGBTQ+ community, partly because of the lowered life expectancy of LGBTQ+ and particularly transgender people. As awareness of this problem grows, ideally new light will be shed on this emergent population.

Recommended Strategies

- Financial accessibility (sliding scale, payment plans, Medicaid, Medicare, referrals)[xxxviii]
- Holistically treating mental health: chronic depression, anxiety, post-traumatic stress disorder (PTSD), and Axis I diagnoses that can complicate overall physical health and medical transition
- Support groups for LGBTQ+ youth to protect against suicide[xxxix] as well as suicide risk awareness and suicide prevention and mental health first aid being widely available information for LGBTQ+ folks and their supportive friends, family members, and caregivers.
- Trauma Informed Care (creating supportive environments, addressing oppression that creates and informs PTSD and secondary trauma; survivor care)
- Advocacy (including engaging in professional development efforts, as well as training and supervising newer practitioners who are trans affirming)

Current Initiatives & Activities

- ***Radical Healing, LLC***

An intentionally LGBTQ+ healing and wellness center that houses a collective of independent mental health and other wellness practitioners. RadicalHealing.us

- ***Gender and Sexual Diversity Initiative***

The Gender and Sexual Diversity Initiative offers on staff providers trained to provide culturally competent services to LGBTQ+ clientele. They offer assessment and referrals for transgender individuals seeking medical treatment. Additionally they offer educational trainings for healthcare providers around best practices for working with LGBTQ+ individuals. https://www.carolinapartners.com/gender-sexual-diversity-initiative

References

i. Meyer, I.H. (2003). Prejudice, social stress, and mental health in lesbian, gay and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*, 674-697. doi:10.1037/0033-2909.129.5.674.

ii. Diamant, A.L., and C. Wold, 2003. "Sexual Orientation and Variation in Physical and Mental Health Status among Women." *Journal of Women's Health*. 12(1):41-49.

iii. Julia A. Dilley, PhD, MES, Katrina Wynkoop Simmons, PhD, Michael J. Boysun, MPH, Barbara A. Pizacani, PhD, and Mike J. Stark, PhD. "Demonstrating the Importance and Feasibility of Including Sexual Orientation in Public Health Surveys: Health Disparities in the Pacific Northwest", American Journal of Public Health 100, no. 3 (March 1, 2010): pp. 460-467.

iv. DH Chae and G Ayala, 2010. "Measurement of sexuality among Latinos and Asians in the USA: Implications for unfair treatment and psychological distress." Journal of Sex Research, 47:451-459.

v. 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.

vi. Kerith J. Conron, ScD, MPH, Matthew J. Mimiaga, ScD, MPH, and Stewart J. Landers, JD, MCPKerith J. "A Population-Based Study of Sexual Orientation Identity and Gender Differences in Adult Health", American Journal of Public Health 100, no. 10 (October 1, 2010): pp. 1953-1960.

vii. Riggle, E.D.B., Rostosky, S.S., & Horne, S.G. (2010). "Does it matter where you live? State non-discrimination laws and the perceptions of LGB residents." Sexuality Research and Social Policy, 7, 168-172. DOI: 10.1007/s13178-010-0016-z.

viii. SP Wallace, SD Cochran, EM Durazo, CL Ford, 2011. The health of aging lesbian, gay and bisexual adults in California, Policy Brief for UCLA Center for Health Policy Research.

ix. Garnets, L. D., Herek, G. M., & Levy, B. (2003). Violence and victimization of lesbians and gay men: Mental health consequences. In L. D. Garnets & D. C. Kimmel (Eds.), *Psychological perspectives on lesbian, gay, and bisexual experiences* (pp. 188–206). New York: Columbia University Press.

x. Conron KJ, Mimiaga MJ, Landers SJ. A population-based study of sexual orientation identity and gender differences in adult health. Am J Public Health. 2010;100(10):1953–1960.

xi. 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. Am J Public Health. 2013;103(10):1802–1809.

xii. Bostwick WB, Boyd CJ, Hughes TL, McCabe SE. Dimensions of sexual orientation and the prevalence of mood and anxiety disorders in the United States. Am J Public Health. 2009;100(3):468–475

xiii. Matthews, Derrick D., Lee, Joseph G.L. (2011). "A Profile of North Carolina Lesbian, Gay, and Bisexual Health Disparities, 2011", American Journal of Public Health, 104, no. 6 (June 1, 2014):pp. e98-e105. doi:10.2105/AJPH.2013.301751.

xiv. Barnhill, M. M., Lee, J. G. L., & Rafferty, A. P. (2017). Health Inequities among Lesbian, Gay, and Bisexual Adults in North Carolina, 2011–2014. International Journal of Environmental Research and Public Health, 14(8), 835. http://doi.org/10.3390/ijerph14080835

xv. Matthews, Derrick D., Lee, Joseph G.L. (2011). "A Profile of North Carolina Lesbian, Gay, and Bisexual Health Disparities, 2011", American Journal of Public Health, 104, no. 6 (June 1, 2014):pp. e98-e105. doi:10.2105/AJPH.2013.301751.

xvi. Barnhill, M. M., Lee, J. G. L., & Rafferty, A. P. (2017). Health Inequities among Lesbian, Gay, and Bisexual Adults in North Carolina, 2011–2014. International Journal of Environmental Research and Public Health, 14(8), 835. http://doi.org/10.3390/ijerph14080835

xvii. Silverstein, C. (2011 Spring). Events in New York City leading to the deletion of homosexuality as a mental disorder by the American Psychiatric Association. Division 44 Newsletter, 27(1), 13-15.

xviii. The Williams Institute. LGBT in the South. https://williamsinstitute.law.ucla.edu/research/census-lgbt-demographics-studies/lgbt-in-the-south/. Accessed January 18, 2018

xix. Out in The South (a report from Funders for LGBTQ Issues). https://www.lgbtfunders.org/wp-content/uploads/2016/05/Out_in_the_South_Foundation_Funding_for_LGBTQ_Issues_in_the_U.S._South.pdf . Accessed January 18, 2018.

xx. National Alliance on Mental Illness. (2016). "LGBTQ" support information page. Retrieved October 2017 from https://www.nami.org/Find-Support/LGBTQ.

xxi. Green, K. E., & Feinstein, B. A. (2012). Substance Use in Lesbian, Gay, and Bisexual Populations: An Update on Empirical Research and Implications for Treatment. *Psychology of Addictive Behaviors*, *26*(2), 265–278. http://doi.org/10.1037/a0025424.

xxii. Medley, G., Lipari, R. N., Bose, J., Cribb, D. S., Kroutil, L. A., & McHenry, G. (2016, October). *Sexual orientation and estimates of adult substance use and mental health: Results from the 2015 National Survey on Drug Use and Health*. NSDUH Data Review. Retrieved from http://www.samhsa.gov/data/ (also available in full as PDF https://www.samhsa.gov/data/sites/default/files/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015.pdf. Retrieved January 2018.)

xxiii. Grant, Jaime M., Lisa A. Mottet, and Justin Tanis with Jody L. Herman, Ph.D., Jack Harrison, and Mara Keisling (October 2010). "National Transgender Discrimination Survey Report on health and health care: Findings of a Study by the National Center for Transgender Equality and the National Gay and Lesbian Task Force." http://www.thetaskforce.org/static_html/downloads/resources_and_tools/ntds_report_on_health.pdf, Retrieved October 2017.

xxiv. UN Human Rights Council, "Discrimination and violence against individuals based on their sexual orientation and gender identity" (May 4, 2015). A/HRC/29/23, available at: http://www.refworld.org/docid/5571577c4.html. Accessed January 26, 2018 (also see http://www.ohchr.org/Documents/Publications/LivingFreeAndEqual.pdf).

xxv. Coker, Donna and Park, Sandra S. and Goldscheid, Julie and Neal, Tara and Halstead, Valerie (2015). "Responses from the Field: Sexual Assault, Domestic Violence, and Policing (October 1, 2015). University of Miami Legal Studies Research Paper No. 16-2. Available at SSRN: https://ssrn.com/abstract=2709499 or http://dx.doi.org/10.2139/ssrn.2709499

xxvi. James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). The Report of the 2015 U.S. Transgender Survey. Washington, DC: National Center for Transgender Equality. Statistics from the North Carolina specific report: http://www.transequality.org/sites/default/files/docs/usts/USTS_NC_state_report.pdf

xxvii. Grant, Jaime M., Lisa A. Mottet, Justin Tanis, Jack Harrison, Jody L. Herman, and Mara Keisling (2011). "Injustice at Every Turn: A Report of the National Transgender Discrimination Survey. Washington: National Center for Transgender Equality and National Gay and Lesbian Task Force." Statics cited from pp. 72, full PDF available at http://www.thetaskforce.org/static_html/downloads/reports/reports/ntds_full.pdf, Retrieved October 2017.

xxviii. James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). "The Report of the 2015 U.S. Transgender Survey." Washington, DC: National Center for Transgender Equality. Executive Summary, Full Report, and State specific reports are all stored at http://www.ustranssurvey.org/reports (2015 full report available for download https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF, Retrieved October 2017.)

xxix. Movement Advancement Project, "Understanding Issues Facing Bisexual Americans," September 2014, http://www.lgbtmap.org/understanding-issues-facing-bisexual-americans http://www.lgbtmap.org/file/understanding-issues-facing-bisexual-americans.pdf. Accessed January 23, 2018.

xxx. Laura E. Tomedi and James L. Padilla, "Health Inequities by Sexual Orientation in New Mexico, 2005–2011," (July 2013). http://nmtupac.com/wp-content/uploads/2016/12/2013-Health-Inequities-by-Sexual-Orientation-in-NM.pdf. Accessed January 23, 2018.

xxxi. Brennan, David J. et al., "Men's Sexual Orientation and Health in Canada," Canadian Journal of Public Health 101, no. 3 (2010); Steele, Leah S. et al. "Women's Sexual Orientation and Health: Results from a Canadian Population-Based Survey," Women & Health 49, no. 5 (2009). 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.

xxxii. Health Behavior News Service, "It may not 'get better' for bisexual teens," ScienceDaily, October 1, 2013. http://www.sciencedaily.com/releases/2013/10/131001151046.htm. Accessed January 22, 2018.

xxxiii. Miller, Marshall and Amy André, Julie Ebin, and Leona Bessonova (2007). "Bisexual health: An introduction and model practices for HIV/STI prevention programming," A report for the National Gay and Lesbian Task Force Policy Institute, the Fenway Institute at Fenway Community Health, and BiNet USA. http://www.thetaskforce.org/static_html/downloads/reports/reports/bi_health_5_07_b.pdf. Retrieved January 29, 2018.

xxxiv. Ray, Nicholas (2006). "Lesbian, Gay, Bisexual and Transgender Youth: An Epidemic of Homelessness." Report for the National Gay & Lesbian Task Force Policy Institute and the National Coalition for the Homeless. Available at www.thetaskforce.org/downloads/HomelessYouth.pdf. Retrieved January 29, 2018.

xxxv. D'augelli AR, Grossman AH, Salter NP, Vasey JJ, Starks MT, Sinclair KO (December 2005). "Predicting the suicide attempts of lesbian, gay, and bisexual youth". Suicide Life Threat Behav. 2005;35(6):646-60.

xxxvi. Russell, Stephen T. (2003). "Sexual minority youth and suicide risk." American Behavioral Scientist. 2003;46:1241–57.

xxxvii. Russell, Stephen T. and Joyner, K (2001). "Adolescent sexual orientation and suicide risk: evidence from a national study." American Journal of Public Health. 2001;91:1276–81.

xxxviii. Website reference brochure National center for Transgender Equality: Medicare and Transgender people

xxxix. Remafedi, Gary (June 1, 1994). "Death by Denial: Studies of Suicide in Gay and Lesbian Teenagers." Alyson Books

Section 14.03 *Economic disparities*

Overview

Though the association between socioeconomic status and sexual orientation/gender identity has largely been understudied, existing research paints a mixed picture of economic disparities across the life course. During adolescence, LGBTQ+ youth are significantly more likely to be homeless.[i] During adulthood, LGBTQ+ individuals and couples often have lower incomes, lower rates of health insurance, and higher rates of public assistance and economic strain (e.g. food insecurity, forgone care due to cost, etc.).[ii] At the macro level, the current political climate nationwide and in North Carolina, in particular add additional risk for such disparities. In the absence of non-discrimination policies, LGBTQ+ individuals are not protected against discrimination in employment or housing, which in turn may contribute to economic vulnerability and poverty. These economic stressors are linked with negative health outcomes in the LGBTQ+ population, such as higher smoking rates and depression.[iii] Given the size of Durham's LGBTQ+ population — Durham County has the second largest concentration of same-sex households across all counties in the state (and the 42nd highest concentration nationwide) — these economic disparities are crucial to consider when working to improve the health of all Durham County residents.[iv]

Primary Data

Primary data related to economic vulnerability, such as poverty rates, employment, housing and homelessness, and food insecurity have not been collected at the county or state level for the LGBTQ+ population.

Secondary Data

Many LGBTQ+ individuals have experienced some form of job or housing discrimination in their lifetime. In one study of 662 lesbian, gay, and bisexual adults, over 11% had experienced job discrimination and/or housing discrimination at one point in their life with rates highest among gay men (15.7%) and lowest among bisexual men (3.4%). Lesbian (16.0%) and bisexual (6.4%) women fall in between.[v] Among transgender individuals specifically, the 2015 National Transgender Discrimination Survey found that 15% of transgender adults in North Carolina were unemployed (three times higher than the 5% national unemployment rate at the time of the survey), and 29% were living in poverty (twice the national poverty rate of 14%). Over 13% had lost their job due to their gender identity/expression, and 30% either were fired, denied a promotion, or were not hired due to their transgender identity in the previous year alone. In addition, over 23% had experienced housing discrimination (e.g. evicted or denied housing due to being transgender), and 12% had experienced homelessness in the previous year as a result of being transgender.[vi]

Several federal surveys have measured economic outcomes among LGBTQ+ adults at the national level. In one study using the 2013 and 2014 waves of the National Health Interview Survey (NHIS), a nationally representative survey of health conditions, functional status, and service access/utilization, several disparities emerged between bisexual, lesbian, and heterosexual

women.[vii] In general, bisexual women fared the worst: over a quarter of bisexual women (25.9%) reported a household income below the federal poverty level (compared with 14.9% heterosexual and 15.2% lesbian women), and 16.6% were unemployed—approximately twice the unemployment rate of lesbian women (8.4%) and almost four times that of heterosexual women (4.5%).[viii] Bisexual (19.3%) and lesbian (17.4%) women were also more likely to be uninsured than heterosexual women (13.2%), and to have been unable to obtain medical care due to cost in the previous year (14.7% bisexual vs. 17.2% lesbian vs. 7.9% heterosexual women).[ix] Bisexual men were also more likely than heterosexual or gay men to be uninsured or to have forgone care, yet gay men were less likely to be uninsured than heterosexual men.[x]

The Figure below presents findings from the 2012-2014 Gallup Daily Tracking poll (annual national survey of adults aged 18 and over). LGBTQ+ adults were almost 1.5 times more likely than non-LGBT adults to not have enough money for health care, over 1.6 times more likely than non-LGBT to not have enough money for food, and were approximately 1.7 times more likely to report a household income below $24,000. Note that LGBT is used to reflect the term referenced in the poll.[xi]

Economic Disparities in LGBTQ+ Communities, United States, 2012-2014

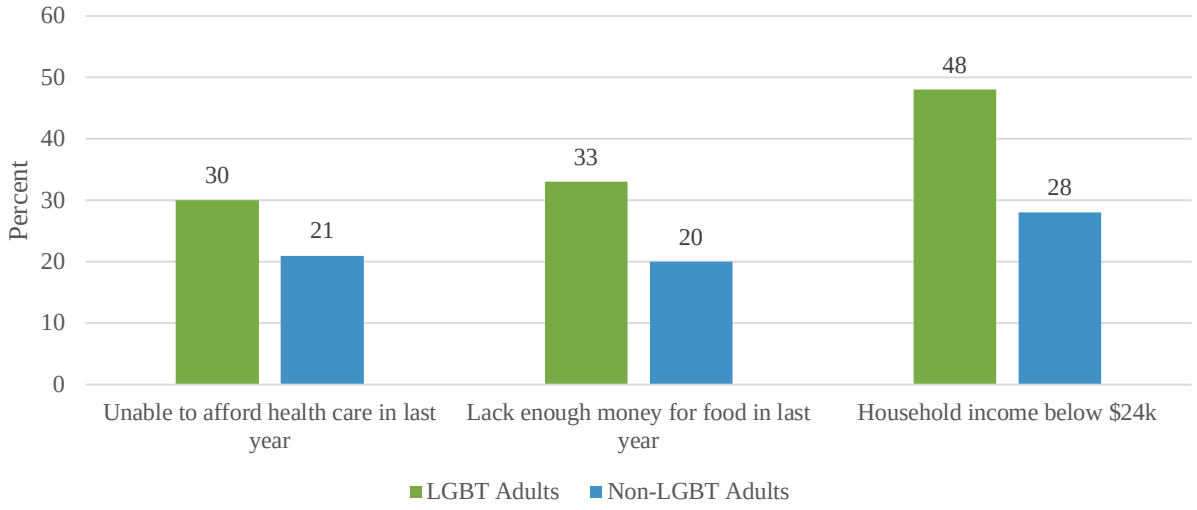


Figure 14.03(a): Economic Disparities in LGBTQ+ Communities, United States, 2012-2014[xi]

Data on the socioeconomic status (SES) of LGBT North Carolinians is mixed. Findings from the 2011-2014 waves of the Behavioral Risk Factor Surveillance System (BRFSS), a national survey of demographics and health of U.S. adults (aged 18 and older), indicate that gay or bisexual-identified men in North Carolina were significantly more likely than heterosexual men to be a college graduate.[xii] However, gay or bisexual men did not report significantly higher household incomes or significantly higher rates of employment than heterosexual men, which suggests additional factors, such as workplace discrimination or stigma about their identity.[xiii] Women fared a bit better: lesbian/bisexual women were significantly more likely to be employed than heterosexual women and were more likely to be college educated. Lesbian/bisexual women were more likely to be poor (income <$15,000) and less likely to be high-income earners (>$75,000), though differences were non-significant.[xiv]

Gay and bisexual men make 10 percent to 32 percent less than straight men working similar jobs. The pay gap for gay and bisexual men holds true even when controlling for occupation, education, and geographical region.[xv] While lesbian and bisexual women tend to fair better than straight women in pay, lesbian and bisexual women still make less than gay, bisexual, or straight men due to the gender pay gap.[xvi]

Lesbians appear to earn more than their heterosexual counterparts which may be in equal parts because they may benefit from higher levels of education, as well as the types of jobs they might hold.[xvii] According to economist Joe Clark lesbians are "overrepresented in male-dominated professions that pay better than female-dominated professions."[xviii] Though as first blush that might sound positive, it does not change that those higher earning lesbians are "still more likely to be subjected to on-the harassment or discrimination because of their sexual orientation".[xix]

Interpretations: Disparities, Gaps, Emerging Issues

North Carolina currently does not prohibit employment, housing, or public accommodation discrimination on the basis of sexual orientation/gender identity, nor does statewide hate crime legislation include sexual orientation/gender identity as protected classes.[xx] Though there is limited data on the direct impact of these policies among LGBTQ+ North Carolinians, evidence suggests that the absence of these policies may substantially affect their economic well-being. An analysis of the 2012-2014 Gallup Tracking Poll found that 15% LGBT adults in North Carolina were unemployed, relative to 8% non-LGBT peers, and 47% LGBT adults (vs. 28% non-LGBT adults) had household incomes below $24,000 (the average federal poverty level for a household of four).[xxi] Furthermore, a national report from 2014 found that when economic outcomes were compared in states with and without laws offering protections, LGBTQ+ adults in states without protections were more likely to report a household income below $24,000 than LGBTQ+ adults in states with protections (35% vs. 29%, respectively).[xxii] In addition, 30% of LGBTQ+ adults in states without protections had experienced food insecurity (e.g. not enough money for food), compared to 19% of LGBTQ+ adults in states with protections, and 18% non- LGBTQ+ adults nationwide.[xxiii]

Youth

LGBTQ+ youth are particularly vulnerable to economic disparities in the form of homelessness compared to non-LGBTQ+ youth. A 2012 survey of 354 homeless youth shelters across the United States found that 43% of all youth clients at drop-in centers and 30% of youth clients at housing programs identified as LGBTQ+ — 46% of whom ran away due to family rejection of their LGBTQ+ identity, and 43% of whom were kicked out.[xxiv] LGBTQ+ youth experiencing homelessness struggle not only to find a stable housing situation but also in securing employment.[xxv] These youth often end up being victims of assault. For example, one in three LGBTQ+ homeless youth have been victims of a hate crime because of their sexual orientation and/or gender identity.[xxvi]

Multiple Identities

Additional components of an LGBTQ+ person's identity can compound the discrimination they face. This is particularly true for transgender people of color and undocumented transgender individuals. According to the 2015 U.S. Transgender Survey, a national survey of 27,715 transgender/gender non-conforming adults, not only were respondents overall twice as likely as the U.S. population to be living in poverty (29% vs 14%), these rates were substantially higher for people of color. Latino/a/x (43%), American Indian (41%), multiracial (40%), and Black/African-American (38%) respondents were nearly three times as likely to be living in poverty.[xxvii] Fifty percent of undocumented respondents of the same survey had experienced homelessness in their life.[xxviii]

Recommended Strategies

- Federal and state non-discrimination legislation for employment and housing that recognizes gender identity and sexual orientation as protected classes
- Advance racial equity within institutions to minimize or reverse discriminatory policies
- Housing programs and services for LGBTQ+ youth should be tailored to their needs, including dedicated funding for such services
- Establish schools as a refuge for LGBTQ+ youth by enforcing strict anti-bullying and anti-harassment policies and developing an inclusive environment
- Raising the minimum wage to $15 would reduce poverty rates in the LGBTQ+ community

Current Initiatives & Activities

- ***LGBTQ Center of Durham***

The LGBTQ Center of Durham is committed to improving the lives of LGBTQ+ people who live in and around Durham. The Center serves as a hub for LGBTQ+ programming, networks of support, resources, and educating others about LGBTQ+ issues.
https://www.lgbtqcenterofdurham.org/

- ***Equality NC***

Equality NC is dedicated to securing equal rights and justice for LGBTQ+ North Carolinians by lobbying local and state governments, mobilizing the community around LGBTQ+-focused issues, and sharing LGBTQ+ stories and content. http://equalitync.org/

- ***Southerners on New Ground***

SONG is a home for LGBTQ+ liberation across all lines of race, class, abilities, age, culture, gender, and sexuality in the South. They build, sustain, and connect a southern regional base of LGBTQ+ people in order to transform the region through strategic projects and campaigns developed in response to the current conditions in our communities. SONG builds this movement through leadership development, intersectional analysis, and organizing.
http://southernersonnewground.org/

References

i. https://www.americanprogress.org/issues/lgbt/news/2010/06/21/7980/gay-and-transgender-youth-homelessness-by-the-numbers/. Accessed January 29, 2018.

ii. Movement Advancement Project and the Center for American Progress. Paying an Unfair Price: The Financial Penalty for Being LGBT in America (2014). http://www.lgbtmap.org/file/paying-an-unfair-price-full-report.pdf. Accessed January 28, 2018.

iii. Barnhill M.M., Lee J.G.L., & Rafferty A.P. Health Inequities among Lesbian, Gay, and Bisexual Adults in North Carolina, 2011–2014. *Int. J. Environ. Res. Public Health.* 2017, *14, 835.*

iv. Gates G.J. & Cooke A.M. *North Carolina Census Snapshot: 2010.* The Williams Institute. https://williamsinstitute.law.ucla.edu/wp-content/uploads/Census2010Snapshot_North-Carolina_v2.pdf. Accessed October 2017.

v. Herek G.M. Hate crimes and stigma-related experiences among sexual minority adults in the United States: Prevalence estimates from a national probability sample. *J Interp Violence,* 2009, 24(1): 54-74.

vi. James SE, Herman JL, Rankin S, Keisling M, Mottet L, & Anafi M. *Executive Summary of the Report of the 2015 U.S. Transgender Survey.* Washington, DC: National Center for Transgender Equality: 2016.

vii. Gonzales G., Przedworski J., & Henning-Smith, C. *Comparison of health and health risk factors between lesbian, gay, and bisexual adults and heterosexual adults in the United States: Results from the National Health Interview Survey*. JAMA Intern Med, 2016, 176(9):1344-1351.

viii. Gonzales G., etal *Comparison of health and health risk factors between lesbian, gay, and bisexual adults and heterosexual adults in the United States: Results from the National Health Interview Survey*. JAMA Intern Med, 2016, 176(9):1344-1351.

ix. Gonzales G., etal *Comparison of health and health risk factors between lesbian, gay, and bisexual adults and heterosexual adults in the United States: Results from the National Health Interview Survey*. JAMA Intern Med, 2016, 176(9):1344-1351.

x. Gonzales G., etal *Comparison of health and health risk factors between lesbian, gay, and bisexual adults and heterosexual adults in the United States: Results from the National Health Interview Survey*. JAMA Intern Med, 2016, 176(9):1344-1351.

xi. Hasenbush A., Flores A.R., Kastanis A., Sears B., & Gates G.J. *The LGBT Divide: A data portrait of LGBT people in the Midwestern, Mountain & Southern States.* The Williams Institute: December 2014, https://williamsinstitute.law.ucla.edu/wp-content/uploads/LGBT-divide-Dec-2014.pdf. Accessed October 2017.

xii. Mallory, Christy and Brad Sears. Discrimination, Diversity, and Development: The Legal and Economic Implications of North Carolina's HB2. (Los Angeles: The Williams Institute, 2016), available at http://williamsinstitute.law.ucla.edu/wp-content/uploads/Discrimination-Diversity-and-Development_The-Legal-and-Economic-Implications-of-North-Carolinas-HB2.pdf. Retrieved February 2018.

xiii. McBride S., Durso LE., Hussey H., Gruberg, S., & Robinson, BG. We the people: Why Congress and U.S. states must pass comprehensive LGBT nondiscrimination protections. Washington, D.C.: Center for American Progress. December 2014. https://cdn.americanprogress.org/content/uploads/2014/12/24121649/LGBT-WeThePeople-report1.pdf. Accessed January 29, 2018

xiv. Mallory, Christy and Brad Sears. Discrimination, Diversity, and Development: The Legal and Economic Implications of North Carolina's HB2. Sears, Brad and Christy Mallory. Documented Evidence of Employment Discrimination & Its Effects on LGBT People (Los Angeles: The Williams Institute, 2011), available at http://williamsinstitute.law.ucla.edu/wp-content/uploads/Sears-Mallory-Discrimination-July-20111.pdf. Accessed January 29, 2018.

xv. Sears, Brad and Christy Mallory. Documented Evidence of Employment Discrimination & Its Effects on LGBT People. (Los Angeles: The Williams Institute, 2011), available at https://williamsinstitute.law.ucla.edu/wp-content/uploads/Sears-Mallory-Discrimination-July-20111.pdf. Accessed January 29, 2018

xvi. Sears and Mallory. Documented Evidence of Employment Discrimination & Its Effects on LGBT People.

xvii. Lang, Nico. The Lesbian Employment Gap: Why It's Still Hard To Be Queer in the Workplace. https://www.huffingtonpost.com/nico-lang/the-lesbian-employment-ga_b_9042454.html. Accessed January 29, 2018.

xviii. Clark, Joe. Gay money: The truth about lesbian & gay economics. Basic facts from https://joeclark.org/gaymoney/facts/. Retrieved February 2018.

xix. Burns, Crosby.The Gay and Transgender Wage Gap. Washington, D.C.: Center for American Progress. January 2013. https://www.americanprogress.org/issues/lgbt/news/2012/04/16/11494/the-gay-and-transgender-wage-gap/. Retrieved February 2018.

xx. *State Maps of Laws & Policies: North Carolina*. Human Rights Campaign: 2017. Interactive mapping that allows one to view the laws and policies that affect the LGBTQ community and see where the states stand on important issues: http://www.hrc.org/state-maps/employment. Accessed October 2017.

xxi. Same-sex Couple and LGBT Demographic Data Interactive. (May 2016). Los Angeles, CA: The Williams Institute, UCLA School of Law. https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/. Accessed January 29, 2018.

xxii. Same-sex Couple and LGBT Demographic Data Interactive. (May 2016). Los Angeles, CA: The Williams Institute, UCLA School of Law. https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/. Accessed January 29, 2018.

xxiii. Brown TN, Romero AP, & Gates GJ. *Food insecurity and SNAP participation in the LGBT community.* The Williams Institute: July 2016. https://williamsinstitute.law.ucla.edu/wp-content/uploads/Food-Insecurity-and-SNAP-Participation-in-the-LGBT-Community.pdf. Accessed October 2017.

xxiv. Durso, L.E., & Gates, G.J. (2012). Serving Our Youth: Findings from a National Survey of Service Providers Working with Lesbian, Gay, Bisexual, and Transgender Youth who are Homeless or At Risk of Becoming Homeless. Los Angeles: The Williams Institute with True Colors Fund and The Palette Fund.

xxv. Cray A., Miller K, & Durso LE. *Seeking shelter: The experiences and unmet needs of LGBT homeless youth*. Center for American Progress: September 2013.

xxvi. Cray A., Miller K, & Durso LE. *Seeking shelter: The experiences and unmet needs of LGBT homeless youth*. Center for American Progress: September 2013.

xxvii. James SE, Herman JL, Rankin S, Keisling M, Mottet L, & Anafi M. *Executive Summary of the Report of the 2015 U.S. Transgender Survey.* Washington, DC: National Center for Transgender Equality: 2016. https://transequality.org/sites/default/files/docs/usts/USTS-Executive-Summary-Dec17.pdf. Retrieved January 8, 2018.

xxviii. 2015 U.S. Transgender Survey: North Carolina State Report. (2017). Washington, DC: National Center for Transgender Equality. Retrieved January 8, 2018.

Section 14.04 *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 by family and intimate partners both in and outside the home; and 2) *community violence*, that is, violence by other persons, whether known or unknown to the victim. The nature of violence can be physical, sexual, psychological or through deprivation or neglect.[i]

Violence prevention is the province of public health, as doing so not only improves the physical and mental well-being of the collective community, but the lives of those most at risk. However, devising violence prevention programs, interventions, and policies requires not only identifying those individuals and groups at risk, but mobilization and collective action by the community at large.

Though evidence specific to North Carolina and Durham County are scarce, it is critical to discuss what is known about violence against the LGBTQ+ community in this report. National evidence suggests that sexual and gender minorities are at greater risk for multiple forms of interpersonal violence than the general public.[ii,iii] 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 will to collect information on LGBTQ+ interpersonal violence at the local level.

Primary Data

Four percent of the sample in the 2016 Community Health Assessment Survey self-identified as sexual minorities and 5% noted a member of a sexual minority lived in their household. This means a notable proportion of the Durham community is at heightened risk for violence in ways that will be fully described below.

As noted above, the lack of primary data on this topic is a main concern.

Secondary Data

Violence against LGBTQ+ Youth

The life-course approach model theorizes that health is the "product of risk behaviors, protective factors, and environmental agents that we encounter throughout our entire lives and that have cumulative, additive, and even multiplicative impacts on specific outcomes."[iv] For LGBTQ+ youth, the risk of violence begins early, subjecting these youth to negative impacts that could create further trauma later in their life.[v] LGBTQ+ youth are more likely than their cisgender and/or heterosexual counterparts to have been the victim of physical and sexual abuse by a caregiver.[vi,vii] Bisexual and lesbian adult women were twice as likely to be victims of sexual abuse as children,

and gay and bisexual men five times as likely to be victims of sexual abuse as children, compared to their heterosexual counterparts.[viii] LGBTQ+ youth are also at risk of family rejection as a result of their sexual/gender minority identity, and as such, many LGBTQ+ youth either run away or are kicked out of their home. Similar rates have been seen among transgender individuals: over 10% 2015 U.S. Transgender Survey (USTS) transgender respondents reported experiencing violence from a family member, and 8% were kicked out of their house during adolescence because they were a gender minority.[ix]

LGBTQ+ youth also face increased risk for violence, harassment, and victimization within schools and among peers. In a meta-analysis, Friedman and colleagues found that gender and sexual minority youth are also 1.7 times more likely to be threatened with a weapon or otherwise assault at their school than sexual non-minority youth.[x] In North Carolina, the cohort of the 2015 Youth Risk Behavior Survey (YRBS), a national survey of school-based adolescents in grades 9-12, LGB-identified students were over twice as likely as heterosexual identified students to have been threatened or injured with a weapon on school property. The prevalence of having been bullied on school property was higher among gay, lesbian, and bisexual students (34.2%) than heterosexual students (18.8%) and not sure students (24.9%) and higher among not sure students (24.9%) than heterosexual students (18.8%).[xi] Evidence from the 2015 U.S. Transgender Survey (USTS) found that transgender youth similarly experience an especially high rate of violence in school; among the more than 27,000 transgender adults surveyed, over half (54%) stated they experienced harassment in school during grades 9-12, and approximately one quarter experienced physical assault.[xii]

Figure 14.04(a) Youth Experience of Violence [xi]

Within schools, LGBTQ+ youth may also face discrimination from teachers and administrations in addition to their peers. In the 2013 School Climate Survey of 8,000 LGBT students between the ages of 13 and 21 recruited from across the country, 39.8% students had ever received suspension, been suspended, or expelled with rates highest among LGBTQ youth of color (46.7% Black vs. 44.1% Hispanic vs. 47.3% multiracial students, compared with 36.3% White students).[xiii] At the same time, over half of LGBT students had experienced some form of administrative/policy-related discrimination: 15.5% were prevented from wearing clothing that supported LGBT issues, almost 18% had ever been prevented from forming a GSA (Gay-Straight Alliance) or similar official club, and over 28% stated they had been disciplined for public displays of affection that were not punished when done by heterosexual/cisgender couples.[xiv] Among transgender students in particular, policies around gender presentation, and bathroom use in particular (similar to North Carolina's HB2 "bathroom bill") were a huge source of concern: 42% transgender students had been prevented from using preferred name, 59% had been required to use the bathroom of their

legal sex, and 32% had been disciplined for wearing clothing deemed "inappropriate" for their legal sex.[xv]

At school, this can create an unsafe environment that leads sexual and gender minority youth being to be more likely to skip school, or even potentially drop out.[xvi,xvii] For example, in the N.C. YRBS, almost 13% LGB-identified students vs. less than 6% heterosexual-identified students did not go to school at least once in the month before the survey because they felt unsafe.[xviii] Within the School Climate Survey, over 3% LGBTQ students stated they did not plan to graduate high school, with rates substantially higher among transgender students (7.6%). Students who were homeless (8.8%), and those who had experienced victimization as a result of their sexual orientation/gender identity, cited reason for not graduating as the hostile environment encountered at school.[xix] Within the USTS, nearly one-fifth (17%) of transgender adults who had dropped out of school did so due to their mistreatment.[xx] Taken together, such school-based violence and discrimination can be thought of as contributing to a "school-to-prison" or "school-to-poverty" pipeline by leading to under- or off-time educational attainment. This leads to subsequent negative long-term consequences for health and socioeconomic status.

Intimate Partner Violence

High quality information on intimate partner violence (IPV) within the LGBTQ+ community is difficult to obtain, as sexual orientation and gender identity is often not included in many national surveillance surveys or data. Additionally, IPV screening and intervention among LGBTQ+ persons (and gay men in particular) is much less common within medical settings despite increasing screening rates among heterosexual women.[xxi,xxii] However, systematic reviews of the existing literature suggest that rates of IPV among sexual minorities in general are the same or somewhat higher than non-minorities.[xxiii–xxv] 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.[xxvi,xxvii]

Evidence from existing national surveys largely corroborate these findings. The 2010 National Intimate Partner and Sexual Violence Survey (NISVS),[xxviii] a survey of 18,000+ adults across all 50 states and the District of Columbia, found that sexual minorities, and bisexuals in particular, were more likely than heterosexuals to have experienced numerous forms of IPV. Among women, approximately 61% bisexuals (translating to an estimated two million victims) and 44% lesbians (estimated 714,000), versus 35% heterosexuals (38,290,000) had ever experienced rape, physical violence, and/or stalking by an intimate partner. Bisexual women were also significantly more likely than heterosexual women to have experienced other forms of sexual violence (such as unwanted sexual contact or sexual coercion), and severe physical violence specifically (e.g. kicked, choked/suffocated, had knife/gun used on them, etc.). Among men, somewhat similar trends emerged, with bisexual men at highest risk, however, gay men, rather than straight men, were the least at risk. A review of existing research conducted by the Williams Institute found that lifetime prevalence of IPV in the transgender community ranged from 31.1% – 50%.[xxix]

Sexual Violence and Sexual Assault outside of intimate relationships

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. Furthermore, 10% had been assaulted in the previous year with the vast majority of assaults (66%) committed by someone other than an intimate partner. 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.[xxx] A recent systematic review of over 75 studies of sexual assault by sexual orientation found that LGB adults were at substantially increased risk for lifetime sexual assault and childhood sexual assault, with risk highest among lesbian and bisexual women.[xxxi]

Hate Crimes and Community level violence

The Federal Bureau of Investigation (FBI) noted that in 2015, 17.7% of single-bias incidents of hate crimes were attributed to the victim's sexual orientation and 1.7% by gender-identity bias; one-fifth of hate crimes were directed towards gender and sexual minorities collectively.[xxxii] Coupled with being a smaller community but victim to a higher rate of hate crimes, members of the LGBTQ+ communities are more likely than any other minority (including religious, racial or ethnic) to be victim of hate crimes.[xxxiii] The *New York Times*, using FBI hate crimes data, found that LGBTQ+ individuals are twice as likely to be a victim of a hate crime than African-Americans.[xxxiv] Within North Carolina specifically, approximately 23% (n=37) of the 162 hate crimes in 2015 were attributed to sexual orientation. This is a substantial increase from 2014, where sexual orientation bias accounted for only 16% of crimes (n=23).[xxxv–xxxvii]

The Human Rights Campaign in collaboration with Trans People of Color Coalition, have documented 102 transgender victims of violence since 2013, the year official nationwide tracking and documentation began. Of these 102 victims, 87 were people of color, 88 were transgender women, the majority were under the age of 35, and 55 were killed in the South, 3 specifically in North Carolina.[xxxviii] Since the publication of the report and corresponding figures shown below, a 31-year old black transgender woman was murdered in Oklahoma. This brings the 2017 count to 26, the deadliest year for transgender women and a steady rise since 2015. Figures 14.04(b) through 14.04(d) illustrate the harsh realities of the rates of murder of transgender folks in the U.S.

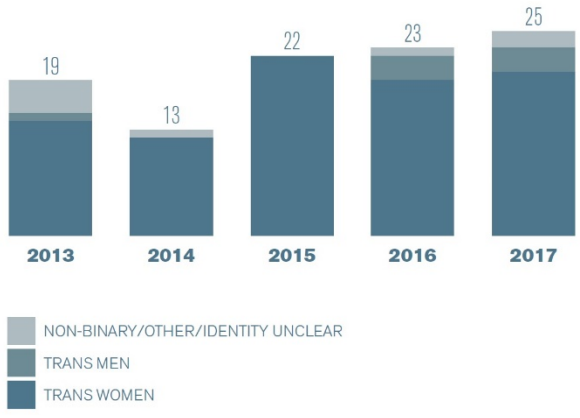


Figure 14.04(b) Violence Against Transgender People 2013-2017 [xxxviii]

Notes:

1. This figure is based on data as of November 6, 2017. It is compiled based on information provided by Police and news reports which may not always be complete or fully accurate.

2. Since the publication of the report and the corresponding figures shown in Figure 14.04(b) to the left, a 31-year old black transgender woman was murdered in Oklahoma. That brought the 2017 count to 26, the deadliest year for transgender women and a steady rise since 2015.

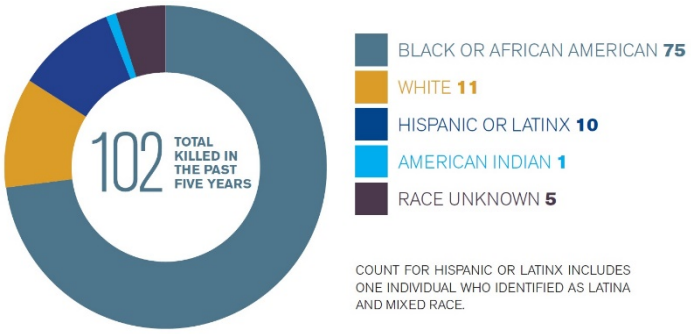


Figure 14.04(c) Transgender Violence 2013-2017, By Race

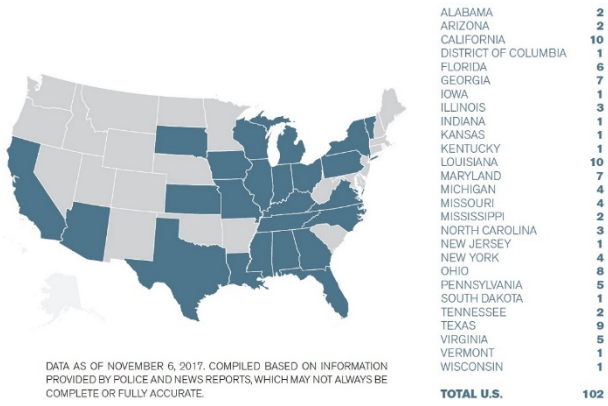


Figure 14.04(d) Transgender Violence 2013-2017, By State

Many LGBTQ+ persons also experience violence, discrimination, and harassment when engaging with existing institutions. In addition to the aforementioned increased rates of discipline and punishment experienced by LGBTQ+ youth in schools, evidence suggests that LGBTQ+ adults (and transgender adults in particular) also may be disproportionately disciplined. For example, gender minorities often experience mistreatment by the police: 58% of transgender USTS respondents stated they had experienced at least some form of maltreatment (including harassment, physical or sexual assault, and transphobic comments) from a police officer in the previous year, with 20% specifically reporting verbal harassment, 4% reporting physical assault, and 3% experiencing sexual assault by officers.[xxxix] Additionally, undocumented transgender immigrants face high rates of sexual violence while incarcerated in detention centers with 25% of substantiated incidents of sexual abuse involving a transgender individual.[xl]

Interpretations: Disparities, Gaps, Emerging Issues

Data are the foundation of public health interventions.[xli] 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**. Sexual minorities are less comfortable reporting to the police due to fears of being outed or being skeptical their assailant would be charged.[xlii,xliii] Among gender minority communities, almost half (46%) report being uncomfortable seeking police assistance.[xliv] Less than half (44%) of violent crime is reported nationally. This rate is even less among LGBTQ+ victims at 20%, lower than the rate of reporting for property crimes (35%).[xlv] Among gender minorities, the rate of reporting to the police is even lower; only 11% of physical and 9% of sexual assaults against trans men and women are reported to police.[xlvi]
2. **Specificity of reporting**. When violence is reported to the police, it may not be accurately classified as a hate crime to help the community track violence as a result of anti-LGBTQ+ biases.

3. **Reporting about police**. When LGBTQ+ people are being harassed by the police, especially LGBTQ+ persons of color, how, and are, those conflicts captured?

Without these 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.) [xlvii,xkviii]
- Use a trans-inclusive hate crime Training Manual and Hate Crimes Statistics Form for law enforcement agencies
- 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:

1. **Safer environments of LGBTQ+ youth**. This includes cultural competency training for teachers and school psychologists to understand LGBTQ+ issues and developing gay-straight alliances, which have shown to lower bullying.[xlix]
2. **Improve and expand resources for LGBTQ+ victims**. McKay notes that "affirming and culturally responsive services for LGBTQ+ victims are critical" especially since victims must "disclose one or more stigmatized experiences" such as being a member of a sexual or gender minority or being a victim of violence within their family.[l]
3. **Address policies that reinforce discrimination**. Policies such as HB2 and HB142 reinforce bigotry. Violence against LGBTQ+ persons is better served by policies that create a "nondiscriminatory climate at the societal and organizational levels." [li]

Related to policing specifically, we recommend strategies such as:

- Better and proactive investigations of law enforcement personnel who have engaged in misconduct or abuse, including by independent commissions comprised of Durham community members.
- De-escalation and cultural competency training for police when working with gender and sexual minorities.

Current Initiatives & Activities

- ***Durham Crisis Response Center***
  DCRC works with the community to end domestic and sexual violence through advocacy, education, support and prevention. In an initiative that begins in 2018, DCRC will have a collaborative effort with the LGBTQ Center of Durham to provide support and coordination of services for LGBTQ+ survivors, including crisis intervention, case management, safety support services, support groups, and advocacy. www.durhamcrisisresponse.org

References

i. Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R. *World Report on Violence and Health.* Geneva: World Health Organization; 2002. http://apps.who.int/iris/bitstream/10665/42495/1/9241545615_eng.pdf. Retrieved January 8, 2018.

ii. Rosenberg ML. Let's Be Clear: Violence Is a Public Health Problem. *JAMA.* 1992;267(22):3071. doi:10.1001/jama.1992.03480220089034.

iii. Wen LS, Goodwin KE. Violence Is a Public Health Issue: *J Public Health Manag Pract.* 2016;22(6):503-505. doi:10.1097/PHH.0000000000000501.

iv. Yu S. The Life-Course Approach to Health. *Am J Public Health.* 2006;96(5):768. doi:10.2105/AJPH.2006.088617.

v. Friedman MS, Marshal MP, Guadamuz TE, et al. A Meta-Analysis of Disparities in Childhood Sexual Abuse, Parental Physical Abuse, and Peer Victimization Among Sexual Minority and Sexual Nonminority Individuals. *Am J Public Health.* 2011;101(8):1481-1494. doi:10.2105/AJPH.2009.190009.

vi. Corliss HL, Cochran SD, Mays VM. Reports of parental maltreatment during childhood in a United States population-based survey of homosexual, bisexual, and heterosexual adults. *Child Abuse & Neglect.* 2002;26(11):1165-1178. doi:10.1016/S0145-2134(02)00385-X.

vii. Tjaden P, Thoennes N, Allison CJ. Comparing violence over the life span in samples of same-sex and opposite-sex cohabitants. *Violence Vict.* 1999;14(4):413.

viii. Hughes T, McCabe SE, Wilsnack SC, West BT, Boyd CJ. Victimization and substance use disorders in a national sample of heterosexual and sexual minority women and men. *Addiction.* 2010;105(12):2130-2140. doi:10.1111/j.1360-0443.2010.03088.x.

ix. James SE, Herman JL, Rankin S, Keisling M, Mottet L, Anafi M. *The Report of the 2015 U.S. Transgender Survey.* Washington, D.C: National Center for Transgender Equality; 2016.

x. Friedman MS, Marshal MP, Guadamuz TE, et al. A Meta-Analysis of Disparities in Childhood Sexual Abuse, Parental Physical Abuse, and Peer Victimization Among Sexual Minority and Sexual Nonminority Individuals.

xi. Kann L, Olsen EO, McManus T, et al. Sexual identity, sex of sexual contacts, and health-related behaviors among students in grades 9–12 — United States and selected sites, 2015. *Morb Mortal Wkly Rep.* 2016;65(SS-9):1-202. doi:10.15585/mmwr.ss6509a1.

xii. James, SE, etal. The Report of the 2015 U.S. Transgender Survey.

xiii. Kosciw, J. G., Greytak, E. A., Palmer, N. A., & Boesen, M. J. (2014). Educational Exclusion: Drop Out, Pushout, and the School-to-Prison Pipeline among LGBTQ Youth. New York: GLSEN. New York: GLSEN. Page 11 and 44. Accessed October 2017.

xiv. Kosciw, J. G., etal. The 2013 National School Climate Survey: The experiences of lesbian, gay, bisexual and transgender youth in our nation's schools.

xv. Kosciw, J. G., etal. The 2013 National School Climate Survey: The experiences of lesbian, gay, bisexual and transgender youth in our nation's schools.

xvi. James, SE, etal. The Report of the 2015 U.S. Transgender Survey.

xvii. Kann L, Olsen EO, McManus T, et al. Sexual identity, sex of sexual contacts, and health-related behaviors among students in grades 9–12.

xviii. Kann L, Olsen EO, McManus T, et al. Sexual identity, sex of sexual contacts, and health-related behaviors among students in grades 9–12.

xix. Kosciw, JG, etal. The 2013 National School Climate Survey: The experiences of lesbian, gay, bisexual and transgender youth in our nation's schools.

xx. James, SE, etal. The Report of the 2015 U.S. Transgender Survey .

xxi. Ard KL, Makadon HJ. Addressing intimate partner violence in lesbian, gay, bisexual, and transgender patients. *J Gen Intern Med*. 2011;26(8):930–933.

xxii. Kimberg LS. Addressing intimate partner violence with male patients: a review and introduction of pilot guidelines. *J Gen Intern Med*. 2008;23(12):2071-2078. doi:10.1007/s11606-008-0755-1.

xxiii. 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;17(3):284-297. doi:10.1177/1524838015584363.

xxiv. Murray CE, Mobley AK. Empirical Research About Same-Sex Intimate Partner Violence: A Methodological Review. *J Homosex*. 2009;56(3):361-386. doi:10.1080/00918360902728848.

xxv. Nowinski SN, Bowen E. Partner violence against heterosexual and gay men: Prevalence and correlates. *Aggress Violent Behav*. 2012;17(1):36-52. doi:10.1016/j.avb.2011.09.005.

xxvi. Stiles-Shields C, Carroll RA. Same-Sex Domestic Violence: Prevalence, Unique Aspects, and Clinical Implications. *J Sex Marital Ther*. 2015;41(6):636-648. doi:10.1080/0092623X.2014.958792.

xxvii. 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; 2012:267-280. doi:10.1093/acprof:oso/9780199765218.003.0019.

xxviii. Walters ML, Chen J, Breiding MJ. The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 findings on victimization by sexual orientation. *Atlanta GA Natl Cent Inj Prev Control Cent Dis Control Prev*. 2013;648(73):6.

xxix. Brown, Taylor N. T., and Jody L. Herman. Intimate Partner Violence and Sexual Abuse Among LGBT People: A Review of Existing Research. 2015, The Williams Institute; 2015., williamsinstitute.law.ucla.edu/wp-content/uploads/Intimate-Partner-Violence-and-Sexual-Abuse-among-LGBT-People.pdf. Accessed January 8, 2018.

xxx. James, SE, etal. The Report of the 2015 U.S. Transgender Survey .

xxxi. Rothman EF, Exner D, Baughman AL. The Prevalence of Sexual Assault Against People Who Identify as Gay, Lesbian, or Bisexual in the United States: A Systematic Review. *Trauma Violence Abuse*. 2011;12(2):55-66. doi:10.1177/1524838010390707.

xxxii. FBI. *2015 Hate Crime Statistics*. Washington, DC: Federal Bureau of Investigation; 2016. https://ucr.fbi.gov/hate-crime/2015/home. Accessed August 27, 2017.

xxxiii. Green E. The Extraordinarily Common Violence Against LGBT People in America. *The Atlantic*. June 2016. https://www.theatlantic.com/politics/archive/2016/06/the-extraordinarily-common-violence-against-lgbt-people-in-america/486722/. Accessed September 3, 2017.

xxxiv. Park H, Mykhyalyshyn I. L.G.B.T. people are more likely to be targets of hate crimes than any other minority group. *The New York Times*. https://www.nytimes.com/interactive/2016/06/16/us/hate-crimes-against-lgbt.html. Published June 16, 2016.

xxxv. Luck J, Chang C, Brown ER, Lumpkin J. Using Local Health Information To Promote Public Health. *Health Aff (Millwood)*. 2006;25(4):979-991. doi:10.1377/hlthaff.25.4.979.

xxxvi. Herek GM, Cogan JC, Gillis JR. Victim Experiences in Hate Crimes Based on Sexual Orientation. *J Soc Issues*. 2002;58(2):319-339. doi:10.1111/1540-4560.00263.

xxxvii. Herek GM, Gillis JR, Cogan JC. Psychological sequelae of hate-crime victimization among lesbian, gay, and bisexual adults. *J Consult Clin Psychol*. 1999;67(6):945-951. doi:10.1037/0022-006X.67.6.945.

xxxviii. Human Rights Campaign and Trans People of Color Coalition. A Time to Act: Fatal Violence Against Transgender People in American 2017. https://assets2.hrc.org/files/assets/resources/A_Time_To_Act_2017_REV3.pdf. Accessed January 8, 2018.

xxxix. James, SE, etal. The Report of the 2015 U.S. Transgender Survey .

xl. "LGBTQ Immigrants." *National Immigrant Justice Center*, 2013, www.immigrantjustice.org/stop-abuse-detained-lgbt-immigrants. Accessed January 8, 2018.

xli. Luck J, Chang C, Brown ER, Lumpkin J. Using Local Health Information To Promote Public Health.

xlii. Herek GM, Cogan JC, Gillis JR. Victim Experiences in Hate Crimes Based on Sexual Orientation. *J Soc Issues*. 2002;58(2):319-339. doi:10.1111/1540-4560.00263 .

xliii. Herek GM, Gillis JR, Cogan JC. Psychological sequelae of hate-crime victimization among lesbian, gay, and bisexual adults. *J Consult Clin Psychol*. 1999;67(6):945-951. doi:10.1037/0022-006X.67.6.945 .

xliv. Grant JM, Mottet LA, Tanis J, Harrison J, Herman JL, Keisling M. *Injustice at Every Turn: A Report of the National Transgender Discrimination Survey*. National Center for Transgender Equality and National Gay and Lesbian Task Force: Washington; 2011. http://www.thetaskforce.org/static_html/downloads/reports/reports/ntds_full.pdf. Retrieved January 8, 2018.

xlv. 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;11(2):1-23. doi:10.1007/s12119-007-9000-z.

xlvi. Testa RJ, Sciacca LM, Wang F, et al. Effects of violence on transgender people. *Prof Psychol Res Pract*. 2012;43(5):452-459. doi:10.1037/a0029604.

xlvii. Haas AP, Lane A, on behalf of the Working Group for Postmortem Identification of SO/GI. Collecting Sexual Orientation and Gender Identity Data in Suicide and Other Violent Deaths: A Step Towards Identifying and Addressing LGBT Mortality Disparities. *LGBT Health*. 2015;2(1):84-87. doi:10.1089/lgbt.2014.0083.

xlviii. Campaign HR. LGBT PRIDE Act Would Combat Violence, Suicide in LGBTQ Community. Human Rights Campaign. https://www.hrc.org/blog/the-lgbt-pride-act-would-combat-violence-suicide-in-lgbtq-community/. Accessed September 28, 2017.

xlix. McKay T, Misra S, Lindquist C. *Violence and LGBTQ+ Communities: What Do We Know, and What Do We Need to Know?* Research Triangle Park, NC: RTI International; 2017. https://www.rti.org/sites/default/files/rti_violence_and_lgbtq_communities.pdf. Accessed January 8, 2018.

l. McKay T, etal. *Violence and LGBTQ+ Communities: What Do We Know, and What Do We Need to Know?*

li. McKay T, etal. *Violence and LGBTQ+ Communities: What Do We Know, and What Do We Need to Know?*

Section 14.05 *Chronic disease*

Overview

LGBTQ+ health comprises not only unique challenges, but also varying rates for prevalence and incidence of certain diseases.[i,ii] Research suggests that LGBTQ+ individuals face health disparities linked to societal stigma, discrimination, and denial of their civil and human rights.[iii] In addition, subsets of the LGBTQ+ population face unique issues. For example, lesbians may be at a higher risk for developing certain types of cancers, but utilize various screening tests at a much lower rate.[iv,v,vi] Research has also demonstrated that lesbians have increased rates of tobacco usage, higher comorbidity rates and higher incidence of unreported domestic violence.[vii,viii] Conversely, gay men face special issues in regards to sexually transmitted diseases and increased cancer risk related to the human papillomavirus. Gay men have an increased incidence of illegal substance abuse, successful suicide completion, and Hepatitis A infections.[ix,x] These types of special issues also extend to transgender patients, who are at an increased risk of complications from cross-gender hormones, gender reassignment surgeries and injection of non-medical grade silicone.[xi]

Primary Data

Unfortunately, there is a stark lack of primary data available within the current 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 LGBTQ+ community.

Secondary Data

This section focuses on four main categories that fall within the realms of chronic disease. It is crucial to note that local data specific to Durham County is lacking and there is a need for conducting research with the LGBTQ+ local community. The data presented are from national studies and while it can be extrapolated that these statistics will also apply to the Durham LGBTQ+ community. Though there are other chronic disease that the LGBTQ+ population are at an increased risk of, the four focused on are on heart disease, cancer, smoking and eating disorders.

Heart Disease

Studies have suggested that the lesbian, gay and bisexual population are at an increased risk for developing heart disease.[xii-xiv] Specifically, lesbians have an increased prevalence of physical inactivity, obesity and smoking. Bisexual women are more likely to report higher smoking rates, higher blood pressure levels, increased body mass index (BMI), higher cholesterol levels and higher alcohol usage. [xii-xiv] Similarly, gay and bisexual men have an increased prevalence of tobacco and alcohol usage.[xiv]

Cancer

Though more data on cancer prevalence is needed, existing studies have indicated that the lesbian and gay communities have disproportionately higher rates of certain types of cancer.[xv] Studies have demonstrated that in comparison to their heterosexual counterparts, lesbians have higher rates of both breast and cervical cancer.[xvi] Limited studies have illustrated that these varying rates may be secondary to lower rates of screening mammograms and Pap smears.[xvii,xviii] 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.[xix,xx] Gay men have been shown to have higher rates of prostate, testicular and colorectal cancers. The higher rates of incidence of these specific cancers are postulated to be secondary to more risk factors associated with these types of cancer, most notably repeated exposure to HPV in men who engage in receptive anal sex.[xx,xxii]

Smoking

Members of the LGBT population have been shown to have the highest smoking rates of any sub-population. Contributing factors include social stigma, stress, depression and cultural influences.[xxiii-xxix] The two graphs below depict the percentage of smoking among LGB versus heterosexual individuals and cisgender versus transgender individuals.

Percent of LGB and Heterosexual Individuals who Smoke, U.S., 2015

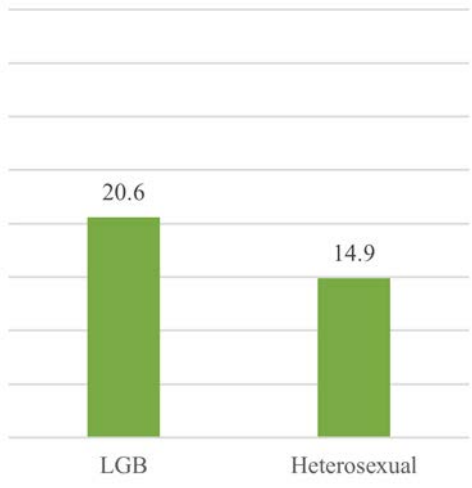


Figure 14.05(a): Percent of LGB and Heterosexual Individuals who Smoke, U.S., 2015[23]

Percent of Transgender and Cisgender Individuals who Smoke, U.S., 2015

Figure 14.05(b): Percent of Transgender and Cisgender Individuals who Smoke, U.S., 2015[29]

Eating Disorders

Research suggests that the LGBTQ+ community suffers from increased rates of various forms of disordered eating and unhealthy lifestyles. Lesbians are not as physically active as their

heterosexual counterparts and are also more likely to be overweight or obese.[30,31,32] Highest rates of obesity within the lesbian population occur in those who are African-American, live in rural or urban areas, have lower levels of education and lower socioeconomic levels.[xxx, xxxi, xxxii] Conversely, gay men are more likely to have issues with personal body image, more fear of being fat, higher levels of dissatisfactions with their bodies and holding distorted beliefs about the importance of having an ideal physique.[xxxiv, xxxv] As such, gay men are more likely to suffer from bulimia and anorexia nervosa, with the graph below depicting unhealthy dieting and binge eating disorders within this population.[xxxvi]

Unhealthy Dieting and Binge Eating Disorders, U.S., 1994

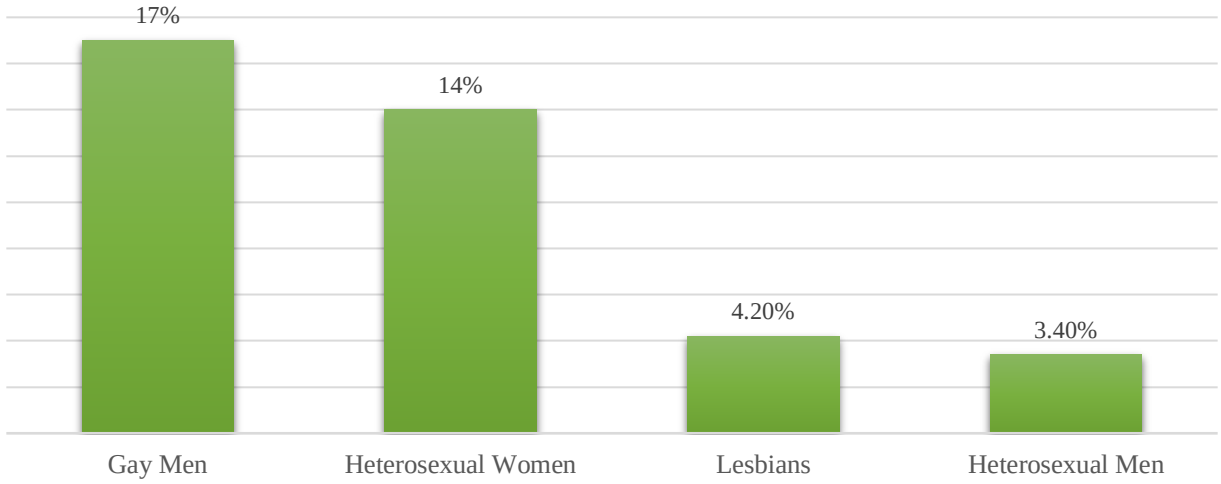


Figure 14.05(c): Unhealthy Dieting and Binge Eating Disorders, U.S., 1994 [36]

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 exacerbated by a shortage of healthcare providers who are knowledgeable, culturally competent and comfortable in providing high quality LGBTQ+ healthcare. Lack of health insurance coverage or underinsurance adds another layer of complexity. Lack of standardized sexual orientation and gender identity (SOGI) data within electronic medical records (EMR) limits the data that can be collected. Finally, a shortage of research and funding for LGBTQ+ related studies further complicates the picture.

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:

- Mandating the collection of SOGI data in health-related surveys and electronic medical records
- Providing training in health education programs (medical schools, residency, nursing schools, Physician Assistant programs, etc.) that focuses on LGBTQ+ health topics

- Providing education to the LGBTQ+ community in regards to health promotion and prevention strategies that should be undertaken, including the importance of certain screenings and vaccinations
- Ensuring that ALL patients have equal access to affordable and comprehensive health insurance
- Creating welcoming and friendly healthcare environments with visible non-discrimination policies that foster trust and encourage disclosure
- Mandating that federal grant funding be set aside for researchers to continue to investigate LGBTQ+ inclusive issues

References

i. Lee R. Health care problems of lesbian, gay, bisexual, and transgender patients. West J Med 2000;172:403-8

ii. Dean L, Meyer IH, Robinson K, Sell RL, Sember R, Silenzio VM, et al. Lesbian, gay, bisexual, and transgender health: findings and concerns. J Gay Lesbian Med Assoc 2000;4:102-51.

iii. Clark, Mary E., JD, MPH, Stewart Landers, JD, MCP, Rhonda Linde, PhD, and Jodi Sperber, MPH, MSW. (2001). "The GLBT Health Access Project: a state-funded effort to improve access to care." American Journal of Public Health. 91 (2001): 895-6.

iv. Diamant AL, Schuster MA, Lever J. Receipt of preventive health care services by lesbians. Am J Prev Med 2000;19:141-8.

v. Matthews AK, Brandenburg DL, Johnson TP, HughesTL. Correlates of underutilization of gynecological cancer screening among lesbian and heterosexual women. Prev Med 2004;38:105-13.

vi. Dibble SL, Roberts SA, Nussey B. Comparing breast cancer risk between lesbians and their heterosexual sisters. Women's Health Issues 2004;14:60-8.

vii. Tjaden PG, Thoennes N. Extent, nature, and consequences of intimate partner violence: findings from the National Violence Against Women survey. Washington, D.C.: National Institute of Justice, 2000.

viii. Ebell MH. Routine screening for depression, alcohol problems, and domestic violence. Am Fam Physician 2004;69:2421-2.

ix. Gilman SE, Cochran SD, Mays VM, Hughes M, Ostrow D, Kessler RC. Risk of psychiatric disorders among individuals reporting same-sex sexual partners in the National Comorbidity Survey. Am J Public Health 2001;91:933-9.

x. Jacobs RJ, Meyerhoff AS. Vaccination of sexually active homosexual men against hepatitis A: analysis of costs and benefits. J Gay Lesbian Med Assoc 1999;3(2):51-8.

xi. Feldman J, Goldberg JM. Transgender Primary Medical Care: Suggested Guidelines for Clinicians in British Columbia. Vancouver, BC: Vancouver Coastal Health Authority, 2006.

xii. Barnhill, Melissa M., Joseph G. L. Lee, and Ann P. Rafferty. "Health Inequities among Lesbian, Gay, and Bisexual Adults in North Carolina, 2011-2014." *International Journal of Environmental Research and Public Health*, vol. 14, no. 8, 2017, pp. 835 doi:http://dx.doi.org.proxy.lib.duke.edu/10.3390/ijerph14080835.

xiii. VanKim, N.A. & Padilla http://www.aphalgbt.org/resources/Y2010/NM_2010_LGBT_Report.pdf. Accessed January 29, 2018.

xiv. Caceres, Billy A,M.S.N., R.N.B.C., et al. "A Systematic Review of Cardiovascular Disease in Sexual Minorities." *American Journal of Public Health*, vol. 107, no. 4, 2017, pp. 570, doi:http://dx.doi.org.proxy.lib.duke.edu/10.2105/AJPH.2016.303630.

xv. Tamargo, Christina L., Quinn, Gwendolyn P., Sanchez, Julian A., & Schabath, Matthew B. (2017). Cancer and the LGBTQ Population: Quantitative and Qualitative Results from an Oncology Providers' Survey on Knowledge, Attitudes, and Practice Behaviors. Journal of Clinical Medicine, 6(10), 93. http://doi.org/10.3390/jcm6100093. Full article available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5664008/. Accessed January 29, 2018.

xvi. Quinn, Gwendolyn P., Sanchez, Julian A., Sutton, Steven K., Vadaparampil, Susan T., Nguyen, Giang T., Green, B. Lee, Kanetsky, Peter A.,Schabath, Matthew B. (2015). Cancer and Lesbian, Gay, Bisexual, Transgender/Transsexual, and Queer/Questioning Populations (LGBTQ). CA: A Cancer Journal for Clinicians, 65(5), 384–400. http://doi.org/10.3322/caac.21288. Full article available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4609168/. Accessed January 29, 2018.

xvii. Solazzo, Alexa L., Gorman, Bridget K. & Denney, Justin T. Cancer Screening Utilization Among U.S. Women: How Mammogram and Pap Test Use Varies Among Heterosexual, Lesbian, and Bisexual Women. Popululation Research and Policy Review (2017) 36: 357. https://doi.org/10.1007/s11113-017-9425-5. Accessed January 29, 2018.
xviii. Lesbians Less Likely to Be Screened for Cervical Cancer than Other Women. https://cervicalcancernews.com/2017/02/21/lesbian-women-less-likely-than-heterosexuals-to-get-annual-pap-smears/. Accessed January 29, 2018.
xix. Valanis BG, et al. Sexual orientation and health: comparisons in the women's health initiative sample. *Arch Fam Med.* 2000;9(9):843-853.
xx. Dibble, S. "Comparing Breast Cancer Risk Between Lesbians And Their Heterosexual Sisters." *Women's Health Issues* 14.2 (2004): 60-68.
xxi. Asencio, Marysol, Thomas Blank, Lara Descartes, and Ashley Crawford. "The Prospect Of Prostate Cancer: A Challenge For Gay Men's Sexualities As They Age." *Sexuality Research and Social Policy: Journal of NSRC* 6.4 (2009): 38-51.
xxii. Heslin, Kevin C., John L. Gore, William D. King, and Sarah A. Fox. "Sexual Orientation And Testing For Prostate And Colorectal Cancers Among Men In California." *Medical Care* 46.12 (2008): 1240-1248.
xxiii. Centers for Disease Control and Prevention. Current Cigarette Smoking Among Adults—United States, 2005–2015. Morbidity and Mortality Weekly Report 2016;65(44):1205–11. Accessed January 8, 2018.
xxiv. Lee JG, Griffin GK and Melvin CL. Tobacco use among sexual minorities in the USA, 1987 to May 2007: A systematic review. *Tobacco Control*. 2009;18:275-282.
xxv. Burkhalter J, et al. Intention to quit smoking among lesbian, gay, bisexual, and transgender smokers. *Nicotine & Tobacco* Research, 2009; 11(11):1312-1320.
xxvi. Behavior Risk Factor Surveillance System (BRFSS). 2003-2006, Center for Health Statistics, Washington State Department of Health. Available online: www.doh.wa.gov/ehsphl/chs/chsdata/brfss/BRFSS_tables.htm. Retrieval date October 2017
xxvii. Behavior Risk Factor Surveillance System (BRFSS). 2001-2006, Health Survey Program, Massachusetts Department of Public Health. Available online: www.mass.gov/dph/hsp. Accessed January 8, 2018.
xxviii. Stall R D, et al. Cigarette smoking among gay and bisexual men. *American Journal of Public Health*. 1999;89(12):1875-1878.
xxix. Centers for Disease Control and Prevention. Online campaign "Tips From Former Smokers® For Specific Groups: Lesbian, Gay, Bisexual, and Transgender (LGBT)." https://www.cdc.gov/tobacco/campaign/tips/groups/lgbt.html. Accessed January 29, 2018
xxx. Brittain, Danielle, Tara Baillargeon, Mary McElroy, Deborah Aaron, and Nancy Gyurcsik. "Barriers To Moderate Physical Activity In Adult Lesbians." *Women & Health* 43.1 (2006): 75-92.
xxxi. Bowen, Deborah, Kimberly Balsam, Brenda Diergaarde, Marla Russo, and Gina Escamilla. "Healthy Eating, Exercise, And Weight: Impressions Of Sexual Minority Women." *Women & Health* 44.1 (2006): 79-93.
xxxii. Yancey, A. "Correlates Of Overweight And Obesity Among Lesbian And Bisexual Women." *Preventive Medicine* 36.6 (2003): 676-683.
xxxiii. Boehmer, U., D. J. Bowen, and G. R. Bauer. "Overweight And Obesity In Sexual-Minority Women: Evidence From Population-Based Data." *American Journal of Public Health* 97.6 (2007): 1134-1140.
xxxiv. McCreary, D. R., T. B. Hildebrandt, L. J. Heinberg, M. Boroughs, and J. K. Thompson. "A Review Of Body Image Influences On Men's Fitness Goals And Supplement Use." *American Journal of Men's Health* 1.4 (2007): 307-316.
xxxv. Kaminski, Patricia L. , and Benjamin P. Chapman. "Body image, eating behaviors, and attitudes toward exercise among gay and straight men." *Eating Behaviors* 6.3 (2005): 179-187

xxxvi. Siever, Michael D. Sexual orientation and gender as factors in socioculturally acquired vulnerability to body dissatisfaction and eating disorders. *Journal of Consulting and Clinical Psychology* 1994;62:252-260.

Section 14.06 *Infectious disease*

Overview

Of the many ways LGBTQ-associated stigma affects health and well-being, it too contributes to the disproportionate rates of infectious diseases, specifically sexually transmitted infections, affecting the community. With the increasing prevalence of HIV/sexually transmitted infections (STIs) in the southeastern U.S. over the last decade, the concentration of cases has shifted from urban areas to more rural regions with traditionally low LGBTQ+ visibility and support, presenting additional barriers to preventative medical services and care.[i] Rising rates of HIV/STIs in the southeast are also fueled by abstinence-emphasized sex education, HIV-stigma, poverty, lack of health insurance and medical care access, harsh HIV/STI criminalization laws, and compounding racial and ethnic discrimination.[ii]

Prevalent mental health and substance use issues within the LGBTQ+ community further contribute to the rates of HIV/STIs as risk factors and modes of transmission.[iii,iv,v] Though a national decline in annual HIV rates has been documented, these declines have not been reflected through all demographics and age cohorts.[vi]

Sparse data is available in regards to HIV/STIs among the transgender community often attributed to inaccurate gender documentation. Research suggests the transgender community carries a high burden of HIV and STI prevalence owing to heightened factors mentioned previously, as well as low social support and high rates of homelessness leading to participation in commercial sex work for economic survival.[vii] Lesbian and bisexual women have also been historically understudied for sexual behavior and activity and therefore their HIV/STI risk may not be accurately assessed resulting in inconsistent HIV/STI screenings and a false notion of susceptibility.[viii]

To adequately combat rising HIV/STI rates within the LGBTQ+ community, medical services and support must appropriately address the multi-layered identities, sexualities, and genders of the population and how these aspects predispose them to additional risk factors, increasing susceptibility to HIV/STIs.

Secondary Data

Between 2008 and 2014, annual nationwide HIV infections dropped 18% overall due in large part to increased knowledge of HIV status, emphasis on viral suppression as a means to inhibit HIV transmission, and increased uptake in pre-exposure prophylaxis (PrEP) to prevent HIV infection.[ix] However, this overall decline in HIV infections was not shared amongst all groups. While the HIV rates in men who have sex with men (MSM) overall remained stable, this same time period saw a 35% jump in rates for 25-34 year old MSM and a 20% increase for Latinx MSM.[x] In North

Carolina, the rate of newly diagnosed HIV rates have remained relatively stable since 2012 after peaking in 2007-2008 as seen in the figure below.[xi]

North Carolina Newly Diagnosed Prevalence Rates, New HIV Infection Rates, and HIV-related Death Rates

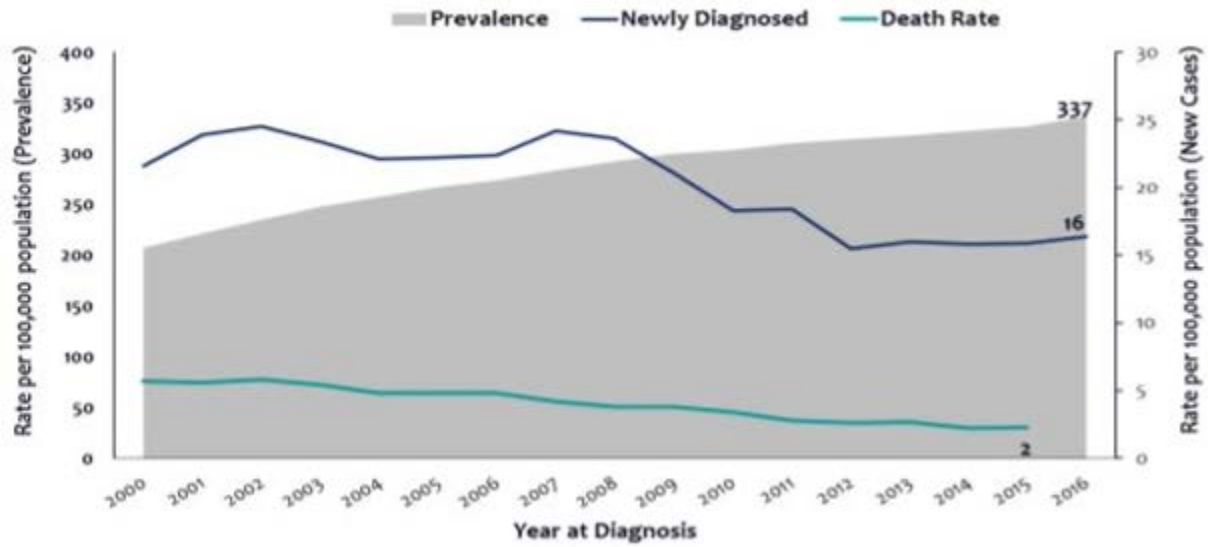


Figure 14.06(a). North Carolina HIV Rates 2000-2016 [xii]

Though Durham County has seen a decrease in new HIV rates over recent years, the county's rate remains higher than the state average and ranks as the fifth highest rate of newly diagnosed HIV from 2014-2016. Approximately 1,920 Durham County residents are living with HIV as of 2016.[xiii]

Trend in Newly Diagnosed HIV Rate, North Carolina and Durham County

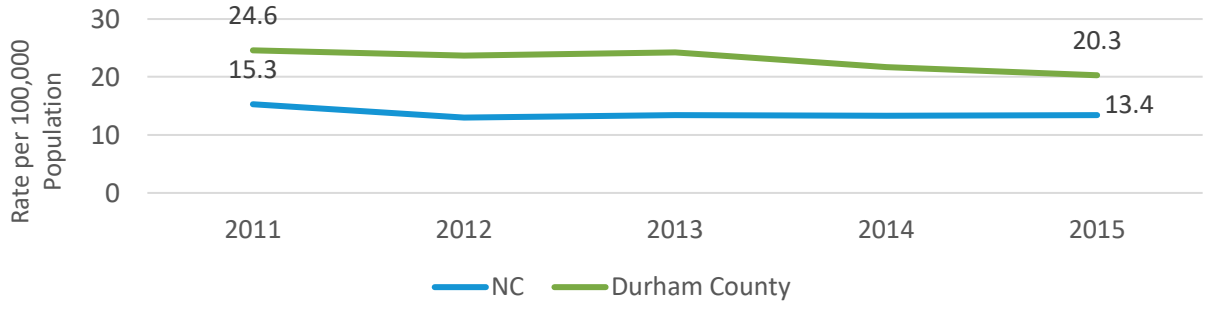


Figure 14.06(b). Trend in Newly Diagnosed HIV Rate, North Carolina and Durham County [xiv]

Similar to nationwide trends, the Black and Latinx communities in Durham County carry a disproportionate burden of HIV with a rate over 6 times as high among Black residents and almost three times as high among Latinx residents compared to white residents during 2013-2015. During this time period, MSM in Durham County accounted for 70.8% of new HIV infections with 52.6% of new infections occurring between the ages 20-29 from 2013-2015.[xv]

The rates of syphilis, gonorrhea, and chlamydia all saw increases throughout the state from 2015 to 2016. In 2016, Black men accounted for over 50% of new syphilis cases and Black men and women comprised 50% of gonorrhea and 35% of chlamydia cases.[xvi] Durham County had the second-highest rate of newly diagnosed early syphilis throughout the state's counties. The rate was the highest in the Black community and from 2013-2015, Durham County males accounted for 88.5% of cases.[xvii]

Trend in Newly Diagnosed Early Syphilis, North Carolina and Durham County

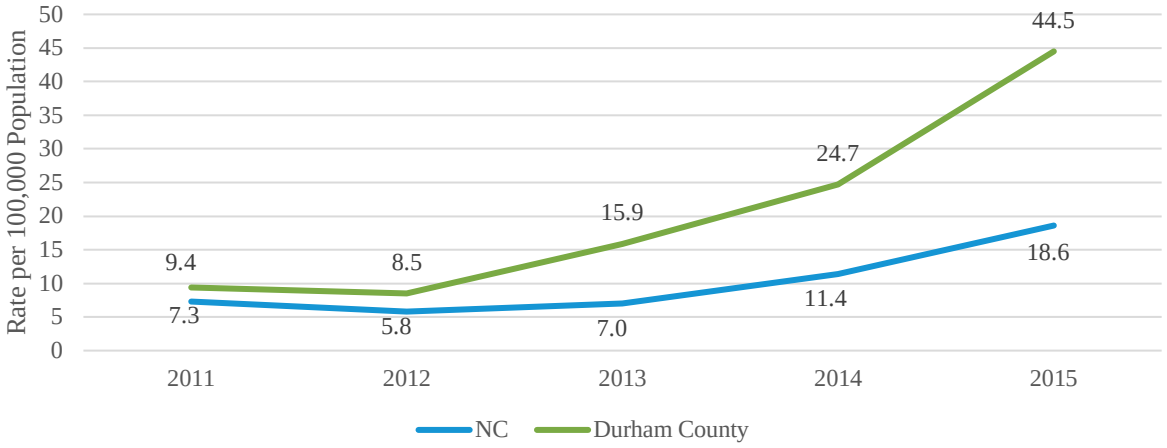


Figure 14.06(c). Trend in Newly Diagnosed Early Syphilis, North Carolina and Durham County [xviii]

From 2013-2015, women accounted for 69.1% of chlamydia cases in Durham County.[xix] Men who have sex with men account for about 75% of syphilis cases in Durham County[xx] The rate of Syphilis and HIV co-infection in men has remained stable from 2014-2016 at 49%.[xxi]

Of increasing concern are rising rates of viral hepatitis. Preliminary N.C. data between 2014 and 2016 show a 56% increase in new cases of Hepatitis B and a 69% increase in Hepatitis C.[xxii] MSM have shown an increased risk of Hepatitis C infection, though in N.C. exposure has been primarily documented as injection drug use (IDU) and heterosexual contact. Those with untreated HIV have a higher risk of contracting Hepatitis C or higher rate of Hepatitis C transmission if already co-infected. The Centers for Disease Control and Prevention (CDC) estimates approximately 25% of HIV-positive individuals are co-infected with Hepatitis C and approximately 10% of new Hepatitis

A virus (HAV) infections and 15%–25% of all new Hepatitis B virus (HBV) infections among adults in the United States are among MSM.[xxiv]

Interpretations: Disparities, Gaps, Emerging Issues

Stigma and Barriers to Healthcare

LGBTQ+ and HIV-related stigma is pervasive in the southeastern US and acts as a barrier to testing and engagement in care, contributing to a higher susceptibility to HIV/STI infections.[xxiv] Research has proven that consistent HIV treatment prevents HIV transmission. HIV-related stigma can predict lower treatment adherence thus influencing increasing rates.[xxv]

Contributions to the prevalence of LGBTQ+ and HIV-stigma include N.C.'s abstinence-emphasized sex education as well as harsh HIV/STI criminalization laws. While statewide sexual education policy changed in 2009 from a required abstinence-only until marriage curriculum to include other approaches, discussing the LGBTQ+ community is not required and abstinence continues to be highly promoted in the classroom.[xxvi] Failing to address and discuss gender, and sexuality leaves youth without the knowledge to self-advocate and find social support and increases their vulnerability to HIV/STIs.

These factors combined with racial inequity, poverty, low rates of health insurance and inability to access healthcare including uptake of PrEP allows HIV/STIs to continue to rise, particularly in racial and ethnic minorities who face compounded discrimination and institutional barriers widely prevalent in the region.[xxvii]

HIV/STI Criminalization Laws

Through 2017, North Carolina remained a state with strict HIV/STI disclosure laws and penalties should an individual not comply. Policy mandated that HIV-positive status be disclosed to all previous and prospective sexual partners and required the use condoms during sex. Failure to comply could result in a misdemeanor charge and up to 2 years of incarceration. Individuals with known STIs, Hepatitis B and C are still subject to similar regulations. Under previous N.C. policy, isolation and quarantine are also permissible should statewide public health officials deem an individual a threat to public health.[xxviii]

Such antiquated laws fail to take into consideration scientific breakthroughs in anti-retroviral therapy which prevent HIV transmission if the virus is suppressed and the use of PrEP by an HIV-negative partner. This type of public policy reinforces HIV-related stigma by cosigning HIV-positive individuals as potential criminals, invokes fear, and prevents individuals from seeking out testing and potential treatment.[xxix] Though the state's HIV control measures have recently been

modernized in light of medical advances and do not require disclosure or use of condoms should an individual's HIV be virally suppressed for a minimum of 6 months, their partner is also HIV-positive, or if their partner is taking PrEP, it will take time to undo the impact of stigmatizing legislation upon the community at large.[xxx]

Mental Health and Substance Use

The LGBTQ+ community experience higher rates of substance abuse and mental health issues compared to the heterosexual community. IDU is an efficient mode of HIV/hepatitis transmission and the intersection of mental health issues and rising substance use further predispose the LGBTQ+ community to these viruses.[xxxi, xxxii, xxxiii] Increased rates of hepatitis seen in N.C. have been largely attributed to IDU and the LGBTQ+ community may be especially vulnerable.

Documentation of Sexuality and Gender

The transgender, lesbian, and bisexual community often fail to be identified as sub-categories related to HIV/STI exposure and are presumably lumped under 'men who have sex with men,' 'heterosexual-all' or 'other risks,' listed in N.C. reports and all of which completely erase the gender and sexual identity of these individuals. Due to inaccurate documentation of gender identity, the HIV rates in the transgender community are most likely greatly underreported. In 2014, the latest available data from North Carolina Department of Health and Human Services (NC DHHS) in regards to the transgender community, transgender individuals accounted for only 0.03% of all HIV tests performed by the state. HIV rates in the transgender community are only documented if they are receiving federal and/or state financial assistance and therefore do not accurately portray incidence in the community.[xxxiv] STI rates according to gender were limited to men and women and did not explicitly address transgender individuals. Testing events reported to the CDC in 2013 found the new HIV diagnosis rate in transgender women to be more than 3 times the national average. Of the transgender women diagnosed with HIV from 2009-2014, 51% were Black and 29% Latina, again demonstrating the disproportionate burden of HIV on racial and ethnic minorities.[xxxv] Of note, the 2016 North Carolina HIV/STD/Hepatitis Surveillance Report does not address nor mention the transgender, lesbian, or bisexual community, indicating a large portion of the LGBTQ+ community left out of vital conversation and services.

Women and HIV/STIs

Though women who have sex with women may represent a smaller portion of HIV/STI rates in comparison to MSM, research has demonstrated an increasing need to include women of various sexualities in STI interventions and screenings, particularly as bisexual women have an elevated STI risk in contrast to heterosexual women.[xxxvi] Healthcare providers who fail to address sexual behaviors, genders of sexual partners, gender identity, and make assumptions about HIV/STI risk based on gender could be creating false notions of safety in regards to risk and/or providing an

inaccurate representation of the prevalence of HIV/STIs in these communities. Consequences of such actions include failure to receive proper treatment and HIV/STI intervention strategies not effectively targeting affected communities.

Recommended Strategies

- NC's Integrated HIV Prevention and Care Plan 2017-2017 provides valuable information around needs, gaps, and areas of improvement. The strategy timeline should be followed.
- Improved collection of sexual orientation and gender identity in HIV/STI testing and treatment forms
- Increased routine broad screening of HIV/STIs/Hepatitis in primary care practices and urgent care/emergency room settings
- Continuing collaborative work between the LGBTQ+ community, harm reduction, and mental health coalitions
- Racial, cultural, and language conscious outreach and care programs for Black and Latinx communities in regards to sexual health
- Actively address social services needs of the community – housing, transportation, healthcare access, mental health services, substance use treatment – as they are predisposing factors to HIV/STI infection and barriers to testing and treatment

Current Initiatives & Activities

- ***Partnership for a Healthy Durham***

A coalition of local organizations and community members with the goal of collaboratively improving the physical, mental, and social health and well-being of Durham's residents. The HIV/STI committee is one of five committees and brings together community members and agencies to focus on strategies to prevent the spread of STIs and HIV which disproportionately impact people of color.
http://healthydurham.org/committees/hiv-sti-committee

- ***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 Clinic***

The 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

References

i. Reif, Susan, Saffley Donna, McAllaster Carolyn, Wilson Elena, Whetten Kathryn. "State of HIV in the US Deep South." Journal of Community Health, vol. 42, no. 5, 2017, pp. 844–853., doi:10.1007/s10900-017-0325-8.

ii. Reif, Susan, et al. "State of HIV in the US Deep South."

iii. Wolitski, Richard. *Getting in Sync on HIV, Hep C, and LGBT Health*. Hep Mag, 8 May 2017, www.hepmag.com/article/getting-sync-hiv-hep-c-lgbt-health . Accessed December 4, 2017.

iv. Stall, Ron, Thomas C. Mills, John Williamson, Trevor Hart, Greg Greenwood, Jay Paul, Lance Pollack, Diane Binson, Dennis Osmond, Joseph and Catania. "Association of Co-Occurring Psychosocial Health Problems and Increased Vulnerability to HIV/AIDS Among Urban Men Who Have Sex With Men." *American Journal of Public Health*, 10 Oct. 2011, ajph.aphapublications.org/doi/full/10.2105/AJPH.93.6.939. Accessed December 4, 2017.

v. Fendrich, Michael, Avci Ozgur, Timothy P. Johnson, Mary Ellen Mackesy-Amiti. "Depression, Substance Use and HIV Risk in a Probability Sample of Men Who Have Sex with Men." *Science Direct*, Addictive Behaviors, Mar. 2013, www.sciencedirect.com/science/article/pii/S0306460312003243. Accessed December 4, 2017.

vi. Centers for Disease Control and Prevention (2017) "New HIV Infections Drop 18 Percent in Six Years: Decline Signals HIV Prevention and Treatment Efforts in the U.S. Are Paying off, but Not All Communities Are Seeing the Same Progress." NCHHSTP Newsroom, 14 Feb 2017, www.cdc.gov/nchhstp/newsroom/2017/croi-hiv-incidence-press-release.html. Accessed December 4, 2017.

vii. Centers for Disease Control and Prevention (2017) "HIV Among Transgender People." https://www.cdc.gov/hiv/group/gender/transgender/index.html. Accessed December 4, 2017.

viii. Lindley, Lisa L, Walseman, Katrina M., Carter, Jarvis W. Jr. "Invisible and at Risk: STDs among Young Adult Sexual Minority Women in the United States." *Perspectives on Sexual and Reproductive Health.*, U.S. National Library of Medicine, 2 May 2013, www.ncbi.nlm.nih.gov/pubmed/23750620. Accessed December 4, 2017.

ix. Centers for Disease Control and Prevention, "HIV/AIDS: Basic Statistics," published December 18, 2017. https://www.cdc.gov/hiv/basics/statistics.html. Accessed January 2018

x. Centers for Disease Control and Prevention "New HIV Infections Drop 18 Percent in Six Years: Decline Signals HIV Prevention and Treatment Efforts in the U.S. Are Paying off, but Not All Communities Are Seeing the Same Progress." https://www.cdc.gov/nchhstp/newsroom/2017/croi-hiv-incidence-press-release.html. Accessed January 2018.

xi. North Carolina HIV/STD Surveillance Unit. (2017). HIV in North Carolina, 2016 North Carolina Department of Health and Human Services, Raleigh, North Carolina. http://epi.publichealth.nc.gov/cd/stds/figures/factsheet_HIV_2016.pdf. Accessed December 4, 2017.

xii. North Carolina HIV/STD Surveillance Unit. (2017). HIV in North Carolina, 2016 North Carolina Department of Health and Human Services, Raleigh, North Carolina. http://epi.publichealth.nc.gov/cd/stds/figures/factsheet_HIV_2016.pdf. Accessed December 4, 2017.

xiii. North Carolina HIV/STD/Hepatitis Surveillance Unit. (2017). 2016 North Carolina HIV/STD/Hepatitis Surveillance Report. North Carolina Department of Health and Human

Services, Division of Public Health, Communicable Disease Branch. Raleigh, North Carolina. http://epi.publichealth.nc.gov/cd/stds/figures/std16rpt_rev3.pdf. Accessed December 4, 2017.

xiv. Durham County Department of Public Health. (2017). Durham County 2016 State of the County Health Report. Durham County Department of Public Health, Partnership for a Healthy Durham. Durham, North Carolina. http://healthydurham.org/cms/wp-content/uploads/2016/03/2016-SOTCH-03022017-PRINT-FINAL.pdf. Accessed December 4th, 2017.

xv. Communication with NC DHHS staff, 28 September 2017.

xvi. North Carolina HIV/STD/Hepatitis Surveillance Unit. (2017). 2016 North Carolina HIV/STD/Hepatitis Surveillance Report. North Carolina Department of Health and Human Services, Division of Public Health, Communicable Disease Branch. Raleigh, North Carolina. http://epi.publichealth.nc.gov/cd/stds/figures/std16rpt_rev3.pdf. Accessed December 4, 2017.

xvii. Communication with NC DHHS staff, 28 September 2017.

xviii. Durham County Department of Public Health. (2017). Durham County 2016 State of the County Health Report. Durham County Department of Public Health, Partnership for a Healthy Durham. Durham, North Carolina. http://healthydurham.org/cms/wp-content/uploads/2016/03/2016-SOTCH-03022017-PRINT-FINAL.pdf. Accessed December 4th, 2017.

xix. Communication with NC DHHS staff, 28 September 2017.

xx. Bellamy, Cliff. "Syphilis Surge 'Alarming' in Durham. Where to Get Tested." *The Herald Sun*, 25 Oct. 2017, www.heraldsun.com/news/local/counties/durham-county/article180687156.html.

xxi. North Carolina HIV/STD Surveillance Unit. (2017). Early Syphilis Infections in North Carolina, 2016 North Carolina Department of Health and Human Services, Raleigh, North Carolina. http://epi.publichealth.nc.gov/cd/stds/figures/factsheet_syphilis_2016.pdf. Accessed December 4, 2017.

xxii. "Hepatitis B, C on Rise in N.C.; Health Officials Encourage Precautions, Testing State Health Officials Are Encouraging Residents to Help Stop the Spread of Hepatitis B and C by Getting Tested and Observing Safe Injection Practices." *NC DHHS*, 30 May 2017, www.ncdhhs.gov/news/press-releases/hepatitis-b-c-rise-nc-health-officials-encourage-precautions-testing. Accessed December 4, 2017.

xxiii. Centers for Disease Control and Prevention (March 2014) "HIV and Viral Hepatitis." www.cdc.gov/hiv/pdf/library_factsheets_hiv_and_viral_hepatitis.pdf. Accessed December 4, 2017.

xxiv. Reif, Susan, et al. "State of HIV in the US Deep South."

xxv. Vanable, Peter A., Michael P. Carey, Donald C. Blair, Rae A. Littlewood. "Impact of HIV-Related Stigma on Health Behaviors and Psychological Adjustment Among HIV-Positive Men and Women." *AIDS and Behavior*, U.S. National Library of Medicine, Sept. 2006, www.ncbi.nlm.nih.gov/pmc/articles/PMC2566551/. Accessed December 4, 2017.

xxvi. "Sex and HIV Education." *Guttmacher Institute*, 1 Dec. 2017, www.guttmacher.org/state-policy/explore/sex-and-hiv-education. Accessed December 4, 2017.

xxvii. Reif, Susan, et al. "State of HIV in the US Deep South."

xxviii. "HIV Criminalization in the United States: A Sourcebook on State and Federal HIV Criminal Law and Practice." www.hivlawandpolicy.org/sourcebook. Accessed December 4, 2017.

xxix. "Ending Overly Broad Criminalization of HIV Non-Disclosure, Exposure and Transmission: Critical Scientific, Medical and Legal Considerations." *Guidance Note*, UNAIDS, Mar. 2013, files.unaids.org/en/media/unaids/contentassets/documents/document/2013/05/20130530_Guidance_Ending_Criminalisation.pdf. Accessed December 4, 2017.

xxx. "HIV Criminalization Laws Change in North Carolina." *Western North Carolina AIDS Project*, 20 Feb. 2018, wncap.org/2018/02/20/hiv-criminalization-laws-change-north-carolina/.
xxxi. Wolitski, Richard. *Getting in Sync on HIV, Hep C, and LGBT Health*.
xxxii. Stall, Ron, et al. "Association of Co-Occurring Psychosocial Health Problems and Increased Vulnerability to HIV/AIDS Among Urban Men Who Have Sex With Men."
xxxiii. Fendrich, Michael, et al. "Depression, Substance Use and HIV Risk in a Probability Sample of Men Who Have Sex with Men."
xxxiv. North Carolina's Integrated HIV Prevention and Care Plan Including the Statewide Coordinated Statement of Need, CY 2017-2021. NC Division of Public Health, 2017.
xxxv. Centers for Disease Control and Prevention (2017) "HIV Among Transgender People."
xxxvi. Lindley, L L, et al. "Invisible and at Risk: STDs among Young Adult Sexual Minority Women in the United States."

Survey Data and Tools

Durham County 2016 Community Health Assessment Survey results

Please direct questions to:
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Introduction and Methods

Survey Development

The survey development process for the 2018 Community Health Assessment (CHA) involved collaboration from multiple community organizations and community members. Prior to developing the survey, presentations were given at two Partners against Crime (PAC) meetings in Durham County to gain insight and feedback on the types of questions and information community members would be most interested in learning through the CHA process. A surveymonkey link was also sent to members of the Partnership for a Healthy Durham to find out what information was most useful in the last CHA report and what topics would be most relevant to work being done in Durham County going forward.

A large group of community organizations was also engaged through email and phone conversations regarding upcoming organizational survey needs. Feedback from the PACs, Partnership for a Healthy Durham, and community organizations informed the creation of a draft survey, which was then recirculated for feedback and comments. The following organizations were included in this process: Alliance Behavioral Healthcare, the Bicycle and Pedestrian Advisory Commission (BPAC), Duke Division of Community Health, Durham Congregations in Action, Durham Parks and Recreation, Durham's Partnership for Children, El Centro Hispano, El Futuro, Inter Denominational Ministerial Alliance of Durham and Vicinity, Inter-neighborhood Council, LGBTQ Center of Durham, Neighborhood Improvement Services, Partners against Crime, and SHIFT NC.

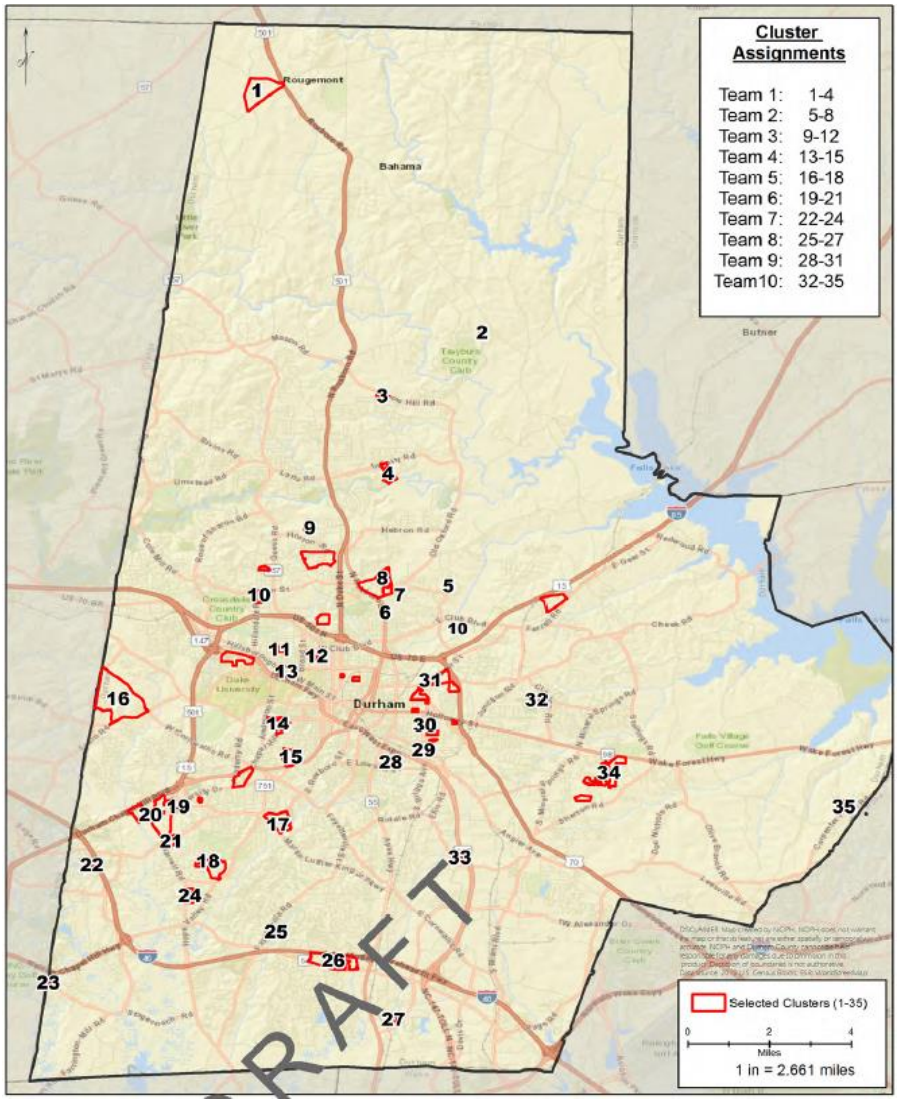
Sampling Methods

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, giving census blocks with the highest populations a greater chance of being selected.

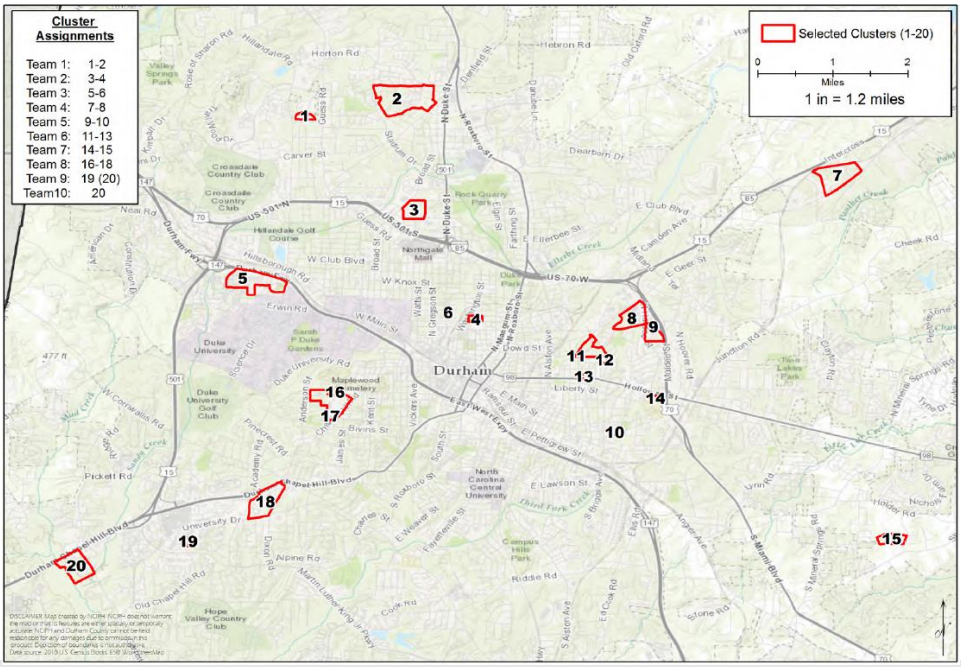
Two-stage cluster sampling was used to select both a full county sample, in which any census block in Durham County was eligible to be selected into the sample, and a high proportion Hispanic and Latino sample. In order to be eligible for inclusion in the Hispanic and Latino sample, at least 50% of residents living in the census block must have been Hispanic or Latino. Data on population size and ethnicity were obtained from the 2010 Census. Thirty five census blocks and 245 households were selected to participate in the full county sample, while 20 census blocks and 210 households were selected for the high proportion Hispanic and Latino sample.

Maps for both samples are displayed below.

Full county sample



High proportion Hispanic and Latino sample



Survey Administration

Volunteers were recruited from community organizations and universities in the Triangle to help administer the surveys for the full county and Hispanic and Latino samples. Prior to administering the surveys, two training sessions were held to prepare volunteers. The training included survey best practices, safety, cultural sensitivity, and a hands on component to familiarize the volunteers with the technology used to collect survey responses.

Seventy three volunteers assisted with the full county sample over the course of 11 survey days and 29 volunteers helped with the Hispanic and Latino sample over the course of eight days. The surveys for both samples were administered between October 6, 2016 and November 15, 2016.

Survey teams were sent out in teams of two and were instructed to begin at the randomly selected starting points. If no one answered the door or the survey was refused, volunteers were instructed to go to the next closest residence. This process continued until a survey was completed. Then, volunteers continued to the next randomly selected start point.

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.

Data analysis and Results

Analysis was completed in SAS 9.4. Results were weighted to account for the sampling method to ensure that final results are generalizable to the sample population. The CDC CASPER methodology was used to calculate sample weights. The methodology incorporates 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. Weights were also used to calculate standard error for each proportion.

Confidence intervals are calculated using the standard errors and should be used when interpreting the data. Confidence intervals represent intervals that contain the true value in 95% of repeated samples.

There are 200 completed surveys included in the full county sample and 158 completed surveys in the Hispanic and Latino sample. The response rates rate were 54.1% and 68.7% in the full county and Hispanic and Latino samples, respectively.

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.

Demographic characteristics of survey respondents, full county sample

	Durham County estimate	Full County sample (95% Confidence Interval)
Median age	34.4	42
Sex		
Female	52.0%	57.0% (49.7, 64.4)
Male	48.0%	41.4% (34.1, 48.7)
Self-identify/ Other	--	0.4% (0, 1.2)
Transgender	--	0.6% (0, 1.7)
Race		
American Indian or Alaska Native	0.4%	3.3% (0.8, 5.9)
Asian	4.6%	5.0% (2.1, 8.0)
Black or African American	37.4%	39.2% (32.1, 46.4)

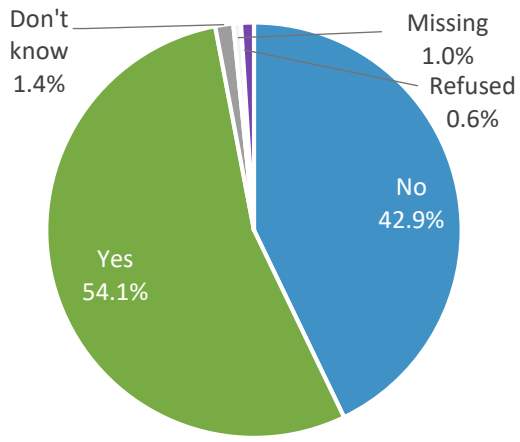
Native Hawaiian or Pacific Islander	.04%	1.0% (0, 2.5)
White	51.3%	47.4% (39.8, 55.0)
Other	5.9%	7.4% (1.7, 13.4)
Ethnicity		
Hispanic or Latino	13.4%	8.7% (4.7, 12.7)
Not Hispanic or Latino	86.6%	89.9% (85.6, 94.1)
Education		
Less than 9th grade	6.0%	1.9% (0, 3.7)
9-12th grade	6.5%	3.7% (1.1, 6.2)
High school graduate	17.4%	18.9% (13.4, 24.5)
Some college (no degree)	18.1%	18.5% (13.0, 24.0)
Associate's degree	6.1%	5.5% (2.4, 8.7)
Bachelor's degree	24.5%	25.5% (18.2, 32.8)
Graduate or professional degree	21.3%	24.9% (18.5, 31.3)
Employment status		
Disabled	8.2%	6.9% (3.4, 10.4)
Employed full-time	64.6%	39.8% (32.2, 47.4)
Employed part-time	17.0%	7.0% (3.6, 10.4)
Homemaker	--	3.1% (0.8, 5.3)
Military	--	0.0%
Retired	--	20.8% (14.7, 26.8)
Self-employed	--	9.9% (5.6, 14.3)
Student	--	8.8% (4.9, 12.7)
Unemployed	6.8%	9.9% (5.9, 14.0)

		Hispanic Latino sample (95% Confidence Interval)
Median age	26.6	37
Sex		
Female	45.7%	70.2% (61.4, 78.9)
Male	54.3%	27.8% (19.3, 36.4)
Self-identify/ Other	--	0.0%
Transgender	--	0.9% (0, 2.6)
Education		
Less than 9th grade	44.6%	47.8% (37.2, 58.5)
9-12th grade	11.4%	18.1% (11.0, 25.3)
High school graduate	14.7%	20.2% (9.3, 31.1)
Some college (no degree)	11.3%	6.0% (2.3, 9.7)
Associate's degree	5.0%	1.3% (0, 3.1)
Bachelor's degree	7.9%	1.3% (0, 3.1)
Graduate or professional degree	5.1%	0.2% (0, 0.5)
Employment status		
Disabled	4.7%	1.5% (0, 3.6)
Employed full-time	58.7%	29.9% (20.9, 38.8)
Employed part-time	18.7%	15.8% (9.1, 22.5)
Homemaker	--	40.3% (29.9, 50.6)
Military	--	0%
Retired	--	0.4% (0, 1.1)
Self-employed	--	3.4% (0.3, 6.5)
Student	--	2.4% (0.1, 4.7)
Unemployed	4.5%	13.2% (2.4, 24.0)

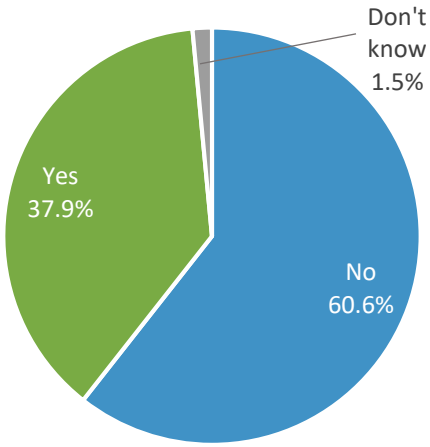
Note: asterisks denote common responses grouped together from the "other" free text category.

1. Does your family have a basic 3-day emergency supply kit and plan? Emergency kits often include water, non-perishable food, prescriptions, first aid supplies, flashlight and batteries, non-electric can opener, blankets, etc. (*Choose one*.)

Full County sample:

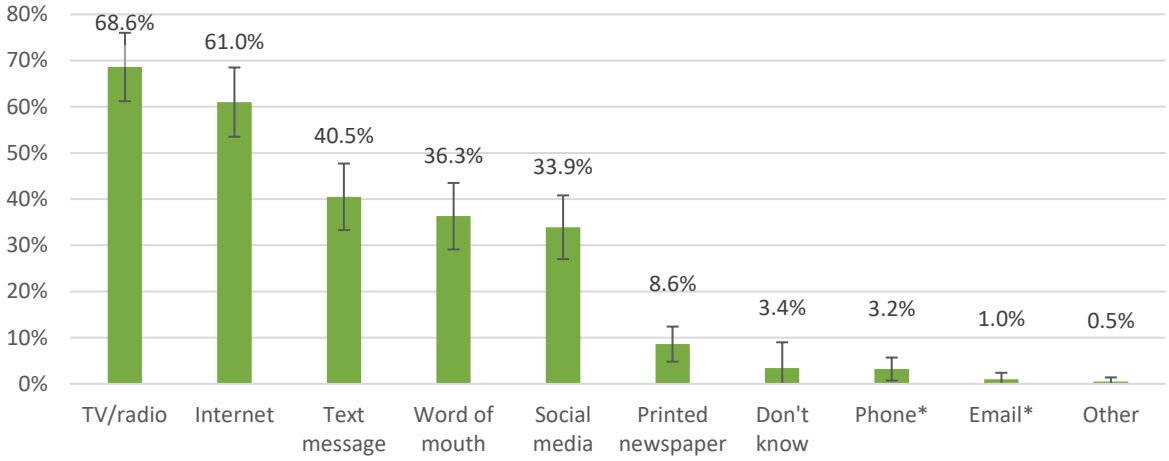


Hispanic and Latino sample:

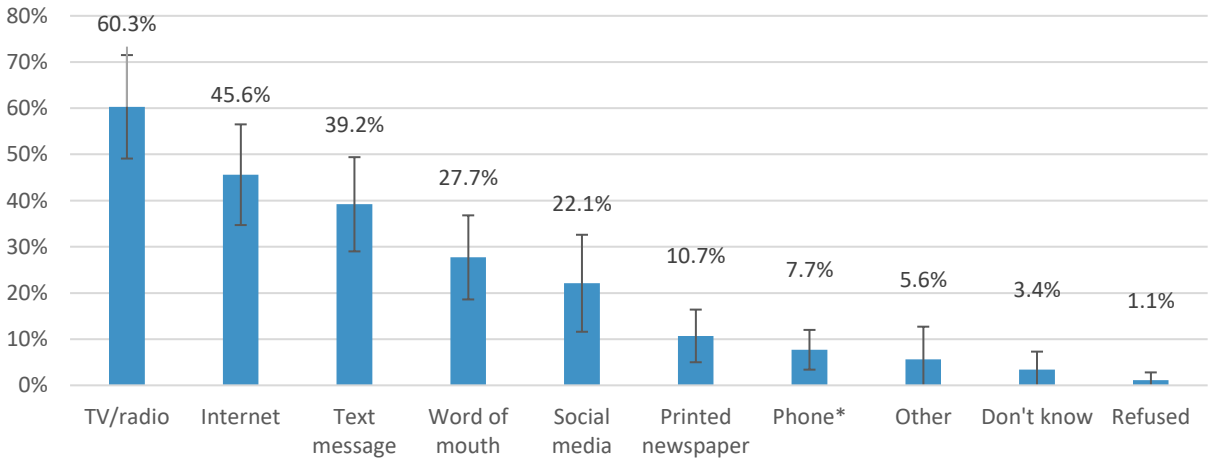


2. What would be your top three sources of information in a major disaster or emergency in Durham County? (*Choose three*.)

Full County sample:

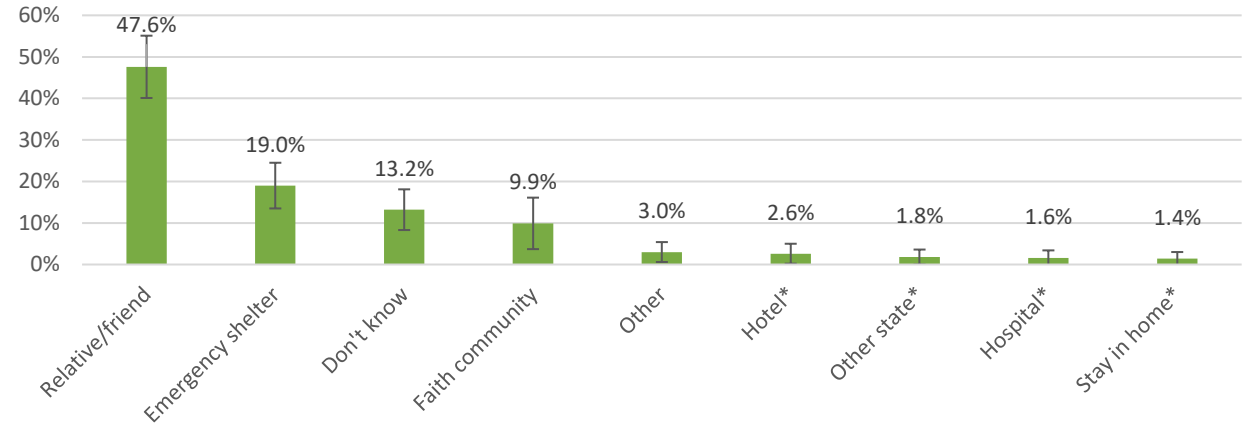


Hispanic and Latino sample:

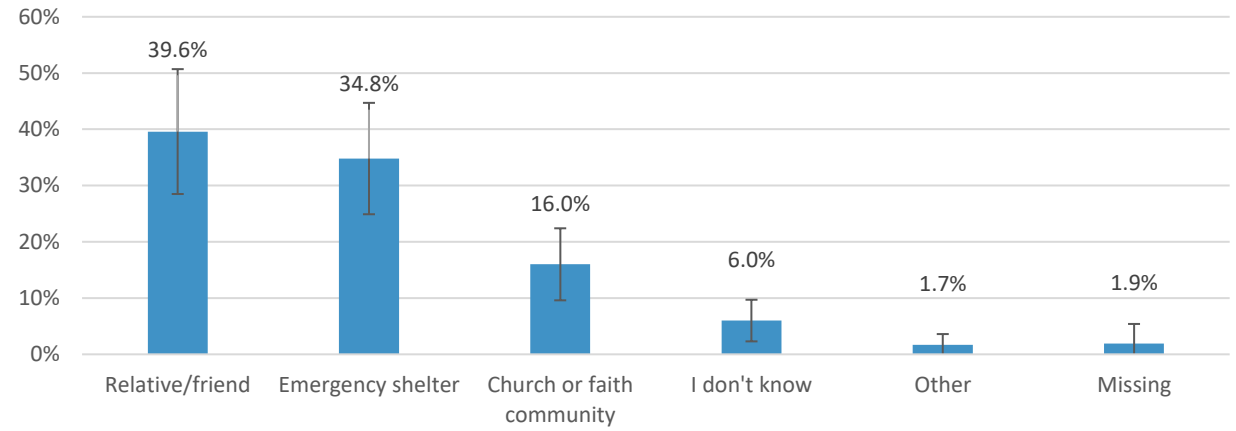


3. If you couldn't remain in your home, where would you go in a community-wide emergency? (*Choose one*.)

Full County sample:

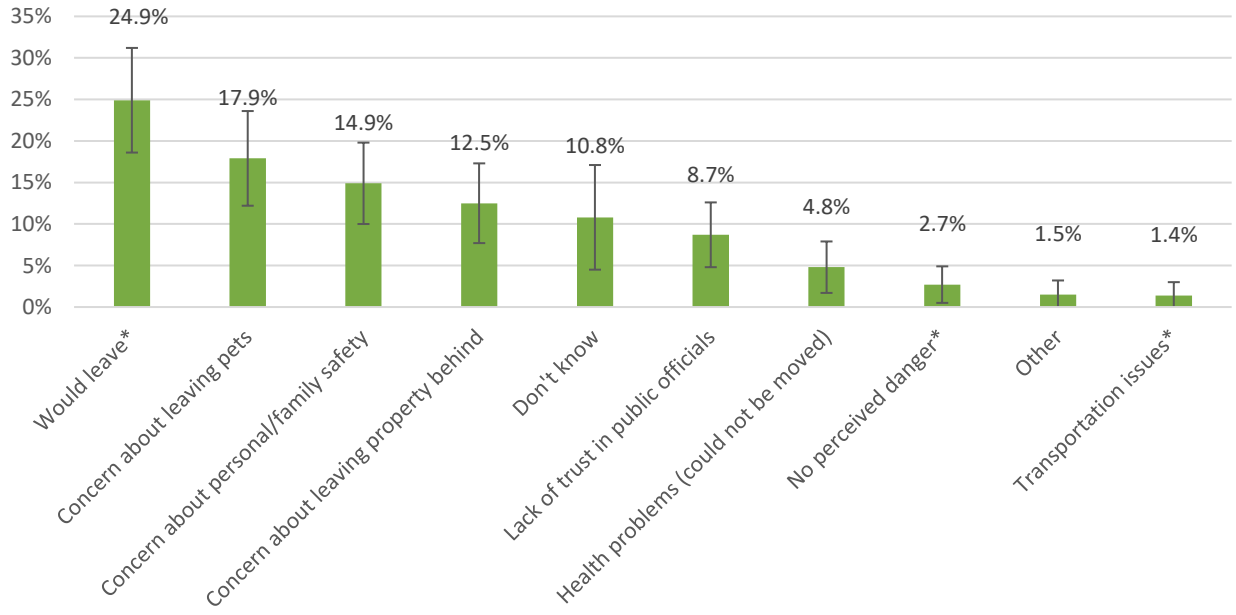


Hispanic and Latino sample:

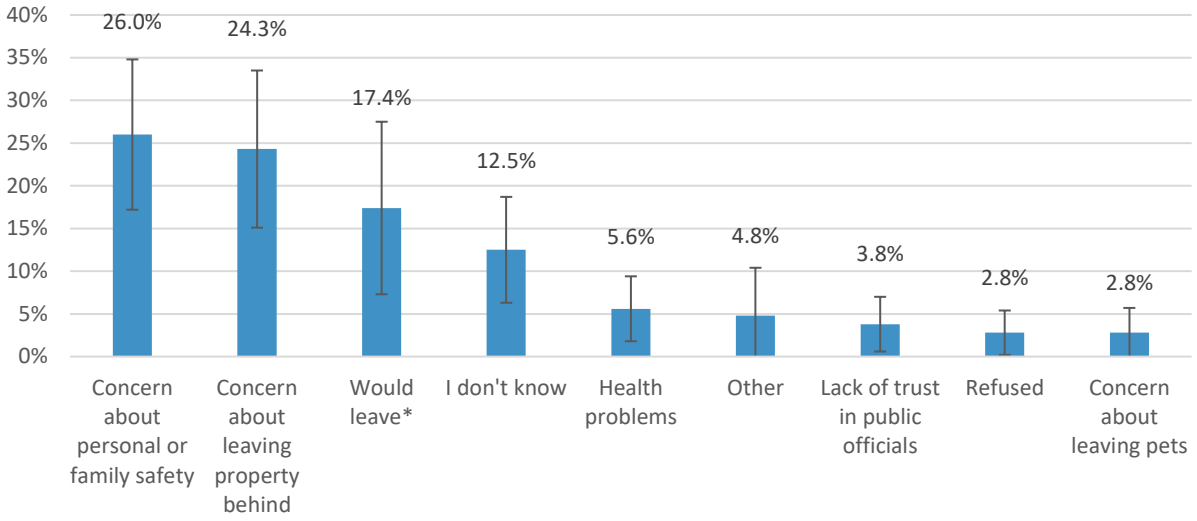


4. What would be the main reason you might not evacuate or leave your home if asked to do so? (*Choose one*.)

Full County sample:

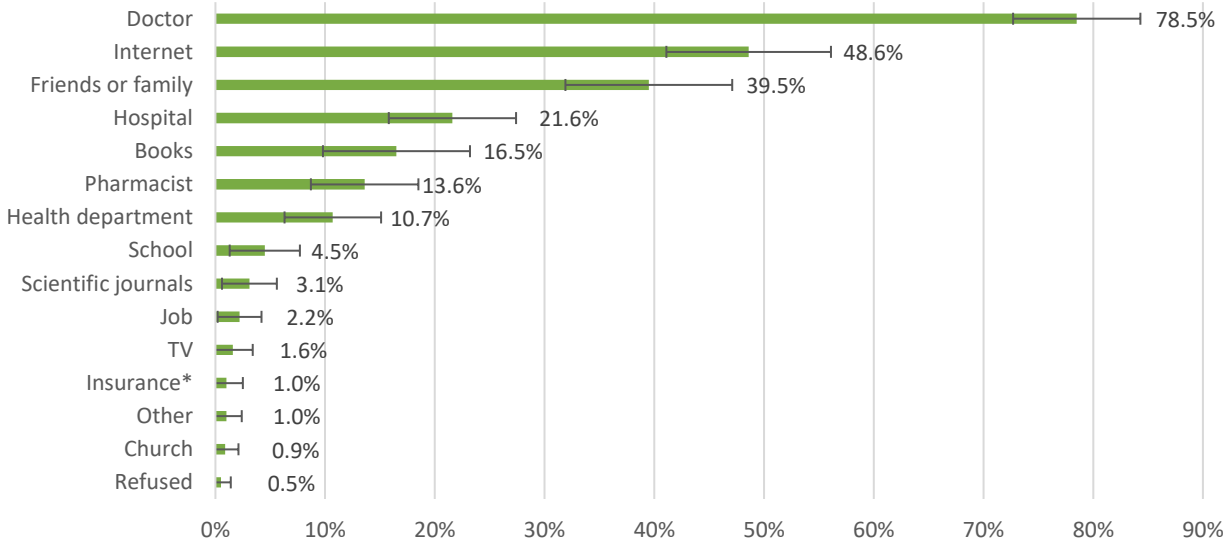


Hispanic and Latino sample:

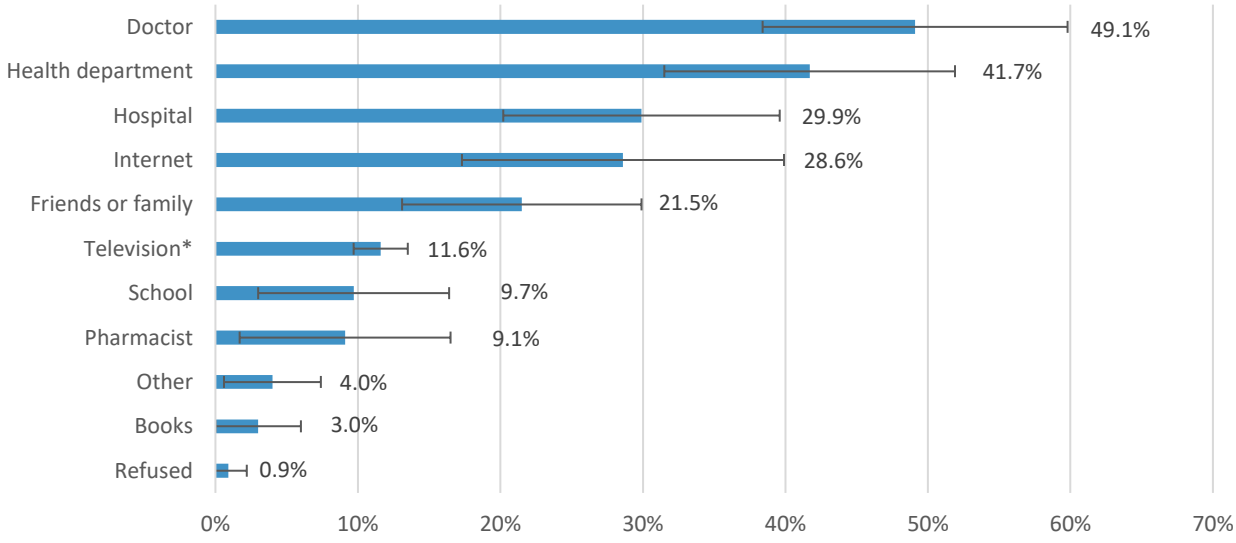


5. Where or from whom do you get most of your health-related information? (*Choose three*.)

Full County sample:

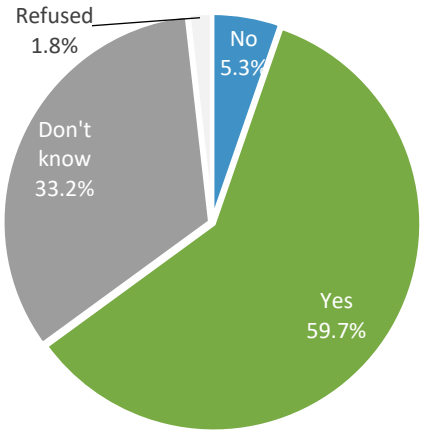


Hispanic and Latino sample:

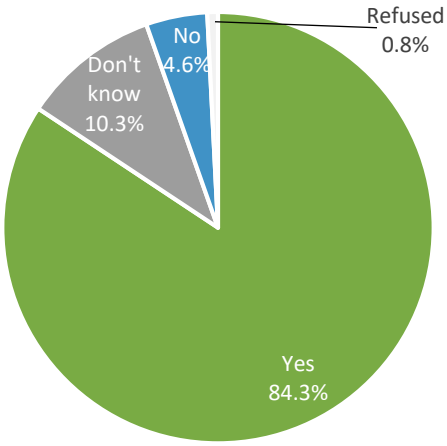


6. Do you think that the Durham County Department of Public Health is a trusted source of health information?

Full County sample:

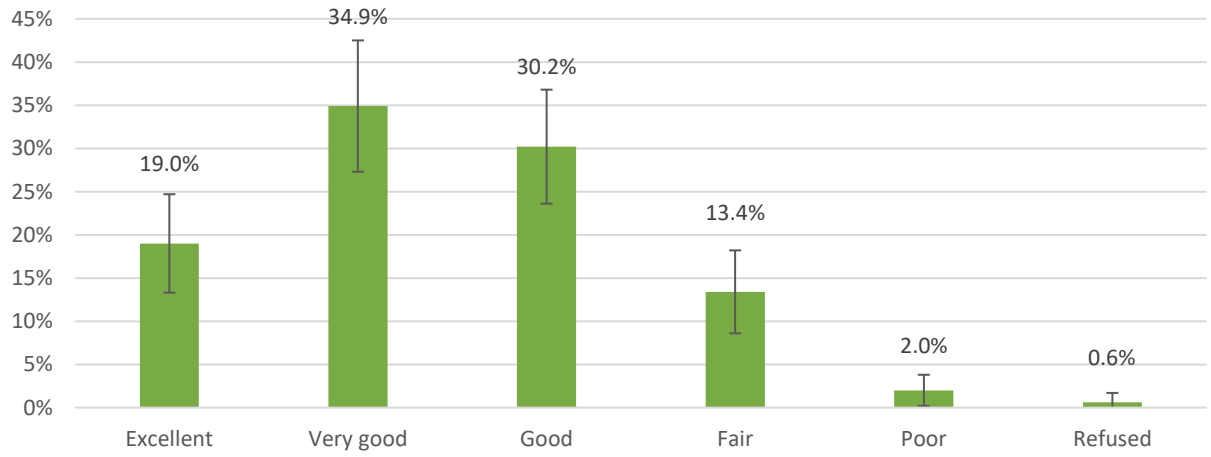


Hispanic and Latino sample:

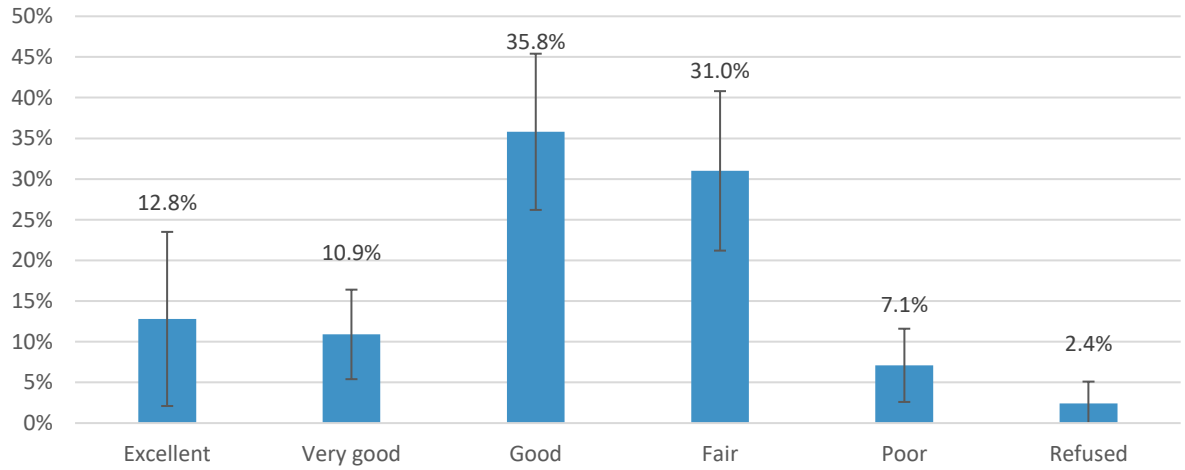


7. Would you say that, in general, your health is excellent, very good, good, fair or poor? Please consider both your physical and mental health. (*Choose one*.)

Full County sample

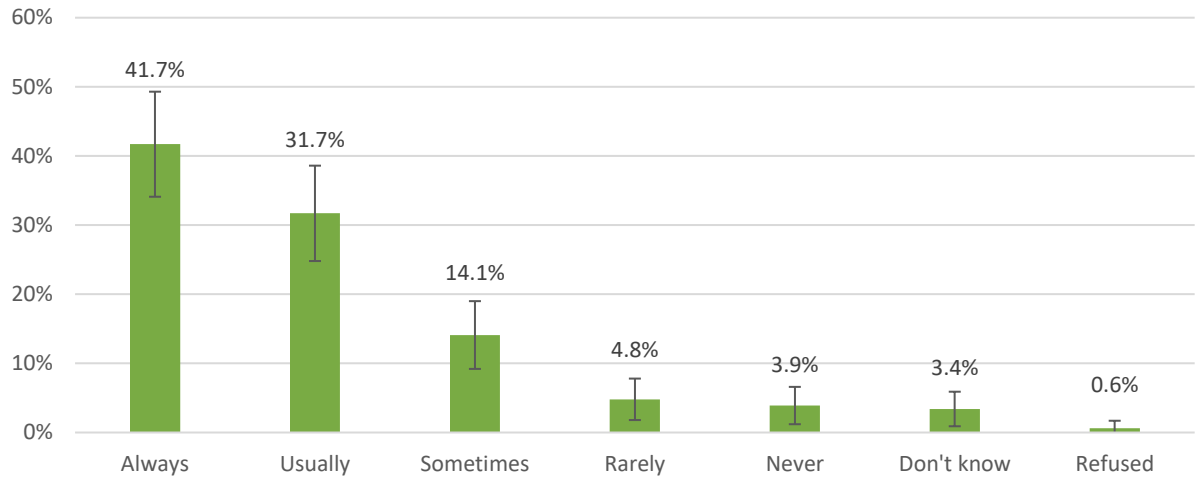


Hispanic and Latino sample

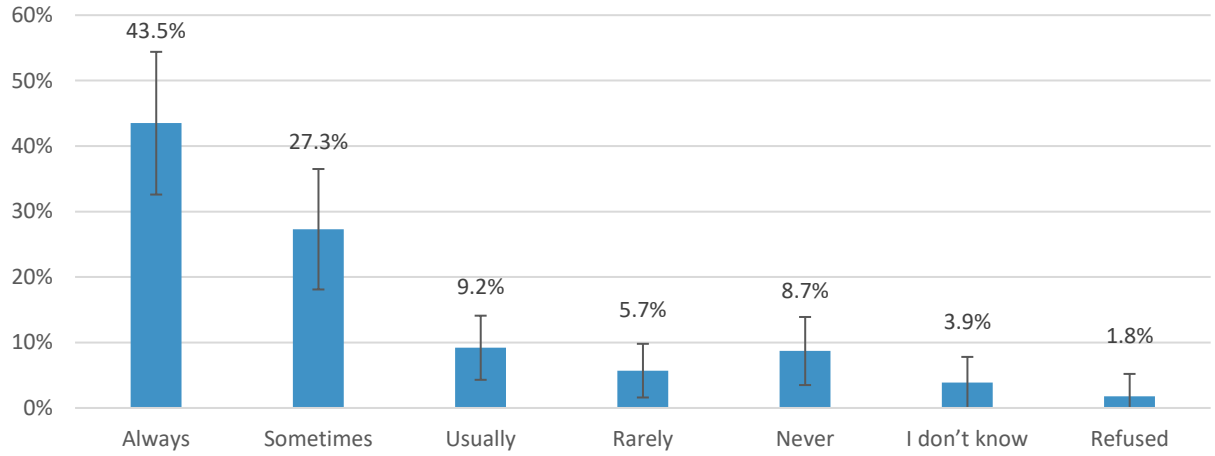


8. How often do you get the social and emotional support you need? Would you say… (*Choose one*.)

Full County sample

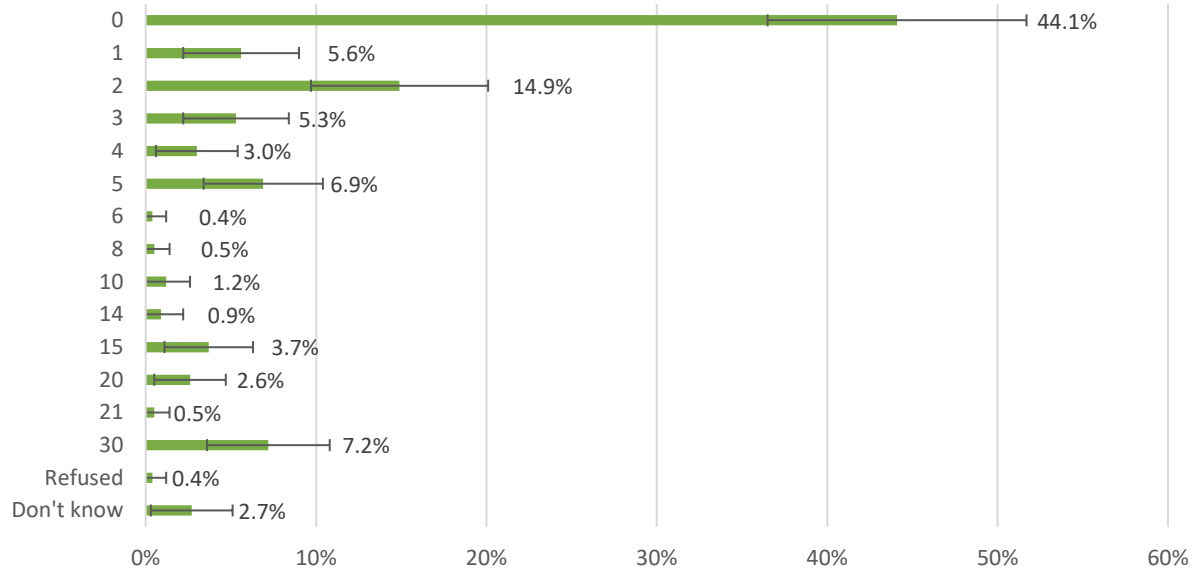


Hispanic and Latino sample

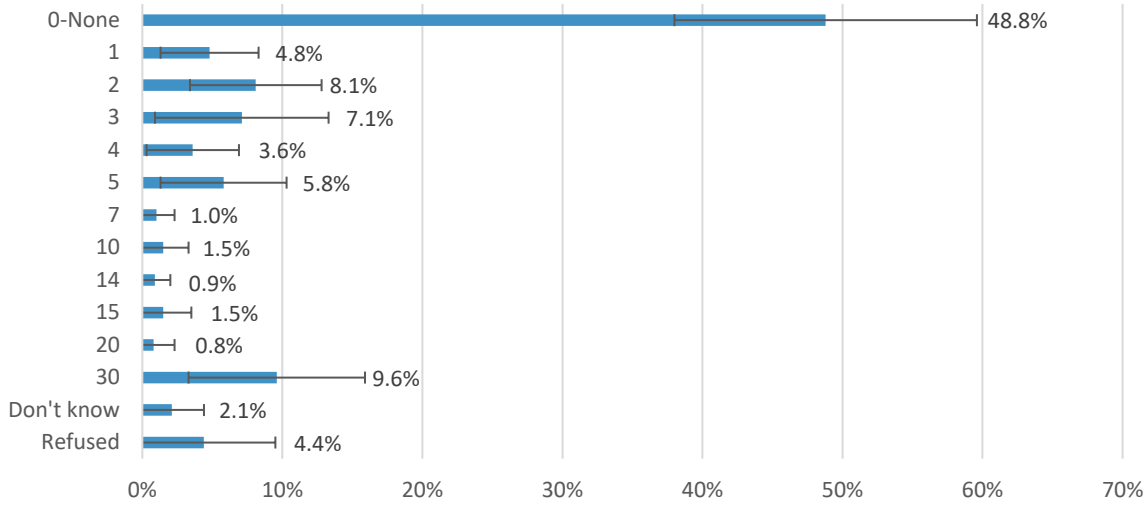


9. Now thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 days was your mental health not good?

Full county sample

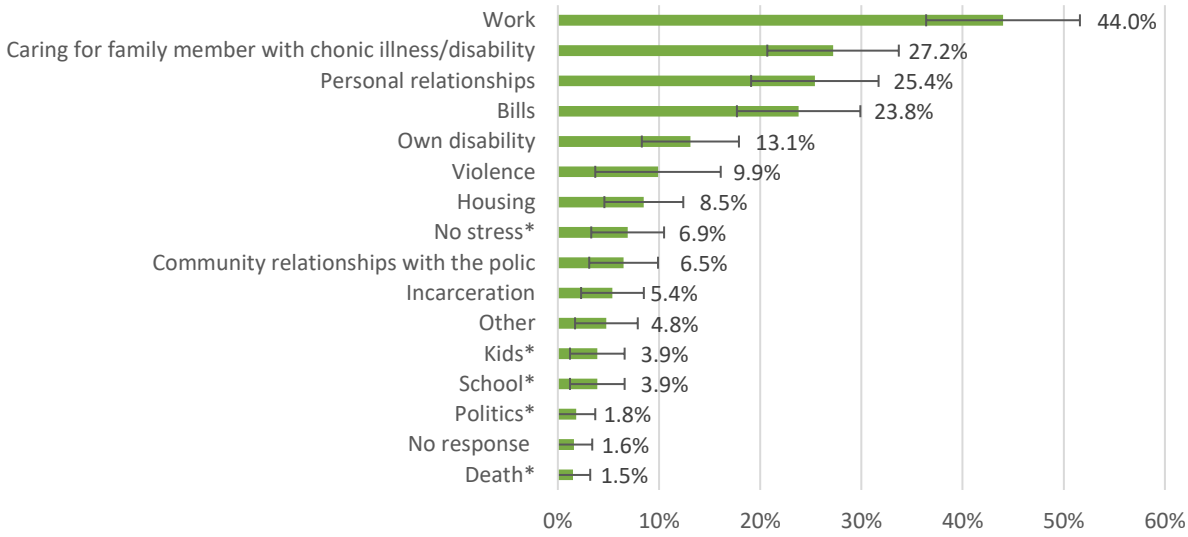


Hispanic and Latino sample

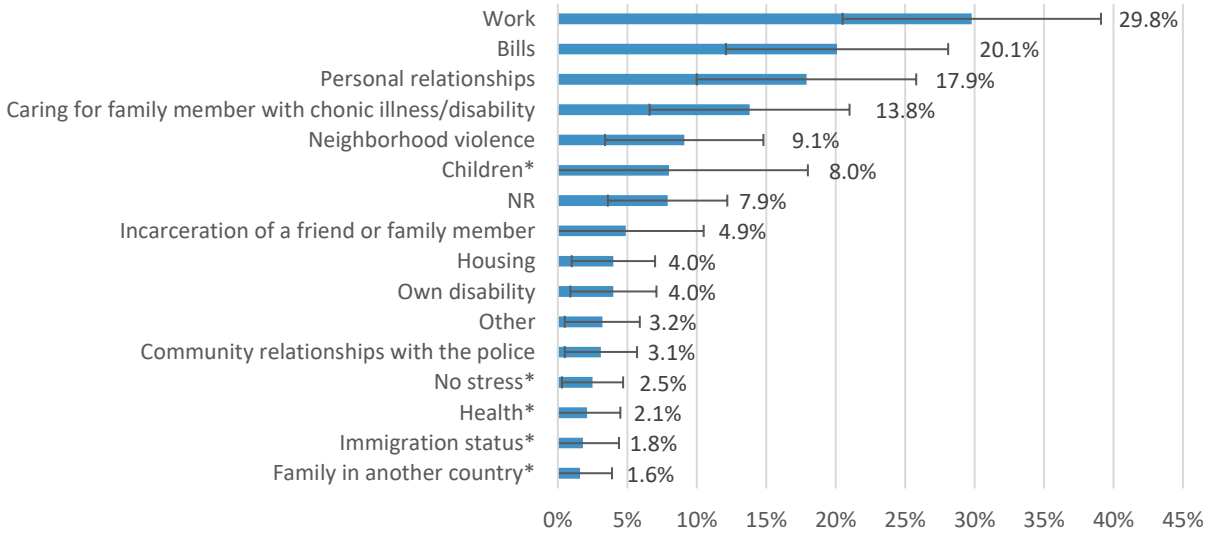


10. What are the primary causes of stress that you experience? (*Choose all that apply*.)

Full County sample

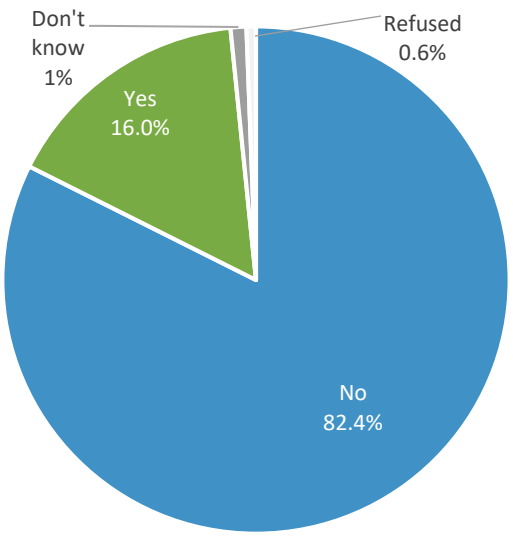


Hispanic and Latino sample

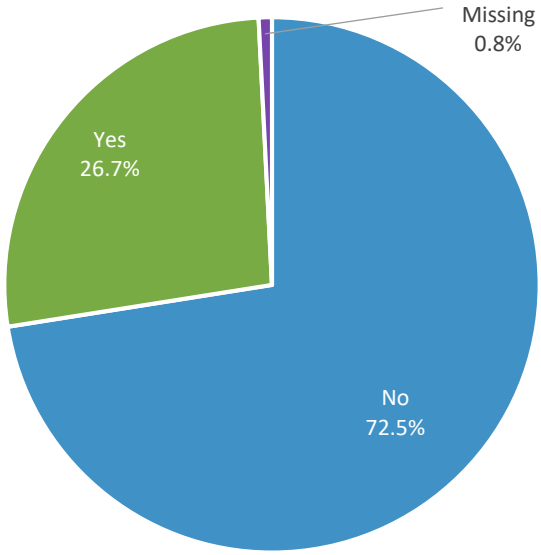


11. During the past 30 days, have you felt emotionally upset, for example angry, sad, or frustrated as a result of how you were treated based on your race? (*Choose one*.)

Full County sample

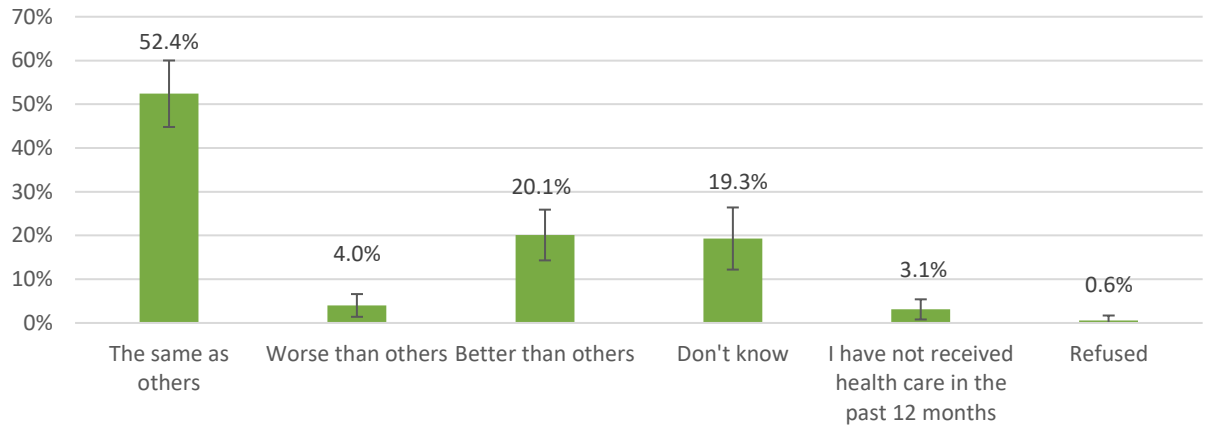


Hispanic and Latino sample

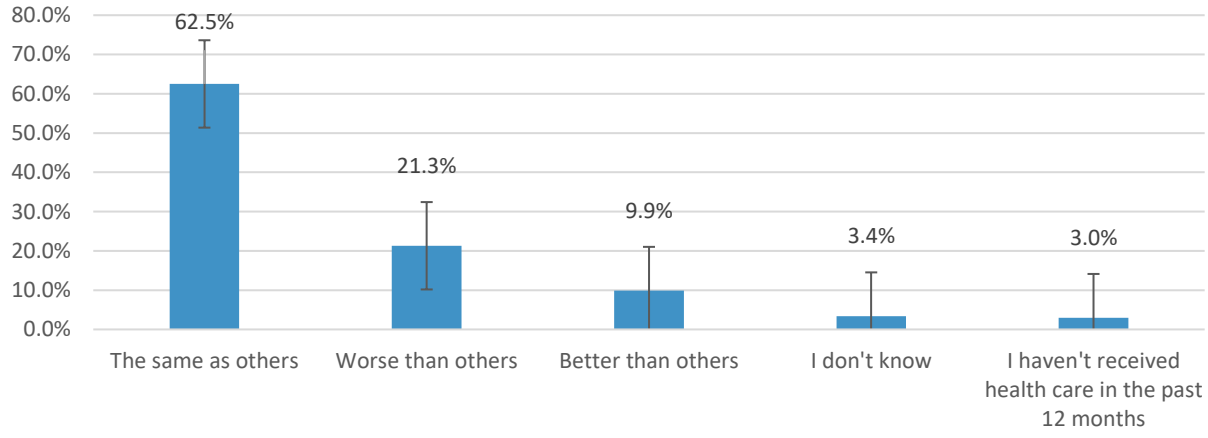


12. Within the past 12 months, when seeking health care, do you feel your experiences were worse than, the same as, or better than people of other races? (*Choose one*.)

Full County sample

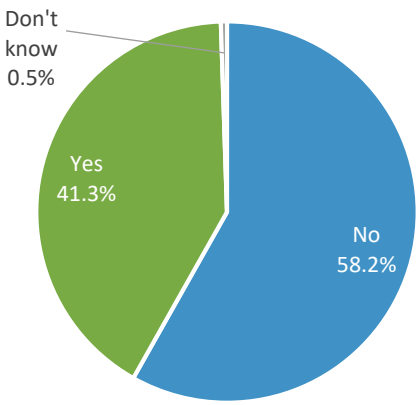


Hispanic and Latino sample

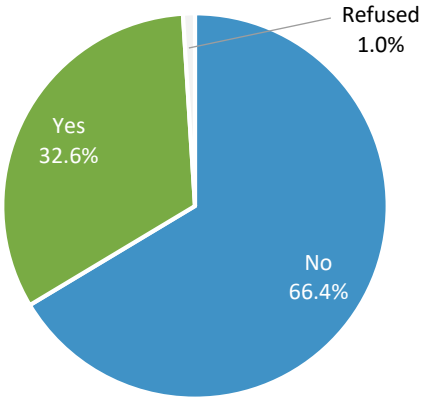


13. During a typical week, do you engage in vigorous-intensity sports, fitness, or recreational activities that last at least 10 minutes at a time? In general, if you're doing vigorous-intensity activity it is difficult to talk. (*Choose one*.)

Full County sample



Hispanic and Latino sample

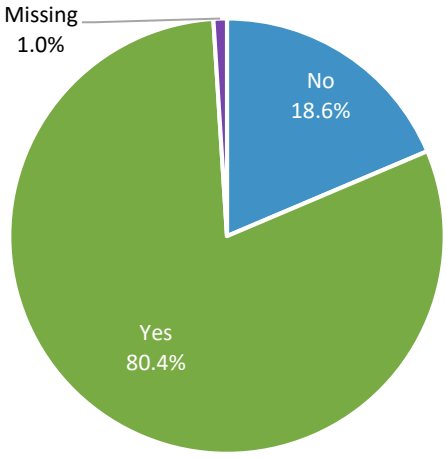


14. In a typical week, how much time do you spend doing vigorous-intensity activities?

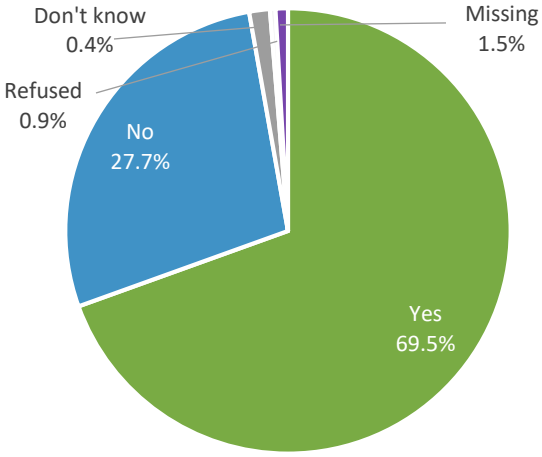
Please see CDC calculated variable below question 16, which includes data from question 14 and 16 to assess the percent of residents who meet the CDC recommendation for physical activity in a week.

15. During a typical week, do you engage in moderate physical activity that lasts at least 10 minutes at a time? This might include brisk walking or gardening for example. (Choose one.)

Full County sample



Hispanic and Latino sample

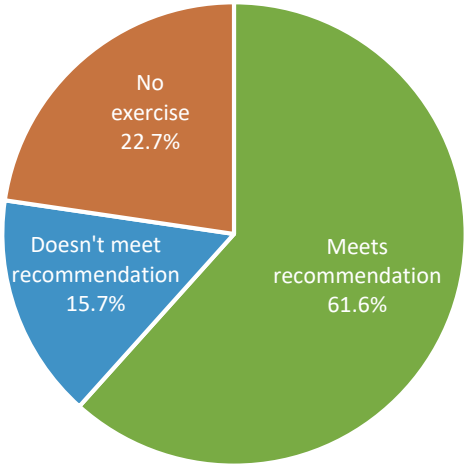


16. In a typical week, how much time do you spend doing moderate-intensity activities?

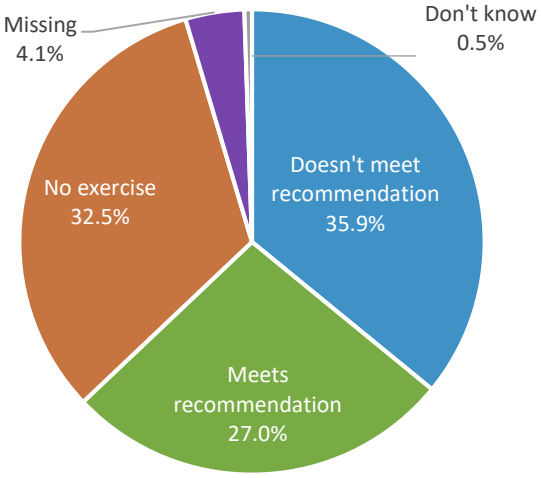
Please see CDC calculated variable below, which includes data from question 14 and 15 to assess the percent of residents who meet the CDC recommendation for physical activity in a week.

CDC Calculated Variable (using data from questions 14 and 16)

Full County sample



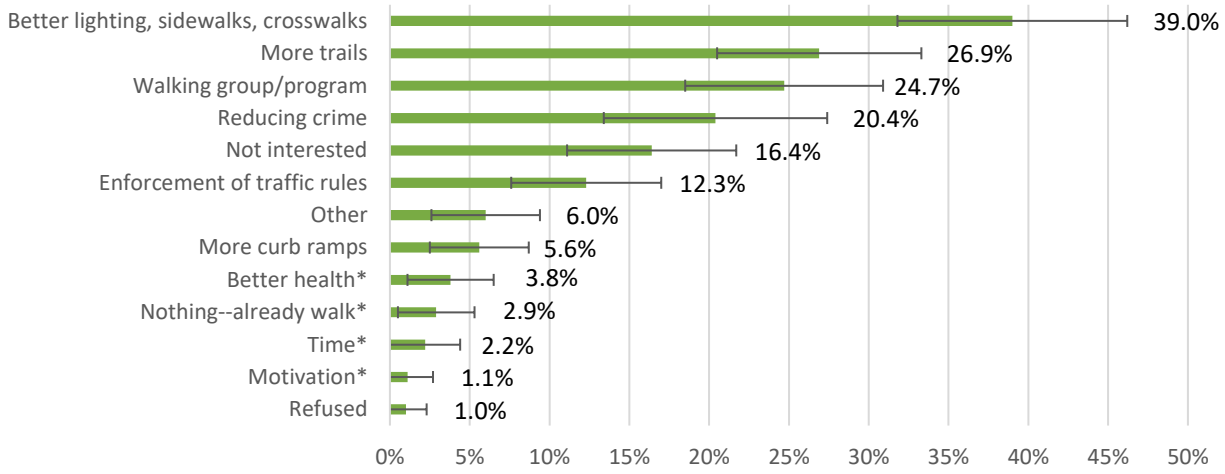
Hispanic and Latino sample



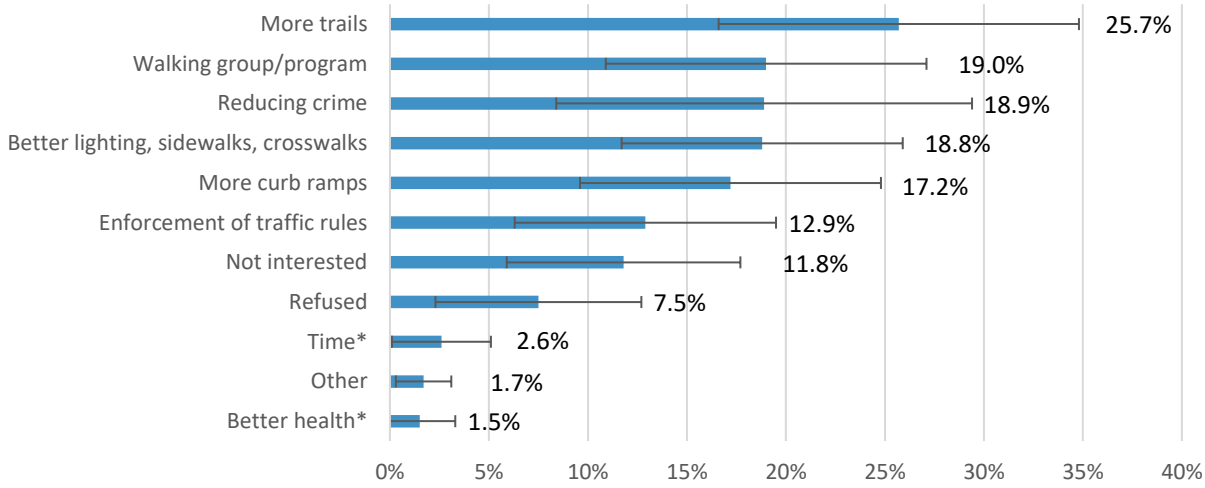
Note: CDC recommendation for aerobic activity is 2.5 hours of moderate-intensity activity or 1 hour and 15 minutes of vigorous-intensity aerobic activity per week.

17. Whether you currently walk or not, would any of the following make you want to walk more? (*Read choices. Check all that apply.*)

Full County sample

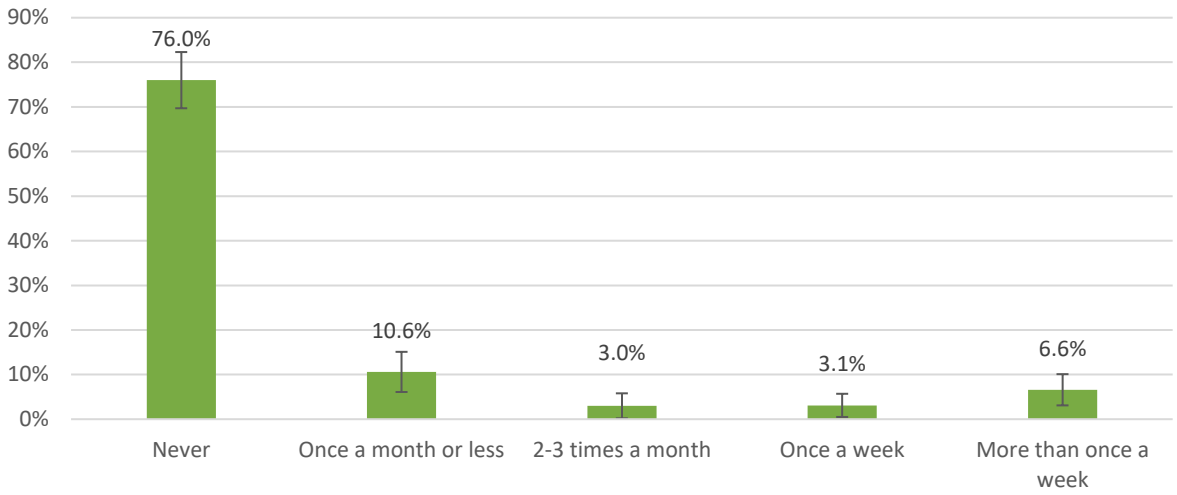


Hispanic and Latino sample

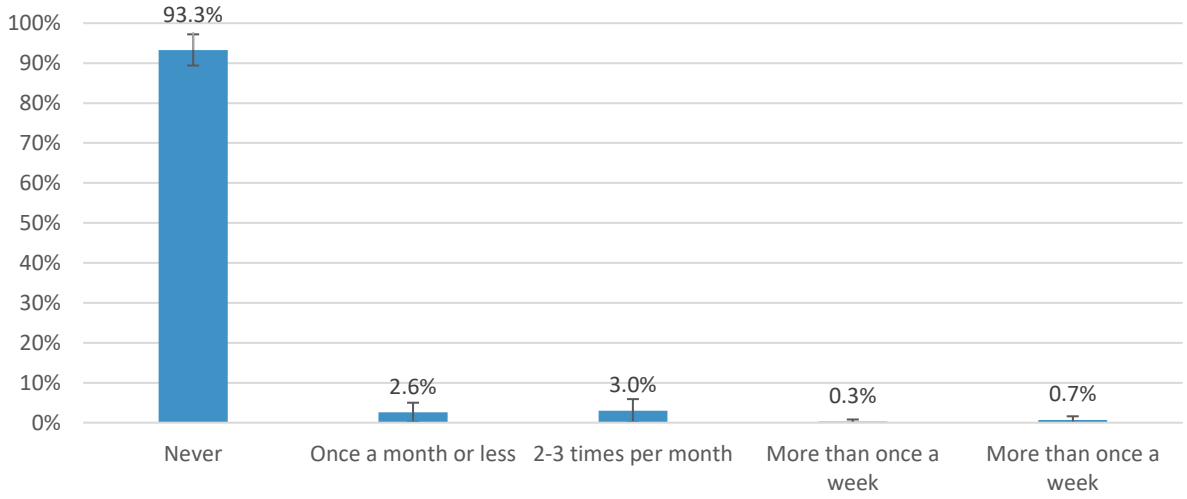


18. How often do you ride a bike, not including an exercise bike? (*Choose one*.)

Full County sample

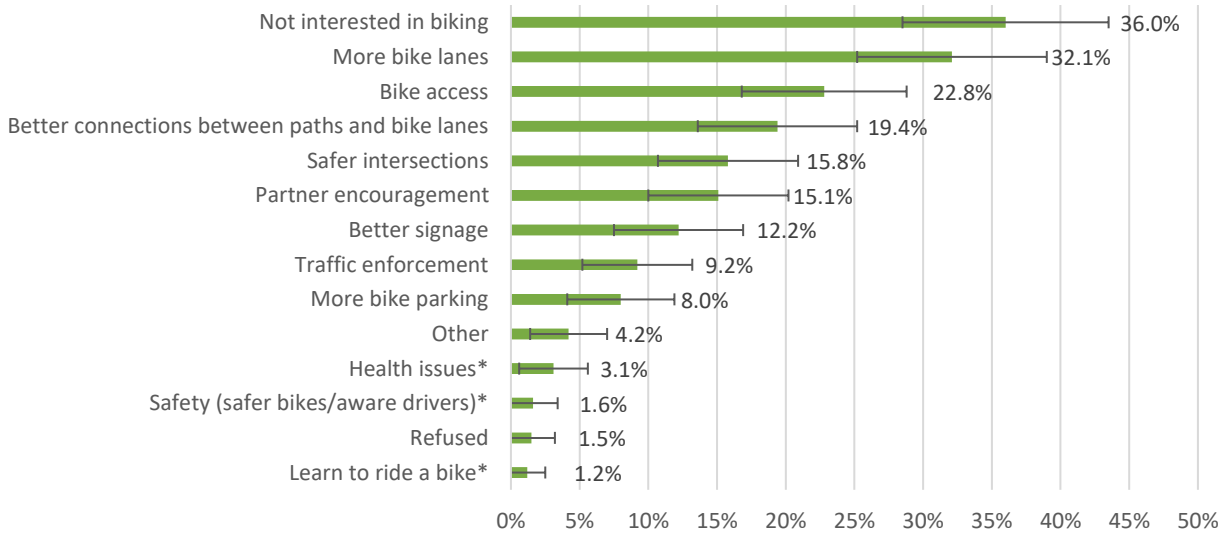


Hispanic and Latino sample

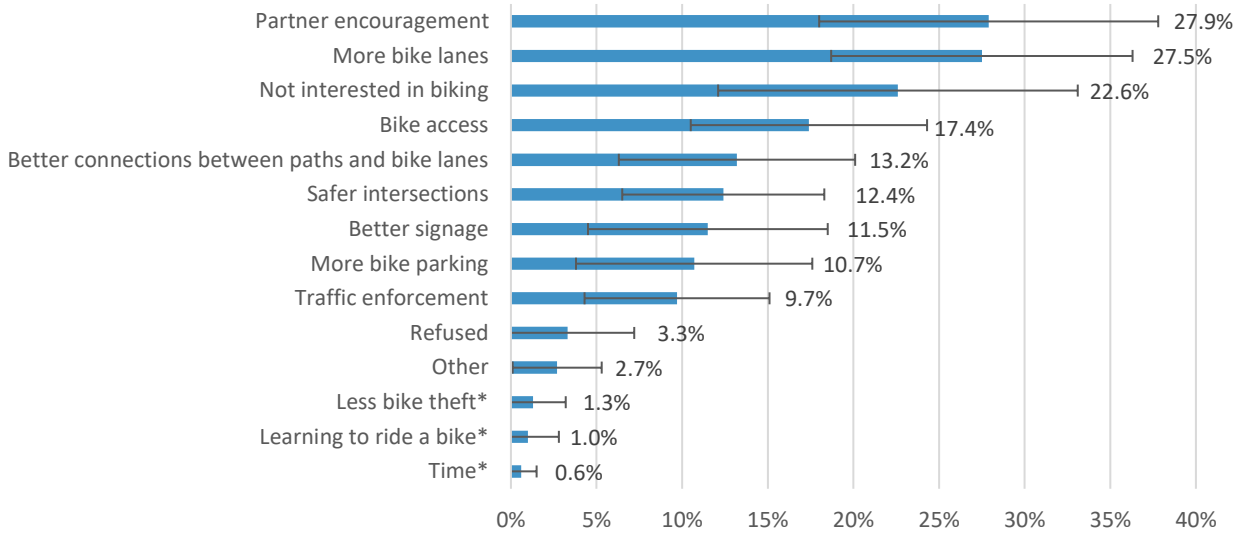


19. Whether you currently bike or not, what would make you want to bike more? (*Choose all that apply*.)

Full County sample

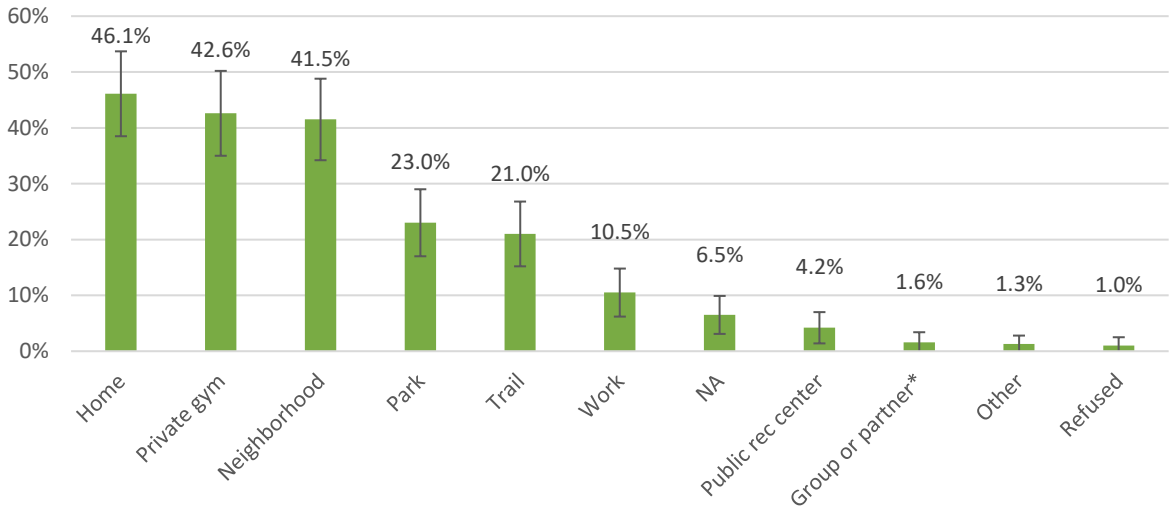


Hispanic and Latino sample

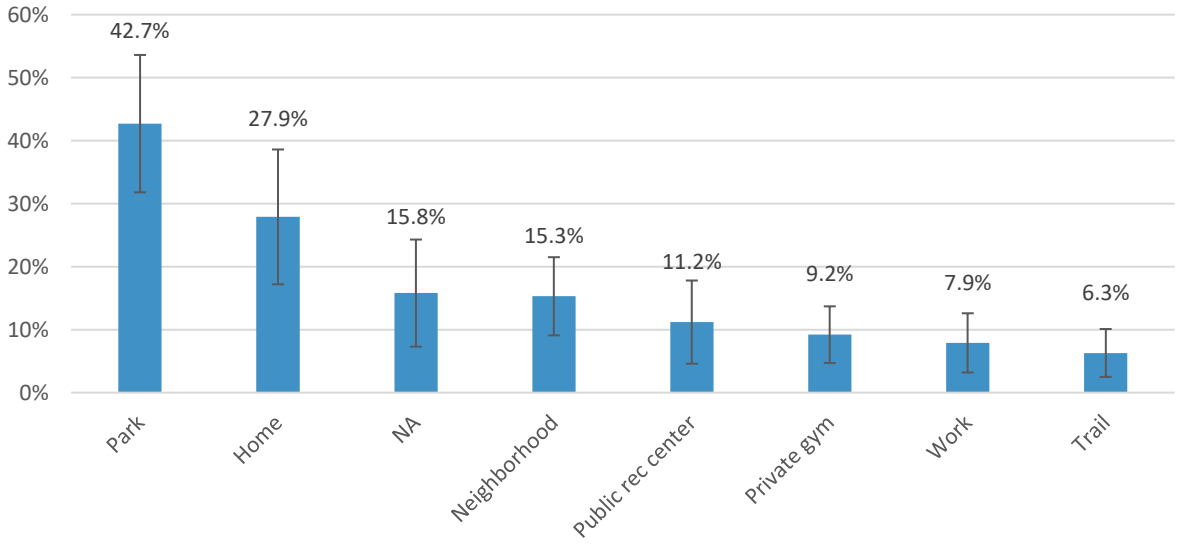


20. Where do you go to exercise or engage in physical activity?

Full County sample

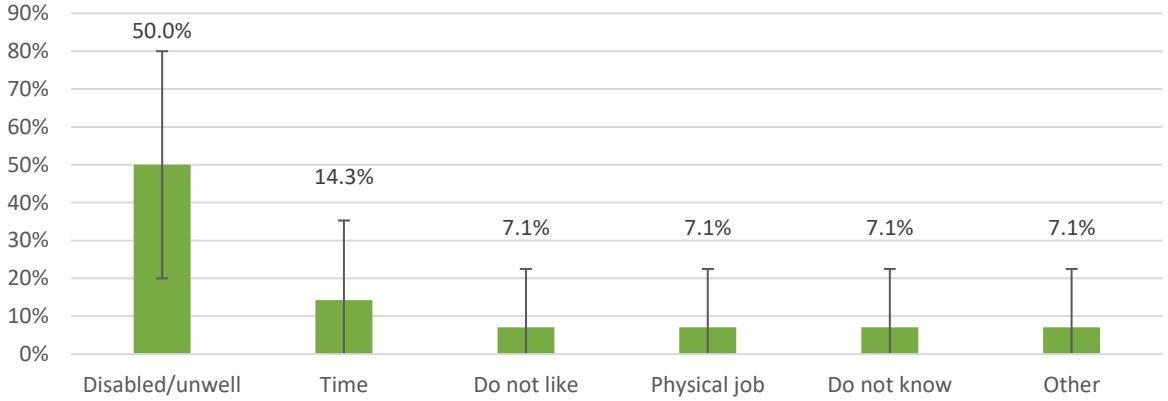


Hispanic and Latino sample

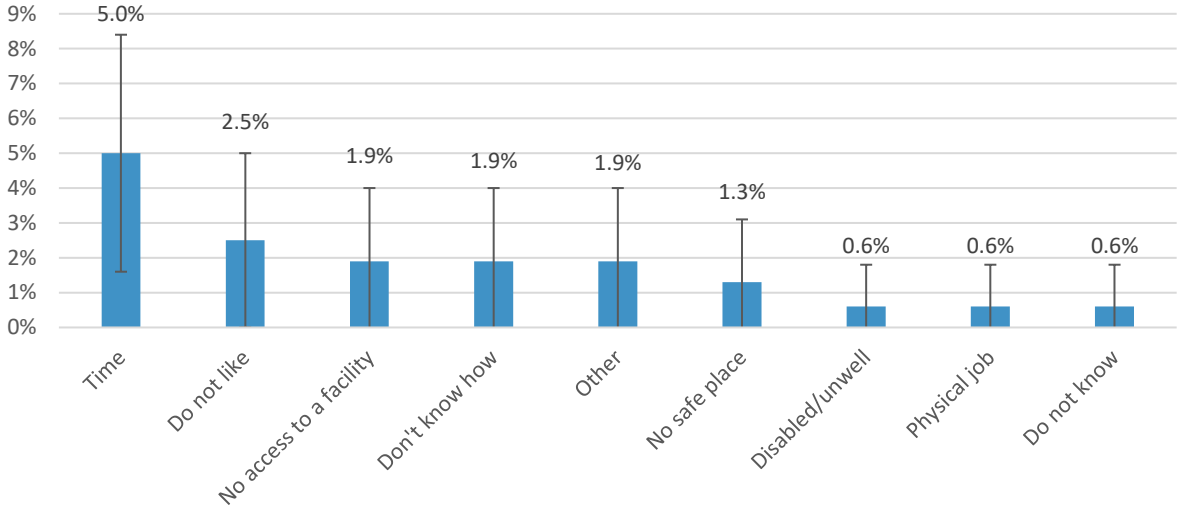


21. If you said “I don’t exercise”, what are the reasons you don’t exercise during a normal week? (*Check all that apply*.)

Full County sample (n=14)

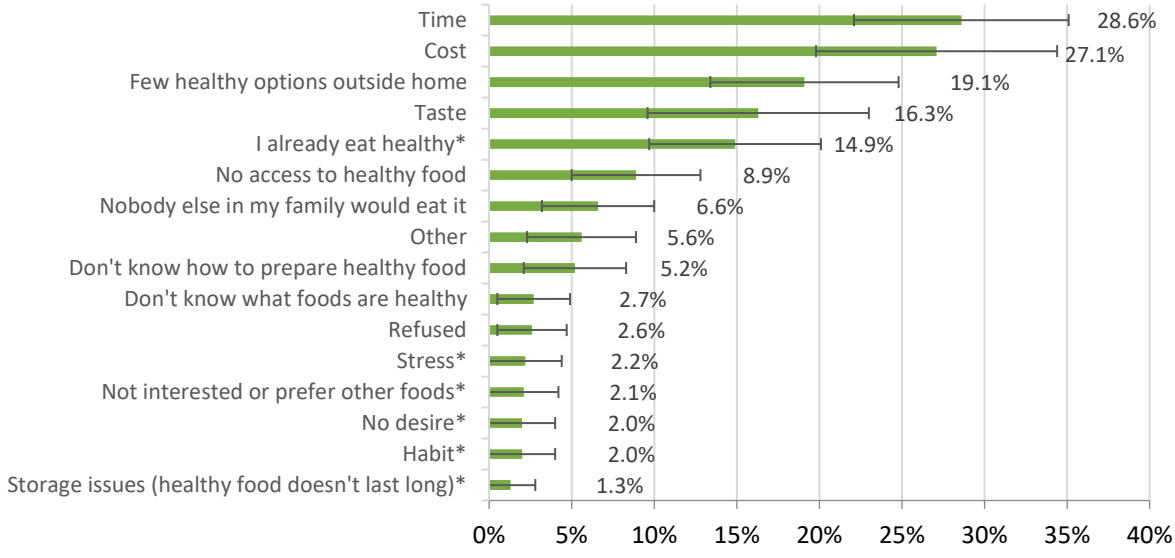


Hispanic and Latino sample (n=21)

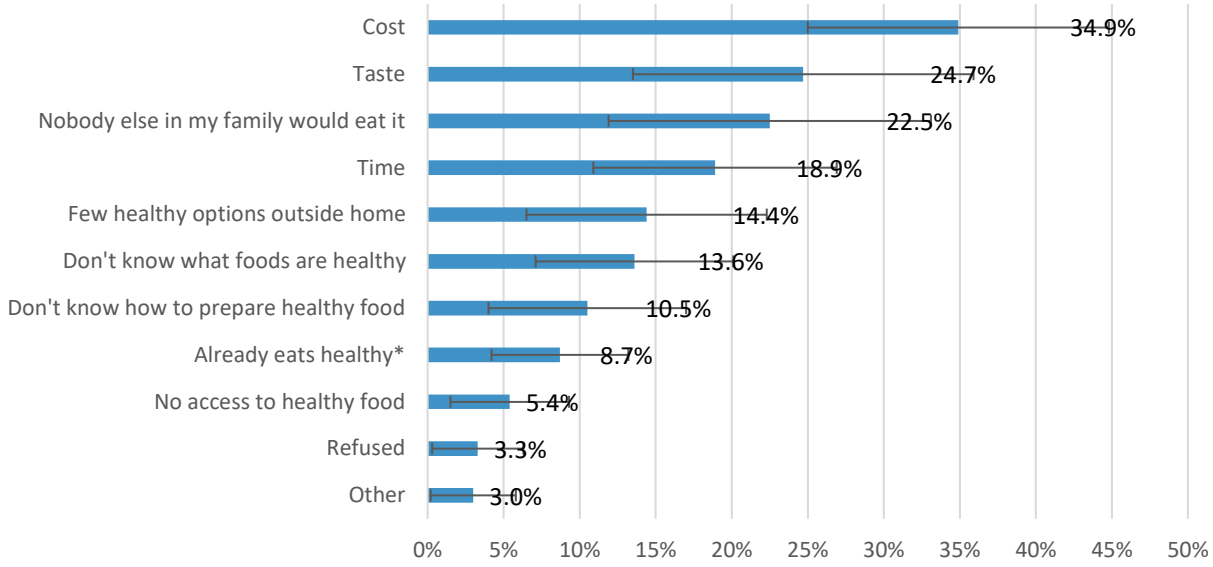


22. Most of us don’t eat healthy all the time. When you aren’t eating a healthy diet, what do you think makes it hard for you to eat healthy? (*Check all that apply*.)

Full County sample

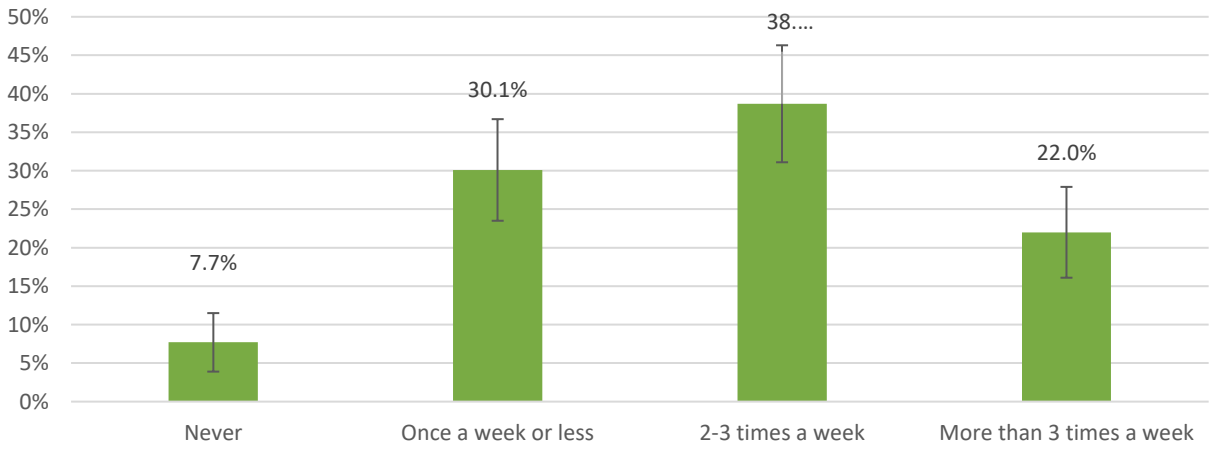


Hispanic and Latino sample

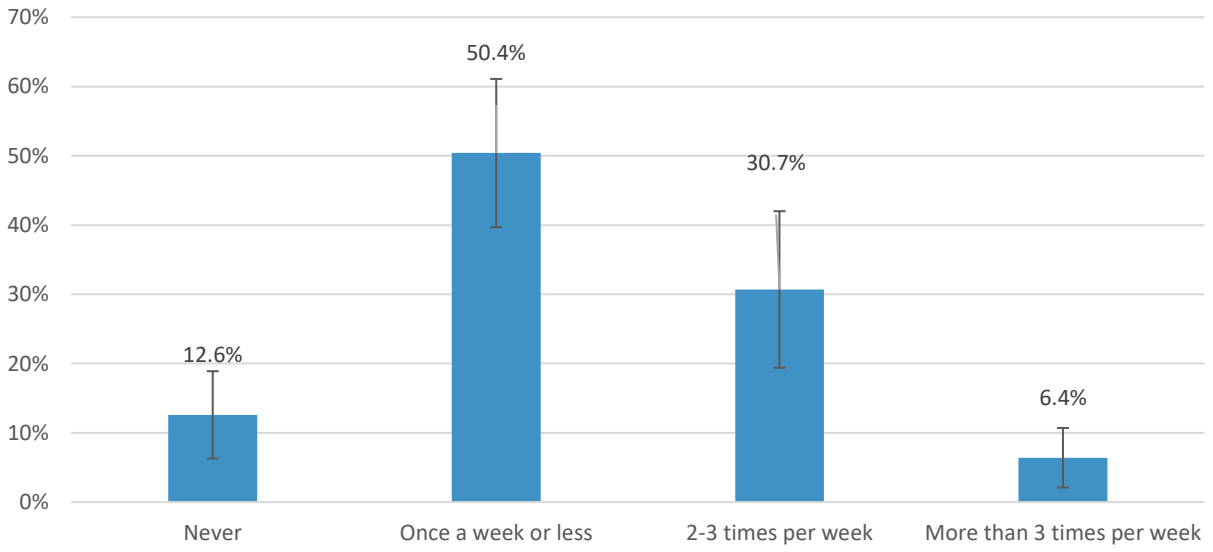


23. Thinking about breakfast, lunch, and dinner, how many times in a typical week do you eat meals that are not prepared at home, like from restaurants, cafeterias, or fast food? (*Choose one*.)

Full County sample

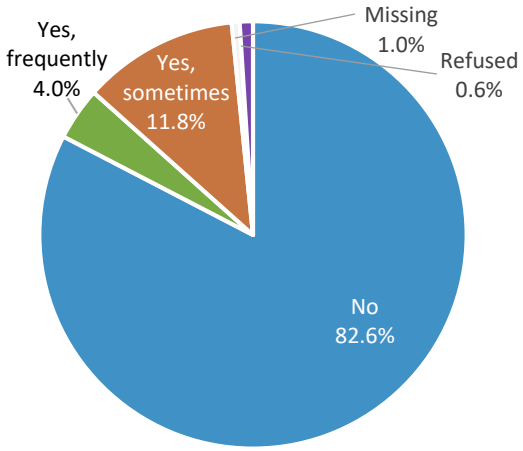


Hispanic and Latino sample

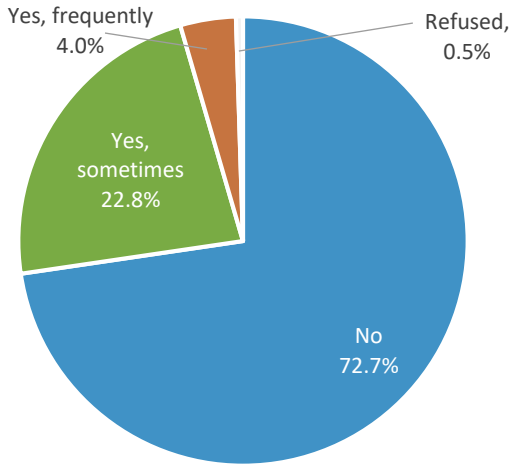


24. In the last 12 months, did you ever cut the size of your meals or skip meals because there wasn't enough money for food? (*Choose one*.)

Full County sample



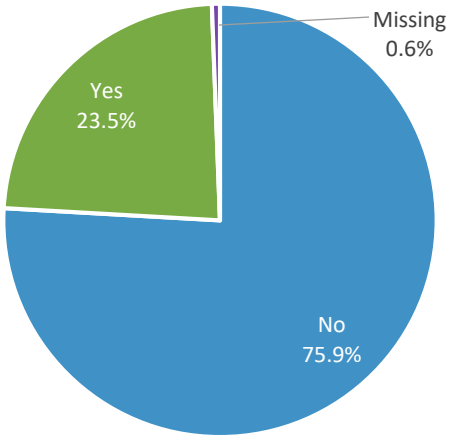
Hispanic and Latino sample



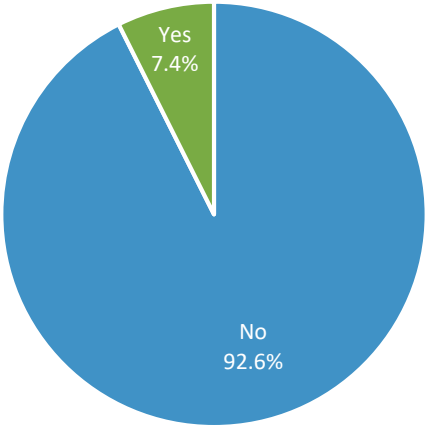
25. In the past 30 days, have you:

a. Smoked a cigarette

Full County sample

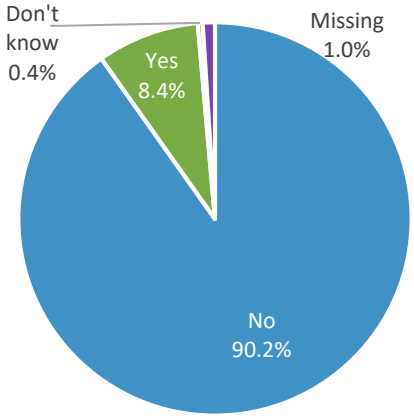


Hispanic and Latino sample

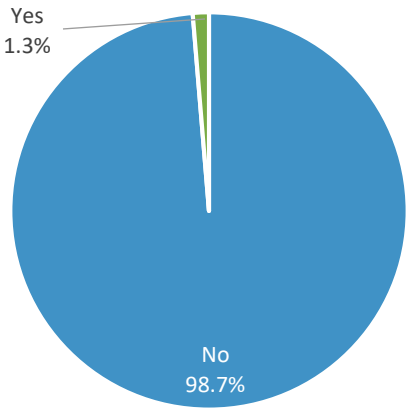


b. Used e-cigarettes or vaping products that contain nicotine

Full County sample

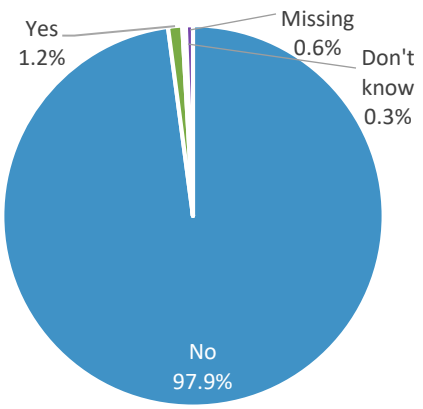


Hispanic and Latino sample

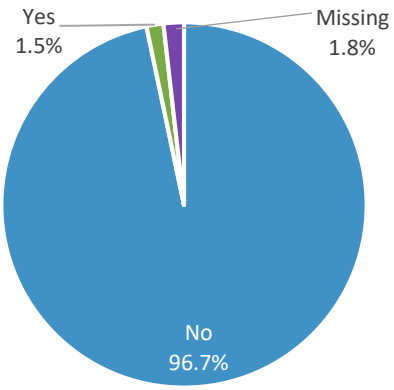


c. Used chewing tobacco snuff or snus

Full County sample

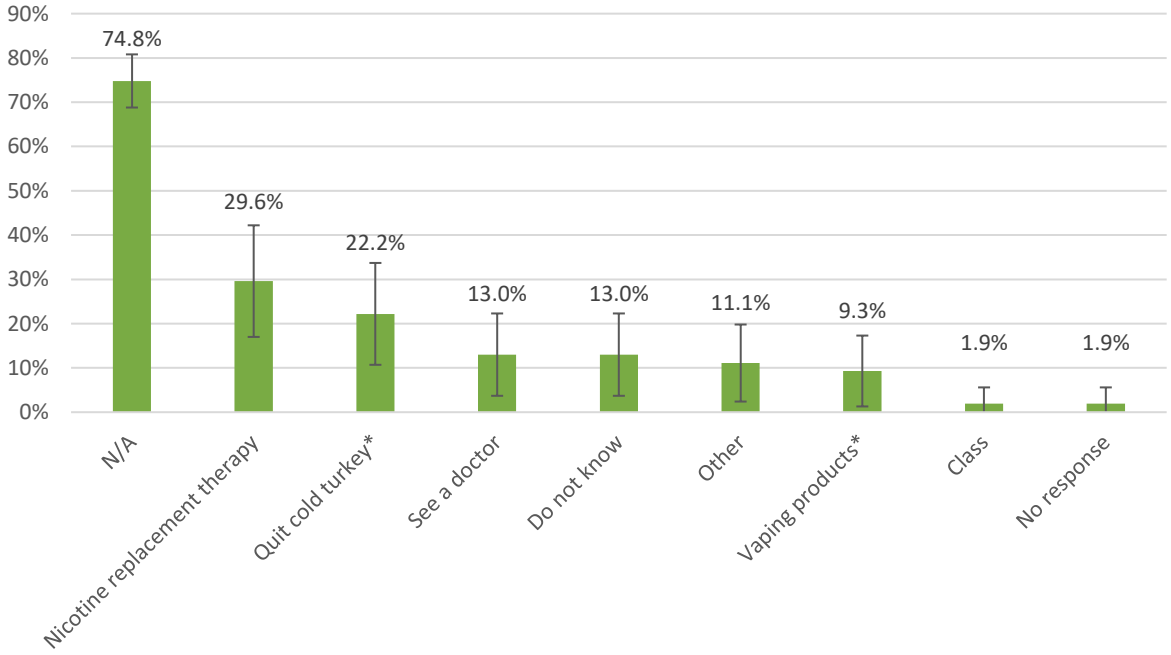


Hispanic and Latino sample

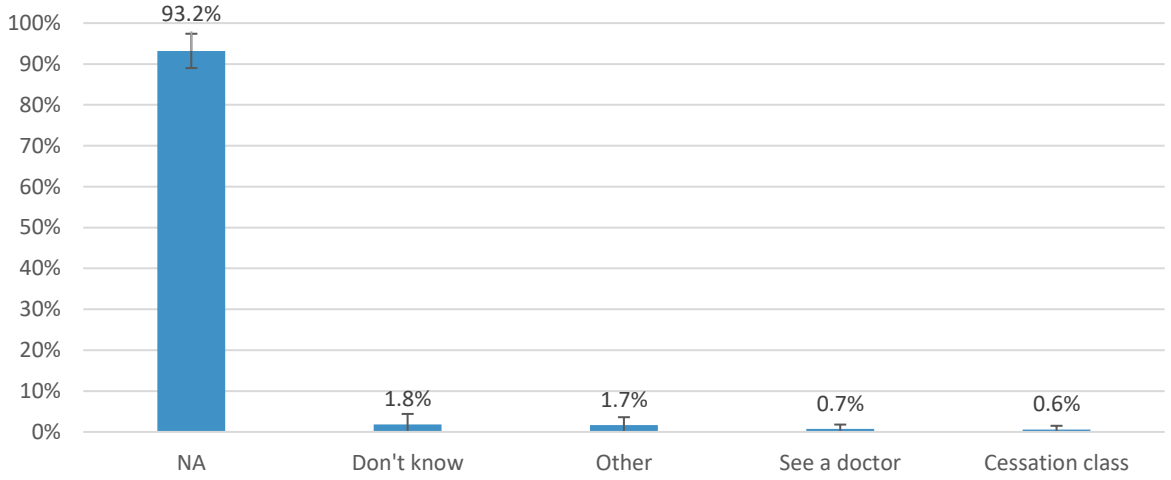


26. If you use tobacco products, what would you do if you wanted to quit? (*Check all that apply.*)

Full County sample

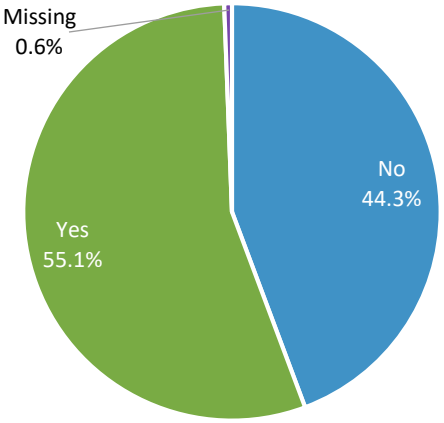


Hispanic and Latino sample

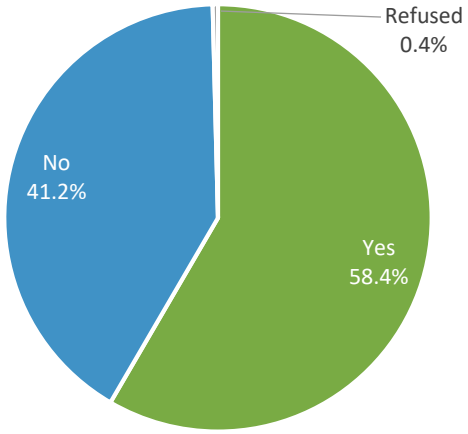


27. Are you aware that Durham has a Smoking Rule that does not allow smoking or use of e-cigarettes and vaping products in outdoor public spaces such as parks, county and city government properties, certain sidewalks and bus stops?

Full County sample

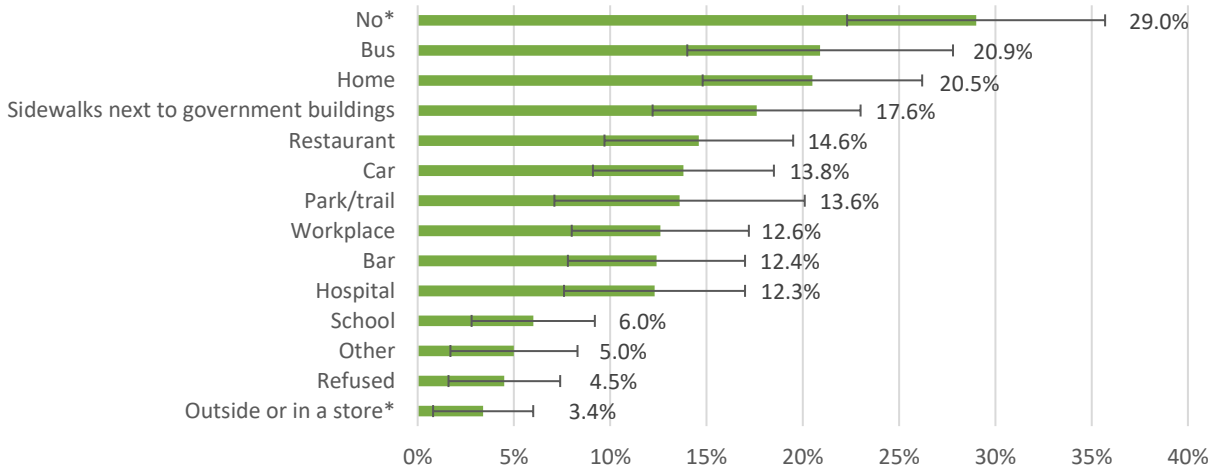


Hispanic and Latino sample

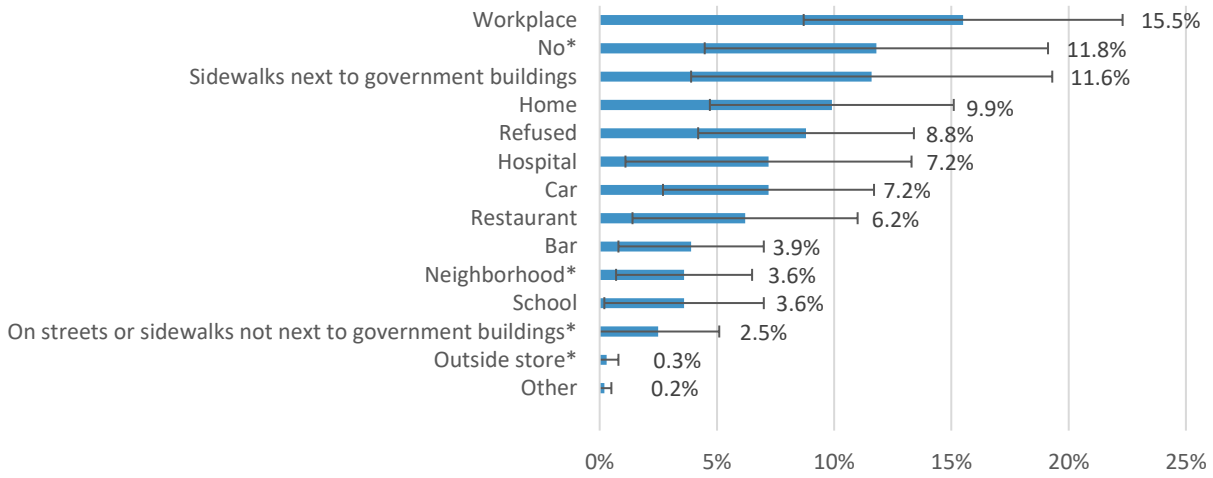


28. Have you ever been exposed to secondhand smoke in Durham County in the past year at any of the following: (*Choose all that apply.*)

Full county sample

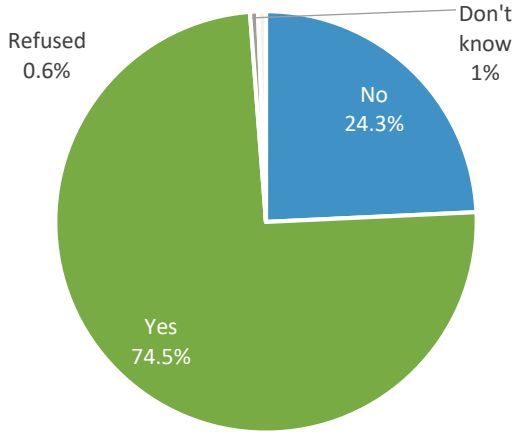


Hispanic and Latino sample

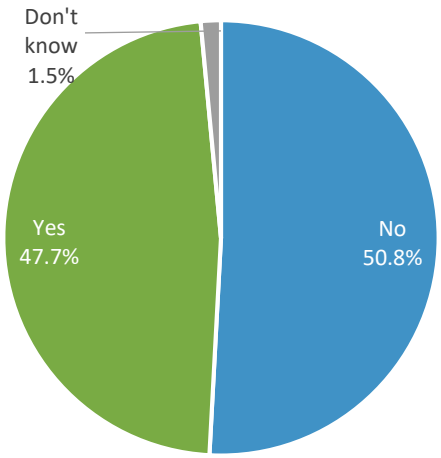


29. Do you have one person you think of as a personal doctor or health care provider?

Full County sample

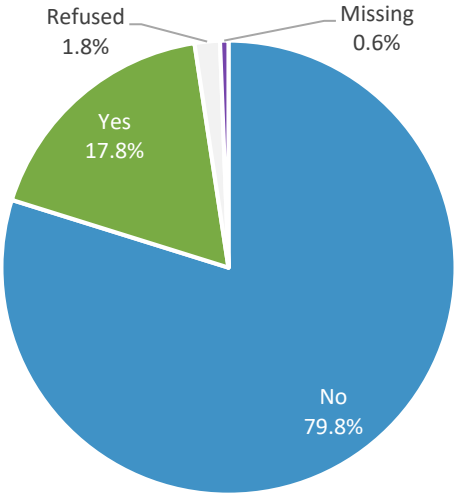


Hispanic and Latino sample

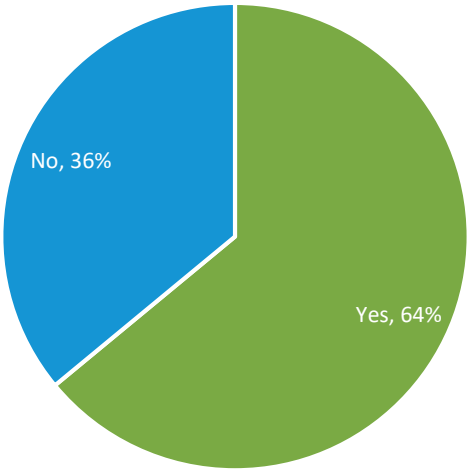


30. During the past 12 months, was there any time that you did not have any health insurance or coverage? (*Choose one*.)

Full County sample

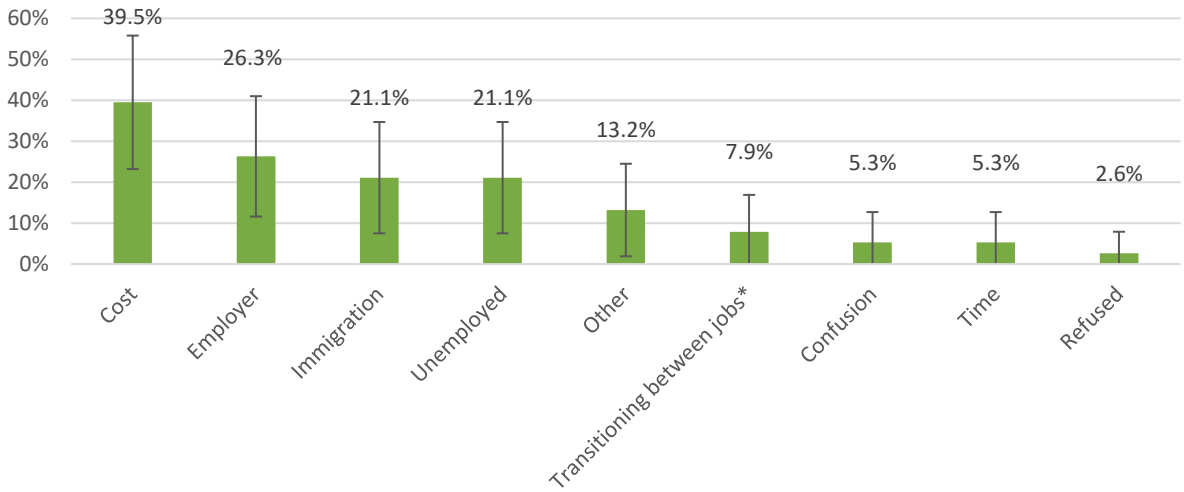


Hispanic and Latino sample

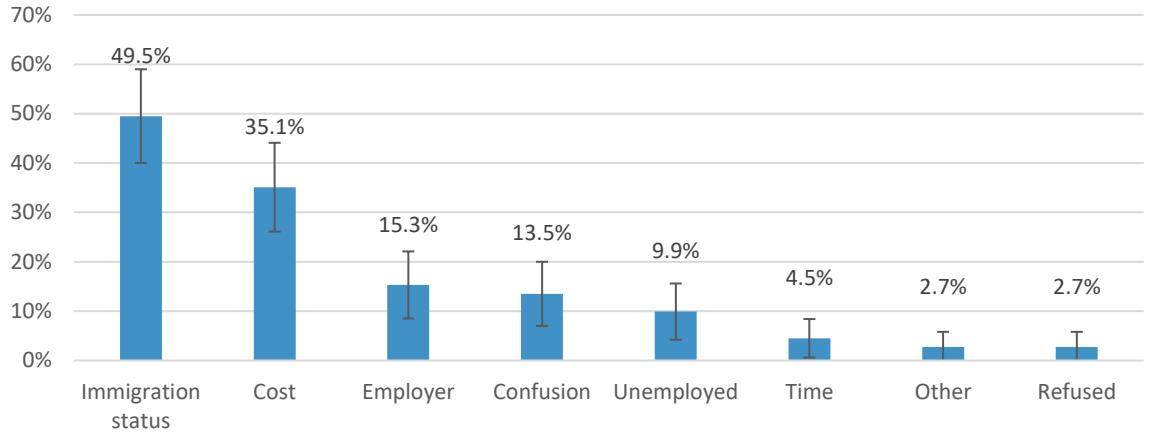


31. Since you said "yes", what prevented you from having health insurance or coverage? (*Choose all that apply*.)

Full County sample (n=38)

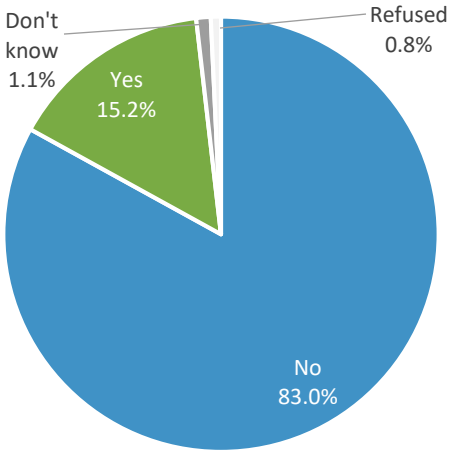


Hispanic and Latino sample (n=111)

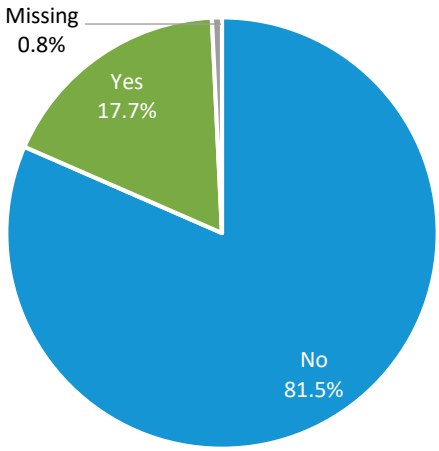


32. In the past 12 months, did you have a problem getting the health care you needed for you personally or for someone in your household from any type of health care provider, hospital, dentist, pharmacy, or other facility?

Full County sample

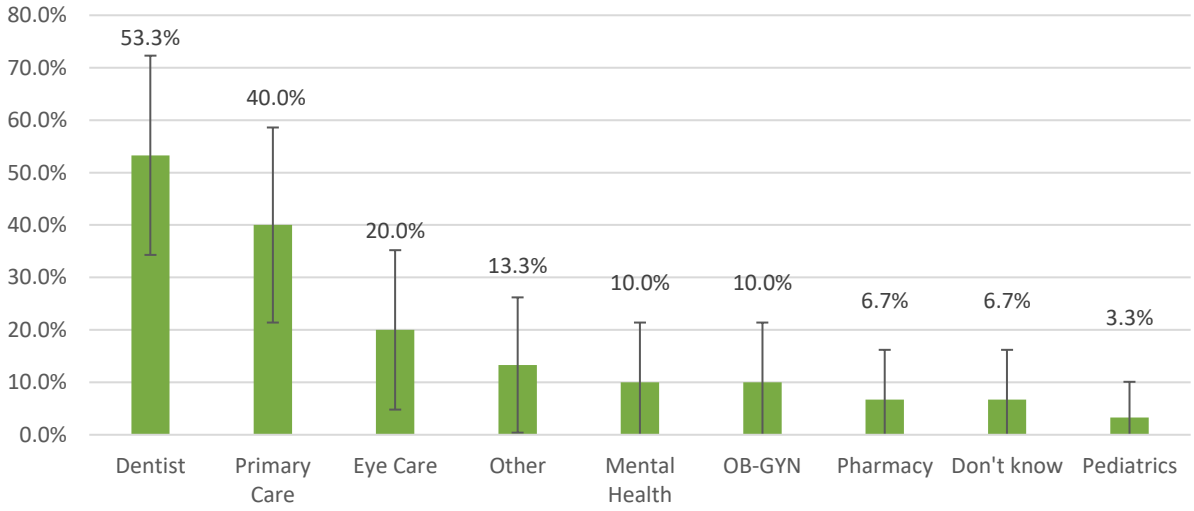


Hispanic and Latino sample

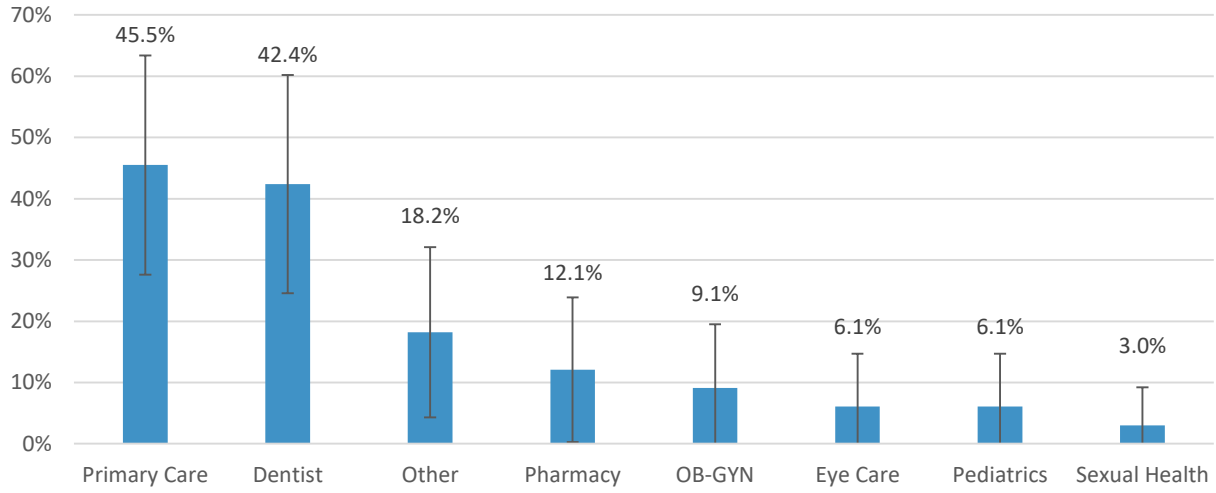


33. Since you said "yes", what type of provider did you or people in your household have trouble getting health care from? (*Choose all that apply*.)

Full County sample (n=30)

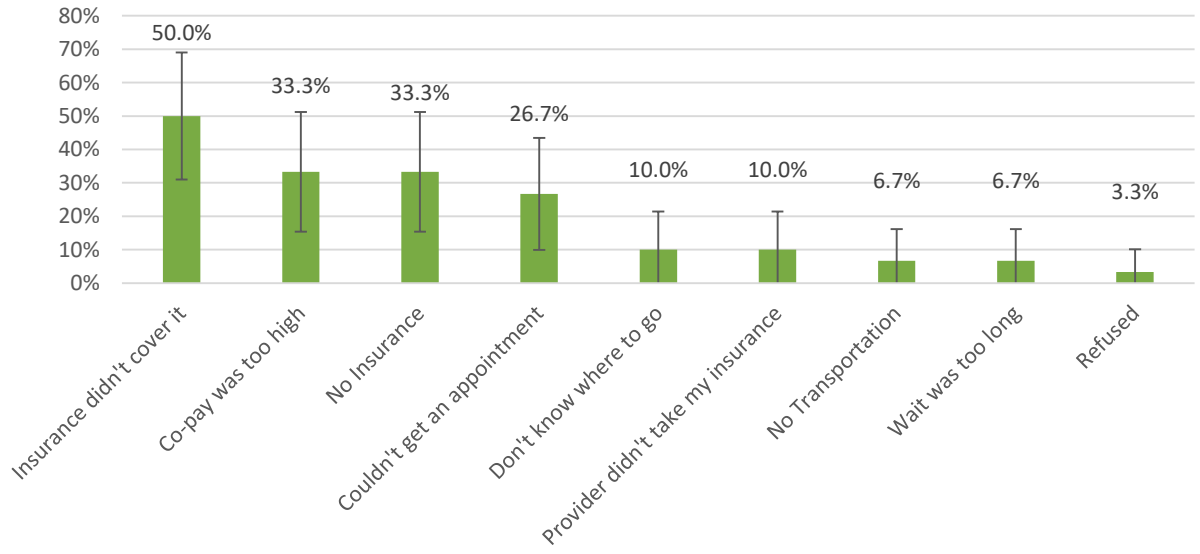


Hispanic and Latino sample (n=33)

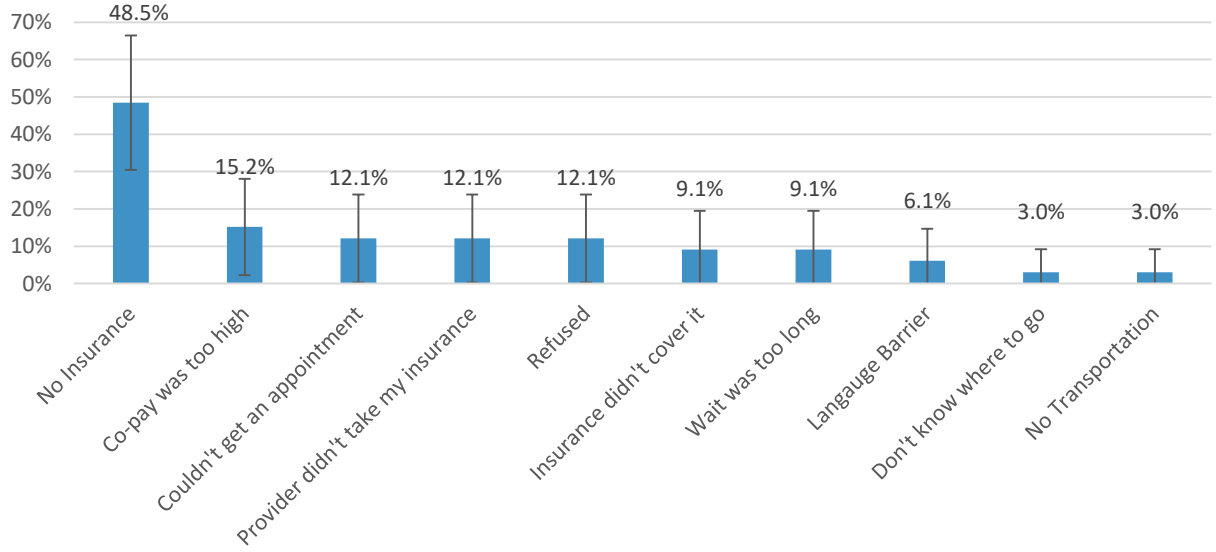


34. What was the problem that prevented you or people in your household from getting the necessary health care? (*Check all that apply*.)

Full County sample (n=30)

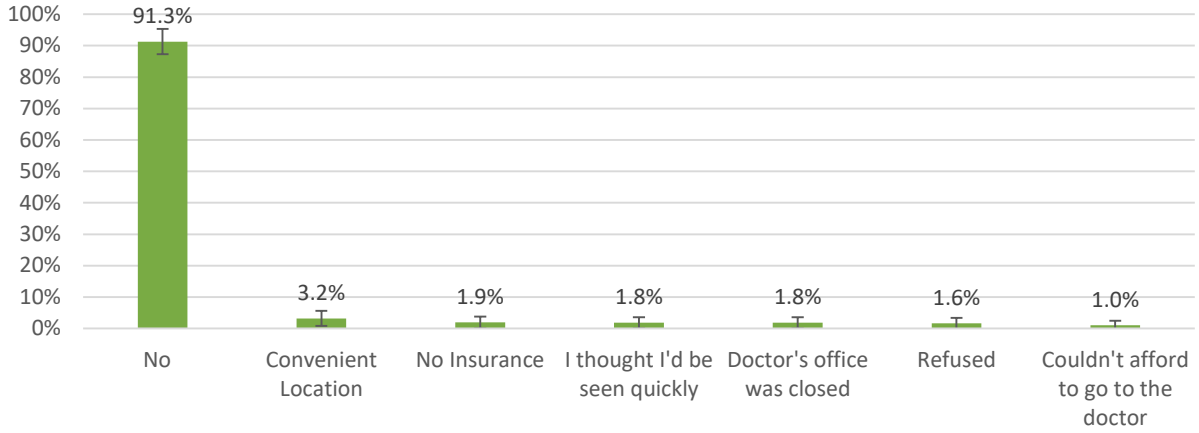


Hispanic and Latino sample (n=33)

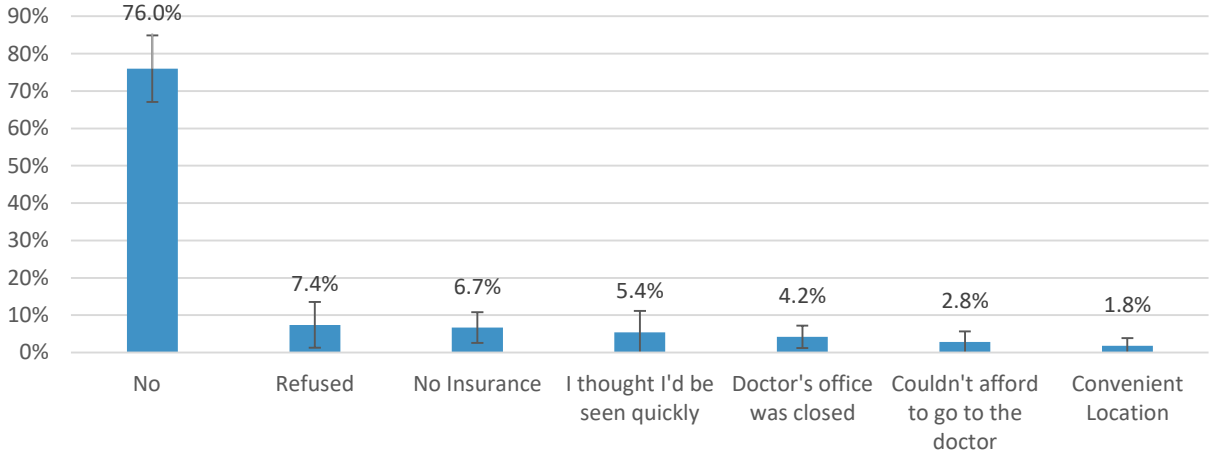


35. In the past 12 months, did you or someone in your family seek care at the emergency department or ER for non-emergencies because of any of the following reasons? (*Choose all that apply*.)

Full County sample

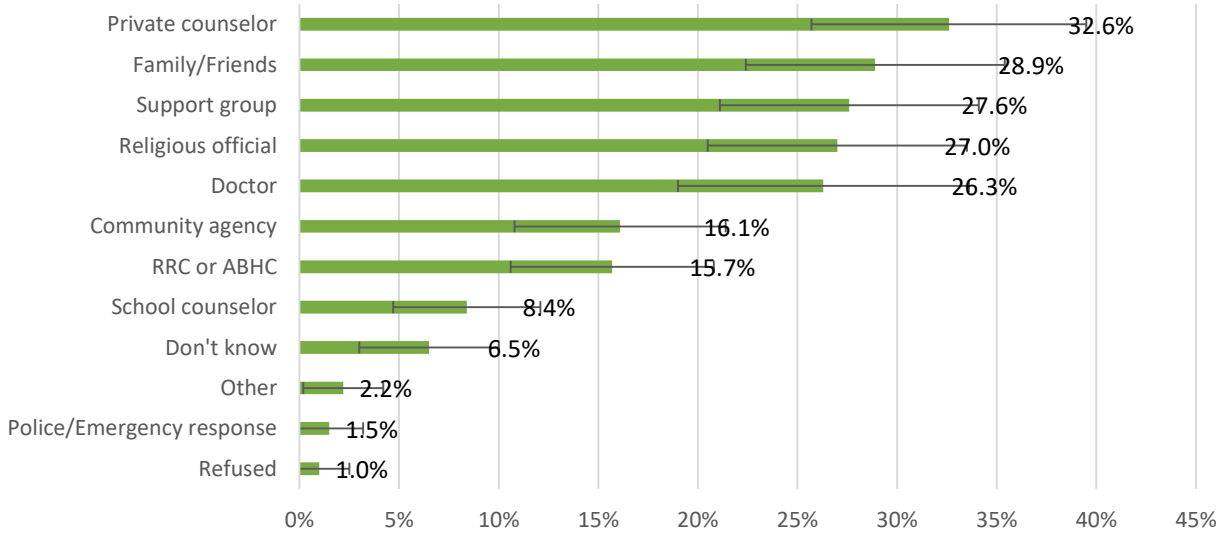


Hispanic and Latino sample

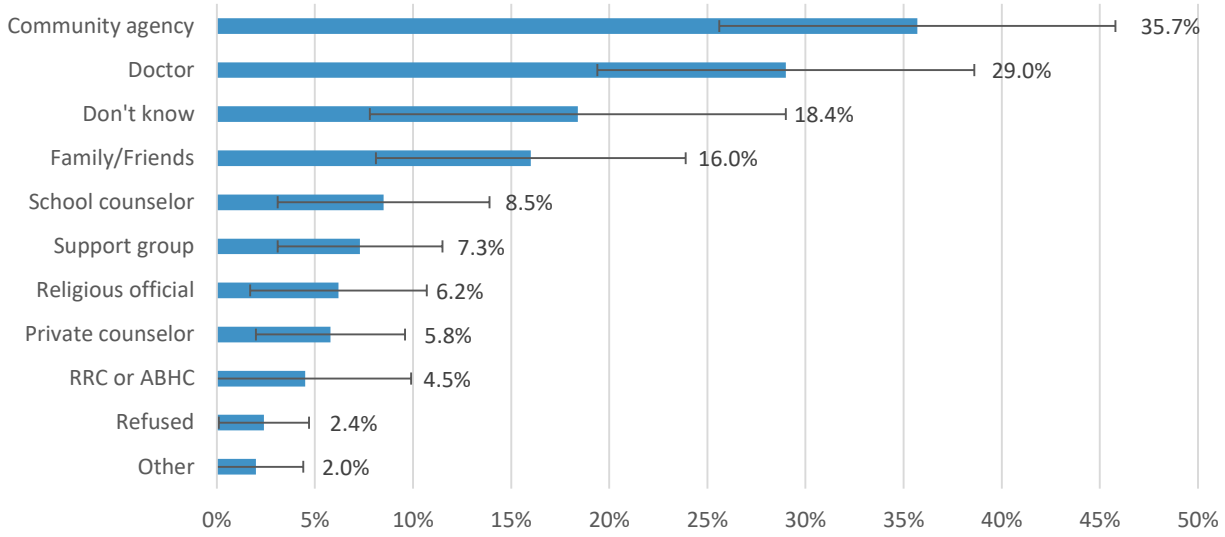


36. If you or a friend or family member needed counseling for a mental health or a drug/alcohol abuse problem, who would you tell them to call or talk to? (*Choose all that apply.*)

Full County sample

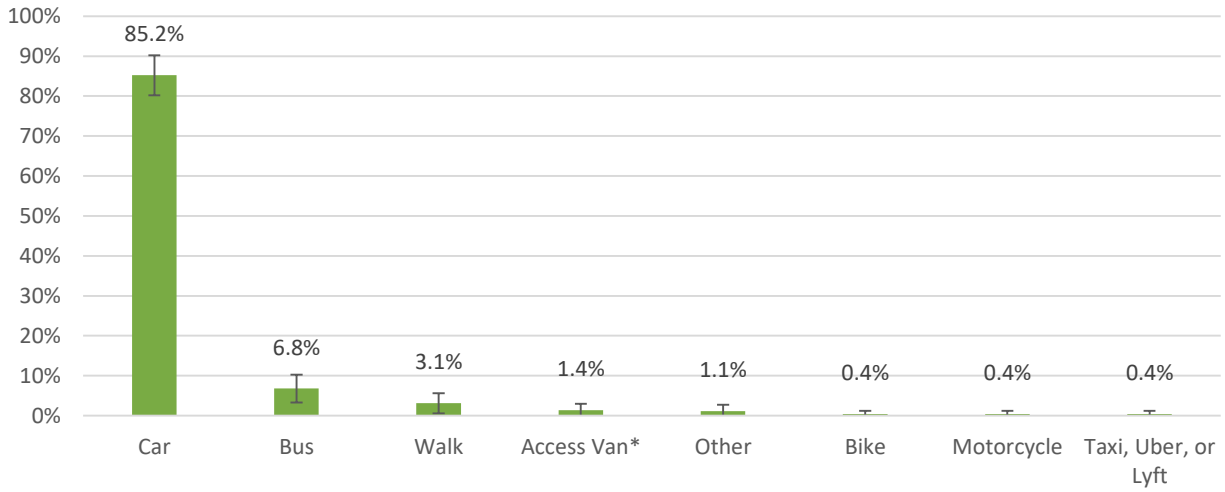


Hispanic and Latino sample

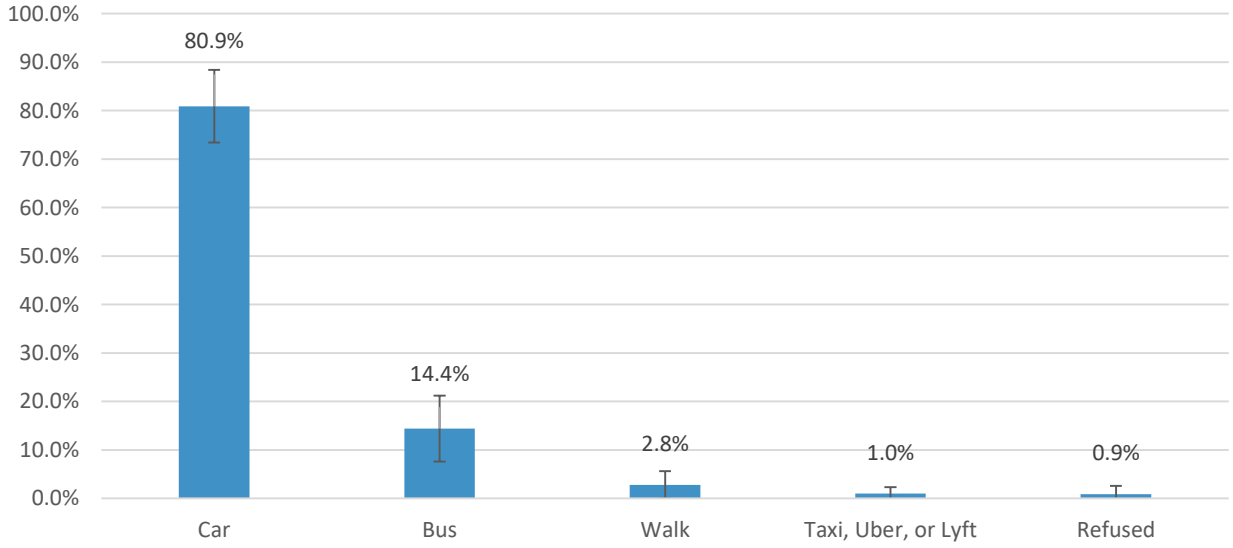


37. In a typical week, what mode of transportation do you use the most? (*Choose one.*)

Full County sample

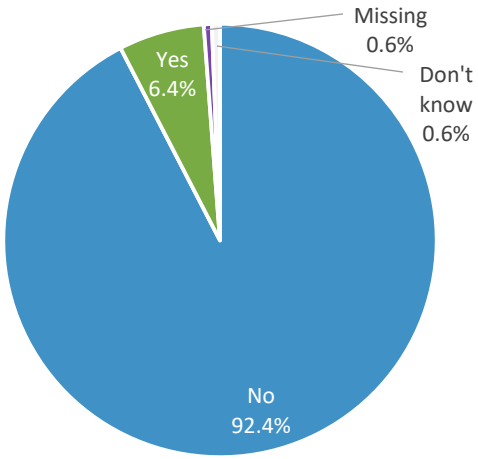


Hispanic and Latino sample

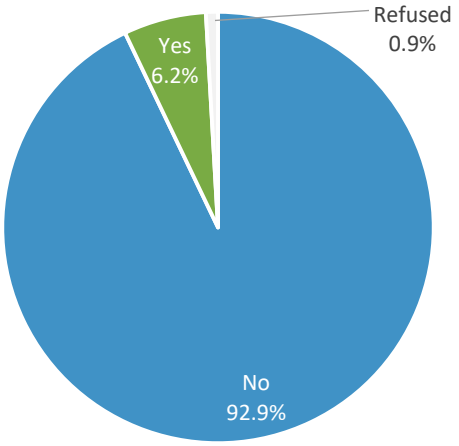


38. Have you or someone in your household ever experienced eviction or displacement in Durham County? (*Choose one.*)

Full County sample

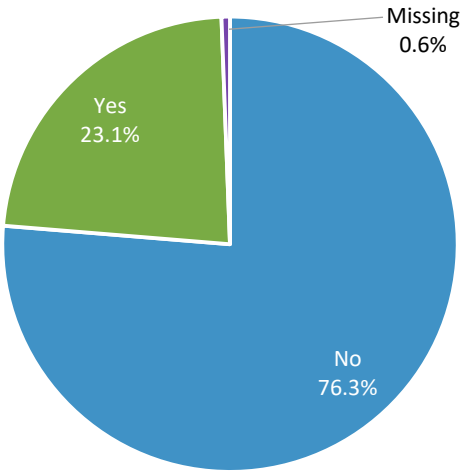


Hispanic and Latino sample

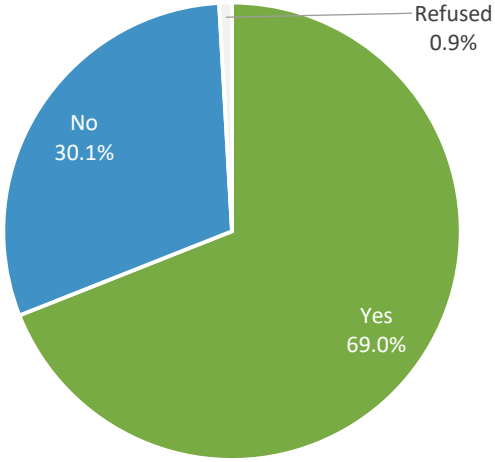


39. Are you currently the primary caregiver for a child age 8 years or younger?

Full County sample

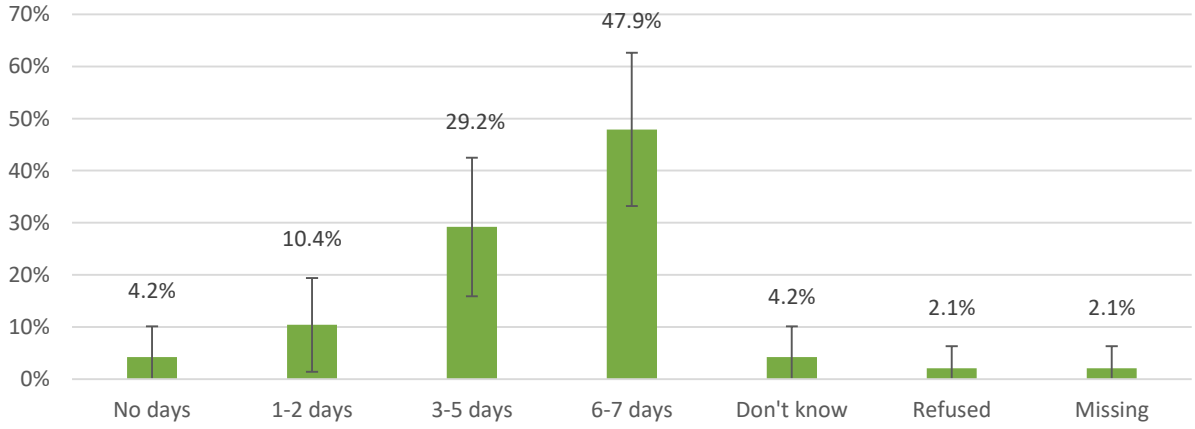


Hispanic and Latino sample

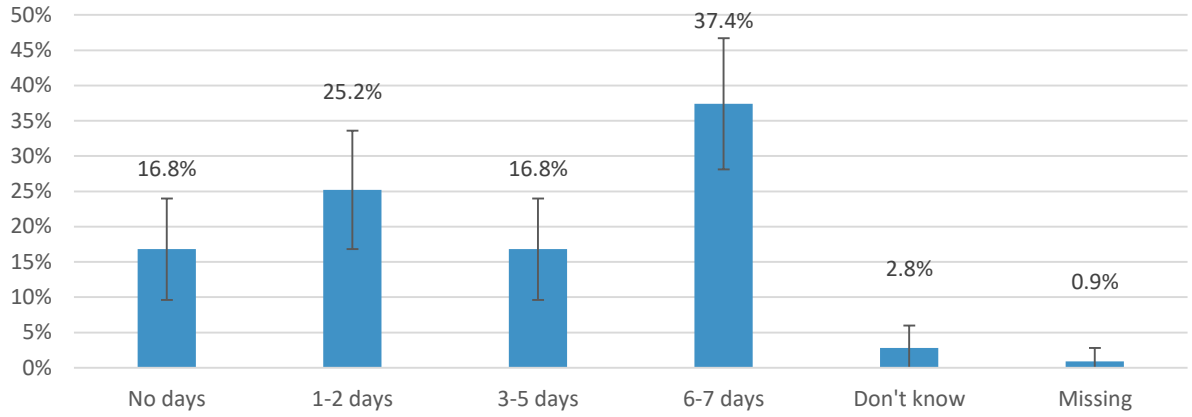


40. In the past week, how many days have you or someone in your family read to your child or children? (*Choose one.*)

Full County sample (n=48)

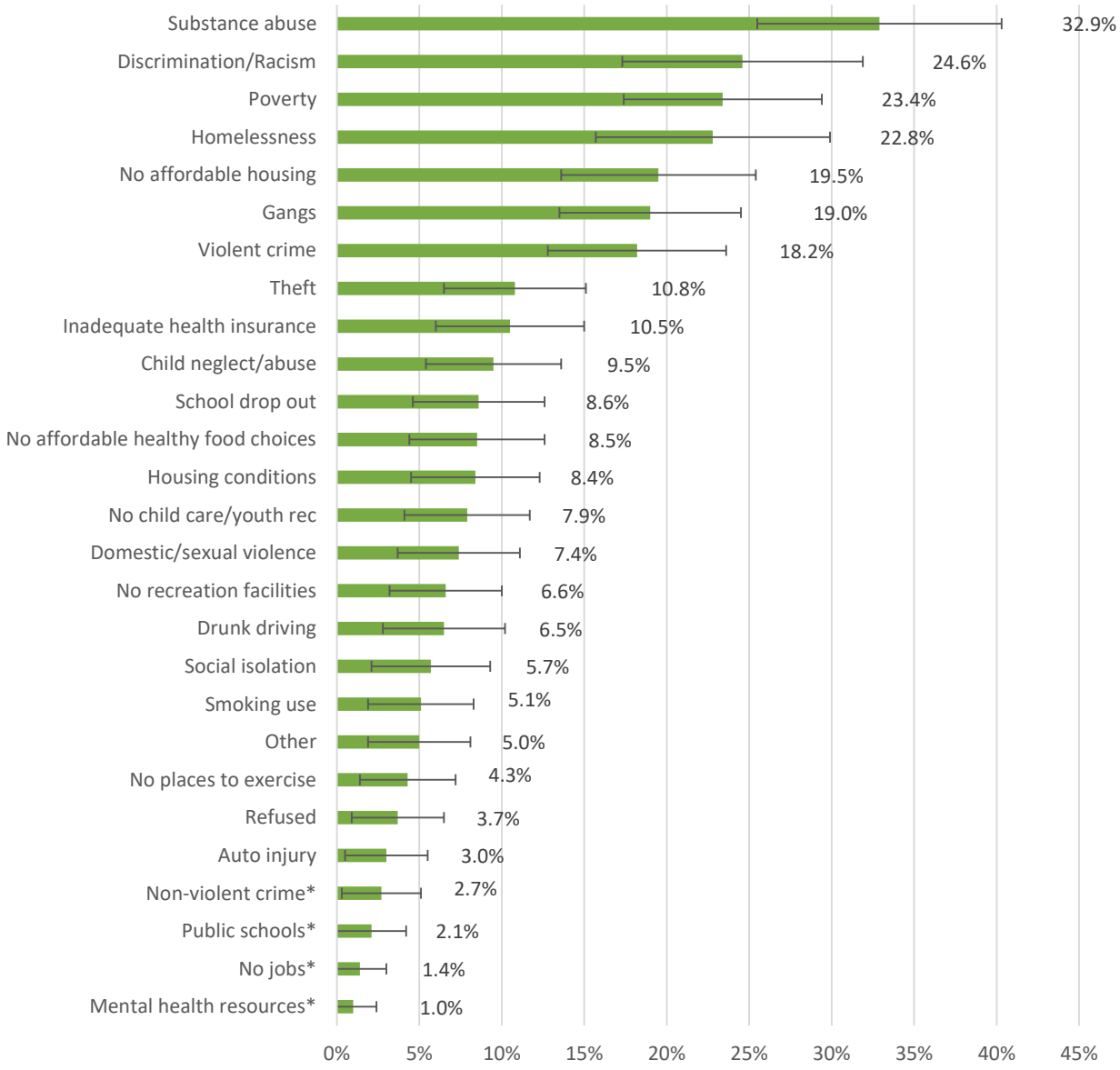


Hispanic and Latino sample (n=107)

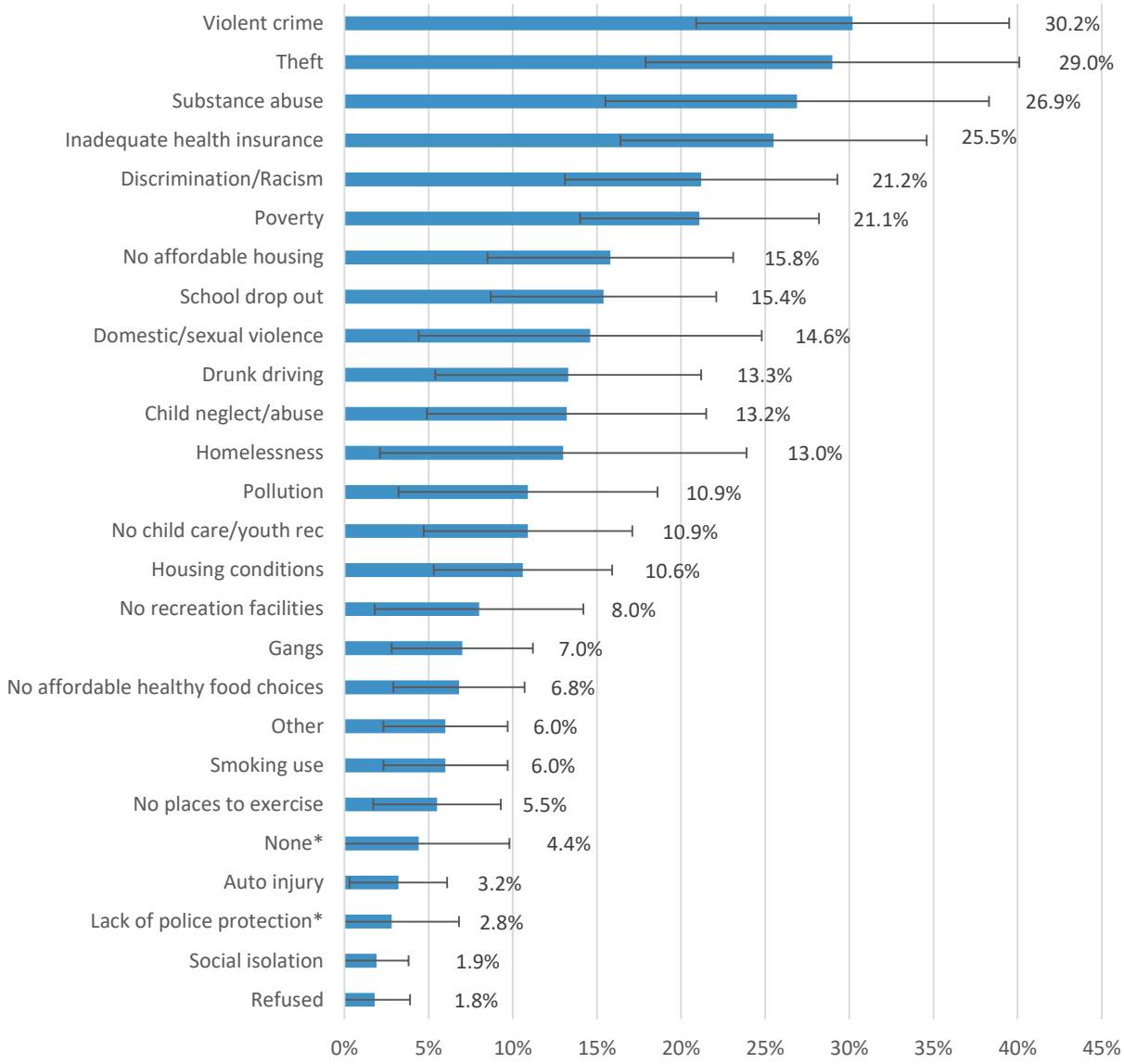


41. Keeping in mind yourself and the people in your neighborhood, tell me the three community issues that have the greatest effect on quality of life in Durham County. (*Choose three*.)

Full County sample

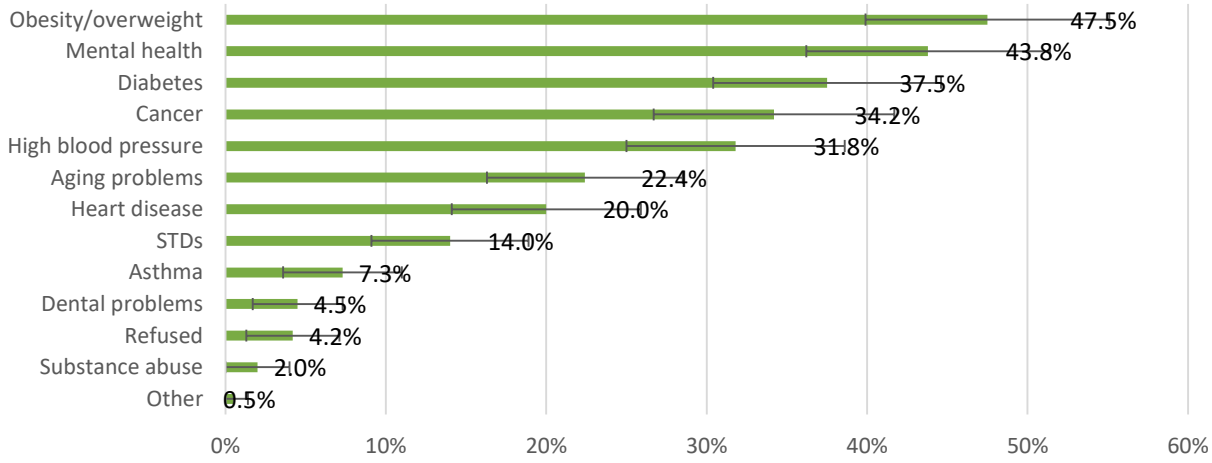


Hispanic and Latino sample

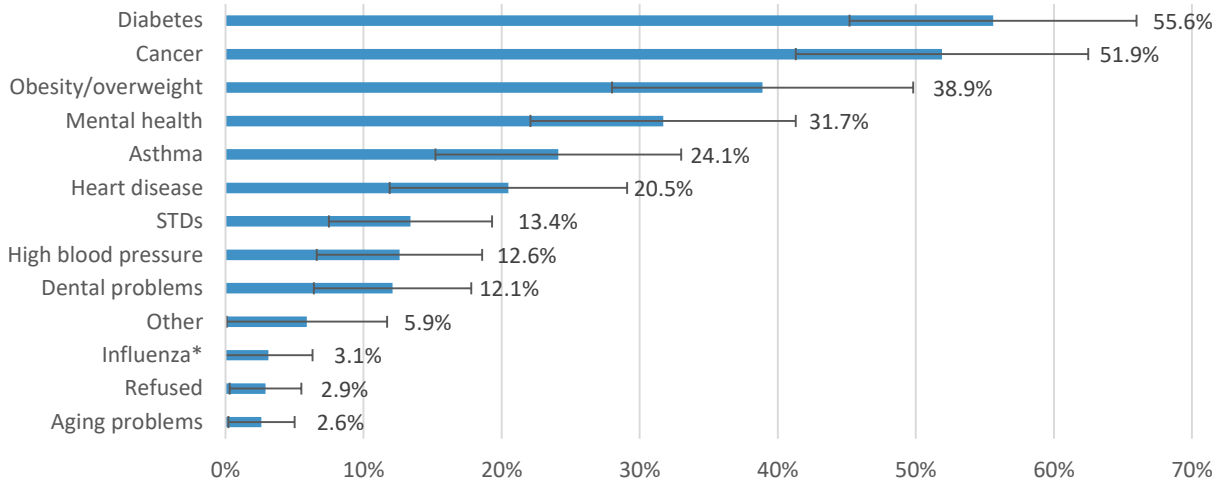


42. Keeping in mind yourself and the people in your neighborhood, tell me the three most important health problems, that is, diseases or conditions, in Durham County. (*Choose three*.)

Full County sample

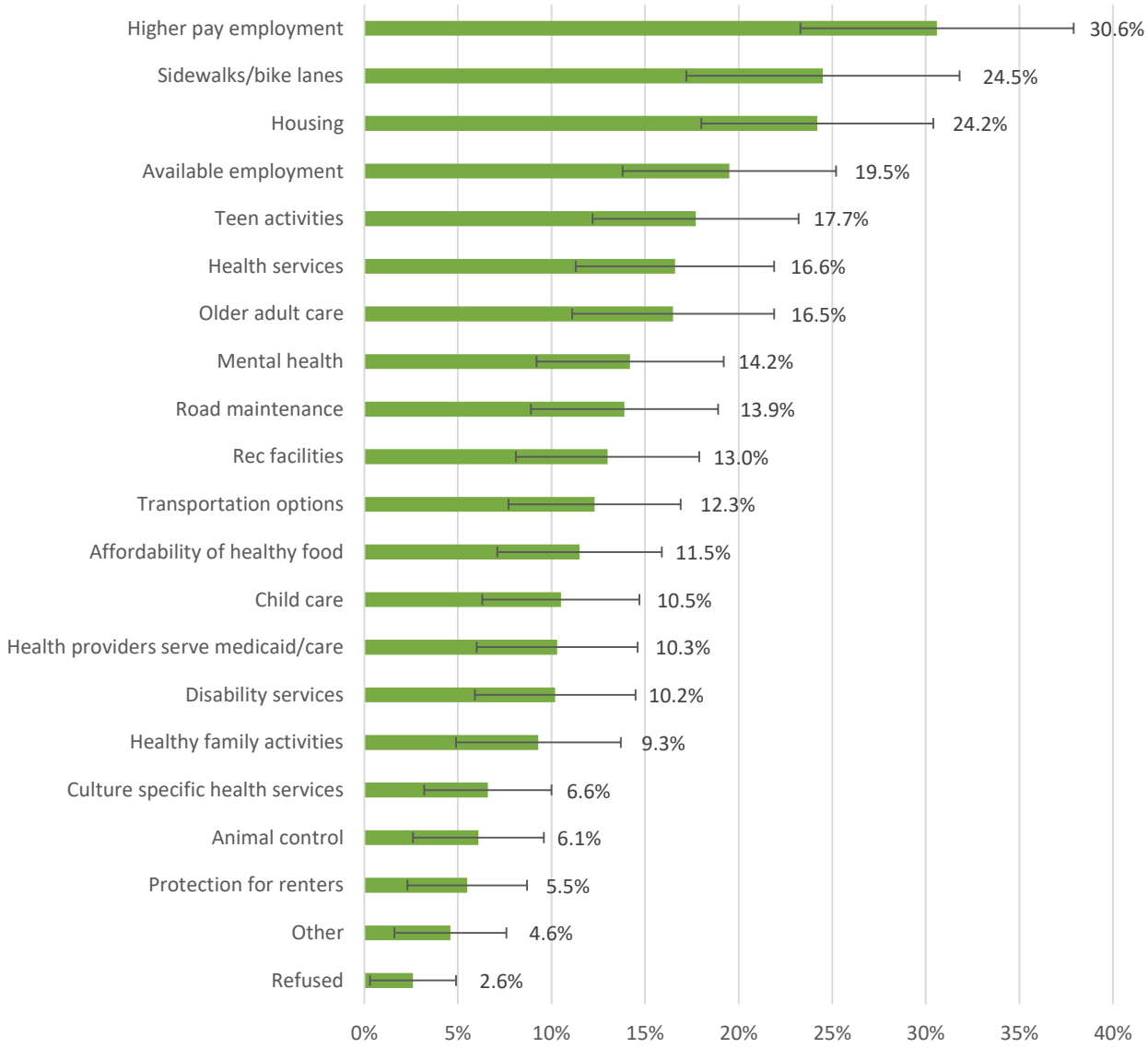


Hispanic and Latino sample

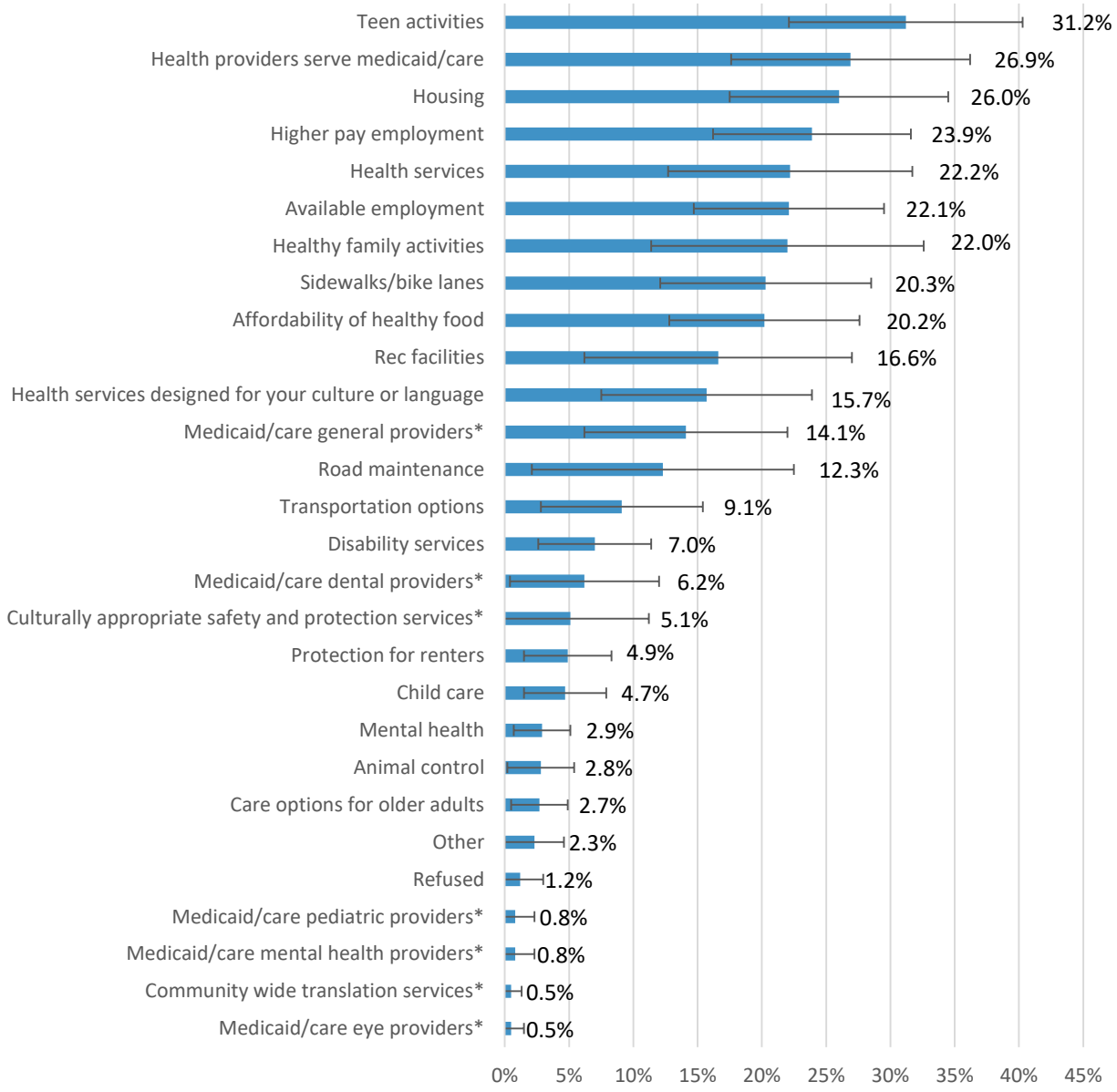


43. Which three services need the most improvement in your neighborhood or community? (*Choose three*.)

Full County sample

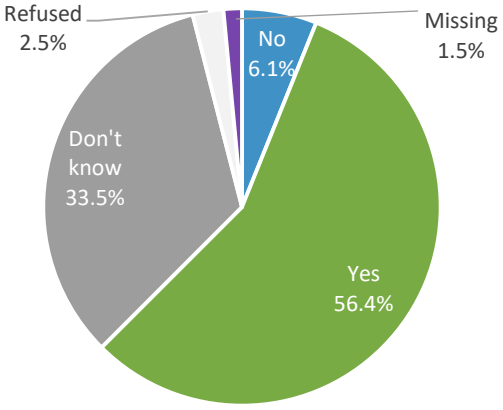


Hispanic and Latino sample

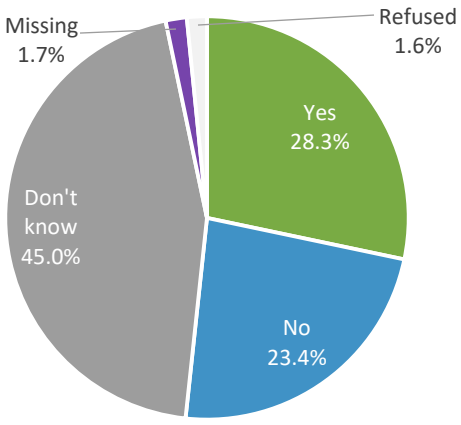


44. Are there services and supports needed in Durham County to help improve the quality of life for adults ages 60 and older? (*Choose one.*)

Full County sample

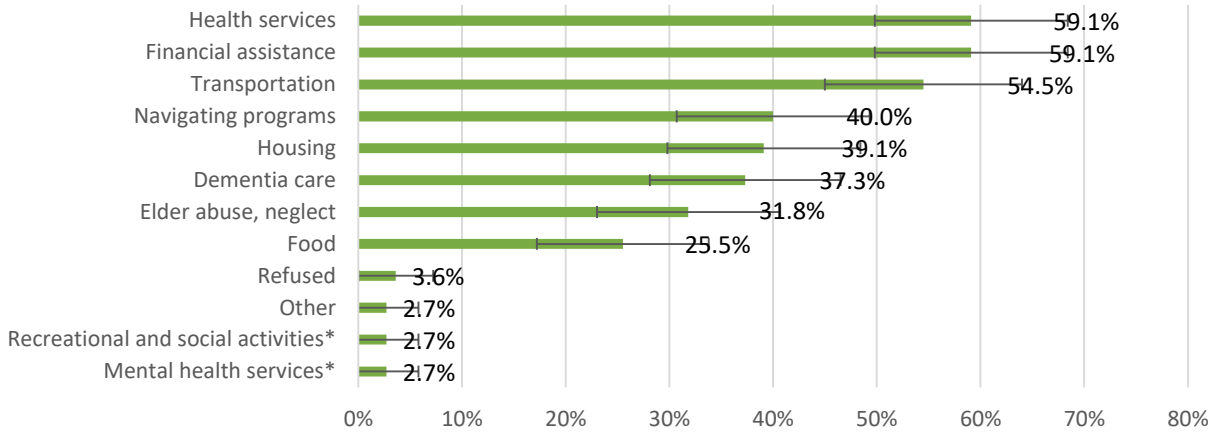


Hispanic and Latino sample

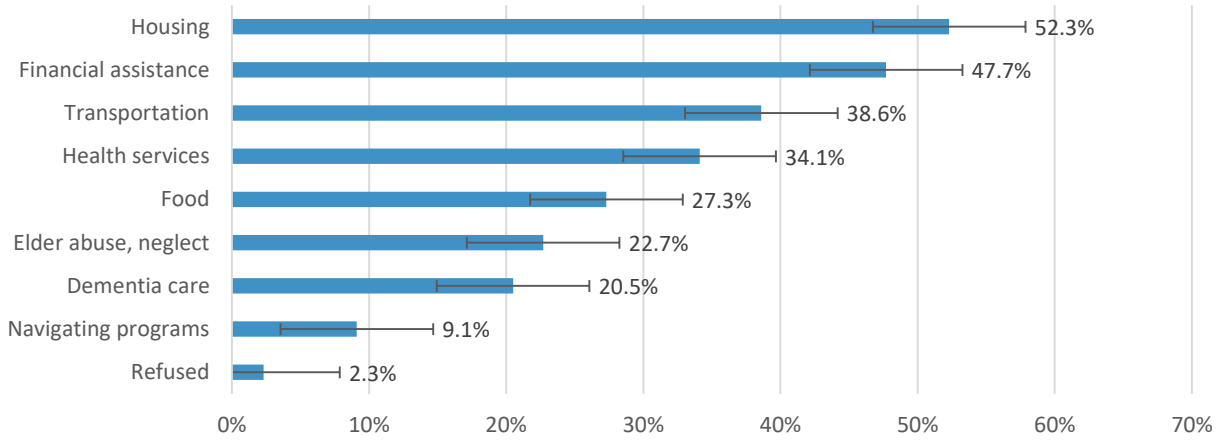


45. Since you said “yes”, what services are needed? (*Check all that apply*.)

Full County sample (n=110)

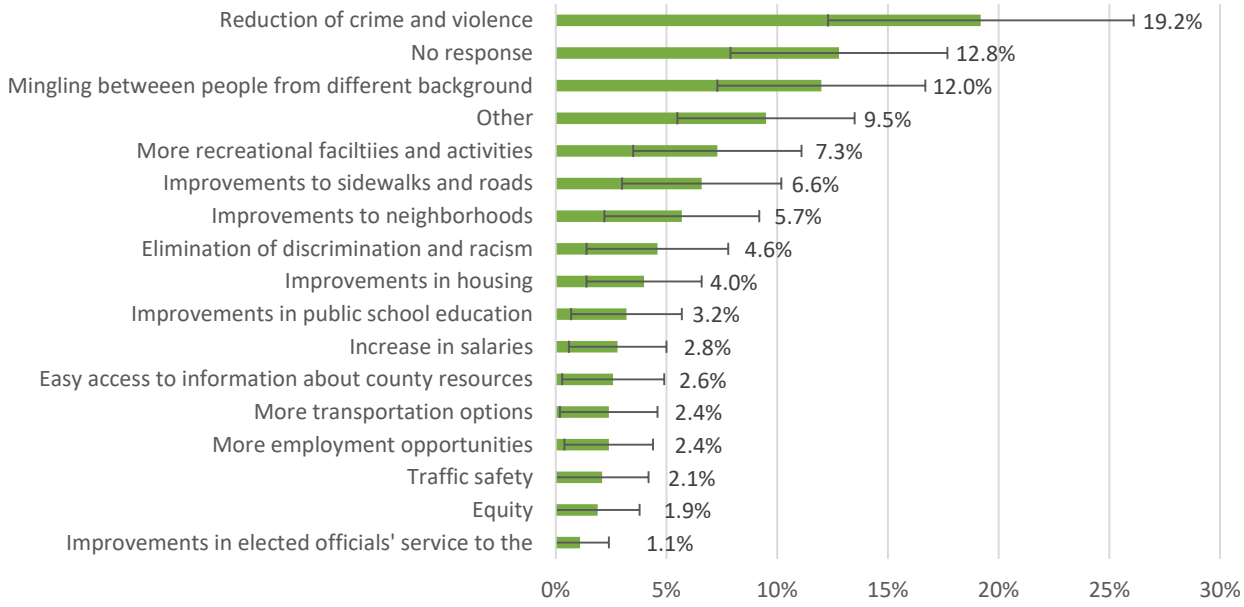


Hispanic and Latino sample (n=44)

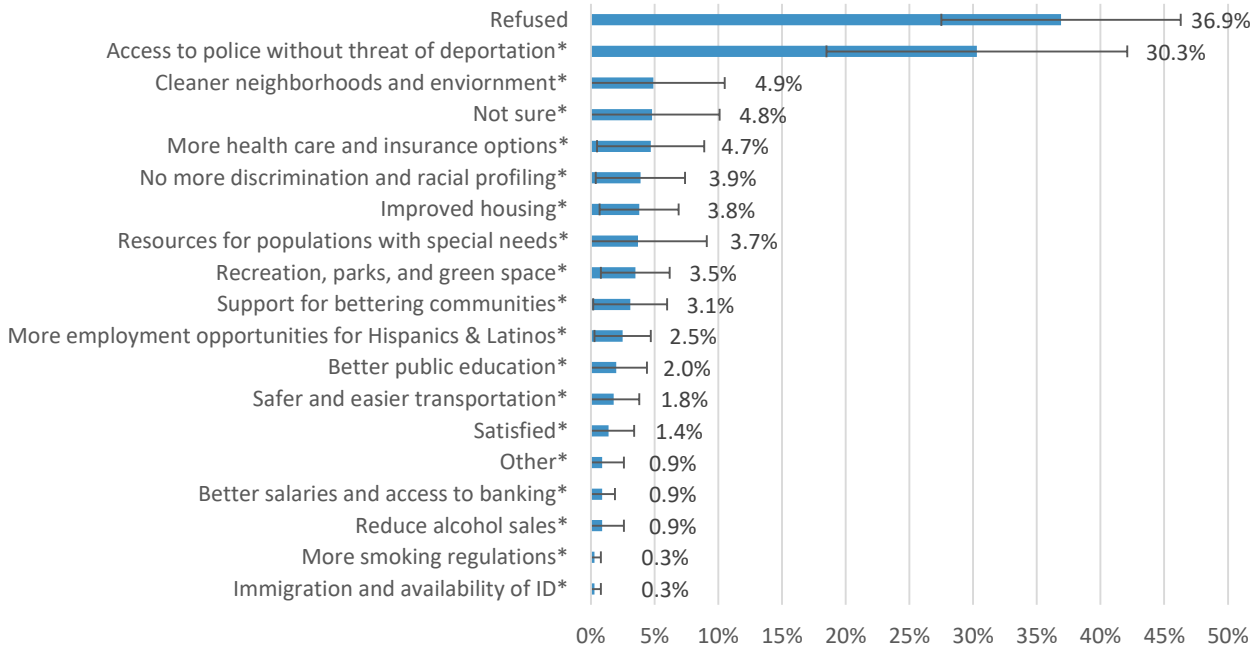


46. What one thing would make Durham County or your neighborhood a better place to live? (*Open ended*.) Note: Responses below have been grouped into themes.

Full County sample



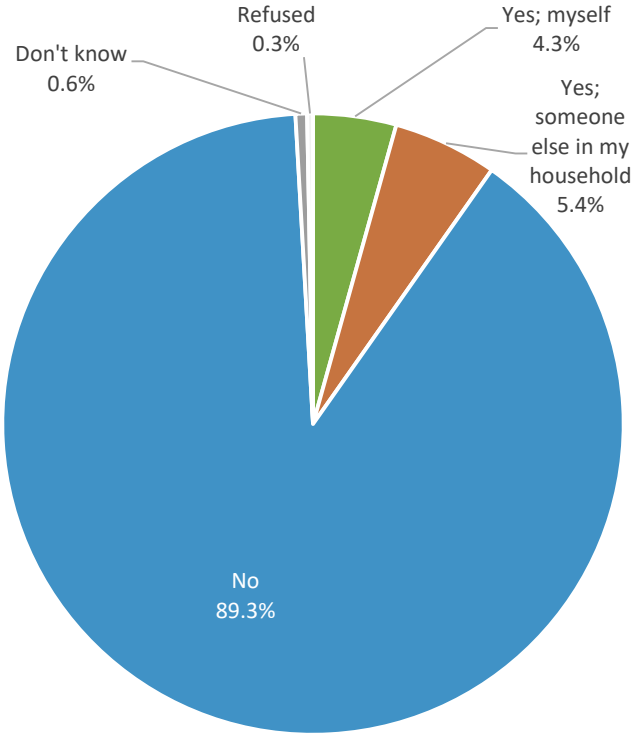
Hispanic and Latino sample



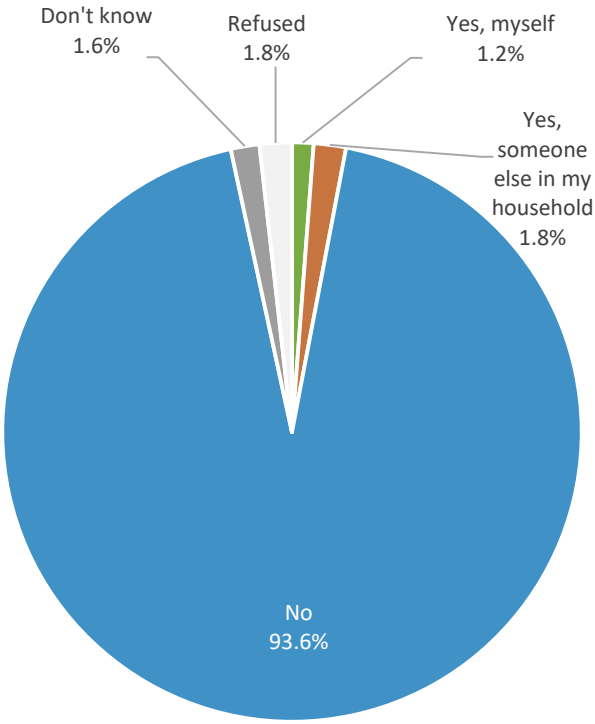
Note: demographic data presented in tables in the beginning of the document are not shown below.

1. Does anyone in your household identify as gay, lesbian, or bisexual? (*Choose one.*)

Full County sample

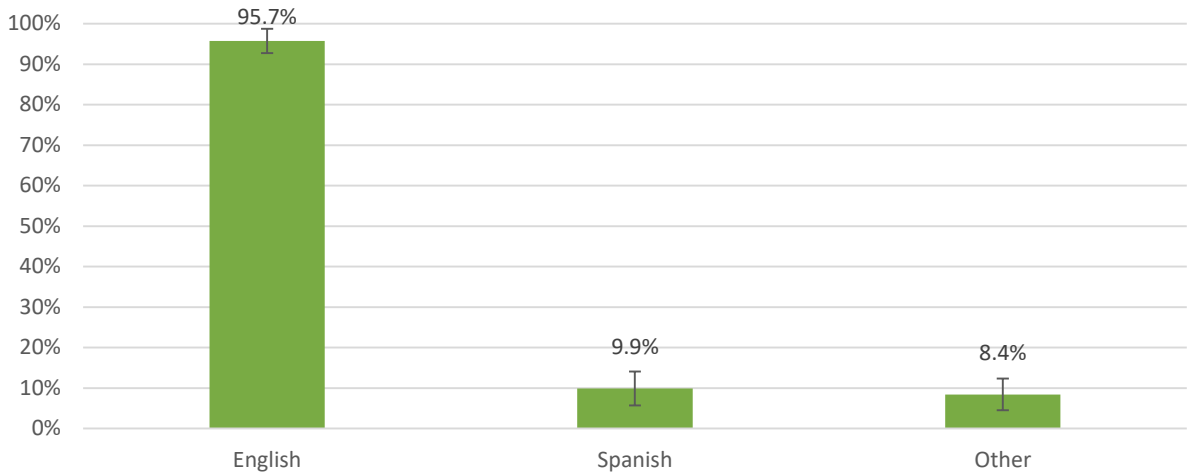


Hispanic and Latino sample

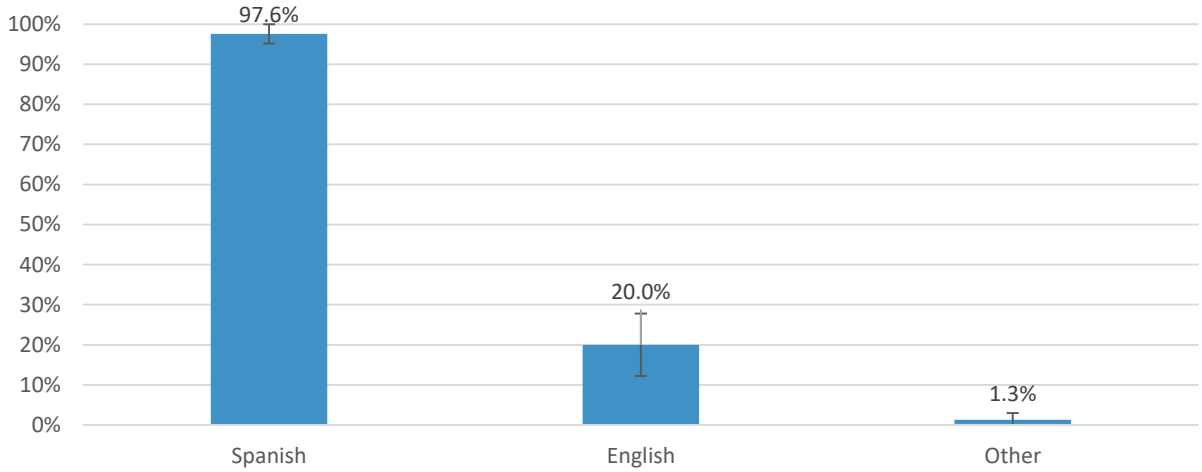


2. What languages do you speak at home? (*Check all that apply*.)

Full County sample

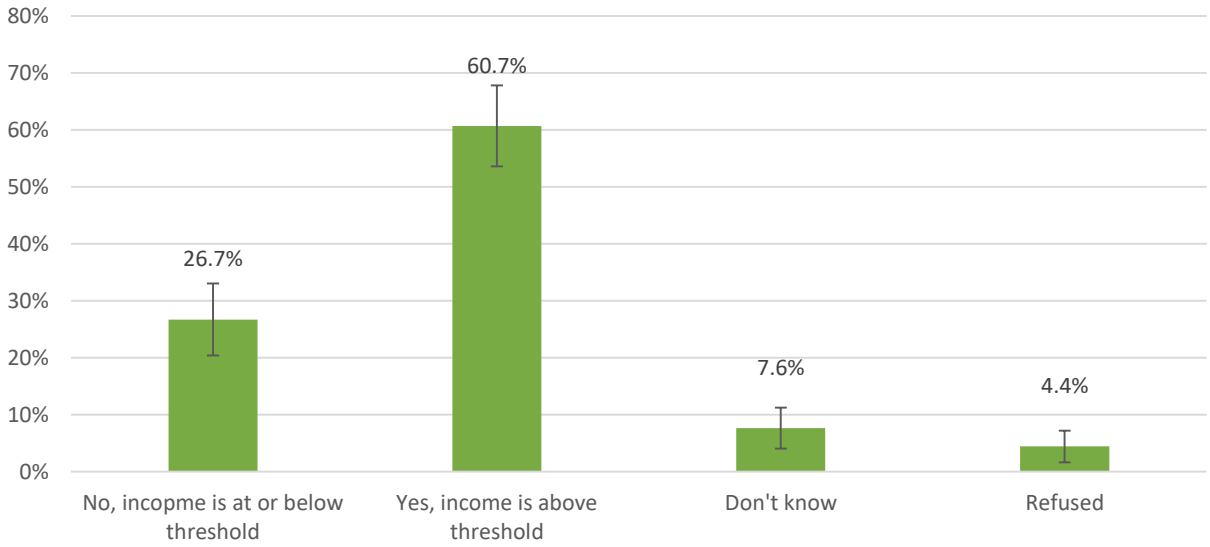


Hispanic and Latino sample

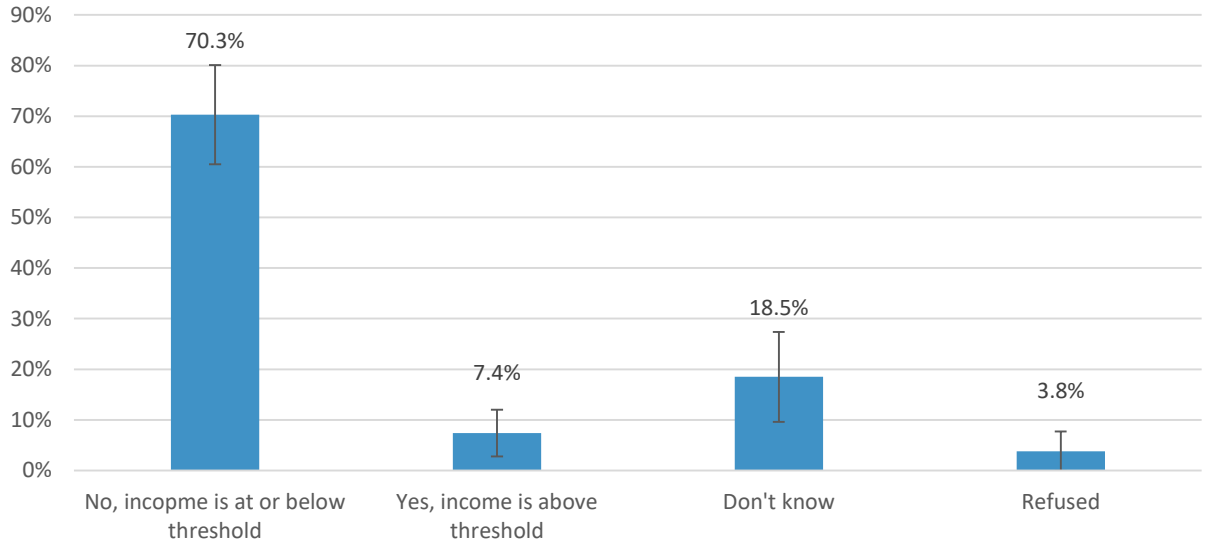


3. Percent of respondents with an annual household income below and above the 200% poverty level.

Full County sample

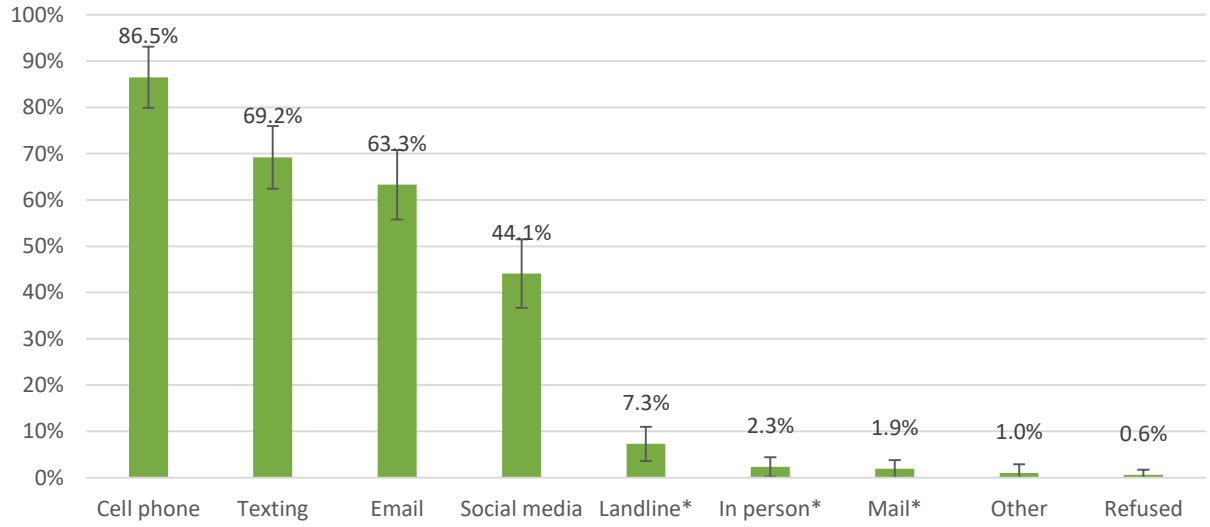


Hispanic and Latino sample

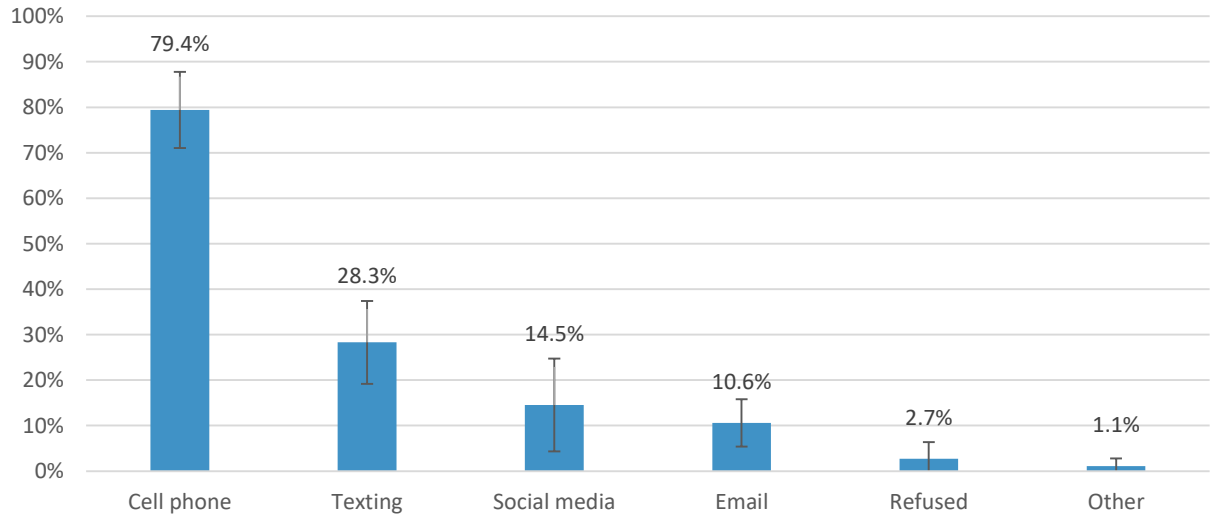


4. Which forms of communication do you regularly use?

Full County sample

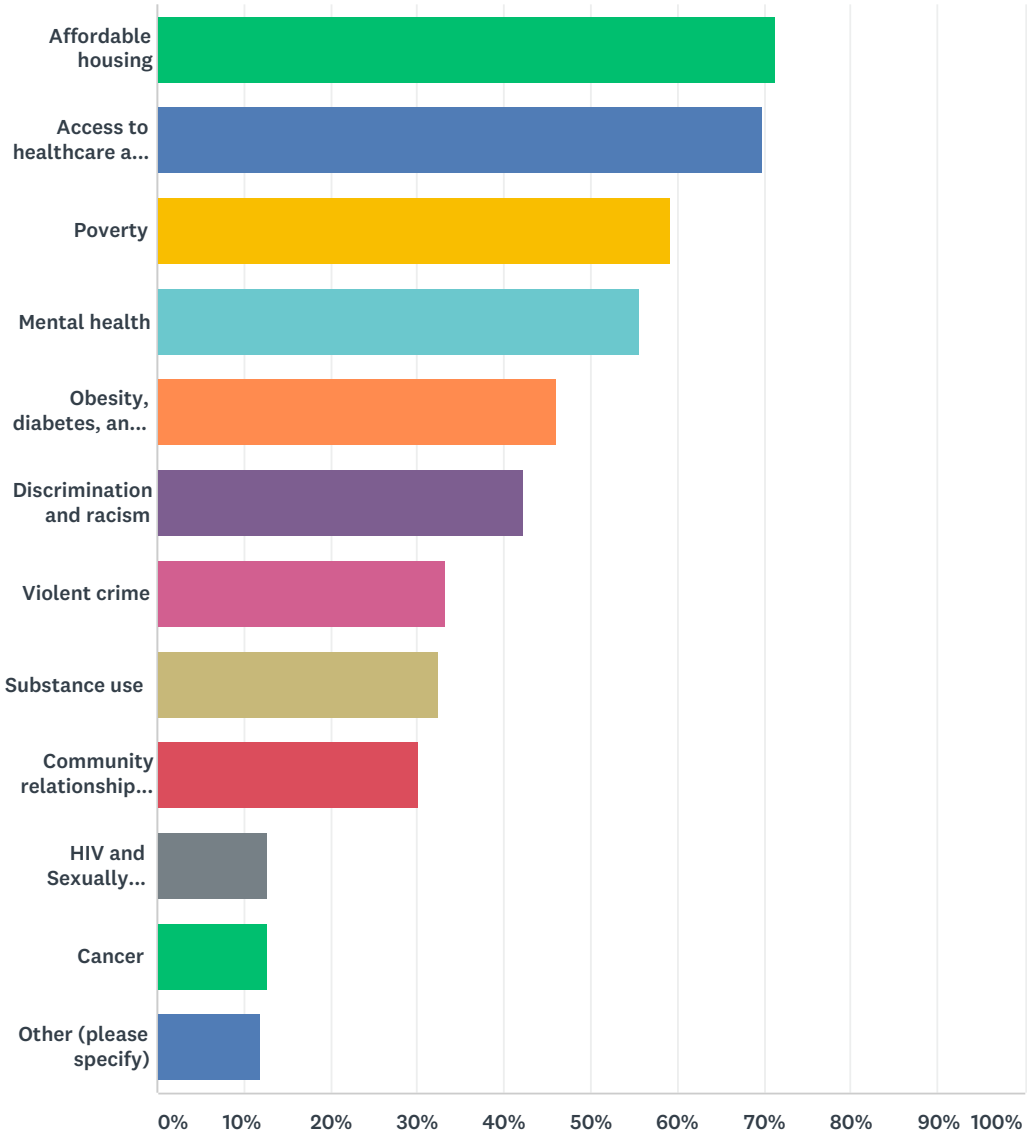


Hispanic and Latino sample



Q1 Please select the five topics that have the biggest impact on quality of life and health in Durham County. If there is a topic you would like to include in the top five that is not listed, please add it in the comment section below.

Answered: 826 Skipped: 0



ANSWER CHOICES	RESPONSES	
Affordable housing	71.31%	589
Access to healthcare and health insurance	69.85%	577
Poverty	59.20%	489
Mental health	55.69%	460
Obesity, diabetes, and food access	46.13%	381

Discrimination and racism	42.25%	349
Violent crime	33.17%	274
Substance use	32.32%	267
Community relationships with police	30.02%	248
HIV and Sexually Transmitted Infections (STIs)	12.83%	106
Cancer	12.71%	105
Other (please specify)	11.86%	98
Total Respondents: 826		

#	OTHER (PLEASE SPECIFY)	DATE
1	Hunger	2/21/2018 9:03 AM
2	Food, sanitation & Medical care in Jail	2/21/2018 8:45 AM
3	jobs	2/20/2018 3:45 PM
4	gentrification	2/20/2018 11:53 AM
5	How these issues affect children	2/20/2018 11:10 AM
6	injury prevention	2/20/2018 11:06 AM
7	malalmentacion	2/20/2018 9:44 AM
8	Education	2/20/2018 9:32 AM
9	global warming	2/16/2018 10:29 PM
10	Access to safe outdoor spaces to walk or exercise.	2/16/2018 12:21 PM
11	An effective public school system	2/15/2018 11:20 PM
12	Senior citizen information on services	2/15/2018 9:01 PM
13	Income inequality & gentrification	2/15/2018 7:19 PM
14	Affordable dental care	2/15/2018 4:44 PM
15	Stop the homeless epidemic	2/15/2018 4:40 PM
16	Food Access. And, also 'fear' surrounding speaking honestly about all forms of discrimination. The loud voices speaking up are often it seems, polarizing the concerns even more. The goals of common interests, acceptance - are the same; however, the finger-pointing and labeling are not beneficial. "Discrimination" goes well beyond 'race'. What I hear often most loudly via media and others, is concerning, as seems contradictory to an 'inclusive', 'non discriminatory', environment.	2/15/2018 1:30 PM
17	Mobility--cars/gridlock/lack of parking; access to public transportation that goes where you want or need to go reliable; alternate transportation--pedestrian/bike; sidewalks (or lack of them in urban core neighborhoods.	2/15/2018 1:30 PM
18	Smart meters and the proliferation of cell towers. I can't access public buildings because of all the Wi-fi. I am electrosensitive. Please see http://www.wifiinschools.com/basics.html	2/15/2018 1:03 PM
19	How to maintain sickle cells	2/15/2018 10:32 AM
20	Dementia	2/15/2018 8:52 AM
21	unclean bathrooms in bus station--no soap or dryers	2/14/2018 9:35 PM
22	Contact with others for emotional support	2/14/2018 9:26 PM
23	safe schools, education system that actually educates	2/14/2018 7:02 PM
24	aging/dementia friendly community	2/14/2018 4:21 PM
25	Public Saftey (I think of violent crime as murder - I just want to walk the streets without being harassed or mugged	2/14/2018 4:16 PM

26	Transportation	2/14/2018 2:18 PM
27	lack of sidewalks, etc to make the community walkable	2/14/2018 1:11 PM
28	Dementia	2/14/2018 12:54 PM
29	Poor government locally	2/14/2018 12:24 PM
30	All of the above!	2/14/2018 12:14 PM
31	Dementia Inclusive Durham	2/14/2018 12:09 PM
32	Food insecurity; Access to diverse educational resources for different learners	2/14/2018 11:34 AM
33	There is too much trash in the streets in Durham. I think the citizens of Durham would have a better outlook on our city if we could clean it up.	2/14/2018 11:08 AM
34	Access to trees and parks. More taiji classes.	2/14/2018 10:49 AM
35	dementia	2/14/2018 10:32 AM
36	Dementia	2/14/2018 10:08 AM
37	Feeling safe when out walking or shopping.	2/14/2018 9:25 AM
38	Safe walking trails in the county	2/14/2018 7:20 AM
39	Dementia	2/13/2018 10:28 PM
40	no answer given	2/13/2018 4:46 PM
41	LARCENY. Petty theft. People breaking into houses and cars.	2/13/2018 2:46 PM
42	Cost of living ad how it impacts the community and people who can't afford it	2/13/2018 2:45 PM
43	no answer given	2/13/2018 2:31 PM
44	Better health insurance	2/12/2018 8:15 PM
45	Homelessness	2/12/2018 4:43 PM
46	high blood pressure	2/12/2018 1:57 PM
47	Education	2/11/2018 6:01 PM
48	heart disease and cerebrovascular disease	2/11/2018 5:50 AM
49	Lack of motivation for those able to work. Children being born into noncaring/irresponsible young girls and families	2/10/2018 3:16 PM
50	Community engagement	2/10/2018 12:56 PM
51	Population growth planning - roadway expansion, loop from N to S Durham.	2/10/2018 12:52 PM
52	To have protocols for people with rare illnesses in place with ems and hospitals to follow better.	2/9/2018 7:17 PM
53	Resources for older and/or disabled residents	2/9/2018 6:52 PM
54	Public transportation	2/9/2018 12:55 PM
55	homeless population and those who beg for money at intersections	2/9/2018 12:29 PM
56	dementia	2/9/2018 12:16 PM
57	Transportation for elderly to and from doctor appointments. Some cannot afford taxi rides but are a shade over the income level for free transportation or transportation at a moderate cost	2/9/2018 12:03 PM
58	more vocational and trade skilled classed and jobs in our schools, jails and prisons	2/9/2018 9:40 AM
59	Discrimination and lack of services for LGBTQIA+ community members	2/9/2018 5:35 AM
60	Living wage employment	2/8/2018 3:26 PM
61	Teen use of time	2/8/2018 3:21 PM
62	Supporting Hispanic Community	2/8/2018 3:21 PM
63	Gentrification/Revitalization of Durham	2/8/2018 3:08 PM
64	gun violence	2/8/2018 2:55 PM

65	Shelter	2/8/2018 2:18 PM
66	clean air and drinking water	2/8/2018 1:42 PM
67	Transportation	2/8/2018 12:58 PM
68	Physical activity	2/8/2018 12:12 PM
69	Mental health & discrimination & racism	2/8/2018 10:22 AM
70	Senior care	2/7/2018 9:03 PM
71	Jobs, Education	2/7/2018 8:23 PM
72	Services for pregnant women	2/7/2018 11:46 AM
73	walkability of our neighborhoods	2/6/2018 5:53 PM
74	Latino	2/6/2018 11:19 AM
75	affordable and accessible transportation	2/6/2018 10:33 AM
76	Cognitive communication impairments after stroke	2/3/2018 8:33 PM
77	Keeping students in school through graduation.	2/3/2018 10:02 AM
78	Disability Veterans and Homelessness , Hunger	2/2/2018 3:12 PM
79	complete sidewalks and connectivity to trails	2/2/2018 2:35 PM
80	Sidewalks.	2/2/2018 9:27 AM
81	Public education	2/1/2018 8:39 PM
82	Health care and living conditions over 60 years of age	2/1/2018 6:34 PM
83	Voter suppression. New ID laws	2/1/2018 9:44 AM
84	Holding Residents responsible for their property	2/1/2018 9:36 AM
85	Public schools community health services	1/31/2018 11:58 PM
86	Walkable / bikeable streets	1/31/2018 6:36 PM
87	Job Training	1/31/2018 4:21 PM
88	Panhandlers	1/31/2018 4:14 PM
89	Education	1/31/2018 1:30 PM
90	Little or no judicial punishment for crimes committed. Littering is out of control.	1/31/2018 1:16 PM
91	Hypertension	1/31/2018 9:35 AM
92	Education	1/31/2018 9:11 AM
93	jobs that pay a living wage (and training for them)	1/31/2018 6:40 AM
94	Lack of adequate mental health services	1/30/2018 7:25 PM
95	the growing rate of dementia	1/30/2018 5:01 PM
96	Homelessness	1/30/2018 4:14 PM
97	Activities that connect the community members - saocial connection	1/30/2018 3:57 PM
98	lack of family structure	1/30/2018 3:30 PM

Q2 Please share your ideas on how to solve these issues.

Answered: 483 Skipped: 343

#	RESPONSES	DATE
1	I think the community needs to stand up as our and say enough is enough tougher penalty for harshes crime; working on affordable housing for all not just the rich	2/21/2018 11:08 AM
2	To extensive to answer	2/21/2018 11:06 AM
3	Never give in to a better tomorrow	2/21/2018 11:05 AM
4	I suggest that the many ideas that are presented need to be put in place. More action- less talk. Consolidate the many resources.	2/21/2018 11:04 AM
5	Open honest communication on each subject matter. Financial incentive to promote subject matters.	2/21/2018 11:02 AM
6	Working together focus on learning tool be aware of new info learning all one needs to know all always be aware of news outlets	2/21/2018 11:01 AM
7	Public meetings, TV reports on progress	2/21/2018 11:00 AM
8	Social workers being more socially open with the community, seeing for themselves what's really going out here. Social workers going to these shelters in Durham to see how we are really living. The poverty weight is so high in Durham and it shouldn't be that way with a town that have these resources.	2/21/2018 10:59 AM
9	Put an apparatus in place that can check and have consequences for corporations that abuse their health.	2/21/2018 10:57 AM
10	Rental Assistance while in hospital and or therapy. I was denied for assistance to help pay rent while in therapy (from Miss Butt staff) and became homeless. Denial that my social worker is not good enough. With hospital record showing.	2/21/2018 9:09 AM
11	Continue to allow community organizations (churches, family life centers, Meals on Wheels, etc.) that are "on the ground" to do what they do well in helping the needy. These orgs are much more effective than government alone.	2/21/2018 9:04 AM
12	Community Development with people and government officials. The correction of the Back people Nationalitys which are the Moores.	2/21/2018 9:03 AM
13	There needs to be more community conversations in the neighborhoods where these issues are more prevalent. Citizens need to understand the resources that are available to them and getting the resources should not be a difficult process- This needs to be a continuous process not one that last or occurs just a few times a year.	2/21/2018 9:00 AM
14	Talk more about these matters	2/21/2018 8:57 AM
15	More God less people	2/21/2018 8:56 AM
16	I feel they need to be able to help people who can't afford housing even if they don't have children its not fair that they aren't willing to help those w/o kids	2/21/2018 8:54 AM
17	Job creation supported by city & county, subsidies so people can stay in home, end bail for misdemeanors, end criminalization of marijuana use for, diversion program, end over policing of certain neighborhoods	2/21/2018 8:52 AM
18	Access to health care and health insurance is most important; providing jobs will help to fight poverty and improve mental health	2/21/2018 8:49 AM
19	Things change; federal support comes and goes	2/21/2018 8:48 AM
20	Healthy citizens can be productive and have stable families. Housing, access to health care is critical.	2/21/2018 8:47 AM
21	Research on these subjects & move forward on research funding	2/21/2018 8:46 AM

22	New Sheriff & get rid of Correct Care Solutions, Unannounced outside neutral 3rd party inspections	2/21/2018 8:45 AM
23	I feel that female should get free best offer condoms, around the community, to be have free check up at others are will be real deal (requested). I wish that this county can come with Food EBT card be with more on card in my life for young folks	2/21/2018 8:43 AM
24	Provide affordable housing & access to them. Provide more training about obesity, diabetes & food access. Increase economic ways to increase power. Stop substance abuse. Stop guns.	2/21/2018 8:39 AM
25	More affordable housing; help people signing up for health insurance (maybe libraries, food stores, etc.); educate about white racism; give out health info. re obesity ect at food stores, have public forums about it including through schools; poverty- more jobs geared toward improving out community (clean up areas, care for nature parks, make us proud to live here, Get Duke U. involved!)	2/21/2018 8:28 AM
26	Change the president	2/20/2018 4:50 PM
27	Tenev mas comunccaccion con la comunidad	2/20/2018 4:48 PM
28	Many don't have medicaid	2/20/2018 4:42 PM
29	More opportunity for people who don't have much. Poverty is bad in my neighborhood. More jobs	2/20/2018 4:40 PM
30	Putting a Latina (cant remember name) in Durham council community meetings	2/20/2018 4:39 PM
31	We need more jobs. I cannot find work and its getting expensive to live in Durham	2/20/2018 4:36 PM
32	The President	2/20/2018 4:33 PM
33	Socialize medicine and more affordable housing	2/20/2018 4:32 PM
34	End gerrymandering and get rid of republican control of NC	2/20/2018 4:30 PM
35	People must vote	2/20/2018 4:28 PM
36	Have reviews	2/20/2018 4:27 PM
37	Impact is made when knowledge is given. Knowledge is power. People are better able to heal themselves and others when their needs are met.	2/20/2018 4:24 PM
38	New president	2/20/2018 4:21 PM
39	Free seminars and education	2/20/2018 4:20 PM
40	more services for low income earners, more class/seminars to help provide knowledge in the community	2/20/2018 4:14 PM
41	Not sure but more communication	2/20/2018 4:13 PM
42	public/private partnerships to provide education and financial assistance	2/20/2018 4:10 PM
43	Raise property taxes and corporate/business taxes and condo/hotel taxes	2/20/2018 4:02 PM
44	Improve the education system. Distribute information through churches, clubs, hoa's, etc	2/20/2018 3:59 PM
45	I propose that we implement programs to help control and educate Durham County residents. Also these programs can help people in need with these problems.	2/20/2018 3:37 PM
46	Make alcohol and drug treatment more accessible, people should watch their diets, the minimum wage should go up	2/20/2018 3:16 PM
47	I have history of cancer in my family and it scares me. Because of other situations I don't have access to HI and I have a history of obesity and mental problems. I have been trying to do better	2/20/2018 3:14 PM
48	Greater access to support avenues	2/20/2018 3:00 PM
49	I really don't know with Trump in office. We're all gone parish, rich and poor	2/20/2018 2:56 PM
50	My school is unsafe. Have police. Police that speak spanish	2/20/2018 2:45 PM
51	Maybe more communication getting info out	2/20/2018 2:36 PM
52	More focus on family oriented programs and two parent families	2/20/2018 2:33 PM
53	Bring back draft (US Army)	2/20/2018 2:32 PM

54	Tener mas programas para la salud	2/20/2018 2:14 PM
55	Sobre atencion medica aqudar mas a la comunidad hispana	2/20/2018 2:11 PM
56	se nesecita educacion sosialy academica	2/20/2018 2:07 PM
57	mas bibienda para las perzonas fuchotiene	2/20/2018 2:05 PM
58	People need to work harder-look for jobs	2/20/2018 12:14 PM
59	There should be more affordable and free services. Mental health should be a priority	2/20/2018 11:59 AM
60	Host meaningful events to bring awareness. Pass bills that bring about positive change, change that wont hurt the community	2/20/2018 11:53 AM
61	More communication, more trainings, more programs fro homeless people	2/20/2018 11:51 AM
62	Anarchism, we don't need the goverment	2/20/2018 11:46 AM
63	Being aware of the problems by educating the community	2/20/2018 11:43 AM
64	educating the community on issues that impact them the most. Rallying in political arenas to help with health issues and housing	2/20/2018 11:41 AM
65	Providing programs or services in that area to those that are greatly impacted to allow them access to better lives.	2/20/2018 11:38 AM
66	Not enough space!	2/20/2018 11:23 AM
67	Education about issues Education of people, less dropouts, more relevant education programs. Not everyone needs to go to college-technical careers very important	2/20/2018 11:22 AM
68	Not sure at this time	2/20/2018 11:20 AM
69	They should understand how much we make an hour. Also kids health and more jobs with better pay.	2/20/2018 11:13 AM
70	Free classes on how to access the above	2/20/2018 11:10 AM
71	Innovative healthcare delivery; outreach to the community from Duke and UNC, decrease food deserts	2/20/2018 11:08 AM
72	-Data analysis and modeling risk factors -Targeted interventions -Surveilance	2/20/2018 11:06 AM
73	Its very expensive to go to clinics. We need more clinics. I can only go to Lincoln	2/20/2018 10:55 AM
74	For affordable housing you can up the pay and keep the cost of living the same, HIV etc. be more open to talking about it in a more helpful manor, mental health more free mental health centers	2/20/2018 10:52 AM
75	Be visible	2/20/2018 10:46 AM
76	collaborar con otros grupos en Durham para un solucion	2/20/2018 10:44 AM
77	educar al public sobre estos temos	2/20/2018 10:38 AM
78	Not worried enough, get young involved, not many police	2/20/2018 9:46 AM
79	indocumentados necessita mas apoyo y dinero y trabajos	2/20/2018 9:44 AM
80	I don't know how we could stop the crime. Provide more programs to help with the housing issue	2/20/2018 9:38 AM
81	More education	2/20/2018 9:27 AM
82	Have programs that the community is aware of	2/20/2018 9:26 AM
83	Bring people in the community to help people sign up for more services	2/20/2018 9:24 AM
84	Shorting the waiting list so people can have somewhere to live.	2/20/2018 9:16 AM
85	Remove violent people and weapons away from the community. Start more community meetings and gatherings for youth and elderly.	2/20/2018 9:15 AM
86	Work together	2/20/2018 9:10 AM
87	First-The police need to be more mindful of residents before they put the word out that someone is in danger. Second-People need more schools or jobs to be able to get and willing to go to with a second chance in life to get off the streets. Third- Give people a chance to save or put money into an account to be able to get a house. Fourth- need more agencies to work with kids.	2/20/2018 9:09 AM

88	-Homeownership classes -Correct credit classes -NA class	2/20/2018 9:02 AM
89	Improve education system, put affordable housing quotas on builders, green building, educate on recycling, gun control, mental health priority in schools	2/16/2018 10:29 PM
90	N/A	2/16/2018 5:59 PM
91	City investment in green spaces, trees for treeless neighborhoods. Citizens need to vote for state funding for Medicaid and Medicare.	2/16/2018 12:21 PM
92	more police presence in known high crime, high drug, high gun activity areas	2/16/2018 11:57 AM
93	Medicare for all.	2/16/2018 10:52 AM
94	Medicaid expansion in NC	2/16/2018 10:25 AM
95	More affordable housing in central downtown areas. Better access to grocery stores. Better transportation coverage. Better community/police relationships. Fewer guns.	2/16/2018 9:40 AM
96	More education on how to access complicated mental health system, starting with EDs and triage with county health educators and social workers, not just hospital employees. More restrictive laws and policies on the explosion of development happening in Durham, rewquire more affordable units and increase fees and taxes on developers if they are not building affordable units.	2/16/2018 8:14 AM
97	Affordable housing set asides tied to new development / rezoning permits. Increase funds for community health centers and diversify target audiences for greater funding stability. Cops out of cars, have DPD have walk/bike patrols to get to know neighbors and increase trust	2/16/2018 7:45 AM
98	Equal access to healthcare for everyone. A requirement for the developers who are building all these giant apartment blocks to include affordable housing. Much more investment in pre-college education, i.e. raising pay levels for teachers and subsidizing school supplies and free meals for disadvantaged kids.	2/15/2018 11:50 PM
99	You’re kidding.	2/15/2018 11:28 PM
100	Insure that any study groups for any of these Issues has a direct line to City Council & Co. Commissioners re: critical findings for their information or action. Study groups should always include a cross-section of the city, wherever possible. Action plans and subsequent results should be publicized in the broadest possible way.	2/15/2018 11:20 PM
101	-consider “tiny homes” model for transitional housing to get people sheltered immediately. -work with Durham Habitat for Humanity to quickly expand affordable housing, including supporting their home repairs program -strengthen/create work programs with the city/county for individuals with criminal backgrounds; also provide incentives/grants to work programs with proven track record, like TROSA -desegregate our public schools -mixed-income housing -universal Pre-K for all residents (start with 4-year olds, eventually expand to 3-year olds), free bus transportation should be included so that all families can participate regardless of ability to transport children to Pre-K programs -expand access to mental health services, increase case manager positions to lighten case loads -partner with Durham Public Schools to facilitate the “Community Schools” model as a way of connecting families to resources and services with the schools as a delivery point -full-time nurses in every school -continue to support community policing models, work towards use of “restorative justice” framework -decriminalize drug use, esp. marijuana -consider universal basic income -incentivize businesses to offer discounts to folks using SNAP, help connect these businesses and customers -consult with the new Poor People’s Campaign for strategies to alleviate and end poverty in Durham -make all public transit free -provide protections to our undocumented residents so they are not forced to hide in the shadows, esp. if they have children	2/15/2018 11:13 PM
102	Providing nutritious options that are affordable in neighborhoods that have only fast food options. Free fresh food giveaways to areas that have no farmers markets. Education in nutrition in schools for families	2/15/2018 10:13 PM
103	Crime- More involvement between police and the community. Housing - City and county come together and collaborate on ways to make housing affordable.	2/15/2018 9:33 PM
104	Medicare for all universal healthcare. Legalizing marijuana.	2/15/2018 9:28 PM
105	labeled GMO foods and access to garden areas	2/15/2018 9:13 PM
106	More information available on senior services.	2/15/2018 9:01 PM

107	Healthcare is more of a national issue, but having health care mobile units to go into neighborhoods where people lack transportation or information or access otherwise would be great. Also, requiring new developers to include a percentage of there space to be affordable...not sure if that's doable, but it would be nice.	2/15/2018 8:47 PM
108	Affordable housing: public/private partnerships. Relations between community and police: conversations, conversations, more conversations. N'hood policing rather than response-to-calls only. Mental Health and Substance Abuse: More government funding, and also private donations to public programs.	2/15/2018 8:41 PM
109	Follow the lead of cities that have experimented with giving homeless people no-strings-attached housing, or jobs, or both. Find a way to do the same thing for healthcare - then expand from there. Pilot interventions to specifically counteract the disparities Black patients encounter in the health care system. Require potential police officers to spend a year in a (full-time, paid) community service role in the community they would be working in before they can be hired as an officer.	2/15/2018 8:04 PM
110	Small quality grocery stores within 10 blocks of all neighborhoods. Holistic healing with herbs and medicinal plants taught for free at community center.	2/15/2018 7:38 PM
111	1) affordable housing: linked development 2)community relationships with police: implicit & explicit bias training with police; make efforts to decrease racial profiling; offer incentives for police to live in the communities where they serve 3)discrimination and racism: decrease segregation in the schools (stop increasing the number of charter schools); implement anti-racism training for city & county employees DPS teachers	2/15/2018 7:19 PM
112	Provide more mental health and substance abuse interventions aimed at those in poverty.	2/15/2018 5:15 PM
113	Health insurance: Not sure on this one, maybe a city-wide insurance plan for literally everyone? Affordable Housing: All new multi-unit constructions MUST contain at least 10% low income units mixed in (not ghettoized) Police: Pay police more, so we can expect more. Cameras must be worn and ON at all times. Obvious cases of turning off cameras or sound to hide things are punishable criminally and write-ups. There really should never be a time to turn off the sound or camera except in a bathroom. Otherwise it should be considered proof of guilt. Mental Health: Must have more access for treatment and homeless shelters AND programs to help people change their circumstances!! Poverty: Similar to mental health. Programs to help people change their circumstances. Housing. Training. Help!	2/15/2018 4:51 PM
114	No idea	2/15/2018 4:44 PM
115	Increase minimum wage; we should not allow homeless people to camp on city property. This is a major issue.	2/15/2018 4:40 PM
116	financial incentives for industry to address these issues; training and awareness across sectors; advocacy with policy makers	2/15/2018 4:13 PM
117	together	2/15/2018 4:00 PM
118	Money, expertise, prioritizing, and motivation for community and city government to solve them.	2/15/2018 3:26 PM
119	Continued focus on access to services and opportunities for Durham residents.	2/15/2018 3:11 PM
120	Cash transfers.	2/15/2018 3:02 PM
121	m	2/15/2018 2:23 PM
122	More access to services in the projects.	2/15/2018 2:12 PM
123	Socialized healthcare, gun buyback and reform laws, increased funding to public schools, progessive educational reform, legalization of marijuana, enforcement of anti-discrimination laws	2/15/2018 2:08 PM
124	Public health approach, prevention	2/15/2018 1:49 PM
125	Require all new development to include 20% affordable housing. All. Everywhere. Apartments, condos, subdivisions. No more luxury-only development. By affordable--a teacher, cop, clerical staff at Duke, Durham Co entry social worker or EMT should be able to afford the rent/mortgage. City/county should set aside funds to assist with down payment. Loans to be repaid at sale or starting 3-5 years after purchase.	2/15/2018 1:30 PM

126	Universal public health insurance (Medicare for All) with comprehensive mental health coverage; universal basic income; free school lunches for all. In the absence of federal programs, we need to have strong and inventive local initiatives to protect and strengthen the health of our city/county. We have too many half measures, outsourced to charities and nonprofits -- this needs to be public and universal.	2/15/2018 1:26 PM
127	Rent control on residential and commercial properties. Pass a law prohibiting the use of "smart" electric meters in Durham. Pass a law mandating no Wi-fi in hospitals, schools, daycare centers, and public buildings such as the courthouse.	2/15/2018 1:03 PM
128	I have no idea	2/15/2018 12:59 PM
129	I wish I knew...my sense is that governmental agencies and local organizations need to partner WITH private entities to address these issues holistically. I know that you are working with many groups but I wonder if you could hidden the partnership..or maybe you already have.	2/15/2018 12:21 PM
130	Affordable housing needs to be a priority of the mayor and city council. Instead of selling downtown to whoever is buying, and driving housing prices through the roof. We are going the way of Seattle, Portland, and Austin, with no one seeming to put the brakes on it. Insecure housing goes hand in hand with poverty, hunger, and unemployment. The government needs to invest in affordable housing, and make that a requirement of future development in and around downtown.	2/15/2018 11:55 AM
131	City/County partnerships with private sector on building affordable housing that has mixed economic renters - some market rental, some subsidized. We need mixed use development downtown. City permitting for private development should REQUIRE 25% subsidized rental availability. 2. Small HC clinics sprinkled throughout the city/county, allowing for easy access and cheaper care. 3. City partnership with Durham Food Coop to bring fresh foods to our food ghetto areas.	2/15/2018 10:36 AM
132	I'm not sure how to fix, but poverty is at the top of the list and that has a waterfall effect on the other areas - housing, food access,etc... I also think structural racism is a serious issue that needs to be addressed head on. I would like to see all elected officials be required to undergo a 2 day race equity training. I would think a similar effort to do that work for county/city employees should also be an aspirational goal. I also believe that community/police relations are an area which has an impact on the community but especially in communities of color where there are issues with inequity in jail policy and procedures and in policy/procedures in dealing with agencies like ICE.	2/15/2018 10:33 AM
133	I really don't have any answers to resolve these issues.	2/15/2018 10:32 AM
134	Durham should first and foremost stop subsidizing luxury apartment/condo buildings. The city should do what it can to stop investors who live across the county and the world from coming in and buying up properties with cash and sitting on them or remodeling them and flipping them for a profit. There should be more protections for renters. We need to raise the minimum wage. All these rights for Durham to do as a municipality come from the state legislature.	2/15/2018 10:20 AM
135	Durham needs to consider adopting a similar program to Orange County Housing Land Trust that has certain housing units open for purchase to families that fall in certain income guidelines. People own the property, but when it is time to sell it cannot be sold at more than a higher percentage of what the purchase price was and it goes back into the housing trust pool. Durham's housing is getting to crisis levels and it seems not enough is being done.	2/15/2018 10:14 AM
136	I believe affordable housing is the most pressing issue we face in Durham. I don't have a solution but I feel this issue needs to be addressed immediately and with all resources available. Durham should be accessible to all its residents.	2/15/2018 10:09 AM

137	To help with affordable housing first the city needs to stop building all the high income homes in areas and start building homes for people who don't have incomes over 35K. Southside project was supposed to be affordable homes for people with lower income but ended up being homes for mainly white folks who worked and could afford 200-300K homes. That is not affordable for the people subjected to poverty every day. The city should stop building homes to make money for upper white people and start building housing for homeless people. For example look at all the new high rise buildings downtown. They city may not be the ones who purchase the sites but they can put a cap on how many are built and the price of them. They can prevent developers from building so many apartments and condos for a projected arrival of residents. There are a lot of homeless people already living around the city on the streets with no where to live. They have mental issues and no resources. No one is looking out for them. Put together a team of people, get in a vehicle and drive around various parts of the city. Go out to 15/501 and see all the homeless people living out there. Take some of the vacant commercial buildings around the city and turn them into housing for the homeless. You can drive down 15/501 and look at all the unleased vacant commercial buildings. They could house so many people. The housing department have so many rules and policies they make it hard for landlords to even rent to Section 8 families. They ask landlords to offer housing yet make every step impossible for the landlord so what happens is the landlords move on to post and rent to people who don't have to go through so many hoops in the system just to have a place to live. I know from having experienced trying to rent to Section 8. The system is set to put up road blocks in every process with the tenant and landlord. The community views the relations with the police department as strained because there is too much violence with the police and community. It is obvious politics are involved and years ago there used to be police driving by neighborhoods making a presence. Now they only come if called and not so quick to help with minority neighborhoods. Not as many officers are on the force and that is because of their system within. It starts with the direction of the police chief. Can't build relations with the community when the community sees discrimination and racism from the police around the world.	2/15/2018 10:03 AM
138	Increase access to affordable housing by prioritizing construction of affordable housing developments. Partner with local grocery stores and other produce vendors to build grocery stores near affordable housing developments. Work with public transit agencies to ensure housing developments and nearby grocery stores are serviced by public transit. Collaborate with the people living in affordable housing developments to map their assets and challenges and develop a community strategy for ongoing improvement. Invest in businesses owned by people of color.	2/15/2018 9:53 AM
139	Educate the public, enlist older adults in the effort, get organizations to work together	2/15/2018 8:52 AM
140	Have police training focus more on community awareness and assessing situations in a calm manner.	2/15/2018 6:32 AM
141	Provide healthcare, mental or otherwise, affordable and available to everyone, regardless of medical insurance. Share information with communities in need of healthcare about available programs and services. Get suggestions directly from these groups about services they need or want.	2/15/2018 1:14 AM
142	I have none to share presently, need to think about this	2/15/2018 12:38 AM
143	Better funding for mental health treatment, better advertising of mental health treatment programs, teaching children in schools the importance of good mental health care, more school nurses, programs to refurbish homes and turn into low-rent housing, work with Duke Med to develop opioid addiction programs,	2/15/2018 12:01 AM
144	I wish I knew. Electing representatives who actually care about their constituents might be a good start.	2/14/2018 10:20 PM
145	fix the bus station bathroom--clean and supply and expand and modernize it	2/14/2018 9:35 PM
146	I do not know.	2/14/2018 9:26 PM
147	Nothing to suggest; these are tough issues.	2/14/2018 9:24 PM
148	Making people aware of programs available to help.	2/14/2018 8:29 PM
149	Continuous Dialogue with community members who are impacted significantly with these issues as well as government members who can listen and understand to develop a coordinated efffort seek solution.	2/14/2018 8:23 PM
150	I wish I knew.	2/14/2018 8:00 PM

151	- implement zoning policy changes for mixed-income housing that do not expire in a short amount of time - make Durham walkable- add sidewalks all over that connect to transportation, grocery stores, parks & recreation - address the institutions that run Durham, and evaluate if they propel, are neutral, or take backwards steps to impact health and wealth disparities; create a plan (in partnership with policy leaders) to address systemic & institutional structures that do not actively reduce known disparities	2/14/2018 7:36 PM
152	Developers must pay a decent percentage of all costs of building/renovating schools when new communities are planned. City and county government must put it's citizens first. An excellent education is vital to our future, impacts crime, poverty and promotes a desire to make our communities a better place to live. Teachers must be valued with community and administrative support. This includes a budget that will pay for text books, classroom supplies. Put our school tax money where it should be going, our children. Affordable housing is a basic need. Affordable health care and affordable housing are key to the health of any community. I wish I did have a solution.	2/14/2018 7:02 PM
153	Expand NC Medicaid, increase property taxes to support poverty mitigation and build mixed-income housing	2/14/2018 5:10 PM
154	(I write surveys for a living - and just saying, you need to divide this question out across the 5 topic areas.) 1. Affordable housing - enforce and strengthen codes that require a % of affordable housing in new builds. Retain % affordable housing stock in neighborhoods bordering downtown. I think affordable and more extensive transportation options also falls in this category.	2/14/2018 4:56 PM
155	Oh man, if I had this answer readily available, I would be famous and you would be out of a job	2/14/2018 4:35 PM
156	universal health care	2/14/2018 4:21 PM
157	Health seminars for the health & mental health issues, seminars on community relationships with police.	2/14/2018 4:18 PM
158	Visible police presence around downtown apartments and businesses. Living wages for all. Mixed use developments that aren't all luxury apts/condos	2/14/2018 4:16 PM
159	Individual education and contact by trained professions, churches and caring persons in the community. Elect government officials whose agenda is taking care of people not increasing their wealth and boosting their egos. Provide decent paying jobs so people can afford decent housing and health care. Stop ignoring the problems.	2/14/2018 3:47 PM
160	We need to do more to ensure that children are not exposed to trauma, and to ensure that those who are receive services to minimize the impact. Part of that is to be sure that we decrease the number of evictions in Durham County. There are many programs that are working to end gun violence, decrease evictions, provide affordable housing and healthcare, and support families, but they need more funding. We also need to directly empower communities that are dealing with these issues rather than just treating them like victims.	2/14/2018 3:34 PM
161	I sure do hope that the people I voted for takes issue on these topics, because they said they were concerned. They need to act on it.	2/14/2018 3:23 PM
162	Not sure	2/14/2018 2:33 PM
163	Need to involve the people that are affected and not just leaders of the community.	2/14/2018 2:28 PM
164	Creative methods of additional means of transportation over and across the city	2/14/2018 2:18 PM
165	I know nothing about Durham's budget, but much of problem solving is about money. I have no bright ideas.	2/14/2018 2:02 PM
166	Local governments should be able to force developers to "set aside" a small percentage of houses/apartments for affordable housing for seniors and other lower income residents Re: poverty - the South MUST begin to pay livable wages. There are too many people here whose primary job/income will not support them and they have 2 and 3 other jobs.	2/14/2018 1:11 PM
167	There should be county initiatives for builders and developers to build affordable/moderate income housing.	2/14/2018 12:32 PM
168	community events that build relationships with police, increase in wages	2/14/2018 12:28 PM
169	Electing more conservatives to local government and not progressives.	2/14/2018 12:24 PM
170	I haven't the vaguest idea.	2/14/2018 12:14 PM

171	A senior day (with specified tables for socializing), at least once a month, at restaurants outside of the center.	2/14/2018 12:14 PM
172	Dementia Inclusive Durham - education, partnership with community organizations to foster well-being in adults with dementia	2/14/2018 12:09 PM
173	Affordable health care, housing, and transportation	2/14/2018 12:01 PM
174	Access to affordable education; public schools decipline structure not set-up like penal institution. Early food education and access to nutritious foods	2/14/2018 11:34 AM
175	More focus on addressing poverty and other social determinants of health. Mission to increase physical activity.	2/14/2018 11:33 AM
176	Better informed.	2/14/2018 11:17 AM
177	I think that there could either be a couple of days a month that Durham citizens along with the City of Durham employees have a clean up day or members of our own neighborhoods form a group to clean up our neighborhood. I think a clean Durham will go a long way in improving our mental health and our outlook o our city. I also think that this will help ncourage others who may be thinking of moving to Durham.	2/14/2018 11:08 AM
178	There is so much over the top violence in this city - more than I have EVER seen anywhere. Just last week I, along with 2 coworkers, were crossing the street in the crosswalk - no cars were coming when we started to cross. A car had turned the corner and accelerated to speed up as if to hit us. There was no reason for this type of action. She eventually slowed up only to speed back up as soon we had cleared a small enough path for her truck to get by. This is just sad. And so much racism. For example, when DSS new director was introduced, he was introduced as Ben Rose. When the new county manager for Wake was introduced, he was introduced through WRAL as the African-American, David Ellis etc. I know it's not Durham, but the point remains regardless of county. I definitely won't stereotype, this is just the type of citizens I see and hear. Durham has so much to offer and it seems to be brought down by their own citizens through rage, fear and violence. Life is meant to be lived fully and shared respectfully/lovingly. I don't have solutions; however, I know a great change is happening and I'm hoping the positivity will spread and be shared with much more peace and harmony.	2/14/2018 10:58 AM
179	It would be nice if we quit reacting to floridly mentally ill citizens with aggressive or lethal police action. It's not appropriate to arrest people in the middle of psychosis, or shoot suicidal people.	2/14/2018 10:51 AM
180	Please plant more trees in downtown Durham. Pease have more and different styles of taiji.	2/14/2018 10:49 AM
181	working with areas of concern to lessen	2/14/2018 10:38 AM
182	Especially interested in mental health/dementia and getting the communi8ty involved in community wide solutions	2/14/2018 10:35 AM
183	Medicare for everyone and increased foodstamps program	2/14/2018 10:33 AM
184	Housing: For every high rent apartment complex or housing development, developers should be required to contribute to a housing fund or build lower rent housing; Substance Abuse: people can become more vigilant to what's happening in their neighborhoods and report to the authorities; Healthcare: grateful to PharmAssist and their services, inform people of what this organization does and provide more funding; Mental Health: do not believe Durham currently has free Mental Health unless a resident goes to Lincoln and that's not free, city and county should fund more towards mental health.	2/14/2018 10:28 AM
185	Universal healthcare that includes physical, mental, addiction, dental, long-term...care.	2/14/2018 10:08 AM
186	Open discussion and strong leadership.	2/14/2018 10:08 AM
187	Community Centers can continue to offer education on managing diabetes and weight control and healthy diets inexpensively	2/14/2018 10:06 AM
188	More grass roots community engagement Priorities from the top administrators Diverse Funding	2/14/2018 9:32 AM
189	More fresh markets. More friendly police presence everywhere, even on walking trails. I want to come to the Center but stopped coming because I could never find a parking place.	2/14/2018 9:25 AM
190	food banks	2/14/2018 9:22 AM
191	Working together putting money into all of these projects and supporting one another	2/14/2018 9:21 AM

192	Build walking trails, police be more visible in good times, work with all races, take information to the people where they live, try to incorporate all races in building up areas	2/14/2018 7:20 AM
193	Dementia is deemed a public health concern by the World Health Organization and it's prevalence in Durham need to be acknowledged.	2/13/2018 10:28 PM
194	See a psychologist	2/13/2018 4:46 PM
195	I think they can have more resources for people who really need it. Building homes, good homes for families, because maybe if they live better they will want better	2/13/2018 4:44 PM
196	Stick with the heavenly Father, go to church, stop eating pork, follow the 10 commandments	2/13/2018 4:42 PM
197	Promote cancer screenings/education Do a better job of informing citizens of healthcare options, including mental health Hold outreach sessions in the community by police	2/13/2018 4:40 PM
198	Try to convince people to reach out and interact more with their community	2/13/2018 4:39 PM
199	There needs to be meetings for the public to voice their opinions.	2/13/2018 4:26 PM
200	Job training, equal employment opportunities, and diversity in government	2/13/2018 4:23 PM
201	Better paying jobs, more people getting along better	2/13/2018 4:21 PM
202	Investing in affordable healthcare at the state wide level, opening more low cost healthcare resources/clinics, more funding for vulnerable populations, resources and community integration	2/13/2018 4:17 PM
203	More community health engagement	2/13/2018 4:08 PM
204	Community programs More financial (supplemental) support with housing Training more human services employees on how to handle people with mental health issues	2/13/2018 4:03 PM
205	Working with community leaders more to solve community health	2/13/2018 3:56 PM
206	Education on best practices and where resources are located	2/13/2018 3:54 PM
207	Education/outreach, more funding for free/sliding fee scale clinics, more youth education for violence prevention	2/13/2018 3:53 PM
208	I need help, I'm on Medicare no Medicaid. I need help with a house that I can afford. No community with police, no cure for cancer. My sister has HIV, officers never come when you call for them to come	2/13/2018 3:46 PM
209	Better access to mental treatment	2/13/2018 3:40 PM
210	Information that is truth; equality	2/13/2018 3:39 PM
211	More government money. Better leaders	2/13/2018 3:15 PM
212	Make mental health options available	2/13/2018 3:12 PM
213	Maybe try more community days when it starts getting warm in all of the communities maybe with some of DPD	2/13/2018 3:06 PM
214	Programs in affordable housing such as tutoring, afterschool activities, etc.	2/13/2018 3:03 PM
215	Maybe start an organization that can help prevent poverty. Have classes that people could go to when they are stressed. Start a nonprofit organization for people to get jobs because of their record.	2/13/2018 3:02 PM
216	We're stuck in the country we're in	2/13/2018 2:55 PM
217	Bring more programs to low income areas	2/13/2018 2:52 PM
218	People cant prevent HIV/STD by having protected sex and making sure to check up with their doctor	2/13/2018 2:49 PM
219	A lot more awareness (community fair, information on t.v., outreach, health fairs, schools- start there	2/13/2018 2:47 PM

220	I don't know how to solve the healthcare problem, living in a state that did not expand medicaid. I guess a serious PR campaign, educating people to be tested for diabetes, for instance, would be a start. Hold classes on how to cook healthy food, even if someone is on food stamps. Grade school curriculum should include programs teaching healthy eating so kids could take the messages home. Some states are instituting some kind of a medicaid program that's not federally funded. Don't know details and don't know if that's an option for Durham. I wish there was a law that would require developers to set aside a portion of their apartments to low and middle income people. I'm proud of Durham for working on this with the homeowner tax increase. We need to do more, if possible, so cops and nurses and teachers and a whole bunch of other people can afford to live here. I want Durham to welcome people with different income levels. Not just the McMansion builders. Individuals suffering from mental illness are at risk on many levels: they often wind up in jail, are not diagnosed, are excluded from society. Keep up support of the CIT training for police and sheriffs. LOBBY RALEIGH TO INCREASE FUNDING FOR COURTS AND JUDGES. Re: Larceny: police are constrained because of the budget. I don't know how to fix that without raising taxes. I feel that the quality of my life in Durham is diminished just knowing about the amount of criminal activity that exists here. I don't blame the police; they are doing a terrific job. It's an intractable problem. I'm glad the police give the community good ideas for making our homes less desirable for thieves. I commend the people who work on the budget; to make it work so that everything that needs to be covered is taken care of. We all have to acknowledge the tradeoffs that have to be part of the process. Keep engaging the community to be active participants in helping Durham to be a good place to live. I'm very disappointed that attendance in the PAC3 meeting that I got to is very low. I wish more people to be engaged.	2/13/2018 2:46 PM
221	Durham should look at the rising cost of living and also hourly rate of pay and standards of wrong for those who make less money. Need a solution for the kids and families to have better lives.	2/13/2018 2:45 PM
222	Hold more community meetings Universal healthcare	2/13/2018 2:39 PM
223	The laws need to change	2/13/2018 2:38 PM
224	A comprehensive approach to these problems; media exposure, connecting issue to the people who can make an impact on these issues (ex. public officials, religious organizations, wealthy philanthropists, healthcare officials, etc.) Connecting these various groups for common causes	2/13/2018 2:37 PM
225	Making resources available	2/13/2018 2:27 PM
226	The return of Jesus	2/13/2018 2:22 PM
227	More jobs	2/13/2018 2:17 PM
228	Have more community outreach programs	2/13/2018 2:12 PM
229	Keep all the negative stuff out of the media to draw good citizens to Durham County	2/13/2018 2:10 PM
230	Don't smoke crack	2/13/2018 2:07 PM
231	free healthcare abolish police in durham abolish prison in durham find alternatives to maintaining safety ensure housing for all durham residents make durham a sanctuary city	2/13/2018 12:25 AM
232	Better education - worst school rankings in the triangle. Adding police is a short-term solution. We need to attack this at the root-cause.	2/13/2018 12:11 AM
233	Our health insurance has decreased in the ability to serve the employees, get better insurance	2/12/2018 8:15 PM
234	community health nonprofits	2/12/2018 1:57 PM
235	-Food Entrepreneurial opportunities -Widely adopted and implemented nutrition incentive programming -Better public transportation, fewer parking decks	2/12/2018 12:05 PM
236	none	2/12/2018 11:58 AM
237	Promoting and expanding the anti-racism work of the Health Department and integrating those principles into the infrastructure of Durham County would address most of the core issues.	2/12/2018 9:36 AM
238	Go into the community with list of resources available, most of our people are not aware about services available and how to access them.	2/12/2018 9:09 AM
239	Advocating for Medicaid expansion in the state. Increase in affordable housing in the area for those who only receive disability benefits (re: mental health). Increased resources for those trying to live successfully and independently in the community with mental health issues (targeted employment, housing programs). Better crisis facility.	2/12/2018 8:53 AM

240	More transparency and collaboration with Duke, NCCU, City, County, CBOs and the community - each investing time, expertise, and the larger, well-endowed institutions - money.	2/11/2018 9:21 PM
241	Allocate the budget as necessary to 1. fund local groups that focus on these issues 2. publicize the opportunities for access to aide thru flyering, mailings, & social media.	2/11/2018 6:01 PM
242	Obviously build more affordable houses	2/11/2018 5:48 PM
243	Progressive social policies and planning ahead for the county's changes to ensure current residents are well taken care of. This includes increasing the availability of permanently affordable housing and improving zoning and the build environment to promote health for all residents.	2/11/2018 5:09 PM
244	Access to good jobs. Better training, transportation & life support to help people find & keep good jobs.	2/11/2018 2:03 PM
245	Adult education programs; affordable housing; recreation and fitness programs; public workforce programs for low-skilled and unemployable to do community service projects to earn extra money that is non-taxable and doesn’t affect eligibility for assistance programs	2/11/2018 7:55 AM
246	Free health screenings in different areas of Durham with one on one education about health issues.	2/11/2018 7:40 AM
247	The leading cause of death here is cancer. Are there environmental hazards that need to be cleaned up? Are air and water quality issues? Do some communities not have access to fresh, healthy antioxidant-rich foods? Are we eating too much meat and sugar? Are vegetarian options available?	2/11/2018 5:50 AM
248	Discounted health care plans should be made available to low-income families. More money needs to be devoted to public housing and to growing the land trust. Police should practice more community-based techniques. The city council should push for a $15 or more minimum wage.	2/10/2018 10:41 PM
249	Making racial impact statements a part of formulating polices. Centering & having ownership & access of the most impacted communities & people involved by leading, building capacity & transferring power to those that have been divested from & from where the current wealth Is being built on their oppression.	2/10/2018 4:58 PM
250	Community guidance for employment opportunities. Education on birth control and available parenting classes.	2/10/2018 3:16 PM
251	Perhaps "roving" health clinics (such as the bookmobile) which would serve people where they are.	2/10/2018 1:42 PM
252	Engaging with diverse stakeholders; comprehensive strategic community planning; preventive and proactive efforts to invest in, support, and foster health and well-being by focusing on social determinants of health.	2/10/2018 12:56 PM
253	Need roadway loop from Hwy 501N to hwy 40. Revamp Obamacare so BCBS isn't the only available ins company. With the revamped Obamacare there will be more options for mental health than only what BCBS will allow which is very limited for the low budget. Police need much more training in mental health issues so they can appropriately recognize people with mental health problems over others. Will help them with communications with all types of people.	2/10/2018 12:52 PM
254	Provide classes or lectures to help people to live a better life.	2/10/2018 9:45 AM
255	Public/private partnerships, community involvement, education	2/9/2018 9:45 PM
256	join the Fight for $15 campaign to raise the wages of workers; stop keeping poor people in jail for non-violent offenses while awaiting court dates; improve mental healthcare access; stop criminalizing substance abuse and provide treatment centers;	2/9/2018 8:15 PM
257	Abolish the police, abolish prisons. Establish truly affordable and accessible mental health care. Increase public housing options.	2/9/2018 8:08 PM
258	I wish I knew. If I did, I would be making a lot more money!	2/9/2018 7:40 PM
259	Strong emphasis on affordable housing	2/9/2018 7:37 PM
260	Vote out current administration	2/9/2018 7:24 PM
261	Work with local and national organizations and individuals to get a better understanding and make it easier for new residents to access the information they need.	2/9/2018 7:17 PM

262	Better communication within communities; making sure everyone not just some are heard. Police can come to the communities and hold town meetings or meet and greets so neighbors get to know them personally. Put more healthy food options in grocery stores; get rid of some of the junk being sold that's unhealthy. Build a Publix in a more accessible area in Durham so we don't have to drive to Cary or Raleigh.	2/9/2018 6:52 PM
263	Community forums	2/9/2018 4:56 PM
264	All City and County officials, teachers and administrators in DPS and charter schools as well as those employed at Durham Tech be required to attend the Racial Equity Training put on by Organizing Against Racism. Maybe people will have better informed ideas about the people they are interacting with and then we can solve some of these problems.	2/9/2018 3:47 PM
265	Improve the poverty situation as a starting place to improve families, care for children and reduce the attraction of crime and substance abuses of all kinds.	2/9/2018 2:29 PM
266	Public private partnerships, private foundation support, research, and a willingness of investors to invest in businesses throughout Durham.	2/9/2018 2:18 PM
267	Promoting the options that are available, and holding community work sessions to brainstorm ideas. Reallocate taxpayer funding, but do NOT tax MORE.	2/9/2018 1:16 PM
268	More outreach with Police and the community, hate crimes immediately dealt with strongly and swiftly, community outreach to help those in need, not really sure how to raise funds- but priorities need to be allocated as such.	2/9/2018 12:58 PM
269	Increase free bus services, increase sidewalks, increase services assisting with Medicaid renewal, more in home visits for health care s/a increased resources to Durham Connects and CC4C	2/9/2018 12:55 PM
270	Don't allow homeless people to beg for money, don't allow them to camp out in woods behind buildings. Crack down on people using drugs. Don't allow people or groups to tear down monuments and not prosecute them. Don't allow groups to protest or "counter protest" without a permit. Don't tolerate city council members say we live in white supremacist society at a PAC 4 meeting and not address her comment.Affordable housing how about redoing the old county library on S Alston Street that is just sitting there make it so some people can live there and charge them affordable rates. Make sure people who live in affordable housing really qualify it makes me upset driving by affordable housing and seeing BMWs, lexus, cadillacs I drive a chevy come on this doesn't make sense-there must be drug or illegal money how else could they afford these vehicles.	2/9/2018 12:29 PM
271	Find ways to build connection and collaboration between what increasingly feels to me like "2 Durhams"-- the mostly white upper class elite moving in and the mostly black and brown folks who are getting pushed out of central Durham by a lack of affordable housing.	2/9/2018 12:23 PM
272	Substance Abuse/Mental Health - Create more resources those affected can access quickly - we can't have folks in a crisis having to wait weeks or even months to get access to affordable care (ex. rehab centers, detox centers, phsys visits). The local hospitals could also help by working with patients who come in with substance abuse or mental health issues besides just checking their vitals and sending them home. Its frankly embarrassing the level of care offered compared to some other countries especially to know that the average life expectancy of an American recently declined because of the massive increase of mental health/substance abuse deaths. Crime - Crime in the city is ramp-pet as I'm sure you're aware. There are shooting after shooting in very public places that frankly happen way too often. More opportunists for youth may help reduce those interested in crime.	2/9/2018 12:23 PM
273	Transportation should be available to all elderly. Some do not have family members in the state that can help. Bus transportation is free to all over 65 but the bus stops are not within walking distance	2/9/2018 12:03 PM
274	Have more healthfairs available to the communities in need of affordable healthcare and insurance. Create more affordable housing, demand it from our local elected leaders. Have more open forums around Durham discussing solutions to discrimination,racism, ageism, and sexism- how can we promote more opportunities for the aforementioned groups that experience discrimination. Strengthen mental services so everyone has access, have more public discussion to get let people know services exist, and how to promote mental wellness. Obesity, diabetes and food access-start early education in the schools introducing healthy foods, and have the Durham Public schools real take a pledge to promote health eating habits, by actions.	2/9/2018 11:57 AM
275	More positive community engagement by collaborating resources- mental health, police, medical clinics, sports groups, schools, etc.	2/9/2018 10:51 AM

276	That's what I thought this task force was going to facilitate.	2/9/2018 10:46 AM
277	Increase resources for Tx; rather than criminal justice; increase access; set a living wage; further commitment to maintaining/building affordable housing	2/9/2018 10:13 AM
278	People take responsibility for themselves and their own actions	2/9/2018 9:46 AM
279	Through education, knowledge and real conversation omitting politics or agendas	2/9/2018 9:42 AM
280	Offer hands on training and partner with local businesses.	2/9/2018 9:40 AM
281	I don't know the answers to any of these issues. I'm trying to keep my own head above water.	2/9/2018 9:35 AM
282	There needs to be a health wellness center closer to southpoint mall..off of i40 ex like UNC has built 2of.	2/9/2018 9:34 AM
283	More avenues for mental health assessments, more done to address opioid addiction	2/9/2018 9:27 AM
284	Fight gentrification. Increase services for LGBTQIA+ community members. Defund police, reroute said funding to healthcare for underserved populations. Tax developers who are gentrifying Durham and reroute said funding to healthcare for underserved populations. Make Durham a Sanctuary City. Stop deportations in Durham.	2/9/2018 5:35 AM
285	Fund services, improve outreach.	2/8/2018 11:50 PM
286	I think just creating more awareness to the public, showing what services are available to the public.	2/8/2018 11:12 PM
287	Providing support and opportunities for jobs and ways to end poverty. Providing education and access to healthcare regarding all health aspects including healthy eating and HIV/STI.	2/8/2018 8:00 PM
288	Living wage.	2/8/2018 6:13 PM
289	I think that if there was more communication in the neighborhoods, more neighborhood meetings with city and county leaders would help solve some of these issues.	2/8/2018 5:45 PM
290	I would love to have Duke create a Durham-resident group insurance plan that is full coverage for all residents, paid for by in part by our taxes and also as a nice way for Duke to give back. So, single payer-ish.	2/8/2018 5:34 PM
291	Co-locate affordable housing with health clinics or YMCAs using 9% low income housing tax credits.	2/8/2018 5:09 PM
292	Increase access for community based services and supports.	2/8/2018 4:38 PM
293	Redirect government funding to invest in community mental health to provide early intervention to elementary and other school-age children, as to adequately screen for mental health and other conditions. These efforts may prevent or manage the concerns that lead to paramount issues, such as poverty, housing instability, food insecurity, and other crucial concerns that begin early on in a child's life.	2/8/2018 4:04 PM
294	Legislatures need to get on board with expanding coverage for those who are underinsured. There needs to be more comprehensive mental health coverage as well as substance abuse coverage in order to allow community members the access they need to treatment.	2/8/2018 3:30 PM
295	Investing in living wage jobs and more affordable housing will reduce significant stress on families and individuals. This could have a domino affect.	2/8/2018 3:26 PM
296	Community teams, partnerships between organizations, community action plans.	2/8/2018 3:25 PM
297	have free mental health and substance abuse	2/8/2018 3:24 PM
298	Useful community programs for teens	2/8/2018 3:21 PM
299	Durham needs more for the black community	2/8/2018 3:20 PM

300	Hold institutions accountable for patterns of discrimination and racism in their hiring, firing, promotion, offering of resources, awarding of resources, etc. Provide a public incentive for equitable practices, policies, and programs. Make it easier for people to locate quality mental health service providers that are experienced in serving/healing issues most relevant to a consumer. Provide incentives for mental health providers to offer services at an accessible price, location, and modality (phone, web, etc.). Incentivize employers to pay living wages, comprehensive benefits, and hiring locally. Create training programs for local employers to identify talent in the local community and incentivize them hiring people who need an entry level position to start their career. Too many jobs require people to have experience but do not offer opportunities for people to gain experience on the job or through other paid training mechanisms. Lower the price of housing. Do not allow developers and landlords to build, sell, or rent homes that are higher than 1/3 of minimum wage or a living wage. Incentivize more lower rent landlords and provide resources and services for regular maintenance of homes and property (job creation, skills training, materials and labor grants for repairs and improvements). Provide effective substance abuse programs that are affordable, accessible, and offers different modes (in-pateint, outpatient, phone, web, etc.) Incentivize more trained professionals to enter the field of substance abuse treatment, management, and operations. Require high quality standards and competitive pay as well as comprehensive ethical standards for substance abuse prevention and treatment agencies. Help people in recovery to gain the skills and structure needed to maintain their sobriety by helping them enter and maintain homes and social communities that are drug free or different than what they came from. Stop sending people to jail or prison for substance abuse issues. Treat them first for substance abuse and then for mental health, provide them jobs, so that they can earn enough to support a home and drug free lifestyle. Provide more recreation and activities in impoverished neighborhoods, not just for the kids for parents and elderly too. People get bored and depressed and do drugs out of apathy	2/8/2018 3:15 PM
301	My focus is on food security and safe spaces for being active for Durham residents of all ages, race, socioeconomic status, gender... I think geo-mapping affordable food access points and then working to make them more accessible, affordable, and healthier is a start.	2/8/2018 3:10 PM
302	More coordination of activities across Durham and our CBO, and health organizations.	2/8/2018 3:08 PM
303	Building relationships between communities, intergenerational organizing	2/8/2018 3:06 PM
304	Expand Medicaid. Increase county funding for behavioral health services.	2/8/2018 3:05 PM
305	Parking, pot holes, places for teens, more summer activites	2/8/2018 2:59 PM
306	Better communication with residents, focus on really listening to residents	2/8/2018 2:51 PM
307	I have no idea	2/8/2018 2:45 PM
308	Teach meditation in schools and community centers	2/8/2018 2:22 PM
309	Co-housing for women with children	2/8/2018 2:18 PM
310	Town Hall initiatives need to be developed to address on a community based level (ground roots)	2/8/2018 2:15 PM
311	Systemic/federal level of funding shift in the national priorities, Don't know on local level...education and activism are crucial	2/8/2018 2:11 PM
312	Obesity: Cute down on ads by the processed food industry	2/8/2018 2:04 PM
313	Clean air--do not permit burning of leaves and other debris in county, just like within city. People with asthma and other diseases can't breathe this air safely.	2/8/2018 1:42 PM
314	Affordable housing efforts should concentrate on programs that actually put ownership of both building and land in name of the homeowner. Habitat and Self-Help are doing good work and provide a good model. We need to make every effort to keep all of the inner city from becoming unaffordable to the people who live there now. All this fancy new housing is great, but NOT if it drives out the folks already in Durham. Housing is key!!	2/8/2018 1:17 PM
315	More sidewalks, bike lanes, transit choices; A more diverse mix of housing choices; racial equity training for all police officers	2/8/2018 12:58 PM
316	City investment in affordable housing, subsidized ag/supply chain locally to improve access to healthy food while building a local food economy, doing this work with an anti-racist lens.	2/8/2018 12:15 PM
317	More walkable infrastructure (greenways, 10' sidewalks) prevents health problems and reduces medical expenses.	2/8/2018 12:12 PM

318	Use lessons learned from Terry Sanford's time as governor and at Duke. Methods include distributing ownership of approaches and prioritizing innovative financing.	2/8/2018 11:51 AM
319	Determine effectiveness of existing program, identify duplications and service gaps, seek funding grants, implement updates to existing programs or new initiatives.	2/8/2018 11:41 AM
320	More resources to match people to existing services	2/8/2018 11:33 AM
321	Forgive to heal our innermost parts from unwantedness, Have Faith, and Love more often.	2/8/2018 11:05 AM
322	Community education on the value of exercise and eating right. Walking is free and teaching people how to cook at home would help them eat less fast food. Cheaper too.	2/8/2018 10:55 AM
323	This question is not for me to answer. Meeting with Durham residents to get feedback would be instrumental in solving these issues that never change.	2/8/2018 10:51 AM
324	Community engagement	2/8/2018 10:29 AM
325	Facing them head-on, with community engagement, action and commitment.	2/8/2018 10:22 AM
326	be a better citizen	2/8/2018 7:56 AM
327	Reverse the national tax and subsidy structure that taxes middle and lower income individuals to pay for subsidies to wealthy and large businesses, such that more wealth stays in less wealthy areas.	2/8/2018 5:54 AM
328	Well funded easily accessible Programs to treat mental health/substance use as well as physical health.	2/7/2018 10:59 PM
329	Better educational opportunities; open community dialogue and participation;	2/7/2018 10:44 PM
330	Violent criminals need to locked up. Education needs to be stressed. Parents who don't encourage their childrens education need to be punished. The glorifying of violence needs to be stopped, blaming the police for peoples choices will never fix anything. ACA needs to be repealed so people can afford insurance again. I've lived in DU 9 years, my health insurance premiums have doubled and my coverage is down. People with chronic issues suchas diabetes and obesity need to follow their Dr's orders on diet and exercise or lose access to health care. One of my friends is a nurse, she tells me all the time how obese people come in and tell her how well their following their diets and exercise plan, yet they've somehow gained another 10lbs in 3 months	2/7/2018 10:32 PM
331	Establish farmers markets in underprivileged areas Create safe zones for substance abuse use, incorporating counseling and methods for getting clean	2/7/2018 10:28 PM
332	More community involvement	2/7/2018 9:53 PM
333	Establish need, assess resource availability, develop action plan, implement	2/7/2018 9:03 PM
334	Higher minimum wages, mobile care options that can come to those who cannot usually access services, and a plan that involves government, private business, and individuals in the community is key! Involve the populations in need in the discussions so that there is investment and buy-in at the lowest AND highest levels.	2/7/2018 8:31 PM
335	community partnerships and conversations. Financial giving to programs.	2/7/2018 8:23 PM
336	Are you kidding? There is not enough room in a small box to convey such ideas. Our own government can't even solve that problem. For starters, how about taking some money away from our legislators and giving it to teachers instead? How about hiring school nurses so there are enough to cover the schools instead of one nurse covering 4 schools? How about harm reduction programs instead of punitive programs for substance abuse? As for affordable health care, well, good luck with that.	2/7/2018 3:46 PM
337	More funding for outreach events on health related topics. Free clinics on transportation lines. Community gardens IN communities, and people to help the community to keep them going.	2/7/2018 3:14 PM
338	1. Creating more opportunities for employment. Require city-funded vendors who are revitalizing neighborhoods to hire those living in the neighborhoods. Incentivize private vendors to do the same. For example, private builders may receive incentives for hiring construction workers from the community. 2. We need to really lobby for expanded healthcare services. With Roy Moore as the governor and midterm elections coming up this should be a top priority. We need to make it a campaign issue. 3. The city is doing a good job of trying to ensure affordable housing. One solution could be to incentivize landlords to keep up their rentals and to continue to build mixed income housing in areas close to downtown (and close to the resources that people need).	2/7/2018 2:32 PM

339	Pass a higher minimum wage in the county. Offer free mental health services and greatly expanded pediatric mental health "beds" at local hospitals.	2/7/2018 1:50 PM
340	More funding for mental health/family health programs, more integration of programs because all of these issues are interconnected and affect the others, more accountability and STAFF (especially bilingual staff) for the government entities that hold the monies for these issues (DSS, DPS, DJJ, etc.)	2/7/2018 1:28 PM
341	Engage community members and existing coalitions working to address these issues. Have impacted people at the table for conversations/decisions that concern them.	2/7/2018 1:19 PM
342	Focus on community outreach and prioritization of marginalized peoples	2/7/2018 1:14 PM
343	Free mental health services for pregnant women	2/7/2018 11:46 AM
344	Affordable housing- need policies that require affordable housing to be created in conjunction with these luxury/expensive apartment complexes being built. Policing- policing law enforcement needs to work with people in the community to come up with solutions together, not top down.	2/7/2018 11:30 AM
345	I do believe people should be educated, but not just stop with their education after high school or college. Also study even after that so that one can be more informed on how to help others, to be a better person than you were yesterday in order to learn how to help other. Self-esteem is a big factor in someone's life. If one doesn't love themselves, how are they expected to love, care, and watch over another. I feel like this is something society should research more about. Bringing one another self-esteem up in order to help others do better as well!!	2/7/2018 11:03 AM
346	?	2/7/2018 9:52 AM
347	I'll need to get back with you on that	2/6/2018 5:53 PM
348	Invest in research and policy development; engage the community in developing solutions that will work and be sustainable; provide safe, healthy spaces for people with fewer resources to spend time and improve their quality of life; develop programs that involve retired people who are motivated, knowledgeable, enthusiastic, and compassionate and give then a chance to give back to their community	2/6/2018 12:51 PM
349	More awarness would be better. Along with more things for oeipke with low income families	2/6/2018 11:25 AM
350	Talking to the community	2/6/2018 11:22 AM
351	Give me the knowledge of the importance of freedom; Byou which it stands me in the Frontline to be free by the audacity oof hope free at last.	2/6/2018 11:19 AM
352	don’t have any	2/6/2018 11:19 AM
353	Universal healthcare	2/6/2018 11:19 AM
354	Help each other out to prevent all this	2/6/2018 11:19 AM
355	Build community centers, get better knowledge of what goes on in more urban neighborhoods.	2/6/2018 11:18 AM
356	Looking for better	2/6/2018 11:18 AM
357	I don't know how to solve these issue's.	2/6/2018 11:17 AM
358	CanI dates that will commit	2/6/2018 11:17 AM
359	Use better research and have people help with theses crimes that happening	2/6/2018 11:16 AM
360	Education	2/6/2018 11:16 AM
361	More funding for mental health and substance abuse	2/6/2018 11:16 AM
362	Meow	2/6/2018 11:16 AM
363	...	2/6/2018 11:15 AM
364	Community collaboration	2/6/2018 10:52 AM
365	More money from government	2/6/2018 10:48 AM
366	Unsure	2/6/2018 7:57 AM

367	Until healthy food is more affordable than fast food and junk food, we are unlikely to be able to significantly affect the issues of obesity, diabetes, and food access. As regards substance use, I think there is a tie-in with the violent crime issue; the courts need to mandate participation in substance abuse programs and the jails/prisons need to stress this as well.	2/5/2018 2:07 PM
368	City/County decision makers and law enforcement should be required to engage in anti-racism training and *ongoing* work. Data should be collected/assessed and shared widely about how policies and practices are disproportionately impacting people of color in Durham (and across the country). Policies/practices should be examined and revised to help reduce these disparities. Elevate this conversation through frequent forums, presentations, campaigns, etc-- the narrative must be changed, and implicit biases must be confronted and deconstructed. Engage youth in the conversation as true partners.	2/5/2018 11:17 AM
369	This is your job.	2/4/2018 9:39 PM
370	Access to opportunities for disadvantaged groups will help bring better outcomes. Mental health services are needed as more people experience duress on account of struggles with finding housing, jobs, and adequate care.	2/4/2018 9:10 AM
371	Inform the survivors for self advocacy, help with access to skilled services to treat the impairments, understand the impact on activities of daily living.	2/3/2018 8:33 PM
372	Increase access to public resources and provide more options for safe housing as well as affordable daycare. We need better access to healthcare including continued support for Lincoln.	2/3/2018 7:51 PM
373	More programs and partnerships to address these issues. Look for out of the box solutions	2/3/2018 6:53 PM
374	Job training to help people get better paying jobs, and keep bringing more jobs into the area. Also, public transport to the jobs. Increase the % of affordable housing per new housing, and integrate the two. Community gardens, edible landscaping, encourage converting lawns to gardens, and continue putting more sidewalks and greenways/parks in the county.	2/3/2018 6:33 PM
375	Communicate more with community activists and local government officials	2/3/2018 4:35 PM
376	create innovative housing options using sturdy, recyclable materials (i.e. train cars, portable steel storage units), require quality, consistent, regular interval mental health treatment for all detainees who will, one day be released into population, create deliberate and innovative neighborhood based employment/entrepreneurial wealth opportunities, increase the number of community health workers serving residents with chronic illnesses, including mental health.	2/3/2018 2:58 PM
377	The primary issue on which I believe Durham can have an impact is affordable housing. Increase the % affordable units that developers must provide and enforce the requirements.	2/3/2018 2:03 PM
378	Access: Partner with Duke University/Hospital Systems to create a County-Wide Insurance pool for the uninsured and those currently purchasing their won insurance. A pool of Duke's nearly 40, 000 employees plus another 40, 000 from the county would have a fair amount of bargaining power. A levee of 3 mils would allow the "buy in" to access insurance would allow for a sliding scale. Other large employees in the area may consider joining the pool.	2/3/2018 11:02 AM
379	More funding to health dept. More education to the public about diet, walking, etc.,	2/3/2018 10:02 AM
380	Meaningful communication between the community and city officials/city employees to establish a plan of action to address community concerns.	2/3/2018 9:33 AM
381	Increase substance abuse prevention initiatives, ex.more pro-social activities for lower socio-economic youth, partner with universities, law enforcement and local business for funding. Look for examples of how other cities have tackled housing and homelessness (little houses in Portland). All law enforcement officers to be trained in CIT and know how to address mental illness. Law enforcment to be a portal for access to mental health and SA treatment.	2/3/2018 6:59 AM
382	Public-private partnerships to develop affordable housing units on city and county-owned property. Continued opportunities for anti-racism training for public officials to better understand the systemic background of racism so that they will make informed policy decisions. Improved national healthcare policy, such as single-payer health insurance. Living wage policies.	2/2/2018 8:52 PM
383	Haven't given it a lot of thought. Sugar tax, healthy meals and recess time in schools, expansion of national healthcare, drug treatment programs for drug offenders.	2/2/2018 6:19 PM
384	Access to care	2/2/2018 4:49 PM

385	incentivize affordable housing; raise taxes to increase stock of affordable housing and emergency housing; better information/education about more affordable health care (e.g., urgent care vs. emergency room); more resources for community health workers;	2/2/2018 4:30 PM
386	Monthly Engagement Community Meetings, More Resource .	2/2/2018 3:12 PM
387	Reduce Health Insurance rates, understand that each person is different but equal and must be treated with respect,	2/2/2018 12:32 PM
388	JOBS	2/2/2018 12:02 PM
389	we need more affordable outlets for people to get mental health care.	2/2/2018 10:33 AM
390	Housing credits interspersed in new apartment buildings. Downtown Durham needs more affordable grocery options -- it's currently a food desert with only Whole Foods and Harris Teeter. Improve construction of current sidewalks, and include more sidewalks in and around downtown, especially around bus stops. New, safer running/bike paths that connect across the city.	2/2/2018 9:27 AM
391	Combating poverty, health insurance, and affordable housing begins with employment opportunities. We must explore ALL facets of establishing entry-level and job training to learn job skills for future employment. Regarding violent crimes identifying the route cause may possibly help in decreasing some crimes but not all. This ties in with police and communities working together. However, with the initiation of any program, there needs to be a grassroots efforts as well as monetary investment. As for the grassroots effort we need to come together, talk, LISTEN, explore ALL alternatives.	2/2/2018 8:14 AM
392	Communication, community meetings, leaders within the neighborhoods	2/1/2018 8:14 PM
393	I don't have any at this time	2/1/2018 8:12 PM
394	Allow people to live in housing based on their income in good neighborhoods that are not filled with violence and drugs. Provide education on sexually transmitted diseases and how to prevent them. Promote healthy eating and exercising to prevent obesity and diabetes. Offer healthy alternatives in schools and work places. Allow incentives to grocery stores to lower the process of the healthy foods and make them more accessible. This is America and there should not be poverty in America. Increase the minimum wage for people to be able to work and bring home a paycheck that will support their family. if you can fix most of the issues on this list, you will eliminate the violent crime in this city. I believe education in key, we need to spend time educating the community about healthy eating and STD's to help close the knowledge gap.	2/1/2018 7:13 PM
395	Education!	2/1/2018 6:44 PM
396	Education and prioritization.	2/1/2018 6:34 PM
397	Improve healthcare access and cost. Swift sure punishment for criminals.	2/1/2018 6:28 PM
398	Unsure	2/1/2018 5:00 PM
399	Education.	2/1/2018 4:45 PM
400	Leverage existing initiatives. Evaluate effective interventions used in Durham and other communities to glean most impactful ones to develop or implement. Bring partners together from different disciplines to create solutions that address all social determinants of health- healthcare, environmental, social justice, legal, neighborhood associations. All efforts should be led by those represented if possible, and accessible to all (linguistically, etc)	2/1/2018 4:40 PM
401	It starts with conversation. People need to be willing to listen to one another before coordinated community responses will be successful.	2/1/2018 3:33 PM
402	Improved race relations that cultivates true relationship building and truthful discussion	2/1/2018 3:13 PM
403	I wish I knew!	2/1/2018 2:30 PM
404	Invest in our policy forces, including training on community engagement. More resources for homeless shelters and support, more public information on these resources so we can point people in the right direction for help.	2/1/2018 12:29 PM
405	Community programs and groups that focus on improving health through being more active in ways that make you happier, mental health support, food education and cooking classes, all bringing participants together from across social classes to enrich the community by creating new friendships and supporting those without strong social networks.	2/1/2018 12:23 PM

406	Clean affordable housing , access to medical care without discrimination, food markets in areas of low income with fresh foods/veggies, and dairy products. more jobs and job training free. Help for the elderly, to make doctors appointments, and more available ways to access a good diet.	2/1/2018 9:59 AM
407	Get everyone an ID.	2/1/2018 9:44 AM
408	?	2/1/2018 9:40 AM
409	More policing of residents violating bueatification laws and eliminating loop holes which allow the process to take longer to rectify.	2/1/2018 9:36 AM
410	continued efforts to establish affordable housing. Better facilities for mental health patients- both housing and treatment facilities, including community health centers. Increased community meetings with police department, council members, city managers, commissioners and the public- to improve public perception and relatiions.	2/1/2018 8:13 AM
411	Not sure, but it must involve the community and affected residents FIRST	2/1/2018 8:12 AM
412	Provide equal access to resources, Information, financial, services, service providers, programs to all citizens.	2/1/2018 7:51 AM
413	Take a comprehensive look at the issue and then adequately fund efforts to increase Medicaid eligibility and a comprehensive mental health system. Take care of appropriately placing affordable housing rather than gentrifying neighborhoods that are accessible to jobs, and improve training for police officers and others who interact with various populations.	2/1/2018 7:44 AM
414	not really sure but training and awareness, not overcrowding and building, leaving green areas	2/1/2018 7:04 AM
415	Community Gardens New restrictions on prescription of opioids Affordable housing units	2/1/2018 6:40 AM
416	Activities and jobs for teenagers in high poverty areas Public school health clinics and services for the community Free clinics and dental care for needy folks Shift from drug enforcement to intervention	1/31/2018 11:58 PM
417	More affordable housing required of developers, tax relief for homeowners on fixed incomes at risk of losing their houses due to rising prices/gentrification, restorative justice initiatives, stop prosecuting drug possession and offer treatment as an alternative, luxury tax on houses over $100,000	1/31/2018 11:28 PM
418	In schools (take-home resources such as truly healthy food; schools as a hub for family resources such as whole-family basic healthcare checks; counselling and parenting classes-- with healthy meals and childcare); in neighborhoods (same resources); ramped up "school nurse" (more like true primary health care) availability	1/31/2018 10:53 PM
419	Something has to be done regarding home break-ins and robberies. There's only so much that a homeowner can do to protect their home.	1/31/2018 6:41 PM
420	Prioritize complete streets over car based expansion. Somehow engage grocery store to enter food deserts.	1/31/2018 6:36 PM
421	Racial Equity Workshops helped me see the racism. Mental Health needs more accessibility. I wish public mental health was available. Privatized mental health puts consumers in silos of what the provider offers. No one is responsible for the whole picture of the life of the consumer, despite what providers and MCOs say.	1/31/2018 6:36 PM
422	Treat drug crime as a public health issue - treatment instead of prison, with a long view towards reducing the prison population.	1/31/2018 5:29 PM
423	More direct communication with Police, private sector companies such as BCBSNC, City Government and community leadership. It is all connected.	1/31/2018 4:21 PM

424	Affordable Housing - there is affordable housing in Durham, but mostly in problem neighborhoods. I've seen the Habitat for Humanity work in East Durham really start to turn that area around. Maybe continue that effort, which helps families learn skills for self-reliance. Poverty - Encourage self-reliance. Start providing opportunity for people to do something for themselves. Maybe provide tax incentives for local businesses to hire and/or train at-risk employees. Substance use - It's exhausting to continue to help people that do not help themselves. As long as substance abuse does not impact quality of the lives of others, it really doesn't matter. However, too many substance abusers impact others and the community negatively. Violent Crime - Durham seems to be easy on crime and criminals. It's easier said than done to say "toughen up on crime". Maybe find some menial jobs to assign early offenders that pay less than market value (ie - assign to pickup trash; assist rebuilding condemned public properties). Give new offenders one chance to work without serious criminal record impact, but make it clear further offenses are not tolerated. The work program can help build skills that are marketable. Violent criminals should not be on our streets....period. Panhandlers - When panhandlers start to move in, money moves out. It is difficult to enjoy an evening out at a nice restaurant when panhandlers continue to pester customers for money (if money is refused, they are quick to request items from the menu).	1/31/2018 4:14 PM
425	I think if people were more open to talk and engage, be that through any number of channels in which they could talk freely and not be judged and/or discriminated against. Open forums and being able to even get something off your chest would help move things along and if things don't change atleast one can say "no one can never say I told you so"	1/31/2018 3:50 PM
426	Implementing and modifying policies. Funding. Training and support from those in power. Local news attention. Support from local entities and organizations.	1/31/2018 3:33 PM
427	I recommend more social and prevention awareness, especially with the increase cases of STDs in the state of NC. This will also improve HIV stigma that is affect PLWH (people living with HIV) in the community (e.g. individuals, health care facilities)	1/31/2018 2:38 PM
428	It would be great if city residents without employer health insurance could all contribute to an aaa type health insurance in Durham.	1/31/2018 1:54 PM
429	Oof. Tough question to answer as these are systemic problems that overlap. Housing: We need like, totally better, tremendous, amazing policies, beautiful policies, let me tell you, for affordable housing in Durham. All these new, shiny and big league apartment buildings are likely not very affordable. Access to healthcare: NC needs to get totally on board with Medicaid expansion in the state. This is like, totally beyond the scope of the county's work. Bigly. Community police relations: Not sure. Glad we have a new police chief, though. This is bigly yuuuge and a nice start. It looks like things are getting better. Discrimination/racism. This is tough as it's being normalized, encouraged and legalized at the highest levels of our federal government, okay? Believe me. That's what people are saying. It's tremendous. I think trans-formative training (REI) in government helps create some systemic change. Poverty. Also tough. The recent tax plan will make inequalities worse, bigly. Also, most jobs in Durham Co. are increasingly contract-based, temporary or both. Sad! This point relates back to housing and access to healthcare. Locally, I think we need to be better about investing in people, especially local folks. Totally. Hillary's emails.	1/31/2018 1:49 PM
430	Probation with labor which includes picking up litter. Expand jail capacities	1/31/2018 1:16 PM
431	invest in our children and neighborhoods	1/31/2018 1:16 PM
432	More education, training, outreach, jobs, and affordable housing.	1/31/2018 12:32 PM
433	Collaboration, education, prevention	1/31/2018 12:28 PM
434	Increase awareness programs on HIV & STI, provide equity training, policy changes to ensure low & mid income families don’t get priced out of homes with Downtown development; encourage schools to use meditation to promote mental health for children; more visibility for healthy/fresh food choices; remove check box on job applications about convictions; change policy to expunge marijuana convictions	1/31/2018 12:28 PM

435	More access to free services. More connections between existing services. More education about discrimination and racism. More companies / neighborhoods / etc. evaluating our environments to see how we each contribute and perpetuate issues (from giving instructions to the elevator, instead of encouraging people to take the stair / providing unhealthy foods at work meetings, etc.) Our workplace tries to be energy conscious (turn off lights, monitors, / use less paper towels, etc.). But this same sort of evaluation and encouragement of small steps is not applied to habits that encourage obesity or mental health. Maybe a certification that businesses can strive for- what does a healthy workplace look like? what are we doing? where do we need to improve? how do we compare to our peers? The same sort of certification could be also be applied to organizations like churches.	1/31/2018 12:25 PM
436	This is a laundry list of liberal programs. However, the thing is that there is good research that these kinds of programs work to solve these problems--most of them are in use in other first world countries, especially in Europe. Implement government funded health care for all. Construct widely dispersed affordable housing throughout Durham by making developers construct a percentage of each development for affordable housing clients. Provide ongoing training for all police in how to recognize bias--one's own and others--and include specialists trained in mental health and social work to provide advice and training for officers when dealing with people who need those services. Increase available mental health beds. Build sheltered workshop-style group homes for those with mental health or other disabilities. Provide simple, inexpensive housing for the homeless and provide social work services and counseling to enable them to become stable. Thank you.	1/31/2018 12:24 PM
437	Equitable economic development in Durham, state-level legislation that supports the interests of lower-income and marginalized communities, job access, affordable housing proximate to jobs and schools, affordable and robust public transportation, equitable distribution of outdoor recreational spaces, equity in creating walkable communities, small business development in under-resourced communities that provide access to healthy and affordable food	1/31/2018 11:50 AM
438	Political change, support for business/nonprofits hiring local neighbors and providing living wage/benefits.	1/31/2018 11:48 AM
439	Living wage ordinance, economic development support for small businesses, affordable housing development requirements, community policing, expand project access to include mental health	1/31/2018 11:39 AM
440	Additional affordable housing is needed within Durham County, especially as the housing market is on the rise. People also need stronger incentives to obtain services and to address behaviors that contribute to their ill health, homelessness, and poverty.	1/31/2018 11:05 AM
441	Mental health screens and education as early as elementary school, middle and high school. Mental health days/campaigns to increase awareness of mental health issues and available support. More grocery stores closer to downtown and on the east side of town that include healthy and fresh foods. Free cooking and nutrition classes through community centers and the library that discuss healthy cooking and food budgeting for healthy cooking. Cultural festivals that are held in local parks to work on bringing people together to meet different cultures and the police in fun ways. Housing seminars on how to buy a house or knowing your rights as a renter at local community centers and/or the library.	1/31/2018 11:02 AM
442	additional community resources and training	1/31/2018 10:45 AM
443	more community involvement,awareness and outreach.We need the community to be more pro-active and less re-active.	1/31/2018 10:36 AM
444	Better communication between community agencies, residents, leadership and Healthcare partners	1/31/2018 9:35 AM
445	Mixed income housing requirements for all new apartments built in Durham. Expanded access to mental health services and healthy food options	1/31/2018 9:25 AM
446	Free formal education for those living in poverty at Durham CC. Skills pay the bills and lead to better jobs and better benefits. Teach them a trade/skill that will benefit them for life.	1/31/2018 9:21 AM
447	I'd like to see the development of strong local linkages between the criminal justice system and public benefits (primarily, Medicaid and Social Security), to promote health coverage and care in the community, improve behavioral health and medication adherence, reduce recidivism, etc. -Screen all entrants to Durham County Jail for Medicaid eligibility (currently done in Cook County, IL among other counties). -Integrate local jail and Medicaid data systems, with regular electronic data transfers between the local jail and the local Medicaid agency to begin/reinstate coverage upon release.	1/31/2018 9:16 AM

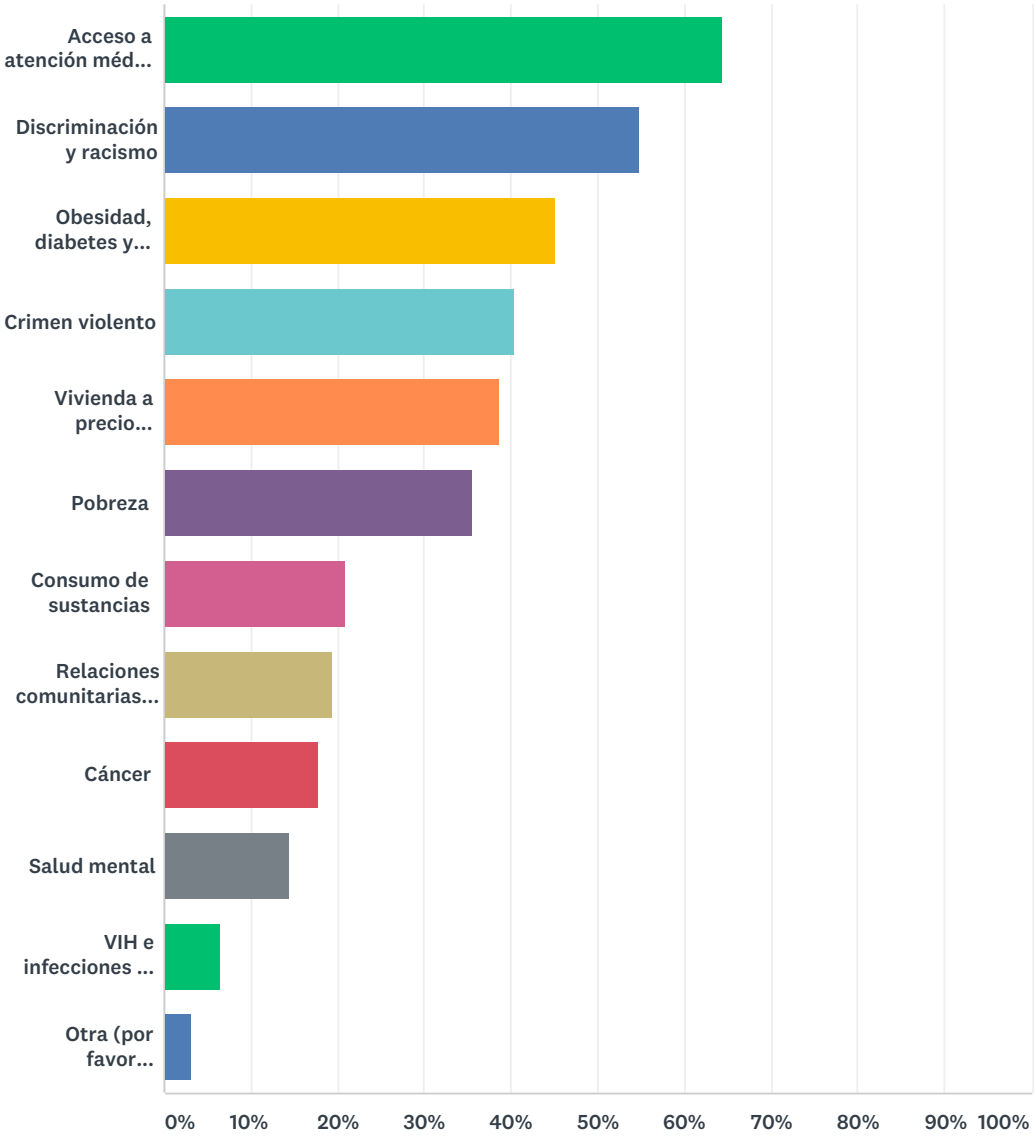
448	Listen, gain understanding and clarity from those representing the areas with the most need, make executable plans and implement them	1/31/2018 9:11 AM
449	Higher county-wide minimum wages, affordable housing policies like inclusionary zoning, healthcare options for people without health insurance like sliding-scale clinics, Medicaid expansion at the state level	1/31/2018 9:09 AM
450	Communication, communication, communication. Speaking up and out about the negative influences, attitudes and behaviors within our communities an city. Eradicate drugs, gangs and gang violence. Get rid of racism and unscrupulous police officers within the Durham Police Department; in which their are many!	1/31/2018 8:53 AM
451	More clinic co-location; schools, bus depot, recreation centers. Long term commitment to affordable housing that is maintained. Public education regarding personal health	1/31/2018 8:13 AM
452	Need more affordable treatment centers for opiate abuse.	1/31/2018 8:05 AM
453	Begin with the end in mind: focus on a success story that can be held up as a testament to your programs and/or policies.	1/31/2018 7:01 AM
454	So many of the issues are tied together- Mental Health and Substance abuse; racism and policing and community relations; accessible healthcare and diabetes; poverty and affordable housing. The closer we can get to the larger underlying issues I feel we can get to solving the problems sustainably. Money for housing helps people get off the street, feel safe, and then can deal with other issues. Investing in Job training/education to improve wealth gap and futures for youth. Working to topple the state legislature and their theft of education dollars.	1/31/2018 6:56 AM
455	Promote more awareness of jobs with many openings, and how to train for them; have mobile teams offer panhandlers daily unskilled work that comes with a free meal and minimum wages; put in sidewalks so people can walk to strip malls with supermarkets	1/31/2018 6:40 AM
456	Neighborhoods need greater options for fresh foods - maybe hosting a weekly produce market in East Durham that folks can walk to would help. Substance use - have easier access to treatment and rehabilitation programs. Don't just try to get people sober - train them in a trade and provide an avenue for employment.	1/31/2018 6:27 AM
457	Regarding healthcare - Medicare for ALL! The problem with healthcare in the US is that so much of it is controlled by for-profit providers and insurers. This must change if we are to make any progress.	1/30/2018 10:37 PM
458	Better integration of services offered and better marketing efforts for these services (monthly emails to Durham residents)	1/30/2018 10:19 PM
459	free mental health and substance abuse treatment. Paid by county or state	1/30/2018 8:15 PM
460	Community Focus Groups Faith based group participation Durham Public School level interventions related to safety, health (physical and mental), and drug use Community care coordination; health care system buy in to formalize links to community based services	1/30/2018 8:00 PM
461	Addressing the underlying causes of the issues as well as more access to resources.	1/30/2018 7:45 PM
462	more Section 8 housing to begin with....	1/30/2018 7:37 PM
463	Get tough on gentrification of neighborhoods by passing zoning ordinances on the size of new buildings; grandfather in current owners with low incomes to avoid a rise in property taxes; quit allowing new apartments/condos to be build in the downtown corridor forcing out affordable apts (who can afford $1000/mo, which is a low rent for these new places); lobby for more mental health care at the legislature since it certainly isn't coming from the feds; encourage expansion of Medicaid in NC	1/30/2018 7:25 PM
464	Resources, resources, resources!	1/30/2018 6:58 PM
465	Inform the community of the LATCH program for patients who need assistance in navigating healthcare and mental health services in Durham. https://sites.duke.edu/latch/about-us/	1/30/2018 5:12 PM
466	Need community events to share information on each problem and what can be done...There is a lack of awareness and understanding of health issues and there needs to be a concerted effort to educate the public for their own care and to create a culture of health in Durham	1/30/2018 5:01 PM
467	Community forums (more) to share innovative thoughts and ideas.	1/30/2018 4:52 PM

468	Many of these issues are closely linked, so a comprehensive plan is needed to address these issues, with poverty being the root cause. We can't solve everything, but can't we at least assure that everyone in Durham has access to sufficient healthy food?	1/30/2018 4:52 PM
469	Shared responsibility, access, and equity of resources.	1/30/2018 4:42 PM
470	Providing community funding for mental health assessment and care (so individuals without insurance can access services). Creating and enforcing stricter local gun laws--background checks, eliminating gun rights for domestic abusers. Helping individuals who are gang-involved to relocate to safer areas or find better opportunities	1/30/2018 4:07 PM
471	Provide additional housing for citizens, have more community forums, events with law enforcement, more community policing.	1/30/2018 4:02 PM
472	Affordable housing, food access, activities and spaces that connect people (across race, gender, socio-economic, LGBTQ+, etc.), giving everyone a valued social role regardless of gender/ethnicity/economics/mental health/substance challenges/trauma history/etc.	1/30/2018 3:57 PM
473	birth control, enforcement of child support, prosecution of parents whose child(ren) are chronically truant from school	1/30/2018 3:30 PM
474	Discrimination and racism is something that is taught, but if we start young teaching the acceptance of our differences in the classrooms this would help with this in the future. Mental health can is seen as a taboo topic in a lot of immigrant communities and also low income communities, we can help that by bringing information and assistance to those communities. Obesity, diabetes and food access can also be a topic that is brought into the classroom as early as pre-k. Teaching the children and using them to bring the information home to their families. Diabetes can be assisted by having free screening clinics, not only for children but something where the whole family can attended, get screened and learn valuable nutrition information. It could be done through a health fare. Food access could be solved with food pantries in schools/churches/community centers. Substance use is another topic that can be taboo or even seen as a norm in some low income or immigrant communities. But one way to help with this issue is having safe places where those that have a substance use issue could come and get help (organizations like AA). Access to healthcare and healthcare insurance are something that I can not think of how to help. The affordable care out has helped many, but I know it has also caused for those that once have insurance to not be able to afford it because this has cause rates for those of their economic standing to no longer be able to afford it because rates for them are now higher. Also people between the ages of 25-35 their rates have increased just because of their age.	1/30/2018 1:54 PM
475	It is wonderful that we are seeing the revitalization of Durham, but this brings an increase in the cost of housing, displacement of low income families. The city is growing and developing but where are all those displaced people being housed? We need strict gun control, our children shouldn't be dying from stray bullets.	1/30/2018 1:44 PM
476	The black population needs opportunities for small businesses that encourage private ownership, pride, and responsibility, vs. reliance on entitlement programs.	1/30/2018 1:44 PM
477	closing the achievement gap in schools. Healthy options (medical, mental and healthy food access). Probably the cheapest way to make a big difference is to offer community yoga and meditation throughout the neighborhoods, schools, to start building wellness into all cultures.	1/30/2018 12:45 PM
478	Healthcare is a political issue. Ultimately, we need a single payer federal system. In the meantime, we need to get the state legislature to expand Medicaid while they still can. Affordable housing is a top priority with the City Council, but what to do about gentrification? We need a $15 minimum wage and more blue collar jobs that have regular hours. We need more programs to recycle food that is otherwise wasted, more mobile markets. All of these issues are touched on by the lack of adequate public transit and other public amenities (decent schools, safe parks, contiguous sidewalks, and other items). Actually, I WISH we could have a progressive property tax and ways to incentivize builders to work with/for the community, but I am told neither are legal in NC right now.	1/30/2018 12:18 PM

479	From the Early Childhood perspective, I am very interested in making sure that the youngest children are considered when assessing health interventions and community approaches. Addressing the needs of and supporting parents - regarding housing, mental health, substance abuse, poverty, and healthy weight - has a direct impact on children of course. We need to continue investing in the youngest children with more access to high-quality child care, especially for the youngest infants and toddlers, whose mental health and nutrition needs will be met, in conjunction with other cognitive domains of early learning. A strong child care community can also engage parents and caregivers, as well as a whole-family/whole-household approach, to strengthen the health and well-being of Durham. I would like to see more early childhood mental health interventions available to expand our current capacity.	1/30/2018 12:12 PM
480	Address social determinants of health through creating a culture of health and development of resilient communities	1/30/2018 12:06 PM
481	Greater breaks for low income, a better focus on Medicaid for non-families, encouraging more open food sources, companies, and easier accessible resources for learning	1/30/2018 9:54 AM
482	If there is not a current community empowerment program in place, it should be implemented with the goal of demanding those in leadership roles (mayor, etc) to make changes	1/30/2018 9:46 AM
483	Addressing gentrification and slowing expensive housing growth.	1/30/2018 9:38 AM

Q1 Por favor seleccione los cinco temas que tienen el mayor impacto sobre la calidad de vida y la salud en el condado de Durham. Si hay un tema que le gustaría incluir entre los cinco primeros, y no está en la lista, agréguelo en la sección de comentarios a continuación.

Answered: 62 Skipped: 7



ANSWER CHOICES	RESPONSES	
Acceso a atención médica y seguro médico	64.52%	40
Discriminación y racismo	54.84%	34
Obesidad, diabetes y acceso a los alimentos	45.16%	28
Crimen violento	40.32%	25
Vivienda a precio razonable	38.71%	24

Pobreza	35.48%	22
Consumo de sustancias	20.97%	13
Relaciones comunitarias con la policía	19.35%	12
Cáncer	17.74%	11
Salud mental	14.52%	9
VIH e infecciones de transmisión sexual (ITS)	6.45%	4
Otra (por favor especifique)	3.23%	2
Total Respondents: 62		

#	OTRA (POR FAVOR ESPECIFIQUE)	DATE
1	Educacion	2/16/2018 3:20 PM
2	Checar alos enteros que tengan bien las casas y departamentos, que renten, por que están demasiado caras y en pésimas condiciones	2/12/2018 4:26 PM

Q2 Por favor comparta sus ideas sobre cómo resolver estos problemas.

Answered: 54 Skipped: 15

#	RESPONSES	DATE
1	Racism in the community. This is huge problem. More ppl Latino in (paler?) trainings and more conversations	2/23/2018 9:34 AM
2	Trabajar mas en la comunidad. Classes de nutricion Work more in the community. Nutrition classes	2/23/2018 9:32 AM
3	Equality	2/23/2018 9:30 AM
4	Ver la comunidad. Hablar sobre estos temas en las escuelas y en las clinicas. Look at the community. Talk about these topics in schools and clinics	2/23/2018 9:29 AM
5	Con ayuda de la policia y otras agencies. With the help of the police and other agencies	2/23/2018 9:27 AM
6	Ayudando a la comunidad a tener mas communication unos a otros. Gracias :) Helping the community to have more communication between one another. Thanks :)	2/23/2018 9:22 AM
7	Racism - depends on each person - need more providers and more providers that speak Spanish	2/23/2018 9:15 AM
8	Better understanding, gun control	2/23/2018 9:14 AM
9	More cops around	2/23/2018 9:13 AM
10	Cheaper options	2/23/2018 9:12 AM
11	Rent is way too expensive, cheaper options	2/23/2018 9:10 AM
12	Travel clinics, need more clinics	2/23/2018 9:09 AM
13	Cancer- check-ups at the doctor more frequently Disc- starts with president to be an example Obesidad- eat better	2/23/2018 9:08 AM
14	Free health center and more information about it.	2/23/2018 9:06 AM
15	I don't know where I can go to clinic. Rent is so $, I keep moving	2/23/2018 9:02 AM
16	More access to medical care that is free. Cannot afford copay. I go to emergency room. I feel discriminated against for being Latino and afraid for my family.	2/23/2018 7:33 AM
17	Medical care. Ppl who don't have medical can't pay the $20 copay. A plan to pay is important. We need more opportunities so people don't need to rob people.	2/23/2018 7:31 AM
18	mas cursos para la policia para que traten mejor a las personas (paciencia, resolver sin matar a la gente) anuncios en la radio, television (mas propaganda - en la clinica a veces no escucha). Bajar los precios de la vivienda, que fueran mas acesibles para personas que no tienen documentos / a veces no rental. more courses for the police to treat people better (patience, resolve without killing people) ads on the radio, television (more propaganda - in the clinic sometimes does not listen)	2/22/2018 10:56 PM
19	mas informacion acerca del plato de buen comer y las porciones que son saludables More information about the healthy plate and healthy portions	2/22/2018 10:50 PM
20	bueno pues aqui en Durham necesita mucha ayuda medica especialmente en dental Well, here in Durham, people need a lot of medical help, especially in dental	2/22/2018 10:40 PM
21	medicamentos (medication)	2/22/2018 10:38 PM
22	que ayude la policia Help the police	2/22/2018 10:36 PM
23	Empezar a ensenar a personas que aun no han tenido la oportunidad de saber de estos temas Start teaching people who have not yet had the opportunity to know about these issues	2/22/2018 10:32 PM
24	trabajando todos juntos con los ciudadanos de este condado working together with the citizens of this county	2/22/2018 10:29 PM
25	ayudar a los jovenes help the youth	2/22/2018 10:26 PM

26	- grupos de enfoque - escuelas pueden organizar reuniones - clinicas pueden organizar reuniones - focus groups - schools can organize meetings - clinics can organize meetings	2/22/2018 10:24 PM
27	Sinceramente, les agradezco por ayudarnos a la comunidad. 1. Dar seguimiento sobre el estado de la salud de c/u. 2. Tener eventos o reuniones con la policia 3. Educar a la dente sobre la salud Sincerely, I thank you for helping the community. 1. Follow up on the state of health of each one. 2. Have events or meetings with the police 3. Educate the poeple about health	2/22/2018 10:22 PM
28	ayudar con salud mental desde el principio, por ejemplo en las escuelas y donde viven los ninos tener exames de salud mental y salud en la escuela. help with mental health from the beginning, for example in schools and where children live, have mental health and health exams in school.	2/22/2018 10:18 PM
29	llendo al dr (?) cuidandose- taking care of yourself comer sano- healthy eating	2/22/2018 3:53 PM
30	more police, policia en la calle (Police in the streets), Prostitution in huge problem in my neighborhood. More jobs so people don't have to do sex work.	2/22/2018 3:52 PM
31	More clinics, like LCHC. my wife goes to see Diane Davis at Lincoln	2/22/2018 3:49 PM
32	violence in schools. we need control. mental health checks	2/22/2018 3:48 PM
33	- Mantener banos publicos limpios para evitar contagios. - Como comunidad deberiamos tolerarnos mas no importa raza/color. - Mejorar aceso del idioma para que el paciente entienda mejor los problemas de salud. Lo mismo va para las relaciones con la policia (servicios bilingues) - Keep public toilets clean to avoid contagion. - As a community we should tolerate ourselves, no matter race / color. - Improve language access so that the patient better understands health problems. The same goes for relations with the police (bilingual services)	2/21/2018 5:18 PM
34	"Family Foundation" - "nip it in the bud" - bring out the talents they have - ages 8-17 - reading, poetry, singing, drawing- helping other children- started it for her grandchildren- gave prizes for participants- parents and teachers have to be involved	2/21/2018 5:15 PM
35	Comunicarse mas con la comunidad. Ofrecer mas ayuda con la genta necesitada. - Communicate more with the community. Offer more help with the people in need.	2/21/2018 5:11 PM
36	Asi, recopilando encuestas para que se de a conocer las necesidades de las comunidades - Collecting surveys so that the needs of the communities are known	2/21/2018 5:09 PM
37	Dar talleres informatipos- Give informative workshops Brindar apoyo a los jovenes- Provide support to young people	2/21/2018 5:08 PM
38	Que community College ofezca cursos de Enfermeria, cuidado de personas mayores, asistente de medicos y odontologos.	2/16/2018 3:20 PM
39	hay que buscar a la comunidad, buscarlos en sus casas, iglesias etc... Los hispanos no somos de buscar ayuda, toca ir a buscarlos para educarlos	2/15/2018 6:06 PM
40	There are language barriers preventing access to medical care	2/14/2018 3:28 PM
41	Mas salud del gobierno	2/14/2018 3:26 PM
42	Hay muchas problemas entre razes y a policia necessita ayuda	2/14/2018 3:25 PM
43	More security so there is less violence. We need to control substances being consumed.	2/14/2018 3:23 PM
44	alimentos mas barrato	2/14/2018 3:17 PM
45	Mas programas	2/14/2018 3:16 PM
46	Mas oportunidades para educacion en una universidad	2/14/2018 3:15 PM
47	Todas	2/14/2018 3:14 PM
48	Los padres y madres necesitan detenerse por un momemto de su corre corre de todos los dias y buscar informacion por medio de ustedes de como participar mas en la vida de los niños y los jovenes, tanto en su alimentacion como en dedicar mas tiempo a ellos.	2/14/2018 11:52 AM
49	Los padres y madres necesitan detenerse por un momemto de su corre corre de todos los dias y buscar informacion por medio de ustedes de como participar mas en la vida de los niños y los jovenes, tanto en su alimentacion como en dedicar mas tiempo a ellos.	2/14/2018 11:51 AM
50	Los padres y madres necesitan detenerse por un momemto de su corre corre de todos los dias y buscar informacion por medio de ustedes de como participar mas en la vida de los niños y los jovenes, tanto en su alimentacion como en dedicar mas tiempo a ellos.	2/14/2018 11:50 AM

51	Supervisando las casas y departamentos en renta	2/12/2018 4:26 PM
52	Interconectar organizaciones para compartir servicios de apoyo para referir personas.	2/12/2018 3:46 PM
53	Mas recursos disponibles en terminos de dinero para trabajar en esas areas especialmente alcanzando a las comunidades mas afectadas por medio de alcance directo en vecindarios y que estos recursos economicos permitan el trabajo de organizaciones de base comunitaria e iglesias que son las que conocen mas a fondo la problematica de sus congregaciones o comunidades.	2/12/2018 9:37 AM
54	Creando grupos barriales que permitan mejorar la seguridad en los sectores mas complejos en temas de criminalidad. Educacion preventiva sobre salud y conocimiento de los diferentes recursos actualmente existentes de salud a bajo costo. Mejorar la comunicacion entre la policia y la comunidad para lograr alianzas que permitan reducir la violencia. Educar a la comunidad sobre las oportunidades laborales existentes y explicar la importancia de recibir educacion para mejorar su calidad de vida.	2/12/2018 9:06 AM

Durham County 2017 Community Health Assessment Listening Session Results

October 4, 2017 Listening Session
Held with Durham County Department of Public Health staff (approximately 200)
Staff Development Day
Marriott Hotel, Durham

Session 1 (Held with half of staff)
1. Access to healthcare incl. mental health
2. Education
3. Diabetes, obesity and nutritious foods
4. Poverty and employment
5. Affordable housing

Session 2 (Held with half of staff)
1. Poverty and employment
2. Affordable housing
3. Access to healthcare
4. Diabetes, obesity and nutritious foods
5. Mental Health

November 16, 2017
Club Blvd. Elementary School, Durham
Held with community members (10 attendees)
Participants came to a consensus on the top priorities and submitted ideas on how to address them.

Top Priorities:
- Education
  - Increasing awareness of the ability to navigate healthy choices (food & activity) within limited resources) (health communication ⟶ messaging) (social marketing)
- Mental Health
  - Is the police program that had a set of trained officers who could respond to mental health community disturbances/crimes still in existence? If so, continue, if not reinstate. (If it was found to have a positive impact of course.)
  - Deliberate, specific education within DPS for students to gain a better understanding of mental health issues to reduce stigma and prompt accessing care. Also have a place where kids/teens can get help when a parent/family member has a mental health issue
  - Healing from trauma- as a community, abuse, neglect, racism
  - Increasing community resiliency, resilience training, healing from trauma
- Poverty and Employment
  - Increase access to paid sick and family leave for <u>all</u> employees
  - Reduce risk factors which lead to chronic disease
  - Convincing individual communities (neighborhoods, zip codes, groups [racial/ethnic, LGBTQ]) they are able to determine their own needs & have the power to galvanize themselves to impact their own community.

- Violent Crime
- Affordable Housing/Homelessness
    - Look at the success of Canadian collective impact example of homelessness
    - Tying together environmental impact on health, i.e. water, air=asthma, disease
    - Chez soi- something that was being tested in Montreal to address homelessness, poverty and related issues
- Access to healthcare
    - New models of are that leverage local resources ex. Health leader program
- Diabetes, obesity and access to healthy foods
    - More health food in smaller stores (corner stores, etc.) at reasonable prices

November 18, 2017
Blacknall Memorial Baptist Church, Durham
Held with community members in partnership with Healthy Durham 20/20 (15 attendees)
Participants came to a consensus on the top priorities and submitted ideas on how to address them.

- Affordable housing
    - Community organize around policy
    - Working with those affected on changing policy
- Access to healthcare and insurance
- Mental health
- Education
    - Broad, white flight, nontraditional pathways, resources
    - Expand role of caseworkers/community health workers
    - Create a toolbox to share ideas/info. on community resources
- Discrimination and racism
    - Train the community on resources available
    - Equipping communities to take care of themselves
- Poverty and employment
    - Educate on predatory lending/renter's rights
    - Financial education
- Obesity and access to healthy food
    - Health education on diseases, community liaisons trained, patient navigators

February 24, 2018
South Regional Library, Durham
Held with community members (17 attendees)
Participants were asked a series of questions about each of the top five health priorities- What is the ideal state for this issue? What are barriers for achieving the ideal state? What are your ideas to address the barriers?

Mental health
1. What would it look like to be mentally well?

- Less stress about basics, all basic needs met (enough money)
- Ability to manage stress (therapy, exercise, etc.)

- Enough motivation to work and laugh
- Increased community belongings
- Lack of isolation
- Social support system
- Lower levels of toxic stress
- Less bullying and more resources for it

2. What are the barriers to mental health in Durham?
- Not having good health care and trauma informed physicians
- Adverse childcare experiences, lack of providers to address these issues
- Stigma
- Lack of access
- Lack of diversity from providers
- Lack of mental health coverage
- Affordability
- Lack of counselors or trainings in schools
- Lack of ability to identify people with mental health issues
- Lack of overall solutions/options for people

3. What ideas do you have to address these barriers?
- Mental health for everyone such as in schools and at work
- More available programs such as EAPs
- Mental health assessments for children on a yearly basis
- Shift priorities to mental health evidence based programs/programs that work
- Support for parents
- More education for parents, schools, and providers on diagnosis disparities
- More education on options for mental health range and treatments
- Implement other options before turning to medication as the first option
- Education for parents on medication effects
- Offer meditation in schools as an option
- Change expectations of teacher perspectives for children in schools

Affordable housing

1. What does it look like for you to have affordable housing in Durham?
- Able to pay basic expenses (emergency money)
- Job availability
- Rental assistance programs
- Rent below fair market rate
- Range of housing options for people across all income spectrums (multiple price points)
- Options for people with disability
- Income based rent on variable schedules
- Protect existing affordable options for renters and owners
- More options for ownership like land trust homes
- Smaller/modest affordable options

- Recourse for those under eviction threat

2. What are barriers to affordable housing in Durham?
- No incentive for affordable options
- Non-competitive incomes/salaries
- Legal/legislative restrictions to affordable housing mandates
- Lack of credit, job history, and jobs for late teens/young adults
- Housing application fees
- Property tax increase because gentrification

3. What ideas do you have to address these barriers?
- City/county advocacy for affordable housing
- Regulations for developers
- Address systemic racism
- Accountability around affordable housing requirement
- Distinguish low income from low resource for those eligible
- Accountability for landlords (ex. safe housing)
- Determine short and long term solutions (Bell's mayor challenge for vets, loosen restrictions on income requirements, room for growth)

Access to healthcare/health insurance

1. What would it look like for you to have access to the healthcare you needed?
- Easy to navigate health insurance
- Mental and physical health services available
- Increased focus on preventative care
- More options for middle income categories
- More diversity in providers (POC, LGBTQT, database of providers)
- Medicaid expansion
- Holistic health

2. What are barriers to having access to healthcare?
- Cost of insurance, copays, medications
- Transportation
- Difficult to navigate system, system to complicated (especially for 16-24 year olds)
    - insurance, providers, etc.
    - lack of knowledge of how to navigate
- Not prioritizing patient provider relationship
- Lack of provider-provider communication
- Education on primary care providers

3. What ideas do you have to address these barriers?
- Sliding fee scale insurance, medications, etc. (replicating Lincoln model for private insurance, more clinics)
- Cultural competency/racial equity training for providers
- Involve incentives to insurance companies

- Increase accountability of pharmaceutical companies
- Increase emphasis on holistic approaches

Poverty

1. What would it look like for you to have the money and resources you needed to live?

- Living wage mandatory
- Affordable childcare
- Smiling happy people
- Social services
- Less crime because there are more options for money

2. What are barriers to having the money and resources needed to live?

- Lack of free preschool
- Long with for childcare subsidy
- Strict income restrictions for subsidy qualifications
- Complicated system, too many documents
- Gender wage gap
- Education for regular living wage jobs
- Quality education
- Lack of generational wealth in communities of color

3. What ideas do you have to address these barriers?

- Free preschool/universal daycare
- Reparations
- Targeted job fairs and increased training for competitive jobs
- Scale up existing programs
- Supporting entrepreneurs, build wealth
- Short term jobs to pick up liter

Obesity, diabetes, and food access

1. What would it look like for you to be able to maintain a healthy weigh/manage diabetes or other chronic health condition?

- People out exercising, walking, being happy
- Fresh food instead of processed
- More sidewalks-connect to places
- Affordable, fresh food-support for farmer's markets, more hours
- More spaces to be safely active
- More farm stands and farmer's markets
- Less food deserts
- Safe modes of transportation other than cars
- Safe ways to get places
- Education on food labels and food shopping
- Better labeling for WIC approved food and education for grocery store staff
- More appealing to be vegetarian

2. What are barriers to being able to maintain a healthy weight/manage diabetes or other chronic health condition?
    - Processed food is cheaper than fresh food and more accessible
    - Misleading food labels
    - Not enough healthy food options
    - Lack of affordable and healthy food options in workplaces
    - Emotional attachment to food
    - Lack of affordable gym options and trainers/coaches with personal weight loss experience

3. What ideas do you have to address these barriers?
    - Education for children on how to eat healthier
    - Better healthier options for free reduced lunches
    - Put healthy foods first in lunch line
    - Workplaces encourage spaces for healthy foods and physical activity-culture change
    - Fruit stands at workplaces
    - Redo pathways on relationships with food from childhood
    - Black farmers get land back
    - Affordable gym options, coaches for people trying to lose weight, peers who've got through it
    - Incentives for coaches to volunteer hours
    - More sidewalks and greenways
    - Invest $2 million dollars on sidewalks and trails and save $6 million a year on medical costs
    - Farmer's markets more accessible- hours and location so families make one stop
    - Make sure sidewalks and trails go to parks, health centers, workplaces, and gyms
    - Activity for older adults homebound