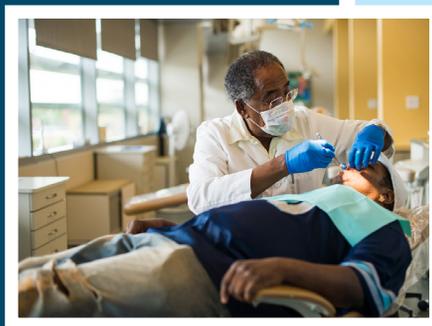


# 2014 Durham County Community Health Assessment



Photos courtesy of RWJF



Public Health



Partnership for a Healthy Durham

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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.

## ACKNOWLEDGEMENTS

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The following individuals were instrumental in editing this document:

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## EXECUTIVE SUMMARY

The goal of the 2014 Community Health Assessment is to provide, in one location, a compilation of valid and reliable information about the health of the Durham Community. This document summarizes the findings from the two year 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 Health as well as the Durham County Department of Social Services; Duke Medicine, including Duke University Hospital and Duke Regional Hospital; UNC Center for Public Health Preparedness, East Durham Children's Initiative, El Centro, End Poverty Durham, Senior PharmAssist, Project Access of Durham County, Durham Economic Resource Center, Durham T.R.Y., Samaritan Health Center, North Carolina Central University, Duke University and the University of North Carolina at Chapel Hill. 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 and 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 13 chapters with 50 sections on various community health topics. For more information on the Partnership for a Healthy Durham, visit [www.healthydurham.org](http://www.healthydurham.org), [Twitter](#) or [Facebook](#).

### Assessment process

The 2014 assessment process included 354 resident surveys from randomly selected households and eight community listening sessions with 205 community members. For the past year, 89 individuals have contributed to the writing of this document. Individuals representing hospitals, universities, local government, schools, non-profit organizations, faith-based organizations, and businesses 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 existing six health priorities. The priorities and top ranked recommendations were summarized and

#### 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 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](http://www.healthydurham.org).

presented at the October 2014 Partnership for a Healthy Durham meeting and unanimously approved as the health priorities for 2015 – 2017. The next step is a strategic planning process to create a three-year community health improvement plan for Durham County based on our findings.

## Sources

Data in the 2014 Community Health Assessment came from:

1. *2013 Durham Community Health Opinion Survey* – census data and GIS technology were used to randomly select 420 households to participate in the survey (210 overall county and 210 Latino);
2. *Behavioral Risk Factor Surveillance Survey (BRFSS)* for Durham County – a random phone survey of residents;
3. *Youth Risk Behavior Survey (YRBS)* – An anonymous written survey of middle and high school students attending Durham Public Schools;
4. *Community Input Sessions* in which 205 individuals from different parts of Durham participated;
5. *Focus groups* – six focus groups were held;
6. North Carolina State Center for Health Statistics;
7. 2010 U.S. Census and
8. 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 chapter of the health assessment.

## Summary of findings

### Areas to celebrate

#### Durham Exceeds State Health Goals:<sup>1</sup>

North Carolina has set 40 statewide health objectives with targets to reach by 2020. Durham has seen improvement in nine of the 40 objectives since 2011 and is meeting the state goals in seven. Many of the objectives linked to Durham’s health priority areas do not show improvement; while some of this is due to the poor economy and cuts in funding to health services, it is clear that more work needs to be done. However, some of the objectives showing improvement are linked to Durham’s health priority areas (secondhand smoke exposure, physical activity, alcohol consumption by high school students, cardiovascular disease mortality, housing costs). This community can take pride in these improvements. Below are the seven state goals Durham meets:

- Unintentional poisoning mortality rate
- Percentage of women who smoke during pregnancy\*
- Suicide rate\*
- Percentage of adults with diabetes\*
- Average number of critical violations per restaurant/food stand

#### State and County Overall Health Rankings

- North Carolina: 37 out of 50 states
- Durham County: 17 out of 100 counties

Sources: [www.americashealthrankings.org](http://www.americashealthrankings.org)  
[www.countyhealthrankings.org](http://www.countyhealthrankings.org)

- Percentage of children aged 1-5 years enrolled in Medicaid who received any dental service\*
- Percentage of adults who had permanent teeth removed due to tooth decay or gum disease

There are six areas in which Durham County's rates are significantly better when compared to North Carolina. Four have an asterisk (\*) above and the additional two include the:

- Percentage of current adult smokers
- Percentage of the population being served by community water systems (CWS) with no maximum contaminant level violations

#### High levels of education

Durham County has more than twice the percentage of residents who have received a graduate or professional degree compared to North Carolina (20.7% vs. 9.3%).<sup>2</sup> 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. As state funding for public education has continued to decline since 2008, Durham County has compensated by increasing its local contribution. Durham County's current local appropriation equates to \$3,532.87 per pupil.<sup>3</sup>

#### Decreasing crime rates

In 2013, overall Part 1 crime index, which measures both violent crime and property crime cumulatively, was the lowest it had been in almost a decade, dropping 17% since 2010.<sup>4</sup> Durham's crime rate is about average compared to communities of similar size and makeup nationally and in the Southeast.<sup>5</sup>

#### Better access to dental care

Durham had the largest increase amongst its peers for the percentage of dental-related visits during the past year from 2010 to 2012. Dental-related visits for Forsyth, Guilford and Mecklenburg counties and the State have actually *decreased* during these same years. In Wake County, the number of visits has remained the same and Cumberland County has had a slight increase.<sup>6</sup>

#### High number of medical providers and clinics; quality clinical care

Durham is a community rich in medical resources with an exceptionally good ratio of primary care providers to the number of residents (1:809). This compares to the state ratio of 1:1462 and far exceeds the top performing counties in the U.S. (1:1051). Durham County is ranked sixth in the state for Clinical Care.<sup>7</sup> 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, including Lincoln Community Health Center, which is 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. There are also several free health clinics in Durham County.

#### Abundance of parks and open spaces

Durham County is home to nearly 70 parks with 1,800 acres, more than 20 miles of accessible trails and greenways and 188 miles of planned trails and greenways. Durham Parks and Recreation

also boasts 11 program sites with seven gymnasiums, six dance studios, five pools, two fitness facilities and two indoor walking tracks.<sup>8,9</sup>

## Most pressing health concerns & priority issues

The 2013 *Durham County Community Health Opinion Survey* asked residents to rank their top three community issues, health problems and services needing improvement.<sup>10</sup> 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:

### DURHAM COUNTY SAMPLE

COMMUNITY ISSUES	HEALTH PROBLEMS	SERVICES NEEDING IMPROVEMENT
1. Low income/poverty	1. Addiction to alcohol, drugs, or medications	1. More affordable health services
2. Homelessness	2. Diabetes	2. Positive teen activities
3. Violent crime	3. Obesity/overweight	3. Higher paying employment

### DURHAM HISPANIC NEIGHBORHOOD SAMPLE

COMMUNITY ISSUES	HEALTH PROBLEMS	SERVICES NEEDING IMPROVEMENT
1. Lack of or inadequate health insurance	1. Addiction to alcohol, drugs, or medications	1. More affordable health services
2. Low income/poverty	2. Diabetes	2. More affordable/better housing
3. Discrimination and racism	3. Cancer	3. Availability of employment

Residents were also asked this open-ended question:

*What one thing would make Durham County or your neighborhood a healthier place to live?*

The responses to this question mirrored the priorities identified by the questions above. The most frequent response indicated a desire for less violence and crime; the second most frequent was a desire for more access to walking and biking opportunities, and the third was better access to health care.<sup>11</sup>

The Partnership for a Healthy Durham's six adopted health priorities are summarized below. In 2015, the Partnership will begin a strategic planning process to generate a three-year community health improvement plan for Durham County and form action groups to address these priorities.

## **Partnership for a Healthy Durham, 2015-2017 health priorities:**

1. Obesity and chronic illness
2. Poverty
3. Education
4. Access to medical and dental care
5. Mental health and substance abuse
6. HIV and sexually transmitted infections

### Obesity and chronic illness

Four of the 10 leading causes of death in North Carolina are related to obesity: heart disease, type 2 diabetes, stroke and some kinds of cancer. Overweight and obesity were the second leading causes of preventable death in North Carolina in 2010.<sup>12</sup> Obesity rates continue to rise across all ages, genders and racial/ethnic groups in Durham County. The most recent combined obesity and overweight rates are: adults, 65%;<sup>13</sup> Durham Public School high school students, 32%,<sup>14</sup> and entering kindergarteners, 19%.<sup>15</sup> Diabetes is the 7<sup>th</sup> leading cause of death in Durham County and 8% of adults have diabetes.<sup>16</sup>

### Poverty

People with higher incomes, more years of education, and a healthy and safe environment to live in have better health outcomes and generally have longer life expectancies. In Durham County, 16.6% of individuals live in poverty. Female single-parent families are disproportionately at risk for poverty than married couple families (41.5% to 8.7%) and 40.6% of female single-parent families with related children under 18 years are living in poverty.<sup>17</sup> Nearly one-half of Durham's renters are paying 30% or more of their income for housing.<sup>18</sup>

### Education

Quality child care and early education predict a child's future success and the academic success of young adults is strongly linked with their health throughout their lifetime. The importance of a high school diploma and higher education cannot be overstated. College graduates age 25 and over earn nearly twice as much as workers who only have a high school diploma. The unemployment rate for workers who dropped out of high school is nearly four times the rate for college graduates.<sup>19</sup> In Durham County, the four-year high school graduation rate is 79.6% compared to North Carolina's rate of 82.5%. The overall 4-year cohort graduation rate has increased by nearly 10% since 2010-11, but there is still a disparity in the percentages of White versus minority students who are graduating from high school. For example, 84.7% of Whites graduated in 2011-2012 compared to 74.7% of Blacks and 73% of Hispanic students.<sup>20</sup>

### Access to medical and dental care

Access to health care in a community refers to the ability of residents to find a consistent medical provider for their primary care needs, to find a specialty provider when needed and to be able to receive that care without encountering significant barriers. Although there are many medical providers, Durham County is particularly hampered by a lack of health insurance coverage (whether private or public, such as Medicaid) for many of its residents. In Durham County, 19% of adults less than 65 years are uninsured.<sup>21</sup>

### Mental health and substance abuse

An estimated 17,000 residents of Durham County need mental health treatment and 19,000 need substance use treatment.<sup>22</sup> Alcohol is the primary substance abused by Durham County residents seeking crisis detoxification services and by adolescents in Durham's middle and high schools.<sup>23</sup> Respondents in the *Community Health Opinion Survey* identified addiction to alcohol, drugs or prescription pills as the number one community health problem.<sup>24</sup>

### HIV and sexually transmitted infections (STIs)

Sexually transmitted infections may lead to premature death and disability and can result in significant health care costs. Chlamydia, gonorrhea, and syphilis are the three most common STIs in North Carolina and Durham County. Although HIV is not as common, Durham ranks fourth highest in North Carolina, with an average rate of HIV disease (29.9 per 100,000) well above the state rate (16.4 per 100,000).<sup>25</sup> African-Americans have an HIV rate that is nine times higher than the rate of whites.<sup>26</sup>

## **Emerging issues**

Each section of the document includes data on emerging issues, but additional issues facing Durham County in coming years include the rise in the identification of Hepatitis C in residents and the need for more treatment options and coordination of efforts to address poverty.

Durham has taken measures to increase hepatitis C screenings to adults born between 1945 and 1965 and individuals at high risk. In the U.S., the prevalence hepatitis C is between 1% and 1.5% of the population. In baby boomers, prevalence rises to 3.3%. Through an agreement with the University of North Carolina at Chapel Hill, the Durham County Department of Public Health (DCoDPH) offers a hepatitis C assessment clinic for adults born between 1945 and 1965, one to two half days per month. It is recommended that adults in this age cohort get tested at least once in their lives. The purpose of the clinic is to link preventive and medical care services for infected individuals through enhanced screening and additional programs. DCoDPH also provides testing for HIV and hepatitis C with one blood sample to increase the efficiency of screening for high risk populations.

Efforts to address poverty in Durham have been ongoing for several years through the work of numerous community partners and organizations. New attention has been shed on the issue due to the Mayor's Poverty Reduction Initiative. The initiative aims to create solutions with residents at the neighborhood level around issues such as housing, education, health, finance, jobs and public safety. Task forces will implement action plans throughout 2015 to make an impact on poverty in Northeast Central Durham.

## Conclusion and next steps

The findings from this 2014 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:**

- Share findings with community members and organizations throughout Durham County
- Continue current Partnership for a Healthy Durham action groups to address the six identified priorities
- Develop community health improvement plans to be submitted to the State of North Carolina by September 2, 2015

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## Introduction

This chapter includes:

- ❖ [Description of Durham County](#)
- ❖ [Overview](#)
- ❖ [Goals](#)
- ❖ [Organization of document](#)
- ❖ [Health data sources](#)
- ❖ [Community Health Assessment strengths and opportunities](#)

## Section 1.01 *Introduction*

### Description of Durham County



Spanning almost 300 square miles, Durham is a single-city county in the Piedmont region of North Carolina.<sup>1</sup> 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 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 25% to 288,133 in 2013. Census estimates for 2013 show that non-Hispanic African Americans and whites make up similar proportions of Durham's population: 39% and 42% respectively. Hispanics make up 13.5% of county population, and Native American, Asian, and other ethnicities make up the remaining 5.5%.<sup>2</sup> As in many cities, immigration has affected Durham's population. Since 2000, the Hispanic population has more than doubled (from 17,039 to 37,511). In 2012 the proportion of residents that speak a language other than English at home was 20%; these languages include Spanish, Otomi, and other languages.<sup>3</sup>

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 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

organizations, faith-based organizations and businesses. 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 2012 study of health partnerships demonstrated that this well-respected coalition was the most-connected health partnership in Durham.<sup>4</sup>

## 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.<sup>1</sup>

The 2014 assessment process included 354 resident surveys and eight community listening sessions that involved 205 community members. For the past year, 89 individuals have contributed to the writing of this document. Individuals representing Duke University Hospital and Duke Regional Hospital, universities, local government, schools, non-profit organizations, faith-based organizations, businesses and community organizations have worked to ensure that the activities of the assessment process and the written content reflect what is happening in Durham. Community priorities were reaffirmed in October 2014; 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 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](http://www.healthydurham.org), [Twitter](#) or [Facebook](#).

The Community Health Assessment Writing Team, many of whom were Durham County Department of Public Health staff, Duke Medicine 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 13 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

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<sup>1</sup> The 2011 assessment is available on the Partnership for a Healthy Durham's website: [www.healthydurham.org](http://www.healthydurham.org).

12. Public Health Preparedness
13. Older Adults and People with Disabilities

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 Action Plan for our community for the next three years.

This document was created as a collaboration among the Partnership for a Healthy Durham, the Durham County Department of Public Health, and the Duke Medicine Division of Community Health, with generous support from the City of Durham Neighborhood Improvement Services Department and the United Way of the Triangle.

Durham's community survey was carried out by 92 community and Partnership volunteers, and this community health assessment has 89 authors.

## Goals

The primary goal of the 2014 Community Health Assessment was to provide, in one location, a 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 December 2014 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 Medicine, which includes Duke University Hospital and Duke Regional Hospital have collaborated to conduct the community health assessment for years. To meet the new federal requirements, this and future community health assessments will be conducted every three years.

## Organization of Document

There are 13 chapters, with a total of 50 topics. See the table of contents for a full listing of each topic covered in this community health assessment.

In each chapter, several health indicators are presented to better understand the context of the issue. Wherever possible, disaggregated data or data specific to sub-populations within Durham County (often racial/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. These counties were selected in 2012 using the following criteria:<sup>5</sup>

- Group A: Cumberland, Durham, Forsyth, Guilford, Mecklenburg, Wake
- Population size: 267,587-919,628
  - Individuals living below poverty level: 12.0%-18.4%
  - Population under 18 years: 23%-27%
  - Population 65 years and over: 8%-13%
  - Population density (people per square mile): 490-1756

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.

- Name of initiative, brief description, website and contact information.

## Health Data Sources

Data for this community health assessment came from many sources, which are referenced in endnotes at the end of each section. There is a great deal of information available about Durham's and North Carolina's health, but not all of it is presented here. Readers are encouraged to go to the original source for more details on data cited in this publication.

Both primary data and secondary data are presented in this report. Primary data are data we collected ourselves, in Durham County; secondary data are data that were collected and analyzed by others. As an additional resource, the Partnership for a Healthy Durham keeps updated links to [reports on Durham's health](#) and [health data resources](#).

**Primary data came from the following sources:**

1. ***Durham County Community Health Opinion Survey:*** This survey, conducted in September and October 2013, used census data and GIS technology to select at random two samples of 210 households in Durham County. The first sample was performed with households selected randomly from Durham County as a whole. The second sample was performed with households selected randomly from census blocks with more than 50% Hispanic/Latino residents in the 2010 Census.
2. ***Youth Risk Behavior Survey (YRBS):*** An anonymous written survey of middle and high school students attending Durham Public Schools.
3. ***Community focus groups and listening sessions:*** Six focus groups and eight listening sessions were held between April 1 and November 2014. During both processes, community members discussed health assessment findings and provided context and a richer picture of community needs and priorities.

**Secondary data came from many sources:**

The most common secondary data sources were the U.S. Census ([American Community Survey](#)) and the North Carolina State Center for Health Statistics (SCHS) of the North Carolina Division of Public Health. The [NC State Center for Health Statistics](#) website 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

Community assessment provides the opportunity to engage multiple agencies and organizations as well as community members in identifying and evaluating health issues. The purpose of the assessment process is to understand the health priorities from the perspective of the community, develop action plans to address these areas, and ultimately improve the health of the community. We strive to make every assessment better than the previous ones. This year, we are particularly proud of:

- Conducting a community survey that randomly sampled Durham Latino residents and the overall County residents. Durham is the first county in North Carolina to specifically do a random sample of Latinos.
- The number of community volunteers and professionals who dedicated their time and expertise to the assessment. Instead of hiring an outside company to conduct the survey, there were more than 92 local volunteers going door-to-door. Rather than having one or two people write the assessment, 89 people contributed to this document.

- Eight community listening sessions were held this year in which residents were asked to determine the best strategies to address the county's top health priorities. The feedback that was received from those sessions was taken very seriously and will be reflected in our three year action plans.

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

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<sup>1</sup> Photo credit: Durham Skyline Downtown, Chris Barron and Durham Convention and Visitors Bureau

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## Community Priorities

Each Durham Community Health Assessment culminates in the selection of new health priorities. The Durham County Community Health Opinion Survey was administered to 354 randomly selected households in fall 2013. Eight community listening sessions with 205 participants were held in late 2014 to share survey and health data trends about the current health priorities for Durham County. Community members were given time to brainstorm, discuss and vote on strategies to address these community priorities. This chapter summarizes the Community Health Opinion Survey (full results available in Appendix E), community input sessions and key health data in Durham.

This chapter includes:

- ❖ [Survey methods](#)
- ❖ [Key survey findings](#)
- ❖ [Description of community input sessions](#)
- ❖ [Key health data findings](#)
- ❖ [Tracking Our Progress: NC Healthy 2020 statewide and Durham measures](#)

## Section 2.01 *Community priorities*

### Survey methods

The Durham County Community Health Opinion Survey was conducted over six interview days between September 27th and October 25th, 2013. Administration of the community health survey was performed in collaboration with the North Carolina Institute for Public Health (NCIPH). The Partnership for a Healthy Durham was responsible for recruiting volunteers to administer the survey in pairs. A two-stage cluster sampling method was used which involves randomly selecting 30 census blocks and seven random interview sites in each block to generate a geographic random sample of households. Volunteers went door-to-door to these randomly selected interview sites in Durham County to conduct the 55-question survey using Google Nexus tablets. More detailed survey methods, maps and findings for each question are summarized in Appendices B-F.

There were two samples for the community health assessment survey. The first was the general County sample – each census block group throughout the county had an equal chance of being selected. A total of 182 interviews were successfully conducted among randomly sampled census blocks across the county, from the planned set of 210 interviews for a sampling success rate of 86.7%.

In an effort to survey the Latino community, the second sample was drawn from 2010 census blocks where more than 50% of the population identified themselves as Hispanic or Latino, defined by the 2010 census as “a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race”. A total of 172 interviews were conducted, from the planned set of 210 (7 interviews from 30 census blocks) for a response rate of 81.9%.

Over the course of six survey dates in September and October 2013, there were 92 volunteers. The duplicated count of staff members, community partners and volunteers was 139; several volunteered for multiple survey dates.

### Key survey findings

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

1. 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.
2. Keeping in mind yourself and the people in your neighborhood, please name the most important health problems (that is, diseases or conditions).
3. In your opinion, which of the following services needs the most improvement in your neighborhood or community? If there is a service that is not on this list, please let me know and I will write it in.

The top responses to these questions are shown in the first table below.

**DURHAM COUNTY SAMPLE**

COMMUNITY ISSUES	HEALTH PROBLEMS	SERVICES NEEDING IMPROVEMENT
1. Low income/poverty	1. Addiction to alcohol, drugs, or medications	1. More affordable health services
2. Homelessness	2. Diabetes	2. Positive teen activities
3. Violent crime	3. Obesity/overweight	3. Higher paying employment

Residents were also asked:

What one thing would make Durham County or your neighborhood a healthier place to live? The responses to this question mirrored the priorities identified by the questions above. The most frequent response indicated a desire for less violence and crime; the second most frequent was a desire for more access to walking and biking opportunities, and the third was better access to health care.

Responses from residents in communities that were more than 50% Hispanic are shown below. It is important to keep in mind that these were communities of low-income residents. There are many wealthier Hispanic Durham County residents, and these findings do not represent all Hispanics in Durham County. However, they do represent some of the most underserved residents of this community.

**DURHAM HISPANIC NEIGHBORHOOD SAMPLE**

COMMUNITY ISSUES	HEALTH PROBLEMS	SERVICES NEEDING IMPROVEMENT
1. Lack of or inadequate health insurance	1. Addiction to alcohol, drugs, or medications	1. More affordable health services
2. Low income/poverty	2. Diabetes	2. More affordable/better housing
3. Discrimination and racism	3. Cancer	3. Availability of employment

The findings from these surveys are very similar to those from the most recent community health assessment in 2011. In 2011, Durham chose the following community priority areas: Access to medical and dental care, HIV and other sexually transmitted infections, Obesity and chronic illness, Substance abuse and mental health, poverty, and education (see the 2011 community health assessment for details on the extensive community discussion process that resulted in these choices). Data on causes of death and sickness and survey findings from 2013 continue to support access to medical and dental care, obesity and chronic illness, substance abuse and mental health, and poverty as community priorities.

Issues of crime and violence were ranked highly as community priorities in 2011 and in 2014. However, community discussions held in 2011 determined that many groups, such as Partners Against Crime (PAC), were better equipped at addressing these issues in Durham County.

In 2011 and in 2014, a community focus on HIV and other sexually transmitted infections does not appear in survey results. However, community advocates and people working on preventing these diseases in Durham reported that due to the stigma around these diseases, they are less likely to be named as priorities in a community survey. These advocates made a strong case that these diseases remain a community priority. This case is supported by data: Durham County has the fourth highest rate of HIV in the state, and the rate of HIV cases is significantly higher than the state rate.

Finally, the focus on education relies on the link between poverty and education, and the possibility of preventing poverty by improving educational outcomes.

## Description of community input sessions

Similar to 2011, the Partnership for a Healthy Durham's Steering committee reaffirmed that the 3-year health priorities should be based on the:

- 1) Results from the community listening sessions
- 2) Gaps / needs in Durham County, with a focus on not duplicating efforts
- 3) Feasibility with existing resources
- 4) Likelihood of making an impact over the next three years

In 2011, community listening sessions were held to determine the final six health priorities for 2012 - 2014. Since that time, the Affordable Care Act requires hospitals to partner with local health departments to conduct community health assessments every three years. Using the criteria above, it was decided that for this community health assessment cycle, health priorities would be reaffirmed since the data and 2013 survey results supported existing priority areas.

There were eight community input sessions held in September and October 2014 reaching 205 residents. Some of the sessions were held at public libraries and advertised whereas others were held during existing community meetings. The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

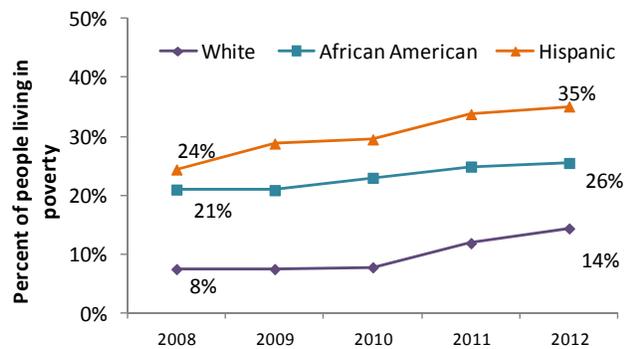
- Brief presentation that included:
  - o Background on community health assessment
  - o Data trends and survey results related to that health priority
  - o Overview of how the Partnership for a Healthy Durham addressed that priority over the last three years
- Attendees worked in small groups to write down their ideas and focus areas to address the health priority area over the next three years
- Each group presented their ideas
- Attendees received three stickers and used those to vote for their three favorite ideas or focus areas
- Attendees were asked to provide their contact information if they wanted to stay involved by joining the Partnership for a Healthy Durham

The top ranked ideas from each of the input sessions were summarized and presented at the October Partnership for a Healthy Durham meeting. Attendees unanimously approved to continue the existing health priorities for 2015 – 2017. Since the Partnership for a Healthy Durham does not formally have committees for Education or Poverty, the group also agreed for each existing health priority committee to include at least one initiative that addressed poverty or education on the new three-year action plans. The Partnership for a Healthy Durham also voted to make formal arrangements with existing community groups that meet to address poverty and education and ensure that a more formalized partnership exists. Finally, a communications committee will be formed since a common theme among all input sessions was the need for the community to know more about the Partnership for a Healthy Durham and various health initiatives.

Results from the community input sessions are summarized in Appendix F.

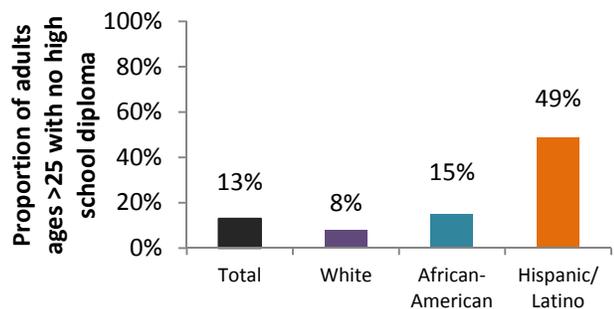
## Key health data findings

The amount of disease in a community is intimately connected to the income and education of community members. The wealth or poverty of community members determine what kind of health care they will have access to and how much access they will have. Their education is closely linked to their wealth or poverty as well as their knowledge of how to be healthy and their ability to be advocates with health professionals for their own and their family's care. Further, where residents live can impact health – from the quality of schools, level of exposure to violence and housing stock. These factors can predict life expectancy and levels of health.<sup>1</sup> In Durham County, there are many successful businesses and wealthy residents. However, 20% of the population has an income that is below the Federal Poverty Level (yearly income of \$23,283 for a family of four in 2012, the most recent year for which information is available). This number has increased slightly over the past five years, from 14% in 2008. Poverty has increased for all groups in Durham County since 2008; it has increased the most for Hispanic residents, from 24% in 2008 to 35% in 2012.<sup>2</sup>



**Figure 2.01(a) Percent of Durham County residents with incomes below the Federal Poverty Level by race/ethnicity**

Durham County has a population with a wide range of education; there are many people with a high level of education, including post-graduate degrees such as M.D.s and Ph.D.s; there are also many people who have not completed a high school education. Among the population 25 and older, 21% have a graduate or professional degree, while 13% have no high school diploma and an additional 14% have only a high school diploma.<sup>3</sup> Education and poverty are related; among the three largest population groups in the county, whites have the highest income and level of education, and Hispanics have the lowest.

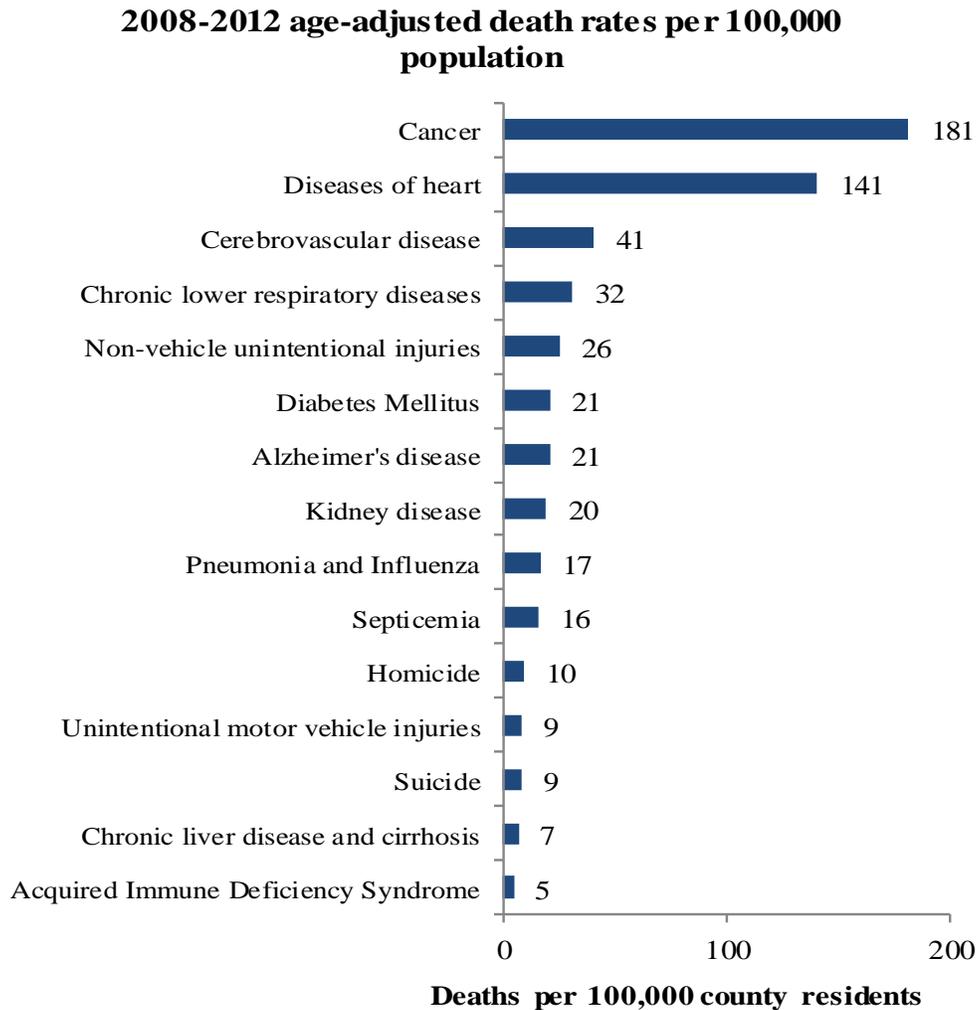


**Figure 2.01(b) Percent of Durham County residents with no high school diploma by race/ethnicity, 2013**

The health of county residents is affected by their access to medical care, both preventive care and care once they are sick. Most Durham County residents have health insurance (in 2012, 77% of adults, 90% of children, and 99% of those older than 64 had health insurance).<sup>4</sup> While the Affordable Care Act is expected to extend coverage to an estimated 18,000 additional Durham County residents, there will still be adults without access to affordable health insurance, including those expected to have been covered by the Medicaid expansion and undocumented residents.

The most recent data available show that 86% of Durham County residents reported being in excellent, very good, or good health in 2012.<sup>5</sup>

The most common causes of death in Durham County continue to be chronic diseases, with cancer as the leading cause of death. For the majority of residents, life expectancy continues to increase slowly and mortality rates for important diseases, such as heart disease, are decreasing.<sup>6</sup> One important cause of death is increasing: non-vehicle unintentional injury which is related to increases in unintentional poisoning-related deaths.



**Figure 2.01(c) Durham County 2008-2012 most common causes of death**

The most frequent cause of hospitalization in Durham County (after pregnancy and childbirth) is cardiovascular (heart) and circulatory diseases, followed by injuries including poisoning, respiratory (breathing) diseases, and digestive system diseases.

### Durham County 2012 most common causes of hospitalization

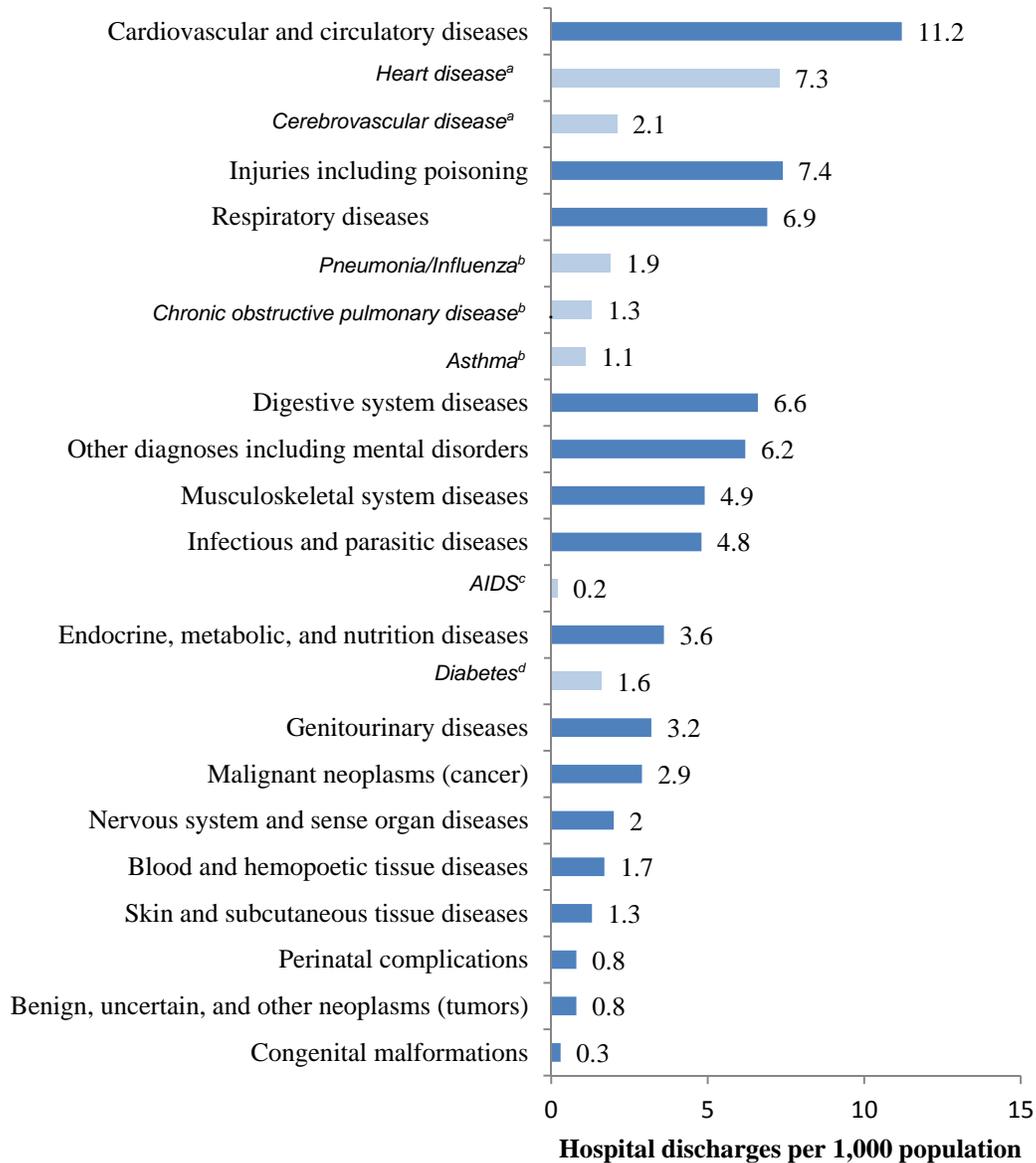


Figure 2.01(d) Durham County 2012 most common causes of hospitalization

Notes: a, subset of cardiovascular and cerebrovascular disease; b, subset of respiratory disease; c, subset of infectious and parasitic disease; d, subset of endocrine, metabolic, and nutrition diseases

## 2014 Durham County Health Priority Areas

### 2014 Durham County Health Priority Areas

- Access to care
- HIV and other sexually transmitted infections
- Obesity and chronic illness
- Substance abuse and mental health
- Poverty
- Education

## Tracking Progress

As Durham County continues to work on these priorities, it is important to track our progress. More detailed annual progress updates can be found in the State of the County Health Reports ([2013](#), [2012](#)). 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.<sup>7</sup> The table below compares current Durham data with data from the 2011 community health assessment, current North Carolina data, and the Healthy NC 2020 goal. Rows highlighted in green indicate rates better than or statistically the same as the state goal (in some cases, the number is slightly different because it's an estimate based on a sample of the population, but the range of the estimate includes the goal number). Rows highlighted in yellow indicate progress toward the goal since 2011. Durham has seen improvement in nine of the 40 objectives since 2011, and is meeting the state goals in six. Many of the objectives linked to Durham's health priority areas do not show improvement; while some of this is due to the poor economy and cuts in funding to health services, it is clear that more work needs to be done. However, some of the objectives showing improvement are linked to Durham's health priority areas (secondhand smoke exposure, physical activity, alcohol consumption by high school students, cardiovascular disease mortality, housing costs). This community can take pride in these improvements.

More detailed information on health in Durham and the progress made on health priorities is available in the Databook sections of this community health assessment.

Table 2.01(a) Healthy NC 2020 Objectives

Healthy NC 2020 Objectives <sup>8</sup>	Durham 2011 <sup>9</sup>	Current Durham	Current NC <sup>10</sup>	2020 Target
<b>Tobacco Use</b>				
1. Decrease the percentage of adults who are current smokers	14.7%	15%* <sup>11</sup>	20.9%	13.0%
2. Decrease the percentage of high school students reporting current use of any tobacco product	24.6%	24% <sup>12</sup>	22.5%	15.0%
3. Decrease the percentage of people exposed to secondhand smoke in the workplace in the past seven days	7.5%	3.6%* <sup>13</sup>	8.6%	0%
<b>Physical Activity and Nutrition</b>				
1. Increase the percentage of high school students who are neither overweight nor obese.	71.6%	68% <sup>14</sup>	71.2%	79.2%
2. Increase the percentage of adults getting the recommended amount of physical activity.	42.9%	No update <sup>†</sup>	No update (46.4% in 2009)	60.6%
3. Increase the percentage of adults who report they consume fruits and vegetables five or more times per day.	21.8%	No update <sup>†</sup>	No update (20.6% in 2009)	29.3%
<b>Injury</b>				
1. Reduce the unintentional poisoning mortality rate (per 100,000 population)	7.6	7.8 <sup>1</sup>	11.3	9.9
2. Reduce the unintentional falls mortality rate (per 100,000 population)	6.6	7.5 <sup>2</sup>	9.2	5.3
3. Reduce the homicide rate (per 100,000 population)	10.1	10 <sup>15</sup>	6.0	6.7
<b>Maternal and Infant Health</b>				
1. Reduce the infant mortality racial disparity between whites and African Americans	2.85	3.3 <sup>16</sup>	2.53	1.92

<sup>1</sup> Analysis by the Epidemiology Unit, Injury and Violence Prevention Branch. North Carolina Department of Health and Human Services. February 27, 2014

<sup>2</sup> Analysis by the Epidemiology Unit, Injury and Violence Prevention Branch. North Carolina Department of Health and Human Services. February 27, 2014

<b>Healthy NC 2020 Objectives<sup>8</sup></b>	<b>Durham 2011<sup>9</sup></b>	<b>Current Durham</b>	<b>Current NC<sup>10</sup></b>	<b>2020 Target</b>
2. Reduce the infant mortality rate (per 1,000 live births)	7.0	6.9 <sup>17</sup>	7.4	6.3
3. Reduce the percentage of women who smoke during pregnancy	5.4%	6.8% <sup>18</sup>	10.6%	6.8 %
<b>Sexually Transmitted Disease and Unintended Pregnancy</b>				
1. Decrease the percentage of pregnancies that are unintended	36.5%	No update for local data <sup>19</sup>	42.7%	30.9%
2. Reduce the percentage of positive results among individuals aged 15 to 24 tested for chlamydia	Not available	Not available	10.9%	8.7%
3. Reduce the rate of new HIV infection diagnoses (per 100,000 )	32.7	34 <sup>20</sup>	17.3	22.2
<b>Substance Abuse</b>				
1. Reduce the percentage of high school students who had alcohol on one or more of the past 30 days	42.5%	32% <sup>21</sup>	34.3%	26.4%
2. Reduce the percentage of traffic crashes that are alcohol-related	4.3%	5.3% <sup>22</sup>	5.3%	4.7%
3. Reduce the percentage of individuals aged 12 years and older reporting any illicit drug use in the past 30 days	7.8% <sup>23</sup>	7.9% <sup>24</sup>	7.9%	6.6%
<b>Mental Health</b>				
1. Reduce the suicide rate (per 100,000 population)	7.8	8.3 <sup>25</sup>	12.9	8.3
2. Decrease the average number of poor mental health days among adults in the past 30 days	3.6	3.5 <sup>26</sup>	3.9	2.8
3. Reduce the rate of mental health-related visits to emergency departments (per 10,000 population)	110 <sup>27</sup>	100.8 <sup>28</sup>	104.5	82.8
<b>Oral Health</b>				
1. Increase the percentage of children aged 1-5 years enrolled in Medicaid who received any dental service during the previous 12 months	60.4%	58.1 <sup>29</sup>	57.3%	56.4%

Healthy NC 2020 Objectives <sup>8</sup>	Durham 2011 <sup>9</sup>	Current Durham	Current NC <sup>10</sup>	2020 Target
2. Decrease the average number of decayed, missing, or filled teeth among kindergarteners	1.76 <sup>30</sup>	No update	1.5	1.1
3. Decrease the percentage of adults who had permanent teeth removed due to tooth decay or gum disease	37.8% <sup>31</sup>	No update <sup>†</sup>	48.3%	38.4%
<b>Environmental Health</b>				
1. Increase the percentage of air monitor sites meeting the current ozone standard of 0.075ppm	100%	99% <sup>32</sup>	80.5%	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).	Not available	94.7% <sup>33</sup>	97.4%	95%
3. Reduce mortality rate from work-related injuries (per 100,000 population)	6.32	Not available	3.7	3.5
<b>Infectious Disease and Food Borne Illness</b>				
1. Increase the percentage of children aged 19-35 months who receive the recommended vaccines. (Note: data only available for 24-35 months)	64%	67%	75.3%	91.3%
2. Reduce the pneumonia and influenza mortality rate (per 100,000 population).	18.9	17 <sup>34</sup>	19.6	13.5
3. Decrease the average number of critical violations per restaurant/food stand.	6.8	2 <sup>35</sup>	6.5	5.5
<b>Social Determinants of Health</b>				
1. Decrease the percentage of individuals living in poverty.	16.6%	20% <sup>36</sup>	17.2%	12.5%
2. Increase the four-year high school graduation rate.	69.8%	80% <sup>37</sup>	82.5%	94.6%
3. Decrease the percentage of people spending more than 30% of their income on rental housing.	53.3%	48% <sup>38</sup>	44.8%	36.1%
<b>Chronic Disease</b>				

Healthy NC 2020 Objectives <sup>8</sup>	Durham 2011 <sup>9</sup>	Current Durham	Current NC <sup>10</sup>	2020 Target
1. Reduce the cardiovascular disease mortality rate (per 100,000 population)	224 <sup>39</sup>	199 <sup>40</sup>	237.2	161.5
2. Decrease the percentages of adults with diabetes.	7.0%	8% * <sup>41</sup>	10.4%	8.6%
3. Reduce the colorectal cancer mortality rate	14.0	15.5 <sup>42</sup>	15.1	10.1
<b>Cross-cutting</b>				
1. Increase average expectancy (years)	78.1	79.4 <sup>43</sup>	78.2	79.5
2. Increase percentage of adults reporting good, very good, or excellent health	90.1%	86% * <sup>44</sup>	80.7%	90.1%
3. Reduce the percentage of non-elderly uninsured individuals (aged less than 65 years)	22.6%	23% <sup>45</sup>	18.9%	8.0%
4. Increase the percentage of adults who are neither overweight nor obese.	40.7%	34% * <sup>46</sup>	34.2%	38.1%

*Notes: Because of a 2011 change in the methods for the national Behavioral Risk Factor Surveillance System (BRFSS) (to include cell-phone numbers in this telephone survey), comparisons between data collected prior to 2011 and 2011 and later should be made cautiously.*

*†The BRFSS survey question providing data for this measure was changed or removed; therefore there is no update for this priority.*

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# Community Profile

Spanning almost 300 square miles, the city and county of Durham are located in the heart of the North Carolina Piedmont Region. Historically known as the “tobacco capital of the world” and the home to Black Wall Street, Durham is known nationwide as a vibrant, diverse and entrepreneurial community. There is a rich agricultural heritage, a diverse population, beautiful land, numerous parks, excellent public services and a strong faith and social justice community. There are many medical resources, non-profits and opportunities available to community members. The demographics of Durham County residents have shifted dramatically over the last decade. Although Durham County is rich in resources, disparities do exist between racial/ethnic groups as well as between lower income and higher income residents.

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

Recent demographic data reflect cultural shifts occurring in Durham County. From 2000 to 2010, Durham County's populace grew 22% to 267,587 residents, slightly outpacing the statewide growth rate of 18.5%.<sup>1</sup> Durham County is North Carolina's most densely inhabited county; nearly 86% of all residents live in the City of Durham. Spanning over 108 square miles, Durham is the state's fourth largest municipality.<sup>2</sup> At a median age of 33.4 years, Durham County residents are younger than the statewide median age of 37.4. Table 3.01(a) displays age distributions in Durham County.

Table 3.01(a) Durham County demographics (American Community Survey, 2009-2013)<sup>3</sup>

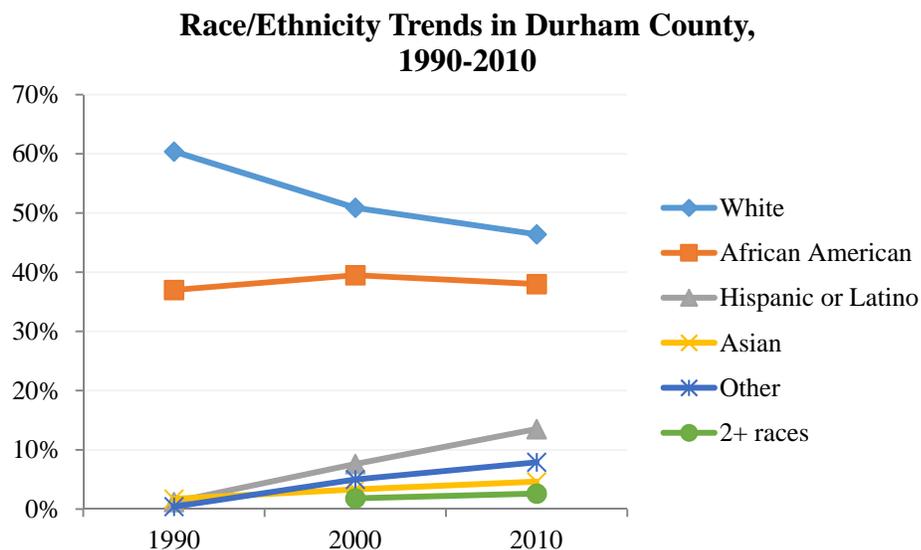
Subject	Estimate	Percent
<b>SEX AND AGE</b>		
Total population	276,494	100%
Male	132,763	48.0%
Female	143,731	52.0%
Under 5 years	20,119	7.3%
5 to 9 years	17,413	6.3%
10 to 14 years	15,033	5.4%
15 to 19 years	18,406	6.7%
20 to 24 years	22,138	8.0%
25 to 34 years	50,751	18.4%
35 to 44 years	39,622	14.3%
45 to 54 years	35,120	12.7%
55 to 59 years	16,308	5.9%
60 to 64 years	13,708	5.0%
65 to 74 years	15,562	5.6%
75 to 84 years	7,982	2.9%
85 years and over	4,332	1.6%

Communities in Durham County continue to racially and ethnically grow and diversify. Relative to North Carolina, Durham County has a higher density of minority residents; over half of residents identified as a racial or ethnic minority in 2005, making Durham County a *Minority-Majority* county. Any person identifying as Asian, Black or African American, Hispanic or Latino, American Indian, Alaskan Native, Native Hawaiian or Other Pacific Islander is a racial minority.<sup>4</sup> Table 3.01(b) compares estimated demographics for Durham County and North Carolina.

Table 3.01(b) Durham County demographics (American Community Survey, 2008-2012)<sup>5</sup>

REGION	DURHAM COUNTY		NORTH CAROLINA	
<b>Total Population</b>	269,283		9,544,249	
<b>Sex</b>	<b>Estimate</b>	<b>Percent</b>	<b>Estimate</b>	<b>Percent</b>
Male	128,496	47.7%	4,649,769	48.7%
Female	140,787	52.3%	4,894,480	51.3%
<b>Median age (years)</b>	33.4	- - -	37.4	- - -
<b>Race</b>				
White	131,635	48.9%	6,659,867	69.8%
Black or African American	100,777	37.4%	2,047,092	21.4%
American Indian/Alaska Native	1,086	0.4%	110,171	1.2%
Asian	12,003	4.5%	211,708	2.2%
Native Hawaiian and Other Pacific Islander	94	0.0%	4,424	0.0%
Some other race	16,262	6.0%	306,516	3.2%
Two or more races	7,426	2.8%	204,471	2.1%
<b>Ethnicity</b>				
Hispanic/Latino (of any race)	35,528	13.2%	796,293	8.3%

In 2012, approximately 48.9% of Durham County residents were White and 37.4% were African American. American Indian, Asian, and other races accounted for the other 10.5% of the population, a decrease from 17.6% in 2010. Figure 3.01(a) illustrates demographic shifts of the population in Durham County since 1990.

Figure 3.01(a) 20-year race/ethnicity demographic trends in Durham County<sup>6,7,8</sup>

Since 1990, the percentage of White residents has steadily declined. Meanwhile, the African American population has remained relatively stable. Durham County has seen an increase in non-White races and Hispanics/Latinos.

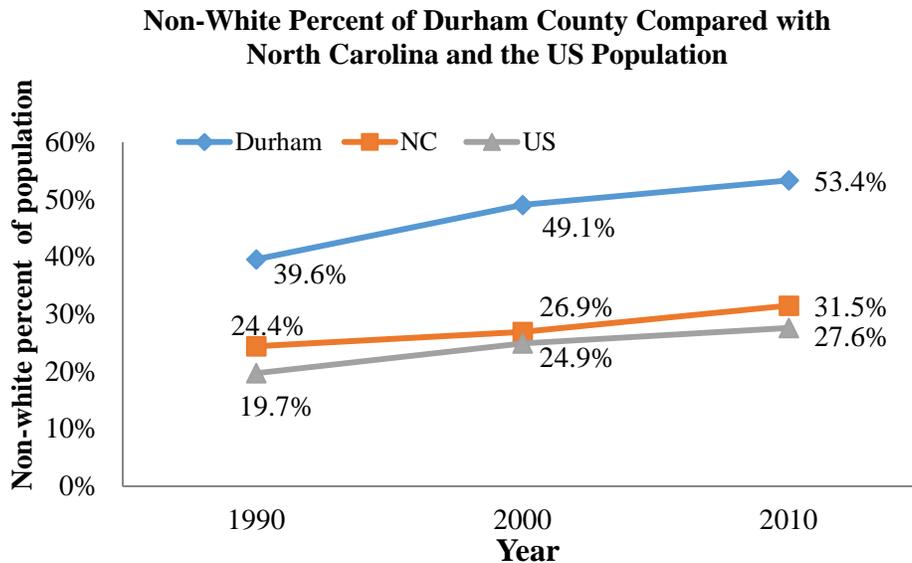
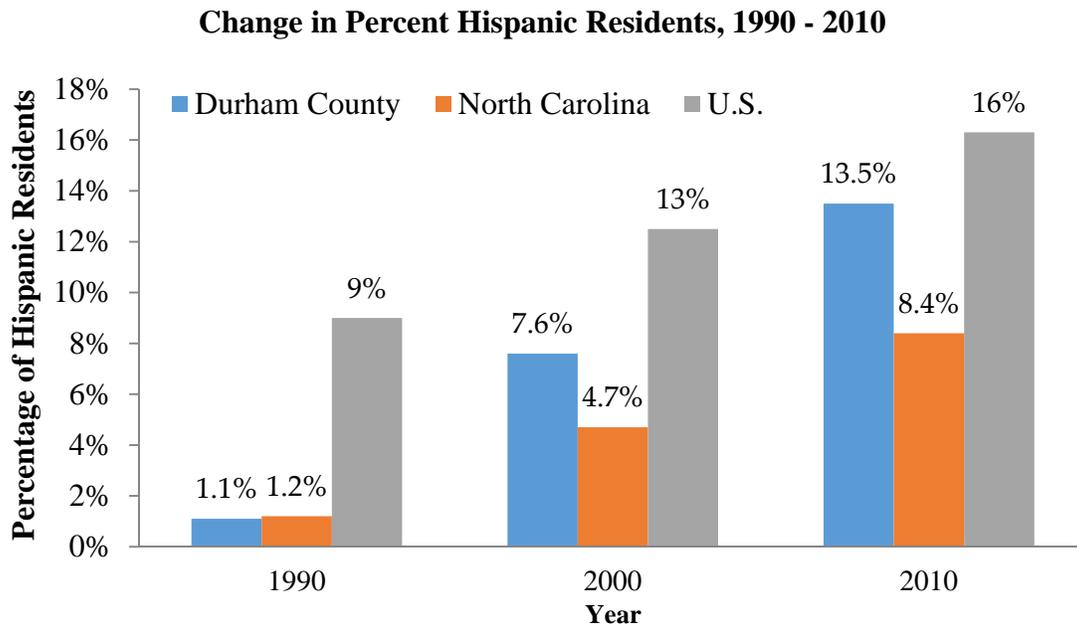


Figure 3.01(b) Percentage of population that is not White<sup>9, 10, 11</sup>

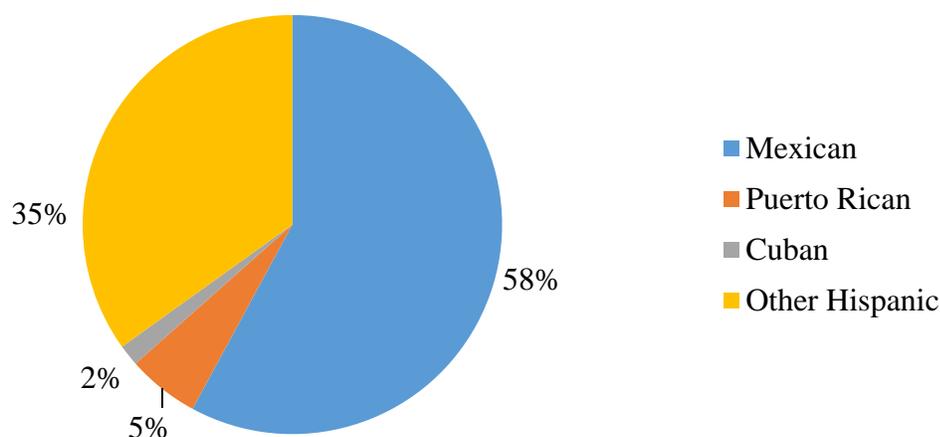
Figure 3.01(b) compares national, state and local population growth since 1990. Durham County has seen greater growth rates relative to North Carolina and the U.S.

Durham County has experienced significant growth in the Hispanic population since 1990, reflecting statewide and national growth trends. In the United States, a person identifying as Cuban, Mexican, Puerto Rican, South or Central American or other Spanish culture or origin regardless of race, is considered Hispanic or Latino.<sup>12</sup> The terms “Hispanic” and “Latino” are used by the U.S. government in efforts to classify an ethnicity, though these labels of identity classification aren’t universally embraced by all persons under to this category.<sup>13</sup>



**Figure 3.01(c) Growth of the Hispanic population in Durham County** <sup>14, 15, 16, 17</sup>

Figure 3.01 (c) illustrates proportional growth of Latinos in Durham County, North Carolina and the United States from 1990 to 2010. Durham County's Hispanic population increased 12-fold from 1990 to 2010. According to the American Community Survey, Hispanic residents made up 13.2% of the county's population, a slight decrease from 2010 estimates.<sup>18</sup> Hispanic households may not always report undocumented residents to government authorities; it is possible that current population estimates are an undercount. According to conservative population projections published by the Latino Migration Project, Latinos will represent nearly 20% of all Durham residents by 2020.<sup>19</sup> Figure 3.01(d) shows countries of family origin for Latino residents in Durham County.

**Percent Hispanic by Family Origin in Durham County****Figure 3.01(d) Hispanics by nationality in Durham County<sup>20</sup>**

More than half of all Hispanic residents have a family origin in Mexico. Approximately 35% of Hispanics fall into the “Other” category; more demographic assessments will be needed to help understand family origins from this category.

**Table 3.01(b) Characteristics of Households in Durham County, 2010<sup>21</sup>**

<b>HOUSEHOLDS BY TYPE</b>	<b>Estimate</b>	<b>Percent</b>
<b>Total households</b>	109,348	100%
<b>Family households (families)</b>	63,486	58.1%
With own children under 18 years	29,918	27.4%
Husband-wife family	42,664	39.0%
With own children under 18 years	18,318	16.8%
Male householder, no wife present	4,681	4.3%
With own children under 18 years	2,134	2.0%
Female householder, no husband present	16,141	14.8%
With own children under 18 years	9,466	8.7%
<b>Nonfamily households</b>	45,862	41.9%
Householder living alone	35,310	32.3%
Male	14,213	13.0%
65 years and over	2,108	1.9%
Female	21,097	19.3%
65 years and over	5,807	5.3%
<b>Households with individuals under 18 years</b>	33,414	30.6%
<b>Households with individuals 65 years and over</b>	19,345	17.7%

Homes headed by married husband-wife couples no longer make up the majority of households in North Carolina or Durham County. In 2010, married husband-wife households accounted for 39% of couple-headed homes, a decrease from 42% in 2000.<sup>22</sup> In North Carolina, 48.4% of households are headed by married husband-wife couples.<sup>23</sup> Nonfamily households in Durham County increased slightly from 39.3% in 2000 to nearly 42% in 2010, a threshold that is higher than the 33.3% of nonfamily households for the state of North Carolina.<sup>24, 25</sup>

The City of Durham has a growing and diverse LGBT community and is home to the North Carolina Gay and Lesbian Film Festival and the NC Pride Parade.<sup>26</sup> On October 10, 2014, the ban on same-sex marriage in North Carolina was declared unconstitutional by a federal judge.<sup>27</sup> Due to absent data, it's unclear on how many households in Durham County are headed by same-sex couples.

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## Section 3.02 *Immigrant and refugee health*

### Overview

In 2013, the estimated U.S. population was 311,536,594, including U.S. born citizens and *foreign born* individuals.<sup>1</sup> A “foreign born” individual is anyone who is not a U.S. citizen at birth; this includes naturalized residents, lawful and unlawful immigrants, foreign students and refugees.<sup>2</sup> The United States is the world’s top immigrant destination.<sup>3</sup> According to 2013 estimates, foreign-born residents are approximately 13% of the U.S. population.<sup>4</sup> In 2010, most immigrants originated from Mexico, China, India, the Philippines and El Salvador.<sup>5</sup> The rate of unauthorized immigrants has decreased and stayed steady since its peak of 12 million in 2007.<sup>6</sup>

Hispanics of Mexican, Puerto Rican, and Cuban origin remain the nation's three largest Hispanic country-of-origin groups.<sup>7</sup> According to Department of Homeland Security’s Office of Immigration statistics, there were approximately 11.5 million unauthorized immigrants were living in the U.S.<sup>8</sup>

Table 3.02(a) Regional Origins of Unauthorized Immigrants in the U.S. in 2011<sup>9</sup>

Region	Estimate
North America	8.9 million
Asia	1.3 million
South America	800,000
Europe	300,000
Other parts of the world	200,000

Table 3.02(b) Countries of Birth for 10 Largest Unauthorized Immigrant Populations residing in the United States in 2011<sup>10</sup>

Country of Birth	Estimated 2011 Population	Percent of Total
All Countries	11,510,000	100%
Mexico	6,800,000	59%
El Salvador	660,000	6%
Guatemala	520,000	5%
Honduras	380,000	3%
China	280,000	2%
Philippines	270,000	2%
India	240,000	2%
Korea	230,000	2%
Ecuador	210,000	2%
Vietnam	170,000	2%
Other Countries	1,750,000	15%

## Secondary Data

North Carolina has become a settlement destination for immigrants and has seen an increase in proportional immigrant growth since 1990.<sup>11,12</sup> Foreign born individuals currently account for 7.5% of North Carolina's population in 2013.<sup>13</sup> Approximately 31.6% of North Carolina's foreign born residents are naturalized U.S. citizens.<sup>14</sup> Undocumented immigrants accounted for 5.4% of North Carolina's labor force despite being only 3.5% of the population in 2010.<sup>15</sup> In Durham County, immigrants have helped grow the population as well as the local economy by starting families and opening new businesses.<sup>16</sup> In 1990, four percent of the City of Durham's population identified as foreign born, climbing to 11% and 14% in 2000 and 2010 respectively.<sup>17</sup> Table 3.02(c) compares immigrant characteristics between North Carolina and Durham County.

Table 3.02(c) Characteristics of Immigrants in Durham County and North Carolina<sup>18</sup>

Subject	North Carolina		Durham County	
	Estimate	Percent	Estimate	Percent
<b>Place of Birth</b>				
Total population	9,651,380	100%	276,494	100%
Native	8,920,612	92.4%	238,169	86.1%
Born in United States	8,817,053	91.4%	234,662	84.9%
Born in state of residence	5,587,905	57.9%	137,814	49.8%
Born in different state	3,229,148	33.5%	96,848	35%
Born in Puerto Rico, other U.S. territories, or abroad to American parent(s)	103,559	1.1%	3,507	1.3%
Foreign born	730,768	7.6%	38,325	13.9%
<b>US Citizenship Status</b>				
Foreign-born population	718,794	100%	38,325	100%
Naturalized U.S. citizen	220,890	30.7%	10,452	27.3%
Not a U.S. citizen	497,904	69.3%	27,873	72.7%

Relative to North Carolina, Durham County has a higher proportion of immigrants, a slightly greater ratio of non-U.S.-citizen residents to U.S. citizen residents, and a somewhat lower proportion of naturalized citizens. Latinos represent a large portion of recent immigrants in the state and county. Approximately 91.2% of Durham County's foreign born residents arrived before 2010, a similar rate to North Carolina's 94.7% foreign born population for the same year.<sup>19</sup> Figure 3.02(a) illustrates origins of foreign born residents in Durham County (excludes individuals born at sea). Immigrants from Latin America (Mexico included) are the majority of immigrants in Durham County. Individuals from Asia account for nearly 25 percent of Durham County immigrants. Individuals from Northern America (Canada, Bermuda, Greenland, and St. Pierre & Miquelon) account for some of the lowest immigrant groups in the county.

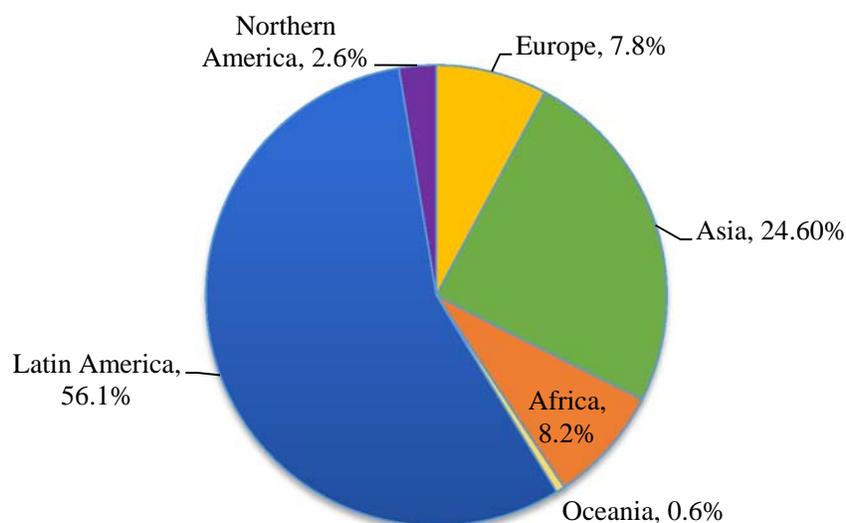


Figure 3.02(a) Region of birth among foreign-born residents of Durham County<sup>20</sup>

Table 3.02(d) Spoken languages in Durham County (2013)<sup>21</sup>

	North Carolina		Durham County	
Language Spoken at Home	Number	Percent	Number	Percent
Population 5 years and over	9,027,673	100%	256,375	100%
<b>English only</b>	8,042,027	89.1%	206,713	80.6%
<b>Language other than English</b>	985,646	10.9%	49,662	19.4%
Speak English less than "very well"	437,382	4.8%	24,053	9.4%
<b>Spanish</b>	658,939	7.3%	32,007	12.5%
Speak English less than "very well"	331,648	3.7%	19,052	7.4%
<b>Other Indo-European languages</b>	149,117	1.7%	6,903	2.7%
Speak English less than "very well"	35,938	0.4%	1,453	0.6%
<b>Asian or Pacific Islander languages</b>	134,620	1.5%	7,781	3.0%
Speak English less than "very well"	57,961	0.6%	2,861	1.1%
<b>Other languages</b>	42,970	0.5%	2,971	1.2%
Speak English less than "very well"	11,835	0.1%	687	0.3%

Data from table 3.02(d) compares languages spoken in Durham County to those spoken in the state of North Carolina. Nearly one-fifth of Durham County residents speak a language other than English, compared to 11% for that of the state. Spanish is the most prevalent non-English language spoken in Durham County and in North Carolina.

### Immigrant Health

At a median age of 35.5, undocumented immigrants adults are younger than lawfully present immigrants (median age 45.9) and U.S. born adults (median age: 46.3).<sup>22</sup> Relative to immigrants with legal residency, studies show undocumented immigrants have similar if not better levels of

health and health behaviors. Despite having large rates of labor force participation, immigrant households have disproportionately lower incomes. *Non-citizens* (lawfully present immigrants and undocumented immigrants) are more likely to be low-income despite being just as likely to have at least one full-time worker in the family when compared to citizen households.<sup>23</sup> In 2011, the median annual household income for non-citizens was \$27,400, nearly half the amount for citizen households. Immigrants are more likely than citizens to work in low-wage industries. Unsurprisingly, 51% of undocumented immigrants are uninsured because the industries they work in have low-levels of employer provided health benefits.<sup>24</sup>

In 2011, over six million citizen children belonged to *mixed citizenship status* families (households in which at least one parent is a non-citizen).<sup>25</sup> Lawfully present children in mixed citizenship status families are more likely to lack health coverage than children with citizen parents. Eighty-three percent of children of immigrant parents are proficient in English. However, nearly half of all immigrant parents have no English proficiency.<sup>26</sup> Although nearly 90% of children of immigrants are U.S. citizens, greater than 40% have non-citizen parents. Strikingly, non-citizen children and citizen children in mixed citizenship status families are more likely to be uninsured.<sup>27</sup> Functional illiteracy, language barriers, and negative perceptions about reporting unlawful family members to government organization are just some of the complex, non-financial contributing factors that inhibit eligible immigrants from enrolling in health programs. Immigrants (lawful and undocumented) account for 20% of the nation's non-elderly uninsured and are less likely than citizens to utilize emergency room services.<sup>28</sup>

Although uninsured rates are expected to fall with the implementation of the Affordable Care Act, this new policy excludes an estimated 11 million undocumented residents in the U.S. from its benefits.<sup>29</sup> Unlawful immigrants are unable to utilize most forms of public benefits. Compared to lawfully present immigrants and citizens, undocumented immigrants are more likely to live in poverty and thus less likely to have a regular source of healthcare and access to preventative care.<sup>30</sup>

Nearly sixty-two percent of all undocumented immigrants in the U.S. are projected to remain uninsured in 2016; North Carolina is estimated to have one of the country's greatest shares of uninsurable individuals under age 65.<sup>31</sup> Assuming the full implementation of Medicaid expansion in all states, undocumented immigrants were still projected to account for nearly a quarter of the uninsured nationwide and at least one third of the uninsured in North Carolina.<sup>32</sup> Unable to pay for out-of-pocket medical expenses, it is predicted that the uninsured will most likely rely on federally funded clinics for care.<sup>33</sup>

### **Health Services for Immigrants and the Uninsured in Durham County**

In North Carolina, eligible immigrants can apply for Medicaid. Undocumented immigrants can get emergency care through Medicaid but must pay out-of-pocket for non-emergency services. In Durham County, all uninsured persons (regardless of immigration status) can receive primary care at federally-funded health centers. They can also receive care at some private clinics that provide services on a sliding scale. 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), a patient navigation program through Duke Medical Center.

Uninsured Durham County residents who need specialty medical care can also be referred to Project Access of Durham County, a program in which physicians donate their services to enrolled patients.<sup>34</sup> All of these programs operate at capacity, and there is often long waits to access needed services.

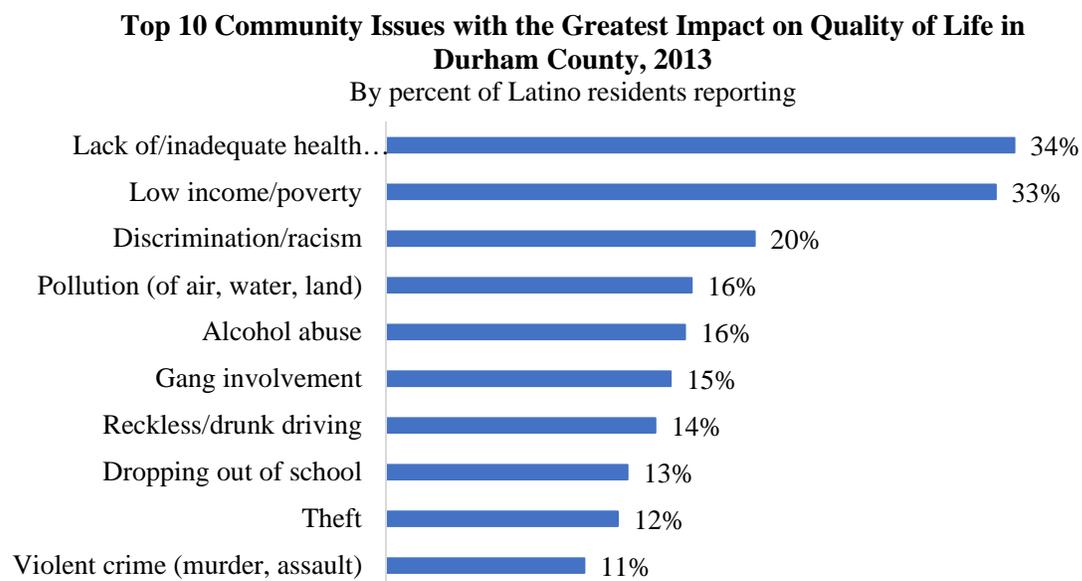
Through a federally funded grant, “The Breast and Cervical Cancer Control Program (BCCCP),” the Durham County Department of Public Health provides pap smears and mammograms to low-income, uninsured women 40 years or older at no cost.<sup>35</sup> Likewise, the Susan G. Komen Breast Cancer Foundation supports breast cancer education, advocacy, health services and social support programs for all uninsured, indigent women. Although many health related resources exist in Durham County, immigrant families still face many obstacles to obtaining healthcare.

## Primary Data

### Health priorities among Latino residents of Durham County

In September 2013, the Durham County Community Survey was conducted in Spanish with a random sample of households from census blocks that were more than 50% Hispanic in the 2010 census. These census blocks were among the poorest in Durham County, so the results of this survey represent poorer and more recently immigrated Hispanic county residents. Information on the priorities of the community surveyed is given below.

Survey 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.” The percent naming the top 10 issues is given in the chart in Figure 3.02(b). Full priorities can be found in the source document.

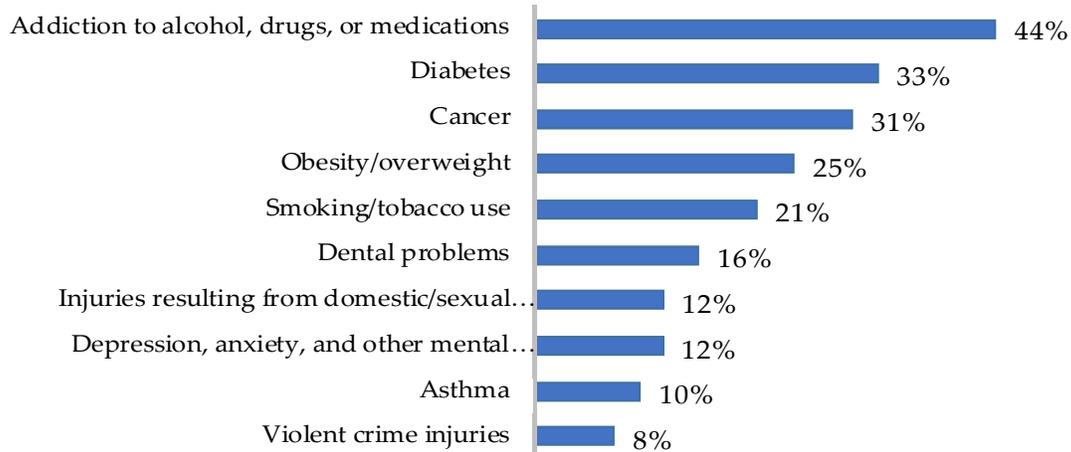


**Figure 3.02(b) Top 10 community issues affecting quality of life reported by Durham County Latino Residents, 2013**

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 in Durham County, 2013

By percent of Latino residents reporting

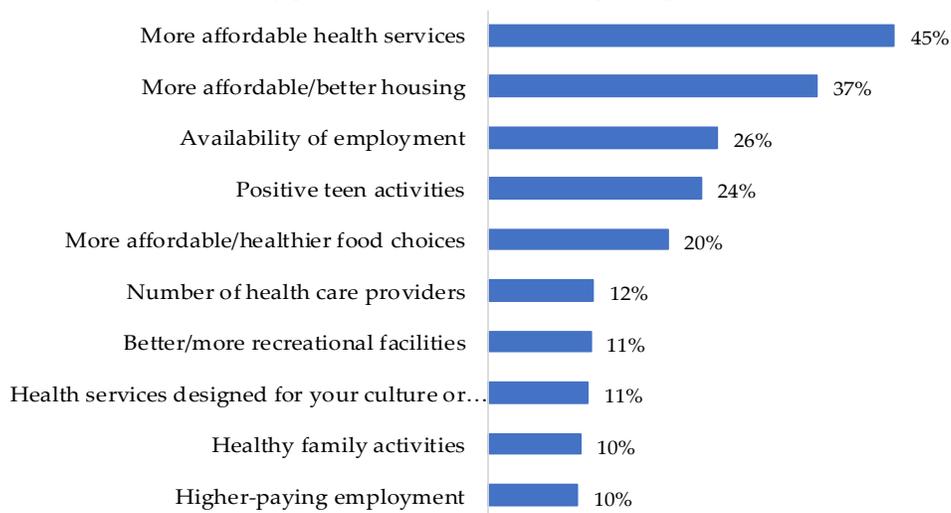


**Figure 3.02(c) Top 10 important health problems reported by Durham County Latino Residents, 2013**

Finally, survey respondents were asked: In your opinion, which one of the following services needs the most improvement in your neighborhood or community? The top 10 are shown here.

### Top 10 Services Needed for Latino Community/Neighborhood Improvement in Durham County, 2013

By percent of Latino residents reporting



**Figure 3.02(d) Top 10 community services needed reported by Durham County Latino Residents, 2013**

## Interpretations: Disparities, Gaps, Emerging Issues

The legal, social and economic complexities for immigrants and their families can vary 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 difficult 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.<sup>36</sup>
- Regardless of immigrant status, uninsured persons must pay for their own healthcare, elevating their likelihood of foregoing care due to an ability to pay.<sup>37</sup>
- Although *any* uninsured patient can seek care at safety-net clinics, these clinics are crowded; available medical appointments may take weeks.
- Safety-net clinics in Durham County do not provide specialty care. Although Project Access of Durham County does link uninsured residents to donated specialty care, this resource is limited, and specialty care can be difficult to access. Similar issues exist for dental care.
- Insured or not, immigrant households still face language barriers, mistrust in government authorities, and other non-financial barriers that impede access to healthcare.<sup>38</sup>
- 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.<sup>39</sup>
- Citizen children of immigrant parents (lawful or unlawful) are less likely to be enrolled in healthcare than their peers with citizen parents.<sup>40</sup>
- 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, affect patient safety and affect the ability to correctly fill-out paper work.<sup>41</sup>

## Recommended Strategies

A useful summary of evidence-based strategies for increasing access to care among minorities can be found in *What Works: Reducing Health Disparities in Wisconsin Communities*, created by the University of Wisconsin Population Health Institute.<sup>42</sup> In this section, key evidence-based strategies for community-building, increasing health and legal literacy, and increasing access to healthcare are listed below. Additionally, examples and resources on the implementation of key-evidenced based strategies are provided.

### Community-building Strategies

- Find appropriate ways to establish networks of trust in the local immigrant community; community engagement is vital to all interventions in improving community health.<sup>43</sup>

- 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<sup>44,45</sup>
- Increase funding to community based organizations that work with immigrant communities in the realm of healthcare.

Table 3.02(e) Community-building Strategies to Consider<sup>46</sup>

Setting	Name	Description	Website
<b>Community</b>	Promoting Health Equity A Resource to Help Communities Address Social Determinants of Health	The Center for Disease Control (CDC) has produced a resource guide on how to help communities address social determinants of health. This guide includes case studies, a guide for implementation in your community and additional suggested readings.	<a href="http://www.cdc.gov/nccdphp/dch/programs/healthycommunitiesprogram/tools/pdf/SDOH-workbook.pdf">http://www.cdc.gov/nccdphp/dch/programs/healthycommunitiesprogram/tools/pdf/SDOH-workbook.pdf</a>
<b>Community Partnerships</b>	Nationalities Service Center	Nationalities Service Center (NSC) is recognized locally and nationally for its leadership in the development of effective internal systems and external partnerships to address the health needs of newly arrived refugees.	<a href="http://www.nscphila.org/social-services/health/">http://www.nscphila.org/social-services/health/</a>
<b>Community Outreach</b>	Strategies for Engaging Immigrant and Refugee Families	Examples: successful outreach strategies with Immigrant communities. Includes “lessons learned” for best practices.	<a href="http://sshs.promoteprevent.org/sites/default/files/root/strategies_for_engaging_immigrant_and_refugee_families.pdf">http://sshs.promoteprevent.org/sites/default/files/root/strategies_for_engaging_immigrant_and_refugee_families.pdf</a>

### Health and legal literacy strategies

- Empower immigrant families by developing appropriate programs that will increase their understanding of credibly sourced legal knowledge in healthcare.
- Improve health literacy to help immigrant families make informed decisions in their healthcare. This entails designing culturally appropriate strategies for accurate, timely messages about access to health care, disease prevention practices, treatment guidelines and other important topics.<sup>47</sup>
- For insured immigrants, develop efficacy strategies to increase health insurance literacy.<sup>48</sup>

Table 3.02(f) Health and legal literacy programs and strategies <sup>49</sup>

Setting	Name	Description	Website
<b>Community</b>	Health literacy and ESL curriculum for adults	An interdisciplinary curriculum that focuses on ESL and health literacy for Spanish-speaking Hispanic adults.	Presentation describing the intervention and providing references for the published evidence available here: <a href="http://www.nmpha.org/Resources/Documents/A%20community%20based%20health%20literacy%20intervention.pdf">http://www.nmpha.org/Resources/Documents/A%20community%20based%20health%20literacy%20intervention.pdf</a>
<b>Community and medical practices</b>	North Carolina Program on Health Literacy	The North Carolina Program on Health Literacy has resources and expertise to help organizations interested in promoting health literacy in practice and research.	<a href="http://nchealthliteracy.org/services.html">http://nchealthliteracy.org/services.html</a>
<b>Medical practices</b>	Health Literacy Universal Precautions Toolkit	The toolkit teaches providers to improve spoken and written communication, to improve patient self-management and empowerment, and to help improve supportive systems.	<a href="http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthliteracytoolkit.pdf">http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthliteracytoolkit.pdf</a>
<b>Community</b>	Tomando Control de Su Salud (Chronic Disease Self-Management Program)	This evidenced-based and culturally adapted program teaches patients how to develop self-management strategies on topics such as healthy eating, managing depression, appropriate use of medications, communicating effectively with family, friends and health professionals, appropriate use of healthcare system, and more. Plans are underway to implement this intervention in Durham County in the near future.	<a href="http://patienteducation.stanford.edu/programs_spanish/tomando.html">http://patienteducation.stanford.edu/programs_spanish/tomando.html</a>

### Strategies to increase access to insurance and care

- Increase healthcare enrollment for eligible adults and children in immigrant households.<sup>50</sup>
- Increase the availability of and use of medical homes among undocumented immigrants.

Table 3.02(g) Access to health insurance and healthcare strategic programs and resources<sup>51</sup>

Setting	Name	Description	Website
<b>Healthcare Outreach &amp; Enrollment</b>	Outreach & Enrollment Strategies for Latinos Under the Affordable Care Act	A presentation on current healthcare levels and enrollment and outreach strategies designed for Latinos. This presentation was created by John Snow Inc. and the National Council of La Raza	<a href="http://www.nclr.org/images/uploads/pages/Outreach%20&amp;%20Enrollment%20Strategies%20for%20Latinos%20under%20the%20ACA%20-%20NCLR%20and%20JSI.pdf">http://www.nclr.org/images/uploads/pages/Outreach%20&amp;%20Enrollment%20Strategies%20for%20Latinos%20under%20the%20ACA%20-%20NCLR%20and%20JSI.pdf</a>
<b>Healthcare Outreach &amp; Enrollment</b>	Connecting Eligible Immigrant Families to Health Coverage and Care: Key Lessons from Outreach and Enrollment Workers	A lessons learned guide created by the Kaiser Family Foundation on conducting targeted healthcare outreach and enrollment for immigrant families.	<a href="http://kaiserfamilyfoundation.files.wordpress.com/2013/01/connecting-eligible-immigrant-families-to-health-coverage-and-care-key-lessons-from-outreach-and-enrollment-workers-full-report-pdf.pdf">http://kaiserfamilyfoundation.files.wordpress.com/2013/01/connecting-eligible-immigrant-families-to-health-coverage-and-care-key-lessons-from-outreach-and-enrollment-workers-full-report-pdf.pdf</a>

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## Section 3.03 *Racial and ethnic disparities*

### Overview

The United States Department of Health and Human Services describes health disparities as “differences in health outcomes that are closely linked with social, economic, and environmental disadvantage.”<sup>1</sup> Differences in health outcomes or disparities include both differences in diseases, conditions and in mortality rates. Health disparities are often influenced by factors including income, education level, living conditions and access to health care. The authors of the Commonwealth Fund’s “Racial and Ethnic Disparities in US Health Care: A Chartbook” report that, “Racial and ethnic minorities experience disparities across a significant number of health status measures and health outcomes.” The authors elaborate stating, “Problems accessing services and lower quality of care for minority populations clearly impact the health of these populations.”<sup>2</sup>

In 2012, racial and ethnic minorities comprised approximately 31% of North Carolina’s population (22% African American and 9% Hispanic) and in Durham County, racial and ethnic minorities comprised approximately 52% of the population (39% African American and 13% Hispanic).<sup>3</sup> Because of the large and growing numbers of racial and ethnic minorities in North Carolina, the state will not be able to make significant improvements in overall population health without addressing racial and ethnic health disparities.

In the 2012 Behavioral Risk Factor Surveillance System survey, more of North Carolina’s minorities reported that their health status was fair or poor than Whites<sup>4</sup> (17% Whites, 22% African Americans, and 36% Hispanics; whites more frequently reported excellent or good health). In 2010, (the last BRFSS survey that included a breakdown in the racial data for counties) Durham County residents demonstrated a similar trend for health status (8.4% of Whites and 11.4% of people of all other races).<sup>5</sup> People of color in North Carolina are also more likely to engage in or be exposed to some of the preventable risk factors that contribute to poor health.<sup>6</sup>

Differing levels of access to health care lead to disparities in health status and health outcomes. However, racial and ethnic disparities often persist even after controlling for factors such as insurance status, income, age and co-morbid conditions. This racial and ethnic disparity translates into lower life expectancies. Between 2010 and 2012, African Americans had an estimated life expectancy of 75.7 years versus 78.7 years for whites.<sup>7</sup>

Disparities in mortality can be seen when looking at three of the leading causes of death (cancer, diseases of the heart, and cerebrovascular disease) and the mortality rates of whites and minorities in North Carolina and Durham County.

### 2008 - 2012 NC Resident Race/Ethnicity-Specific Age Adjusted Death Rates per 100,000 Population

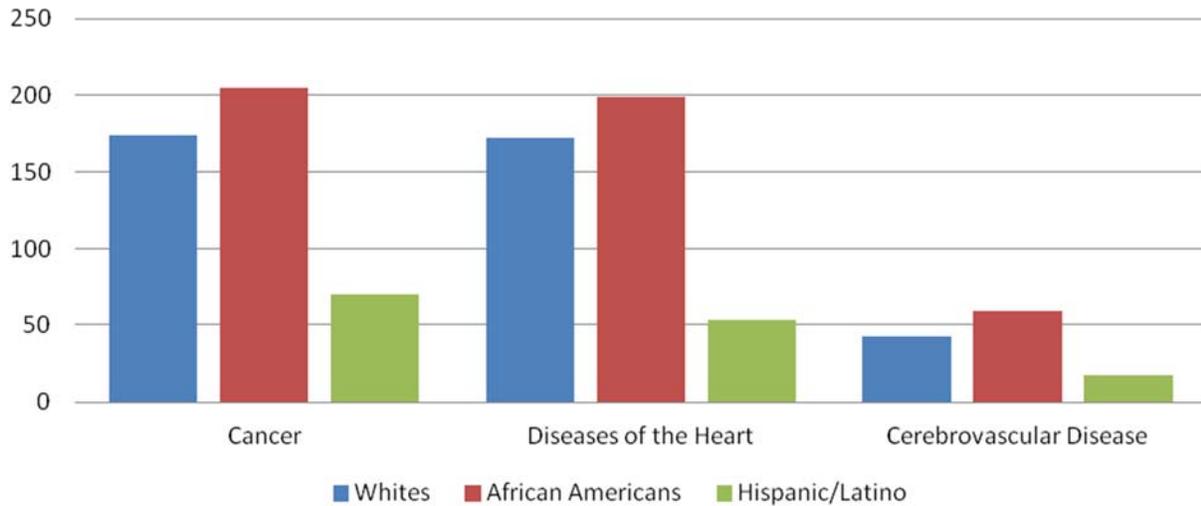


Figure 3.03(a) NC Resident Race/Ethnicity-Specific Age Adjusted Death Rates per 100,000 Population

### 2008-2012 Durham County Race/Ethnicity-Specific Age-Adjusted Death Rates per 100,000 Population

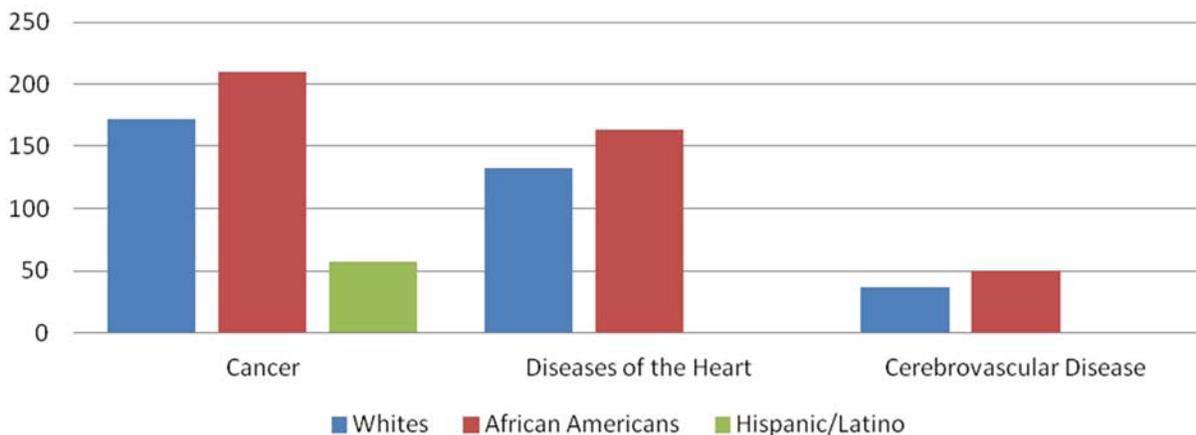


Figure 3.03(b) Durham County Race/Ethnicity-Specific Age Adjusted Death Rates per 100,000 Population

The graphs for both North Carolina and Durham County depict similar trends of disparity between racial/ethnic groups.<sup>8</sup> While it is known that the Hispanic community faces high levels of health disparities, this is not reflected in death rates as the population is younger and death rates are lower overall. In fact, in Durham County since the number of heart and cerebrovascular disease-related deaths for Hispanics during the 2008-2012 time period was fewer than 20, a rate was not calculated.

In looking at the infant mortality rates for Whites, African Americans and Hispanics, it is also apparent that a disparity exists. The rate for African Americans was more than three times higher than that of Whites.

**Table 3.03(a) Infant Mortality Rates per 1000 live Births, North Carolina and Durham County, 2008-2012**

<b>2008 – 2012 Infant Mortality Rates per 1000 live births</b>			
	Whites	African Americans	Hispanic
North Carolina	5.6	14.0	5.3
Durham County	3.9	12.8	4.1

Gaps in health outcomes between minorities and white populations can be partly explained by their unique social experiences. Some individuals from minority populations are distrustful of the American health system because of the history of segregation and discrimination. Kevin Fiscella and David Williams write that as a result of slavery, African Americans experience dramatically worse health across the age spectrum, including higher adult and infant mortality. The gaps in health outcomes are not just results of history but also current social experiences. Fiscella and Williams write,

“Although there are more poor white than black persons in the United States, one reason for the greater adverse impact of poverty on African Americans is that poor blacks are markedly more likely than are their white peers to reside in high-poverty residential areas. Living in a community of low socioeconomic status is associated with higher cardiovascular mortality independent of the socioeconomic characteristics of the individual.”<sup>9</sup>

Strategies that promote community involvement and empowerment such as the use of community health workers or lay health advisors have been shown to improve health-seeking behaviors. In 2009, the North Carolina Institute of Medicine Task Force on Prevention<sup>10</sup> recommended funding evidence-based programs that meet the needs of the diversity of the population being served. Examples of such programs can be found in the disease and condition-specific sections of this document.

**Table 3.03(b) Action Steps to Eliminate Racial and Ethnic Disparities**

<b>Action Steps to Eliminate Racial and Ethnic Disparities</b>	
Clinical	Take steps to ensure your practice is culturally and linguistically accessible.
Community	<p>Involve community leaders in health education initiatives.</p> <p>Fund evidence-based programs that help meet the health needs of diverse populations in the community.</p>
Public Policies	Fund evidence-based programs that help meet the health needs of diverse populations across the state.

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## **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 299-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.

Durham is a county of neighborhoods. In 2006, the Durham Results-Based Accountability workgroup on neighborhoods counted 167 organized, active neighborhood associations. 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 \$1.5 billion annually.

In addition to Duke University and North Carolina Central University (NCCU), Durham is home to the North Carolina School of Science & Math, Durham Technical Community College, many private schools, charter schools and Durham Public Schools, the eighth largest school district in the state with 33,086 students and 4,600 employees.<sup>1</sup>

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 140 major research companies employing 39,000 staff. 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.

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.<sup>2</sup>

### **History of Durham<sup>3</sup>**

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, nearly 140 RTP located major research and development companies including Bayer, GlaxoSmithKline, IBM, Underwriters Laboratories and agencies such as the EPA employ more than 45,000.

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## Section 3.05 *Land use*

### Overview

The ways in which land is used in communities can positively or negatively impact the health of that community and potentially neighboring areas. Land use and the built environment are interrelated as they are able to shape social interactions, impact access to resources such as health care and healthy food and affect quality of life. In urban areas, research has repeatedly shown that land use is able to directly affect the physical, mental and emotional health of communities.<sup>1, 2</sup>

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective related to Land Use.

### Secondary Data

In 2005, Durham County had a land area of 297.5 square miles or 191,300 acres, of which 88% was classified as developed.<sup>3</sup> The county's total land area is classified as roughly 7% urban, 55% suburban and 37% rural.<sup>4</sup> Since 2005, the City of Durham has increased by 6,267 acres. These shifts in land area drive in part, the changes in the proportion of developed area for the various land use classifications in Table 3.05(a) below.

Currently, agricultural land occupies roughly 21% of Durham County's developed area and residential land occupies approximately 27%. Most of this residential use is very low density or low-density housing. Commercial uses of land only make up about 2% of the developed land. Agricultural and forested acreage have declined in recent decades due to urbanization.<sup>5</sup> Approximately 26,000 acres (14% of total land area) are now managed by farmers and another 86,000 acres (44% of total land area) are forested.<sup>6</sup>

Table 3.05(a) Present Land Use

Land Use	Present Land Use					
	City (Acres)	Proportion of Developed	Percent Change from 2005	Durham County (Acres)	Proportion of Developed	Percent Change from 2005
Agriculture	4,243	6%	-1%	39,767	21 %	-5%
Residential	22,930	33%	-5%	51,342	27%	-3%
Very Low Density	6,846	10%	-3%	30,423	16%	-1%
Low Density	11,273	16%	-3%	16,003	8%	-2%
Medium Density	4,005	6%	-1%	4,090	2%	0%
High Density	806	1%	-4%	826	0%	-2%

Commercial	2,880	4%	-1%	4,201	2%	0%
Office/Institutional	1,080	2%	0%	1,454	1%	0%
Public/ Recreation and Open Space	16,573	24%	-1%	45,806	24%	0%
Industrial and Utility	3,108	5%	-1%	13,129	7%	-1%
Rights of Way	10,010	15%	-1%	15,524	8%	-1%
Total Developed	50,814	74%	-25%	155,699	82%	-18%
Vacant	7,983	12%	--	19,392	10%	--
Total	68,807	--	+6,267 acres	190,615	--	-1,163 acres
<p>Note: Source is Durham County Tax Assessor's records, July 2011. For residential land uses, very low density means, less than 1.0 dwelling unit per acre, low density means from 1 to 4 dwelling units per acre, medium density means from 4 to 8 dwelling units per acre and high density means greater than 8 dwelling units per acre. Does not include Town of Chapel Hill land in Durham County.</p>						

Population growth and economic shifts in Durham have resulted in increased land demand, which varies by land use type. Table 3.05(a) shows the present land use. The projected demand in 2035, compared to what will be accommodated by the Future Land Use Map (Figure 3.05(a)), which has been adopted as a part of the 2012 Durham Comprehensive Plan and is illustrated on the next page.

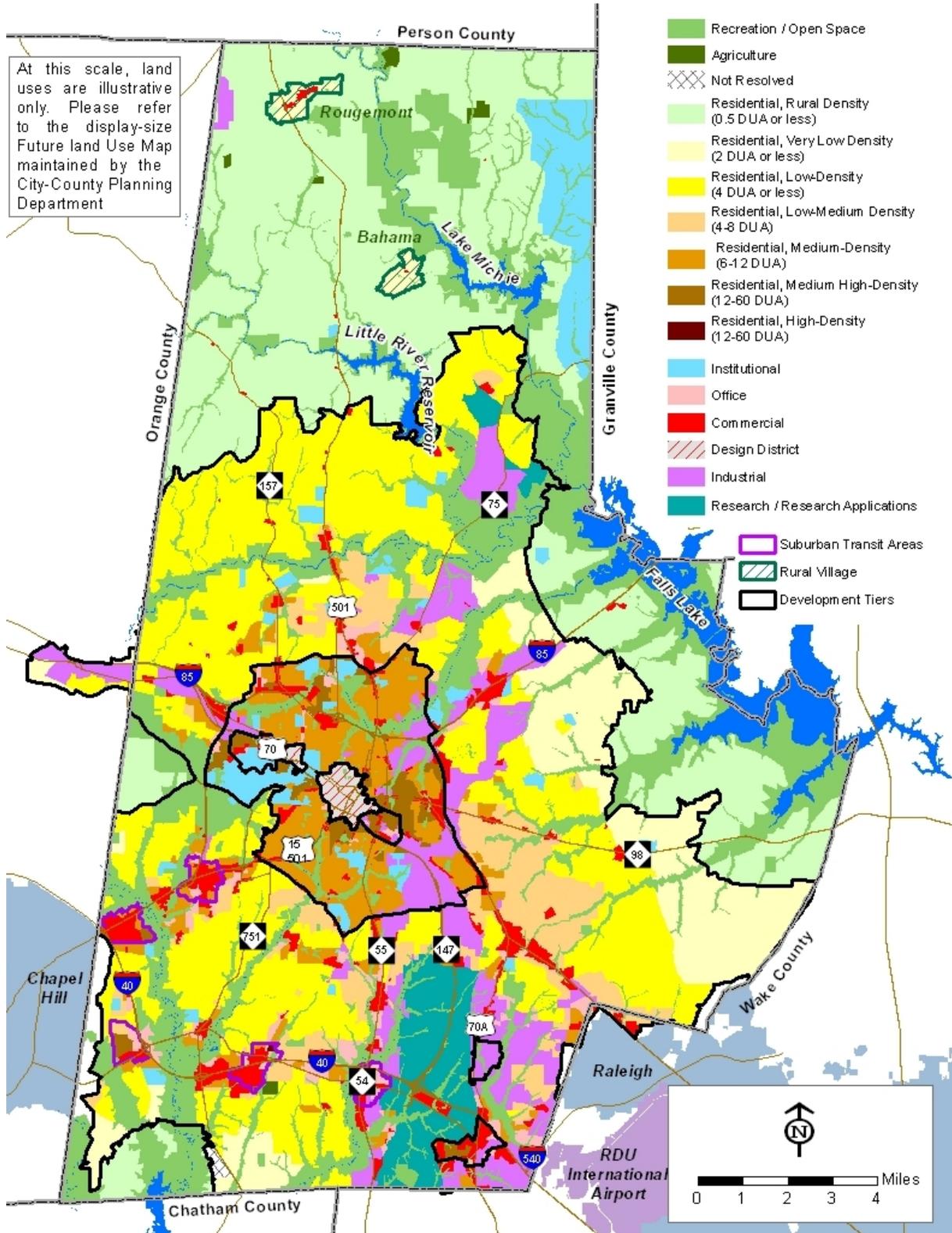


Figure 3.05(a): Future Land Use Map

Table 3.05(b) Land Demand and the Future Land Use Map

Sector	Projected Demand, 2035	Accommodated by the Future Land Use Map
Residential	189,000 Dwelling Units	225,000 Dwelling Units
Institutional/Government	1,710 Acres	3,500 Acres
Office	2,830 Acres	2,900 Acres
Commercial	4,650 Acres	6,700 Acres
Industrial	10,500 Acres	16,200 Acres

Note: Source is Durham City-County Planning Department, July 2011

Table 3.05(b) shows the future land use for both the City and County of Durham. The percent change in zoning by land use classification since 2005 is provided for comparison in Table 3.05 (c) below; however, there has not been much change in the proportion of city or county acreage zoned for each land use type.

Table 3.05(c) Present Zoning

Present Zoning						
Land Use	City (Acres)	City Proportion	Percent Change	Total County (Acres)	County Proportion	Percent Change
Rural	3,403	5%	0%	100,437	54%	0%
Residential, Total	47,916	71%	-1%	60,758	32%	0%
Commercial	3,780	6%	-1%	4,719	3%	0%
Office	2,768	4%	0%	2,978	2%	+1%
Industrial and Research	7,700	12%	0%	17,200	9%	0%
Mixed Use	510	1%	0%	673	0%	0%
Design District	730	1%	+1%	730	0%	0%
Total	66,835	100%		187,495	100%	

Note: Rural includes Rural District, RD, which allows agricultural and residential uses. Does not include Town of Chapel Hill land in Durham County.

## Current Initiatives & Activities

- ***Durham Comprehensive Plan***

The City-County Planning Department maintains the Durham Comprehensive Plan, which is “the city’s statement about how our community should grow and develop.” The last Comprehensive Plan was adopted by the Board of County Commissioners and the City Council in 2012.

Website: [http://www.ci.durham.nc.us/departments/planning/comp\\_plan\\_update.cfm](http://www.ci.durham.nc.us/departments/planning/comp_plan_update.cfm)

Phone (919) 560-4137 ext 28248

Number:

- ***Durham City/County Planning Department***

The Durham City-County Planning Department is the planning agency for both the City and County of Durham. 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.

Website: <http://www.durhamnc.gov/departments/planning/>

Phone Number: (919) 560-4137

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<sup>4</sup> Draw from the City/County Planning Department’s Development Tier GIS Layer

<sup>5</sup> Durham Comprehensive Plan 2005, Appendix A, Part B. “Built Environment”. Durham City/County Planning Department: [http://www.ci.durham.nc.us/departments/planning/comp\\_plan/dcp\\_17.pdf](http://www.ci.durham.nc.us/departments/planning/comp_plan/dcp_17.pdf).

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## **Section 3.06 *Built environments and transportation***

### **Overview**

The built environment can have a profound effect on human health and the health of the natural environment. According to the National Institute of Environmental Health Sciences, “the built environment encompasses all of 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.”<sup>1</sup>

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 (CDC), 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.<sup>2</sup>

There is increasing evidence that our environments present many barriers to physical activity and good nutrition which may contribute to the rise of obesity and other co-morbidities such as cardiovascular disease, diabetes and stroke. For example, physical activity levels are shaped by the availability of transportation options such as sidewalks and bus routes and accessibility of various nearby destinations and multiple recreational opportunities.

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.

### **Healthy NC 2020 Objective**

There is no Healthy NC 2020 Objective related to the built environment.

## Secondary Data

Durham has more than 500 miles of sidewalks.<sup>3</sup> Relatively few sidewalks were built in Durham and many other American cities in the second half of the 20th century. In the 1990s, Durham began to address the tremendous backlog of sidewalks in the city. These efforts ultimately led to the development of the DurhamWalks! Pedestrian Plan, adopted by the Durham City Council in September 2006.

The DurhamWalks! plan includes recommendations on the highest priority locations for new sidewalks in the city, identifies where new curb ramps and sidewalk repairs are needed and recommends new pedestrian-related programs and policies. The plan is comprehensive in scope, and is therefore more than just a sidewalk construction plan.

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.) Until recently, counties in North Carolina were prevented from spending county funds on transportation infrastructure and the N.C. Department of Transportation is still not able to support the maintenance of sidewalks. Therefore, the lack of sidewalks and often the lack of even a grassy shoulder on rural roads mean that residents in those areas have nowhere to walk.

There were no bike lanes in Durham in 2000. Since that year, about 33 miles of bike lanes have been created. Many of the bike lanes were recommended in the Durham Comprehensive Bicycle Transportation Plan adopted by the City Council and County Commissioners in 2006. 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.

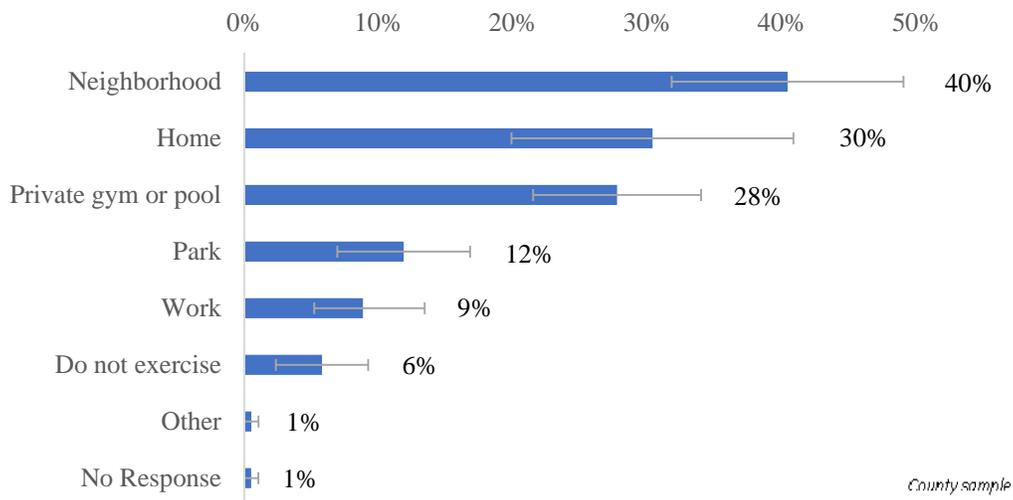
Durham has approximately 29 miles of paved trails and greenways with about 189 miles of planned trails and greenways.<sup>4</sup> The American Tobacco Trail was completed in 2014 providing a 23 mile regional trail in Durham, Chatham and Wake counties. Based on Durham's estimated 2013 population, Durham City (245,475) and County (288,133),<sup>5</sup> additional trails and sidewalks are needed throughout the community to better serve our population.

Durham has also recently completed a Downtown Open Space Plan and is embarking on another Urban Open Space Plan. Both of these open space plans will ensure protection of high quality open spaces and the creation of new spaces that will be centrally located within the built environment. Safe sidewalks, trails and greenways will make accessible connections to these enhanced spaces and provide ample opportunity for neighborhood use and the overall health of the City and County. Overall tree canopy for the City and County is also being examined as part of this process.

## Primary Data

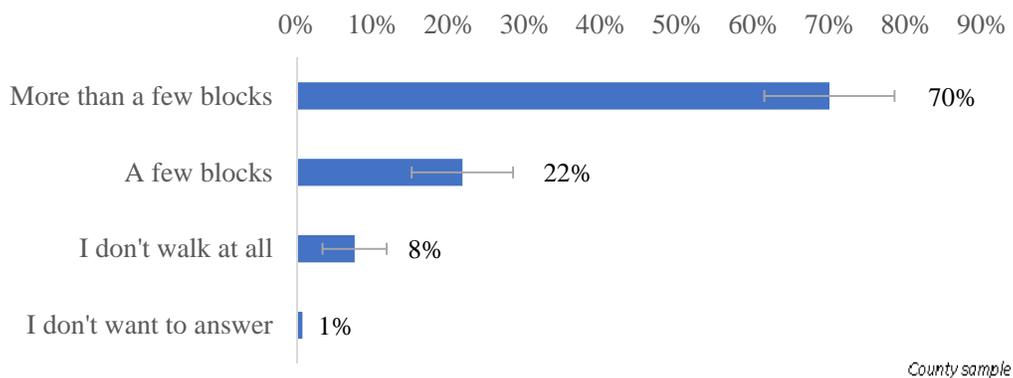
Data collected from the 2012 American Community Survey (U.S. Census) show the percent of commuters who walk or bicycle to work varies widely from city to city. In Boulder, Colorado 9.8% walk to work and 10.5% bike to work; in Portland, Oregon it is 5.7% walk and 6.2% bike; and in San Francisco it is 9.6% walk and 3.6% bike. Nationally, 2.8% of the population walks to

work and 0.6% bicycles to work. By comparison, in the City of Durham, 3.3% walk to work and 1% bike to work. In Durham County as a whole, 2.9% walk to work and 0.9% bike to work.<sup>6</sup> The 2013 Durham County Community Health Opinion Survey asked several questions related to exercise and specifically to walking and bicycling. Figure 3.06(a) shows where the majority of respondents participate in physical activity. The top responses were neighborhood (40%), home (30%), private gym or pool (28%), and park (12%).<sup>7</sup> Six percent of survey respondents indicated that they do not exercise.<sup>8</sup>



**Figure 3.06(a) Where do you go to exercise or engage in physical activity?<sup>9</sup>**

Respondents were asked a series of questions about walking. As Figure 3.06(b) illustrates, 70 percent of residents stated that they walk more than a few blocks on a typical day. When those who walk more than a few blocks were asked how far they walk each day, the responses were one half to one mile (22%), 1 to 3 miles (48%), and over 3 miles (29%).

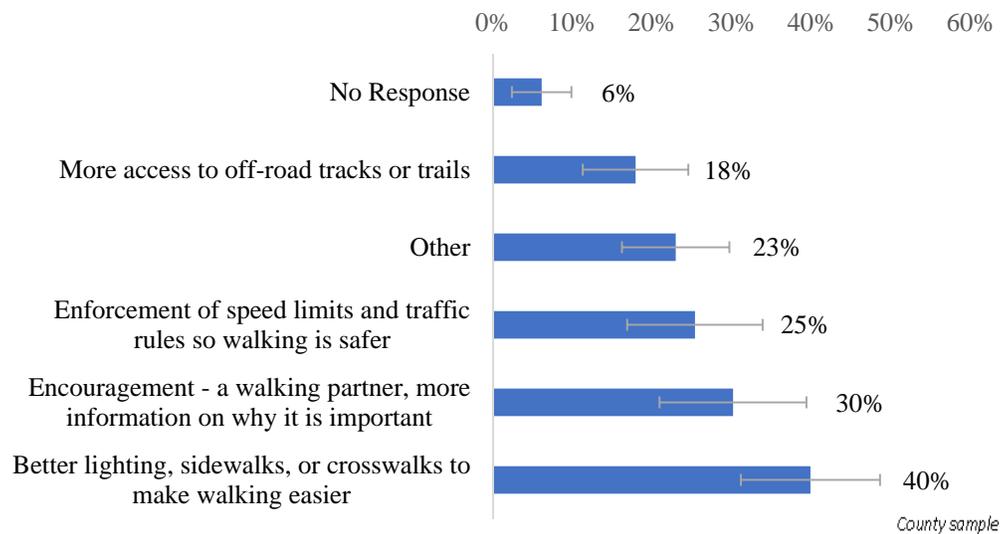


**Figure 3.06(b) On a typical day, how much do you walk?<sup>10</sup>**

When asked “Why do you walk?,” the top five responses were: for my physical health (65%), for my mental or social health (30%), other (22%), to use the car less and keep the air cleaner (13%) and cheaper (10%). When asked “Where do you walk?,” the top five responses were: for fun or

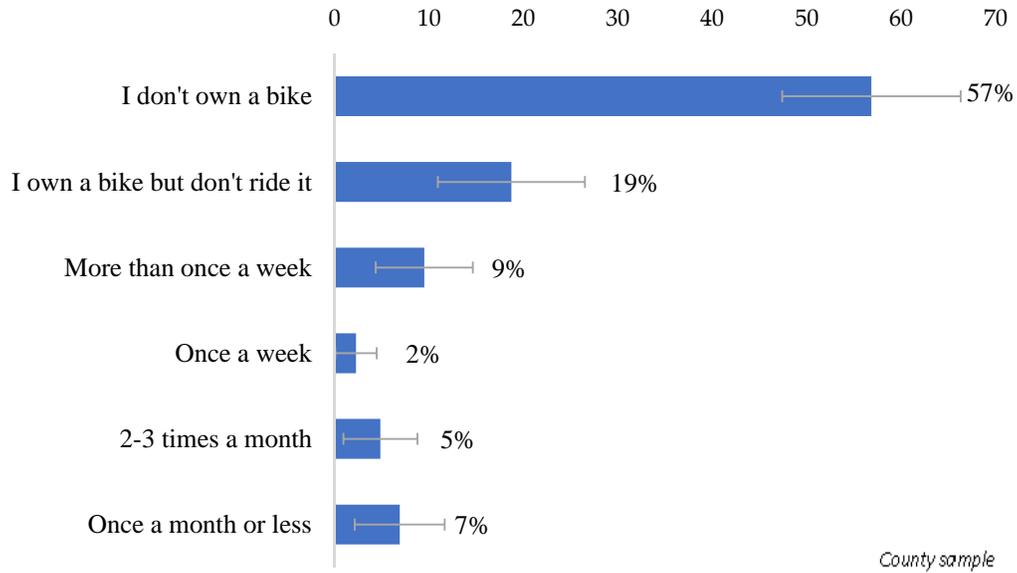
exercise (65%), to places I go every day (29%), to do errands (18%), to social events (12%) and other (10%).

Figure 3.06(c) illustrates responses to the question, “What would make you want to walk more?” Respondents indicated that they would want to walk more if there were enforcement of speed limits and other traffic rules, more encouragement to walk and better conditions for walking including more trails, sidewalks, crosswalks and lighting.



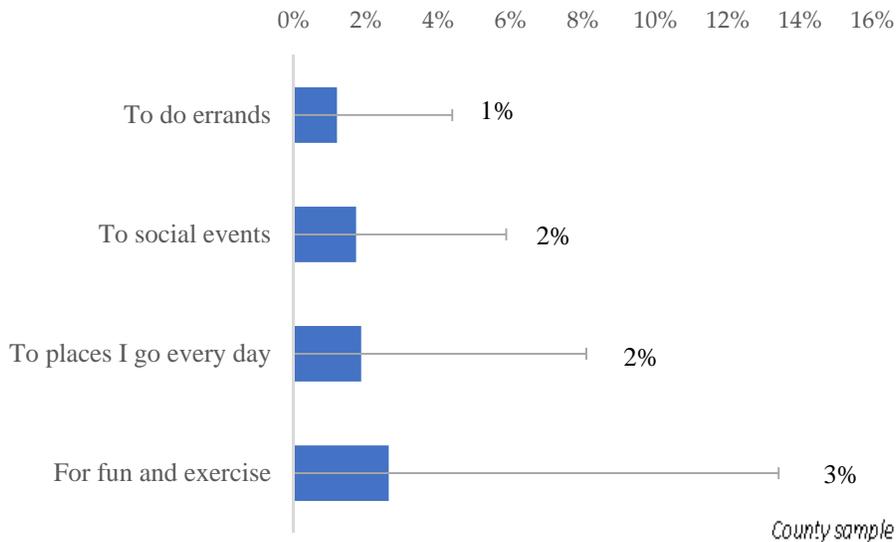
**Figure 3.06(c) Whether you currently walk or not, what would make you want to walk more?**<sup>11</sup>

Respondents were also asked two questions about bicycling. As Figure 3.06(d) illustrates, only about 43 percent of residents own a bicycle. Almost half of those who own a bicycle don't ride it, but a quarter of those who own a bicycle ride it at least once a week.



**Figure 3.06(d) Do you ride a bike (not including an exercise bike)? If so, how often?** <sup>12</sup>

Figure 3.06(e) illustrates responses to the question, “When you do ride your bike, where do you go?” Five percent of the respondents indicated that they made utilitarian trips to do errands, attend social event and go to everyday destinations while 3% use their bike for recreational trips for fun and exercise.



**Figure 3.06(e) When you do ride your bike, where do you go?** <sup>13</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

Durham needs to continue to find safe and inexpensive ways for its citizens to participate in recreation within their neighborhoods. Completion of trails and greenways could provide for that type of recreational need.

According to the original Durham Urban Trails and Greenways plan, greenways and trail routes add up to an estimated 189 miles excluding street and sidewalk routes.<sup>14</sup> This number was deemed suitable to meet Durham's growth into the year 2012 according to the National Parks and Recreation Association (NPRA) standard of twenty-five miles of trail for every 50,000 citizens. Current census data show that the City grew from 181,854 people in 1990 to 187,035 in 2000. This high rate of growth has continued with estimated 2013 City population at 245,475, and estimated 2013 County population at 288,133.<sup>15</sup>

The NPRA has also changed its standards for how many miles of trail a community needs. Rather than trying to set an arbitrary miles-per-citizen figure, it suggests that each community should determine its own level of "sufficiency" for trails. Durham citizens in bond issues and surveys, have repeatedly said that off-road trails are a positive community good and that they support the proposed system.

To complement the construction of new trail routes, the Partnership for a Healthy Durham has developed the Healthy Mile Trail program. Healthy Mile Trails are one-mile marked loops that use existing neighborhood sidewalks. These routes encourage residents to walk in their neighborhoods. In addition neighbors work together to clean up litter and debris and trim back overgrown plants from the trail route. To date, three Healthy Mile Trails have been established, with more on the way.

The State Comprehensive Outdoor Recreation Plan (SCORP) notes that "Walking for pleasure" is consistently ranked as the most popular activity by citizens and as something they would pay to support. Both "future demand" and "public support for funding" received the highest ranking among the 43 recreational activities scored in the survey.<sup>16</sup> The same survey ranks "bicycling for pleasure" as fifth highest of 43 ranked activities in future demand and 11<sup>th</sup> highest in support for public funding. The SCORP also ranks counties by number of trail miles per resident; Durham County (which includes State and City trails) reported to the survey 31.4 miles of trails—5,950 residents per mile—for a rank in the state of 45 out of 100 counties.

### Gaps

Funding for pedestrian facilities has been provided through the 2005 and 2007 City bond referendums. Several years have passed since Durham has passed a bond referendum for trails, greenways and open space. Funding is depleted and the last of the bond monies from the previous referendum have been used to complete the last phases of two major trails. The average cost of construction for paved trails is between \$500,000 and \$1,000,000 per mile. With those figures in mind, greenway construction can be expensive, but in the long run it contributes greatly to the City and County transportation network, economic engine and overall health of the community.

Durham's 2013 resident's satisfaction survey indicated that residents would like to see more trails and greenways as well as maintenance of those facilities.

### Emerging issues

Where possible, grants and public private partnerships have been used to obtain funding, but continued efforts will have to be made in order to best distribute and use the resources. Durham has several adopted open space plans and a farmland protection plan and is in the process of completing a Downtown and an Urban Open Space Plan. These plans will further assist the community in the protection and use of open space.

### Recommended Strategies

- Engage more neighborhoods to educate citizens about the current trails and greenways system, including locations of surrounding parks and connections to other walkable and bikeable facilities.
- Pursue public/private partnerships that would facilitate faster trail construction than Durham has had in the past.
- Work with the community to identify real needs within specific neighborhoods, such as the Northeast Central Durham Livability Initiative.
- Establish direct links and improve access to major transportation hubs and public facilities.
- Improve trail, sidewalk, and bicycle access to mass transit.
- Provide individual neighborhoods with the tools they need to assess their area and help them determine what is best for them to pursue.
- Promote Durham neighborhood adoption of a park, stream, or trail
- Provide adequate funding and personnel to implement the adopted DurhamWalks! Pedestrian Plan and Durham Comprehensive Bicycle Transportation Plan.

### Current Initiatives and Activities

Both the City of Durham Strategic Plan<sup>17</sup> and the Durham County Strategic Plan<sup>18</sup> contains objectives related to health and the built environment. 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 include enhanced bicycle and pedestrian facilities. Compact neighborhoods are expected to have an improved street-level experience and discourage auto-oriented and low intensity uses. The on-going Station Area Strategic Infrastructure (SASI) project being led by the Durham City-County Planning Department seeks to coordinate infrastructure projects and policy recommendations that improve access for all users to transit facilities

In addition to adding new sidewalks, trails and bicycle lanes, Durham has taken other steps to make walking and biking safer and more attractive options including:

- Bike racks and sidewalks are required in most new development projects. The city has also installed dozens of bike racks in parks and on public sidewalks.
- The 2012 Durham Bike and Hike Map shows the location of hiking trails and identifies bicycle routes and lower traffic streets suitable for bicycling.
- Several schools have “Walk to School” days, and the City is implementing projects funded through the federal “Safe Routes to School” program.
- Hundreds of speed humps have been placed on neighborhood streets to slow down vehicles in neighborhoods. Other traffic calming projects, such as traffic calming circles and “Your Speed” signs, have been completed.
- The Durham Bike Co-op has programs to help citizens maintain and repair their bicycles at low cost. Those who do not own a bike can volunteer to earn one through the “earn a bike” program.
- Adding pedestrian crosswalks and signals to intersections throughout the City.
- Walking and biking to work are encouraged through Bike Month activities in May and various programs offered by GoTriangle.
- City staff and members of non-profit organizations and city-county advisory boards hand out materials and answer questions about bicycling and walking in Durham at festivals and other events.
- The Durham Bicycle and Pedestrian Advisory Commission, the Durham Police Department, and SafeKids Durham sponsor bicycle training classes for children and also give away bicycle helmets.
- Mountain bike facilities are provided at Little River Regional Park and Solite Park.
- In 2012, 2013, and 2014 Durham participated in the Watch for Me NC campaign focused on improving pedestrian and bicycle safety through education and enforcement efforts in Durham.

▪ ***Bike Durham***

A coalition of individuals and organizations working for bicycle-friendly change in Durham.

Website: <http://www.bikedurham.org/>

▪ ***Bull City Play Streets***

Certain Durham streets are closed to motorized vehicles and opened to residents to safely engage in outdoor activity. This program hopes to promote Durham as a walkable and bikeable city, as well as increase the health and activity of Durham residents.

Website: <http://durhamnc.gov/ich/cb/nis/>

Phone Number: (919) 560-1647

▪ ***The Durham Bike Co-Op***

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.

Website: <http://www.durhambikecoop.org/>  
Phone Number: (919) 675-2453

▪ ***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, Pedestrian Plan Implementation, Bike Plan Implementation, and Communications/Outreach.

Website: <http://www.bikewalkdurham.org>  
Phone Number: (919) 560-4366 ext. 36421

▪ ***Durham City/County Planning Department***

The is the planning agency for both the City and County of Durham that develops long-range and special area plans that contain policies to direct growth. Various plans address land use, open space, historic resources, the environment, housing, transportation, economic development, and government services and facilities.

Website: <http://www.durhamnc.gov/departments/planning/>  
Phone Number: (919) 560-4137

▪ ***Durham Convention and Visitors Bureau***

A local tourism development authority chartered by state and local government in cooperation with the private sector to attract and serve visitors to the City and County of Durham.

Website: <http://www.durham-nc.com>  
Phone Number: (919) 687-0288

▪ ***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. DOST has developed direct links to neighborhoods within which trails are being established.

Website: [www.durhamost.org](http://www.durhamost.org)  
Phone Number: (919) 560-4137 ext. 28245

▪ ***Go Triangle***

GoTriangle is a partnership of public transportation agencies, and organizations funded to promote commuter benefits in the Triangle. The purpose of the GoTriangle.org website is to help people easily find all the information they need to get out from behind the steering wheel and find other travel options—such as walking and bicycling—that are safe, convenient, inexpensive, and more sustainable.

Website: <http://www.gotriangle.org/bike-walk/>  
Phone Number: (919) 485-7433

▪ ***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.

Website: <http://www.watchformenc.org/>  
Phone Number: (919) 843-7007

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- <sup>9</sup> Ibid.
- <sup>10</sup> Ibid.
- <sup>11</sup> Ibid.
- <sup>12</sup> Ibid.
- <sup>13</sup> Ibid.
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## Section 3.07 *Parks and recreation*

### Overview

Access to recreational opportunities can have 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 was reaccredited in 2013. 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 116 nationally accredited parks and recreation departments; seven of those departments are in North Carolina.<sup>1</sup>

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective for Parks and Recreation.

### Secondary Data

DPR operates seven recreation centers; amenities of these facilities include: seven gymnasiums, five dance studios, two indoor pools, three outdoor pools, two fitness facilities and two indoor walking tracks. 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.<sup>2</sup> DPR reaches many more residents through "drop-in" programming such as Open Gym and Swim programs as well as 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.<sup>3</sup> Additionally, several trails in Durham provide key linkage to 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 children and youth ages 5-17 years old. Fitness and physical activity are integral components of DPR After-School and Summer Camp care programs. These programs provide safe, healthy and affordable programming during the times children and youth are not in school. A sliding fee scale is available for those families who may have difficulty affording After School and Summer Day Camp program fees. In 2013, 76% of the children attending Summer Day Camp received some level of discount.<sup>4</sup>

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

### Primary Data

The North Carolina Outdoor Recreation Plan 2009-2013, also known as the Statewide Comprehensive Outdoor Recreation Plan (SCORP), identifies issues and trends that both the State (North Carolina Department of Environment and Natural Resources Division of Parks and Recreation) and local parks and recreation departments encounter. According to this document, 82% of the state population identifies walking for pleasure as the most popular outdoor recreation activity, as shown in Figure 3.07(a).<sup>5</sup> In order to meet this demand while encouraging and enabling the Durham community to engage in physical activity, sidewalk trails and greenways need to continue to expand, increasing accessibility for Durham residents.

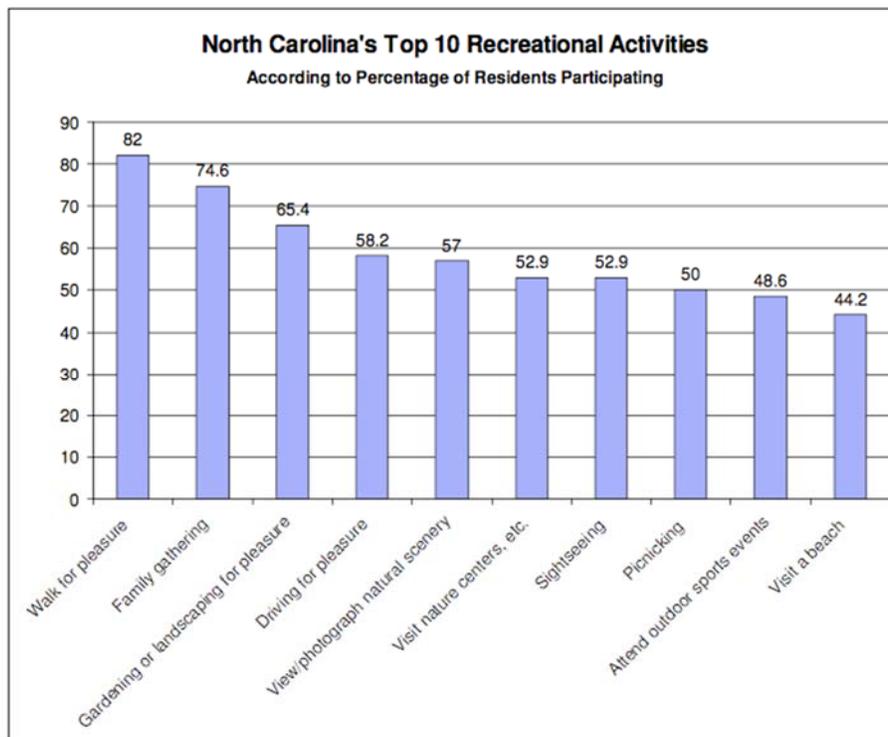
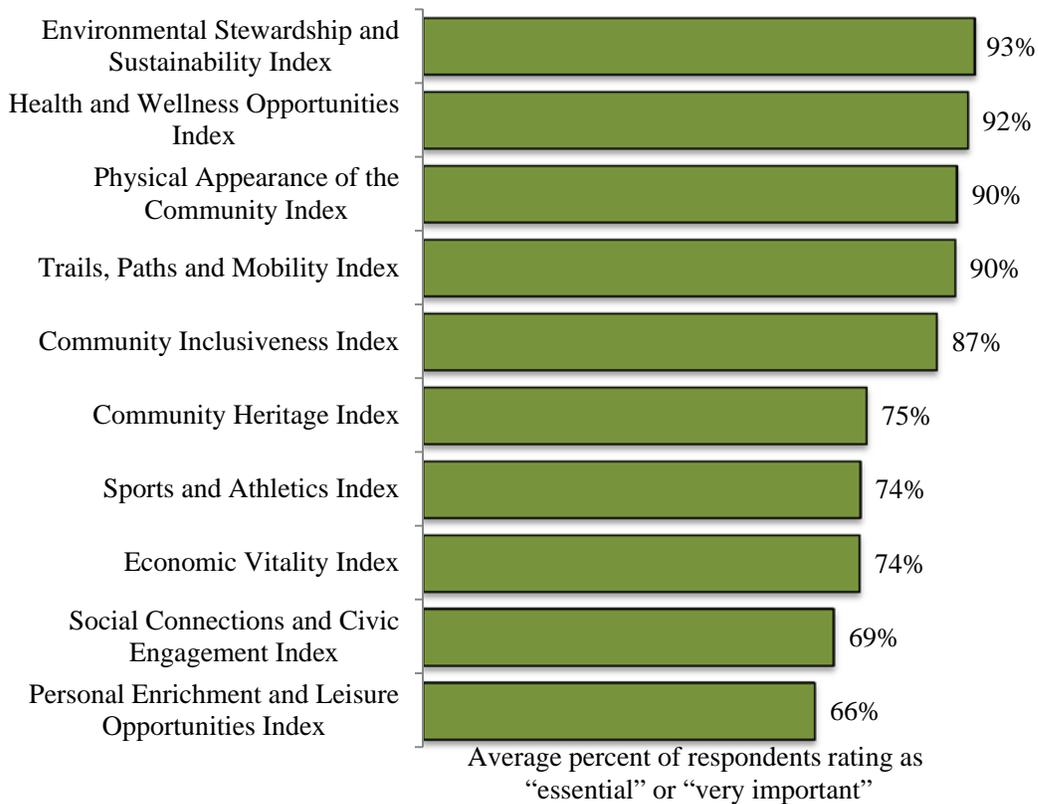


Figure 3.07(a) North Carolina's top 10 recreational activities

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.”<sup>6</sup> Residents were asked to rate the importance of 10 broad overall priorities that they believe is 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.”



**Figure 3.07(b) Community Priorities Indices**

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.<sup>7</sup>

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.<sup>8</sup> The plan addresses parks, centers and trails, programming and events, maintenance, and organizational structure.

Residents indicated in the 2013 Community Health Opinion Survey that they exercise or engage in physical activity most often in their neighborhood.<sup>9</sup> 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 citizens. The data collected in the Master Planning process by DPR confirms this finding. In delving deeper

into this sentiment, the Master Plan Steering Committee learned that residents want more connecting trails between neighborhoods and parks and between parks.<sup>10</sup>

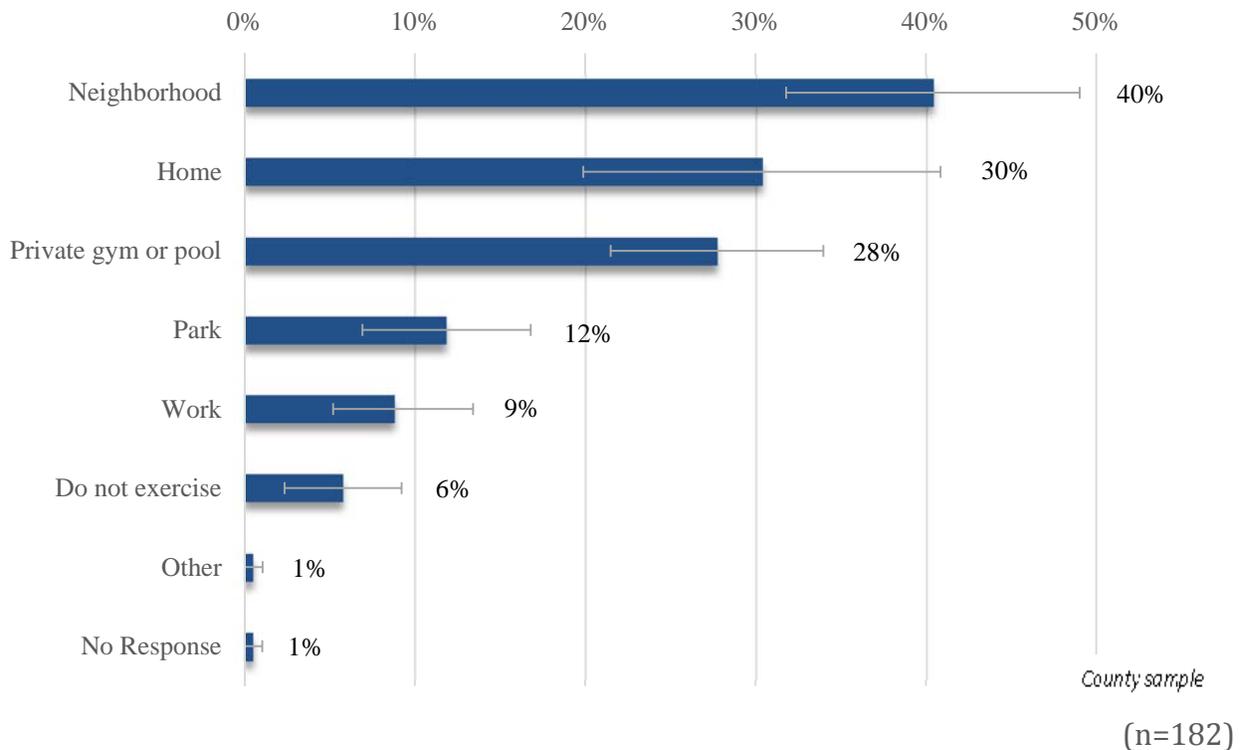


Figure 3.07(c) Where do you exercise or engage in physical activity?<sup>11</sup>

### 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 for this program do not have to pay registration fees to attend DPR programming. All DPR programming offers limited spaces for fee waiver registrants.

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 Durham Area Transit Authority bus routes, getting to these places requires considerable effort and time on the part of the individual. For those who rely on public transit, this creates an obstacle to accessibility.

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

Improving access to opportunities for physical activity is known to increase physical activity and improve physical fitness; increasing access can also reduce disparities in access to spaces for physical activity.<sup>12</sup>

Recommendations for improving access to physical activity:

- 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.
- Lastly, an alternate form of transportation to DPR activities for those utilizing Durham public transportation is recommended. It can be very time consuming for residents utilizing public transit to get to parks and recreational areas and if funding allowed, a designated DPR bus would somewhat remediate this problem.

## Current Initiatives & Activities

### Master Plan Task Teams

In response to Community priorities identified through the Master Planning process, DPR has created four Task Teams to develop program initiatives. These Task Teams are:

- Health and Wellness
- Teen Programming
- Marketing
- Programming in Parks

Each Task Team is creating goals and objectives, benchmarks and measurements for success. Pilot programming is expected to begin in the fall of 2014.

The City of Durham Parks and Recreation and Transportation departments are working with several community partners to establish “Healthy Mile Trails” near recreation facilities in parks and in neighborhoods. These walking circuits will provide citizens with clearly marked sidewalks and trails for fitness walking. All partner agencies will take part in promoting the Healthy Mile Trails through their own communication mechanisms.

- ***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.

Website: <http://www.dprplaymore.org>  
Phone Number: (919) 560-4355

- ***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.

Website: <http://www.ncparks.gov/Visit/main.php>  
Phone Number: (919) 733-4181

- ***City of Durham Parks and Recreation: Special Events***

This section of the DPR website provides information about city-sponsored festivals and events.

Website: <http://durhamnc.gov/ich/op/prd/Pages/Special-Events.aspx>  
Phone Number: (919) 560-4355

- ***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.

Website: <http://www.hr.duke.edu/dukegardens/>  
Phone Number: (919) 684-3698

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## Section 3.08 *Faith and spirituality*

### Overview

The current state of health care and health care access in the United States challenges society to provide services to all who are in need. Many communities struggle to meet the health needs of their residents. Durham is no different, despite the resources available.

Health and healing have been important components of the world's religions. These components stress attention to health, care for the sick and positive behavior choices. The World Health Organization in 1998 defined health as “not merely the absence of disease or infirmity, but as a dynamic state of complete physical, mental, social and spiritual wellbeing.”<sup>1</sup> Faith-based organizations have traditionally focused on wholeness, which includes physical and spiritual well-being. Therefore, faith-based organizations, as focal points for their communities are in a unique position to offer their members an opportunity to improve their health habits.

Faith-based organizations lend themselves to preventive health services because they are social and cultural as well as religious institutions. People gather to mark major life events as well as for more everyday purposes such as meetings, programs and other activities. These organizations have an established social support structure. Through social networks, members and friends can offer each other sustained and mutual support for behavior change. Most of all, their leaders are widely respected.<sup>2</sup> It is important that pastors, imams, rabbis and other religious leaders understand the significant role they play in the health of their members and surrounding community.

Faith-based organizations are good sites for preventive health services. These organizations tend to have existing committees, ministries, groups and volunteers to address social and health issues inside and outside of the organization's doors. As a place where people already congregate and have established communication systems, large groups can be reached with a single message. Most importantly, faith-based communities are a part of every community—not separate from them. These organizations are often considered a place of refuge and may thereby serve as a link to a segment of the population which is often at high risk for many chronic and communicable diseases.

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective related to Faith and Spirituality.

### Secondary Data

Durham County has over 350 faith based organizations. Very little secondary data exists on faith communities. Each point on the map below represents the location of a faith-based organization in Durham County. Figure 3.08(a) shows the number of different denominations and groups.<sup>3</sup>

## Religious Institutions in Durham County

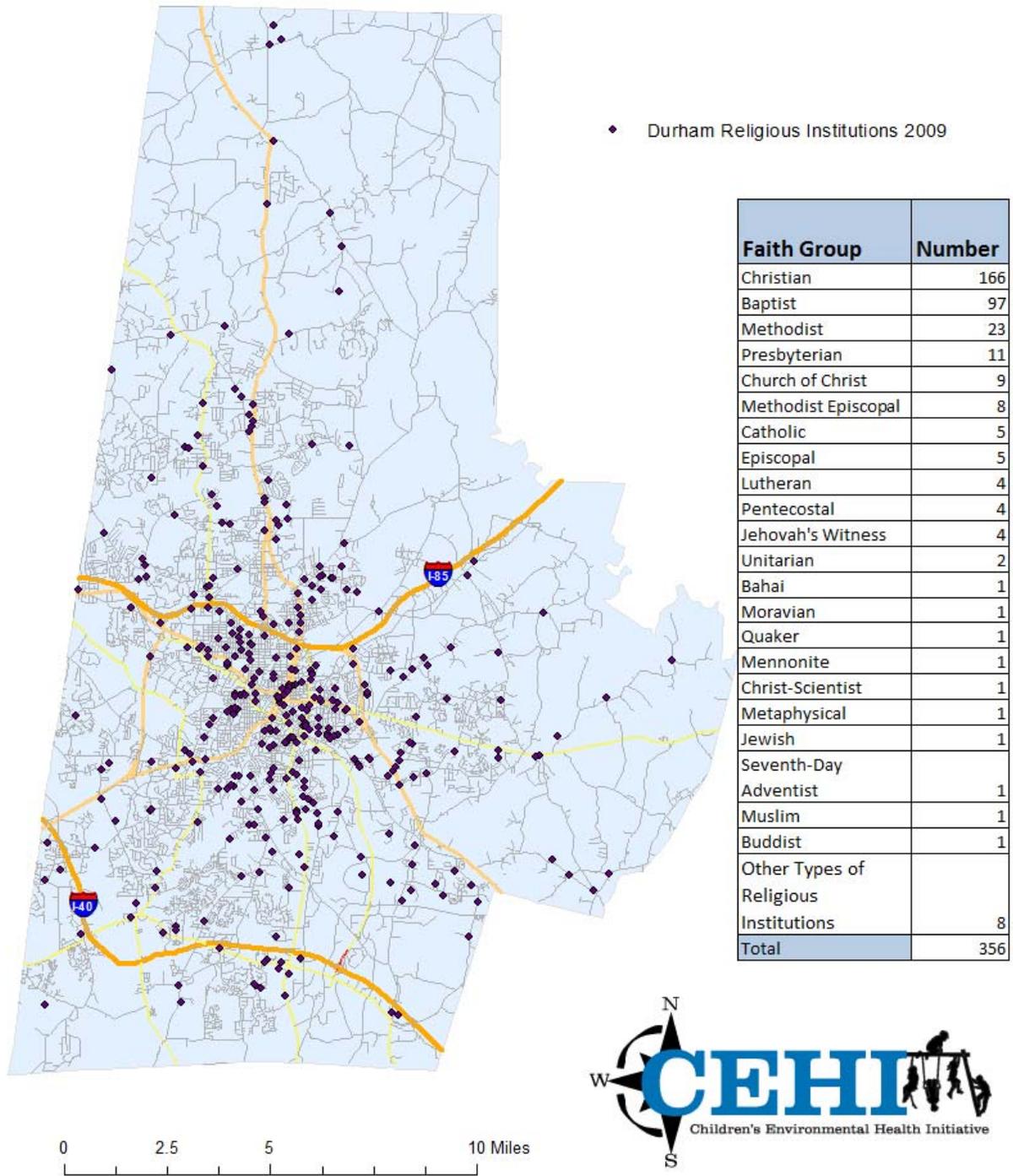


Figure 3.08(a) Religious Institutions in Durham County

## Primary Data

Approximately 70% of Durham respondents from the 2010 Community Health Opinion Survey identified that they have a religious community with which they affiliate (this question was not asked on the 2013 survey).

In the 2013 Community Health Opinion Survey, when asked “If you could not remain in your house, where would you go in a community wide emergency?” “Church” remained in the top five responses (Figure 3.08(b)).<sup>4</sup>

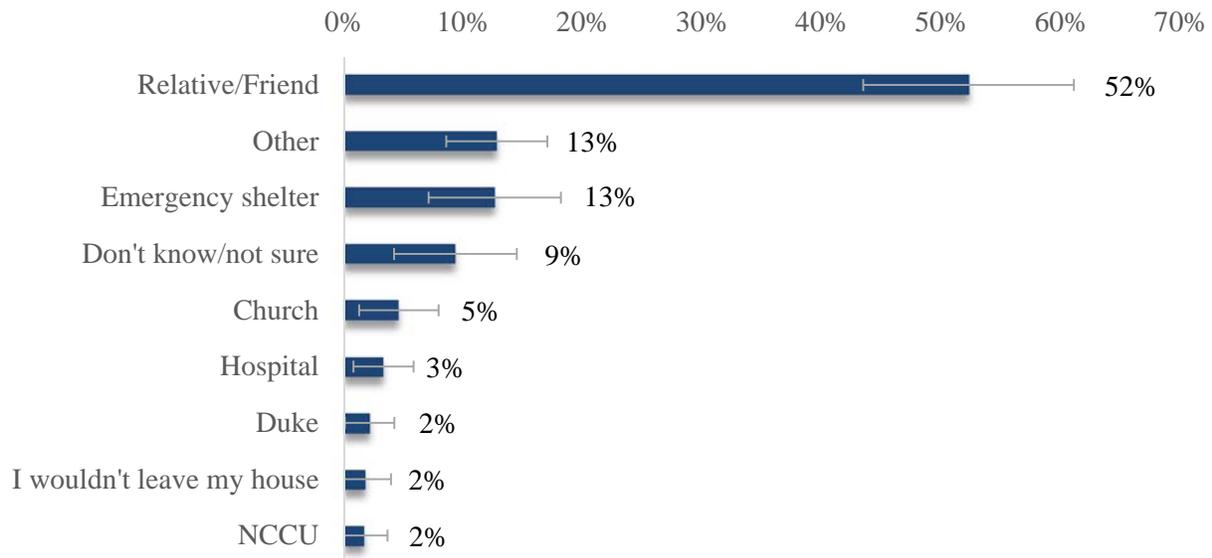


Figure 3.08(b) 2013 Community Health Opinion Survey Results

## Interpretations: Disparities, Gaps, Emerging Issues

Faith based organizations should become allies with public health to work with the hard to reach population in Durham. Faith based organizations can overcome the cultural barriers to health care including differences in beliefs, attitudes, or languages that exist in many communities, especially among minorities.

Faith organizations have been conduits to address communicable and chronic diseases in Durham for many years. This has resulted in numerous collaborative efforts and successful outreach events. Faith-based organizations in Durham have successfully addressed sexually transmitted infections, cancer, diabetes, physical activity, nutrition and many other chronic and communicable disease topics. While many faith-based organizations teach total abstinence until marriage or are uncomfortable discussing HIV or sexual orientation, other faith leaders are realizing that many of their members are impacted by these issues and they are beginning to address them more openly.

Tracking and communicating with faith based organizations can be challenging due to the transience of small churches and shared use of permanent structures, which has been commonly practiced with Hispanic/Latino places of worship. While many faith based organizations operate out of permanent structures, others establish their place of worship through joint use agreements or rental within schools, shopping centers, malls and most recently, movie theatres.

Currently, there is no universal way to communicate with the organizations throughout the county. Moreover, smaller faith-based organizations rapidly come into and out of existence making it difficult to maintain an active, comprehensive database. However, coordinating bodies such as the Ministerial Alliances of the community, moderators of the Baptists, the Presiding Prelates of the Episcopal, the Bishops of the Methodist and Catholics and the Elders of the Apostolic and the Overseers of the Pentecostals can serve as links to multiple churches.

### Recommended Strategies

Although many health initiatives have been implemented through collaborations with faith-based organizations, little is known about best practices for developing such programs. Durham is fortunate to be located near several universities that have initiated interventions with such organizations. Local government agencies, such as the Durham County Department of Public Health and the North Carolina Cooperative Extension Service work with faith-based organizations in both small and large capacities. Several other groups in Durham that contribute towards health and safety efforts are included under Current Initiatives and Activities.

Most community approaches and evidence-based strategies can easily be modified for use with faith-based organizations. Programs created specifically for faith settings are listed below.

Setting	Name	Description	Website
Community	Eat Smart Move More	Information on faith wellness programs and bulletin inserts	<a href="http://www.eatsmartmoveorenc.com/Faith.html">http://www.eatsmartmoveorenc.com/Faith.html</a>
Hospital and Congregations	Congregational Health Network	A hospital signs covenants with community congregations to support transitioning from hospital to home in congregants. The hospital employs “navigators” to support the link between the hospital, congregation, and congregant	<a href="http://www.innovations.ahrq.gov/content.aspx?id=3354">http://www.innovations.ahrq.gov/content.aspx?id=3354</a>
Community	Partners in Health & Wholeness	An initiative of the North Carolina Council of Churches is designed to bridge issues of faith and health together. The initiative seeks to provide people of faith with the tools necessary to lead healthier, more fulfilling lives. By improving the health and well-being of people of	<a href="http://www.healthandwholeness.org/">http://www.healthandwholeness.org/</a>

		faith, we hope to impact the larger community and ultimately reduce the health care burden on our state.	
Community	Body & Soul	Body and Soul is a faith-based program that encourages African-American congregants to improve their health by eating a diet rich in fruits and vegetables.	<a href="http://rtips.cancer.gov/rtips/viewProduct.do?productId=257631&amp;viewMode=product">http://rtips.cancer.gov/rtips/viewProduct.do?productId=257631&amp;viewMode=product</a>

## Current Initiatives & Activities

There are also several organizations or groups in Durham that work specifically with such organizations on health issues.

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

Established to encourage, support, develop and connect health ministries in churches located in Durham NC regardless of denomination or affiliations. It is intended for any person involved in practices that integrate faith and health or those faith-based organizations who desire to initiate or sustain a health ministry. Representatives receive skills-building trainings that may include grant-writing, conducting exercise and healthy eating activities in their organization. The Network is sponsored by the Durham County Department of Public Health and meets quarterly.

Website: <http://www.durhamhealthministry.org>  
 Facebook: [https://www.facebook.com/DChealthministry?ref=br\\_tf](https://www.facebook.com/DChealthministry?ref=br_tf)

Phone Number: (919) 560-7771

- ***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.

Website: <http://www.chealthc.org/>  
 Phone Number: (919) 470-8680

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

DCIA is an interfaith, inter-racial organization of 62 congregations. Every member congregation has three representatives, including clergy, who serve as their liaison to the organization.

Website: <http://www.dcia.org/>  
 Phone Number: (919) 688-2036

- ***Faithful Families Eating Smart & Moving More***

Faithful Families is a program that provides guidance and helps faith based organizations 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, cooking demonstrations and initiate policy/environmental change initiatives.

Website: <http://www.eatsmartmovemorenc.com/FaithfulFamilies/FaithfulFamilies.html>  
Phone Number: (919) 560-7771 or (919) 560-0501

▪ ***Interdenominational Ministerial Alliance of Durham and Vicinity***

The Interdenominational Ministerial Alliance of Durham and Vicinity (IMA) is a group of concerned clergy from Christian denominations committed to serving God and the local communities represented by its membership. The IMA of Durham meets every Monday from September to May at noon in the education annex of the Mount Vernon Baptist Church.

Website: <http://www.durham-ima.org/>

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

Durham CAN is a multi-racial, multi-faith, strictly non-partisan, countywide citizens' organization. CAN is dedicated to 1) building relationships across race, social and religious lines, 2) identifying common concerns, 3) developing the skills of leaders inside member institutions and 4) acting together for the common good. CAN leaders translate deeply felt concerns into real innovative solutions that benefit the whole community.

Website: <http://www.durhamcan.org>  
Phone Number: (919) 403-7082

## References

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<sup>1</sup>World Health Organization. Preamble to the Constitution as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States. Official Records of the World Health Organization, no. 2, p. 100.

<sup>2</sup> North Carolina Division of Public Health. *African American Guide for Churches Eating Smart and Moving More: A Planning and Resource Guide*.

[http://www.eatsmartmovemorenc.com/AfricanAmericanChurches/Texts/ESMM\\_AACguide.pdf](http://www.eatsmartmovemorenc.com/AfricanAmericanChurches/Texts/ESMM_AACguide.pdf).

<sup>3</sup> Chart was provided by personal communication, Children's Environmental Health Initiative staff, 2010.

<sup>4</sup> Partnership for a Healthy Durham. 2013 Durham County Community Health Opinion Survey.

[http://www.healthydurham.org/index.php?page=health\\_recent](http://www.healthydurham.org/index.php?page=health_recent). Accessed February 24, 2014.

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## Social, Economic and Environmental Determinants of Health

Poverty, education level and housing are three important social determinants of health. These three factors are strongly correlated with individual health. People with higher incomes, more years of education and a healthy and safe environment to live in have better health outcomes and generally have longer life expectancies. Although these factors affect health independently, they also have interactive effects on each other and thus on health. For example, people in poverty are more likely to engage in risky health behaviors, and they are also less likely to have affordable housing.

This chapter includes:

- ❖ [Poverty, economic security and toxic stress](#)
- ❖ [Housing, homelessness and food insecurity](#)
- ❖ [Education](#)
- ❖ [Access to healthcare, insurance and information](#)
- ❖ [Employment, income and worksite health](#)
- ❖ [Crime and safety](#)
- ❖ [Child care](#)

## Section 4.01 *Poverty, economic security and toxic stress*

### Overview

The term “stress,” as defined by Hans Selye in 1936 is “the non-specific response of the body to any demand for change.”<sup>1</sup> The stress placed upon both individuals and families experiencing either poverty or economic insecurity is profound and often results in prolonged exposure, causing “toxic stress.” These two issues are intertwined and compound one another. Both nationally and locally, there is bleak job growth, high unemployment and deteriorating economic security, which have led to a spike in the prevalence of stress-related issues. The percentage of individuals living in poverty in Durham County and North Carolina has increased by 6% and 7% respectively since 2008.<sup>2</sup> Accompanying this is an increased prevalence of negative health effects and coping mechanisms such as alcohol use.<sup>3</sup>

Prolonged exposure to stress by an individual can have significant negative health consequences. Some of the most critical health issues linked to stress in both the United States and Durham are asthma, depression, heart disease and obesity. This section explores the impact of poverty, toxic stress and economic insecurity, focusing on their relationship to health outcomes and unemployment.

### Healthy NC 2020 Objectives

#### Crosscutting; Social Determinants of Health; Mental Health

Healthy NC 2020 Objective <sup>4</sup>	Current Durham	Current NC	2020 Target
1. Increase average life expectancy (years).	79.4 (2012)	78.1 (2012) <sup>5</sup>	79.5
2. Increase percentage of adults reporting good, very good, or excellent health	86.0% (2012) <sup>6</sup>	80.7% (2012) <sup>7</sup>	90.1%
3. Decrease the percentage of individuals living in poverty.	18.8% (2012) <sup>8</sup>	17.2% (2009-11) <sup>9</sup>	12.5%
4. Decrease the percentage of people spending more than 30% of their income on rental housing.	47.9% (2012) <sup>10</sup>	44.8% (2012) <sup>11</sup>	36.1%
5. Decrease the average number of poor mental health days among adults in the past 30 days	3.5 (2012) <sup>12</sup>	3.9 (2012) <sup>13</sup>	2.8

### Secondary Data

This section will provide the latest and most significant data related to poverty, unemployment, domestic violence and other related health issues (asthma, obesity and heart disease).

## Poverty/Child Poverty

Durham's family poverty rate has increased, although the increase is within the range of the estimate and may not indicate a real difference. In 2010, 12.7%<sup>14</sup> of the county's families were living below the poverty line; by 2012, it grew to 13.8%.<sup>15</sup> The Federal Poverty Guidelines do not adequately reflect everyone who is impacted by poverty. For example, according to the 2014 Federal Poverty Guidelines, a single parent with one child is at 100% of poverty with an annual income of \$15,730.<sup>16</sup> However, it has been shown that a single parent with one child actually needs an annual income of \$57,057 just to make ends meet; this is 362% above the Federal Poverty Guideline.<sup>17</sup>

The American Psychological Association issued survey data that revealed children with single mothers are more than five times as likely to live in poverty as children living with married parents (43.9% vs. 8.5%). Table 4.01(a) illustrates this holds true for children in Durham; the poverty rate for children with single mothers in Durham is 41.5% compared to 8.7% of children with married parents. Additionally, single mother-headed households are more prevalent among African American and Hispanic families contributing to racial and ethnic disparities in poverty.<sup>18</sup> The North Carolina Institute of Medicine has also found that those with fewer years of education, lower incomes, less accumulated wealth, living in poorer neighborhoods or substandard housing conditions have worse health outcomes.<sup>19</sup>

### A Snapshot of Family Poverty in Durham<sup>20</sup>

Families whose income in the past 12 months is below the poverty level  
By Percentage, 2012

<b>All Families</b>	13.8%
With related children under 18 years	22.5%
<b>Married couple families</b>	6.3%
With related children under 18 years	11.7%
<b>Families with female householder, no husband present</b>	33.6%
With related children under 18 years	40.6%

Table 4.01(a) Family Poverty in Durham County

The North Carolina Justice Center's Living Income Standard Budget (LIS) has released detailed data on how much it costs a family to make ends meet in each of North Carolina's 100 counties. Data released in 2010 not only shows Durham County as the fourth most expensive North Carolina county to live in, but also illustrates that it continues to get more expensive. The scenario for a single parent with one child is arguably the family type most at risk for experiencing negative health consequences. In this scenario, the parent would need to make an annual income of \$39,417 to make ends meet, which is 262% above the Federal Poverty Guideline.<sup>21</sup> LIS data for 2010 and 2014 is depicted in Table 4.01(b) below.

**Living Income Standard (LIS) Budget For Durham County**

Two Person Family: One Adult, One Child, 2010 vs. 2014

	2010	2014
<b>Monthly Income</b>	\$3,963	\$4,755
<b>Annual Income</b>	\$39,417 <sup>22</sup>	\$57,057 <sup>23</sup>
<b>LIS as % of Federal Poverty Level</b>	262% <sup>24</sup>	No Data

Table 4.01(b) Living Income Standard Budget for Durham County

**Unemployment**

Despite presently maintaining a lower unemployment rate than the state of North Carolina, Durham has still experienced a significant increase over the past six years. As seen in the table below,<sup>25</sup> the unemployment rate was highest in August 2009, but has slowly decreased. By August 2013, the rate was at 7.5%.<sup>26</sup>

**Durham County Unemployment Rate**

August 2008 vs. August 2013

Source: U.S. Bureau of Labor Statistics

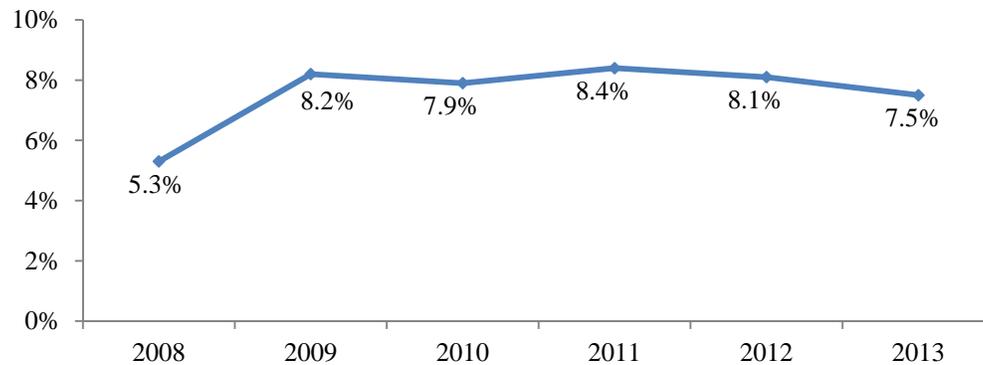


Figure 4.01(a) Durham County Unemployment Rate

**Toxic Stress and Health Consequences**

The stress placed upon families in poverty is severe. Individuals experiencing poverty, especially children, are at greater risk for experiencing abuse and neglect, behavioral and socio-emotional problems, physical health problems and developmental delays.<sup>27</sup> Further, these effects are compounded by the barriers children and families encounter when trying to access physical and mental health care.<sup>28</sup>

As stated in the Journal of the American Academy of Pediatrics' article on the lifelong effects of toxic stress in early childhood, "the potential consequences of toxic stress in early childhood for

the [development] of adult disease are considerable. At the behavioral level, there is extensive evidence of a strong link between early adversity and a wide range of health-threatening behaviors. At the biological level, there is a growing documentation of the extent to which both the cumulative burden of stress over time and the timing of specific environmental insults during sensitive developmental periods can create structural and functional disruptions that lead to a wide range of physical and mental illnesses later in adult life.”<sup>29</sup>

### **Domestic Violence (Go to Section 9.02 for more information on intimate partner violence)**

According to the National Network to End Domestic Violence, domestic violence is more than three times more likely to occur in a household when couples are experiencing financial strain. Furthermore, male partners who experience two or more phases of unemployment during a five year period are three times as likely to exhibit intimate violence when compared to men who keep a stable job. Seventy-three percent of shelters report the rise in abuse is due to financial strain; job loss and strain (49% and 61%, respectively) were also reported as causes for the rise in shelter use.<sup>30</sup>

### **Asthma (Go to Section 6.06 for more information on asthma)**

It is well documented that stress can induce asthma.<sup>31</sup> Nationally, one in 12 people (about 25 million, or 8% of the population) had asthma in 2013 compared with 1 in 14 (about 20 million, or 7%) in 2001.<sup>32</sup> Further, about five million children under the age of 18 have asthma with the greatest rise in asthma rates among black children (almost a 50% increase) from 2001 through 2009.<sup>33</sup> Hospital discharge records for Durham hospitals where the patient was given a primary diagnosis of asthma also indicate rising rates for both adults and children (ages 0-14).<sup>34</sup> In 2007, the rate per 100,000 for adults was 88.7, but jumped to 109.7 by 2009.<sup>35</sup> The rate for children increased much more sharply over the same period. In 2007, the rate per 100,000 was 106.0 and in 2012 it was 268.3.<sup>36</sup> This data is illustrated in Table 4.01(c) below.

**Hospital Discharges with Primary Diagnosis of Asthma**  
Rate Per 100,000 for Durham County Residents, 2006-2012

	2007	2008	2009	2010 <sup>37</sup>	2011 <sup>38</sup>	2012 <sup>39</sup>
All Ages	88.7	102.1	109.7	106.5	111.2	111.2
Ages 0-14	106	111.3	169.9	177.3	268.3	268.3

**Table 4.01(c) Hospital visits for asthma, Durham County, 2007-2012**

### **Obesity (Go to Section 6.04 for more information on obesity)**

Obesity is a chronic problem in the United States. Overweight (BMI of 25-29.9) and obesity (BMI of 30 or more) are associated with multiple health risks, economic costs and diminished quality of life for those affected. Four of the ten leading causes of death in North Carolina are related to obesity: heart disease, type 2 diabetes, stroke, and some kinds of cancer.<sup>40</sup> Obesity also exacerbates problems related to such conditions as arthritis and hypertension.

According to data from 2012, 66% of Durham County adult residents were overweight or obese.<sup>41</sup> With the increase in rates of obesity, there is an increased focus on the causes and effects of weight gain, including the contributions of stress.<sup>42</sup>

### Heart Disease (Go to Section 6.03 for more information on heart disease and stroke)

As quoted in the journal for *Aging, Health and Public Policy*, Andrew Steptoe and Michael Marmot state, “the socioeconomic disparities in health are particularly striking in the case of coronary heart disease, with rates of the disease being substantially higher in lower-status individuals as defined by education, occupational position or income.”<sup>43</sup> In Durham, African Americans and Native Americans have a much higher risk of dying from heart disease. From 2008 to 2012, the heart disease death rate for these groups were 198.4 and 191.5 per 100,000 respectively, placing them at a higher risk than any other race or ethnicity (see Table 4.01(d) below).<sup>44</sup>

Race/Ethnicity	Rate
Total Population	174.4
African American non-Hispanic	198.4
American Indian non-Hispanic	191.5
Other races, non-Hispanic	69.6
Hispanics	53.6
Whites	172.1

Source: U.S. Centers for Disease Control & Prevention

**Table 4.01(d) Heart Disease Death Rates, Age-adjusted death rate per 100,000, Durham County, 2008-2012**

### Depression (Go to Section 6.05 for more information on mental health and substance abuse)

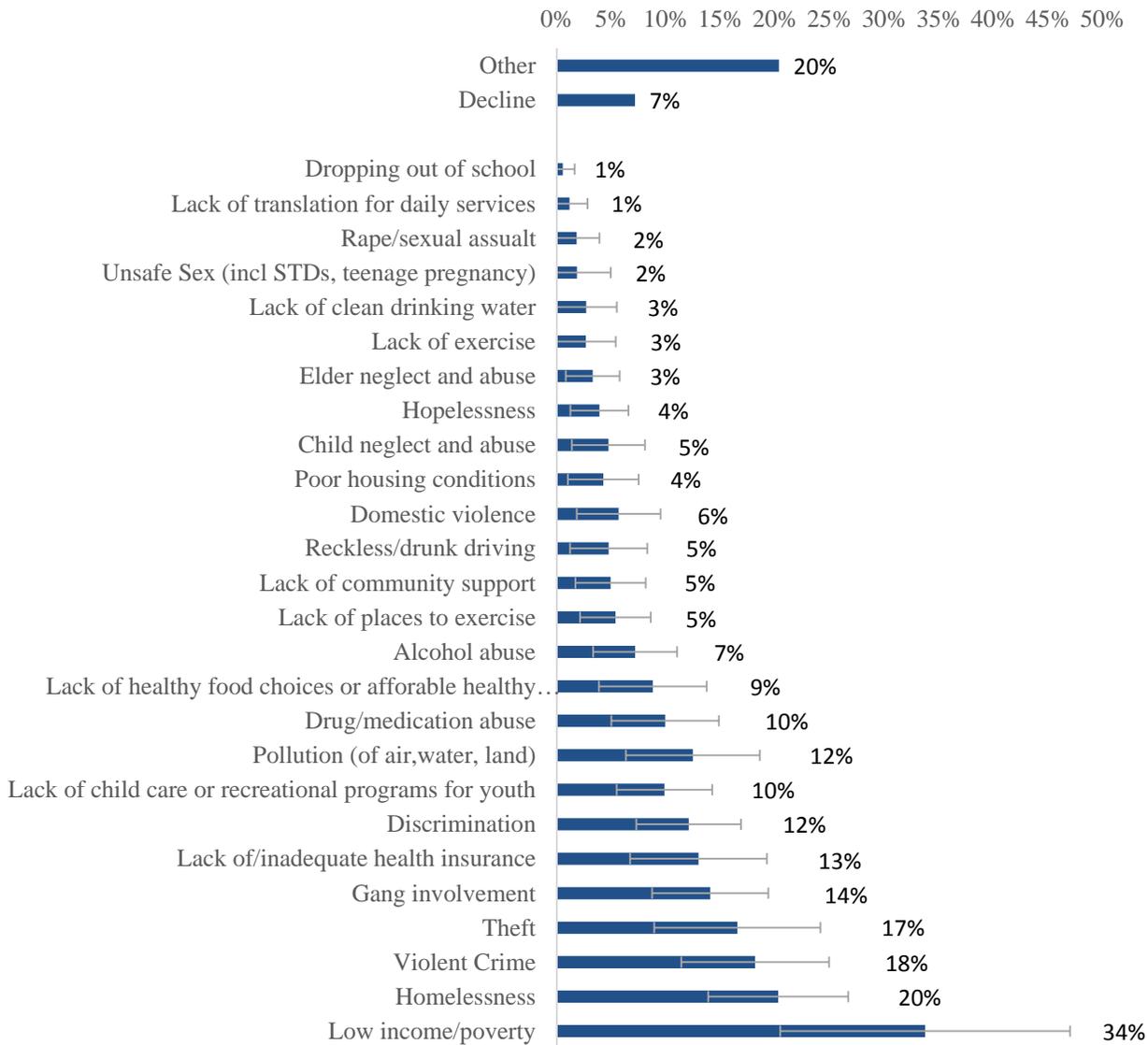
Across the country, the negative impacts of rising unemployment including depression are acute. Nationally, a Gallup-Healthway Well-Being Index Poll conducted from January 2011 to December 2012 found that 16.5% of part-time employed adults were told that they were experiencing depression by either their doctor or nurse compared to only 11% of fully-employed adults. Further, it found that the number of missed work days each year due to poor health was higher in part-time workers than full-time, 13.7 and 8.7, respectively.)<sup>45</sup>

## Primary Data

### 2013 Durham County Community Health Opinion Survey<sup>46</sup>

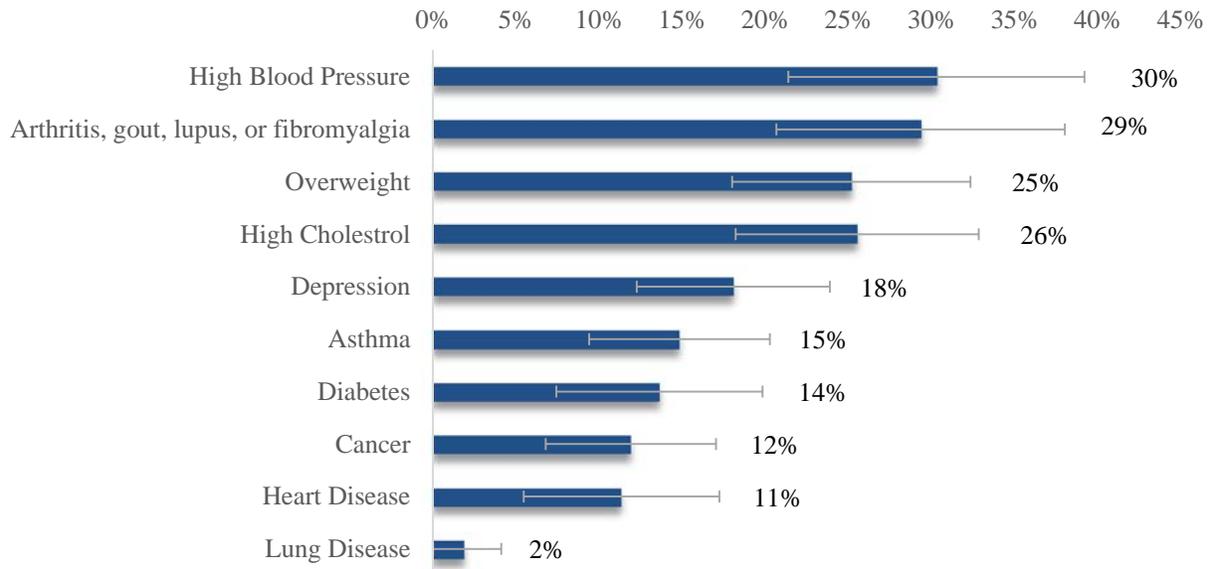
There were several stress-related questions on the 2013 Durham County Community Health Opinion Survey, which was administered to 210 randomly selected households.

Selected and depicted below are two survey questions and responses that are stress-related. For the first survey question, respondents were asked, *Keeping in mind yourself and the people in your neighborhood, pick the community issues that have the greatest effect on quality of life in Durham County. Please choose up to 3.* The results of this question are indicated in the graph below. Many of the most cited answers reflect issues of poverty, economic insecurity and life stressors. For example, respondents selected gang violence, homelessness, unemployment, affordability of health services and lack of quality child care; poverty was the number one issue named as affecting quality of life in Durham County.



**Figure 4.01(b) “Pick the community issues that have the greatest effect on quality of life in Durham County.”**

Another question asked respondents, “*Have you ever been told by a doctor, nurse, or other health professional that you have any of the conditions I am about to read?*” The results of this question are indicated in the graph below; many of these conditions are related to stress and were discussed earlier, including heart disease (high blood pressure/cholesterol), overweight/obesity, depression and asthma.



**Figure 4.01(c) “Have you ever been told by a doctor, nurse, or other health professional that you have any of the conditions I am about to read?”**

## Interpretations: Disparities, Gaps, Emerging Issues

### Employment Does Not Mean Economic Security

As data from the North Carolina Justice Center’s Living Income Standard suggests, it is getting increasingly more expensive to live in Durham. The ability to make ends meet is not limited to employment status or to those who are defined by Federal Government Guidelines as living in poverty. Health care is the second most expensive cost for a family in Durham behind housing.<sup>47</sup> For many Durham families, economic insecurity forces families to choose between purchasing health care and other basic necessities and the constant prioritization and struggle to make ends meet can produce chronic stress.<sup>48</sup> Further compounding this problem is that differences in income generally make the greatest differences for health at the lower end of the income scale.<sup>49</sup>

### Racial Disparities in Unemployment

As suggested by data from the Economic Policy Institute, unemployment disproportionately affects people and communities of color. The unemployment rate of African Americans in North Carolina is 17.3%, more than two and one half times that of whites (6.7%) and has been close to

or more than twice the rate of white unemployment for much of the last three years. Of the 24 states with large enough African American populations to track with quarterly Current Population Survey unemployment data, North Carolina has the fourth-highest African American unemployment rate.<sup>50</sup>

### **Barriers Preventing Access to Healthcare**

As the costs of health care and unemployment continue to rise, those dealing with economic insecurity face an even larger barrier when it comes to accessing the medical treatment they need. The North Carolina Institute of Medicine Health Access Study Group found that 18.9% of residents were uninsured between 2010 and 2011 (comparable to the 2012 figure for Durham County, 17%).<sup>51</sup> This is largely due to the recent economic downturn.<sup>52</sup> However, those who remain employed are also at risk for limited health care access, especially Latinos. A recent report by Action for Children North Carolina found that low-income status and other barriers to health care access mean that a great percentage of Latino children lack health insurance coverage, a medical home and a regular dental clinic, and fewer Latina mothers receive adequate prenatal care than in the general population, despite at least one parent working.<sup>53</sup>

## **Recommendations**

### **Increase Collaboration and Coordination among Organizations**

Myriad organizations work across sectors to serve children and families in Durham. Increasing the ability for these organizations to collaborate on development of programs and coordinate their work with families could reduce the stress caused by poverty and economic insecurity. Collaboration would improve the quality and relevancy of programs, and coordination would ensure that families are lost in transition between programs or institutions. Models to examine include the East Durham Children's Initiative, the Durham Touchpoints Collaborative and Southeast-Central McDougald Terrace Choice Neighborhoods Initiative.

### **Strengthen the Safety Net**

In its 2009 report, "Expanding Health Care Access to Health Care in North Carolina," the North Carolina Institute of Medicine Health Access Study Group called for increased funding from the state to help with the influx of patients utilizing free and reduced cost health clinics across the state. Although many different organizations exist that provide everything from general to specialized medical treatment, many do not have the funding or the capacity to keep up with the growing number of uninsured.<sup>54</sup> Even as funding is further cut for a multitude of health programs and lean times continue to prevail for organizations serving those in need, the ability for organizations to share information with one another and the populations they serve can make a difference. Promoting the availability of assistance programs and insurance through the Affordable Care Act and offering guidance on how to navigate the requirements in order to successfully gain the benefits could be a shared goal by Durham's nonprofit community.

## Current Initiatives & Activities

- **Mayor's Poverty Initiative**

Mayor Bill Bell recently unveiled a plan to reduce poverty, neighborhood by neighborhood, beginning in 2014. Northeast Central Durham is the first target neighborhood of the initiative.

- **End Poverty Durham**

A group of churches and nonprofit organizations that meet monthly to discuss ways to address poverty in Durham.

Website: [http://www.endpovertydurham.org/  
mel-williams@nc.rr.com](http://www.endpovertydurham.org/mel-williams@nc.rr.com).

Email:

- **Durham Economic Resource Center**

Provides workforce development skills, job placement, and the elimination of employment barriers for Durham residents through facilitated supportive collaborations.

Website: <http://www.durhameconomicresourcecenter.org/>  
Phone Number: (919) 683-2567

- **REAL Durham**

A national evidence-based best practice for reducing poverty (National Circles Campaign). The initiative is a collaboration of five partner organizations: End Poverty Durham, Durham Congregations in Action, East Durham Children's Initiative, Healthy Families Durham, and Durham Economic Resource Center. It's investment of social capital in the families, to provide pathways to economic self-sufficiency.

Website: <http://www.endpovertydurham.org/3.html>  
Email: [camrynrealdurham@gmail.com](mailto:camrynrealdurham@gmail.com)

- **Durham Connects**

Provides in-home nurse visits to parents of newborns that live in Durham County. These visits increase child well-being by supporting parents through community resources.

Website: <http://www.durhamconnects.org/>  
Phone Number: 919-419-3474, x232 (Spanish line x263)

- **Healthy Families Durham**

Offers intensive home visiting program designed to reduce child abuse, improve parent/child interaction, and increase parenting skills. Healthy Families Durham provides in-home services to clients, who are pregnant, or parenting infants or young children, in an effort to prevent child abuse and neglect in families with multiple stressors. The "Parents as Teachers" curriculum is delivered in the home for up to three years to enhance child development, health, safety, and parent/child relationships.

Website: [http://www.ccfhnc.org/young\\_children.php](http://www.ccfhnc.org/young_children.php)  
Phone Number: (919) 419-3474 x302

▪ ***BECOMING Durham***

Serves 16-21 year olds with mental health conditions who are struggling to make the transition to a productive adulthood and have become disconnected from important community services and supports such as education, families, mentors and employment opportunities. They are establishing community partnerships to empower young adults to take control of their futures.

Website: <http://becomingdurham.org/>  
Phone Number: 919-651-8400

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## **Section 4.02 *Housing, homelessness and food insecurity***

### **Overview**

#### **Housing**

“The generally accepted definition of [housing] affordability is for a household to pay no more than 30 percent of its annual income on housing. Families who pay more than 30 percent of their income for housing are considered cost burdened and may have difficulty affording necessities such as food, clothing, transportation and medical care.”<sup>1</sup>

Affordable housing is a major social and economic issue in Durham County and impacts human health. When low-income households spend a large portion of their income on housing, they have less to spend on food, transportation, health care, and other necessities. Subsequently, limited income families may be forced to live in substandard housing in an unsafe environment. Substandard housing may have negative impacts on a family’s health and overall well-being since it is associated with being overcrowded; older homes in need of multiple repairs to ensure physical safety; homes located in poorer neighborhoods with higher crime rates and limited access to suitable shopping, sufficient employment and satisfactory school districts; and exposure to indoor contaminants, such as mold or lead paint.

#### **Homelessness**

Additionally, people who are burdened by the cost of housing are at increased risk of being evicted for failure to pay the rent or being foreclosed upon and eventually becoming homeless. The federal government’s Department of Housing and Urban Development defines a person as homeless if he or she resides in a place not meant for human habitation such as a car, street or abandoned building or if he or she resides in an emergency shelter or transitional housing for homeless persons. Homeless people typically lack sufficient income to maintain permanent housing and the means necessary to access needed services, including medical care. Studies suggest that homeless people die an average of thirty years earlier than people in the general population.<sup>2</sup> Homeless persons without a stable address are often not able to easily connect with the very resources that might provide stability, such as Section 8 rent vouchers, Food Stamps, Medicaid, and Home Energy Assistance Program (HEAP).

The causes of homelessness are countless and complex. Changing social, economic, political and cultural conditions impact people’s lives. Insufficient options for affordable housing, low income and inadequate services are primary factors contributing to homelessness. Under-employment and unemployment may lead to evictions and foreclosures. Domestic violence, substance abuse and mental illness also contribute to homelessness. Natural disasters (e.g. fires, tornadoes, hurricanes) also can suddenly thrust people into homelessness.

#### **Food Insecurity**

Food insecurity also contributes to negative health outcomes in many people's lives. Several terms describe similar but distinct physical conditions:

- *Hunger* is a condition in which people do not get enough food to provide the nutrients (carbohydrates, fat, protein, vitamins, minerals and water) for fully productive, active and healthy lives.
- *Malnutrition* is a condition resulting from inadequate consumption or excessive consumption of a nutrient. Malnutrition can impair physical and mental health and contribute to or result from infectious diseases.
- *Vulnerability to hunger* is a condition of individuals, households, communities or nations who have enough to eat most of the time, but whose poverty makes them especially susceptible to hunger due to changes in the economy, climate, political conditions or personal circumstances.<sup>3</sup>
- The terms *food security* and *food insecurity* also have become widely used in conversations about hunger. Food security for a household means access by all members at all times to enough food for an active, healthy life. Food security includes at a minimum:
  - The ready availability of nutritionally adequate and safe foods.
  - Assured ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies).<sup>4</sup>

The lack of nutritionally adequate foods is a significant risk factor for poor health outcomes, particularly for children and the elderly. Poor nutrition and hunger contribute to learning disabilities, fatigue and difficulty with social interaction. (Go to Section 5.02 for more information on nutrition and food access.)

## Healthy NC 2020 Objectives

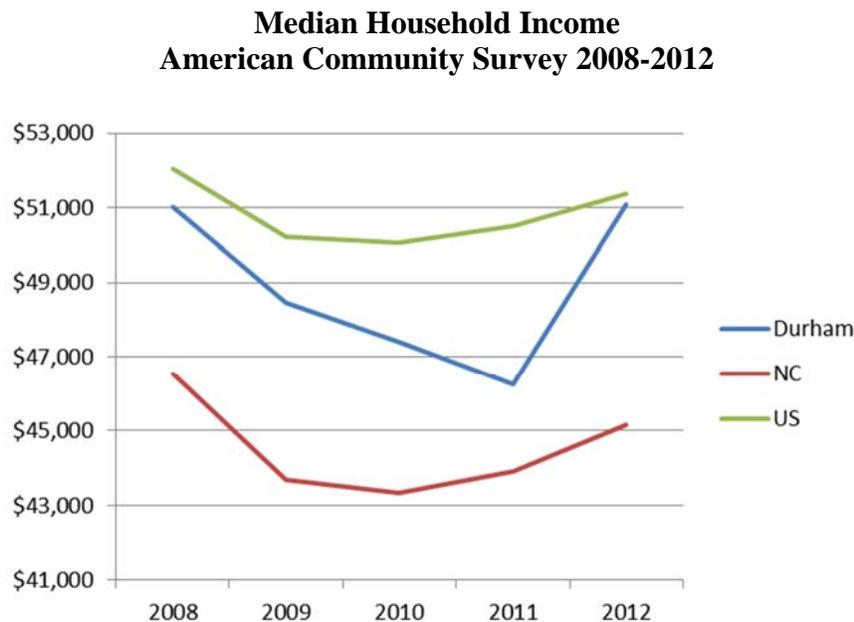
### Social Determinants of Health

Healthy NC 2020 Objective <sup>5</sup>	Current Durham	Current NC <sup>6</sup>	2020 Target
1. Decrease the percentage of individuals living in poverty.	18.9% (2009-11) <sup>7</sup>	17.2% (2009-11) <sup>8</sup>	12.5%
2. Decrease the percentage of people spending more than 30% of their income on rental housing.	47.9% (2012) <sup>9</sup>	44.8% (2012) <sup>10</sup>	36.1%

## Secondary Data

### Housing

The median income in 2012 was \$63,141 for Durham County families and \$51,094 for non-family households.<sup>11</sup> As shown in Figure 4.02(a) below, Durham median household income has been consistently below the U.S. average, but above the North Carolina average. After three years of decline, Durham's median household income grew between 2011 and 2012 and nearly equaled the national median household income amount of \$51,371.



**Figure 4.02(a) Median Household Income<sup>12</sup>**

The number of occupied housing units in Durham County was 113,769 in 2012. Of the occupied housing units, 53% are owner-occupied while 47% are renter-occupied. The percentage of those renting in Durham County increased slightly between 2010 and 2012.<sup>13</sup> These numbers are a concern when compared to the North Carolina statewide home ownership rate of 67.1% and a rental rate of 32.9%.<sup>14</sup> Home ownership is frequently promoted as a path to increasing personal wealth, residential stability and community involvement.<sup>15</sup>

Affordable housing is a major social issue in Durham County. In Durham County, the Fair Market Rent (FMR) for a two-bedroom apartment remained stable between 2009 and 2014; this is illustrated below in Table 4.02(a). The 2014 FMR for a two-bedroom apartment was \$843. However, in order to afford this level of rent and utilities without paying more than 30% of income on housing, a household must earn \$2,810 monthly or \$33,720 annually. Assuming a 40-hour work week, 52 weeks per year, this level of income translates into a Housing Wage of \$16.21 per hour.<sup>16</sup>

**Table 4.02(a) Average cost to rent a two-bedroom apartment in Durham**

<b>Average cost to rent a two-bedroom apartment in Durham</b>	
<b>Year</b>	<b>Median Rent</b>
2009	\$842
2010	\$832 <sup>17</sup>
2011	\$841 <sup>18</sup>
2012	\$779 <sup>19</sup>
2013	\$839 <sup>20</sup>
2014	\$843 <sup>21</sup>

Nearly one-half of Durham’s renters are paying 30% or more of their income for housing.<sup>22</sup> The Census Bureau estimates that over 24,000 tenant households and over 14,000 homeowners in Durham paid more than 30% of their income on housing in 2012.<sup>23</sup>

As those in poverty are forced to spend a high percentage of income on housing, it can be assumed that many of the homes they occupy are substandard or create a cost burden. In fact, in the City of Durham’s 2010-2015 Consolidated Plan, over 36,000 households in Durham County were cited as having “housing problems” relating to substandard housing.<sup>24</sup> Housing problems were defined as substandard housing units, living without adequate facilities, overcrowding, and cost burdened (more than 30% of family income applied to housing).

### Homelessness

The health of people who experience homelessness for extended periods of time declines rapidly. Estimates of the average life expectancy of homeless people range from 48 to 64 years, considerably less than the national average of 79 years.<sup>25, 26, 27</sup> In 2013, more than one percent of Durham County’s population, over 3,300 people, is estimated to have stayed one or more night in a shelter or transitional housing program dedicated for use by homeless people.<sup>28</sup> On any given night, 700 to 800 or one quarter of one percent of Durham’s residents are likely to be homeless on any given night in Durham County.<sup>29</sup>

*“We have these slum landlords (yes Lord, nodding). They aren’t taking care of where they are living.”*

*“If you’re not living up to normal standards it’s stressful as a parent, if you have small children.”*

*- Focus group of Durham County residents living in a low-wealth neighborhood*

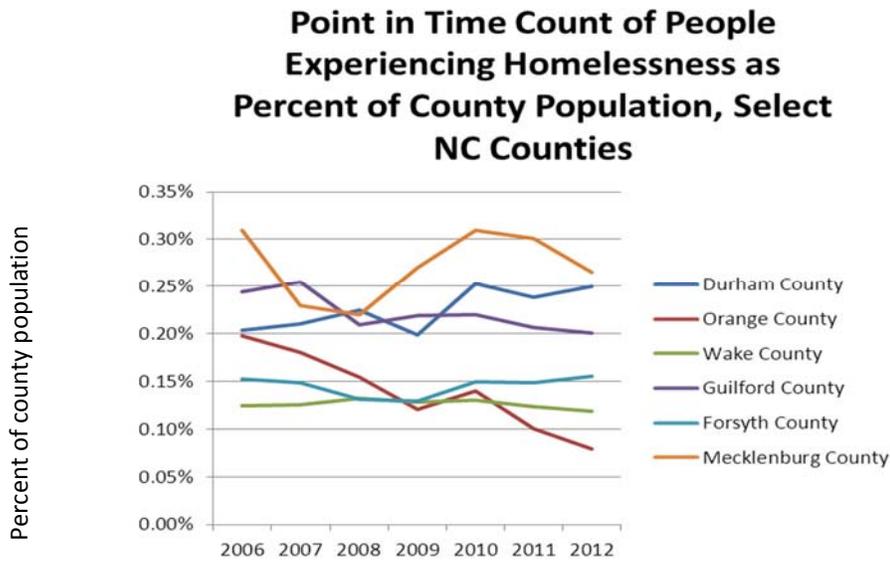


Figure 4.02(b): Homelessness in Durham and comparison counties

As the above chart illustrates, Mecklenburg and Durham Counties have the highest rate of people experiencing homelessness, with approximately one-fourth of one percent of the county’s population homeless on any given night.

### Hunger and Food Insecurity

Food insecurity can affect those both below and above the poverty line and affects thousands of low-income people in Durham County. It is estimated that 51,510 people are food insecure in Durham County which equates to 19.1% of the population, an increase of nearly 2% from 2011.<sup>30</sup> Currently, there are 42,488 people living in Durham who receive food stamps. This number has more than doubled since 2005 and continues to rise.<sup>31</sup> Most children enrolled in the Durham Public Schools qualify for free and reduced lunch in school cafeterias, further supporting widespread vulnerability to hunger and food insecurity in the county.<sup>32</sup> Table 4.02(b) compares indicators of food insecurity in Durham and North Carolina, including indicators of access to the Supplemental Nutrition Assistance Program (SNAP), formerly known as food stamps.

Table 4.02(b): Food Insecurity in Durham County and North Carolina<sup>33</sup>

	Durham	NC
Food Insecurity Rate	19.1%	18.6
Percent of food insecure individuals below SNAP threshold of 200% of the federal poverty level (FPL)	70%	73%
Percent of food insecure individuals above the SNAP threshold of 200% of FPL (these individuals do not qualify for federal food assistance)	30%	27%

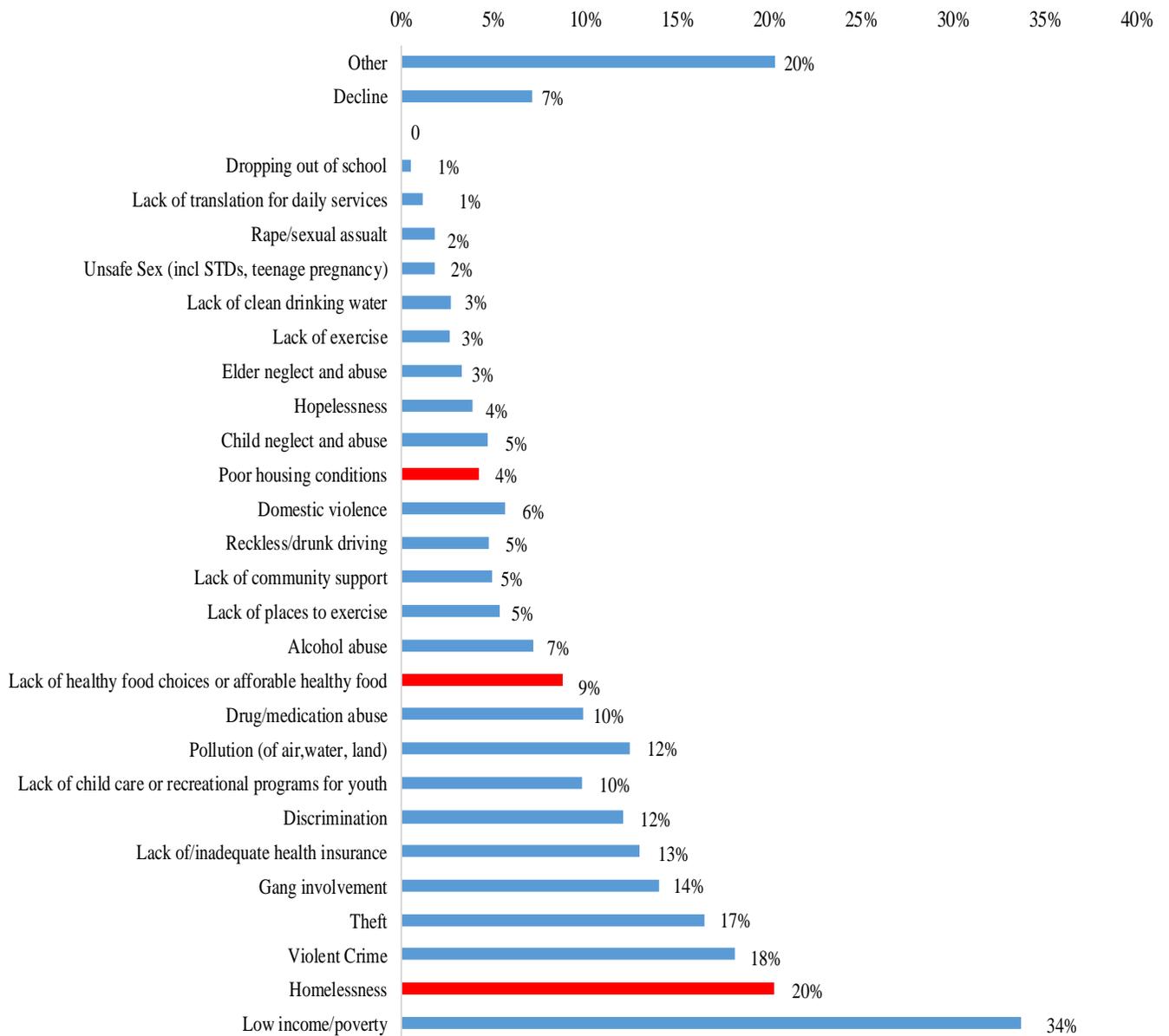
Average Cost of a Meal	\$2.83	\$2.69
Additional funds required to meet food needs	\$25,515,000	\$854,416,000

Table 4.02(c): Students receiving free and reduced lunch in Durham County

Year	Percentage of Students Receiving Free or Reduced Lunch <sup>34</sup>
2008-2009	47.2%
2009-2010	57.1%
2010-2011	60.8%
2011-2012	59.8%
2012-2013	62.0%
2013-2014	64.8%

In 2012-2013 fiscal year, the Durham branch of the Food Bank of Central and Eastern North Carolina distributed 2,379,714 pounds of food (2,003,965 meals) to Durham agencies that serve food insecure individuals.<sup>35</sup>

The 2013 Durham County Community Health Opinion Survey randomly selected Durham County households. One section of the survey asked respondents to name their top three neighborhood concerns. Respondents were asked, “*Keeping in mind yourself and the people in your neighborhood, pick the community issues that have the greatest effect on quality of life in Durham County. Please choose up to 3.*” Responses relevant to this section are highlighted in red. Homelessness was the second most popular response (20%). Four percent of respondents identified “poor housing conditions” and 9% mentioned the “lack of healthy food choices or affordable healthy food” as having the greatest impact on the quality of life.



**Figure 4.02(f) Community issues ranked in the Durham County 2013 Community Survey<sup>36</sup>**

Another question from the 2013 Durham County Health Survey asked respondents *what services need the most improvement in your neighborhood or community*. Respondents could identify up to three services. Seventeen percent of respondents identified “more affordable/better housing” and 11% identified “more affordable/healthy food.”

**Table 4.04(d) “Choose the services that need the most improvement in you neighborhood.”**

Service Needs of Durham Neighborhoods	
More Affordable Health Services	23%
Positive teen Activities	20%
Higher Paying Employment	17%
Childcare Options	16%
More Affordable/Better Housing	17%
Availability of Employment	16%
More Affordable/Better Healthy Food	11%

*“As far as (grocery store A) ... the quality of their food (mm mm, head shaking), the produce, they are higher than, and the price you have to pay for the quality of their food, I cannot shop there. I have tried and I cannot shop there.”*

*- Focus group of Durham County residents living in a low-wealth neighborhood*

### Interpretations: Disparities, Gaps, Emerging Issues

Durham has a lower percentage of homeless people with children than the United States as a whole. However, the number of homeless families identified in the annual one-day Point in Time Count of homeless people increased 50% between 2009 and 2010. After declining to 43 families in 2012, the number surged again to 57 families in 2013.<sup>37</sup> The growing number of homeless families is a cause of concern.

Poverty, hunger, and homelessness are concentrated in minority communities in Durham and across the nation. Seventy-five percent of Durham’s homeless people are African-American; however, African-Americans comprise less than 40% of Durham’s total population.<sup>38</sup> The high rates of eligibility for free and reduced lunch in DPS reflect the high poverty rates present among Durham’s African-American, Hispanic and Native American communities; these groups make up 80% of DPS students.

The 2014 Farm Bill decreased the SNAP benefit allotment for nearly 850,000 American households. This cut will affect many Durham residents, decreasing their food resources and access to healthy foods and increasing their reliance on emergency feeding programs. The full effects of the SNAP cuts on the Durham economy and health of the community have yet to be determined.

## Recommended Strategies

Emerging issues that will need attention by the Durham community in order to eradicate the effects of high housing costs on low-income residents and on homeless people involve increasing the current housing stock to provide affordable housing for all residents, planning for affordable housing near transit stations of the proposed light rail system between Durham and Chapel Hill and developing programs that promote and create jobs that will offer livable wages for all.

A combination of strategies will be needed to maintain and expand affordable housing, to reduce and end homelessness, and to reduce hunger in Durham.

### **Affordable Housing:**

The [Center for Housing Policy](#), the research affiliate of the [National Housing Conference](#), has published online a “toolbox” of strategies that state and local governments and community partners can use to increase the availability of affordable homes. Those strategies include:

#### **Expanding Development Opportunities** by

- Making publicly-owned land available for affordable homes
- Facilitating the reuse of abandoned, vacant, and tax-delinquent properties
- Expanding the supply of homes through rezonings

#### **Reducing red tape** by

- Ensuring zoning policies support a diversity of housing types
- Adopting expedited permitting and review policies
- Revising impact fee structures
- Adopting "Rehab Codes" to facilitate rehabilitation of older homes

#### **Capitalizing on Market Activity** by

- Utilizing tax increment financing to fund affordable homes
- Stimulating construction or rehabilitation through tax abatements
- Creating or expand dedicated housing trust funds
- Establishing inclusionary zoning requirements or incentives
- Using cross-subsidies to support mixed-income communities

#### **Generating capital** by

- Strengthening the 9% low-income housing tax credit
- Expanding use of the 4% low-income housing tax credit
- Providing pre-development and acquisition financing
- Supporting housing bond issues
- Using housing finance agency reserves for affordable homes
- Leverage employers' commitment to affordable homes for workers
- Creating or expanding dedicated housing trust funds

**Preserving and Recycling Resources** by

- Preserving affordable rental homes
- Recycling down payment assistance
- Using shared equity mechanisms to preserve homeownership subsidies

**Helping residents succeed** by

- Expanding homeownership education and counseling
- Preventing foreclosures and help affected renters and owners
- Providing homeowner rehab assistance<sup>39</sup>

**Homelessness:**

In 2010, the federal government published *Opening Doors: the Federal Strategic Plan to Prevent and End Homelessness*.<sup>40</sup> The ten objectives of the plan, associated with five “themes,” may serve as strategic objectives on the local level as well:

**Increase Leadership, Collaboration, and Civic Engagement**

*Objective 1:* Provide and promote collaborative leadership at all levels of government and across all sectors to inspire and energize Americans to commit to preventing and ending homelessness

*Objective 2:* Strengthen the capacity of public and private organizations by increasing knowledge about collaboration, homelessness, and successful interventions to prevent and end homelessness

**Increase Access to Stable and Affordable Housing**

*Objective 3:* Provide affordable housing to people experiencing or most at risk of homelessness

*Objective 4:* Provide permanent supportive housing to prevent and end chronic homelessness

**Increase Economic Security**

*Objective 5:* Increase meaningful and sustainable employment for people experiencing or most at risk of homelessness

*Objective 6:* Improve access to mainstream programs and services to reduce people’s financial vulnerability to homelessness

**Improve Health and Stability**

*Objective 7:* Integrate primary and behavioral health care services with homeless assistance programs and housing to reduce people’s vulnerability to and the impacts of homelessness

*Objective 8:* Advance health and housing stability for youth aging out of systems such as foster care and juvenile justice

*Objective 9:* Advance health and housing stability for people experiencing homelessness who have frequent contact with hospitals and criminal justice

**Retool the Homeless Crisis Response System**

*Objective 10:* Transform homeless services to crisis response systems that prevent homelessness and rapidly return people who experience homelessness.<sup>41</sup>

**Hunger:**

The 2011 Surgeon General's National Prevention Strategy lists the following evidence-based strategies to increase access to healthy and affordable foods in communities:

- Increase the proportion of Americans who have access to a food retail outlet that sells a variety of foods that are encouraged by the Dietary Guidelines for Americans.
- Increase the proportion of schools that offer nutritious foods and beverages outside of school meals.<sup>42</sup>

Other evidence-based strategies include:

- Increase participation in the SNAP, formerly known as the Food Stamp program.
- Increase participation in the National School Lunch Program (NSLP).
- Increase use of emergency food assistance programs.
- Improve financial management skills.<sup>43</sup>

**Current Initiatives & Activities****Affordable Housing:**

The City of Durham's 2010-2015 Consolidated Plan describes how the City plans to address affordable housing and other community development needs in the City in the current five year period. The plan identifies two priorities: Neighborhood Revitalization and Housing for Persons with Special Needs. In 2013, the City Council approved using one cent of the City's property tax rate for the development of affordable housing. The new fund would provide approximately \$2.3 million to support affordable housing development in the City annually.

**Homelessness:**

Durham's *Ten Year Plan to End Homelessness* was adopted in 2006 by the Durham City Council and the Durham County Board of Commissioners. The City of Durham accepted responsibility to continue implementation of the initiative, renamed *Opening Doors Homeless Prevention and Services*, in 2011. Current activities in Durham include:

- Building on the success of the Homeless Prevention & Rapid Re-housing Program (HPRP), rapid rehousing activities continue under the leadership of Housing for New Hope, Healing with CAARE, and Volunteers of America.
- Durham's SOAR (SSI/SSDI Outreach, Access, and Recovery) initiative is a leader among the North Carolina counties; it assists homeless and those at-risk for homelessness who have a diagnosis of a physical, mental illness, and/or co-occurring substance abuse disorder to apply for disability benefits. Durham currently has three full-time case workers dedicated to using SOAR methodologies to help low-income people apply for SSI/SSDI and was the first county in North Carolina to achieve gold-level certified SOAR community designation by the NC Coalition to End Homelessness. Since 2010, 152 people have been approved for SSI/SSDI benefits, adding over \$1.8 million to the local economy.<sup>44</sup>

- The City of Durham’s Consolidated Plan for 2010-2015 has a goal of developing 50 units of permanent supportive housing in the next five years with public funding.
- Alliance Behavioral Healthcare is working closely with State hospitals and community partners to reduce discharges into homelessness and help people move into independent living.
- Durham’s annual Project Homeless Connect event, a “community fair” for homeless and low-income people, served 151 consumers in 2013 and provided almost 1,000 services, such as housing, social services, employment, behavioral health and veteran.<sup>45</sup>
- Durham’s homeless veterans are being placed into housing through the HUD-VASH program. HUD-VASH is a long-term case management program for homeless veterans in need of permanent housing. Veterans receive a Housing Choice voucher that reduces housing costs and participate in support services designed to prevent future episodes of homelessness.
- Volunteers of America also is implementing a Supportive Services for Veterans and their Families grant in Durham and fourteen surrounding counties to offer homeless prevention and diversion assistance to veterans and their families who are at risk of homelessness. The Durham County Department of Social Services (DSS) piloted a coordinated intake and assessment process for homeless families from May 2012 until June 2013. Discussions continue on how to best incorporate an assessment of households’ housing needs into DSS’ standard application processes. Development of a community day services center and respite care for homeless people recuperating after hospitalization also are being explored.
- Durham Opening Doors is a groundbreaking and ambitious campaign to engage all sectors of the Durham community in a revitalized effort to confront and overcome homelessness rather than just managing it. The overall goal is to reduce the length of time that any homeless person would stay in an emergency shelter to less than 45 days.<sup>46</sup>

### **Hunger:**

A variety of public and private initiatives are underway to reduce hunger and malnutrition:

- More in My Basket (MIMB) is a North Carolina State University (NCSU) Cooperative Extension program that, in Durham, is targeted to senior citizens at 200% or less of the federal poverty level. The program promotes food security through outreach education about the North Carolina Food and Nutrition Services (FNS) Program. MIMB dispels myths, demonstrates the benefit of applying for the FNS Program, and assists with the application process.
- Participation in public food assistance programs (e.g. SNAP), the Women, Infants, & Children Supplemental Food Assistance Program (WIC), free and reduced school lunch programs continue to increase.
- Federally funded summer feeding programs serve a fraction of the children receiving free or reduced fee lunch during the school year. Through promotion, communication and providing transportation, this program could fill a great need.
- Durham Public Schools is piloting Universal Free Breakfast in many of its schools.
- Community-based organizations (e.g. SEEDS, the NC Cooperative Extension, Durham Parks and Recreation, the Inter-Faith Food Shuttle) are encouraging the development of community gardens that enable people of all income levels to grow vegetables for their own use, reducing grocery bills in the process. Durham has at least ten community gardens.

- The Inter-Faith Food Shuttle, Food Bank of Central and Eastern NC, and community organizations are running Backpack Programs. These programs distribute free non-perishable food to several hundred low income children every Friday during the school year in backpacks that the children take home and return empty on Monday for refilling.
- The Durham Community Café, operated by Urban Ministries of Durham, provides over 200,000 prepared meals annually to homeless and other low-income people.
- The Downtown Durham Farmers' Market and South Durham Farmers' Markets have started to accept SNAP/EBT benefits. As funding allows, they will also run an incentive program that doubles the SNAP benefits up to \$10.
- Many organizations are collaborating to start a local corner store project that aims to increase access of healthy foods in convenience stores.
- Community Nutrition Partnership runs the Veggie Van that provides fresh, affordable, and local produce in communities with low access to such food
- The Durham Public Schools Hub Farm aims to increase access of fresh and affordable produce to DPS students and their families.
- The Inter-Faith Food Shuttle Mobile Market program delivers free produce to two sites in Durham County monthly.

#### **Healthcare for the homeless:**

- CAARE is a grassroots non-profit organization in Durham, North Carolina that promotes a holistic and community approach to health. They provide a wide variety of services that help treat not only medical roots of chronic diseases, but also the social and human factors that contribute to these health deficits. CAARE seeks to address the disparities in health care access, and over the past 17 years has created a community devoted to helping people make all parts of their lives healthier.
- Lincoln Community Health Center operates a federally funded "Healthcare for the Homeless Clinic" at Urban Ministries of Durham. Samaritan Health Center also provides health care for homeless and low income people at the Durham Rescue Mission's Good Samaritan Inn and at a clinic on Garrett Road.

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## Section 4.03 *Education*

### Overview

Young children benefit from high quality, early childhood care and education. A successful kindergarten experience has particularly been shown to predict a child's future success. Moreover, the academic success of young adults is strongly linked with their health throughout their lifetime.

According to the Centers for Disease Control and Prevention (CDC), “Health-related factors such as hunger, physical and emotional abuse, and chronic illness can lead to poor school performance. Health-risk behaviors such as substance use, violence, and physical inactivity are consistently linked to academic failure and often affect students' school attendance, grades, test scores, and ability to pay attention in class. In turn, academic success is an excellent indicator for the overall well-being of youth and a primary predictor and determinant of adult health outcomes.”<sup>1</sup>

The importance of a high school diploma and higher education cannot be overstated. According to 2011 data published by The Chronicle of Higher Education, men and women who have a college degree earn 69% and 71% respectively, more than their counterparts with only a high school diploma.<sup>2</sup> While college graduates have experienced growth in real (inflation-adjusted) earnings since 1979, high school dropouts have seen their real earnings decline. The unemployment rate for workers who dropped out of high school is nearly four times the rate for college graduates.<sup>3</sup> Finally, the United States has an employer-based healthcare system; jobs that require a particular level of education typically provide better access to health insurance and quality healthcare.

### Healthy NC 2020 Objective

#### Social Determinants of Health

Healthy NC 2020 Objective <sup>4</sup>	Current Durham	Current NC <sup>5</sup>	2020 Target
1. Increase the four-year high school graduation rate.	79.6% (2013) <sup>6</sup>	82.5% (2013) <sup>7</sup>	94.6%

### Secondary Data

#### Primary and Secondary Schools

Durham Public Schools (DPS) is the primary school system in Durham County. However, there are numerous charter and private primary and secondary education institutions as well. There are 56 public schools in the Durham Public Schools district<sup>8</sup>, 10 charter schools, and 29 private

schools.<sup>9</sup> The percentages of children in traditional public, public charter, and private schools are 76%, 11%, and 13% respectively.<sup>10, 11</sup>

**Durham Public Schools**

DPS is the only public school system in the county. The student enrollment for traditional public schools was 33,400 students in the 2013-14 school year. Enrollment in charter schools was 4,774 for the same school year.<sup>12</sup> The demographics of DPS are 51% African-American, 19% White, 24% Hispanic and 6% other.<sup>13</sup>

Sixty-two percent of the children in DPS qualified for free or reduced price lunch in 2011-12.<sup>14</sup> This number can be used as a proxy for poverty among children in the system. This number continues to rise and the 2013-14 percentage is 65%.<sup>15</sup> Additionally, 17.5% of DPS students are identified as Academically and Intellectually Gifted (AIG), 13.8 % as Exceptional Children (EC) and nearly 14% as Limited English Proficient (LEP).<sup>16</sup> DPS’s 56 innovative public schools provide a wealth of options for families including early colleges, medical and technology academies, Montessori and International Baccalaureate programs, and schools for the performing and creative arts. DPS is home to 23 magnet schools including both program and year-round calendar options.<sup>17</sup>

Durham places a high priority on education, as is evidenced by the generous level of local funding for the schools. As state funding for public education has continued to decline since 2008, Durham County has compensated by increasing its local contribution. Durham County’s current local appropriation equates to \$3,532.87 per pupil.<sup>18</sup>

For the first time, the 2012-13 school year testing is based on the national Common Core State Standards (CCSS) for Language Arts and Math. This is a new accountability system with higher standards for proficiency, which makes comparisons between student test scores from 2012-13 and earlier years invalid. Statewide, nationwide, and locally, school districts that are implementing the national CCSS have seen dramatic decreases (close to 30 point decreases) in standardized test scores based on the new standards for proficiency.<sup>19</sup> Before the introduction of the new standards, Durham Public School students’ scores were showing continuous, incremental improvements.

Table 4.03(a) shows the overall student performance in grades 3-8 in Reading and Math on state tests. Overall, 33.4% of students in grades 3-8 were proficient in reading and 30.5% were proficient in math, compared to 43.9% and 42.3%, respectively for the state.

**Table 4.03(a) Performance of Students in Each Grade on the North Carolina End-of-Grade Tests, 2012-13<sup>20</sup>**

	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		OVERALL	
	Reading	Math												
<b>District</b>	34.6%	34.7%	32.3%	36.4%	30.7%	38.5%	37.1%	25.9%	34.9%	22.6%	31.0%	24.0%	33.4%	30.5%
<b>State</b>	45.2%	46.8%	43.7%	47.6%	39.5%	47.7%	46.4%	38.9%	47.8%	38.5%	41.0%	34.2%	43.9%	42.3%

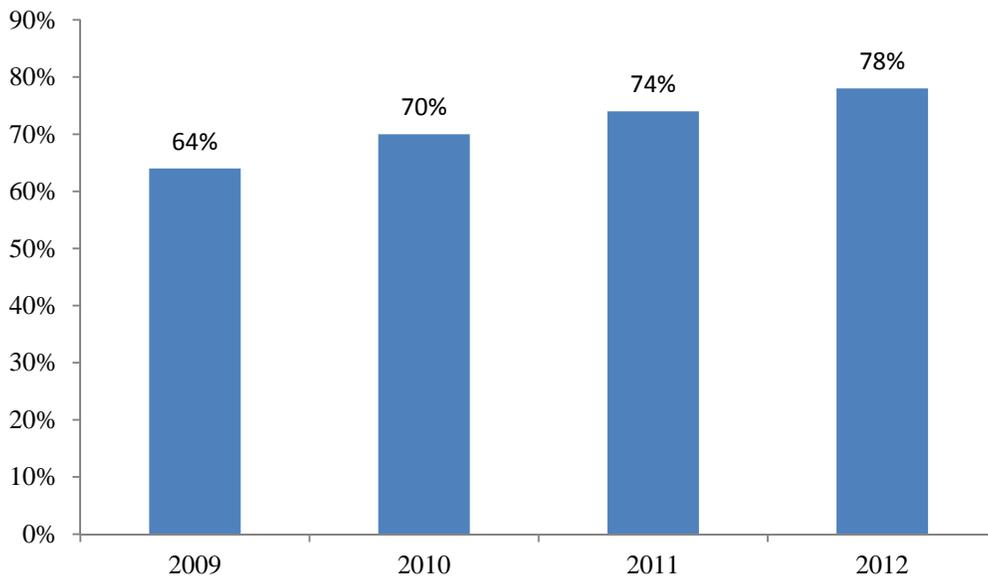
The overall 4-year cohort graduation rate has increased by nearly 10% since 2010-11 as depicted in Figure 4.03(a). But there is still a disparity in the percentages of White and minority students who are graduating from high school. For example, 89.6% of Whites graduated in 2012-2013 compared to 78.1% of Blacks and 66.8% of Hispanic students. This disparity can be seen in Table 4.03(b) below.<sup>21</sup>

**Table 4.03(b) Four-year Cohort Graduation Rates for District and State**

	All	White	Black	Hispanic	American Indian	Asian	Two or More Races	E.D.	L.E.P	Students with Disabilities
<b>Durham Public Schools 2012 - 13</b>	79.6%	89.6%	78.1%	66.8%	66.7%	83.6%	87.9%	72.6%	54.3%	54.3%
<b>2011 - 12</b>	76.9%	90.8%	73.7%	63.8%	N/A	85.7%	78.0%	71.5%	43.9%	48.6%
<b>Percent Change between years</b>	2.7%	-1.2%	4.4%	3.0%	N/A	-2.1%	9.9%	1.1%	10.4%	5.7%
<b>State, 2012 - 13</b>	82.5%	86.2%	77.5%	75.2%	77.3%	89.9%	81.5%	76.1%	48.8%	62.3%

- E.D. = Economically Disadvantaged Students
- L.E.P. = Limited English Proficient Students

**Durham County High School Graduation rates, 2009-2012**



**Figure 4.03(a) DPS High School Graduation Rates<sup>22</sup>**

**Table 4.03(c) Performance of Student Groups on End-of-Grade Tests**

	All	Male	Female	White	Black	Hispanic	E.D.	N.E.D.	L.E.P.
DPS	22.2%	20.9%	23.5%	55.0%	12.9%	12.9%	11.1%	44.1%	<5%
North Carolina	32.0%	30.6%	33.5%	43.5%	14.2%	19.3%	17.4%	49.8%	6.6%

E.D. = Economically Disadvantaged N.E.D. = Not Economically Disadvantaged L.E.P. = Limited English Proficiency

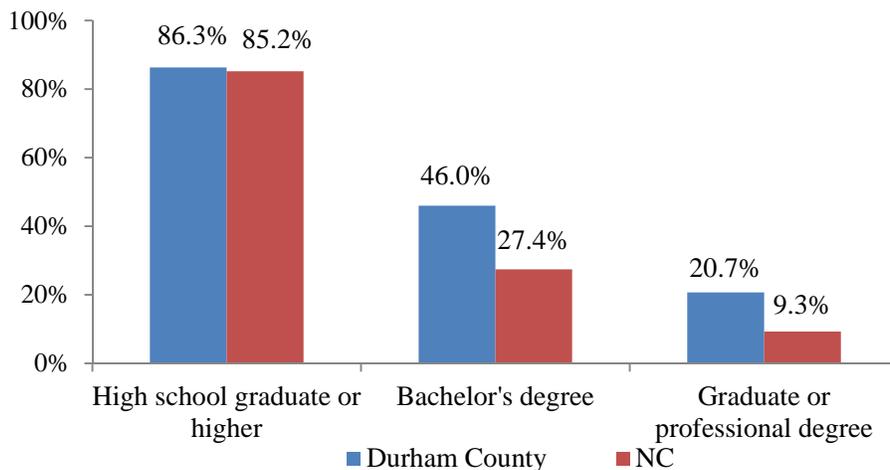
**Percentage of Students, Grouped by Gender, Race/Ethnicity, and Other Factors, Who Passed BOTH the Reading and Math Tests for 2012-13<sup>23</sup>**

Overall, 22.2% of DPS students passed both the reading and math End-of-Grade tests in 2012-13 compared to 32.0% overall in the state. The only subgroup that out-performed the state on both reading and math tests was White students, with a passing rate of 55.0% compared to 43.5% for the state. Our African-American students are performing nearly the same as the average African-American student performance in the state with DPS African-American student scores of 12.9% compared to 14.2% for the state. Hispanic student performance was 12.9% compared to 19.3% for the state, showing a 6.4% achievement gap. Economically disadvantaged (ED) students, Students with limited English proficiency (LEP), and Not Economically Disadvantaged (NED) student scores were all below the state average, with gaps of 6.3%, 6.6%, and 5.7%, respectively.

Another disturbing result is the persistent gap between both White students and African-American and Hispanic students, as well as between NED and ED students. The gap between White student scores and both Black and Hispanic scores is 42.1%.<sup>24</sup> With the introduction of the CCSS, this gap has widened compared to 2011-12 results by 6.8% and 5.8% respectively.

**Undergraduate and Graduate Education**

The vast majority of Durham County residents have at least a high school diploma or its equivalent as shown in Figure 4.03(a) above. However, 13% of those ages 25 or older do not have the equivalent of a high school diploma; this group has the highest rates of poverty.<sup>25</sup>



**Figure 4.03(b) Highest Level of Education for ages 25+ Durham vs NC<sup>26</sup>**

Durham County residents are highly educated when compared to overall North Carolina residents, as depicted in Figure 4.03(b). While the rate of high school graduates is similar, Durham County has more than twice the percentage of residents who have received a graduate or professional degree compared to North Carolina.

**Table 4.03(d) Higher Education Annual Enrollment**

	<b>2013-2014</b>
Durham Tech <sup>27</sup>	<u>21,358*</u>
<i>Curriculum Programs</i>	7,488
<i>Continuing Education</i>	10,421
NCCU <sup>28</sup>	<u>8155</u>
<i>Undergraduate</i>	6,369
<i>Graduate / Professional</i>	1,789
Duke University <sup>29</sup>	<u>14,600</u>
<i>Undergraduate</i>	6,495
<i>Graduate / Professional</i>	8,105

\* Sum of subtotals may be greater than annual enrollment due to dual enrollment across programs.

### Durham Technical College<sup>30</sup>

Durham Technical Community College is a charter member of the North Carolina Community College System. The institution began its evolution with adult education through the Vocational and Adult Education Department of the Durham City Schools. The Practical Nursing program was established in 1948, which led to the creation of other programs, included training in mechanical drafting, architectural drafting, and electronics technology. In addition, literacy skill training is offered for adults. Courses to upgrade the skills of workers were also offered in a variety of trades.

In September of 2011, Durham Technical Community College celebrated 50 years of service to the residents and employers of Durham and beyond. DTCC has provided high-quality, affordable and convenient technical and career education, served as the springboard to a bachelor's degree, enabled tens of thousands of Triangle residents to enjoy continuing education offerings and given a second chance at success through adult literacy programs. 100% of students who graduate from one of DTCC certificate, diploma, or degree programs report getting or retaining jobs within a year of leaving the college.

### North Carolina Central University (NCCU)<sup>31</sup>

Originally named the National Religious Training School and Chautauqua for the Colored Race, NCCU was founded by Dr. James E. Shepard, a pharmacist and religious educator. The institution was chartered in 1909 and opened its doors to students in 1910. In 1925, the university became the nation's first state-supported liberal arts college for African-American students. NCCU has been a constituent institution of the University of North Carolina System since 1972.

- With two biotechnology research institutes, NCCU is emerging as a leader in the study of health disparities — significant differences in the quality of health and health care across racial, ethnic and socioeconomic groups.
- NCCU was the first of North Carolina’s state-supported universities to require community service for graduation. NCCU has been selected as a recipient of the President’s Higher Education Community Service Award, which is bestowed on behalf of the White House. NCCU has earned the recognition each year since the award began in 2006. Additionally, The Carnegie Foundation for the Advancement of Teaching, an independent policy and research center chartered by Congress in 1906, has recognized NCCU as a Community Engaged Institution in both curricular engagement and community outreach programs.<sup>32</sup>
- NCCU produces leaders. Alumna Eva M. Clayton (M.S., 1962) was the first African-American woman elected to Congress from North Carolina. Dan Blue (B.A., 1970) was the first African-American to serve as speaker of the N.C. House of Representatives and is now a state senator.

### Duke University<sup>33</sup>

The Dukes, a Durham family that built a worldwide financial empire in the manufacture of tobacco products and developed electricity production in the Carolinas, had long been supporters of Trinity College. Trinity traced its roots to 1838 in nearby Randolph County when local Methodist and Quaker communities opened Union Institute. The school moved to Durham in 1892, where Benjamin Newton Duke served as a primary benefactor and link with the Duke family until his death in 1929. In December 1924, the provisions of indenture by Benjamin’s brother, James B. Duke, created the family philanthropic foundation, The Duke Endowment, which provided for the expansion of Trinity College into Duke University.

As a result of the Duke gift, Trinity underwent both physical and academic expansion. The original Durham campus became known as East Campus when it was rebuilt in stately Georgian architecture. West Campus, Gothic in style and dominated by the soaring 210-foot tower of Duke Chapel, opened in 1930. East Campus served as home of the Woman's College until 1972, when the men's and women's undergraduate colleges merged. Both men and women undergraduates now enroll in either Trinity College of Arts & Sciences or Pratt School of Engineering. In 1995, East Campus became the home for all first-year students.

Duke has more than 14,000 undergraduate and graduate students and a world-class faculty helping to expand the frontiers of knowledge. Home of the Blue Devils, Duke fields teams in 26 NCAA Division I varsity sports. More than 75 percent of Duke students pursue service-learning opportunities in Durham and around the world through the Duke Durham Neighborhood Partnership, DukeEngage, the Community Service Center and other programs that advance the university’s mission of “knowledge in service to society.”

### Primary Data

The Youth Risk Behavior Survey (YRBS) is a national school-based survey produced by the CDC and is administered every other year. The 2013 YRBS was administered to randomly selected classrooms of middle and high school students in Durham Public Schools. This survey asks

students questions about risk behaviors related to tobacco use, unhealthy diet, inadequate physical activity, alcohol and other drug use, unintended pregnancy and sexually transmitted diseases, and unintentional injuries and violence. Highlights of the survey results are shown below in figures 4.03(c) (middle school) and 4.03(d) (high school).<sup>34</sup> Statistically significant changes include an increase in marijuana use among males in high school and decreases in drug use in middle school and consumption of soda in high school.

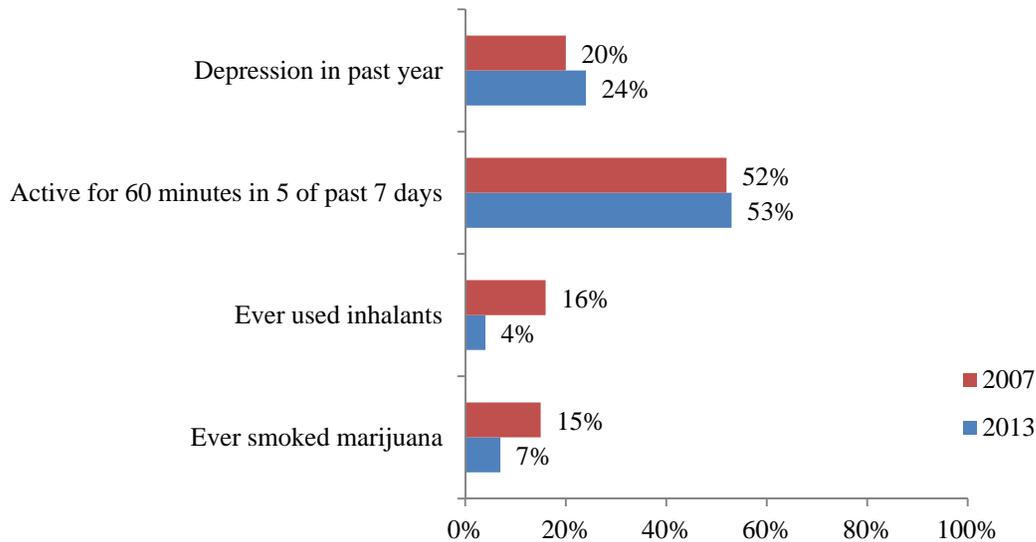


Figure 4.03(c) 2013 Middle School risk behaviors in Durham, 2007 and 2013

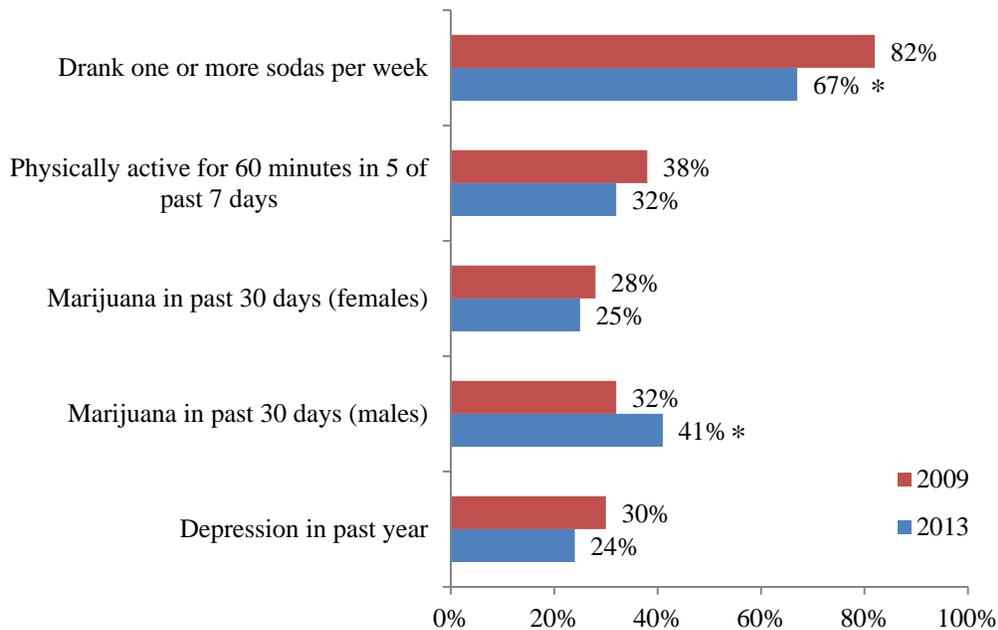
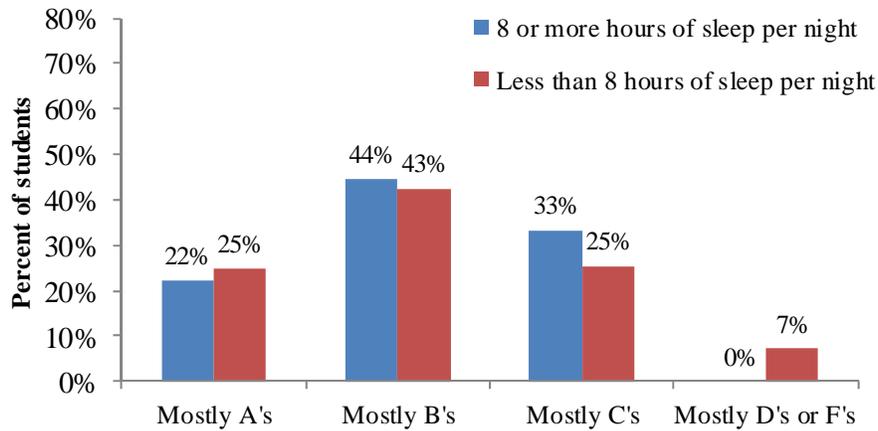
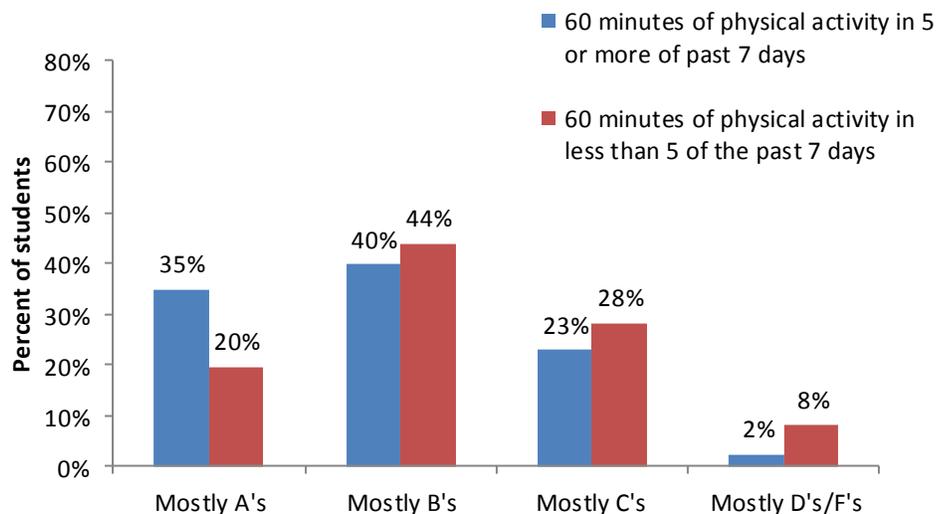


Figure 4.03(d) 2013 High School risk behaviors in Durham compared to NC

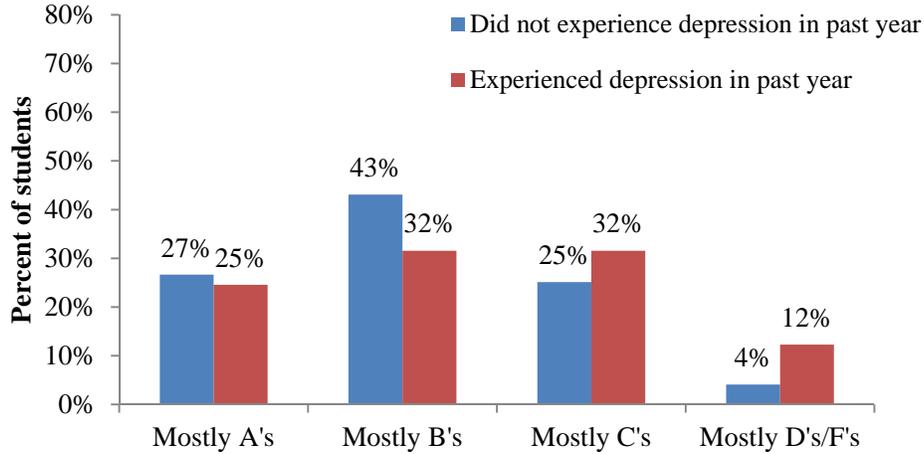
Students are also asked whether their grades in schools are “mostly As, Bs, Cs or Ds/Fs.” Distribution of reported grades by outcomes of interest is shown below.



**Figure 4.03(e) 2013 High School students getting less than 8 hours of sleep on an average night by reported grades**



**Figure 4.03(f) 2013 High School reported physical activity by reported grades**



**Figure 4.03(g) 2013 High School depression by reported grades**

These findings suggest that a healthy body and mind support academic success. A higher proportion of students reporting adequate sleep and exercise and no depression reported receiving mostly As; students reporting mostly Ds or Fs were more likely to also report inadequate sleep and physical activity and to report experiencing depression.

These patterns of students with risky behaviors reporting lower grades have implications for policy and program interventions in schools. Adolescents could get more minutes of sleep if bell schedules for middle and high schools were pushed back to a later start time. Additionally, school officials should consider ways of providing better access to physical activity and mental health services for students, in order to decrease the percentage of students with the risk factor of feeling sad or helpless. In turn, both of these interventions might also lead to improved grade outcomes for students.

### Interpretations: Disparities, Gaps, Emerging Issues

Education leaders across the nation, state and in Durham are working on improving school outcomes for all children. In Durham, graduation rates are improving at a steady rate, but there is still a gap between White students and minority students, as well as between students in different socio-economic groups. With the introduction of the national Common Core State Standards for Language Arts and Math, districts across the state and nation have experienced large drops in student proficiency rates. The test scores for the 2012-13 school year establish a baseline for future comparisons and trend analyses. Comparisons between current scores and scores for prior years cannot be made, because the standards for proficiency have changed. However, comparisons between student groups can be made and between-group comparisons show a persistent achievement gap between minority students and non-minority students. Additionally, the gap is widening with the adoption of the Common Core State Standards.

Durham Public Schools has experienced a steady but sustainable growth (1% per year) in student enrollment over the past five years. The percentage of enrolled students who are White has decreased over the years to 19% while the percentage of Hispanic students has climbed to 24%. Overall, the percentage of non-white students has increased from 77% in 2008 to 81% in 2014. Enrollment in the federal free and reduced price lunch program has also increased from 45% in 2008 to 65% in 2013-14.<sup>35</sup>

The changes in demographics within DPS have important implications for education outcomes. The school system's student population is becoming increasingly African American and Hispanic and economically disadvantaged. As a result, the schools are being re-segregated by race and class over time and this increasing segregation is leading to more intense poverty in schools. When minority students attend schools with high concentrations of economically disadvantaged students, academic achievement is lower than for minority students who attend more middle class schools.<sup>36</sup>

Racial and economic isolation have negative consequences for students and this has important implications as Durham strives to continuously improve school test scores and other education indicators of success. Durham placed a high value on integrated schools during the time of merger of the segregated former city and county schools, believing that integration has numerous social and academic benefits for children. The community must reexamine this issue and decide what steps, if any are needed to prevent re-segregation of schools in Durham.

Another important emerging issue that started in 2008 with the economic downturn and has worsened with the election of a republican majority in the NC General Assembly is state funding for education. State funding for education in North Carolina has fallen to 49<sup>th</sup> in the nation with the 2013-15 biennial budget calling for reductions or eliminations in funding for staff development, school supplies, textbooks, technology, at-risk student funding and more.<sup>37</sup> This has necessitated increased support from the county, with local property taxes being the primary source of local funding for public schools. Voters approved a one-fourth of one cent sales and use tax for education that generates approximately \$6 million for DPS.<sup>38</sup>

Teacher pay in North Carolina has fallen to 46<sup>th</sup> in the nation, and teachers have only received a 1.2% increase in salary since 2008. At the time of this writing, teachers have not seen a salary increase other than the 1.2% raise and the progression on the teacher salary scale for state employees has also been halted. In effect, this situation with teacher salaries is even more devastating. Teachers have actually received a pay cut, not just lack of a raise for as long as the step increases built into the state's system have been eliminated. A teacher who began working in 2008 is making the same salary in 2014 (except for the 1.2% increase). If the salary schedule progression had been followed, the same teacher would have been earning approximately \$5000 more. This teacher has received a \$5000 pay cut.<sup>39</sup>

Another emerging issue is related to charter school growth. North Carolina no longer has a cap on the number of charter schools that can exist in the state's school districts. Durham County currently has 10 charter schools in operation, with four new schools scheduled to open in the 2014-15 school year. Nearly 13% of Durham's school age children attend charter schools compared to less than an average of 4% for the state.<sup>40</sup>

The potential for unlimited numbers of charter schools makes capital planning for school facilities very difficult. The projections for student enrollment increases in DPS may not be accurate, as planners have no idea how many charter school spots will be available to Durham students from year to year. Additionally, the increase in charter school options correlates with an increase in racial and economic isolation in DPS.<sup>41</sup> Some fear that this resegregation of Durham public schools runs counter to the community values that led to the merger of the formerly segregated city and county schools in the early 1990s.

Poverty is consistently and indisputably connected to lower achievement on standardized assessments. Poverty has other negative consequences for students, as well. If the changes to teacher pay and charter school availability result in a concentration of poorer students in DPS, this concentrated poverty will make it more difficult for the schools to see an increase school success rates of our students. Increased performance on tests and rates of graduation are associated with better life outcomes including health.<sup>42</sup>

### Recommended Strategies

Category	Name	Description	Website	Matching 2020 Objective
School	C.A.R.E. Strategies for Closing the Achievement Gap	A researched-based educational initiative that was developed through the collaborative efforts of teachers, education support professionals, researchers, community advocates, parents and researchers. The strategies outlined in the guide will help users improve their practice for culturally and linguistically diverse students, as well as for those who are economically challenged.	<a href="http://www.nea.org/assets/docs/CAREguide2011.pdf">http://www.nea.org/assets/docs/CAREguide2011.pdf</a>	Social Determinants of Health, Objective 2
School	IES Practice Guide: Teaching Academic Content and Literacy to English Learners in Elementary and Middle School	This practice guide focuses on learning in English for learners in grades K-8 and provides recommendations and practices based on available research evidence and expert opinion.	<a href="http://ies.ed.gov/ncee/wwc/pdf/practice_guides/english_learners_pg_040114.pdf">http://ies.ed.gov/ncee/wwc/pdf/practice_guides/english_learners_pg_040114.pdf</a>	Social Determinants of Health, Objective 2

School/ Community	IES Practice Guide: Structuring Out-of- School Time to Improve Academic Achievement	This practice guide focuses on improving academic achievement of students participating in Out of School programs and provides recommendations, checklist for carrying out recommendations based on available research evidence and expert opinion.	<a href="http://ies.ed.gov/ncee/wwc/pdf/practice_guides/ost_pg_072109.pdf">http://ies.ed.gov/ncee/wwc/pdf/practice_guides/ost_pg_072109.pdf</a>	Social Determinants of Health, Objective 2
School	Success for All, in Grades K-2	This comprehensive school-wide reform program focuses on early detection and prevention of reading problems, primarily for high-poverty elementary schools. Additional programs are also available for middle and high school.	<a href="http://evidencebasedprograms.org/1366-2/success-for-all">http://evidencebasedprograms.org/1366-2/success-for-all</a>  <a href="http://www.successforall.org/">http://www.successforall.org/</a>	Social Determinants of Health, Objective 2
School	Programs for Social Emotional Learning from Collaborative for Academic, Social and Emotional Learning (CASEL)	Social and emotional learning (SEL) involves the processes through which children and adults acquire and effectively apply the knowledge, attitudes and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions.	<a href="http://www.case1.org/social-and-emotional-learning">http://www.case1.org/social-and-emotional-learning</a>  Note: Numerous programs are listed and evaluated for effectiveness	Social Determinants of Health, Objective 2
School	Responsive Classroom	<i>Responsive Classroom</i> is a research- and evidence-based approach to elementary education that leads to greater teacher effectiveness, higher student achievement, and improved school climate.	<a href="https://www.responsiveclassroom.org/about-responsive-classroom">https://www.responsiveclassroom.org/about-responsive-classroom</a>	Social Determinants of Health, Objective 2

## Current Initiatives & Activities

- ***Arts in Action***

North Carolina Arts in Action, serving over 500 fourth graders in the Durham area in 2013, uses performing arts as the catalyst to build focus, discipline, self-esteem, teamwork and leadership among public school children. NC's Arts in Action partners with classroom teachers in a growing number of Triangle public schools to increase attendance, improve classroom performance, and build confidence and self-worth among students.

Website: <http://www.ncartsinaction.org>

Phone number: 919-619-0483

- ***Durham Public Schools***

Website: <http://www.dpsnc.net>

Phone Number: (919) 560-2000

- ***Durham Performance Learning Center (DPLC)***

The Durham Performance Learning Center, opened in 2007 is an initiative of national Communities in Schools with support from the Bill and Melinda Gates Foundation and Durham Public Schools. DPLC is a small, non-traditional high school setting geared toward students who demonstrate the need for and willingness to engage in a business-like learning environment where assignments are completed with the assistance of learning facilitators, using on-line computer-based curriculum. The Magic Johnson Bridgescape Program provides a specifically tailored protocol geared toward high school completion for the dropout.

Website: <http://dplc.dpsnc.net>

Phone Number: (919) 560-9190 (PLC)

919-560-2679 ( Magic Johnson Bridgescape Program)

- ***Student U***

Student U is a college-access organization, funded by private donors and an array of foundations and corporate philanthropies, which believes all Durham students have the ability to succeed. Participating in Student U consists of engaging in a six-week summer enrichment and academic opportunity; and continuing with ongoing support during the school year through strategic internships, participation in the Read Fearlessly Program, parent and peer conferences and meet-ups, sponsored college campus tours, and daily after school adult mentoring and advocacy.

Website: <http://www.studentudurham.org/>

Phone Number: (919) 267-3958

- ***Durham Tech Gateway to College***

Gateway to College at Durham Technical Community College is an educational option for Durham Public Schools (DPS) students between the ages of 16 - 21 who have dropped out of high school but who now seek to earn a diploma and engage the college curriculum in a unique setting. Gateway to College offers students the opportunity to earn college credits amidst an array of

support services and provides scholarships for college tuition, fees, and books. Students accepted into the Gateway to College program demonstrate an eighth grade reading level and have a desire to work hard to attain a diploma and a college degree.

Website: <http://www.durhamtech.edu/gateway/>

Phone Number: (919) 536-7200

▪ ***East Durham Children's Initiative (EDCI)***

The East Durham Children's Initiative is a non-profit organization committed to changing outcomes and expectations for children and families living in a 120-block area of East Durham. Modeled after the Harlem Children's Zone, EDCI provides a pipeline of strategy high quality services to children and their families from birth through high school. EDCI's target public schools are Y.E. Smith Elementary School, Neal Middle School, and Southern High School.

Website: <http://edci.org/>

Phone Number: (919) 908-8709

▪ ***Emily K Center***

The mission of the Emily Krzyzewski Center is to inspire students to dream big, act with character and purpose, and reach their potential as leaders in their community. By providing students with the chance to hone skills, make friends, and strengthen neighborhood ties, the Emily K Center engages youth through an array of educational and enrichment programs; most notably its rigorously designed K to College after-school series, and its engaging summer basketball and drama camps. Summer camps and special bridge programming during vacation sessions support the Center's aim to build scholars, change lives, and, where it exists, break the cycle of poverty.

Website: <http://www.emilyk.org/>

Phone Number: 919-680-0308.

▪ ***Kidznotes***

Kidznotes is a music-for-social change initiative which engages students in an intense music program of instrumental instruction, choir, music theory, general music, orchestra and band. Established as an educational and community enrichment program based on the Venezuelan El Sistema model of musical instructional access for all children, Kidznotes provides instruction free-of-charge to interested students, pre-kindergarten through 12th grade. Kidznotes focuses on the lowest income neighborhoods in Durham and Wake Counties.

Website: <http://www.kidznotes.org/>

Phone Number: 919-321-4475

▪ ***Partners for Youth Opportunity***

Partners for Youth Opportunity (PYO) is a merged organization - bringing together Partners for Youth, and YO: Durham (an initiative begun via Durham-Congregations-in-Action.) Its mission is to partner with the community to provide specified Durham youth with positive opportunities to connect, develop, and contribute through mentoring, employment, and educational support. Intensive mentoring and support services focus especially on economically disadvantaged youth -

primarily from the West End neighborhoods, and students who are first generation immigrants.

Website: [http:// www.partnersforyouth.org](http://www.partnersforyouth.org)  
Phone Number: 919-536-4230.

▪ ***The Achievement Academy of Durham***

The Achievement Academy of Durham, a year-round daily school, teaches and supports young adults who have dropped out of school so that they may pursue opportunities education provides. AAD pairs formal education with the teaching of personal and leadership skills critical for high risk, initially low reading, hard-working students living in poverty.

Website: <http://www.achievedurham.org/>  
Phone Number: 919-956-8918

▪ ***The Hill Center***

The Hill Center's mission is "to transform students with learning differences into confident, independent learners," The Hill Center offers a unique half-day program to students with learning differences who attend either a public or private school for a portion of the day, in grades k - 12. The Hill Center operates on the premise that learning differences reflect neither a lack of motivation nor a lack of intelligence.

Website: <http://www.hillcenter.org/>  
Phone Number: 919-489-7464.

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## 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 care needs, to find a specialty provider when needed and to be able to receive that care without encountering significant barriers. Although affordability is often considered to be the primary barrier, other challenges include transportation, hours of operation, wait times for appointments, and language and health literacy issues. Special populations who face unique barriers include those who are experiencing homelessness, mental illness or non-English speakers such as some immigrants and refugees.

Health literacy is the ability to comprehend and make use of basic health information in order to make decisions about one's health. The American Medical Association reports that "Individuals with limited health literacy incur medical expenses that are up to four times greater than patients with adequate literacy skills."<sup>1</sup>

Lack of health insurance or limited insurance (underinsurance) is a major reason why people can't access care. In the United States, most individuals have private health insurance through their employer or a family member's employer. As the cost of insurance has increased over time employees are paying more and this may lead to favoring lower monthly premium plans, which often result in higher cost deductibles and copays when care is needed.<sup>2</sup> The Affordable Care Act, passed by Congress in March 2010, aims to expand health insurance coverage as well as improve the quality of care and reduce health care costs. Access to dental services has traditionally been distinct from health insurance coverage. The Affordable Care Act attempts to integrate both mental and dental services with health insurance for children and to a lesser extent for adults. (See more detail in the Oral Health section.)

*"For people in my family with private insurance, it's fine. People without, there are exams that are really expensive, for drugs, they may not get the right medicine ... or there's just no money to buy medicine"*  
- Focus group of immigrant Durham County residents

### Impact

When community residents lack access to primary and specialty health care, many aspects of their well-being are affected. Primary care physicians are often a person's first source of health information on the prevention and treatment of their chronic or recurring conditions. Without convenient access to primary care, residents may delay seeking care, or self-treat conditions that need professional attention. People who cannot access care often resort to obtaining medical care in the one place that cannot refuse them—the Emergency Department. This results in fragmented care and increased costs. The ultimate impact of inadequate access to medical care is seen in a

long list of health disparities—higher rates of infant mortality, premature death, chronic illness, and disability in community areas with the highest poverty.

### 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 (Lincoln), a Federally Qualified Health Center offers primary care and other services to the un- and under-insured in several locations. Duke Medicine and other non-Duke affiliated providers also provide some low-cost or donated care. The Durham County Department of Public Health provides free or low-cost clinical services. There are also several free health clinics in Durham County such as Healing with CAARE, Inc. and the Samaritan Health Center, that are able to operate largely with the support of volunteer medical professionals. Community organizations link to services

*“Most of us go to Lincoln and to the Health Department. It’s less expensive. They try to help us out”*

*- Focus group of Spanish-speaking mothers living in Durham County*

otherwise unavailable to uninsured and under-insured residents. Senior PharmAssist helps seniors with medication access, medication management, tailored community referral and provides Medicare insurance counseling as the Seniors’ Health Insurance Information Program (SHIIP) coordinating site for Durham County. Project Access of Durham County (PADC) links eligible low-income, uninsured, Durham County residents who use Lincoln Community Health Center for primary care with access to specialty medical care fully donated to the patients by the physicians, hospitals, labs, clinics and other providers participating in the network.

### Federal Affordable Care Act<sup>3</sup>

In 2010, President Barak Obama signed the Patient Protection and Affordable Care Act (ACA) into law. This should dramatically improve access to health insurance coverage in places where all aspects are implemented. The ACA requires that by 2014 most people must have health insurance or pay a tax penalty. The ACA allows states to expand Medicaid to all citizens with modified adjusted gross income below 138% of the federal poverty level (with the federal government paying majority of costs for newly eligible); however, North Carolina has not expanded Medicaid, meaning that improvements in access to care will be more limited here. The ACA also offers federal subsidies for health insurance for individuals with incomes between 100-400% of the federal poverty level. The ACA will eventually penalize larger employers that do not provide health insurance and provide tax credits to some small business that do offer health insurance to employees. Undocumented residents are not eligible for coverage under the ACA.

New health insurance plans must cover essential health benefits and the new benefit structure for health insurance transforms catastrophic risk. Not only can insurance companies not deny individuals coverage because of pre-existing conditions; the annual and lifetime benefit caps that individuals faced in the past (if they had catastrophic illness) are gone. Now, individuals in revised plans will not pay more than \$6,350 a year (in 2014) in medical expenses for in-network services (beyond premiums).

## Healthy NC 2020 Objective

### Crosscutting

Healthy NC 2020 Objective <sup>4</sup>	Current Durham	Current NC	2020 Target
1. Reduce the percentage of non-elderly uninsured individuals (aged less than 65 years)	19% (2012) <sup>5</sup>	19% (2012) <sup>6</sup>	8.0%

### Secondary Data

The Robert Wood Johnson Foundation collaborated with the University of Wisconsin Population Health Institute to develop rankings for each state's counties. These measures assess both determinants of future health as well as current health outcomes. In the 2014 report, Durham County ranked 17th overall in the state for health outcomes, which reflect both length and quality of life and 12<sup>th</sup> overall in the state for health factors, which include health behaviors, clinical care, social and economic factors and the physical environment. Among the health factors, the highest rank Durham County received (6th overall in the state) was in the subcategory of Clinical Care, an area which addresses issues of healthcare access.<sup>7</sup> Table 4.04(a) depicts a summary of these results:

Table 4.04(a) County Health Rankings Data for Durham and North Carolina<sup>8</sup>

Measure	Durham County	North Carolina
Uninsured adults (Percent of population under age 65 without health insurance)	19%	19%
Primary Care Providers (Ratio of population to primary care providers)	809:1	1462.:1
Dentists (Ratio of population to dentists)	1465:1	2075:1
Mental Health Providers (Ratio of population to mental health providers)	265:1	715:1
Preventable hospital stays (Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees)	46	60
Diabetic screening (Percent of diabetic Medicare enrollees that receive HbA1c screening)	87%	88%
Mammography screening (Percent of female Medicare enrollees that receive screening)	68%	68%

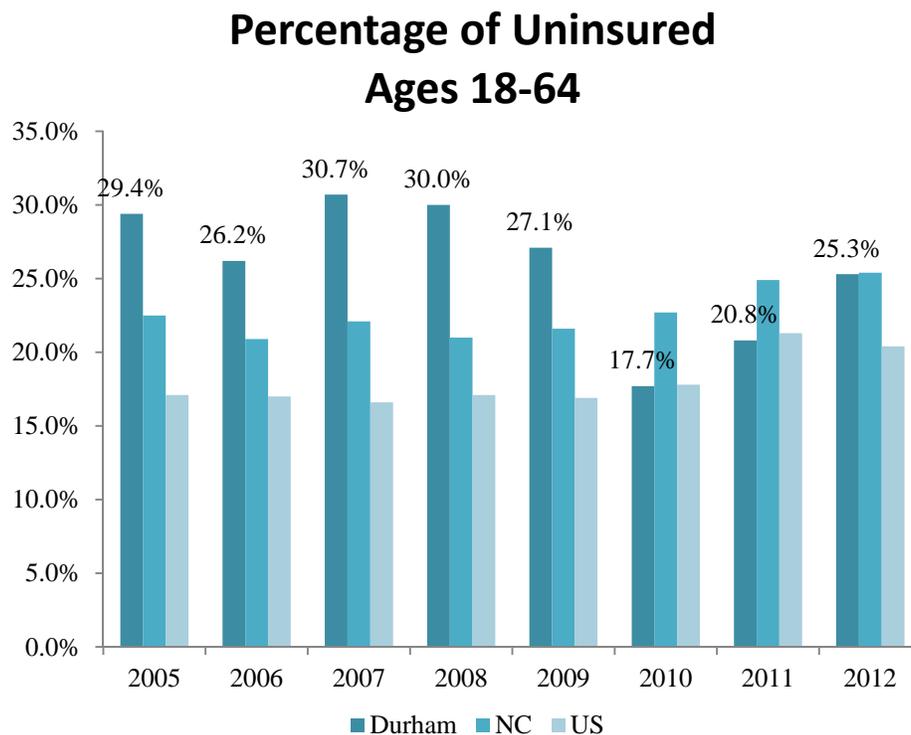
Durham County is among the highest performing counties nationally for number of providers (primary care, dentists and mental health) and preventable hospital stays. Durham falls slightly below highest performing counties nationally for diabetic and mammography screenings. Therefore, it might be expected that Durham County residents have easy access to care.

However, access to care depends on income, education and in particular on access to health insurance. Durham County has a large low-income population; Durham County's lowest ranking

(23 out of 100 counties) is in social and economic factors, which include measures of education and income. In addition, several of these measures are based on the Medicare population and do not account for the un- and under-insured as well as those with other insurance providers. In the highest performing counties, only 11% of adults under 65 are uninsured, compared to 19% in Durham County. Because many do not have comprehensive health insurance, while excellent care is available in Durham County, it is not accessible to many county residents.

## Primary Data

The North Carolina State Center for Health Statistics collects information from Behavioral Risk Factor Surveillance System (BRFSS), which is a phone survey of residents throughout North Carolina. Note that BRFSS methods changed slightly in 2011 (to include cell phone numbers) and therefore 2011 and 2012 should be compared to prior years with caution. Figure 4.04(a) below shows a declining trend of the percentage of uninsured in Durham County.<sup>9,10</sup>



**Figure 4.04(a) Percentage of Uninsured: Durham, NC & US**

### 2013 Durham County Community Health Opinion Survey<sup>11</sup>

The 2013 Durham County Community Health Opinion Survey included a random selection of Durham County households and asked residents questions regarding their health status and that of their community. The survey included two samples, one of households in census blocks randomly selected from all county census blocks (county sample) the other of random census blocks chosen

from census blocks with more than 50% Hispanic residents. The survey included these questions on health insurance and access to health care:

- *During the past 12 months, was there any time that you did not have any health insurance or coverage?* 19% of respondents in the county sample answered “yes.” Over half of these respondents had private health insurance plans (the majority with Blue Cross Blue Shield of North Carolina), 14% had Medicare, 7% had State Employee Health Plan, and 5% had Medicaid. Among respondents from predominantly Hispanic neighborhoods, 86% responded that they had not had health insurance during the past year.
- *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, dentist, pharmacy or other facility?* Only 5% of respondents in the county sample answered “yes”; 16% of respondents from predominately Hispanic neighborhoods answered “yes.” Among the county sample, respondents had trouble accessing dental care, medications, hospital and eye care; among predominately Hispanic neighborhoods, access to general practitioners, pediatricians and ob-gyn care was also cited.
- *Where do you go most often when you are sick?* 69% of county sample respondents selected doctor’s office (whereas among respondents from predominately Hispanic neighborhoods, the largest group (43%) selected Lincoln Community Health Center).
- Among the community issues respondents listed as having the *greatest effect on quality of life in Durham County*, lack of/inadequate health insurance ranked 6<sup>th</sup> highest (selected by 13% of respondents in the county sample). Respondents from predominately Hispanic neighborhoods selected lack of/inadequate health insurance as one of the top three issues.
- Finally residents were asked, *“In your opinion, which one of the following services needs the most improvement in your neighborhood or community?”* For both samples, more affordable health services ranked highest (selected by 23% of county sample respondents and 45% of Hispanic neighborhood sample respondents).

### Interpretations: Disparities, Gaps, Emerging Issues

Durham is a community rich in medical resources. Data consistently identify the availability of medical providers with an exceptionally good ratio of providers to the number of residents. This number is misleading, however, because these providers serve patients from outside Durham County and not all Durham residents can access them. Duke Medicine is a regional hub for medical care that attracts people from across North Carolina, adjoining states and around the world who are seeking care for complex conditions. 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. For example, the Community Health Opinion Survey shows that Hispanic residents were less likely to have health insurance and cited more barriers to accessing healthcare.

The Affordable Care Act should reduce the number of uninsured Durham County residents. Currently there are approximately 47,700 uninsured individuals in Durham. About 20,000 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 23,000 have income below 138% of federal poverty level (would be potentially eligible for Medicaid if North Carolina expands under ACA and not penalized if do not purchase health insurance).<sup>12</sup> However, it is critical to note that these figures do not factor in legal status and undocumented immigrants will remain uninsured.

## Recommended Strategies

- Improved coordination and collaboration can make the most of limited resources.
  - Improve collaboration between hospitals and community organizations to meet community needs. Under the Affordable Care Act (ACA), nonprofit hospitals are required to conduct community assessments to identify community needs and implement strategies to address the findings. While Duke Medicine and the Durham County Department of Public Health collaborate to perform the triennial community health assessment, this is a further opportunity for close collaboration between Durham’s health providers and advocacy groups, particularly the safety net providers, and the hospitals.<sup>13, 14</sup>
  - Continue to encourage clinics providing care to the uninsured or underinsured on a sliding scale or free basis to work together and share best practices. This teamwork could help partners identify and grow local resources while also working together to fill in gaps. This may result in a more user-friendly “system” for those seeking help, improved patient safety, less duplication of effort, and better stewardship of limited resources. This collaboration is supported by the Center for Medicare and Medicaid Services (CMS), which provides financial incentives for providers and hospitals to share medical data via the “meaningful use” electronic health record criterion.
  - Increased collaboration across the mental health and medical systems would also be welcome, and is supported by Affordable Care Act legislation. Current activities in Durham include a collocation program at a local primary care office initiated by the Durham Community Health Network and the location of a half-day primary care clinic at the county mental health crisis center (Durham Center Access).
- Support the development of collaborative Accountable Care Organizations (ACOs). ACOs, an initiative of the Affordable Care Act, have the potential to improve access to care through increased collaboration and communication and through a focus on quality rather than quantity of care. With the creation of Duke’s new Medicare Shared Savings Program ACO, called Duke Connected Care, and the NC Department of Health and Human Services recently announcing that Medicaid providers will now begin forming ACOs, local providers have the opportunity to think and invest outside of the usual “medical model” box that limits cooperation. Much of the work to improve care nationally via ACOs and other coordinated care models involves paying close attention when patients “transition” from one environment to another (i.e. from the hospital back home) to ensure that the

involved providers are linked, and that medication changes, follow-up appointments, etc. are communicated effectively and are supported by the team of providers – including community-based organizations that focus on prevention.

- Improve access to Social Security disability benefits for individuals with physical and mental or cognitive difficulties. Individuals receiving disability benefits also receive health insurance coverage through Medicaid and/or Medicare. The illnesses and deficits which make these adults unable to hold a full-time job for twelve months or longer also make it difficult for them to complete the disability application without assistance. In fact national data indicates that only 35% of applicants are approved on their first application and this number is only 15% for people experiencing homelessness.<sup>15</sup> A national program funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) called SOAR has resulted in improved success rates for applicants. Grant funding provided by the NC Coalition to End Homelessness supports several county agencies to hire SOAR workers. One hundred and seventy-nine applications have been submitted with an 85% approval rate (much higher than the average approval rate) and a resulting combined income of almost one million eight hundred and fourteen million dollars since 2010.<sup>16</sup> Increased access to SOAR workers and SOAR trained clinicians would benefit Durham's uninsured population.
- Continue to disseminate useful health coverage information and advocate for basic access to care and expansion of coverage options.
  - Support statewide efforts to expand Medicaid.
  - Learn from the first open enrollment period for the federal insurance marketplace under the ACA to improve and expand upon outreach efforts, with a special focus on low-income uninsured adults and children.
  - Assure adequate in-person assistance available to help persons to enroll in health insurance plans through the marketplace and to understand how to use their health insurance.
  - Increase opportunities for adults with disabilities and seniors to learn about the open enrollment process for health insurance and Medicare part D plans.
  - Evaluate access to primary and specialty care and prescription medications for persons newly insured through the marketplace to address barriers that might arise.
- Make sure low-cost or free transportation to medical services is available. Many Durham residents have limited access to transportation due to financial or physical barriers. Enhancing transportation accessibility improves access to healthcare. Options for affordable transportation include increased free bus routes along routes serving community

*“There are many who say they want to know about Obamacare.”*

*“I think almost nobody knows. Most don't.”*

*“I think most people don't know the information we ought to know.”*

*- Focus group of Spanish-speaking mothers living in Durham County*

hospitals or health clinics, bus “access cards” which can be provided to clients by health and human service agencies, and reworking routes to improve timely access to health settings from low income neighborhoods.

- Develop medical respite care (acute care in temporary housing with case management) for homeless persons being discharged from hospitals with health issues temporarily requiring more supportive, stable housing than provided by shelters. This could assist these individuals in stabilizing their social situation while improving access to healthcare through access to primary care. In addition, it would decrease hospital costs through a reduction in avoidable emergency room use and hospital readmissions.<sup>17, 18</sup>
- Develop a “closet” to loan durable, sanitized medical equipment to uninsured and underinsured persons to improve comfort, function and quality of life.
- Develop a county-wide workgroup to evaluate access to dental care and make specific recommendations for how to increase access to dental care.
- Develop initiatives to improve health and health insurance literacy. Partner with schools, libraries, adult basic education and ESL programs, and other community based organizations to provide in-person assistance and to develop and disseminate appropriate materials.

## Current Initiatives & Activities

- ***Brochures on Affordable Care Act, Medical Options for the Uninsured and Underinsured, Applying for Disability Benefits, and Free and Low Cost Transportation Options in Durham County***

*Affordable Care Act*, available in English and Spanish, provides information on the Health Insurance Marketplace. *Medical Options*, available in English and Spanish, provides information about the health care services available to uninsured and under-insured residents in Durham County. It lists several resources (including community health center, health department, and free clinics). *Applying for Disability Benefits* provides information about SSI and SSDI and answers common questions about applying for disability. *Free and Low Cost Transportation*, available in English and Spanish, provides information on the many types of transportation assistance related to health available in Durham County.

Website: [http://www.healthydurham.org/index.php?page=resources\\_pubs](http://www.healthydurham.org/index.php?page=resources_pubs)

Phone Number: (919) 560-7833

- ***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 and advocates for changes that will affect health care coverage for residents.

Website: <http://www.healthydurham.org>

Phone Number: (919) 560-7833

- ***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.

Website: <http://projectaccessdurham.org>

Phone Number: (919) 470-7262

- ***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.

Website: <http://www.lincolnchc.org>

Phone Number: (919) 956-4000

- ***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.

Website: <http://dconc.gov/index.aspx?page=379>

Phone Number: (919) 560-7600

Number:

- ***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. Walk-in crisis help is available at the Durham Access Center at 309 Crutchfield St., Durham.

Website: <http://www.alliancebhc.org/>

Phone Number: (800) 510-9132 or (919) 510-7100 (Call-in lines)  
(919) 560-7200 (Main Durham Center Number)

- ***Duke Division of Community Health***

Administers the Durham Community Health Network (DCHN) and Local Access to Coordinated Healthcare (LATCH), which are community-based care management programs that aim to improve health, access to healthcare, and healthcare utilization outcomes among Durham's Medicaid and uninsured population. Services include: health services coordination and navigation; post-hospital follow-up; patient education; chronic disease management; education and advocacy applying for Medicaid, Food Stamps, and other social services, and referrals to other community agencies.

Website: <http://communityhealth.mc.duke.edu>

Phone Number: (919) 613-6530

- ***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. Also contracts with Alliance Behavioral Healthcare to provide substance abuse treatment services and works with the VA Hospital to provide housing services for veterans. Additional services include emergency financial support services and assistance with housing as well as health and wellness programs for the community.

Website: <http://www.caare-inc.org>

Phone Number: (919) 688-0308

- ***The Samaritan Health Center***

Provides medical, vision, and dental services to low income (<200% of poverty) men, women, and children for residents at Durham Rescue Mission (DRM) Medical and soon dental care may also be available to non-DRM residents.

Website: <http://www.samaritanhealthcenter.org/>

Phone Number: (919) 407-8223

- ***Senior PharmAssist***

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, and advocacy. The clinic is located in the Durham Center for Senior Life and works by appointment.

Website: <http://www.seniorpharmassist.org>

Phone Number: (919) 688-4772

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## Section 4.05 *Employment, income and worksite health*

### Overview

Employment, income and worksite health are important social determinants of health. Employed people with sustainable incomes and healthy and safe work environments have longer life expectancies than those who are unemployed or working in unhealthy conditions.<sup>1</sup>

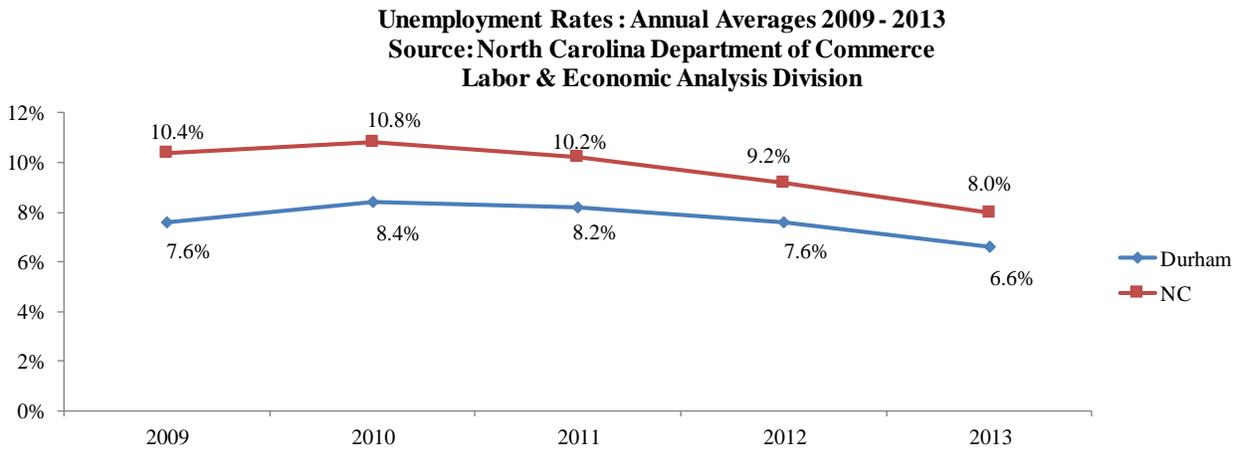
Employment status and income inequality can impact health in five significant ways. First, employment is a primary source by which health insurance is obtained by individuals and their families. Second, the nature of one's employment status (hourly, part time, etc.) determines to an extent one's income 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, non-sustainable or loss of income or unhealthy working conditions may contribute to poor health conditions such as high blood pressure, obesity, depression, ergonomic-related conditions or a tendency toward obsessive compulsive behavior, many of which lead to addictions. Finally, places with more inequality have worse health outcomes for low income people and for the wealthy.<sup>2</sup>

### Healthy NC 2020 Objective

Healthy NC 2020 Objective <sup>3</sup>	Current Durham	Current NC <sup>4</sup>	2020 Target
Reduce mortality from work-related injuries (per 100,000 population)	Not available	3.7	3.5

### Secondary Data

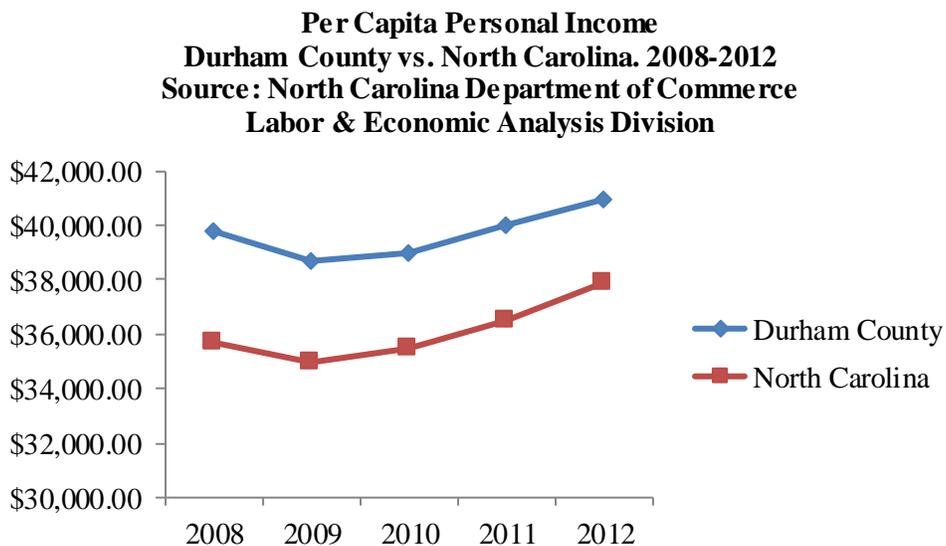
Over the last five years, average unemployment rates in Durham County were lower than in North Carolina<sup>5</sup> as depicted by Figure 4.05(a).



**Figure 4.05(a) 2009-2013 Annual Unemployment Rates**

Although Durham County has experienced a lower unemployment rate than the State over the last five years, the reasons for the trend are not entirely positive. Job creation for 2013, as reported for the third quarter, continues to be strong<sup>6</sup> affording opportunities for employment. However, the number of people in the labor market has decreased from 147,746 in December 2012 to 145,957 in December 2013 (a 1.2% decrease).<sup>7</sup> People not in the labor market (i.e., not actively looking for a job) are unemployed, but are not counted in unemployment statistics; a decrease in people in the labor market means more unemployed who are not being counted in official unemployment statistics.

Per capita income has increased within Durham County by \$1,147 from 2008 to 2012 and has remained higher than the State over this five year period as shown in Figure 4.05(b).<sup>8</sup>



**Figure 4.05(b) Per Capita Personal Income**

The 12 largest employers in Durham represent a rich industrial foundation and a diversified portfolio of private and public entities, which provide a strong economic foundation for the county. These businesses, in order of number of employees, are highlighted in Table 4.05(a) below.<sup>9</sup>

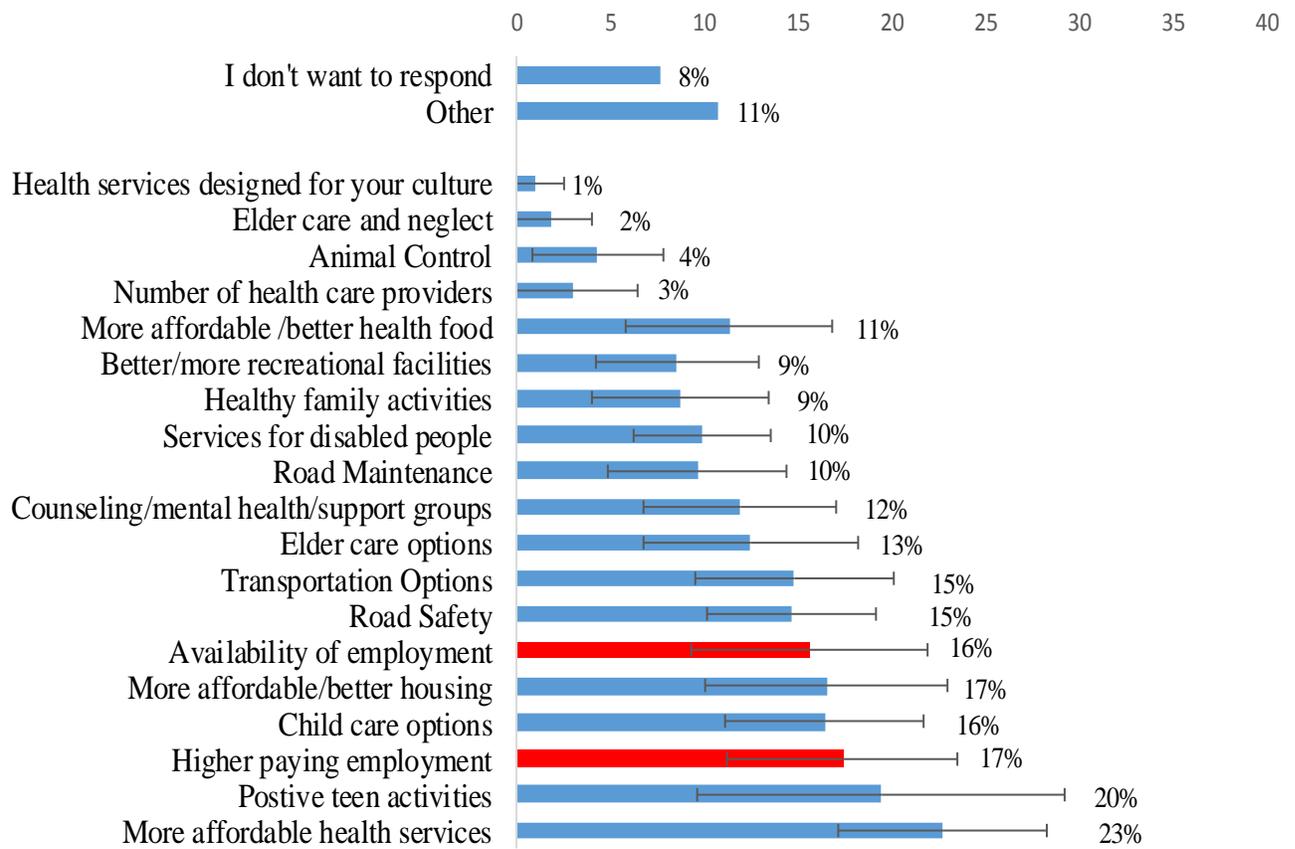
**Table 4.05(a) Largest Employers in Durham County as of February 2014**

Company Name	Industry
Duke University	Education & Health Services
International Business Machines Corporations	Manufacturing
Durham Public Schools	Education & Health Services
GlaxoSmithKline	Education & Health Services
Veterans Administration	Public Administration
Blue Cross & Blue Shield Of NC Inc	Financial Activities
City Of Durham	Public Administration
Fidelity Workplace Services LLC	Professional & Business Services
Cree Research Inc	Manufacturing
RTI International	Professional & Business Services
Quintiles Inc	Professional & Business Services
Durham County	Public Administration

## Primary Data

### 2013 Durham County Health Opinion Survey Results<sup>10</sup>

Though Durham County's average annual unemployment rate has been less than the State's while its per capita income has risen, Durham experienced the increase in unemployment due to the recession. Respondents to a 2013 Survey indicated employment and sustainable income were of concern. When survey respondents were asked about the services in most need of improvement, employment and higher paying employment were two of the six most frequently cited responses, as shown in Figure 4.05(c).



**Figure 4.05(c) “Choose the 3 services that need the most improvement in your neighborhood or community”**

In addition, survey respondents asked to select the three which they felt had the greatest impact on quality of life within the county. The top response was “Low income/poverty” cited by 34% of survey respondents. The full results of this question are depicted in Figure 4.05(d) below.

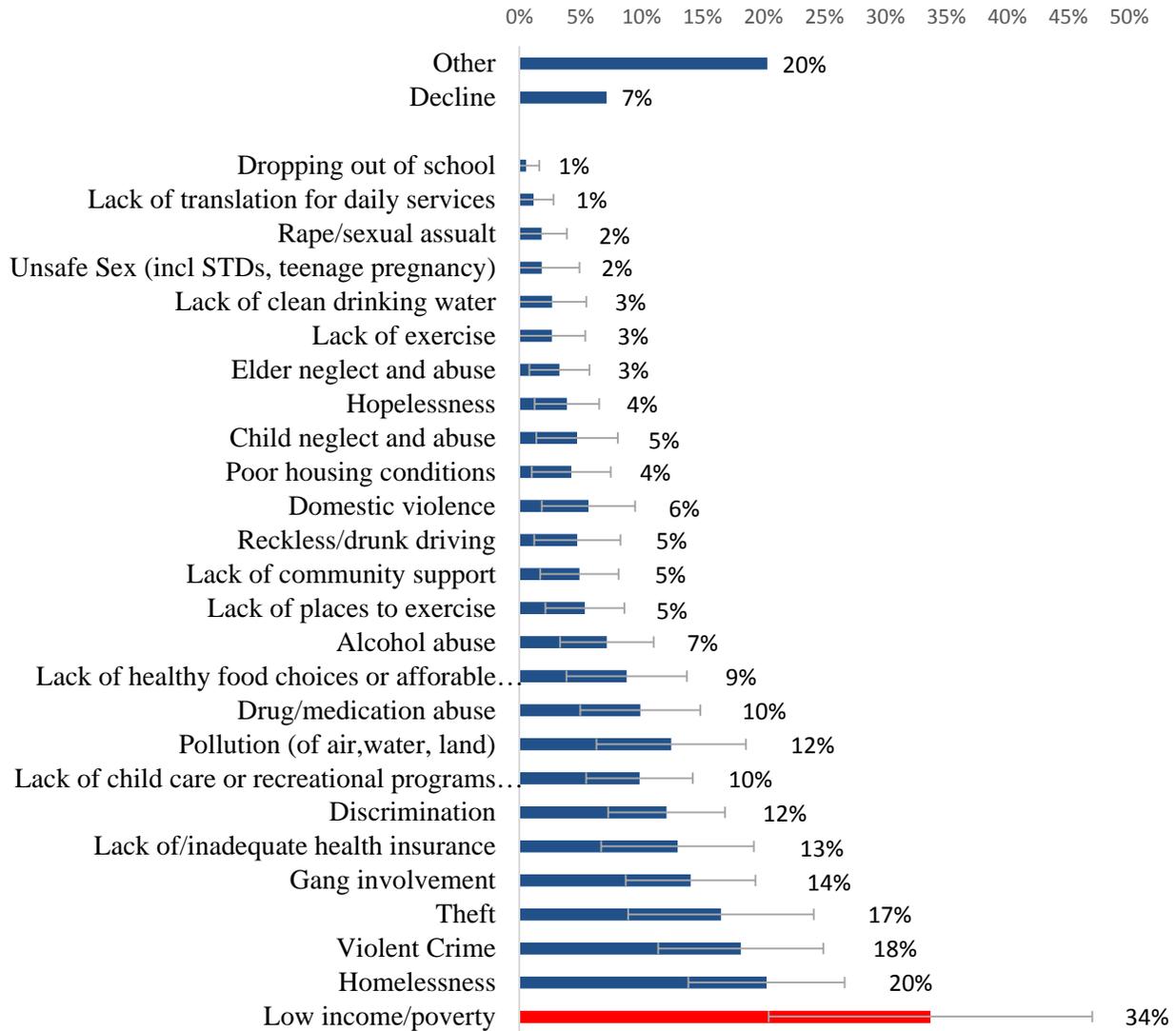


Figure 4.05(d) "Choose the top 3 issues that impact quality of life in Durham County"

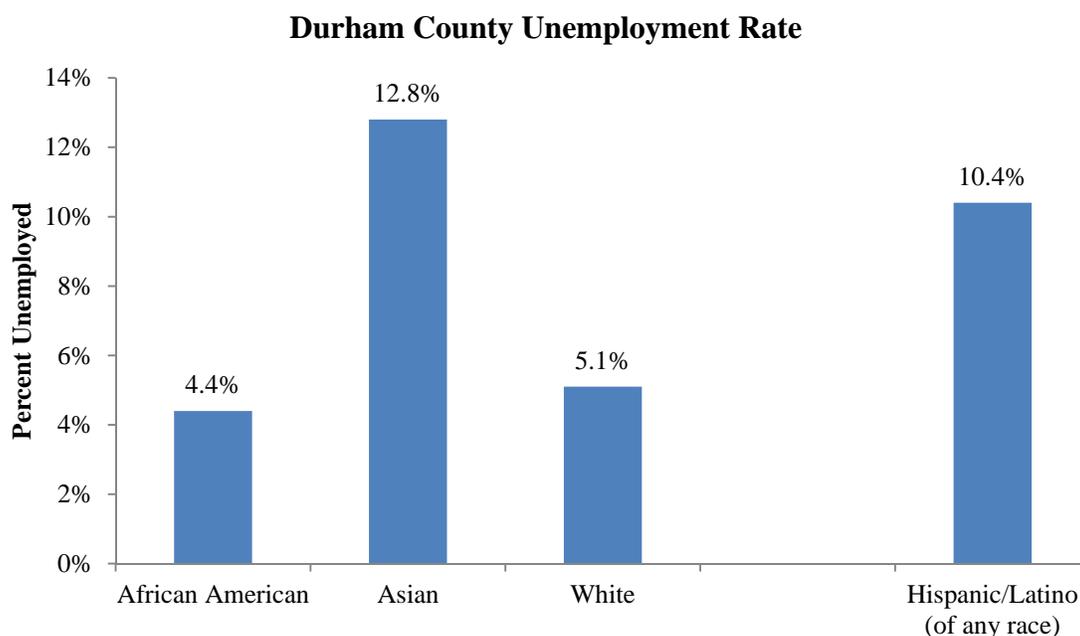
### Worksite Health

The topic of worksite health was addressed by one question in the Durham County 2013 Community Health Assessment Survey. Respondents were provided a list of location sources for being exposed to secondhand smoke and asked to select the one from which they felt they were exposed the most. "Workplace" cited by 13% of survey respondents was the fourth most prevalent choice following the choices of "Other", "Home" and "Restaurants."<sup>11</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

### Disparities

The economic growth of this region is not reaching all people equally. Minorities are much more likely than non-Latino Whites to be unemployed in Durham as illustrated in Figure 4.05(e).



**Figure 4.05(e) Employment Racial Disparities<sup>12</sup>**

Additionally, the estimated unemployment rate amongst persons with disabilities within the County is 17.1 percent.<sup>13</sup>

Whites and Asians also have higher median household incomes compared to minorities:

- Hispanic or Latino (of any race) median income – \$39,215<sup>14</sup>
- Asian – \$62,004<sup>15</sup>
- Black or African American – \$37,199<sup>16</sup>
- White – \$63,950<sup>17</sup>

Persons with disabilities may also experience challenges securing suitable employment. The median earnings for adults with a disability was \$20,111 compared to median earnings of \$31,074 for the same population group without a disability.<sup>18</sup>

### Gaps and Unmet Needs

Several barriers make securing or sustaining a job difficult for many people. These barriers include a lack of availability or access to reliable transportation or childcare, lack of employable skills,

homelessness, criminal history, substance abuse/mental health issues and credit problems. The lack of a GED or high school diploma, basic/intermediate computer knowledge (internet, typing, word processing, book keeping, databases), and soft skills (i.e., resume building, interviewing, job retention, conflict management) also affect an individual's ability to competitively seek, gain and retain employment. Furthermore, most companies now require applicants to submit job applications electronically. In some industries walking in the door to get a job used to be the norm; that trend has been erased due to competition for jobs, increased applicant flow and a need for greater operational efficiency.

Some of the unmet needs for those who are unemployed or underemployed include:

- A transportation system that provides better access to area employers including access to communities outside of Durham County.
- More robust and affordable job training and placement into the area's high growth sectors. This training may include postsecondary degrees, short-term certificate-based training, computer skills training and job retention support.

### Emerging Issues

In 2013, it was announced that 1,865 jobs and over \$545 million of development and capital investment will be created in Durham by new and expanding businesses over the next several years.<sup>19</sup> This job creation will help diversify and strengthen the economy. The announced jobs include positions in manufacturing, financial services, pharmaceuticals, information technology, biotechnology and healthcare among others. In addition, construction and service-related jobs will be supported by the announced development and capital investment.

The announced investment and jobs provide opportunity for Durham's unemployed and underemployed. The majority of the forecasted jobs to be created will require degrees, professional certifications or industry experience, as well as a high level of soft and analytical skills. Obtaining the necessary education or skill sets may pose a challenge for individuals terminated from un-related industries or more entry-level positions. While the Triangle remains one of the highest growth employment areas in the nation, young people who grow up in Durham are still not accessing those opportunities.<sup>20</sup>

Though Durham's unemployment rate is improving, the situation for the unemployed is worsening. The maximum time and wage for unemployment insurance decreased for new claims, due to recent state legislation.<sup>21</sup> These factors impact the unemployment rate as individuals that have removed themselves from the employment search process or individuals for whom the unemployment earnings period has expired are no longer counted in the unemployment rate yet they remain unemployed.

Less unemployment wages and shorter earning periods place a stress on individuals when attempting to maintain transportation, access childcare or pursue retraining.

Since most health insurance in the U.S. is provided by employers, the Affordable Care Act has significant effects on workplace health. The law puts in place comprehensive health insurance reforms that will roll out over four years and beyond.<sup>22</sup>

Primary tenets of the law include:<sup>23</sup>

- Ends pre-existing condition exclusions for children under 19
- Young adults under 26 may be eligible to remain covered under a parent’s health plan
- Ends arbitrary withdrawals of insurance coverage
- Ends lifetime limits on coverage for most benefits for all new health insurance plans
- Premium increases must be publicly justified by insurance companies
- Premium dollars must be spent primarily on health care
- Covers preventive care at no cost
- Protects choice of doctors
- Ensures emergency care at a hospital outside of one’s health plan’s network

The intent of the Affordable Care Act is to make health insurance coverage more affordable and accessible for Americans. For racial and ethnic minorities, the law addresses inequities and increases access to quality, affordable health coverage by investing in prevention and wellness and giving individuals and families more control over their care.<sup>24</sup>

### Recommended Strategies

Numerous strategies can assist individuals with finding employment, supplementing income and improving worksite health.

#### Employment & Income Strategies

Evidence – based strategies include:

- Career academies. Small learning communities in low-income high schools, combining academic and technical/ career curricula, and offering workplace opportunities through partnership with local employers have proven to be an effective approach to preparing individuals for real-world careers and promoting sustained annual earnings.<sup>25</sup> Several academies/specialty schools exist within Durham County.
- Sectoral (i.e., industry-specific) job training programs for unemployed, disadvantaged workers. These type of trainings have proven to be effective in increasing average earnings and duration of employment amongst graduates.<sup>26</sup>

Other potentially effective strategies include:

Issue	Strategy
Transportation to get to interviews or work	<ul style="list-style-type: none"> <li>• Submission of grant applications to the Federal government to pursue funding for transportation/vehicle repair to</li> </ul>

	<p>provide work-related trips for unemployed/employed persons.</p>
Employment search assistance	<ul style="list-style-type: none"> <li>• Increase the number of individuals registered with the Durham Career Center. Registration increases an individual's likelihood of accessing assistance from professional employment counselors and participation in a range of workshops focused on gaining/enhancing employment.</li> <li>• A new State program has been initiated to focus on individuals claiming unemployment to acclimate them to local Career Centers to assist with their employment search<sup>27</sup>. Targeted populations including veterans and former-offenders are served by specially trained staff.</li> </ul>
Job training	<ul style="list-style-type: none"> <li>• Better align training options to Durham's growth industries</li> <li>• Apply for more job training grants to provide affordable or free short-term trainings</li> <li>• Increased participation in soft skill offerings through the Human Resource Development program at Durham Technical Community College</li> <li>• Increased enrollment in training programs like the Durham Economic Resource Center</li> </ul>
Training credentials	<ul style="list-style-type: none"> <li>• Increase GED/High School diploma rate</li> <li>• Increase in completion of both short-term, certificate-based trainings and other types of postsecondary credentials</li> <li>• Increase completion of the Career Readiness Certificate which provides existing and potential job candidates with a credential that proves their skill level to enhance employability</li> </ul>

### Worksite Health Strategies

Building a workplace health program should involve a coordinated, systematic and comprehensive approach. A coordinated approach to workplace health promotion results in a planned, organized, and comprehensive set of programs, policies, benefits and environmental supports designed to meet the health and safety needs of all employees.<sup>28</sup>

Workplace health promotion programs are more likely to be successful if occupational safety and health is considered in their design and execution which can be achieved through following a four step systematic process which includes: Assessment, planning, implementation and evaluation.<sup>29</sup> The overall four step process is shown in the figure below.

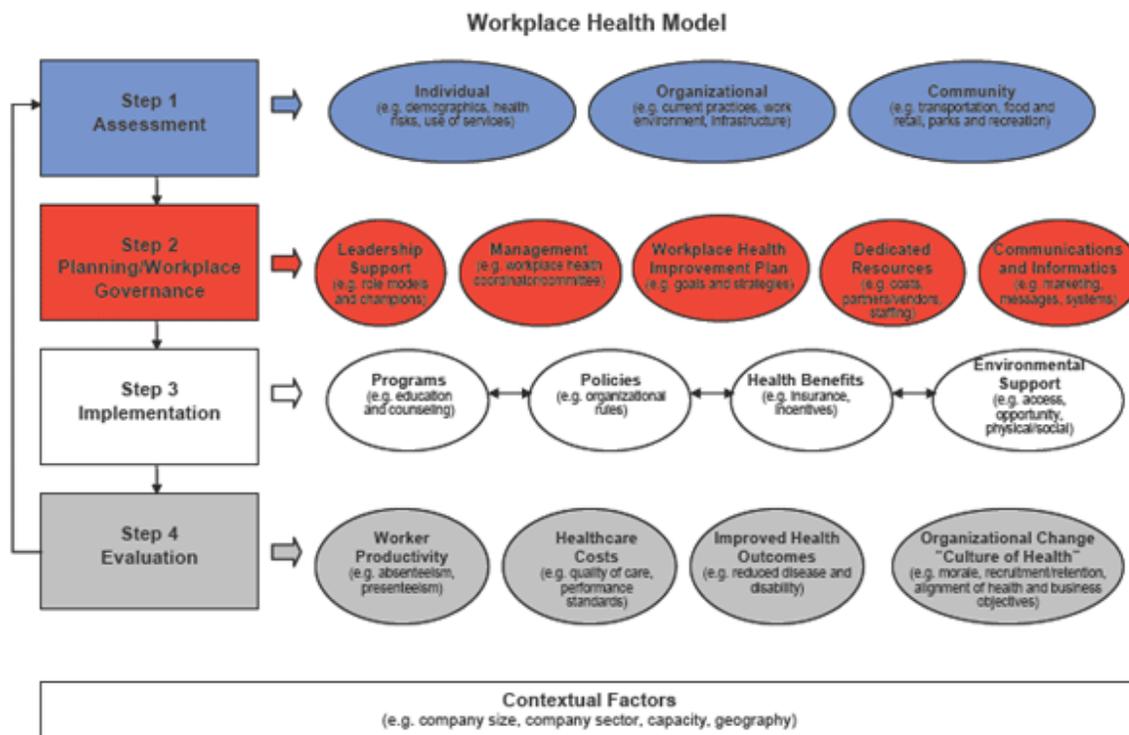


Figure 4.05(f) Workplace Health Model<sup>30</sup>

### Current Initiatives & Activities

Durham County has many resources to assist underemployed and unemployed individuals with career guidance, employment search and training, as well as addressing socio-economic factors that contribute to lack of employment.

▪ **The Durham Career Center**

Durham's Career Center System is a partnership of local workforce development professionals providing services geared to assisting:

- Area businesses with recruiting, retention and training;
- Area residents with career awareness, work readiness and employment search.

Targeted job-seeker populations are served through programs for veterans, youth and persons with disabilities.

Website: <http://www.durhameconomicdevelopment.org>  
Phone Number: (919) 560-6880

▪ ***The Durham Workforce Development Board (DWDB)***

The Durham Workforce Development Board provides guidance and oversight to the Durham Career Center system. The Board is comprised of private and public entities with a majority private.

Website: <http://www.durhamworkforce.org>  
Phone Number: (919) 560-4965

▪ ***The Department of Social Services***

A wide range of services is offered for residents. WorkFirst is North Carolina's Temporary Assistance for Needy Families (TANF) plan to help families transition from public assistance to employment. WorkFirst provides assistance with job search, vocational training and employment retention benefits such as day care assistance, transportation and time limited cash assistance to families with children under age 18 who meet income and resource guidelines.

Website: <http://www.ncdhhs.gov/dss/workfirst/>  
Phone Number: (919) 527-6300

▪ ***N.C. Division of Vocational Rehabilitation Services***

Assists businesses with hiring individuals with disabilities and provides career guidance and job search assistance to jobseekers with disabilities.

Website: <http://www.ncdhhs.gov/dvrs/>  
Phone Number: (919) 560-6810

▪ ***Durham Technical Community College***

Numerous for credit, career & technical and continuing education training opportunities are available to assist entry- level to more established jobseekers in their search for employment or career enhancement. Soft skill trainings are offered to accommodate individuals with work readiness components, such as resume writing, applications and interviewing. Seminars, workshops and counseling are also available to assist with starting or enhancing a business.

Website: <http://www.durhamtech.edu/>  
Phone Number: (919) 536-7200

▪ ***City of Durham's Former-Offender Program***

Provides professional career counseling, employment search and retraining for individuals with criminal backgrounds.

Website: <http://www.durhameconomicdevelopment.org>

Phone Number: (919) 560-6880

▪ ***Durham Economic Resource Center***

Assists adults in poverty by administering technical job training, relevant programming and making reduced price merchandise accessible. The Center is an initiative of End Poverty Durham, a collaborative of faith and community-based organizations, as well as government entities and is modeled after a component of the award-winning Welfare Reform Liaison Program of Greensboro, NC.

Website: <http://www.durhameconomicresourcecenter.org/>

Phone Number: (919) 682-5912

▪ ***Made in Durham***

Facilitated by MDC, Made in Durham is an on-going initiative to implement an education-to-career system for Durham by equipping Durham's youth and young adults with the skills necessary to gain rewarding careers in the Triangle.

Website: <http://www.mdcinc.org/projects/made-durham>

Phone Number: 919.381.5802

In addition there are numerous private firms that provide employment and outplacement assistance to individuals affected by layoffs/closures.

Numerous healthy living programs available to businesses also exist including:

▪ ***Eat Smart, Move More, Weigh Less***

Eat Smart, Move More, Weigh Less is a 15 week weight-management program that uses strategies proven to work. Each lesson informs, empowers and motivates you to live mindfully as you make choices about eating and physical activity. The program is offered in the community and local worksites through a collaborative effort between Durham County Health Department and Cooperative Extension.

Website: <http://www.eatsmartmovemorenc.com/>

Phone Number: (919) 707-5224

▪ ***Health Promotion & Wellness***

Provides educational programs to adults in community, faith-based and workplace settings. Program topics include cardiovascular health, smoking cessation, fitness/exercise, wellness, diabetes, domestic violence, gun safety, injury prevention, senior health and cancer prevention/education. Provided through the Durham County Public Health Department.

Website: <http://www.dconc.gov/>

Phone Number: (919) 560-7760

▪ ***Nutrition Communications and Health Promotion***

Conducts nutrition and wellness education in community-wide health initiatives including workshops, health fairs, work-site wellness programs, and mass communications. Provided through the Durham County Public Health Department.

Website: <http://www.dconc.gov/>  
Phone Number: (919) 560-7837

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## Section 4.06 *Crime and safety*

### Overview

Violence has been recognized as a public health issue by researchers and public health agencies over the past 30 years.<sup>1</sup> Homicide and suicide are consistently among the leading causes of death in the United States and were the 11<sup>th</sup> and 13<sup>th</sup> leading causes of death, respectively in Durham County during the 2008 to 2012 time period.<sup>2</sup> In addition to these direct effects on health, crime produces stress which can lead individuals to withdraw from their communities and can impact short-term and long-term health.<sup>3</sup> Therefore, crime and safety are important public health issues and an overview of crime and safety information for Durham County in 2013 is presented here.

### Healthy NC 2020 Objective

Healthy NC 2020 Objective <sup>4</sup>	Current Durham <sup>5</sup>	Current NC <sup>6</sup>	2020 Target
Reduce the homicide rate (per 100,000 population)	7.5 (2012)	6.0 (2012)	6.7

### Secondary Data

In recent years, crime rates in North Carolina have declined; between 2003 and 2012, the rate of violent crimes per 100,000 residents declined from 456 to 358, and the rate of property crimes dropped from 4,272 to 3,408.<sup>7</sup>

### Primary Data

#### 2013 Durham County Crime Statistics

Recent Durham County crime data reflect this same downward trend. Over the past 10 years, both property and violent crime continue to be on the decline.<sup>8</sup> In 2003, Durham reported 840 violent crimes per 100,000 residents and 6,880 property crimes per 100,000. In 2012, these numbers dropped to 717 violent crimes per 100,000 and 4,296 property crimes per 100,000, 15% and 38% declines respectively. Durham's crime is at or below average compared to communities of similar size and makeup nationally and in the Southeast, as shown in Tables 4.06(a) and 4.06(b) below. Durham's overall 2012 crime rates (642 violent crimes and 4,017 property crimes per 100,000) are slightly higher than the North Carolina peer cities included in this comparison (Greensboro: 561 violent crimes and 4,352 property crimes per 100,000; Raleigh: 421 violent crimes and 3,256 property crimes per 100,000).<sup>9</sup>

Burglary	1,389.05
Larceny	2,661.78
Motor Vehicle Theft	298.62

**Table 4.06(a) Property Crimes per 100,000 population**

Criminal Homicide	8.88
Forcible Rape	26.65
Robbery	261.40
Aggravated Assault	428.90

**Table 4.06(b) Violent Crimes per 100,000 population**

In 2013 overall, there were slightly fewer violent “Part 1” crimes and slightly more property crimes than in 2012. There were more reported crimes than in recent years in four out of seven “Part 1” crime categories: homicide, burglary, larceny and vehicle theft (Table 4.06(c)). The number of reported rapes also increased; a concurrent change in reporting standards for rape may have created this increase. Comparing by previous standards, no increase in reported rapes was seen.<sup>10</sup>

**Table 4.06(c) 2010-2013 Durham County Crime Part 1 Crime Statistics<sup>11</sup>**

Part 1 Crime	3-Year Average	2011	2012	2013	2012-13 % Change
<b>Homicide</b>	26	26	21	28	33%
<b>Rape</b>	80	66	73	102*	40%
<b>Robbery</b>	643	701	622	607	-2%
<b>Aggravated Assault</b>	937	919	1005	886	-12%
<b>Violent Crime overall</b>	<b>1686</b>	<b>1712</b>	<b>1721</b>	<b>1625</b>	<b>-5.6%</b>
<b>Burglary</b>	3517	3881	3298	3373	2%
<b>Larceny</b>	6633	6775	6305	6818	8%
<b>Vehicle theft</b>	671	607	691	716	4%
<b>Property Crime overall</b>	<b>10,821</b>	<b>11,263</b>	<b>10,294</b>	<b>10,907</b>	<b>6%</b>

\*A change in reporting standards has increased the number of rapes reported; using previous standards to compare shows no increase between 2012 and 2013.

In 2013, firearms were involved in 56% of robberies and 43% of aggravated assaults.<sup>12</sup> The use of firearms in robberies tends to be significantly higher in Durham when compared to its peers in the South.<sup>13</sup>

*Homicides* (For more information on homicides, visit Chapter 9.)

There were 28 criminal homicides reported in Durham in 2013, which was a 33% increase from

2012 (21 homicides were reported in 2012). The victims ranged in age from 17 to 58 years old. Twenty-three victims were males and five were females. Twenty-three victims were shot, four were stabbed and one was killed by blunt force.

#### *Aggravated Assault and Rape<sup>14</sup>*

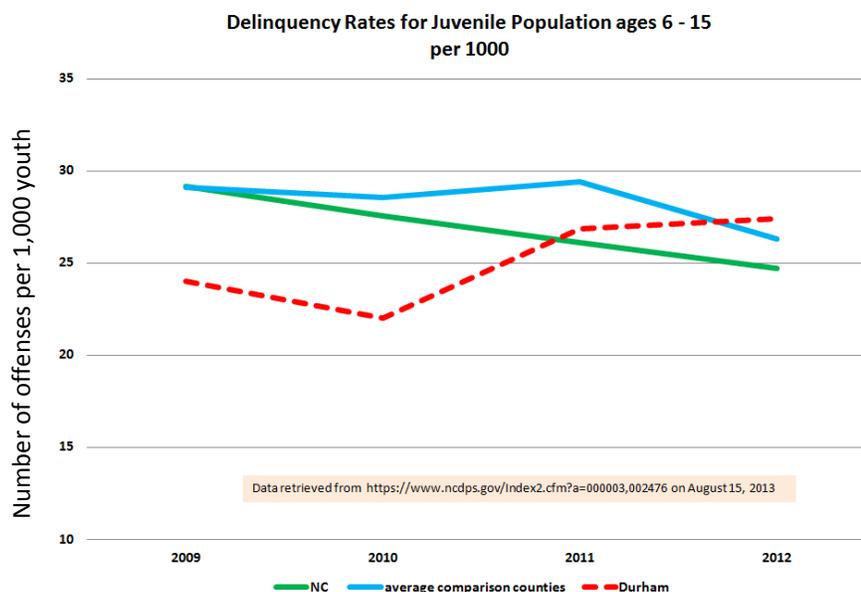
There were 675 aggravated assault incidents reported in 2013 with a total of 886 victims. Approximately 42% of the cases involved domestic violence and approximately 45% of the crimes involved strangers or unknown suspects.

Approximately 21% of the reported rapes in 2013 were domestic and weapons were used in fewer than 10% of the cases.

#### *Updated Gang Assessment Report<sup>15</sup>*

Gang involvement has been a focus of efforts in Durham. Validated gang members (individuals demonstrating signs of association with gangs, as defined by the North Carolina GANGNet criteria) were associated (as suspects or victims) with less than 5% of all incident reports in 2012 and in 11% of violent crimes occurring between 2009 and 2012.

Crime among youth has also been a focus of attention. Since 2009, the juvenile delinquency rate (number of juvenile offenses divided by the total number of youth age 6-15) has risen slightly. The Durham County juvenile delinquency rate is similar to the average juvenile delinquency rate of comparison counties (Cabarrus, Cumberland, Forsyth, Gaston, Guilford, Union, and North Hanover counties) and the North Carolina average (Figure 4.06(c)). The number of gun arrests and gun charges among youth age 16-19 in Durham County have both fallen steadily between 2010 (148 gun charges and 80 gun arrests) and 2013 (74 gun charges and 47 gun arrests).



**Figure 4.06(a): Juvenile delinquency rates for Durham and comparison counties<sup>16</sup>**

### Youth Risk Behavior Survey Data (YRBS)<sup>17</sup>

The YRBS is a survey of 494 middle school students and 320 high school students attending Durham Public Schools. The data and charts below highlight the findings from the 2013 YRBS that relate to safety and crime:

- Experienced violent acts at school:** Overall, the number of middle school students reporting experiencing violent acts at school has decreased since 2007. However, the opposite is true of high school students. In the 2013 YRBS, the random sample included a high proportion of boys; more boys also reported carrying weapons. Therefore, boys and girls are presented separately. These data suggest that the proportion of students not attending school because they feel unsafe is growing, although other indicators of violence don't show a clear trend.
- Gangs perceived to be a problem:** 28% of middle school students reported that there is gang activity in their school, similar to the state average of 23%. In high school, 58% of students reported that "gangs are a problem at their school"; this was higher than the North Carolina average of 40%.

#### Middle School YRBS Highlights

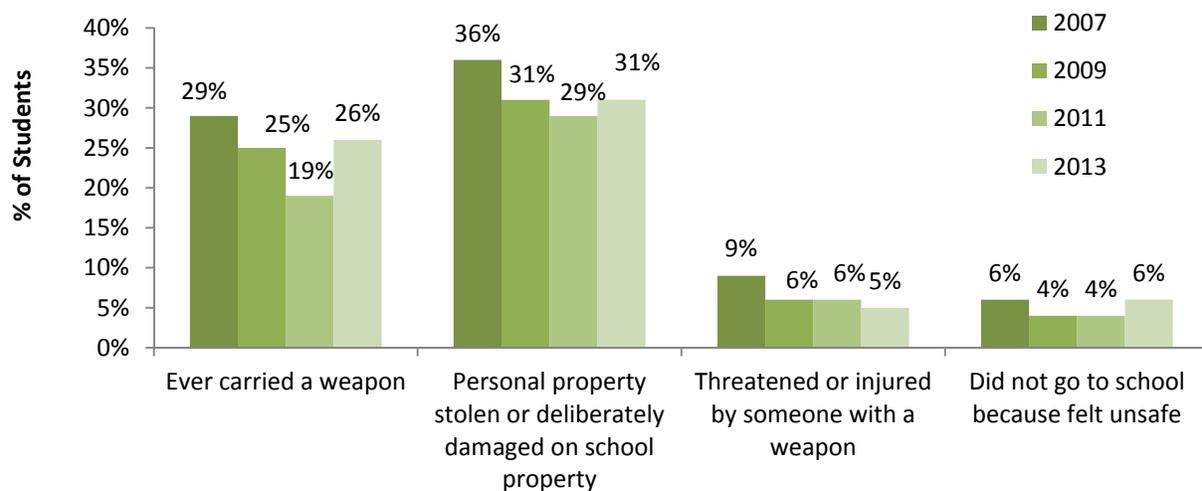
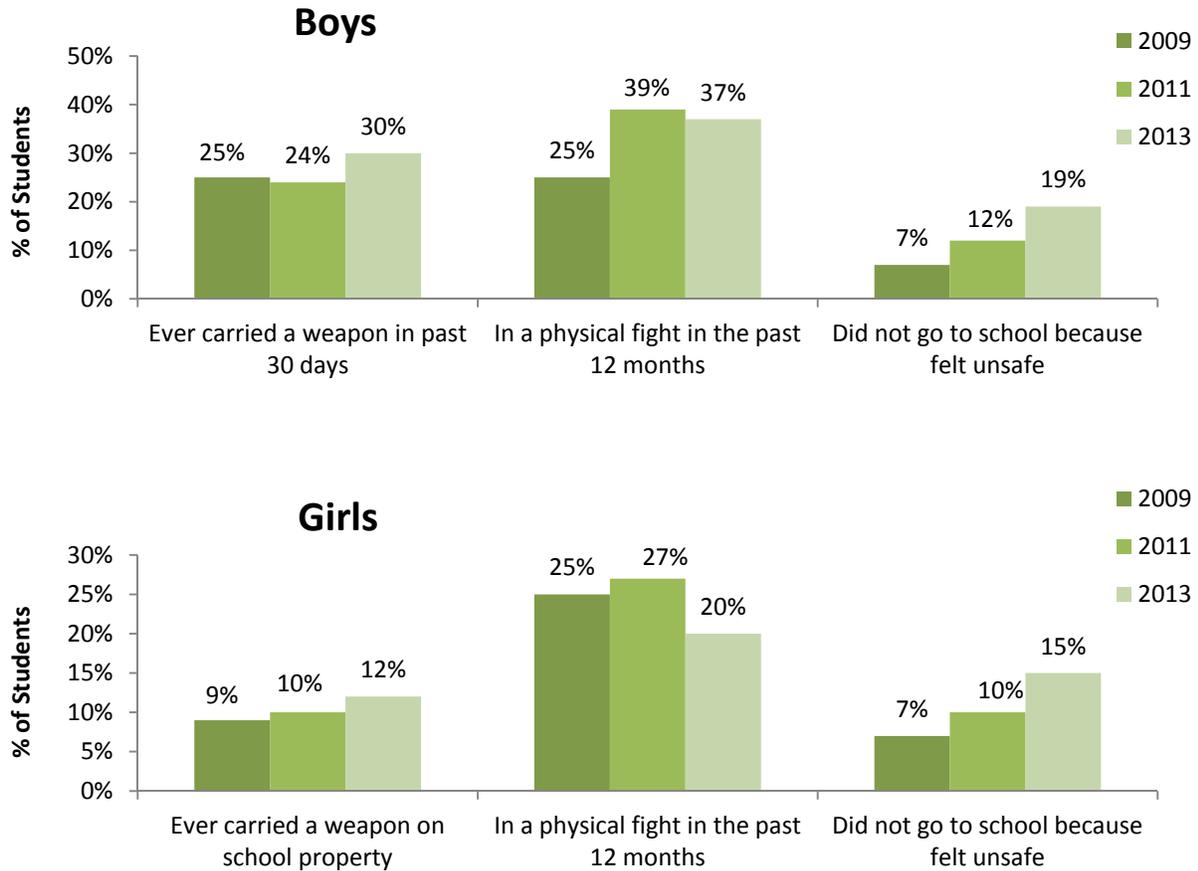


Figure 4.06(b) Middle School YRBS Highlights

**High School YRBS Highlights**



**Figure 4.06(c) High School YRBS Highlights**

*\*Note 2013 results for these variables cannot be directly compared to earlier years, since boys comprised a larger proportion of this sample (60%) and were also more likely to report these outcomes. Therefore boys and girls are presented separately.*

It is important to note that how a student feels about safety is related to grades. Fewer students reporting that they did not go to school because they felt unsafe reported getting “mostly As” and double the number of students feeling unsafe reported getting “mostly Ds” or “mostly Fs” (Figure 4.06(d)).

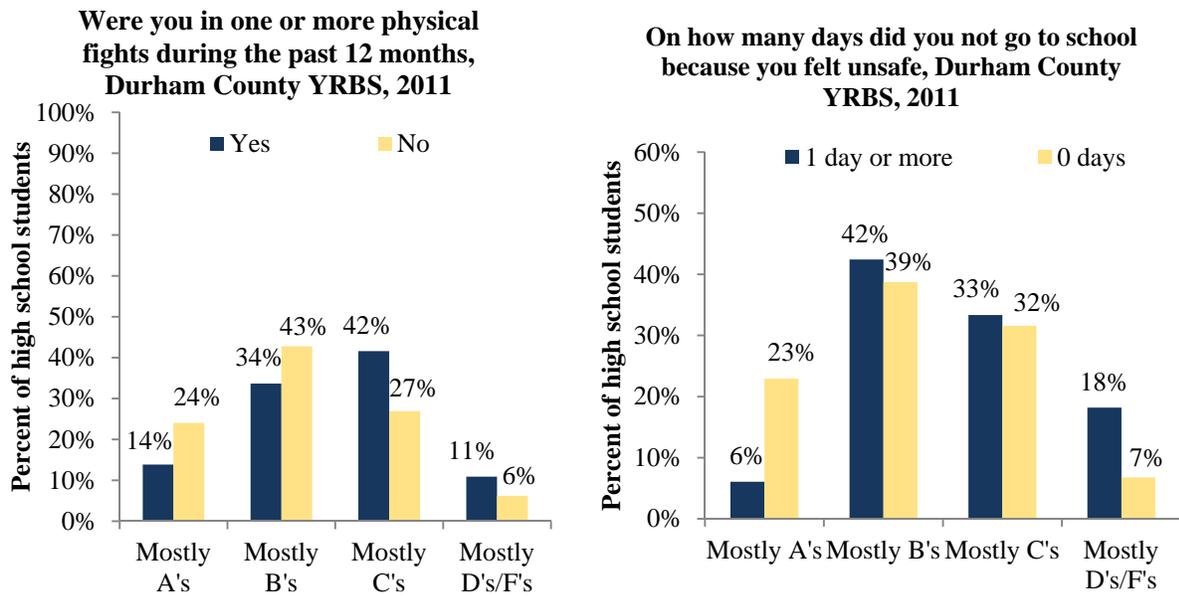


Figure 4.06(d) High School YRBS data on fighting and safety

2013 Durham County Community Health Opinion Survey<sup>18</sup>

According to results from the 2013 Durham County Community Health Opinion Survey, Durham residents consider crime to be a particularly important community-wide issue. When survey respondents were asked to cite what they felt were the top three community-wide issues that have the largest impact on the overall quality of life in Durham County, violent crime was ranked as one of the top three by 18%, and was the third most frequently ranked issue, following homelessness and poverty (see Figure 4.06(e)). Theft (17%) and gang involvement (14%) were also frequently ranked; issues related to crime and safety are indicated in red on the chart below. A sample of residents living in census blocks that were more than 50% Latino was also surveyed. For this group, gang involvement was chosen by 15%, theft by 12% and violent crime by 11%.

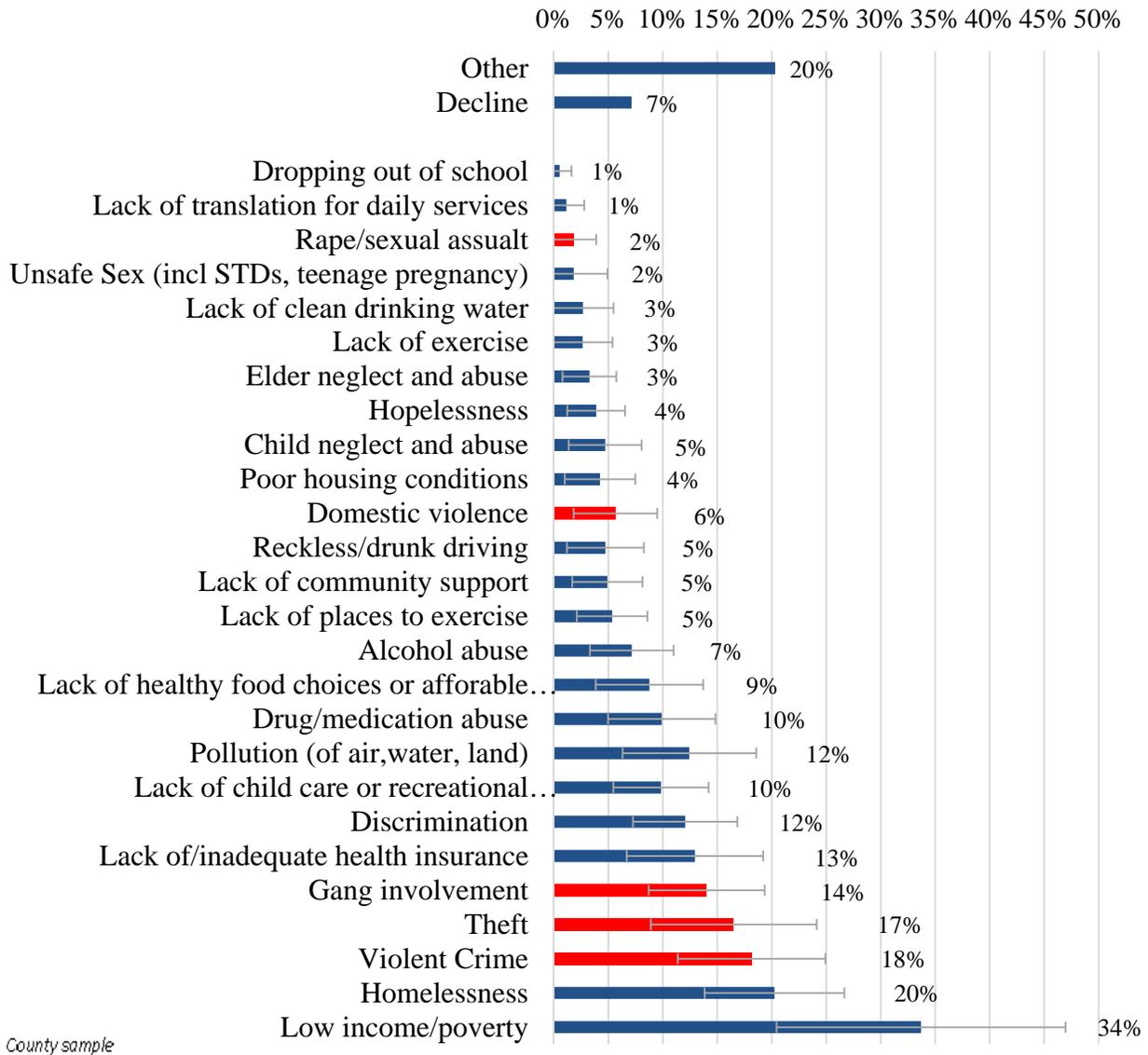


Figure 4.06(e) 2013 Community Health Opinion Survey Top 3 Community Wide Issues

### Interpretations: Disparities, Gaps, Emerging Issues

#### Disparities

People with mental health disorders are disproportionately represented in the criminal justice system; a higher proportion of people with mental health disorders are in prison or jail than the general proportion of people with these disorders.<sup>19</sup>

For more information on this topic, visit Section 6.05, Substance Abuse and Mental Health. African American Durham residents are arrested disproportionately to the Durham population.

Over 80% of suspects charged with robbery or aggravated assault were African American in 2011, while only 39% of the total population is African American. This disparity also exists among youth: 76% of youth ages 16-17 who received misdemeanor charges in fiscal year 2013 were African American.<sup>20</sup>

## Recommended Strategies

Strategies that support recovery from substance abuse and treatment for mental health disorders while diverting people with co-occurring disorders from the criminal justice system can maintain public safety. Programs offering treatment for these conditions within the criminal justice system can reduce substance use and develop effective coping skills.

The following table offers strategies to treat mental health disorders and substance abuse.

**Table 4.06(d) Recommended Strategies for Mental Health Disorders and Substance Abuse Treatment**

Name	Description	Website
Seeking Safety	Seeking Safety offers treatment for people with a history of trauma and substance abuse. It focuses on safety and integrated treatment of posttraumatic stress and substance abuse.	<a href="http://www.nrepp.sahsa.gov/ViewIntervention.aspx?id=139">http://www.nrepp.sahsa.gov/ViewIntervention.aspx?id=139</a>
Motivational interviewing	Motivational interviewing supports behavioral change with goal-oriented counseling. The most important outcome is resolution of ambivalence around the client's goal.	<a href="http://www.nrepp.sahsa.gov/ViewIntervention.aspx?id=346">http://www.nrepp.sahsa.gov/ViewIntervention.aspx?id=346</a>
Integrated dual disorders treatment	This interdisciplinary approach offers treatment for mental health and addiction together, using medical, psychological, and social approaches.	<a href="http://www.centerforebp.case.edu/practices/sami/iddt">http://www.centerforebp.case.edu/practices/sami/iddt</a>
Contingency management	Contingency management supports desired behaviors by providing tangible rewards like vouchers for merchandise or cash prizes.	<a href="http://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/evidence-based-approaches-to-drug-addiction-treatment/behavioral-0">http://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/evidence-based-approaches-to-drug-addiction-treatment/behavioral-0</a>

According to research conducted by the National Institute of Justice, changing the built environment is important in lowering crime. It is important for cities to create a physical environment that deters crime and does not facilitate it.<sup>21</sup> Some of the recommendations from the 1996 National Institute of Justice research report *Physical Environment and Crime*<sup>22</sup> are being implemented in Durham:

1. **Design safer public housing.** Buildings with fewer apartments per entryway, fewer stories, and better views of the outside have residents with lower levels of fear and rates of victimization.
2. **Controlling access to buildings, schools, parks, public housing, or other trouble spots through the use of regulated entry.** Measures used by the Bronx’s Community and Clergy Coalition, for example, include requiring an identification card, setting limited hours of usage, diverting traffic through specific checkpoints, and using metal detectors in schools or other public buildings.
3. **Creating safer public places.** Durham’s Crime Prevention through Environmental Design program makes assessments of facilities, parks, and schools and provides recommendations on how to improve the safety of the space.

## Current Initiatives & Activities

### Operation “Bull’s Eye”<sup>23</sup>

On August 1, 2007, The Durham Police Department launched a new initiative called “Operation Bull’s Eye,” which focuses resources on a two-square mile area of Northeast Central Durham. Figure 4.06(f) below illustrates “Operation Bull’s Eye” targeted area. The target area was chosen by analyzing “shots fired” calls and violent gun crime in Durham from May 1, 2006 to April 30, 2007. This analysis showed that while the targeted area makes up only 2% of the City’s area, it accounts for almost 20% of the violent gun crime, prostitution, possession of stolen goods and drugs.

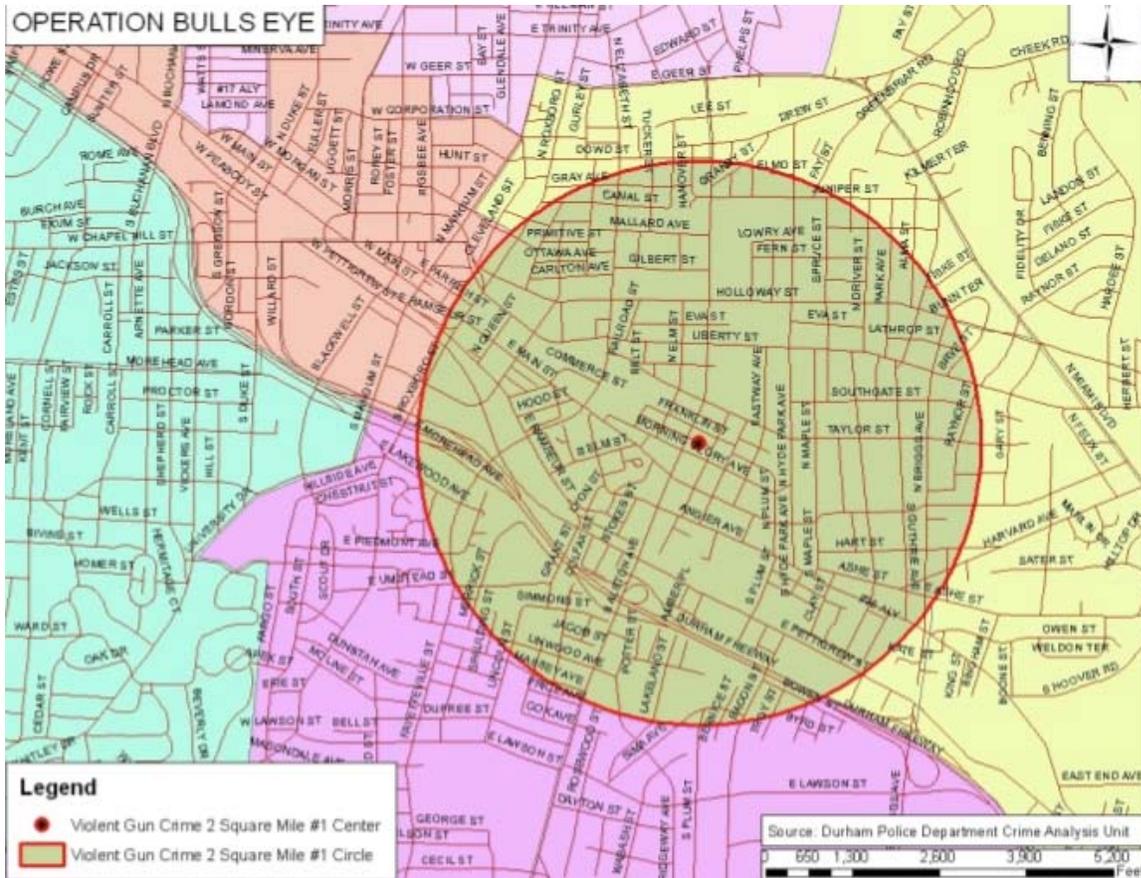


Figure 4.06(f) Operation Bull's Eye Targeted Area

A report released in July 2013 revealed there was a 46% decline in violent gun crimes and a 61% decrease in prostitution since 2007.<sup>24</sup>

▪ ***BECOMING Project***

Serves Durham County young adults ages 16-21 who are Medicaid eligible, have difficulty functioning in relationships, school or the community and are experiencing one (or more) of the following life challenges:

- No diploma and not in school
- Pregnant or parenting
- Criminal justice encounter
- Exiting foster care
- Long term unemployed or underemployed
- Homeless or at risk of being homeless

Website: <http://becomingdurham.org/>

Phone number: 919-651-8856

- ***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. The CJRC offers educational programs, substance abuse and mental health treatment, case management, and housing, and accepts clients from criminal justice system settings or with a criminal history.

Website: <http://dconc.gov/index.aspx?page=144&redirect=1>  
Phone number: 919-560-0500

- ***Project Safe Neighborhoods (PSN)***

Project Safe Neighborhoods is Durham's comprehensive, strategic response to the gun violence in our community. PSN partners local, state, and federal law enforcement with citizens and organizations to develop research-supported strategies to reduce violent crime. Together, law enforcement and the community work to change the norms that make gun violence acceptable through targeted outreach efforts and public awareness campaigns. In 2014, initiatives included building relationships between officers and students at the Global Scholars Academy and working with parents and schools to provide information and support intervention to divert youth from joining gangs. For information, please call PSN Coordinator Jennifer Snyder.

Website: <http://durhamnc.gov/ich/op/DPD/Pages/PSN.aspx>  
Phone Number: (919) 560-4438, ext. 29230

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

The Partners Against Crime (PAC) program 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. It is a community based volunteer organization that promotes and executes safety strategies to prevent crime at the neighborhood level. Each of Durham Police Department's five police districts has a PAC organization that holds monthly PAC meetings.

Website: <http://durhamnc.gov/ich/op/DPD/Pages/PAC.aspx>  
Phone Number: (919) 598-5398

### ***Durham Police Department***

Visit the Durham Police Department website for local law enforcement information. In addition to traditional policing activities, the Durham Police Department supports crime reduction through several other strategies:

- Creating a safer environment through the Crime Prevention through Environmental Design program
- Supporting Durham residents in crisis to link to care via the Crisis Intervention position
- Working with Durham Public Schools via school resource officers and the Gang Resistance Education and Training Unit
- Reaching out to Durham youth via the Explorers and Police Athletic League programs

Website: <http://www.durhampolice.com/>  
Phone Number: (919) 560-4427 Desk Officer

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## Section 4.07 *Child care*

### Overview

Child care is a basic need that helps families sustain their participation in the workforce, reduce dependency on public assistance and become more financially stable. High-quality child care also provides children with the dependable, nurturing relationships and safe, stimulating environments that are critical to building strong brains and supporting optimal child development. Child care programs can have a significant impact on child health as they are responsible for providing nutritious meals and opportunities for physical activity. Seminal research studies such as Frank Porter Graham Child Development Institute's Abecedarian Project have shown that high quality early childhood experiences lead to improved adult health outcomes including reduced rates of hypertension and heart disease.<sup>12</sup>

Finding and paying for child care has a large impact on Durham County residents. Access to affordable, high-quality child care has a direct impact on residents' social, economic and physical health. Without it, parents struggle to find employment that fits their schedules, struggle to choose between bills and may leave younger children at home unattended or in the care of slightly older siblings rather than give up employment. In Durham County, an estimated 69% of children under the age of six and 77% of children ages 6 to 17 live in homes where all parents work, resulting in a significant need for child care.<sup>3</sup>

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective for Child Care.

### Secondary Data

The availability and affordability of high-quality child care placements are two of the most important intersecting factors in determining whether children receive high quality early childhood experiences. Both factors present barriers for families in Durham County.

#### Availability of High Quality Child Care

##### *The Star Rating System*

Research has shown that young children benefit from high quality child care and will be more ready for success in school and life as a result. Since its inception, the North Carolina Star Rating System has played a significant role in improving high-quality child care choices for consumers. Child Care Services Association (CCSA) uses the North Carolina quality rating system for licensed child care programs to connote those child care programs offering high-quality care.

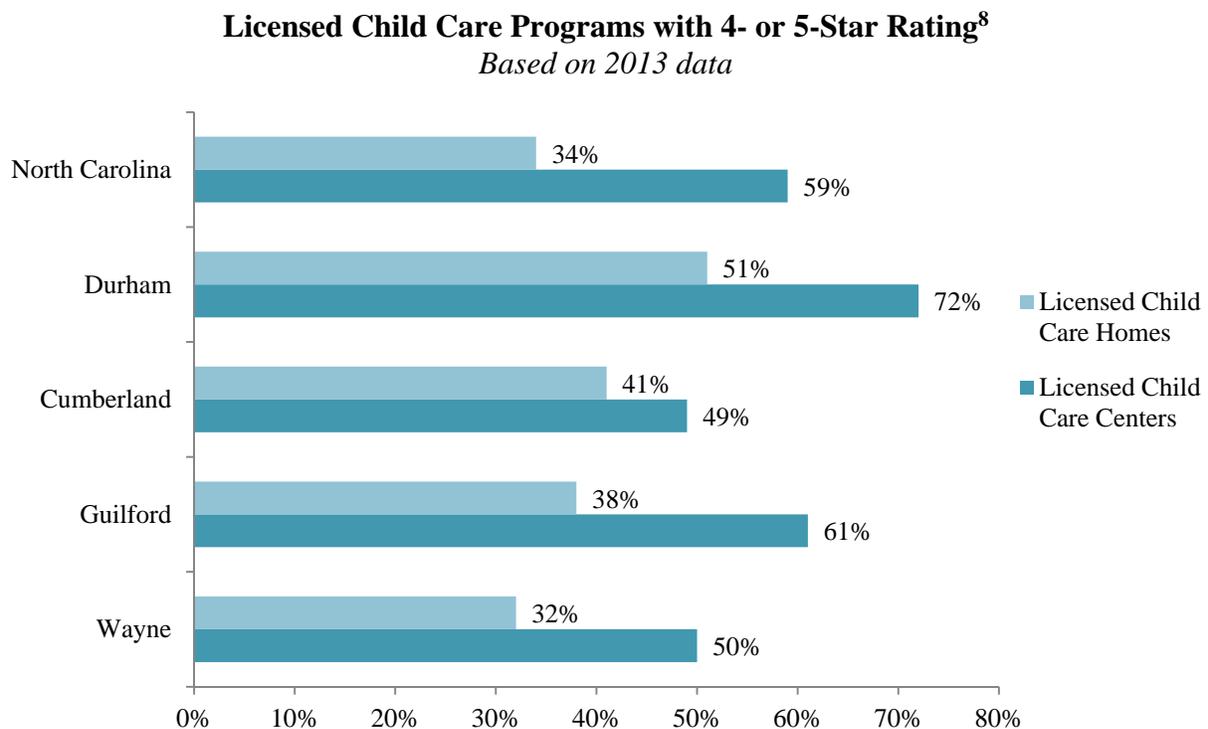
Quality child care consists of many components. The Star Rating System provides simplified information necessary for parents to make informed child care decisions. All child care businesses must meet basic health and safety standards for state licensure. Star Ratings allow these businesses

to voluntarily demonstrate higher levels of quality and give parents the information they need to make informed child care choices. All programs earn their star rating based two components that give parents an indication of quality: staff education (lead teachers with child care credentials or higher levels of early childhood education as well as the education and experience levels of the administrator) and program standards (such as child to staff ratio, availability of play materials and the classroom environment).<sup>4</sup> The Star Rating System provides a consumer scorecard to demonstrate effectiveness, while ensuring the needs of children, families, businesses and investors are met.

#### *Quality of Child Care in Durham County*

At the end of 2013, there were 347 licensed child care programs in Durham County and 7,049 children birth to five were enrolled in these child care centers and family child care homes.<sup>5</sup> However, the total number of children under five in Durham County is 20,909 and an estimated 14,469 (69%) of these children are in need of child care.<sup>6</sup>

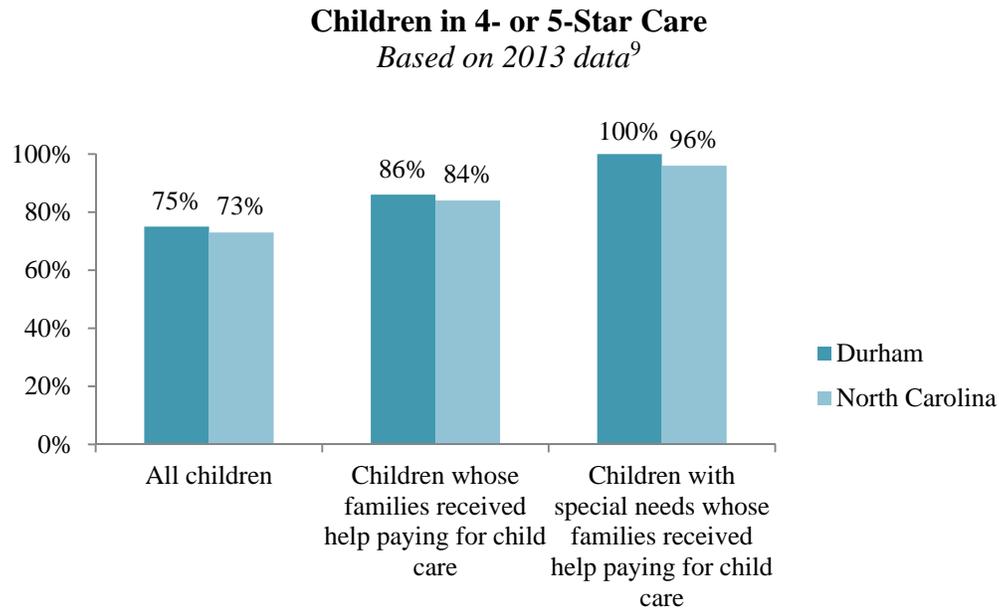
Of the licensed programs in Durham County, 72% of centers and 51% of homes have a 4- or 5-star rating.<sup>7</sup> Compared to its peer counties and the state of North Carolina as a whole, Durham County has a relatively high percentage of 4- and 5-star programs.



**Figure 4.07(a) Licensed Child Care Centers vs Homes**

In 2013, of those who were enrolled in licensed early care and education programs, 73% of North Carolina's youngest children attended 4- and 5-star programs as compared to 33% in 2001. At the same time, 75% of all Durham County children ages birth to five who were enrolled in early care and education attended high quality (4- and 5-star) programs as compared with 27% in 2001.

Among children with special needs or who come from low-income families – populations that stand to benefit the most from high quality early education – the percentage of children in the highest quality care is even higher. The figure below compares the percentage of children birth to five who are in 4- and 5-star child care settings in Durham and in North Carolina.



**Figure 4.07(b) Licensed Child Care Centers vs Homes**

In 2001, among families who received financial assistance for child care (subsidized placements) and those with children with special needs, the percentage of high quality placements in Durham County was 17% and 75%, respectively.

While these quality indicators are encouraging, 66% of young children in Durham were not enrolled in licensed child care programs,<sup>10</sup> and many more were unable to access the highest quality of care. The cost of high quality child care is one factor that may be a barrier to access for many families.

### Paying for Child Care

The median monthly fee for full-time care for an infant in a 5-star rated child care center in Durham is \$1,234 per month and the median annual income for families with children under 18 in Durham is \$52,078. This means for a family at the county median level, child care fees would represent 28% of the annual income. The median monthly fee for full-time care for a four-year old in a 5-Star Rated child care center in Durham is \$875 per month, which represents 20% of the median annual income. While financial assistance is available for some, funds are simply not available for all those who need assistance. As of March 2014, 3,916 of Durham's youngest citizens were on waiting lists for a child care subsidy.<sup>11</sup>

For many families who are making less than the state median income but still too much to qualify for public subsidy, the burden is even greater. For a family of three at one dollar over eligibility for subsidy assistance, 5-star infant care would cost 35% of their annual income.

## Primary Data

Results from the 2013 Durham County Community Health Opinion Survey show that quality child care is something that matters to Durham residents. When asked to identify the top three community issues that have the greatest effect on quality of life in Durham County, 10% of the households randomly surveyed cited “lack of child care or programs for youth” in Durham County as one of their top three concerns. Child care and youth programs ranked eighth out of 26 options. The most frequent response to this question was poverty (34%), which is closely linked with families’ ability to pay for child care.

In addition, 16% of respondents selected “child care options” as a service that needs improvement in Durham County. Child care options ranked fourth out of 19 responses to this question. It should be noted that over 50% of respondents were over the age of 45 and 27% were retired. Among adults in the 18-40 age range, 21% of respondents selected “child care options” as a service that needs improvement. While this difference is not statistically significant, it does indicate that child care may rank as a higher priority among younger adults, who are most likely to have young children.

## Interpretations: Disparities, Gaps, Emerging Issues

The cost of child care is extremely high. Families who are not eligible for child care financial aid (also known as child care subsidies), or are on the waiting list for subsidy and cannot afford higher rated quality care for their children may be forced to place their children in low-quality or unlicensed and unregulated child care settings. Research shows that a child’s early experiences have a measurable impact on brain development and later success in school and life.<sup>12</sup> In an unlicensed or low-star setting, children may not be exposed to as positive and stimulating a learning environment when compared to a licensed and higher rated child care setting. As a result, these children may not be as well-prepared to enter school.

### Gaps and Unmet Needs

While low vacancy rates in Durham child care programs have traditionally caused families to struggle to find quality child care, families in the current recession are grappling with an ever-shrinking capacity to afford care. For most, child care costs exceed almost all other household expenses. A Durham County family with an infant and preschooler can face over \$20,000 in annual child care costs. As previously mentioned, the cost is high and there are hundreds of families on the waiting list for child care subsidies.

In addition to those on the waiting list, many families may choose unlicensed or informal child care arrangements, for any number of reasons. Sixty-six percent of children birth to age five in

Durham are not in licensed, regulated child care setting. More information is needed to inform services and outreach to these families.

### Emerging Issues

The availability of federally subsidized programs like Head Start, Early Head Start and child care subsidies help low-income families pay for child care, but they are not enough. Low-income parents in the Durham community may be forced to choose low-quality child care options when the waiting list for child care programs exceeds their ability to wait any longer due to employment or other demands. High quality child care is expensive and more funds are needed to ensure that parents with young children can both work and provide good quality care for their children. The expansion of high-quality pre-kindergarten programs is an increasing focus of program development both in Durham County and on the federal level.

### Recommended Strategies

**1) Increase funding for programs to assist families with paying for high quality child care.** Many families cannot afford the cost of high quality care and opportunities for financial assistance are limited. The 2013 Community Health Assessment validates the need for child care services in Durham County. Additional funding is needed to expand the availability of child care subsidies, scholarships, Early Head Start, Head Start and NC Pre-K to all eligible children.

To address this need, several states and cities have chosen to focus on expanding publicly-funded pre-kindergarten to serve all 4-year-olds, thereby ensuring that all children have received at least a year of developmentally-appropriate early education prior to kindergarten entry. The table below summarizes three such models.

Setting	Name	Description	Website
School	Oklahoma Early Childhood Four-Year-Old Program	A voluntary public school pre-kindergarten program. Currently, 70% of Oklahoma's four-year-olds attend public school and have access to full-day or half-day programs including Early Childhood Certified teachers, state adopted curriculum standards, and a comprehensive school readiness program.	<a href="http://ok.gov/sde/early-childhood-and-family-education#EC/Pilot">http://ok.gov/sde/early-childhood-and-family-education#EC/Pilot</a>
School	Denver Preschool Program	Tuition credits available for all Denver families - regardless of income - with a child in their last year of preschool before kindergarten. Families can choose from more than 250 high-quality preschool partners in the metro Denver area.	<a href="http://www.dpp.org/">http://www.dpp.org/</a>

School	Pre-K 4 San Antonio	Four Model Education Center facilities serving 500 students each with full-day Pre-K instruction as well as Competitive Grant Awards to local independent school districts and other education providers to educate 1,700 children annually.	<a href="http://www.sanantonio.gov/Pre-K4SanAntonio.aspx">http://www.sanantonio.gov/Pre-K4SanAntonio.aspx</a>
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More information on statewide pre-k programs is provided by the National Institute for Early Education Research at: <http://nieer.org/publications/state-preschool-2012-state-profiles>.

## **2) Continue to increase quality of child care available in Durham, with particular focus on 1-, 2-, and 3-star child care centers and family child care homes.**

As of March 2014, there were only thirty-three (33) 1- and 2-star child care centers and homes remaining in Durham County, serving a total enrollment of 311 children.<sup>13</sup> This represents significant progress; as recently as 2011, there were twice that many (76) low-star sites. During that time, the number of 4- and 5-star sites in Durham increased from 187 to 219. Key stakeholders in early care and education should determine how future efforts can be targeted to assist small, 1- and 2-star programs with improving their program quality and teacher education levels. In addition, there are 74 3-star centers and homes that could benefit from additional services to raise their quality of care to the highest levels. Targeted outreach can also be used to encourage unregulated programs, such as part-day or faith-based preschools, to participate in the star license system and work toward the highest levels of quality.

One strategy to increase the teacher education points (and thereby the overall star rating) of child care programs is to support the retention of highly-qualified teachers. Child care teachers receive very low pay, despite increasing educational requirements and many have little to no benefits such as health insurance. This could discourage qualified individuals from working in the child care field and lead to increased teacher turnover. Over time, this negatively affects the quality of child care services available and reduces the benefit to children.

Services to high quality programs are also important; it takes resources, ongoing improvement and professional development in order to maintain a high star rating. Child care programs that have already achieved a high star rating could be supported with resources to pursue national accreditation through the National Association for the Education of Young Children (NAEYC) or the National Association for Family Child Care (NAFCC). Accreditation represents a level of quality beyond the 5-star rating.

## **3) Enhance strategies to reach children who are not in licensed care.**

Many children are cared for in unlicensed child care programs or by family members, friends or neighbors. Informal child care experiences have a powerful influence on a child's development but are not regulated by the Division of Child Development and Early Education (DCDEE). Families who are not engaged with the licensed child care system must be identified in order to assess their needs and develop the most effective strategies to ensure that these children are prepared for school. Below are just a few examples of community-based school readiness strategies that have been used in other cities.

Setting	Name	Description	Website
Community /School	Pathways to Kindergarten Success (Ready Freddy)	The Ready Freddy Program is based on the premise that a quality transition to school will bring life-long benefits to a child. The program has developed materials and strategies to assist communities with creating a quality transition by helping students become familiar with the school environment, reducing the child's anxiety, and engaging parents to foster good attendance as well as positive family involvement with the school.	<a href="http://www.oed.pitt.edu/Pathways-to-Kindergarten-Success-(Ready-Freddy)/31/default.aspx">http://www.oed.pitt.edu/Pathways-to-Kindergarten-Success-(Ready-Freddy)/31/default.aspx</a>
Community	Raising a Reader – Gus the Bus	A means of bringing literacy resources to underserved children and families, this program operates in sites such as workplaces as an employee benefit, libraries, churches and community colleges. "Gus" offers all components of the Raising a Reader program from parent trainings to book bag rotation and blue bag distribution.	<a href="http://www.raisingareader.org/site/News2?page=NewsArticle&amp;id=6575">http://www.raisingareader.org/site/News2?page=NewsArticle&amp;id=6575</a>
Community	Family, Friend and Neighbor (FFN) Caregiver Support Project (First 5 California)	First 5 California developed a unique television series in partnership with the West Coast flagship station of the Public Broadcasting Service (PBS). " <i>A Place of Our Own</i> " / " <i>Los Niños en Su Casa</i> " is a talk show in both English and Spanish designed to reach parents, grandparents, friends, babysitters – anyone who frequently takes care of young children by providing early learning teaching strategies and child development information.	<a href="http://ideastations.org/ecpd">http://ideastations.org/ecpd</a>

## Current Initiatives & Activities

- ***Child Care Services Association***

*Smart Start Child Care Scholarship Program*

Supports working parents by increasing the affordability and accessibility of high-quality child care and improves school readiness by promoting quality in the Durham early care and education system.

*School Readiness Quality Enhancement/Maintenance*

Provides technical assistance to child care programs seeking to improve and maintain the quality of child care for children birth to 5 years in Durham.

*Choosing & Using Quality Child Care*

Provides information and referral to parents about the quality and availability of child care programs and other family resources.

*Teacher Education and Compensation Helps (T.E.A.C.H.) Early Childhood® Project*

Gives scholarships to child care workers to complete course work in early childhood education and to increase their compensation.

*WAGES®*

Provides education-based salary supplements to child care teachers, directors, and family child care providers.

*Professional Development and Training*

Provides professional development workshops and awards Continuing Education Units (CEUs) and child care credits as an authorized provider of the International Association for Continuing Education and Training (IACET) and the Division of Child Development and Early Education (DCDEE).

Website: <http://www.childcareservices.org>

Phone Number: (919) 403-6950

- ***Community Partnerships, Inc.***

*Durham Inclusion Support Services*

Provides consultation, technical assistance and training to child care providers and families who care for a child for whom there is a developmental, behavioral or social/emotional concern.

Website: <http://www.compart.org>

Phone Number: (919) 402-9400

- ***Durham Early Head Start***

Durham Early Head Start is a collaboration between Durham's Partnership for Children, Chapel Hill Training-Outreach Project and Center for Child & Family Health. Early

Head Start is a free, comprehensive child development and family support program for low-income families with children aged birth to three years old and to pregnant women. The Durham EHS program currently serves 100 children and their families in two program options: center-based and home-based. Pregnant women are enrolled in the home-based option.

Website: <http://www.dpfc.net/EarlyHeadStart.aspx>

Phone Number: (919) 439-7101

▪ ***Durham County Department of Social Services***

The Department of Social Services (DSS) assists families living in Durham County with information and access to child care. Services include: child care subsidies, information on choosing quality child care, technical assistance for child care providers, and information and referral to other services for families and children. Child care subsidies are available for low income families with children between ages 0-12 who meet income guidelines, live in Durham County, and are employed or in school.

Website: <http://dconc.gov/index.aspx?page=567>

Phone Number: (919) 560-8300

▪ ***Durham's Partnership for Children, a Smart Start Initiative (DPFC)***

Provides funding to a variety of programs to help improve the quality and affordability of child care for children age birth to five. The Partnership provides funds to support higher education for child care teachers, improve the wages of child care workers who are in one of the lowest paid professions, and help with child care subsidies. The Partnership also administers North Carolina's North Carolina Pre-Kindergarten (NC Pre-K) program which provides a preschool program for 420 underserved, four-year-old children in Durham County.

Website: <http://www.dpfc.net>

Phone Number: (919) 403-6960

▪ ***Durham County Department of Public Health***

***DINE for Life Child Care Program***

Provides professional nutrition consultation and training to child care staff and parents to promote nutrition and physical activity.

Website: <http://dconc.gov/index.aspx?page=1318>

Phone Number: (919) 560-7837

▪ ***Exchange Clubs' Family Center***

***Early Childhood Outreach Project (EChO)***

Provides consultation, training, support and referral services to Durham child care providers and families to enhance the social-emotional development or decrease the challenging behaviors of children at risk for difficulties in kindergarten.

Website: <http://www.exchangefamilycenter.org>

Phone Number: (919) 403-8249

- ***Operation Breakthrough***

- Head Start*

- Head Start is designed to provide a quality education for young children and help parents establish goals designed to aid the entire family.

- Website: <http://www.obtnc.com/HeadStart.htm>

- Phone Number: (919) 688-5541 x244

- ***Natural Learning Initiative (North Carolina State University)***

- Preventing Obesity by Design*

- The Preventing Obesity by Design (POD) project works to reverse the trend toward childhood obesity by improving outdoor environments at child care centers and teaching child care providers how to promote physical activity and nutrition.

- Website: <http://www.naturalearning.org/>

- Phone Number: (919) 515-8345

## References

- <sup>1</sup> Frank Porter Graham Child Development Institute. *High-Quality Early Education and Care Bring Health Benefits 30 Years Later*. FPG Child Development Institute; Chapel Hill, NC; 2014. <http://fpg.unc.edu/news/high-quality-early-education-and-care-bring-health-benefits-30-years-later> Accessed March 28, 2014.
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- <sup>6</sup> Child Care Services Association. *The State of Child Care in the Triangle, 2013*. Chapel Hill, NC: Child Care Services Association; 2013. <http://www.childcareservices.org/downloads/StateofChil%20CareTriangle2013web.pdf>. Accessed February 28, 2014.
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- <sup>9</sup> The North Carolina Partnership for Children, Inc. *FY12-13 Performance-Based Incentive System (PBIS) Results*. Raleigh, NC: The North Carolina Partnership for Children, Inc; 2014.
- <sup>10</sup> Ibid.
- <sup>11</sup> Personal communication from L. Chappel, Child Care Services Association, March 2014.
- <sup>12</sup> National Scientific Council on the Developing Child. *The Science of Early Childhood Development: Closing the Gap Between What We Know and What We Do*. Cambridge, MA: National Scientific Council on the Developing Child; 2007. <http://www.developingchild.net> Accessed March 26, 2014.
- <sup>13</sup> North Carolina Division of Child Development and Early Education. *Quarterly Enrollment Report*. March 2014.



## Health Promotion

Both physical activity and nutrition are important elements in promoting health. Regular physical activity and healthy eating can reduce the risk of many health issues such as overweight, hypertension, heart disease, stroke, certain cancers and anxiety and depression.

Tobacco use remains the number one preventable cause of death and disease in the United States and in North Carolina. Research consistently demonstrates the numerous health consequences of tobacco use.

This chapter includes:

- ❖ [Physical activity](#)
- ❖ [Nutrition and access to healthy foods](#)
- ❖ [Tobacco](#)

## Section 5.01 *Physical activity*

### Overview

Physical activity positively affects overall health and body weight by strengthening bones and muscles and improving general well-being. Regular physical activity reduces the risk of overweight and obesity, development of chronic diseases, certain cancers, anxiety and depression.<sup>1</sup> Four of the ten leading causes of death in North Carolina are related to obesity: heart disease, type 2 diabetes, stroke and some kinds of cancer.<sup>2</sup>

Physical activity is recommended as an important part of weight management by virtually all public health agencies and scientific organizations. Weight gain results when more calories are consumed than are expended. Physical activity helps maintain the proper energy balance by increasing the calories that are expended. Decreased physical activity may be caused by increased screen time, poor access to safe recreational facilities, decreased active or playtime youth and adults, and a built environment that does not encourage active living.<sup>3</sup>

Regular physical activity in youth is very important to their overall well-being and promotes health and fitness. Young people with healthy physical behaviors are more likely to continue leading active lifestyles as adults. Physical activity has been proven to reduce both body fat and abdominal fat in children who are overweight and to decrease the risk of chronic diseases such as obesity, hypertension, osteoporosis and type 2 diabetes.<sup>4</sup> There is also research to support the connection between children's physical fitness levels and positive academic outcomes. Therefore, physical activity may also have an important impact on education, in addition to health.<sup>5</sup>

### Healthy NC 2020 Objective

Healthy NC 2020 Objective <sup>6</sup>	Current Durham <sup>7</sup>	Current NC <sup>8</sup>	2020 Target
1. Increase the percentage of adults getting the recommended amount of physical activity.	52.2% (2011)	46.8% (2011)	60.6%

A Healthy NC 2020 objective related to physical activity is to increase the percentage of adults getting the recommended amount of physical activity. The recommendation is for adults to have at least 30 minutes of moderate intensity physical activity such as walking five days per week or at least 20 minutes of vigorous-intensity physical activity such as jogging three days per week.<sup>9</sup> 46.8% of adults in North Carolina are getting the recommended physical activity. This is below the 2020 target of 60.6%. Fifty-two percent of Durham residents were meeting the recommendations for physical activity, which is slightly higher than the state at 46.8% yet lower than the 2020 target.<sup>10</sup>

## Secondary Data

Lack of physical activity was a risk factor for four of Durham's five leading causes of death in 2012: cancer, heart disease, chronic lower respiratory diseases, cerebrovascular disease and other unintentional injuries.<sup>11</sup> Overweight and obesity are also risk factors for those causes of death. Durham's rates of overweight/obesity of about 65% in adults, 28.3% in high school students and 18% in kindergartners<sup>12</sup> would be positively impacted by increased physical activity.

Physical inactivity costs North Carolinians approximately \$11.9 billion annually in health care-related issues.<sup>13</sup> This amount includes \$2.32 billion in medical costs, \$0.79 billion in prescription drug costs, and \$8.79 billion in lost productivity.<sup>14</sup> Possible savings related to increased physical activity have been repeatedly demonstrated; for example, walking associated with use of public transportation could save \$5,500 per person in 2007 dollars.<sup>15</sup>

*Active Education: Physical Education, Physical Activity, and Academic Performance*, a summary of peer-reviewed research, noted the positive associations between increased physical activity and improved academic performance, better behavior and decreased school absenteeism.<sup>16</sup> Studies quoted in this brief showed either no negative influence or a positive influence of increased physical education or physical activity time during the school day on academic performance. A major study from the Cooper Institute was particularly persuasive. When more than 2.59 million Texas public school students in grades three through 12 were tested using FITNESSGRAM in the spring of 2008, significant associations were found consistently and positively between physical fitness and the following:

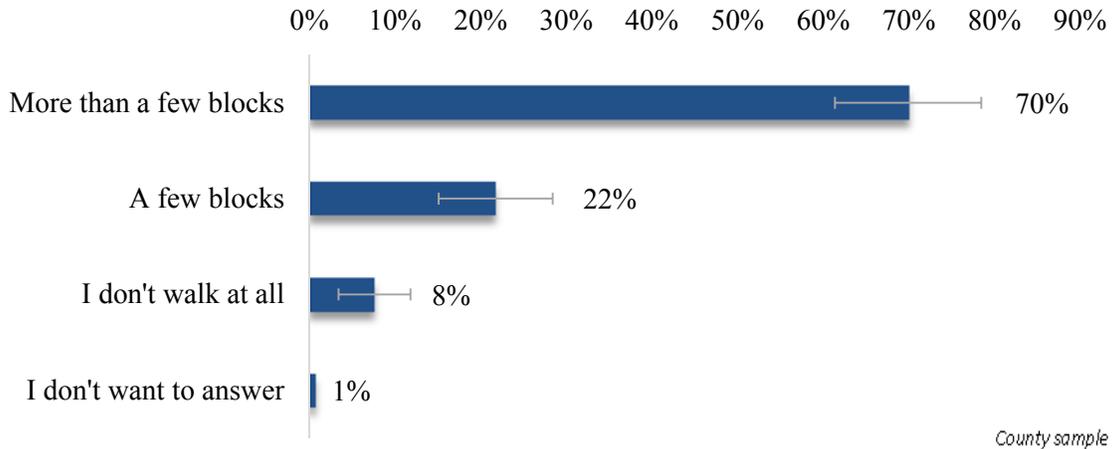
- Better academic performance
- Increased school attendance
- Decreased negative school incidents (improved behavior).<sup>17</sup>

In several cases, increases in physical activity and the resultant behavioral changes can bring about economic benefits. Every day that a student is not in the classroom costs the school system funding, so improved attendance saves the school money. If student behavior improves, costly interventions may be avoided, also decreasing school costs. Not only does increased physical activity produce health benefits, it can also improve financial health on multiple levels.

## Primary Data

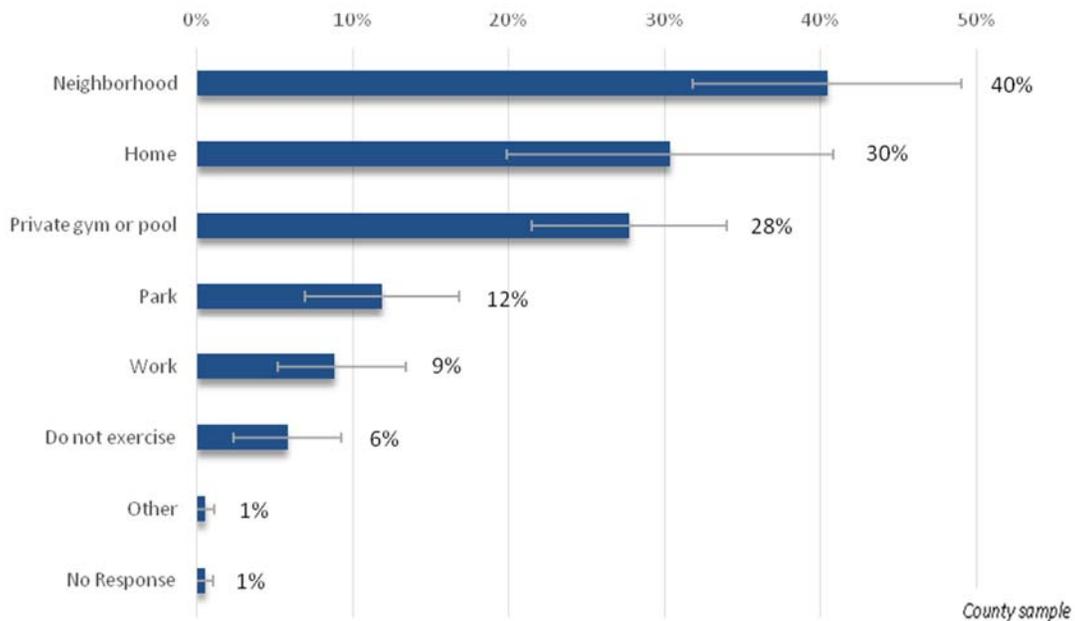
### 2013 Durham County Community Health Opinion Survey<sup>18</sup>

The role physical activity plays in the prevention of health-related issues does not go unnoticed by the Durham community. Results of the 2013 Durham County Community Health Opinion Survey show that 70% of Durham residents walk more than a few blocks on a typical day. These results are depicted in Figure 5.01 (a) below.



**Figure 5.01 (a) “On a typical day, how much do you walk?”**

Survey results, as shown in Figure 5.01(b), showed that Durham residents are most likely to engage in physical activity in their neighborhood, home or private gym:



**Figure 5.01(b) “Where do you exercise or engage in physical activity?”**

When survey respondents were asked, “Whether you currently walk or not, what would make you want to walk more?” the number one response was better lighting, sidewalks or crosswalks to make walking easier.

**Durham Health Innovations (DHI)<sup>19</sup>**

As a step in the process of creating interventions to reduce obesity in Durham, DHI’s Achieving Health for a Lifetime (AHL) team conducted focus groups with individuals in the city of Durham. The groups were small, generally five to six people and were made up of the following populations:

adolescent females, Spanish-speaking obese or overweight parents of obese or overweight children, English speaking obese or overweight parents of obese or overweight children and formerly obese or overweight adults who had lost weight and maintained the loss for over a year. Members of each group were asked questions planned by the researchers and given time to respond in as many ways as they chose. Answers were listed, ranked and prioritized by participants. Below are the highlights:

In answer to the question, “*What methods do you believe work best to lose weight or maintain a healthy weight?*” adolescents’ first answer was “daily exercise.” Variations of this question were asked of other groups with the following results:

- From the weight-loss maintainers: exercise was the second choice for maintaining weight loss.
- From Spanish-speaking obese/overweight parents of obese/overweight children: exercise tied with healthy eating for first choice.
- Inactive entertainment was the third choice answer from English-speaking obese/overweight parents of obese/overweight children to a question about what might have caused their son’s or daughter’s overweight.
- Lack of exercise was also cited as the number one reason for weight gain by Spanish-speaking obese/overweight parents of obese/overweight children. “They [my kids] spend a lot of time watching TV and don’t exercise.”

“They keep telling us how much “safer” it is than wherever; that’s all fine and good, but the point is that it ain’t really SAFE yet. You still can’t walk alone after dark.”

“...[K]ids need things to do, too, so they don’t sit at home eating junk and watching TV....”

--Interviews with residents of Northeast Central Durham

For the health of all of its citizens, but particularly for its low-income citizens who live in unsafe areas, Durham County must creatively address the need for increased physical activity.

### Mental health (YRBS and BRFSS)

In another area of health concern, 22% of middle school and 24% of high school students in Durham Public Schools (DPS) reported feeling so sad or helpless almost every day for two weeks or more that they stopped doing usual activities.<sup>20</sup> Additionally, 34% of Durham County adults surveyed in the North Carolina Behavioral Risk Factor Surveillance Survey (BRFSS) System reported that their mental health was not good on at least one day in the previous month.<sup>21</sup> Because physical activity can reduce depression and improve general well-being, moving toward recommended levels of physical activity can positively impact mental health.<sup>22</sup>

### Youth Risk Behavior Survey (YRBS 2013)<sup>23</sup>

According to the 2013 YRBS, in Durham Public Schools, middle and high school students were less likely to engage in recommended levels of physical activity than the average middle and high school student in North Carolina. The only significant disparity among subgroups was between middle school females and males, with only 48% of female students being physically active for at least 60 minutes on five or more of the past seven days compared to 59% of the male students.

Durham Public Schools students watched similar amounts of TV/used computers compared to students statewide. To further understand these numbers, the variables were combined for Durham students to arrive at a variable for “screen time.” In total, 56% of middle school students and 48% of high school students had three or more hours of screen time not connected to school work per day. Students identifying as white in both middle and high school were significantly less likely to report three or more hours of screen time per day than their peers.

**Table 5.01(a) 2013 Middle and High School Physical Activity YRBS Data<sup>24</sup>**

	<b>Durham<sup>25</sup></b>	<b>NC<sup>26</sup></b>
<b>Middle School</b>		
Active 60 min on last 5 of 7 days	53%	57%
Watched 3 or more hours of TV/day	39%	37%
Played video game or used computer for non-school project 3 or more hours/day	40%	41%
Walk or ride bikes to school	21%	19%
<b>High School</b>		
Active 60 min on least 5 of 7 days	32%	47%
Watched 3 or more hours of TV/day	34%	33%
Played video game or used computer for non-school project 3 or more hours/day	35%	42%

### **2010 Behavioral Risk Factor Surveillance System (BRFSS)<sup>27</sup>**

The most recent year for which race- and gender-specific physical activity data are available is 2010. According to 2010 BRFSS data, over 70% of adults surveyed in Durham and throughout North Carolina reported participating in physical activities or exercises such as running, calisthenics, golf, gardening or walking for exercise, with Durham adults being somewhat more likely than those statewide to be active (see Table 5.01 (b) below for details). Discrepancies of note within sub-groups include:

- Males are more active than females.
- Those with some college education are more active than those without.
- Those with incomes above \$50,000 are more active than those with lower incomes.

**Table 5.01(b) During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise? <sup>28</sup>**

<b>Group</b>	<b>Yes</b>	<b>No</b>
North Carolina	74.3%	25.7%
Durham	79.9%	20.1%
Male	85.3%	14.7%
Female	74.9%	25.1%
White	85.2%	14.8%
Other race	74.3%	25.7%
Age 18-44	80.8%	19.2%
Age 45+	78.5%	21.5%
≤High school education	59.6%	40.4%
Some college+	87.6%	12.4%
Income < \$50,000	64.7%	35.3%
Income \$50,000+	91.5%	8.5%

### Barriers

Physical activity patterns in the U.S. have changed dramatically over time; as rates of physical activity have decreased in our country, obesity and overweight rates have increased. The survey respondents of the 2013 Durham County Community Health Opinion Survey cite barriers to engaging in regular physical activity such as lack of time, lack of safe environments in which to be active and “trouble walking.” Of the reasons given, access, cost and safety can be addressed through collaborative community, organization and worksite efforts.

### Interpretations: Disparities, Gaps, Emerging Issues

#### Disparities

Racial and economic disparities in physical activity continue to exist. From surveys of both youth and adults it is apparent that no group in Durham is getting close to the recommended amount of physical activity on a regular basis. Certain groups are lacking more than others; females and non-whites at every age level and adults without college education and with incomes below \$50,000, as shown in Table 5.01(b) above. Behaviors such as television-watching and computer use for non-active recreation interfere with active time and are an issue in many groups. Behavior change interventions in this area could improve physical activity.

## Gaps

Durham offers many opportunities for physical activity, but not all Durham residents are easily able to take advantage of these. Safety is a major deterrent to outdoor activity in many neighborhoods. Cost and access to recreation facilities compound the problem, especially for residents of lower-income areas.

The creation of built environments that foster physical activity must be a priority in order to increase the physical activity levels of Durham citizens. Particular attention must be paid to the high crime areas of Durham, which have low access to safe outdoor spaces for physical activity.

Schools with inadequate opportunities for physical activity must redouble their efforts to increase these opportunities in schools and should monitor the minutes of physical education (PE), taught by a qualified PE teacher and physical activity (PA) students have. Reducing or eliminating PE or PA in order to gain instructional time for reading and math should be heavily discouraged and is counterproductive to improving academic performance.

DPS has a recently-updated Wellness Policy<sup>29</sup> that is being actively applied. The district has a Wellness Coordinator who reviews each school's wellness plan twice annually with the expectation that the school will be moving toward full implementation of DPS Wellness Policy. Included in this policy are the following points related to physical activity and physical education:

1. DPS will teach an evidence-based physical education and health education curriculum that is consistent with federal and state law.
2. Schools must provide a minimum of 30 minutes of moderate to vigorous physical activity for all K-8 students daily.
3. DPS will work toward providing all elementary school students with 150 average minutes of physical education per week with certified physical education teachers and middle school students in at least two grade levels with physical education classes with certified health and physical education teachers.
4. Structured/unstructured recess and other physical activity (such as, but not limited to, physical activity time, physical education or intramurals) shall not be taken away from students as a form of punishment, and severe and/or inappropriate exercise may not be used as a form of punishment for students.
5. Regularly scheduled physical activity and physical education time shall not be sacrificed in order to provide extra instructional time in other subjects absent compelling circumstances.

While the intent to implement all elements of the Wellness Policy exists, funding required to do so is not always available. Additionally, changes asked of the teachers such as not taking away recess, are major and will take time to become procedure. DPS needs support and encouragement from the entire community to continue to move toward the goals of the Wellness Policy.

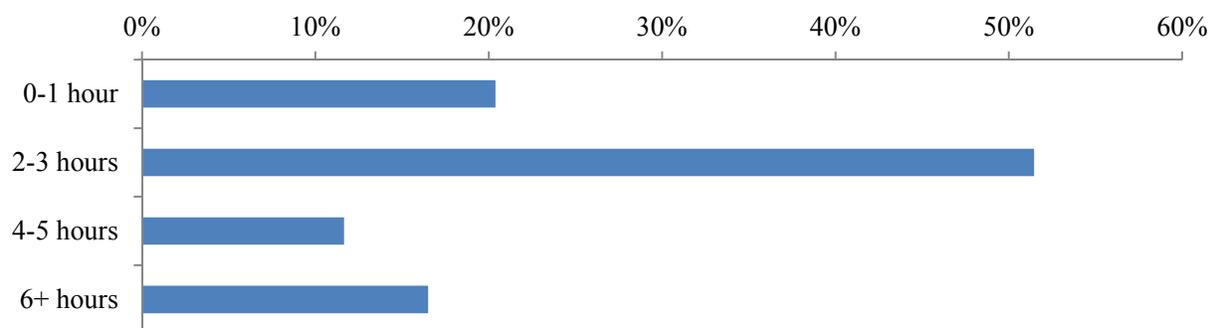
## Emerging Issues

An increasing body of evidence associates high levels of sitting time with poor health outcomes in both adults and children. Children are spending less time in physical education classes in the public schools. Schools are under intense pressure from federal, state and local governments to improve scores on standardized tests in reading and math. Physical education (PE) is not a tested subject, and as such student participation in PE may be on the decline as schools attempt to gain more time for literacy and math instruction. This focus on academic subjects at the expense of physical activity is not only a barrier to students' getting adequate physical activity; it also discounts the value of that physical activity has in improving academic performance.

Likewise, the amount of screen time for children has increased over the past few decades. Although TV-watching among DPS middle and high school students decreased between 2009 and 2013, the percentage of students who played video or computer games or used a computer for something that was not school work for three or more hours per day on an average school day increased. Approximately half of students watch a TV or use a computer (not for school) three or more hours per day. Students also get less physical activity in school, due in part to increased accountability for reading and math test scores and in part to the fact that fewer children walk or bike to school.

Screen time also includes the use of smart devices, which also has increase over the years. According the Pew Research Internet Project, 58% of American adults have a smartphone, 32% of American adults own an e-reader and 42% of American adults own a tablet computer. The common use of such devices adds to the overall amount of screen time. Screen time activity can range from reading and communication to forms of physical activity. New technologies continue to develop rapidly. While screen time has increased with the use of smart devices, many programs such as applications are readily available for these devices to encourage and track physical activity, many times with a social feature.

To address barriers to physical activity such as a lack of interest in outdoor activities, unsafe neighborhoods or inclement weather, active video games (AVGs) have been suggested as a resource to increase physical activity, in both children and adults. A recent review of 12 studies that explored energy expenditure during AVG play found that AVGs, such as the Wii Fit, do increase physical activity in children, adolescents and some adults.<sup>30</sup> Figure 5.01 (d) below illustrates the amount of time children, ages ranging from six to 18, spend playing active video games.



**Figure 5.01(d) Time Spent Using the Computer for Physically Active Games<sup>31</sup>**

Current adult trends in physical activity include interest towards dance fit classes such as Zumba and Line Dance and high intensity training or interval workouts such as CrossFit. Dance fit classes increase the heart rate, incorporate fitness components while interval training focus on challenge and recovery. Both class trends often are available in community settings and fitness facilities.

## Recommended Strategies

**Table 5.01(c) Evidence-based Resources and Promising Practices<sup>32</sup>**

Category	Name	Description	Website	Matching 2010 Objective
Daycare	NAP SACC	NAP SACC (Nutrition and Physical Activity Self-Assessment for Child Care) is an evidence-based program for improving the health of young children through better nutrition and physical activity in early care and education programs.	<a href="http://gonapsacc.org/about-nap-sacc">http://gonapsacc.org/about-nap-sacc</a>	Physical Activity and Nutrition Objective 1
School	Take 10	Take 10 is a classroom-based physical activity program for kindergarten to fifth grade students. This curriculum tool was created by teachers for teachers and students. It integrates academic learning objectives with movement. Materials contain safe and age-appropriate 10-minute physical activities and creatively incorporates the innovative use of the Take 10! Crew.	<a href="http://www.take10.net/">http://www.take10.net/</a>	Physical Activity & Nutrition Objective 1
Worksite	Lean Works	CDC's Lean Works is a FREE web-based resource that offers interactive tools and evidence-based resources	<a href="http://www.cdc.gov/leanworks/">http://www.cdc.gov/leanworks/</a>	Physical Activity &

		to design effective worksite obesity prevention and control a program, including an obesity cost calculator to estimate how much obesity is costing your company and how much savings your company could reap with different workplace interventions.		Nutrition Objective
Individual	A New Leaf	A New Leaf... Choices for Healthy Living is a structured nutrition, physical activity, and smoking cessation assessment and intervention program for cardiovascular disease (CVD) risk reduction among low-income individuals residing in the southeastern U.S.	<a href="http://www.cenerttrt.org/?p=intervention&amp;id=1005&amp;section=2">http://www.cenerttrt.org/?p=intervention&amp;id=1005&amp;section=2</a>	Physical Activity & Nutrition Objective 2

**CDC and U.S. DHHS Guidelines for Physical Activity for Children and Adolescents:**<sup>33</sup>

- Children and adolescents should participate in 60 minutes or more of physical activity daily.
  - **Aerobic:** Most of the 60 or more minutes should be moderate or vigorous-intensity aerobic physical activity and should include vigorous-intensity physical activity at least three days a week.
  - **Muscle-strengthening:** Part of their 60 or more minutes of daily physical activity should include muscle-strengthening physical activity on at least three days of the week.
  - **Bone-strengthening:** Part of their 60 or more minutes of daily physical activity, should include bone-strengthening physical activity on at least three days of the week.

North Carolina is fortunate to have a statewide movement, Eat Smart Move More which promotes increased opportunities for healthy eating and physical activity wherever people live, learn, earn, play and pray. Eat Smart Move More works to help communities, schools and businesses make it easy for people to eat healthy food and be physically active. It also encourages individuals to think differently about what they eat and how much they move, and to make choices that will help them feel good and live better.<sup>34</sup> Through the movement, a number of resources are available at no charge to the public.

One recommendation to increase physical activity is to implement Eat Smart, Move More community-wide obesity prevention strategies, that include (in relation to physical activity):

- Building active living communities
- Supporting joint use of recreational facilities

- Supporting school-based and school-linked health services
- Encouraging service and community organizations to offer campaigns and promotions, individual and group education provide supportive relationships, provider education and initiate policy and environmental changes.

Such strategies should all aim towards positive behavior change, increase awareness, knowledge and skills, as well as provide social support.

One of the North Carolina Institute of Medicine's (NCIOM) Prevention Action Plan's priority recommendations is that the State Board of Education implements quality PE and Healthful Living programs in schools. Durham should be a leader and begin implementing these recommendations as follows:

1. Quality physical education that includes 150 minutes of elementary school physical education weekly.
2. 225 minutes weekly of Healthful Living curriculum in middle schools, and two units of Healthful Living curricula as a graduation requirement for high schools. The new requirement for middle and high school should require equal time for health and physical education.<sup>35</sup>

Another evidence-based strategy for increasing physical activity within the school setting is the use of Energizers.<sup>36</sup> Energizers are classroom-based physical activities that help teachers integrate physical activity with academic concepts. These are short (about 10 minute) activities that classroom teachers can use to provide physical activity to children in accordance with the request from the North Carolina State Board of Education's Healthy Active Children Policy. While they are already in use in some Durham Public Schools, implementation should be expanded to all schools.

## Current Initiatives & Activities

- North Carolina has the Healthy Active Children Policy which requires 30 minutes of physical activity per day for students in grades K-8 and an annual report to the state on meeting this requirement.<sup>37</sup>

Website: <http://www.nchealthyschools.org/components/healthyactivechildrenpolicy>

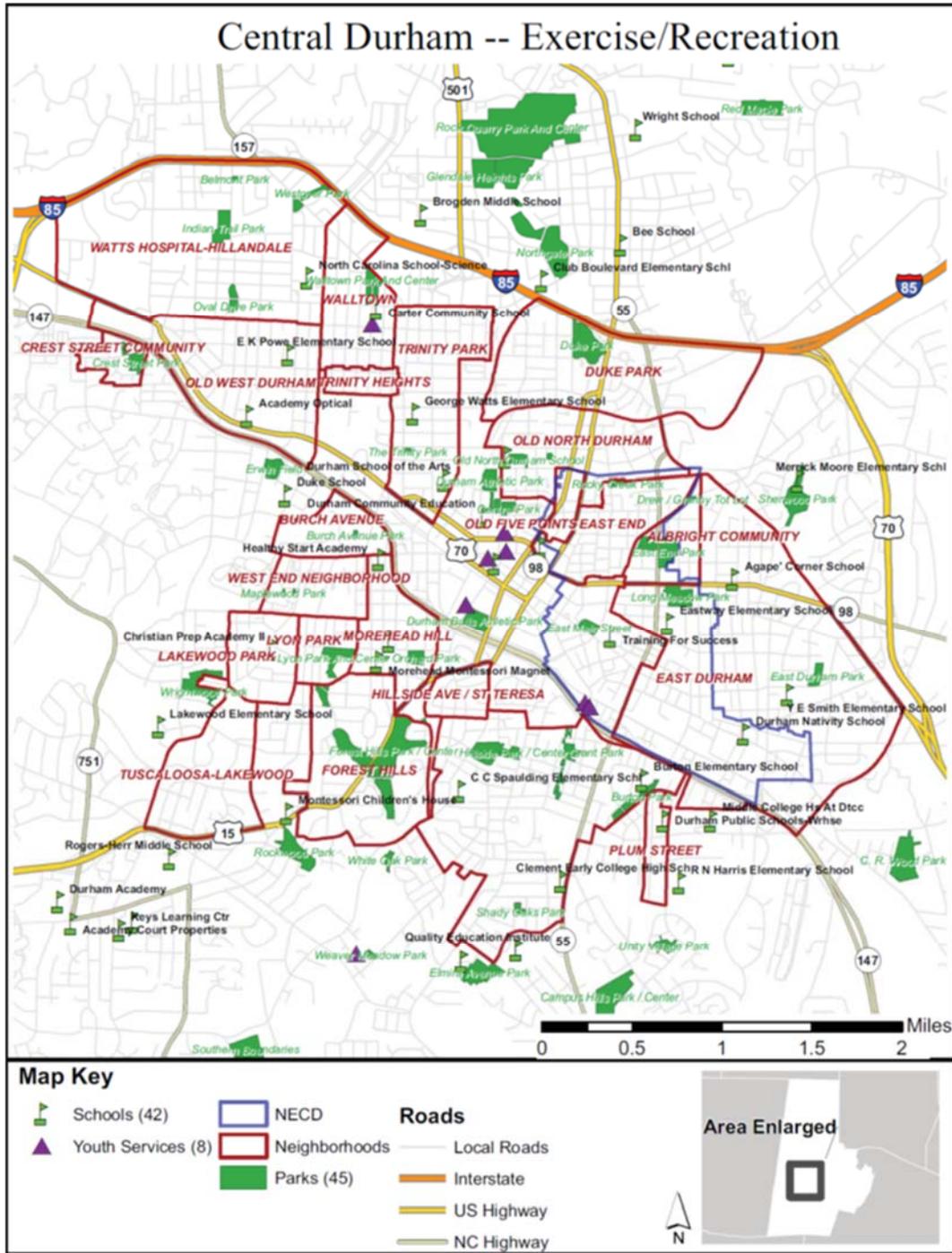
- Durham Public Schools has a local Wellness Policy with standards for daily physical activity, and the system requires schools to provide recess to elementary students each day. Classroom teachers have access to 10-minute energizers that can be incorporated into their daily lessons. All new schools have sidewalks and bike racks to encourage walking and biking to school, and many schools host walk or bike to school days. DPS also encourages after-school physical activity in school-based programs and through the distribution of recreational athletic league registration forms.<sup>38</sup>

Website: <http://dpsnc.net/about-dps/district-policies/523/3021-school-wellness-policy/?searchterm=Wellness%20Policy>

- **SPARK**  
Sports, Play, and Active Recreation for Kids (SPARK) curriculum in K-8 Physical Education classes is a research-based physical education program designed to increase moderate-to-vigorous physical activity, improve fitness levels and sport skills and enhance the enjoyment of physical education among students.<sup>39</sup>
- **Physical activity resources in Durham County**  
Durham has a variety of choices for free and low-cost physical activity resources. It is home to 66 parks with varied amenities. The parks and recreation centers are located throughout the city and offer playgrounds, group fitness classes, summer camps and several activities for youth and adults of all ages. In addition, the fields and outside equipment of 28 elementary and nine middle schools are available for public use after school hours. The Partnership for a Healthy Durham developed a brochure to identify no or low-cost resources for physical activity and places to get fresh fruits and vegetables.

Website: English: <http://healthydurham.org/docs/file/resources/EatSmartMoveMore-English.pdf>  
Spanish: [http://healthydurham.org/docs/FINAL%20Spanish%20Brochure%2010\\_6\\_08.pdf](http://healthydurham.org/docs/FINAL%20Spanish%20Brochure%2010_6_08.pdf)

As part of its efforts to identify physical activity and recreation resources in central Durham, Durham Health Innovations developed a map highlighting these resources.<sup>40</sup>



- Eat Smart Move More, Weigh Less***  
 Eat Smart, Move More, Weigh Less is a 15-week evidence-based weight-management program that uses strategies proven to work. Each lesson informs, empowers and motivates participants to live mindfully and make choices about eating and physical activity. The program is offered onsite in the community and local worksites through a collaborative effort between Durham County Department of Public Health and Durham Cooperative Extension.

Website: <http://www.eatsmartmovemorenc.com/ESMMWeighLess/ESMMWeighLess.html>

Phone number: (919) 560-7771/560-0501

Eat Smart, Move More, Weigh Less Online is a version of the 15 week program listed above delivered online. Real-time, interactive, weekly sessions with personalized support and resources are provided by experienced instructors trained in weight-management.

Website: [www.esmmweighless.com](http://www.esmmweighless.com)

▪ ***A Healthier Durham***

The fitness and wellness website, A Healthier Durham, is a partnership of the Durham County Department of Public Health, the Durham Diabetes Coalition, A Healthier NC and the City of Durham. The site was designed to encourage physical activity to help combat chronic diseases like obesity, type 2 diabetes, high blood pressure and heart disease.

Website: [www.ahealthierdurham.org](http://www.ahealthierdurham.org)

Phone Number: (919) 560-7624

▪ ***Living Healthy With Chronic Conditions***

This is a highly participatory workshop series that takes place once a week for six weeks. These programs are designed to help participants learn the skills and tools to better manage chronic conditions. Behavior change activities are focused on physical activity, nutrition and stress management.

Website: <http://www.ncdhhs.gov/aging/livinghealthy/livinghealthy.htm>

Phone Number: (919) 560-7771

▪ ***Let's Move***

A Federal initiative that offers resources and focus to those working at a local level. Durham County can take advantage of this current national emphasis and other federal and state resources to create a county-wide push for increased physical activity as part of an effort to improve the health of all county residents.

Website: <http://www.letsmove.gov/>

▪ ***Matter of Balance***

An evidence-based program developed to reduce the fear of falling among older adults and encourages an increase in their activity levels. The sessions involve low-to-moderate level exercises to increase flexibility, balance, strength and endurance. The program also teaches participants how to view falls and fear of falling as controllable, to set realistic goals for increasing activity and to change their environment to reduce risk factors for falls.

Website: [http://www.mainehealth.org/mh\\_body.cfm?id=432](http://www.mainehealth.org/mh_body.cfm?id=432)

Phone Number: (919) 560-7771

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## Section 5.02 *Nutrition and access to healthy foods*

### Overview

What and how much we eat effects our health in many ways. From emotional to physical health, success in work and school, ability to sleep or to participate in sports, nutrition plays a role. Many diseases are also linked to poor nutrition including hypertension, high cholesterol, and diabetes and some cancers.

However, people do not make food choices based solely on their physical needs and well-being. Food choices are made based upon taste preference, culture, environmental and social cues and what foods that are available. Durham County's nutrition environment—the availability of healthy foods and the culture surrounding eating—strongly influences what its residents eat and ultimately their health. This environment includes every influence related to food, from the food served at schools, to the location of grocery stores and fast food restaurants to advertising during popular television shows.

In a Vision for a Fit and Healthy Nation 2010, the Surgeon General of the U.S. noted, “In recent decades the prevalence of obesity has increased dramatically in the United States, tripling among children and doubling among adults.... High calorie, good-tasting, and inexpensive foods have become widely available and are heavily advertised. Portion sizes have increased, and we eat out more frequently. Children drink more sugar-sweetened beverages than they did in the past, and they are drinking fewer beverages such as water and non- or low-fat milk that are healthier for growing minds and bodies.”<sup>1</sup>

Durham County is facing many similar issues and it is visible in overweight/obesity rates. In 2012, 65% of Durham County adults were overweight or obese.<sup>2</sup> In 2013, 32% of Durham County high school students were obese or overweight.<sup>3</sup> Between 2009 and 2011, 33.7% of at-risk children ages two through five were also found to be obese or overweight.<sup>4</sup> According to the Durham Diabetes Coalition, 12% of Durham adults are living with type 2 diabetes.<sup>5</sup> Although a variety of factors can cause overweight and chronic disease, nutrition plays a central role in many cases. Of the six leading causes of death in Durham, nutrition plays a key role in four (cancer, diseases of the heart, cerebrovascular disease, and diabetes mellitus<sup>6</sup>).

Healthy eating is a challenge facing all segments of the Durham County community. Finding a solution will take the collective efforts of many groups and agencies to address multiple factors that can improve the nutrition of Durham residents. These include<sup>7</sup>:

*“In a community... supermarkets that have fresh fruits and vegetables and a variety of things necessary for a healthy diet – that’s a key issue.”*

*- Focus group of Durham County residents living in a low-wealth neighborhood*

- Insufficient nutrition education
- Lack of culinary skills, time and equipment that prevent some residents from cooking healthy meals
- Cost of healthy food
- Lack of healthy choices when eating away from home
- Lack of access to healthy foods in some neighborhoods
- Lack of transportation

## Healthy NC 2020 Objective

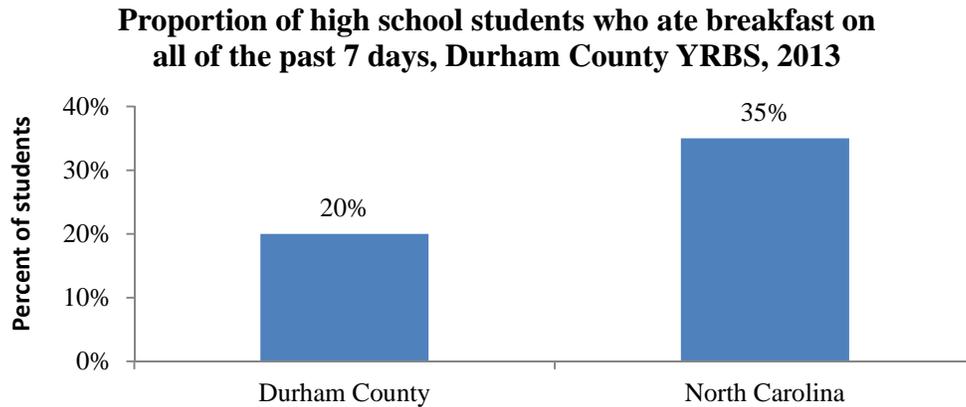
### Health Promotion

Healthy NC 2020 Objective <sup>8</sup>	Current Durham	Current NC <sup>9</sup>	2020 Target
1. Increase the percentage of adults who report they consume fruits and vegetables five or more times per day	19.0% (2011) <sup>10</sup>	13.7% (2011)	29.3%

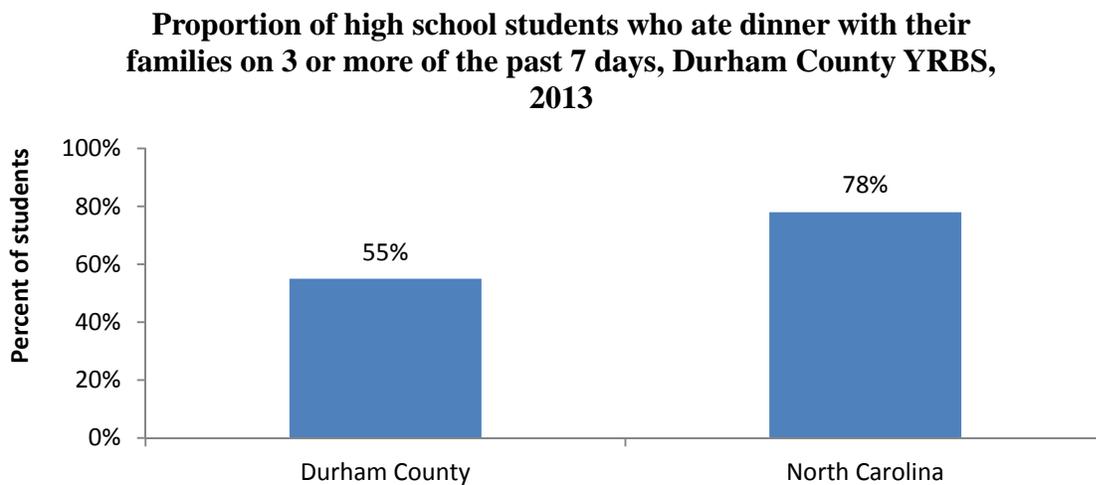
## Secondary Data

Two surveys, the Youth Behavior Risk Survey (YRBS) and Behavior Risk Factor Surveillance Survey (BRFSS) collect information about the eating habits of Durham County residents. The YRBS surveys middle and high school students while the BRFSS surveys adults over 18 years of age.

Breakfast is an important meal for maintaining a healthy body weight and preventing various diseases, and is linked with better student concentration and academic achievement.<sup>11</sup> YRBS 2013 results show that only one in five high school students eats breakfast every day (Figure 5.02a).<sup>12</sup> This question was not asked of middle school students in 2013; however, in 2011, 45% of Durham County middle school students and 47% of state students ate breakfast every day.

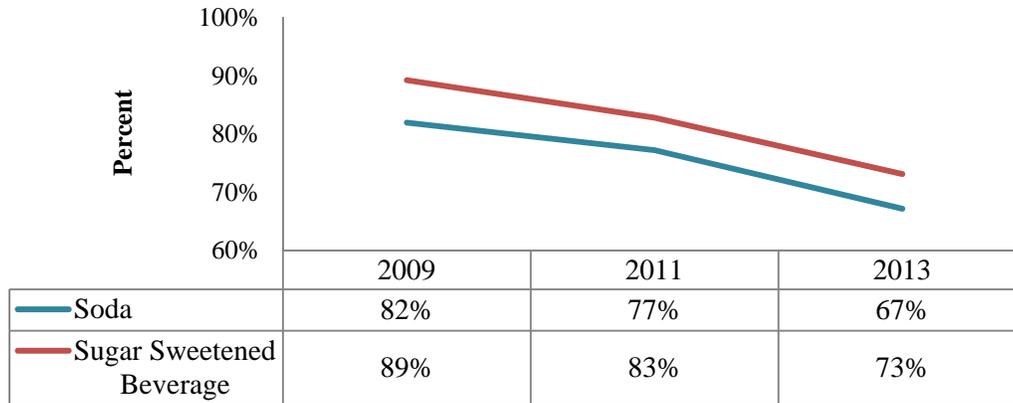
**Percentage of Students Who Ate Breakfast on Seven of the Past Seven Days (YRBS 2013)<sup>13</sup>****Figure 5.02(a) Percentage of Students Who Ate Breakfast**

Eating family meals is not only an important tool in preventing obesity and increasing fruit and vegetable consumption, but is also linked to lower rates of substance abuse, teen pregnancy and depression and to greater academic success.<sup>14,15</sup> Approximately half of Durham Public Schools (DPS) high school students ate dinner at home with their families on three or more days in a week (figure 5.02b). This means that half of high school students rarely eat family dinners. Both the proportion of Durham County high school students eating breakfast and the proportion eating dinner with their families have decreased since 2011 (26% and 67%, respectively).

**Figure 5.02(b) Percentage of Students Who Ate Dinner at Home<sup>16</sup>**

One result of efforts to improve the nutrition environment within DPS was the removal of soda from student-accessed vending machines in 2011. Previously, DPS high school students had begun to drink fewer sodas and sugar-sweetened beverages. Between 2009 and 2013, there was a steady decrease in the percent of DPS high school students drinking soda or other sugar-sweetened beverages at least once a week.

**High School Students Who Had Soda or Other Sugar Sweetened Beverages One or More Times per Week**  
 Durham County High School YRBS, 2009-2013



**Figure 5.02(c) Soda and Sugar-Sweetened Beverage Drinking Among DPS High School Students 2009-2013<sup>17</sup>**

As mentioned above, the Dietary Guidelines recommend eating at least five fruits and vegetables a day. Results from the Youth Risk Behavior Survey (YRBS) in Durham show that many Durham youth do not eat fruit and vegetables at all during the week.

**Table 5.02(a) Percentage of Durham Public High School Students Eating Particular Fruits and Vegetables One or More Times in the Past Seven Days (YRBS 2013)**

Food Item	Durham <sup>18</sup>	NC <sup>19</sup>
Fruit	76%	87%
Green Salad	54%	59%
Potatoes	58%	65%
Carrots	44%	39%
Other vegetables	74%	83%

BRFSS results are similar, showing that fewer than one in five Durham County adults are eating the recommended number of fruits and vegetables a day. Survey results also indicate that there are differences in fruit and vegetable consumption among socioeconomic groups as shown in Figure 5.02(d) below.

**Durham Adults and Sub-Groups and North Carolina Adults Consuming Five or More Fruits and Vegetables per Day**

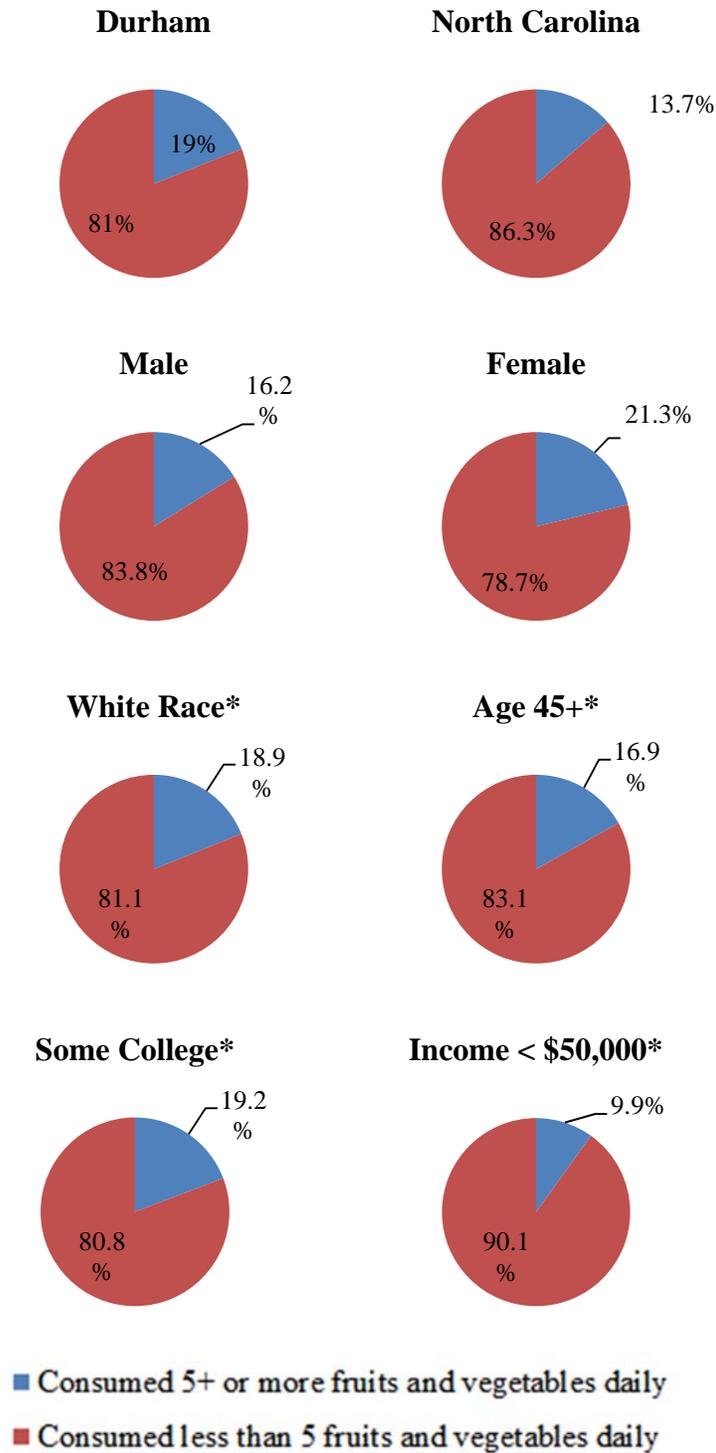


Figure 5.02(d) Adult Vegetable and Fruit Consumption, BRFSS 2011<sup>20</sup>

*\* The estimates for Other Races, Age 18-44, High School, Education or Less, and Household Income Less than \$50,000 did not meet statistical reliability standards.*

Even if all residents had the desire, time and knowledge to eat healthy, it would be very difficult for many because of a lack of access. As described in chapter four, “food insecurity” is defined by the United States Department of Agriculture (USDA) as a measure of lack of access at times, to enough food for an active, healthy life for all household members or as limited or uncertain availability of nutritionally adequate foods.<sup>21</sup> One cause of food insecurity is a lack of resources to purchase enough healthy food. It is estimated that 51,510 people are food insecure in Durham County, which equates to 19.1% of the population. Seventy percent of these individuals are living below 200% of the poverty line, while 31% are living above 200% of the poverty line and are not eligible for Supplemental Nutrition Assistance Program (SNAP) benefits.<sup>22</sup> More information about the financial impacts of food insecurity in Durham County can be found in chapter four.

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 face lack of access to a grocery store and low socioeconomic status. Studies that measure grocery store availability and availability of healthy foods in nearby stores find major disparities in food access by race and income and for low-density rural areas.<sup>23</sup>

Studies find that residents with greater access to supermarkets or a greater abundance of healthy foods in neighborhood food stores eat a healthier diet. For example, for every additional supermarket in a census tract, produce consumption increases 32 percent for African-Americans and 11 percent for whites. This translates to a lower risk for obesity and diet-related diseases for people with high access to healthy foods.<sup>24</sup>

Figure 5.02(e) below depicts Durham food deserts. The green areas mark census tracts in which a large number of low income individuals live without a grocery store within one mile. The orange areas mark census tracts in which a high percentage of residents are low income and have no grocery store within a half-mile. The data are broken down by census tract in Table 5.02(b).<sup>25</sup>

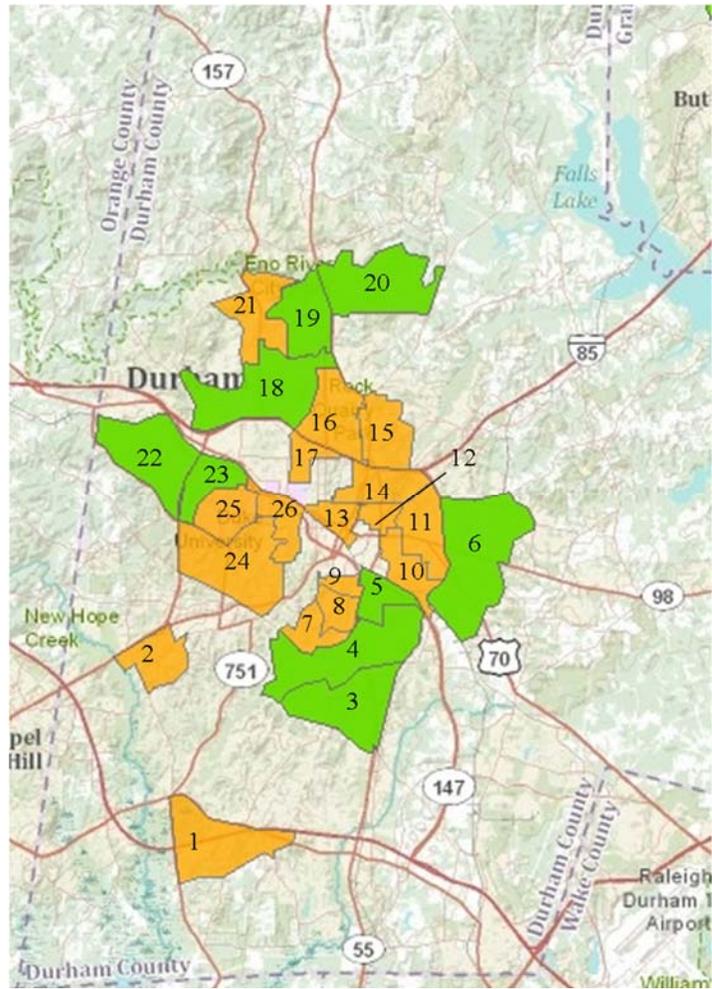


Figure 5.02(e) Durham County Food Deserts<sup>26</sup>

Table 5.02(b) Durham County Food Deserts by Census Tract<sup>27</sup>

Census Tract	# low income residents living more than ½ mile from supermarket (percent population)	# low income residents living more than 1 mile from supermarket (percent population)	# of people in census tract	Relatively high # households without vehicles, living more than ½ mile from supermarket
37063002021	538 (12%)	85 (2%)	4432	N
37063002016	1243 (23%)	0	5384	N
37063002026	2352 (40%)	1451 (25%)	5813	Y
37063002009	1723 (37%)	488 (10%)	4685	Y
37063001400	2014 (77%)	455 (17%)	2609	Y
37063001802	3072 (46%)	1441 (21%)	6736	Y
37063001304	612 (24%)	0	2557	N
37063001303	2179 (59%)	0	3676	N
37063001301	502 (45%)	0	1128	N
37063001001	1087 (31%)	7 (0.2%)	3466	Y
37063001002	1139 (19%)	0	5974	N
37063000900	1142 (68%)	0	1668	Y
37063002200	1053 (54%)	0	1946	N
37063000200	1025 (38%)	0	2946	N
37063000101	677 (21%)	0	3152	N
37063000102	1169 (26%)	0	4535	N
37063000301	709 (28%)	0	2504	Y
37063001705	1296 (29%)	192 (4%)	4519	N
37063001710	2221 (47%)	907 (19%)	4705	Y
37063001708	1773 (44%)	1146 (29%)	3989	Y
37063001711	1265 (28%)	0	4503	Y

37063001706	1586 (38%)	482 (12%)	4179	Y
37063001502	3303 (55%)	661 (11%)	5986	Y
37063000600	1115 (22%)	0	5177	N
37063001501	2796 (21%)	229 (6%)	3070	N
37063000500	1448 (35%)	0	4093	Y

Lack of a personal vehicle compounds food access issues when living in a food desert. As described in Table 5.02(b), there are thirteen census tracts with a relatively high number of individuals who lack a personal vehicle and do not live within a half mile of a grocery store. Many of these families become dependent on family, friends or public transportation in order to access supermarkets.

In the 2013 Community Health Assessment Opinion Survey,<sup>28</sup> Durham residents identified diet-related diseases as five of the top ten health problems in Durham County (figure 5.02(f)).

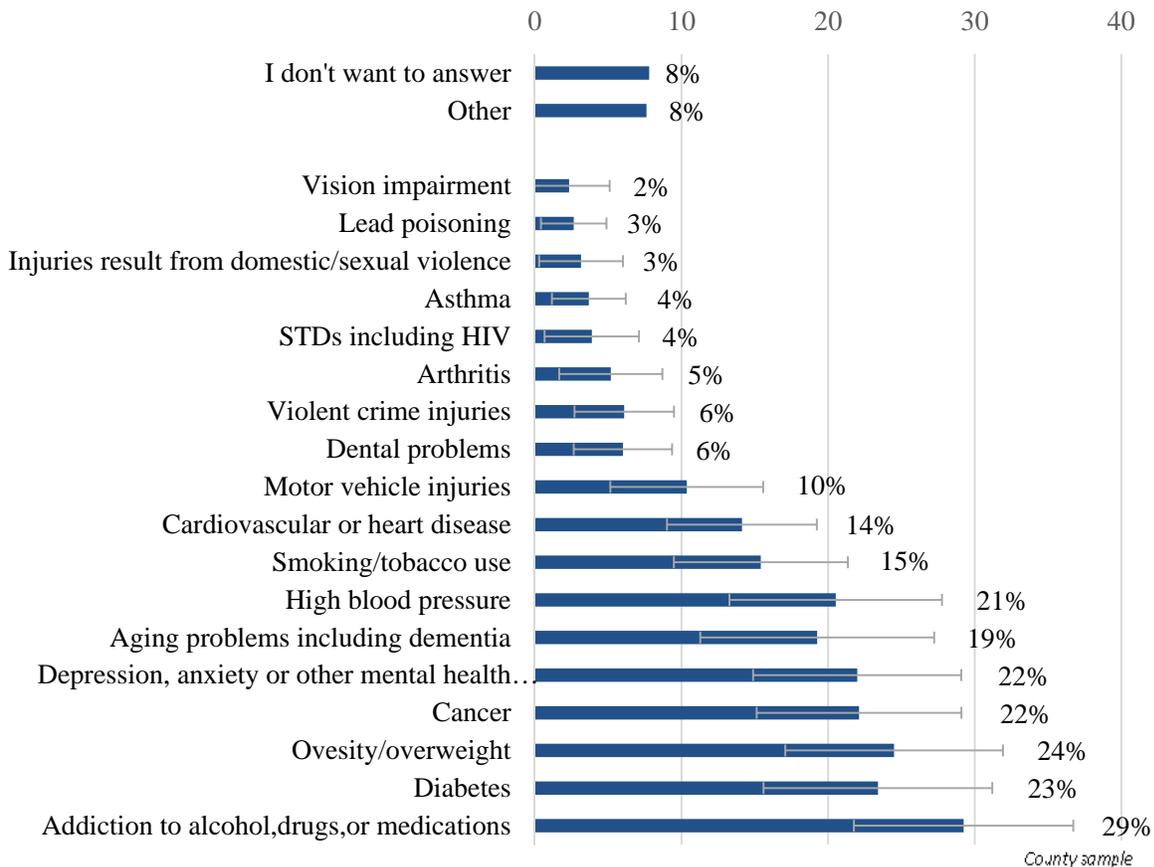
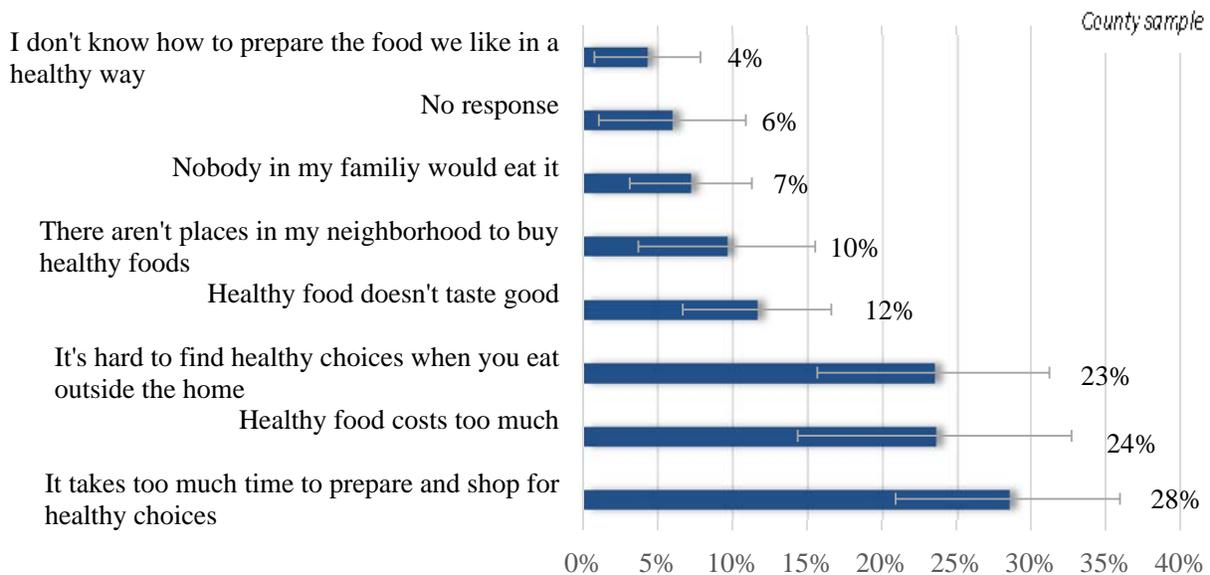


Figure 5.02(f) Diet Related Diseases

This illustrates the large impact that improvements the diets of Durham County residents could have on health of the community.

The questionnaire also asked Durham County residents about their barriers to eating healthy. Residents identified lack of time, cost of healthy foods, and access to healthy foods as their top barriers (figure 5.02(g)).



**Figure 5.02(g) Barriers to Eating Healthy**

The result of these barriers is that many people are eating more and more meals away from home. Sixty-one percent of survey participants reported they eat out at least two to three times a week with 28% reporting they eat out more than three times a week. Eating away from home is associated with an increase in obesity, calories, saturated fat and sodium and a decrease in consumption of whole grains and vegetables<sup>29</sup>.

Finally, the survey identified food insecurity and access as a major barrier to eating healthy in Durham County. Eight percent of all participants and 19% of the Latino participants reported sometimes cutting the size of their meals or skipping meals because they did not have enough money for food. Two percent of all participants and five percent of the Latino participants reported always cutting the size of their meals for this reason. When asked what makes it hard to eat healthy, 24% of all participants and 37% of Latino participants stated that healthy foods cost too much money. More information about the financial impacts of food insecurity in Durham can be found in chapter four.

### Interpretations: Disparities, Gaps, Emerging Issues

According to the Dietary Guidelines for Americans 2010 and the North Carolina Institute of Medicine (NCIOM), a healthy diet includes fruits, vegetables, whole grains, lean protein and adequate sources of calcium, and limit saturated fat, trans fat, added sugar and sodium and requires a balance between food and activity to maintain a healthy weight.<sup>30,31</sup>

Durham residents across all socioeconomic groups often struggle to eat a healthy diet due to time constraints, social constraints, heritage and upbringing and the environment in which they live.

While availability and cost (both in time and money) keep people from eating enough healthy foods, people seem to value healthy eating and many wish to improve their intake. It is important to dedicate more resources towards promoting healthy lifestyle choices to the citizens of Durham.

Although diet-related diseases affect all socioeconomic groups, low-income residents and minorities are more at risk for these diseases.<sup>32</sup> One likely cause of this is that these residents have less access to healthy foods than those living in higher wealth and primarily white neighborhoods. The availability of healthy food is a community-wide issue that influences the overall quality of life in Durham County and availability, convenience and affordability of healthy foods are recurrent themes.

About 65% of DPS students qualify for free or reduced lunch prices,<sup>33</sup> making DPS Child Nutrition Services (CNS) a major provider of food for a majority of DPS students. DPS CNS not only follows federal guidelines in what they provide, but also is proactive in instituting healthy changes before they are required. The DPS CNS Advisory Council which includes nutrition educators among its members focuses in part on improving the nutritional quality of CNS offerings while exploring ways to improve student acceptance of new menu items. DPS Wellness Policy seeks to unify nutrition messages throughout DPS while moving the schools toward adopting standards for healthy foods anywhere on campus.

The Durham County Department of Public Health's DINE nutrition education program is actively teaching in twelve DPS elementary schools and a varying number of middle schools. DINE also collaborates with CNS to promote healthy cafeteria offerings. School gardens exist at many Durham schools. While the gardens may not provide significant amounts of food, they are one more vehicle for teaching students about healthy foods. The DPS Hub Farm is another asset to both nutrition education and the provision of healthy foods. The Hub Farm which grew its first crops during the 2012-13 school year serves as a learning laboratory that offers students the opportunity to plant and harvest crops and to learn to cook healthy dishes from those foods. The school nutrition environment in Durham is improving.

Twenty-eight percent of Durham County residents report that many of their meals are eaten away from home. In many families, both parents work different shifts making it difficult to have family mealtimes.<sup>34</sup> It is important to educate about and promote the importance of eating family meals. It is not only important that healthy food be available in grocery stores but also that healthy choices exist and are promoted in restaurants throughout the city. Restaurants that are making strides towards serving healthier meals should be recognized and rewarded.

The cost of food is projected to rise in 2014 from 2.5% to 3.5%. If severe weather continues, including the drought in California, this rise in prices could even be greater. Fruit, vegetables, dairy, beef and eggs are the foods most likely to see the greatest price increases.<sup>35</sup> Price increases coupled with the 2014 Farm Bill which cut food stamp benefits to thousands of Americans, will likely increase the financial strain on many Durham residents and decrease their ability to afford healthy foods.

Durham City, County and the NC State Legislature are working to offset these effects. Mayor Bill Bell recently started a campaign to reduce poverty, which likely will address food insecurity and

food access. Goal 2 of the Durham County Strategic addresses “Health and Wellbeing for All;” the county aims to increase healthy food access through work with convenience stores, farmers’ markets and mobile fruit and vegetable markets. Furthermore, the state House of Representatives is currently studying the prevalence and effects of food deserts throughout North Carolina and researching the possible impacts of funding healthy food financing initiatives throughout the state.

## Recommended Strategies

Key actions outlined in *The Surgeon General’s Vision for a Healthy and Fit Nation*<sup>36</sup> includes:

- *Individual Healthy Choices and Healthy Home Environments* - Americans of all ages should: reduce consumption of sodas and juices with added sugars; eat more fruits, vegetables, whole grains, and lean proteins; drink more water and choose low-fat or non-fat dairy products; limit television time to no more than 2 hours per day; and be more physically active.
- *Creating Healthy Child Care Settings* - Child care programs should identify and implement approaches that reflect expert recommendations on physical activity, screen time limitations, good nutrition and healthy sleep practices
- *Creating Healthy Schools* - To help students develop life-long healthy habits, schools should provide appealing healthy food options including fresh fruits and vegetables, whole grains, water and low-fat or non-fat beverages.
- *Creating Healthy Work Sites* - Employers can implement wellness programs that promote healthy eating in cafeterias, encourage physical activity through group classes and stairwell programs and create incentives for employees to participate.
- *Mobilizing the Medical Community* - When discussing patients’ Body Mass Index (BMI), providers should explain the connection between BMI and increased risk for disease and, when appropriate, refer patients to resources that will help them meet their physical, nutritional, and psychological needs.
- *Improving Our Communities* - Communities should consider the geographic availability of their supermarkets, improving residents’ access to outdoor recreational facilities, limiting advertisements of less healthy foods and beverages, building and enhancing infrastructures to support more walking and bicycling, and improving the safety of neighborhoods to facilitate outdoor physical activity.

*“The truth is I’d rather eat grapes and a bowl full of oranges before I go eat Doritos. ... When I was in elementary school we grew fruit plants. In elementary to 5<sup>th</sup> we grew fruit plants. I grew to love fruit as a kid.”*

*- Focus group of Durham County residents living in a low-wealth neighborhood*

Similarly, the North Carolina Prevention Action Plan makes a priority recommendation that the Eat Smart Move More North Carolina Obesity Prevention Plan be enacted. All elements of this plan are evidence-based and many offer potential applications for Durham County. Key strategies

are listed below along with other toolkits that list and describe evidence-based programs that put key actions into practice.

**Table 5.02(i) Evidence-based Resources and Promising Practices**

<b>Category</b>	<b>Name</b>	<b>Description</b>	<b>Website</b>	<b>Matching 2010 Objective</b>
Community, School Workplace, Childcare, Government	The Environmental Nutrition and Activity Community Tool	A tool that lists strategies to improve physical activity and nutrition environments	<a href="http://eatbettermovemore.org/sa/enact/members/index.php">http://eatbettermovemore.org/sa/enact/members/index.php</a>	Physical Activity & Nutrition  Objective 1, 2, & 3
Community, School Workplace, Childcare, Government	Center for Training and Research Translation	The Center TRT's mission is to enhance the public health impact of state and community obesity prevention efforts by providing the training and evidence public health practitioners need to improve health behaviors, environments, and policies in ways that are equitable, efficient, and sustained over time.	<a href="http://www.centrtrt.org/?new">http://www.centrtrt.org/?new</a>	Physical Activity & Nutrition  Objective 1, 2, & 3
Community, School Workplace, Childcare, Government	Eat Smart Move More	This website is contains tools, programs, and policies aimed at increasing physical activity and improving nutrition in childcare, schools, the community, workplace, and government.	<a href="http://eatsmartmovemorenc.com">http://eatsmartmovemorenc.com</a>  and <a href="http://www.myeatsmartmovemore.com">www.myeatsmartmovemore.com</a>	Physical Activity & Nutrition  Objective 1, 2, & 3
Community, School Childcare	SNAP ED Strategies and Interventions : An Obesity Prevention Toolkit for States	Evidence-based policy and environmental change programs for childcare, school and community settings.	<a href="http://snap.nal.usda.gov/snap/SNAP-EdInterventionsToolkit.pdf">http://snap.nal.usda.gov/snap/SNAP-EdInterventionsToolkit.pdf</a>	Physical Activity & Nutrition  Objective 1, 2, & 3

## Current Initiatives & Activities

- ***Medical Nutrition Therapy, Durham County Department of Public Health (DCoDPH) Nutrition Division***

DCoDPH offers Medical Nutrition Therapy (personalized nutrition counseling) to adults and children. Personal insurance and Medicaid is accepted, or there is a sliding scale fee based on income.

Website: <http://dconc.gov/index.aspx?page=1320>  
Phone Number: 919-560-7786

- ***Medical Nutrition Therapy, Duke University Health System***

Medical Nutrition Therapy (personalized nutrition counseling) is available at Duke Hospital, Duke Regional Hospital, and various clinics throughout Durham County.

- ***DINE Program, DCoDPH Nutrition Division***

The DCoDPH DINE team offers community and school based nutrition education, taste tests, cooking demonstrations/classes, information, health fairs, and grocery store tours to eligible groups. In the summer of 2014, DINE will launch a child care component that will work with eligible child care centers and homes in Durham County to improve nutrition practices and policies and educating parents and staff.

Website: [www.dineforlife.org](http://www.dineforlife.org)  
Phone Number: 919-560-7789

- ***Durham Public Schools, Child Nutrition Services***

Child Nutrition Services offers meals to more than 32,000 students attending Durham Public Schools daily. In addition to providing school breakfast and school lunch, Child Nutrition Services also participates in After School Snack, Summer Food Service, Fresh Fruit and Vegetable Grant Program and Farm to School Program.

Website: <http://www.dpsnc.net/about-dps/departments/child-nutrition-services>  
Phone Number: (919) 560-2370

- ***Durham County Cooperative Extension, Expanded Food and Nutrition Education Program***

The Expanded Food and Nutrition Education Program (EFNEP) is a federally funded program that serves limited-resource youth and families with children through a series of “hands-on” lessons. Participants are taught how to make healthy choices with their food dollars, improve eating habits and practice food safety principles.

Website: <http://durham.ces.ncsu.edu/index.php?page=healthnutrition>  
Phone Number: (919) 423-1502

- ***Durham County Cooperative Extension, Eat Smart, Move More, Weigh Less***

Eat Smart, Move More, Weigh Less is a 15-week course that focuses on lifestyle habits that help participants achieve a healthy weight. An instructor trained in weight management leads weekly lessons which include practical strategies for adopting weight loss/maintenance.

Website: <http://durham.ces.ncsu.edu/2012/01/a-new-you-is-within-reach-2/>

Phone Number: (919) 560-0536

▪ ***Durham County Cooperative Extension, Color Me Healthy***

Color Me Healthy is a train-the-trainer workshop offered to childcare teachers and providers who want to incorporate the Color Me Healthy curriculum into their classrooms. The curriculum uses color, music, and exploration of the senses to teach children ages four and five about healthy eating and physical activity.

Website: <http://durham.ces.ncsu.edu/color-me-healthy-training-for-childcare-providers/>

Phone Number: (919) 560-0536

▪ ***Durham County Cooperative Extension, Families Eating Smart and Moving More***

Families Eating Smart and Moving More is a series of four modules designed for families to help them eat smart and move more. Examples of topics include eating smart at home and on the run.

Website: <http://www.ces.ncsu.edu/depts/fcs/pdfs/FESMM%20one%20pager.pdf>

Phone Number: (919) 515.914

▪ ***Durham County Cooperative Extension, Give your Heart a Healthy Beat!***

Give Your Heart a Healthy Beat! is a series of classes designed to help reduce the risk of heart disease and stroke by teaching participants about healthy food selection and meal planning, physical activity, stress management and much more.

Website: <http://www.ces.ncsu.edu/spotlight/give-your-heart-a-healthy-beat/>

Phone Number: (919) 423-1502

▪ ***Durham County Cooperative Extension, ServSafe***

ServSafe is a Food Safety Certification course designed for food service managers and supervisory staff in restaurants, hospitals, nursing homes, child-care facilities and other food handling establishments to meet the NC Food Code requirements for food safety and sanitation.

Website: <http://www.ces.ncsu.edu/wp-content/uploads/2013/02/servsafe-certification-courses.pdf>

Phone Number: (919) 560-0501

▪ ***Durham County Cooperative Extension, Steps to Health***

Steps to Health is empowers preschoolers, kindergarteners, second grade students, third grade students, adults, Latino families, and older adults to make healthy choices within a limited budget

and choose physically active lifestyles consistent with the current Dietary Guidelines for Americans and MyPlate.

Website: <http://www.ces.ncsu.edu/depts/fcs/steps-to-health/index.html>

Phone Number: 919-560-0525

▪ ***The Durham Diabetes Coalition***

The Durham Diabetes Coalition is a partnership of Durham County health and community organizations, faith-based groups, local government and universities and community members seeking to cut down on death and injury from type 2 diabetes and find people who have type 2 diabetes and don't know it. They offer services, education and support to at-risk people living with type 2 diabetes.

Website: <http://durhamdiabetescoalition.org/>

Phone Number: 919-560-7212

▪ ***The Durham Public Schools Hub Farm***

The Durham Public Schools Hub Farm is working to increase access to physical activity and healthy food through a 30+ acre farm and outdoor learning lab, or Hub Farm. The farm offers opportunities learn about agriculture, nutrition, physical activity, environmental sciences and much more.

Website: <https://www.facebook.com/DPSHubFarm>

▪ ***Healthy Aisle Projects, Partnership for a Healthy Durham, Obesity and Chronic Illness Committee***

The Partnership for a Healthy Durham's Obesity and Chronic Illness Committee partnered with Los Primos Supermarket to launch Durham County's first Healthy Checkout Aisle, which only contains healthy items. Efforts to expand this project are ongoing.

Website: [http://www.healthydurham.org/index.php?page=committees\\_obesity](http://www.healthydurham.org/index.php?page=committees_obesity)

Phone Number: 919-560-7833

▪ ***Durham Farmers' Markets***

Downtown Durham Farmers' Market and South Durham Farmers' Market sell fresh and local food. Both markets started accepting SNAP/EBT (formerly known as Food Stamps) during Spring 2014 and are in the process of starting a Double Bucks program, doubling SNAP benefits up to \$10 per visit.

Website: [www.durhamfarmersmarket.com](http://www.durhamfarmersmarket.com) (downtown);

[www.southdurhamfarmersmarket.org](http://www.southdurhamfarmersmarket.org) (southern Durham)

Phone Number: 919-667-3099 (downtown)

- ***Veggie Van***

Veggie Van sells fresh, local and affordable preordered boxes of produce at various sites around Durham County where residents may not otherwise have access to such food. The Veggie Van also provides nutrition education through the Cooking Matters program.

Website: <http://www.cnpnc.org/index.php/veggie-van>

Phone Number: 919-294-9455

- ***Meals on Wheels of Durham County***

Meals on Wheels provides home-delivered meals to senior citizens of limited mobility, allowing them to remain in their homes rather than in care facilities.

Website: [www.mowdurham.org](http://www.mowdurham.org)

Phone Number: 919-667-9424

- ***Inter-Faith Food Shuttle (IFFS)***

Inter-Faith Food Shuttle runs a number of programs, including a food rescue and distribution, culinary job training, backpack buddies, nutrition education, and gardening programs. The group is based in Raleigh but has a Durham Service Center.

Website: <http://foodshuttle.org/>

Phone Number: 919-250-0043

- ***Food Bank of Central and Eastern NC***

Food Bank of Central and Eastern NC, Durham Branch collects food for distribution to agencies serving food insecure people. One of its major warehouses is in Durham.

Website: <http://www.foodbankcenc.org>

Phone Number: 919-956-2513 x2101

- ***Urban Ministries of Durham (UMD)***

Urban Ministries of Durham Community Café serves three meals a day to residents of their homeless shelter and others in need. They also offer emergency food assistance up to once every thirty days for anyone in need.

Website: <http://www.umdurham.org/>

Phone Number: 919-682-0538

- ***Durham County Department of Social Services Food and Nutrition Services and Crisis Services***

Durham Social Services Food and Nutrition Services and Crisis Services provides food assistance to those in need.

Website: <http://dconc.gov/index.aspx?page=553>

Phone Number: 919-560-8000

- ***Lincoln Community Health Center's Women, Infant, and Children (WIC) program***

Lincoln Community Health Center's WIC program provides food assistance resources to pregnant woman, breastfeeding women, and children under five years old.

Website: <http://www.lincolnchc.org/>

Phone Number: 919-956-4000

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## Section 5.03 *Tobacco*

### Overview

January 2013 marked the 50<sup>th</sup> anniversary of the Surgeon General's report on smoking and health. More than 20 million Americans have died as a result of smoking since the first Surgeon General's report on smoking and health was released in 1964.<sup>1</sup> Yet, tobacco use remains the number one preventable cause of death and disease in the United States and in North Carolina. Research consistently demonstrates the numerous health consequences of tobacco use. The Surgeon General's 2010 Report details the ways in which tobacco smoke damages every organ in the body causing heart disease, cancers of the lung, larynx, esophagus, pharynx, mouth and bladder and chronic lung disease.<sup>2</sup> Smoking is associated with an increased risk of at least 15 different types of cancer.<sup>3</sup> Approximately 30% of all cancer deaths and nearly 90% of lung cancer deaths – the leading cancer death among men and women - are caused by smoking.<sup>4</sup>

Secondhand smoke and smokeless tobacco also pose serious health risks. In 2006, the U.S. Surgeon General published a report entitled *The Health Consequences of Involuntary Exposure to Tobacco Smoke* which concluded that no amount of secondhand smoke exposure is safe. Exposure to secondhand smoke can cause heart disease and lung cancer among adults and higher respiratory tract infections among children.<sup>5</sup> Smokeless tobacco products pose serious health threats as well causing a number of serious oral health problems including cancer of the mouth, leukoplakia, recession of the gums, gum disease and tooth decay.<sup>6</sup>

When smoking is started at a young age, it often becomes a life-long habit. Environmental risk factors such as easy access and availability of tobacco products, cigarette advertising and promotion (including in movies) and affordable prices for tobacco products make smoking among young people more common.<sup>7</sup>

Tobacco promotions and advertising efforts are likely responsible for much of the youth smoking initiation and prevalence. Major cigarette companies have spent about \$12.5 billion per year (or \$34.2 million every day) in recent years promoting the use of tobacco, many of their marketing efforts directly reach kids.<sup>8</sup>

Nearly 90 percent of all adult smokers begin at or before age 18.<sup>9</sup> More than 6.3 million children under the age of 18 alive today will eventually die from smoking-related disease unless current rates are reversed.<sup>10</sup>

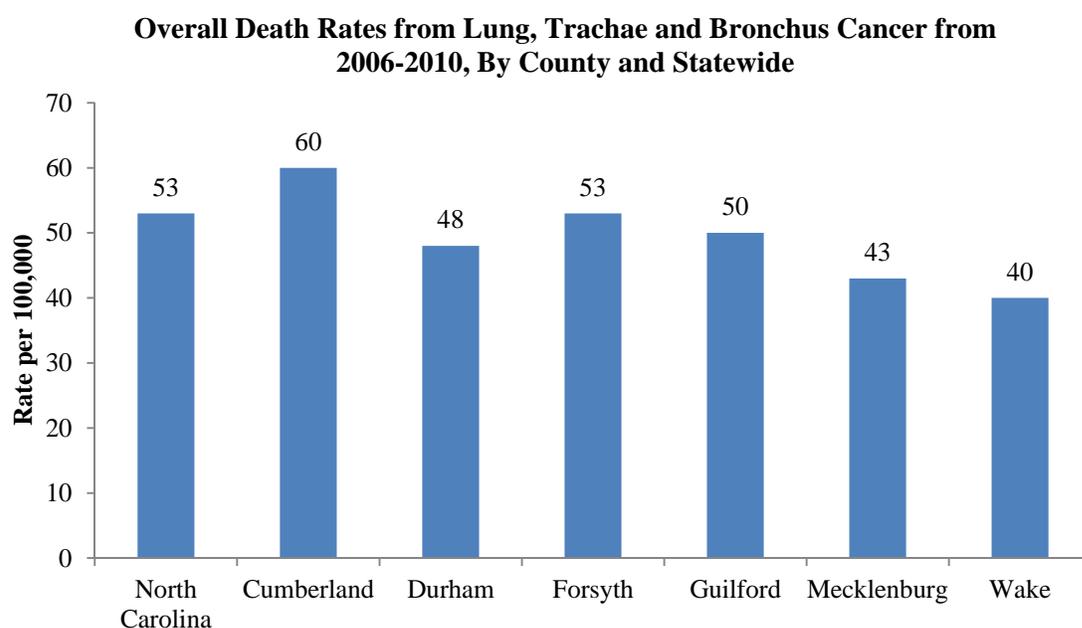
## Healthy NC 2020 Objective

### Health Promotion

Healthy NC 2020 Objective <sup>11</sup>	Current Durham	Current NC <sup>12</sup>	2020 Target
1. Decrease the percentage of adults who are current smokers.	15% (2012) <sup>13</sup>	21% (2012)	13.0%
2. Decrease the percentage of high school students reporting current use of any tobacco product.	24% (2013) <sup>14</sup>	23% (2011)	15.0%
3. Decrease the percentage of people exposed to secondhand smoke in the workplace in the past seven days.	7.5% (2011) <sup>15</sup>	9% (2012)	0%

### Secondary Data

Smoking can be linked with many serious health issues. Figure 5.03(a) below depicts Durham's overall death rate between 2008 and 2012 from lung, trachea and bronchus cancer.<sup>16</sup> Durham's rate is lower than the state and several of its peer counties.



**Figure 5.03(a) 2008-2012 Age-adjusted Death Rates from Lung, Trachea and Bronchus Cancer<sup>17</sup>**

Durham had a mid-range rate of hospitalization for Chronic Obstructive Pulmonary Disease (COPD) and lung/trachea/bronchus malignant neoplasms compared to its peer counties. This is depicted in Figure 5.03(b) below.

### Hospital discharges for tobacco-related illnesses per 10,000 population

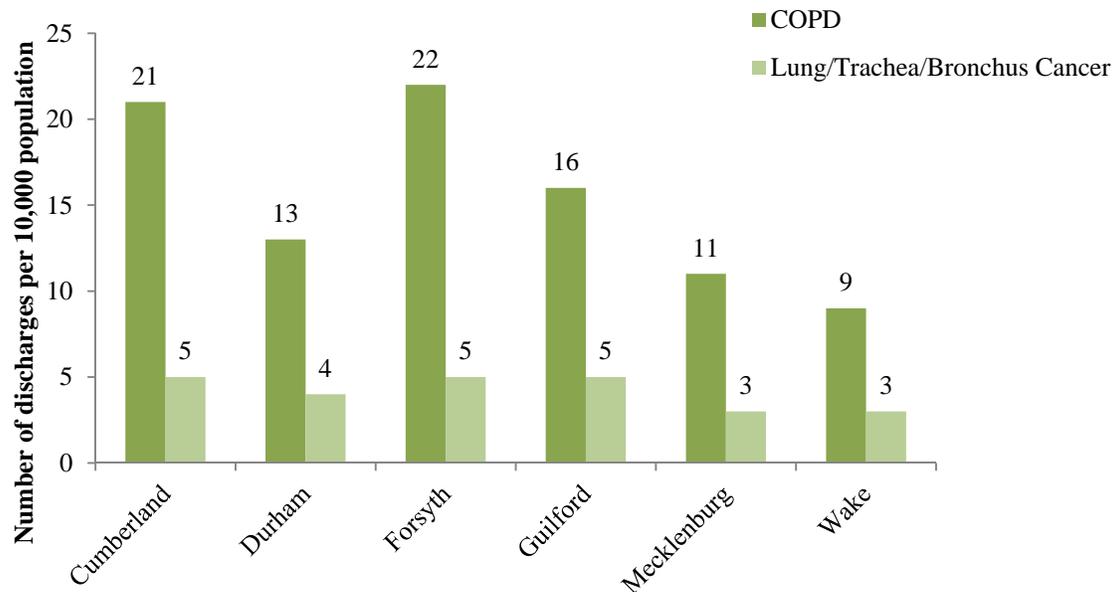


Figure 5.03(b) 2012 Tobacco-Related Hospitalizations<sup>18</sup>

## Primary Data

### Adult Smoking

2012 Behavioral Risk Factor Surveillance Survey System (BRFSS) data shows that adult smoking rates in Durham are lower than the state rate at 15% versus 21%, respectively.<sup>19</sup> BRFSS data also indicates that Durham's adult smoking rates were the lowest among its peer counties in 2011 as illustrated in Figure 5.03 (c) below.

### Adult Smoking Rates - Durham and Peer Counties

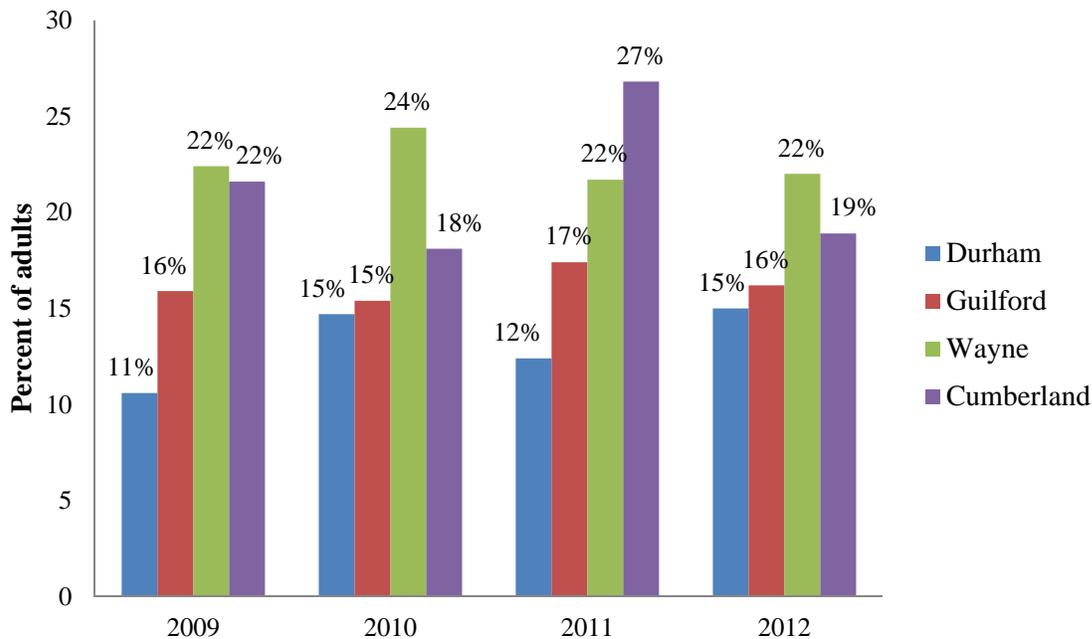


Figure 5.03(c) 2008- 2010 Adult Smoking Rates<sup>20</sup>

A question from the 2013 Durham County Community Health Assessment survey asked respondents who indicated they were current smokers where they would go for help if they wanted to quit. The most frequently cited single choice was going to a physician's office for help (4% of survey respondents; 28% of current smokers). Other avenues of quitting including Quitline NC, internet resources, other options and combined for a total of approximately 10% (48% of current smokers).<sup>21</sup>

### Youth Smoking

According to 2013 Durham County Youth Risk Behavior (YRBS) data, 24% of high school students in Durham reported current use of any tobacco product. Nineteen percent of Durham high school students reported current smoking, compared to 15% of North Carolina high school students.<sup>22</sup> YRBS data also indicates that 6% of middle school students in Durham report being a current smoker (equal to the statewide rate).<sup>23</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

### Disparities

Men and those with low incomes and low educational levels are more likely to smoke than their counterparts. BRFSS data indicates that in 2012, 22.6% of men and 19.3% of women in North Carolina were smokers.<sup>24</sup> In addition, 8.2% of college graduates in the state were smokers, compared with 31.8% of those who had not earned a high school degree; 25.9% of those with a high school diploma or GED and 20.7% of those with some post-high school education.<sup>25</sup> This

data also demonstrates a tremendous disparity in smoking rates among various socioeconomic levels with a smoking rate of 36% in households with an income of less than \$15,000 per year and a smoking rate of 8.5% in households with an income of more than \$75,000 a year.<sup>26</sup> Persons with disabilities are also more likely to smoke cigarettes. 2012 BRFSS data indicates that 26.1% of those with a disability were current smokers while 19.4% of those without a disability reporting being current smokers.<sup>27</sup>

### Emerging Issues

The use of electronic cigarettes is growing rapidly. Electronic cigarettes or e-cigarettes, are battery-powered devices that provide doses of nicotine and other additives to the user in an aerosol. Depending on the brand, e-cigarette cartridges typically contain nicotine, a component to produce the aerosol (e.g., propylene glycol or glycerol) and flavorings (e.g., fruit, mint, or chocolate).<sup>28</sup> Potentially harmful constituents also have been documented in some e-cigarette cartridges including irritants, genotoxins and animal carcinogens.<sup>29</sup> In 2011, about 21 percent of adults who smoked traditional cigarettes had used electronic cigarettes an increase from nearly 10 percent in 2010 according to a study released by the Centers for Disease Control and Prevention.<sup>30</sup>

Although the rate of exposure to secondhand smoke in Durham's workplace may be less than it is for North Carolina as a whole, Durham has not yet met the Healthy Carolinians objective of 0%. The implementation of the statewide Smoke Free Bars and Restaurants Law in 2010 and the Durham County Board of Health Smoking Rule in 2012 will support decreasing this rate.<sup>31</sup>

Although new policies and laws are protecting some from exposure to secondhand smoke, Youth Tobacco Survey data indicates that an alarming number of youth in the Central Region of North Carolina are still exposed to the harmful effects of secondhand smoke; 33.8% live in homes where others smoke and 51.7% are in the same room as others who smoke during the week.<sup>32</sup>

### Recommended Strategies

Table 5.03(a) Evidence-based Resources and Promising Practices<sup>33</sup>

Category	Name	Description	Website	Matching 2020 Objective
Workplace	The Quit Smoking Program	The Quit Smoking program aims to aid working adults in smoking cessation.	<a href="http://cbpp-pcpe.phac.aspc.gc.ca/intervention/113/view-eng.html">http://cbpp-pcpe.phac.aspc.gc.ca/intervention/113/view-eng.html</a>	Tobacco Objective 1
Schools	Project SHOUT	Project SHOUT aims to prevent smoking and smokeless tobacco use for the long-term among junior high school students. The three-year intervention is delivered within the school.	<a href="http://cbpp-pcpe.phac.aspc.gc.ca/intervention/90/view-eng.html">http://cbpp-pcpe.phac.aspc.gc.ca/intervention/90/view-eng.html</a>	Tobacco Objective 2

Community	Excerpt from CDC's Best Practice for Comprehensive Tobacco Control Programs	This comprehensive approach combines educational, clinical, regulatory, economic, and social strategies	<a href="http://www.cdc.gov/tobacco/stateandcommunity/best_practices/pdfs/2014/comprehensive.pdf?utm_source=rss&amp;utm_medium=rss&amp;utm_campaign=best-practices-for-comprehensive-tobacco-control-programs-2014-pdf">http://www.cdc.gov/tobacco/stateandcommunity/best_practices/pdfs/2014/comprehensive.pdf?utm_source=rss&amp;utm_medium=rss&amp;utm_campaign=best-practices-for-comprehensive-tobacco-control-programs-2014-pdf</a>	Tobacco Objectives 1, 2 and 3

These statewide recommendations from the North Carolina Prevention Action Plan can also support efforts to decrease smoking in Durham County.<sup>34</sup>

### **1. Fund and implement a Comprehensive Tobacco Control Program**

The North Carolina General Assembly should provide additional funding to the North Carolina Division of Public Health (DPH) to prevent and reduce tobacco use in North Carolina. Funding for the North Carolina Health and Wellness Trust Fund should not be eliminated and teen tobacco use prevention initiatives should be at the forefront of this comprehensive tobacco control program. All funds should be used in accordance with best practices as recommended by the Centers for Disease Control and Prevention.

### **2. Increase North Carolina Tobacco Taxes**

The North Carolina General Assembly should increase the tax on cigarettes and other tobacco products to match the national average, and use funds from the revenues to support prevention efforts.

### **3. Continue to Expand Smoke-free Policies in North Carolina**

The North Carolina General Assembly should amend existing laws to require all worksites to be smoke-free.

### **4. Expand Access to Cessation Services, Counseling and Medications for Smokers Who Want to Quit**

Insurers, payers and employers should cover evidence-based tobacco cessation services including counseling and appropriate medications. Providers should provide comprehensive evidence-based tobacco cessation counseling services and appropriate medications.

## 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. Quitline pairs callers with an experienced Quit Coach, who will work them to create a plan for quitting and then support them to stick to that plan. QuitlineNC is free, confidential and available 8 AM – 3 AM, seven days a week.

Website: <http://www.QuitlineNC.com>

Phone Number: 1 (800) QUIT-NOW (1-800-784-8669)

- ***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. The program takes place in four one hour sessions over the course of four weeks and is free to Durham County residents.

Website: <http://www.durhamcountync.gov>

Phone Number: Fresh Start Coordinator: (919) 560-7765

- ***Quit Smart Smoking Cessation Program***

Quit Smart is a quit smoking program developed by Dr. Robert Shipley, Director of the Duke Medical Center Stop Smoking Clinic. Quit Smart combines several powerful treatment elements to include a patented simulated cigarette to produce a potent stop-smoking program. This program is also offered by the Durham County Department of Public Health.

Website: <http://www.quitsmart.com>

Phone Number: Quit Smart Facilitator: (919) 560-7895

- ***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.

Website: <http://www.durhamtry.org/TRY-2-QUIT-PROGRAM-DESCRIPTION>

Phone Number: Earl Boone, Alcohol Drug Council of NC Intake Specialist: 919-491-7811

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

The BOH smoking rule bans smoking in public places including City of Durham Grounds, City of Durham Parks System Athletic Fields, City of Durham Parks System Playgrounds, City or County Bus Stops, Durham County Grounds, Durham Station Transportation Center and most sidewalks.

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## Chronic Disease

Chronic diseases such as heart disease, cancer and diabetes are major causes of death and disability in North Carolina. Although genetics and other factors contribute to the development of these chronic health conditions, individual behaviors play a major role. Physical inactivity, unhealthy eating, smoking and excessive alcohol consumption are four behavioral risk factors underlying much of the burden caused by chronic disease.

Mental health, an integral component of individual health, is important throughout the lifespan. Individuals with poor mental health may have difficulties with interpersonal relationships, productivity in school or the workplace and their overall sense of well-being. Depression is linked to lower productivity in the workplace, is a leading cause of suicide and has been associated with increased use of health care services. Addiction to drugs or alcohol is a chronic health problem and people who suffer from abuse or dependence are at risk for premature death, comorbid health conditions, injuries and disability. Prevention of misuse and abuse of substances is critical.

This chapter includes:

- ❖ [Cancer](#)
- ❖ [Diabetes](#)
- ❖ [Heart disease and stroke](#)
- ❖ [Obesity](#)
- ❖ [Mental health and substance use and abuse](#)
- ❖ [Asthma](#)
- ❖ [Sickle cell disease](#)

## 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 2012 more than 13 million Americans were living with a history of cancer. It is estimated that about 1,665,540 new cancer cases will be identified in 2014, of which 52,550 are expected to occur in North Carolina.

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. For example, early detection of breast cancer through mammogram screening has a 98% cure rate; the removal of polyps (precancerous cells) during a colon cancer screening (colonoscopy) has a 100% cure rate.

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 seven million of the 11.7 million people living with cancer in 2007 were ages 65 years or older. Approximately 77% of cancer diagnoses are people over the age of 55. Increased age is associated with heightened risk of a cancer diagnosis. However, other socio-demographic characteristics also play a significant role in determining cancer risk and outcomes including gender, race, socioeconomic status, geography and type of insurance.

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.<sup>1</sup> 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.

There are over 14 million cancer survivors in the U.S. to date, and approximately 329,760 are in North Carolina. Cancer survivorship has increased significantly over the years as improvement in screening technologies, treatment options, outreach, early detection and prevention efforts have been enhanced. Survivors face physical, emotional, psychosocial, spiritual and financial

challenges as a result of cancer diagnosis and treatment and have ongoing needs for those who transition back to the community. As the number of survivors increase, more programs and services need to be effectively coordinated to adequately address the needs of the diverse and growing survivor population.

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. Although white women have a higher incidence of breast cancer, black women are more likely to die from the disease. People who are poor, live in rural communities and underrepresented minorities are more likely to have poor outcomes for a myriad of reasons which span across individual, community, societal and health system factors.

The National Institutes of Health (NIH) estimates that the overall costs of cancer in 2009 were \$216.6 billion: \$86.6 billion for direct medical costs (total of all health expenditures) and \$130 billion for indirect mortality costs (cost of lost productivity due to premature death).<sup>2</sup> According to the US Census Bureau, approximately 48.6 million Americans (15.7%) were uninsured in 2011, including one in three Hispanics and one in 10 children (18 years of age and younger). Uninsured patients and minorities are substantially more likely to be diagnosed with cancer at a later stage when treatment can be more extensive and costly.<sup>3</sup> Even with health insurance, treatment can exceed the lifetime cost limit on insurance policies and expensive medications may not be covered.

The Affordable Care Act was signed into law on March 23, 2010. Its primary goal is to reduce the number of people who are uninsured and improve the health care system for patients. The law is designed to ensure:

1. People with cancer will no longer be denied health care coverage due to pre-existing conditions.
2. Patients will not be charged more for their coverage because of health status.
3. People will not face annual or lifetime coverage limits that cause termination of care.
4. No one will have to choose between saving their life or their life savings because they lack access to affordable care.<sup>4</sup>

The American Cancer Society compiled a list of the top six cancer-fighting provisions in this law. The document can be found at [www.acs.org](http://www.acs.org)

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.<sup>5</sup>

Healthy NC 2020 Objective <sup>6</sup>	Current Durham	Current NC	2020 Target
1. Reduce the colorectal cancer death rate per 100,000	15.5 (2008-2012) <sup>7</sup>	15.7(2008)	10.1%
2. Decrease the percentage of Adults who are current smokers per 100,00	14.7 (2010) <sup>8</sup>	19.8 (2010)	13.0%

Colorectal cancer primarily affects people between the ages of 45 and 64.<sup>9</sup> Between 2007 and 2011, the incidence rate for colon and rectum cancer in North Carolina was 41.5 per 100,000 persons per year. Non-Hispanic African Americans had the highest incidence rate of colon cancer at 51 per 100,000.<sup>10</sup> 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%.<sup>11</sup> 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.

## 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 2012. Consistent with national trends, N.C. 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. As illustrated in Figure 6.01(a), Durham has a slightly higher breast and prostate cancer incidence rate compared to the state. Lung/bronchus and colon/rectal cancer incidence rates in Durham County are also comparable to state rates. In 2009, the death rates for female breast, cervical, colorectal and prostate cancers, as well as the incidence rates for cervical and colorectal cancers in North Carolina were similar to national rates. However, the death rate from lung and bronchus cancer in North Carolina was higher than the national rate.<sup>12</sup>

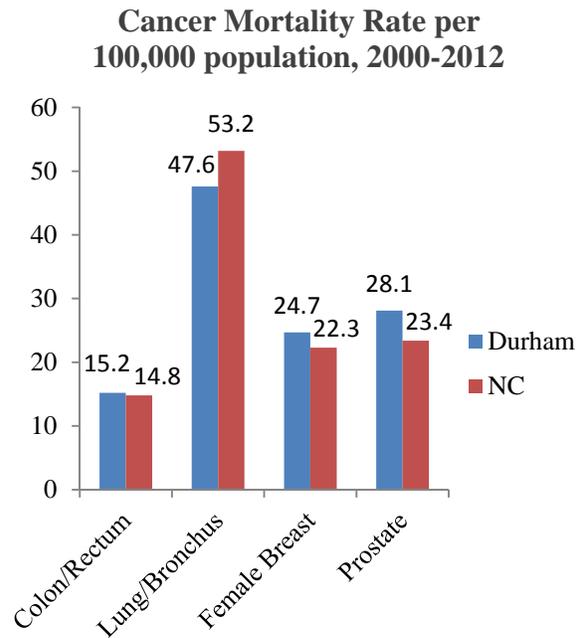
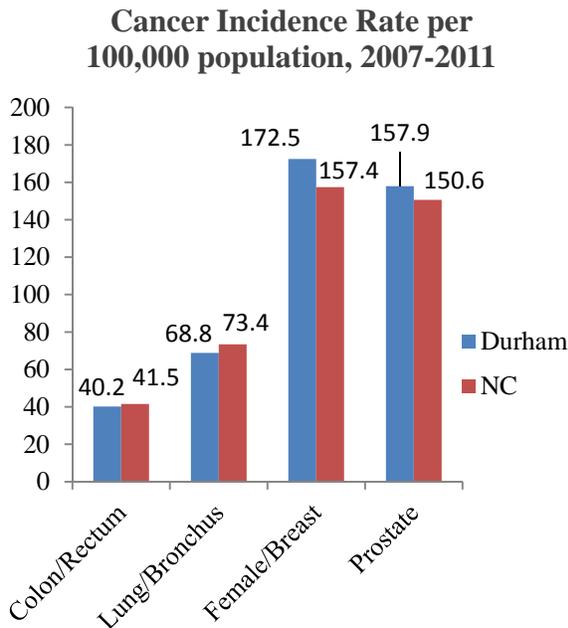


Figure 6.01(a) 2007-2011 Cancer Incidence Rates<sup>13</sup>

Figure 6.01(b) 2000-2012 Cancer Mortality Rates<sup>14</sup>

Cancer is the leading cause of death in Durham County. Durham County has an age-adjusted cancer rate of 181.3 per 100,000 people from 2008-2012, which is higher than the rate of heart disease at 140.7 per 100,000 people.<sup>15</sup> Figure 6.01(c) below summarizes cancer death rates per 100,000 individuals in Durham County from 2008 to 2012. Trachea, bronchus and lung cancer are the most common causes of cancer deaths followed by prostate, breast and colon rectum.<sup>16</sup>

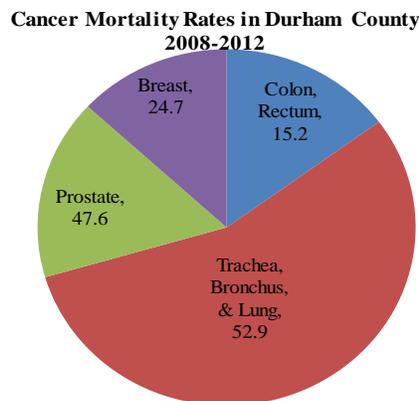


Figure 6.01(c) 2008-2012 Cancer Mortality Rates in Durham County for selected sites per 100,000 Population

Differences in cancer outcomes vary within subpopulations, however poor cancer outcomes tend to be closer associated with traditionally underserved minority populations and communities. In

both North Carolina and Durham County, African Americans are more likely to suffer the greatest burden from the most common forms of cancer than any other racial or ethnic group as illustrated in Table 6.01a.

Table 6.01(a) 2007-2011 Durham County Cancer Incidence Rates by Race<sup>17</sup>

	<i>Whites</i>		<i>Blacks</i>		<i>Asians</i>		<i>American Indians</i>	
	<i>Cases</i>	<i>Rate</i>	<i>Cases</i>	<i>Rate</i>	<i>Cases</i>	<i>Rate</i>	<i>Cases</i>	<i>Rate</i>
<i>Colon/Rectum</i>	262	36.5	195	47.8	8	28.1	*	*
<i>Lung/Bronchus</i>	443	63.0	314	81.2	8	38.0	*	*
<i>Female Breast</i>	675	169.2	455	181.7	19	118.4	*	*
<i>Cervix Uteri</i>	20	5.5	22	8.1	*	*	*	*
<i>Prostate</i>	438	133.8	370	205.3	16	104.0	*	*

Per 100,000 Population Age-Adjusted to the US 2000 Census

\*The estimate was suppressed because it did not meet statistical reliability standards.

Below the top five cancers and incidence rates that vary across racial and ethnic lines are highlighted:

- African Americans (239.3) are far more likely to be diagnosed with prostate cancer than Caucasians (137.9) or any other race, including Hispanics and Asians.
- African Americans (53.1) are also more likely to be diagnosed with colorectal cancer than Caucasians (41.8) or any other race.
- Hispanics (12.3) are more likely to be diagnosed with cervical cancer than African Americans (9.3), Caucasians (6.5), and any other race (10.3).
- Asian men are twice as likely to have stomach cancer as white men, and Asian women are almost three times as likely to have stomach cancer as white women.<sup>2</sup>

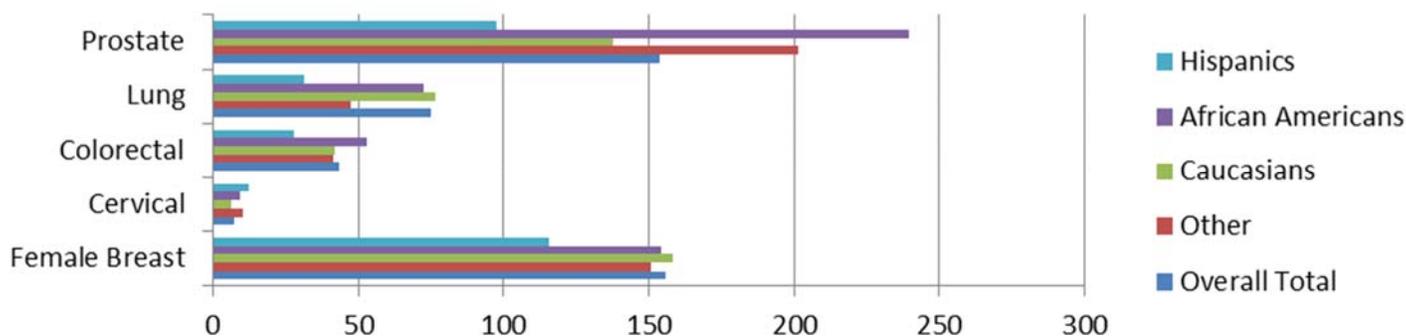


Figure 6.01(d) Top cancer incidence rates in NC by race per 100,000 population, 2006-2010

Cancer death rates by race in Durham North Carolina show the following trends:<sup>4</sup>

- African Americans (59.0) die from prostate cancer at a far higher rate than Caucasians (21.8) or any other race including Hispanics and Asians.

- Caucasians have the highest number of deaths resulting from lung cancer (46.4). African Americans also have the highest death rate due to lung cancer (54.1).
- African Americans die from cervical cancer (2.3) and female breast cancer (28.6) at a higher rate than any other race.
- Cancer is the leading cause of death for Asian Americans.<sup>5</sup>
- Asian American men are twice as likely to die from stomach cancer as non-Hispanic white men.
- Asian American women are 2.7 times as likely to die from stomach cancer than non-Hispanic white women.<sup>2</sup>

Table 6.01(b) 2007-2011 Durham County Cancer Mortality Rates by Race<sup>18</sup>

	<i>Whites</i>		<i>Blacks</i>		<i>Asians</i>		<i>American Indians</i>	
	<i>Cases</i>	<i>Rate</i>	<i>Cases</i>	<i>Rate</i>	<i>Cases</i>	<i>Rate</i>	<i>Cases</i>	<i>Rate</i>
<i>Colon/Rectum</i>	81	11.1	79	21.0	1	2.9	1	16.9
<i>Lung/Bronchus</i>	323	46.4	206	54.0	5	19.3	0	0.0
<i>Female Breast</i>	94	22.2	71	28.6	1	4.1	2	142.6
<i>Cervix Uteri</i>	2	0.5	6	2.3	0	0.0	0	0.0
<i>Prostate</i>	62	21.8	62	59.0	0	1	5.2	0.0

Per 100,000 Population Age-Adjusted to the US 2000 Census \*The estimate was suppressed because it did not meet statistical reliability standards.

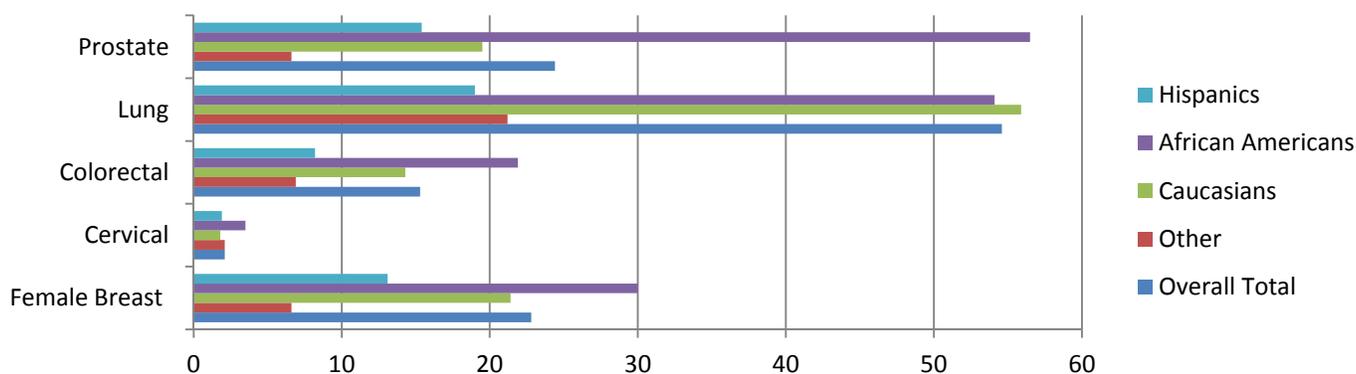


Figure 6.01(e) Top cancer mortality rates by race in NC per 100,000 population, 2007-2011

### 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. Data from the 2010 Behavioral Risk Factor Surveillance Survey (BRFSS) which compares the percentage of people in Durham, its peer counties and the state who have been screened for colorectal cancer within the past five years,

found Durham surpassed the state in screening for colorectal cancer. Yet, the percentage of people getting screened in Durham has decreased over the years.

According to the 2013 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 three health problems that impacted the overall health of Durham County, 22% of respondents chose cancer as one of their top five.<sup>19</sup>

1. Addiction to alcohol, drugs, or medications (29%)
2. Obesity/overweight (24%)
3. Diabetes (23%)
4. Cancer (22%)
5. Depression (22%)

From 2011 to 2013, the DCI, Office of Health Equity held consultation sessions with members of the African American, Latino, Asian and other underserved communities. Sessions included cancer survivors, caregivers, clergy members, social agency representatives, community leaders and community members. Sessions were held with the goal of assessing attitudes, perceptions, barriers and recommendations regarding access to cancer information, screening, treatment, research and clinical trials.

**The following are key concerns regarding access to cancer resources and services including screenings:**

1. Cost and affordability of cancer screenings and cancer care
2. Lack of information and resources about cancer, research and clinical trials
3. Culture and language including patient provider communication and influence on health decisions
4. Spiritual and psychosocial support for patients, caregivers, and the family
5. Fear of cancer diagnosis as a death sentence and fear of complex health systems
6. Limited access to services and resources such as insurance and transportation
7. Lack of funding available for cancer prevention and screening programs

**Below are some key recommendations from the community:**

1. Provide support for patients in the healthcare system
2. Increase information on cancer prevention and early detection
3. Increase education about cancer prevention and healthy lifestyles for adults and children
4. Provide community and patient education about research and clinical trials
5. Work with faith-based leaders to increase awareness and screening
6. Collaborate with community-based organizations to share resources and build programs
7. Desire for healthcare systems to partner with community organizations, so that communities can be more aware of services and resources available to them
8. Meet the community where they are to improve access
9. Work with providers to effectively communicate with the patient and members of their care team

10. Language/cultural barriers that impede patients' ability to navigate the care system and
11. More support groups/programs, including cultural and language-specific offerings for the patient, family, and caregivers
12. Enhance community partnerships to provide support services for minorities and low income

## 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 environments in which people are born, grow, live, work and age and include the health system.<sup>20</sup> 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.<sup>21</sup> 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, making cancer prime for public health interventions. Key prevention intervention opportunities include smoking cessation, nutrition, physical activity and 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.<sup>22</sup> Developing or increasing environmental regulations and

laws 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.

### 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. Two strategies that are used for early detection include:

- Early Diagnosis: Involving the patient's awareness of early signs and symptoms, leading to a consultation with a healthcare provider– who then refers the patient for diagnosis and treatment.
- National or regional screening of asymptomatic and typically healthy individuals to detect pre-cancerous lesions or an early state of cancer and to arrange referral for diagnosis and treatment.<sup>23</sup>

### Treatment

The management of disease and treatment-related symptoms by means of targeted therapies to cure disease, prolong life and improve the quality of remaining life after the diagnosis of cancer. Early detection strategies that utilize evidence-based standard of care are linked to the most effective and efficient treatment programs.<sup>24</sup>

### 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.<sup>25</sup>

### 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.<sup>26</sup>

Table 6.01(c) Evidence-based and Promising Practices Resources<sup>27</sup>

Setting	Name	Description / Website	Matching 2020 Objective
Workplace	The Next Step: Worksite Cancer Screening and Nutrition Intervention	Next Step is a workplace program that aims to increase colorectal cancer screening and promote healthy dietary behaviors. The screening promotion component consists of an invitation flyer and a personalized educational booklet.  <a href="http://rtips.cancer.gov/rtips/programDetails.do?programId=264649">http://rtips.cancer.gov/rtips/programDetails.do?programId=264649</a>	Chronic Disease Objective 3
Community	Relationship Model for Accessing and Assessing Underserved Communities	The ultimate goal of the relationship model was to increase colorectal cancer screening. By developing trusting relationships and sharing assessments with community leaders, staff was able to generate collaborations to increase access to colonoscopy, increase understanding of its importance to detecting cancer and; thus, increase colorectal screening among the people of this community.  <a href="http://www.naccho.org/topics/modelpractices/database/practice.cfm?PracticeID=49">http://www.naccho.org/topics/modelpractices/database/practice.cfm?PracticeID=49</a>	Chronic Disease Objective 3
Individual	Prevention Care Management	Prevention Care Management (PCM) is a centralized telephone care management system designed to increase cancer screenings among women aged 50-69. Women who are not up-to-date for cancer screenings receive phone calls from prevention care managers who facilitate the screening process by addressing barriers that prevent or delay cancer screenings.  <a href="http://rtips.cancer.gov/rtips/programDetails.do?programId=295722">http://rtips.cancer.gov/rtips/programDetails.do?programId=295722</a>	Chronic Disease Objective 3

Table 6.01(d) CDC Cancer Screening Guidelines

Prostate	Colorectal Cancer	Breast Cancer	Cervical Cancer	Lung Cancer
<p>Two tests are commonly used to screen for prostate cancer</p> <p><b>Digital rectal exam (DRE):</b> A doctor or nurse will insert a gloved, lubricated finger into the rectum to feel the prostate. This allows the examiner to estimate the size of the prostate and feel for any lumps or other abnormalities.</p> <p><b>Prostate specific antigen test (PSA):</b> The PSA test is a blood test that measures the level of PSA in the blood. PSA is a substance made by the prostate. The levels of PSA in the blood can be higher in men who have prostate cancer. The PSA level may also be elevated in other conditions that affect the prostate.</p> <p>CDC and other federal agencies follow the prostate cancer screening recommendations set forth by the U.S. Preventive Services Task Force, which recommends against PSA-based</p>	<p>Regular screening, beginning at age 50, is the key to preventing colorectal cancer. Recommended screening tests and intervals are:</p> <p><b>High-sensitivity fecal occult blood test (FOBT) that checks for hidden blood in three consecutive stool samples</b> should be done every year.</p> <p><b>Flexible Sigmoidoscopy,</b> should be done every five years.</p> <p><b>Colonoscopy</b> should be done every 10 years. Colonoscopies can be used as screening tests or as follow-up diagnostic tools when the results of another screening test are positive.</p> <p>For more information, read the current colorectal cancer screening guidelines from the U.S. Preventive Services Task Force (USPSTF) website.</p>	<p>Three main tests are used to screen the breasts for cancer.</p> <p><b>Mammogram.</b> Women aged 50 to 74 years, should have a screening mammogram every two years.</p> <p>Women aged 40 to 49 years, need to talk to their doctors about when and how often they should have a screening mammogram.</p> <p><b>Clinical breast exam.</b> A clinical breast exam is an examination by a doctor or nurse, who uses his or her hands to feel for lumps or other changes.</p> <p><b>Breast self-exam.</b> A breast self-exam is when you check your own breasts for lumps, changes in size or shape of the breast or any other changes in the breasts or underarm (armpit).</p> <p><b>Which tests to choose:</b> Keep in mind that, at this time, the best way to find breast cancer is with a</p>	<p>Cervical cancer is the easiest female cancer to prevent, with regular screening tests and follow-up. Two screening tests can help prevent cervical cancer or find it early.</p> <p><b>The Pap test</b> (or Pap smear) looks for precancerous cell changes on the cervix that might become cervical cancer if they are not treated appropriately.</p> <p><b>The HPV test</b> looks for the virus (human papillomavirus) that can cause these cell changes. If you are getting the HPV test in addition to the Pap test, the cells collected during the Pap test will be tested for HPV at the laboratory. Talk with your doctor, nurse, or other health care professional about whether</p>	<p>New research shows early detection using low-dose spiral computed tomography (CT) scans can reduce lung cancer deaths in select populations.</p> <p><b>Low-dose CT screening</b> is recommended for those meeting the National Lung Screening Trial (NLST) criteria. <b>Annual screenings should be offered for:</b></p> <ul style="list-style-type: none"> <li>• -Current or former smokers aged 55 to 74 years.</li> <li>• -A smoking history of at least 30 pack-years, either continuing to smoke or having quit within past 15 years.</li> <li>• -No history of lung cancer.</li> </ul> <p><b>Other NLST recommendations include:</b></p> <ul style="list-style-type: none"> <li>• -Individuals should NOT receive a <b>chest x-ray</b> for lung cancer screening.</li> <li>• -Low-dose CT screening is not recommended for everyone.</li> <li>• -Patients should be referred to a</li> </ul>

screening for men that are asymptomatic, normal-risk individuals.		mammogram. If you choose to have clinical breast exams and to perform breast self-exams, be sure you also get regular mammograms.	<p>the HPV test is right for you.</p> <p><b>When to get screened</b> You should start getting regular Pap tests at age 21.*</p> <p>The only cancer for which the Pap test screens is cervical cancer.</p> <p>*Recommended screening age changed from 18 to 21 effective July 2012.</p>	<p>facility that uses “best practices” for CT screening.</p> <p>(American Lung Association and American Society of Clinical Oncology, Inc.)</p>
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## Current Initiatives & Activities

- ***American Cancer Society***

The American Cancer Society (ACS) is a nationwide, community-based voluntary health organization dedicated to eliminating cancer as a major health problem. Headquartered in Atlanta, Georgia, the ACS has 12 chartered Divisions, more than 900 local offices nationwide, and a presence in more than 5,100 communities

Website: <http://www.cancer.org>

Phone Number: 1 (800) 227-2345

- ***Duke Cancer Institute***

The Duke Cancer Institute (DCI) is a single entity—the first of its kind at Duke—that brings cancer care and research even closer together. By uniting hundreds of cancer physicians, researchers, educators, and staff across the medical center, medical school, and health system under a shared administrative structure, the DCI offers unprecedented opportunities for teamwork among the scientists in our labs and caregivers in our hospitals and clinics.

Website: <http://www.cancer.duke.edu/>

Phone Number: (888) ASK-DUKE (275-3853)

- ***Durham County Department of Public Health Breast and Cervical Cancer Control Program (BCCCP)***

The Breast and Cervical Cancer Control Program provides an annual physical exam, which includes pap smear test and mammogram free of charge to women ages 40 to 64 who are not covered by Medicare or Medicaid and have little or no insurance; proof of income required; exam

also includes screening for blood pressure, obesity, diabetes, and additional diagnosis and treatment of sexually transmitted diseases.

Website: <http://dconc.gov/index.aspx?page=1476>

Phone Number: (919) 560-7658

▪ ***Duke Cancer Support Group Programs***

Cancer Support Groups is a support group focusing on cancers, for victims and supporting partners. Please call for meeting times and locations.

Website: <http://durham.nc.networkofcare.org/mh/services/advanced-search.aspx?k=cancer>

Phone Number: (919) 684-4497

▪ ***UNC Lineberger Comprehensive Cancer Center NC Cancer Hospital***

The center brings together some of the most exceptional physicians and scientists in the country to investigate and improve the prevention, early detection and treatment of cancer.

Website: <http://unclineberger.org/>

Phone Number: 1 (866) 869-1856

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## Section 6.02 *Diabetes*

### Overview

Diabetes mellitus (“diabetes”) is a group of metabolic diseases characterized by hyperglycemia (high blood sugar) resulting from defects in insulin secretion, insulin action or both. Insulin is the hormone in the body that regulates blood sugar levels. The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction and failure of various organs in the body including the eyes, kidneys, nerves, heart and blood vessels.<sup>1</sup> There are three main classifications of diabetes: gestational, Type 1 and Type 2. Gestational diabetes occurs in pregnant women who have never had diabetes before. It begins when the body is not able to make and use all the insulin it needs for pregnancy. Gestational diabetes affects an estimated 18% of pregnancies.<sup>2</sup> Type 1 diabetes, formally called juvenile diabetes, generally occurs in children and younger adults. Type 1 diabetes occurs when the pancreas stops producing insulin. This type of diabetes can only be controlled with insulin injections. Type 2 diabetes was formerly known as adult onset diabetes. It results when the body makes some insulin, but not enough to keep blood sugars under control and/or the body becomes resistant to the insulin. Insulin does not work properly and blood sugar becomes too high. Type 2 diabetes can be controlled with diet, exercise and diabetic medications which can include insulin injections. The majority (90-95%) of all people diagnosed with diabetes have Type 2 diabetes.<sup>3</sup>

Diabetes is a major public health problem in North Carolina affecting all socio-demographic population groups. Additionally, diabetes is a major contributor to other health conditions including heart disease, stroke, blindness, kidney disease, non-traumatic leg and foot amputations, neuropathy, gum disease and depression.<sup>4</sup>

### Healthy NC 2020 Objective

#### Chronic Disease

Healthy NC 2020 Objective <sup>5</sup>	Current Durham	Current NC	2020 Target
Decrease the percentages of adults with diabetes.	8.0% (2012) <sup>6</sup>	10.4% (2012) <sup>7</sup>	8.6%

### Secondary Data

The economic costs of diabetes are significant. Approximately one in 10 health care dollars is attributable to diabetes.<sup>8</sup> People with diagnosed diabetes, on average, have medical expenditures that are approximately 2.3 times higher than the medical expenditures of those without diabetes.<sup>9</sup> The financial burden of diabetes likely exceeds the American Diabetes Association’s (2012) \$245 billion estimate because it does not take into account pain and suffering care provided by non-paid caregivers, and costs due to undiagnosed diabetes.<sup>10</sup>

Diabetes is the seventh leading cause of death in Durham County and is also a significant risk factor for heart disease and cerebrovascular disease, the second and third leading causes of death in Durham, respectively.<sup>11</sup>

Overweight/obesity, another major public health problem in North Carolina is a risk factor for developing diabetes and affects diabetes control for those individuals living with diabetes. The majority of individuals with Type 2 diabetes are overweight or obese.<sup>12</sup> Sixty-five percent of adults in Durham County are overweight or obese.<sup>13</sup>

Smoking also affects diabetes. Smoking raises blood glucose and reduces the body's ability to use insulin resulting in poor blood sugar control. Smokers with diabetes experience more nerve and kidney damage than nonsmokers.<sup>14</sup>

### **Durham Diabetes Coalition**

Since 2011, the Durham Diabetes Coalition (DDC) has been working to understand the current burden diabetes in Durham County. All Duke Medicine patients' electronic health records exist in the data warehouse, also known as the Decision Support Repository (DSR).

Under the auspices of a human subjects protocol approved by Duke's Institutional Review Board, a database was extracted containing all DSR patient records from January 1, 2007 to December 31, 2011 from zip codes that lie in whole or in part in Durham County. This database includes demographic, medical, administrative and laboratory data on the patients. From this data pull, the Durham Diabetes Coalition identified 244,317 unique individuals residing in Durham County, corresponding to roughly 89% of the total county population in 2010.<sup>15</sup> The percentage of this population with diabetes was 12.2%.

Unique patients were geocoded to their residential street address using ESRI ArcGIS Desktop 10.0. The geocoding process transforms textual address information into latitude and longitude coordinates to allow for mapping of patients in space.

Table 6.02(a) describes the Duke Medicine patient population as a whole, the patient population without diabetes and the population with diabetes. Compared to the whole population and the population without diabetes, a larger percent of patients with diabetes are older, non-Hispanic black and enrolled in Medicaid or Medicare.<sup>16</sup>

### **Table 6.02(a) Patient demographics<sup>17</sup>**

	All		Without diabetes		With diabetes	
	N	%	N	%	N	%
<i>Total</i>	189,023		166,041	87.8	22,982	12.2
<i>Age (in years)</i>						
18-21	11,522	6.1	11,327	6.8	195	0.9
22-29	35,166	18.6	34,418	20.7	748	3.3
30-39	41,944	22.2	40,037	24.1	1,907	8.3
40-49	31,362	16.6	28,174	17.0	3,188	13.9
50-64	40,021	21.2	32,195	19.4	7,826	34.1
65+	29,008	15.4	19,890	12.0	9,118	39.7
<i>Race/ethnicity</i>						
Non-Hispanic white	83,483	44.2	74,586	44.9	8,897	38.7
Non-Hispanic black	67,371	35.6	55,365	33.3	12,006	52.2
Hispanic	12,771	6.8	11,953	7.2	818	3.6
Asian	5,731	3.0	5,399	3.3	332	1.4
Other	6,254	3.3	5,793	3.5	461	2.0
Not reported	13,413	7.1	12,945	7.8	468	2.0
<i>Sex</i>						
Female	108,204	57.2	95,072	57.3	13,132	57.1
Male	80,731	42.7	70,882	42.7	9,849	42.9
Not reported	88	0.1	87	0.1	1	0.0
<i>Insurance status</i>						
Private	114,515	60.6	105,236	63.4	9,279	40.4
Medicaid/Medicare	41,401	21.9	30,093	18.1	11,308	49.2
Self-pay	27,782	14.7	25,485	15.4	2,297	10.0
Not reported	5,325	2.8	5,227	3.2	98	0.4

HbA1c is a lab test that shows the average level of blood glucose over the previous 3 months; this number is used to track diabetes which alters blood glucose levels.<sup>18</sup> When looking at the average HbA1c lab results between 2007 and 2011, a spatial pattern emerges which emphasizes geographic areas of greater risk, particularly in central Durham. See Figure 6.02(b). These types of maps can inform county health departments about areas of risk and help target resources to those in greatest need.

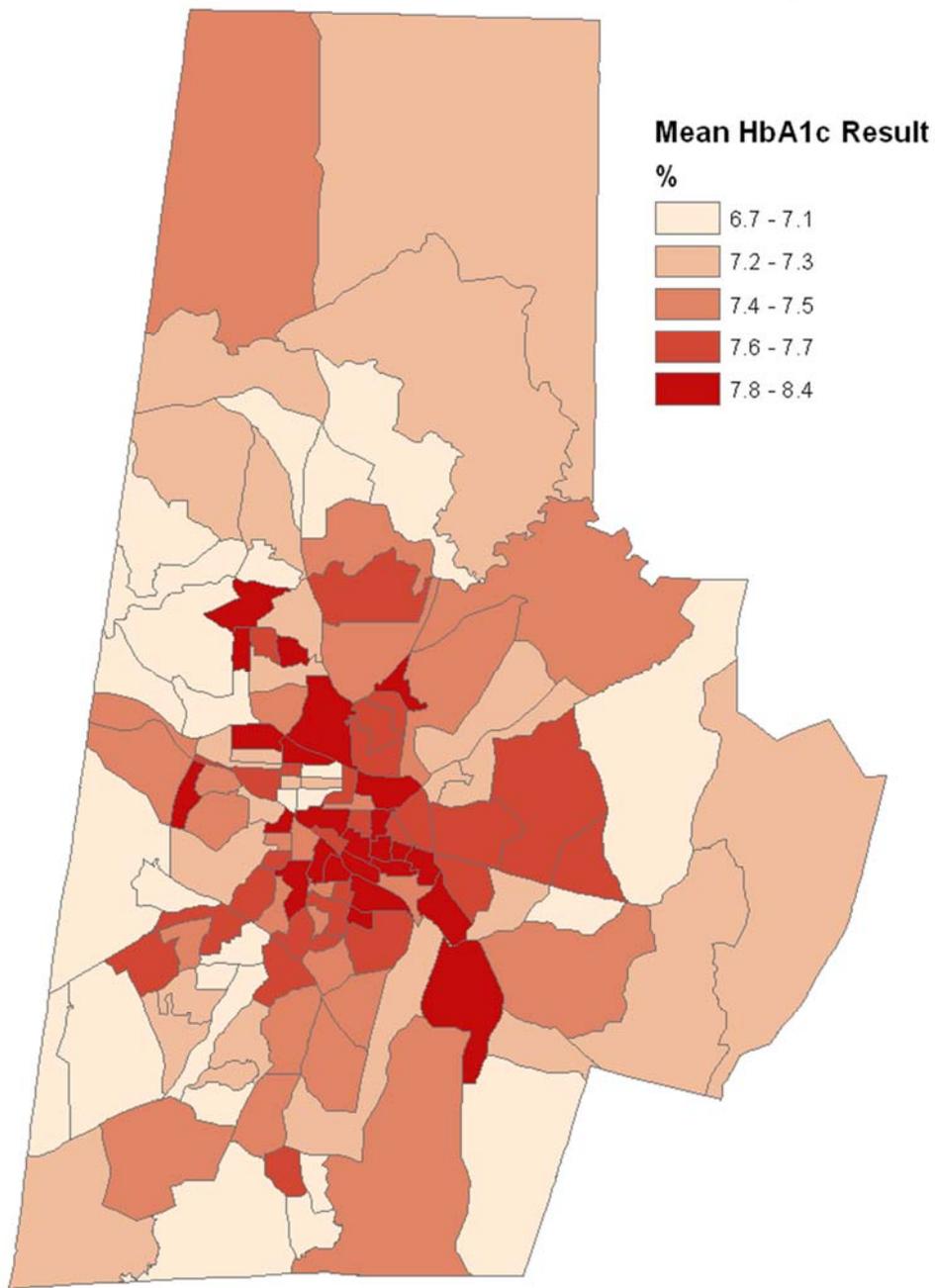


Figure 6.02(a) Spatial distribution of mean HbA1c lab results, 2007-2011<sup>19</sup>

### Behavioral Risk Factor Surveillance Survey Data

According to 2012 Behavioral Risk Factor Surveillance (BRFSS) Survey data, Durham has a lower percentage of residents living with diabetes than its peer counties and the State. These data are depicted in Figure 6.02(a) below. 2012 BRFSS data show that 8% of Durham residents report having diabetes, which meets the Healthy NC 2020 Objective.<sup>20</sup> This must be interpreted with caution because these are self-report data and because the confidence intervals are wide. At a 95% confidence interval, they indicate that the true number of individuals with diabetes likely falls between 5.7% and 11.3%. As noted above, the percentage of individuals connected with the Duke system (89%) who can be identified as having a diabetes diagnosis based on their Duke medical information is 12.2%, well above the 95% confidence interval for the BRFSS estimate, suggesting that 8% is an underestimate.

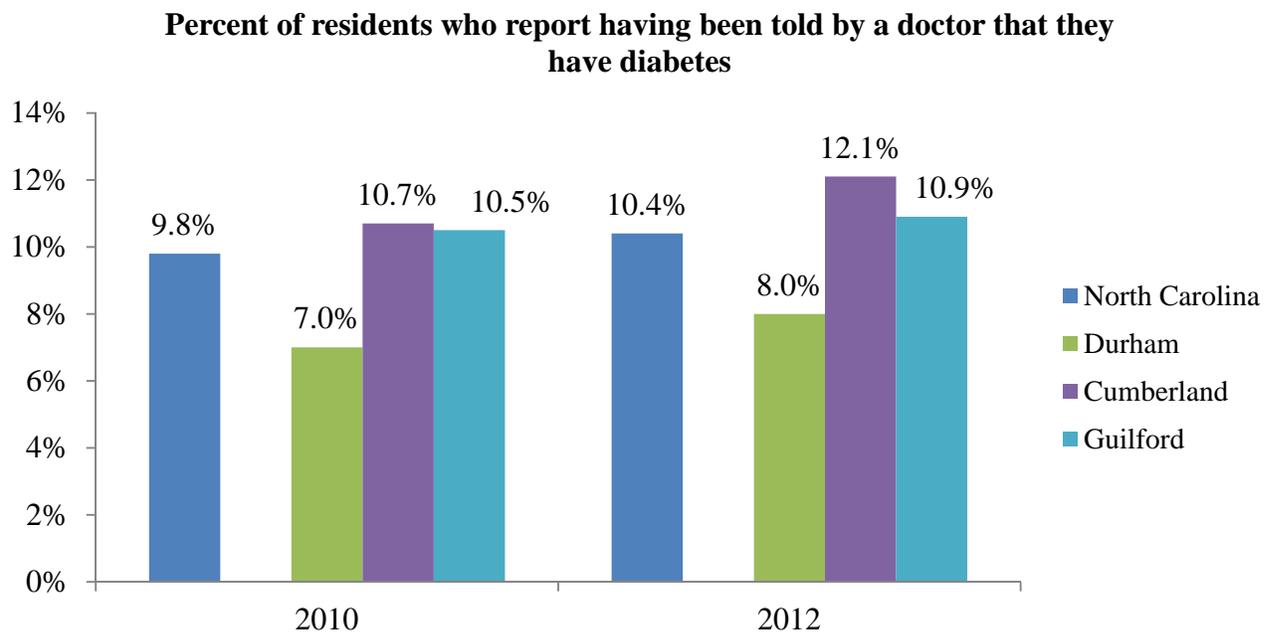


Figure 6.02(b) 2010, 2012 BRFSS Data<sup>21,22</sup>

### Durham Health Innovations Data<sup>23</sup>

The Diabetes Project of the Durham Health Innovations (DHI) diabetes team (Partnership IMPACTS Diabetes Outcomes) also collected data on diabetes, conducting focus groups and key informant interviews and holding community advisory board meetings to identify issues related to diabetes care in Durham County. Findings showed that in Durham:

- Access to care is an issue, especially for the uninsured and those without a medical home.
- There is a desire for education and clinical care resources at sites within the community or closer to the patient's home.

- Affordability of supplies, medications, healthy lifestyle and primary or specialty care is a barrier for some residents living with diabetes.
- There is a lack of awareness and knowledge of how to access existing appropriate resources.

## Primary Data

The Durham Diabetes Coalition has conducted focus groups with Durham County residents in order to understand the complexity of diabetes and to find out opinions about media messages around diabetes. Six focus groups were conducted between October 2012 and March 2014, four in English and two in Spanish. From these focus groups the following was learned:

- What people in the community want to see around diabetes- educational programs, support groups, additional information, etc.
- People need more information about diabetes- general diabetes information and how to manage their diabetes
- How people get health information- from loved ones, online, church, library, etc.
- What people think of the DDC TV show, “Living Healthy” and future topics they’d like to see such as healthy recipes.

## 2013 Durham County Community Health Opinion Survey Data<sup>24</sup>

According to data from the 2013 Durham County Community Health Opinion Survey, 14% of survey respondents had been told at some point by a health professional that they had diabetes (n=159); the range of this estimate was 7%-20%. The ranges of the Durham County Community Health Opinion Survey estimate and the BRFSS estimate overlap, and the point estimate provided by the DSR falls within the Opinion Survey CI. When asked what they felt was the most important health concern in Durham County, the respondents ranked diabetes third out of 19 health issues (23% ranked diabetes as among the three most important health issues). Participants also ranked obesity/overweight a close second which is significant because obesity/overweight is a risk factor for diabetes. In an effort to survey the Latino community, a sample was drawn from census blocks where more than 50% of the population identified themselves as Hispanic or Latino in the 2010 census. Among this sample population, 10% (range, 5-15%) said they had been told at some point by a health professional that they had diabetes and diabetes was ranked second among most important health concerns.

## Interpretations: Disparities, Gaps, Emerging Issues

Diabetes affects minorities and low income populations disproportionately. *Healthy North Carolina 2020: A Better State of Health* states the following disparities related to diabetes in North Carolina:<sup>25</sup>

- African Americans are nearly twice as likely to have diabetes as whites (15.6% versus 8.4% in 2009).

- In general, individuals with less education and with lower incomes are more likely to have diabetes. Among individuals with less than a high school education, 15.3% reported having diabetes, compared with 5.5% of college graduates. Of those with annual incomes of less than \$15,000, 14.6% reported having diabetes, compared with 4.9% of individuals with incomes of \$75,000 or greater.<sup>26</sup>

Additionally, Hispanic ethnicity is a risk factor for diabetes; 13.5% of Durham County residents are Hispanic.<sup>27</sup> Interventions that are accessible and culturally appropriate are required for addressing diabetes in the Hispanic population in Durham County.

Healthy lifestyle and self-care practices are an essential component of any diabetes management plan. However, data from the 2010 BRFSS indicate gaps exist in Durham County related to optimal self-care practices. Close to 40% of Durham County residents with diabetes reported never attending a class or course on diabetes self-management and only 42% of respondents reported checking their feet one or more times a day, which is the frequency recommended.<sup>28</sup> Thirty-seven percent had had their HbA1c tested fewer than two times in the prior year, and 30.4% had not had a dilated eye exam during that same time period.<sup>29</sup> 2011 BRFSS data indicated that only 19.0% of Durham County respondents ate five or more servings of fruits and vegetables a day and 49.1% did not engage in the recommended amount of aerobic physical activity.<sup>30</sup>

## Recommended Strategies

**Table 6.02(b) Evidence-based Resources and Promising Practices<sup>31</sup>**

Category	Name	Description	Website	Matching 2020 Objective
Community	Project DIRECT	Project DIRECT was a large community-based intervention for diabetes. The project was conducted through a cooperative agreement between the Centers for Disease Control and Prevention, the North Carolina Department of Health and Human Services, Wake County Human Services and the local community of Southeast (SE) Raleigh. Project DIRECT still exists in southeast Raleigh.	<a href="http://www.ncdiabetes.org/programs/projectDirect/index.asp">http://www.ncdiabetes.org/programs/projectDirect/index.asp</a>	Chronic Disease Objective 2
Individual	Closing the GAP Diabetes Program	The main goal is to provide clients with a system of care through diabetes education and self-management training, enhancing the quality of their lives through prevention or reduction of disease complications.	<a href="http://www.naccho.org/topics/modelpractices/database/practicecfm?PracticeID=350">http://www.naccho.org/topics/modelpractices/database/practicecfm?PracticeID=350</a>	Chronic Disease Objective 2

Workplace, School, & Community	In Motion	In Motion uses public awareness, education and motivation strategies, in combination with target audience strategies and constant evaluation to reach all corners of the community. In motion and its champions are successfully creating opportunities for physical activity in six targeted community areas.	<a href="http://cbpp-pcpe.phac.aspc.gc.ca/intervention_pdf/en/541.pdf">http://cbpp-pcpe.phac.aspc.gc.ca/intervention_pdf/en/541.pdf</a>	Chronic Disease Objectives 1, 2, & 3
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*“(I would like you to) hold DSMP more often – it is good to go and get goals.”*

*“(I would like you to) provide a class that covers more about medication and diabetes in general for people that are recently diagnosed with diabetes.”*

*- Focus group of Durham County Residents*

### **Recommended Strategy 1: Diabetes Self-Management Education<sup>32</sup>**

Diabetes self-management education (DSME) is the process of teaching people to manage their diabetes. The goals of DSME are to control the rate of metabolism (which affects diabetes-related health) to prevent short and long-term health conditions that result from diabetes and to achieve the best possible quality of life for clients while keeping costs at an acceptable level. DSME can be provided in a variety of community settings, including community gathering places, the home, healthcare facilities, recreational camps, worksites and schools.

The Task Force on Community Preventive Services recommends that diabetes self-management education (DSME) interventions be implemented in:

- **Community gathering places** on the basis of sufficient evidence of effectiveness in improving glycemic control for adults with Type 2 diabetes.
- **Homes of children and adolescents who have Type 1 diabetes** on the basis of sufficient evidence of effectiveness in improving glycemic control among adolescents with Type 1 diabetes.

### **Recommended Strategy 2: Case management interventions to improve glycemic control<sup>33</sup>**

Case management involves planning, coordinating, and providing healthcare for all people affected by a disease—in this case, diabetes. It is directed towards people who likely use too much of their income to pay for healthcare services, who are not receiving needed services or who are receiving services that are not well coordinated.

The Task Force on Community Preventive Services recommends diabetes case management strategies on the basis of strong evidence of effectiveness in improving glycemic control. There also is sufficient evidence of improved provider monitoring of glycated hemoglobin (GHb) when case management is delivered in combination with disease management.

### **Recommended Strategy 3: Disease Management<sup>34</sup>**

Disease management is an organized, proactive and multicomponent approach to healthcare delivery for people with a specific disease such as diabetes. Care is focused on and integrated across the spectrum of the disease and its complications, the prevention of co-morbid conditions and the relevant aspects of the delivery system. Disease management identifies all clients or patients affected by the disease and determines the most effective ways to treat the disease.

The Task Force on Community Preventive Services recommends diabetes disease management on the basis of strong evidence of effectiveness in improving:

- Glycemic control
- Provider monitoring of glycosylated hemoglobin (GHb)
- Screening for diabetic retinopathy

Sufficient evidence is also available of its effectiveness in improving:

- Provider screening of the lower extremities for neuropathy and vascular changes
- Urine screening for protein
- Monitoring of lipid concentrations

Additionally, strategies that promote healthy eating, increased physical activity and smoking cessation are all recommended for diabetes prevention and control.

## Current Initiatives & Activities

### ▪ *American Heart Association (AHA) Morrisville, NC*

The branch advocates to keep communities healthy – free of cardiovascular disease and stroke. AHA provides education for the community and for healthcare providers. They also offer an online patient portal with educational tools and resources. AHA annually sponsored programs include Go Red For Women, Power to End Stroke, My Heart, My Life, Youth Programs, and the Heart Hub.

Website: [http://www.heart.org/HEARTORG/Affiliate/Morrisville/North%20Carolina/Home\\_UCM\\_MAA007\\_AffiliatePage.jsp](http://www.heart.org/HEARTORG/Affiliate/Morrisville/North%20Carolina/Home_UCM_MAA007_AffiliatePage.jsp)

Phone Number: 919-463-8300

### ▪ *Durham Diabetes Coalition*

The Durham Diabetes Coalition Project (DDC) is comprised of members from the Duke University Health System; Durham County Department of Public Health; the National Center for Geospatial Medicine at the University of Michigan; Lincoln Community Health Center, a federally qualified health center; and a community advisory board (CAB) representing 23 public, political and private community agencies. Funding for the project is from the Bristol Myers-Squibb Foundation and the Center for Medicare and Medicaid Innovations. Objectives include:

- Improve population-level diabetes management, health outcomes and quality of life for diagnosed/ undiagnosed Type 2 Diabetes in Durham County.

- Reduce disparities (based upon race, age, gender, socioeconomic status and insurance) in diabetes management, health outcomes, and quality of life for adults living with Type 2 Diabetes.

Project objectives will be met by:

- Implementing a county-wide, community-based, population-level suite of interventions.
- Providing clinical care in community and home-based settings to individuals identified at high risk.
- Using a spatially-enabled informatics system that supports the development and implementation of innovative interventions, allows for real-time monitoring of individuals and populations with Type 2 Diabetes and serves as the basis for intervention evaluations.
- Forming and maintaining an active Community Advisory Board that advises and supports the project staff, raises awareness of the importance of diabetes management in Durham County and helps to identify opportunities and barriers to interventions and programming related to diabetes.

Website: <http://durhamdiabetescoalition.org/>

Phone Number: (919) 560-7212

▪ ***Diabetes Self Management Education (DSME)***

American Diabetes Association approved programs teach individuals living with diabetes self management skills to control their diabetes. DSME is a recommended standard of care for diabetes treatment and is covered by Medicaid, Medicare, and many third party insurers. Available in Durham County at Duke Endocrinology, Durham County Department of Public Health, and Durham County Veteran's Administration.

Website: <http://www.diabetes.org/>

Phone Number: 1 (800) DIABETES (800-342-2383)

▪ ***Diabetes Self-Management Program (DSMP)***

Stanford Chronic Disease Self-Management Program for worksites and other community groups.

Website: <http://patienteducation.stanford.edu/programs/cdsmp.html>

Phone Number: (650) 723-7935 Durham County local resource: (919) 560-7109

▪ ***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.

Website: <http://caareinc.org/>

Phone Number: 919-683-5300

- ***Medical Nutrition Therapy.***

Individualized nutrition assessment and counseling for management of diabetes. Reimbursement by many third party insurances. Available at the Durham County Department of Public Health.

Website: <http://www.dconc.gov/index.aspx?page=1320>

Phone Number: (919) 560-7791 Durham County Health Department

- ***North Carolina Diabetes Prevention and Control Branch.***

Helping North Carolina citizens reduce the impact of diabetes through leadership, education, communication and community involvement.

Website: [www.ncdiabetes.org](http://www.ncdiabetes.org)

Phone Number: (919) 707-5340

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## Section 6.03 *Heart disease and stroke*

### Overview

Cardiovascular disease (CVD) including heart disease and stroke, greatly impacts the overall health of a community. Cardiovascular disease is the most pervasive and costly health problem in the nation.<sup>1</sup> Reducing the morbidity and mortality from cardiovascular disease will contribute to the physical and economic well-being of the community by reducing medical costs, increasing adult employability and productivity and improving both quality and quantity of life for the county's residents.

CVD involves the dysfunction of blood vessels serving the heart and brain. Hypertension is a leading risk factor for both heart disease and stroke. Although a number of factors contribute to CVD, lifestyle and behaviors have a major impact on the disease.<sup>2</sup>

There are many local, state and national efforts to prevent CVD. Nationally, the Million Hearts Campaign aims to prevent one million heart attacks and strokes during a five-year period that ends in 2017. In community settings, the goal is to prevent tobacco use and to decrease sodium and artificial trans fat consumption in community settings. Within clinical settings, the campaign focuses on optimized care through the ABCS (appropriate Aspirin therapy, Blood pressure control, Cholesterol control, and Smoking cessation).<sup>3</sup>

The Durham Health Innovations Vascular Intervention Project (VIP) quantified the burden of hypertension, elevated cholesterol levels and chronic diseases found related to vascular disease in Durham County and found over 35% of the adult population to have some form of cardiovascular disease.<sup>4</sup> Disparities in morbidity, mortality, utilization of services and access to care were also observed.<sup>5</sup>

Addressing CVD will require the community to also address obesity, high rates of high blood pressure and cholesterol, smoking, poor diet, physical inactivity and diabetes. These are all known risk factors for heart disease and stroke.<sup>6</sup>

### Healthy NC 2020 Objective

#### Chronic Disease

Healthy NC 2020 Objective <sup>7</sup>	Current Durham	Current NC	2020 Target
1. Reduce the cardiovascular disease mortality rate (per 100,000 population) <sup>8</sup>	206.2 (2007-2011)	237.2 (2012)	161.5

### Secondary Data

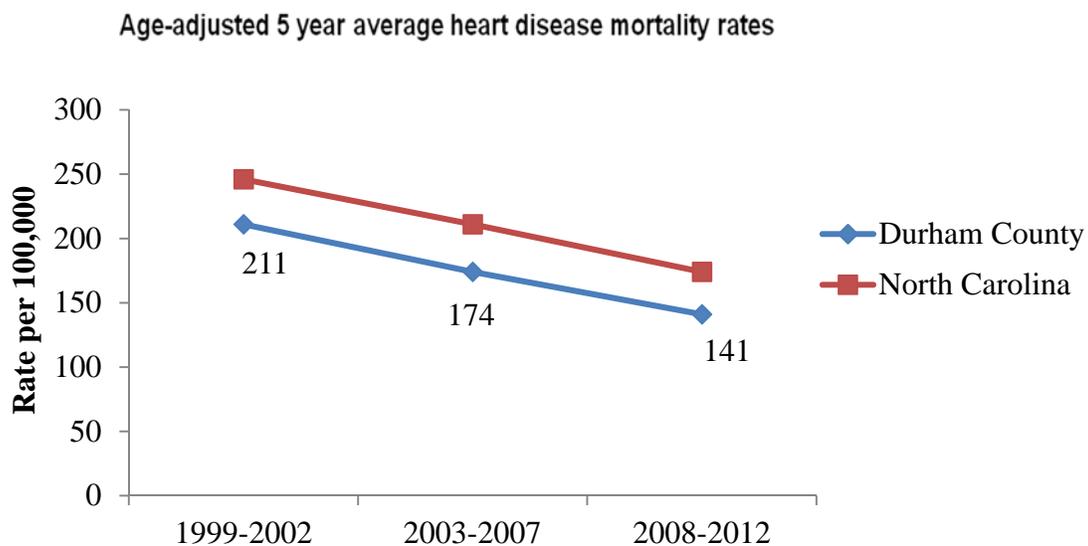
Consistent with national and state trends, heart disease is the second leading cause of death in Durham County.<sup>9</sup> As noted in Table 6.03(a) below, the age adjusted death rate from heart disease in Durham County was lower than the state rate but similar to those of peer counties.<sup>10</sup>

**Table 6.03(a) Age Adjusted Death Rate Comparison, 2008 - 2012<sup>11</sup>**

County	Heart Disease age adjusted death rate (per 100,000)
North Carolina	174.4
Durham	140.7
Cumberland	207.8
Forsyth	146.4
Guilford	154.1
Mecklenburg	138.5
Wake	134.0

Cardiovascular diseases are costly to both individuals and the community. The average inpatient hospital utilization charge for Durham residents with heart disease and stroke as their primary diagnosis in 2012 was \$51,065 and \$46,795 respectively.<sup>12</sup>

Rates of death from heart disease have fallen steadily over the past five years (Figure 6.03a).<sup>13</sup> However, predictive indicators such as unchanging rates of obesity identify the challenge to continuing the downwards trend for heart disease.<sup>14</sup>



**Figure 6.03(a) Age Adjusted 5-year average heart disease mortality rates**

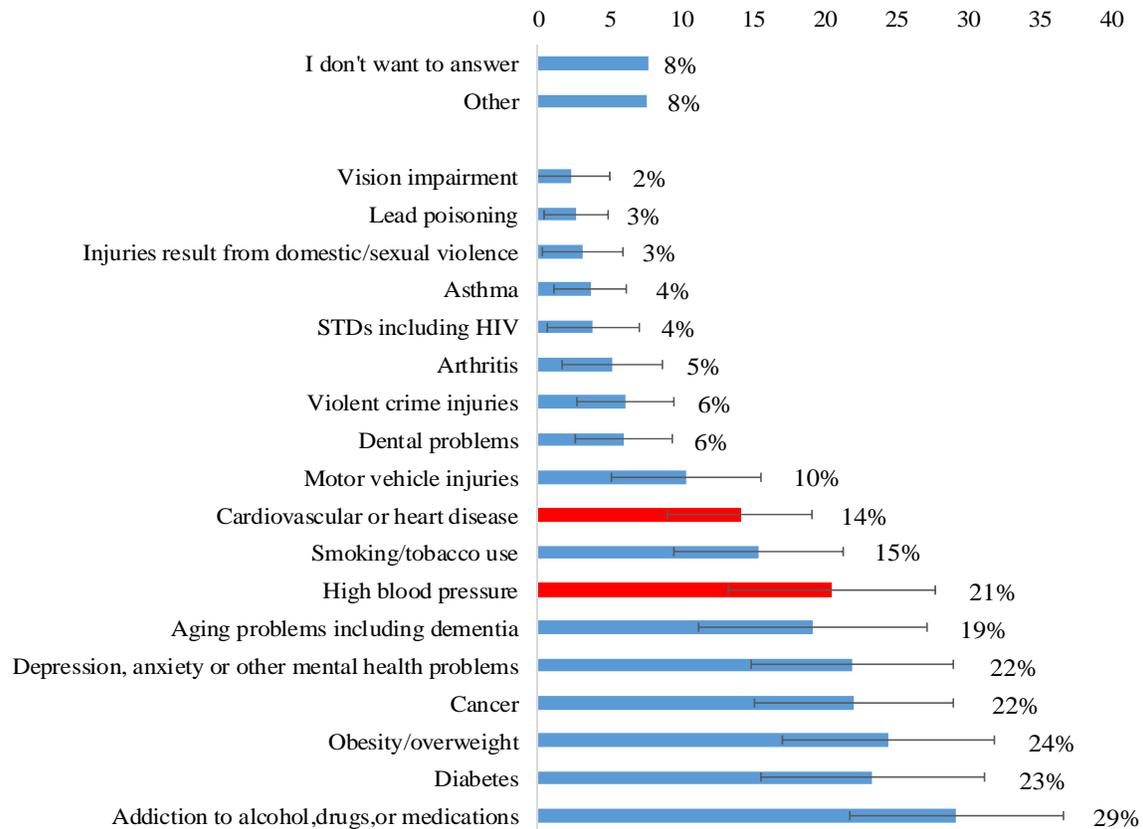
## Primary Data

In 2012, the Behavioral Risk Factor Surveillance System (BRFSS) survey asked about people's experiences with cardiovascular disease and its associated conditions (coronary heart disease, heart attacks or stroke). Seven percent of Durham respondents said they had a history of the conditions. Table 6.03(b) below reflects 2012 BRFSS Survey results for Durham and peer counties. These counties all have similar self-reported heart disease rates.<sup>15</sup>

**Table 6.03(b) Prevalence of Any Cardiovascular Disease (heart attack or coronary heart disease or stroke)<sup>16</sup>**

County	Percent of respondents (95% confidence interval)
North Carolina	8.9 (8.5-9.5)
Durham	7.0 (4.8-10.1)
Cumberland	10.8 (7.8-14.6)
Forsyth	9.3 (6.6-13.1)
Guilford	6.4 (4.6-8.8)
Mecklenburg	7.0 (5.1-9.4)
Wake	6.2 (4.5-8.4)

The Durham community recognizes cardiovascular disease as an important health issue as shown by results from the 2010 Durham County Community Health Opinion Survey.<sup>17</sup> When survey respondents were asked to choose what they felt were the top three health issues in Durham County, 14% of respondents chose cardiovascular disease as one of their top three; 21% chose high blood pressure as one of their top three. Results are shown in Figure 6.03(b) below.<sup>18</sup>



**Figure 6.03(b) Results from 2010 Durham County Community Health Opinion Survey<sup>19</sup>**

### Interpretations: Disparities, Gaps, Emerging Issues

Racial/ethnic minorities carry a disproportionately greater burden of cardiovascular (CV) related conditions.<sup>20</sup> Despite having a lower heart disease death rate than the state overall, non-Hispanic African-Americans in Durham County have an approximately 23% higher age-adjusted death rate for this condition compared to whites (163.2 per 100,000 compared to 132.6 per 100,000 respectively).<sup>21</sup> Strikingly, between 2008 and 2012, the age-adjusted death rate due to heart disease was 53.6 per 100,000 in Hispanic residents of North Carolina compared to 172.1 per 100,000 for non-Hispanic Whites,<sup>22</sup>

Additionally, racial disparities exist among insurance status and utilization of services as reflected by data from the Durham Health Innovations Vascular Intervention Project population; 76.1% of the self-pay/uninsured are non-white. Racial/ethnic minorities are more likely to receive care only in the emergency department.<sup>23</sup> Therefore, it is essential that local efforts address barriers to care for these vulnerable populations.

The Community Health Survey of 2013 indicated that 30% of Durham citizens surveyed were covered by Blue Cross/Blue Shield (BC/BS) health insurance plan. Health insurance agencies such

as BC/BS are mandated to provide coverage for heart disease prevention strategies such as nutrition counseling. Clients and medical care providers should be made aware of insurance plan coverage for weight and diet management strategies. For example, BC/BS of North Carolina provides coverage for six individual nutrition counseling sessions per year.

The 2013 Community Health Survey identified a desire by Durham citizens for exercise opportunities that are low-cost and located in neighborhoods. Not having enough time was the number one reason given for not exercising. Making exercise available locally, conveniently and cheaply may help reduce heart disease and stroke risk in Durham County.

More than 85% of those surveyed in the 2013 Community Health Survey indicated that they have access to the internet and use a cell phone. Future methods to address heart disease and stroke prevention in Durham County should utilize the internet and cell phones.

## Recommended Strategies

The U.S. Department of Health and Human Services recommends evidenced-based clinical, community and individualized strategies for reducing risk and mortality rates of heart disease and stroke. The strategies are described in *Healthy People 2020 Interventions and Resources for Heart Disease and Stroke*.<sup>24</sup> These include the consideration of: aspirin for the prevention of cardiovascular disease; nutrition counseling in the primary care setting to promote a healthy diet; smoking cessation; screening for high blood pressure; screening for lipid disorders in adults; behavioral and social approaches to increase physical activity; social support interventions in the community; campaigns and informational approaches to increase physical activity community wide; worksite programs for obesity prevention and control and assessment of health risks with feedback to improve employees' health.<sup>25</sup>

Table 6.03(c) Evidence-Based and Promising Practices<sup>26</sup>

Category	Name	Description	Website	Matching 2020 Objective
Workplace, School and Community	Worksite nutrition and physical activity program	Worksite nutrition and physical activity programs are designed to improve health-related behaviors and health outcomes. These programs can include one or more approaches to support behavioral change including informational and educational, behavioral and social, and policy and environmental strategies.	<a href="http://www.thecommunityguide.org/obesity/workprograms.html">http://www.thecommunityguide.org/obesity/workprograms.html</a>	Chronic Disease Objective 1, 2, & 3
Individual	Cardiovascular Disease Risk	The overall goal of the Cardiovascular Disease Risk Screening and Education	<a href="http://www.naccho.org/topic/modelpracti">http://www.naccho.org/topic/modelpracti</a>	Chronic Disease

	Screening & Education, 2005	Program is to promote overall wellness among clients seen in public health units.	<a href="http://ces/database/practice.cfm?practiceID=154">ces/database/practice.cfm?practiceID=154</a>	Objective 1
Healthcare	Blood Pressure Measurement for the 21st Century Toolkit, 2005	The Blood Pressure Measurement for the 21st Century Tool Kit provides information on accurately and reliably taking a blood pressure measurement, to properly maintain the blood pressure equipment, and suggestions for lifestyle changes that can be taken to reduce high blood pressure.	<a href="http://www.williamsandwest.com/senttarai/interactive/bloodpressure/downloads/Blood_Pressure_Toolkit.pdf">http://www.williamsandwest.com/senttarai/interactive/bloodpressure/downloads/Blood_Pressure_Toolkit.pdf</a>	Chronic Disease Objective 1

### Current Initiatives & Activities

Combating heart disease and stroke is a public health and medical challenge. From nationally focused agencies to community based initiatives, North Carolina’s organizations and community advocates are working to save lives. Listed below are national, state, regional and local organizations aiming to reduce death and disability from heart disease and stroke.

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

The branch advocates to keep communities healthy – free of cardiovascular disease and stroke. AHA provides education for the community and for healthcare providers. They also offer an online patient portal with educational tools and resources. AHA annually sponsored programs include Go Red For Women, Power to End Stroke, My Heart, My Life, Youth Programs, and the Heart Hub.

Website: [http://www.heart.org/HEARTORG/Affiliate/Morrisville/North%20Carolina/Home\\_UCM\\_MAA007\\_AffiliatePage.jsp](http://www.heart.org/HEARTORG/Affiliate/Morrisville/North%20Carolina/Home_UCM_MAA007_AffiliatePage.jsp)  
 Phone Number: 919-463-8300

- **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.

Website: <http://www.chealthc.org>  
 Phone Number: 919-463-8300

- ***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.

Website: <http://dconc.gov/index.aspx?page=379>  
Phone Number: 919-560-7600

- ***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.

Website: <http://www.dukemedicine.org/treatments/heart>  
Phone number: Duke Consultation and Referral Center, 888-ASK-DUKE (919-702-7849)

- ***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.

Website: <http://caareinc.org/>  
Phone Number: 919-683-5300

- ***American Heart Association (AHA), National***

Founded in 1924, the Association provides a national clearinghouse of information on cardiovascular disease and how to prevent it. The Association is the nation's leader in CPR education training. The national website also provides information on local initiatives. The local branch is located in Morrisville, NC

Website: <http://www.americanheart.org/>  
Phone Number: 1 (800) AHA-USA-1

- ***American Stroke Association***

Created in 1997, the Association is dedicated to prevention, diagnosis and treatment to save lives from stroke. The Association funds research, helps people understand and avoid strokes, guides healthcare professionals and provides information to enhance the quality of life for stroke survivors.

Website: <http://www.strokeassociation.org/STROKEORG/>  
Phone Number: 1 (888) 4-STROKE

- ***Justus-Warren Heart Disease and Stroke Prevention Task Force***

The Task Force was established by the NC General Assembly in 1995 to address deaths, disability and health care costs from heart disease and stroke. The Task Force and its Stroke Advisory Council carry out legislatively mandated duties and functions in planning and coordinating activities to address policy, environmental, and systems-level change supportive of cardiovascular health and disease prevention. The Task force actively pursues partnerships and resource to promote the implementation of the *NC Plan for Prevention and Management of Heart Disease and Stroke 2012-2017*. Additional information about the Task Force can be found in the November/December 2012 issue of the *North Carolina Medical Journal*<sup>27</sup>

Website: <http://www.publichealth.nc.gov/hnc2020/docs/HealthyNC2020-Update-CVD-FIN-Nov2013-20131030.pdf>  
Phone Number: 919-707-5361

- ***Million Hearts Initiative***

A national campaign to prevent one million heart attacks and strokes by 2017. For North Carolina, this means preventing 30,000 heart attacks and strokes. The campaign promotes the "ABCS" of clinical prevention (aspirin when appropriate, blood pressure control, cholesterol management, and smoking cessation).

Website: [http://millionhearts.hhs.gov/Docs/MH\\_YearinReview\\_2012.pdf](http://millionhearts.hhs.gov/Docs/MH_YearinReview_2012.pdf)

- ***North Carolina Stroke Care Collaborative***

The Collaborative is part of a national quality improvement effort to reduce death and disability caused by stroke. The Collaborative assesses and makes recommendations for best practice guidelines for stroke treatment. The Collaborative achieves this by conducting real time data collection on stroke treatment among North Carolina hospitals as well as by linking Emergency Medical Services data with in-hospital care and outcomes. Between 2005 and 2012, 89,413 stroke cases were enrolled, and the proportion of patients receiving defect-free care improved from 52% to 79%.<sup>28</sup>

Website: [www.ncstrokeregistry.com](http://www.ncstrokeregistry.com)

- ***North Carolina Stroke Association (NCSA)***

The Association's mission is to reduce the incidence and impact of stroke in North Carolina through collaborations to facilitate screening, education, outcome assessments, and advocacy. NCSA assists hospitals implement community stroke prevention and education programs.

Website: <http://www.ncstroke.org/about/index.php>  
Phone number: 336-713-5052

- ***Duke Stroke Center***

The Duke Stroke Center integrates the care of stroke patients from before emergency department arrival through inpatient care and assessments for rehabilitative services.

Website: <http://neurology.duke.edu/specialty-programs/stroke-center>

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## Section 6.04 *Obesity*

### Overview

To maintain a healthy weight, a person needs to consume as many calories (the unit by which energy is measured) as s/he spends in metabolism, growth, biomechanical processes and physical activity. Any imbalance results in a change in body weight. If the energy from food exceeds energy expenditure, a person gains weight, storing the excess energy or calories as body fat. If food energy is less than energy expenditure, then a person loses weight.

Overweight (BMI of 25-29) and obesity (BMI of 30 or more) are associated with multiple health risks, economic costs and diminished quality of life for those affected. Conditions that are linked to overweight and obesity include heart disease, type 2 diabetes, stroke and some types of cancer as well as hypertension, dyslipidemia, osteoarthritis, liver and gall bladder disease, sleep apnea and respiratory problems and gynecological problems.<sup>1</sup> Some of these health conditions shorten lifespans while others make life more difficult; all result in societal costs.

Four of the ten leading causes of death in North Carolina are related to obesity: heart disease, type 2 diabetes, stroke and some kinds of cancer.<sup>2</sup> Overweight and obesity were the second leading causes of preventable death in North Carolina in 2010.<sup>3</sup> However, one in four overweight or obese adults don't believe they have a problem.<sup>4</sup> The Centers for Disease Control and Prevention (CDC) has identified obesity, physical activity and nutrition as “winnable battles,”<sup>5</sup> and offers multiple strategies and tools for waging the battle.

### Healthy NC 2020 Objectives

#### Physical Activity and Nutrition (1); Crosscutting (4)

Healthy NC 2020 Objective <sup>6</sup>	Current Durham	Current NC	2020 Target
1. Increase the percentage of high school students who are neither overweight nor obese.	68% (2013) <sup>7</sup>	72% (2013) <sup>8</sup>	79.2%
4. Increase the percentage of adults who are neither overweight nor obese. <sup>9</sup>	34.1% (2012)	34.2% (2012)	38.1%

### Secondary Data

Obesity among adults in the United States rose alarmingly from 1980 to 2008, more than doubling from 13.4% to 34.3%.<sup>10</sup> The adult obesity rate has remained at about 35% through 2012,<sup>11</sup> the most recent year information is available. In North Carolina as throughout the U.S., the cost of obesity is significant. The estimated annual cost of obesity in the United States was \$147 billion in 2008.<sup>12</sup> Those who are obese have medical costs that are \$1,429 more than medical costs for

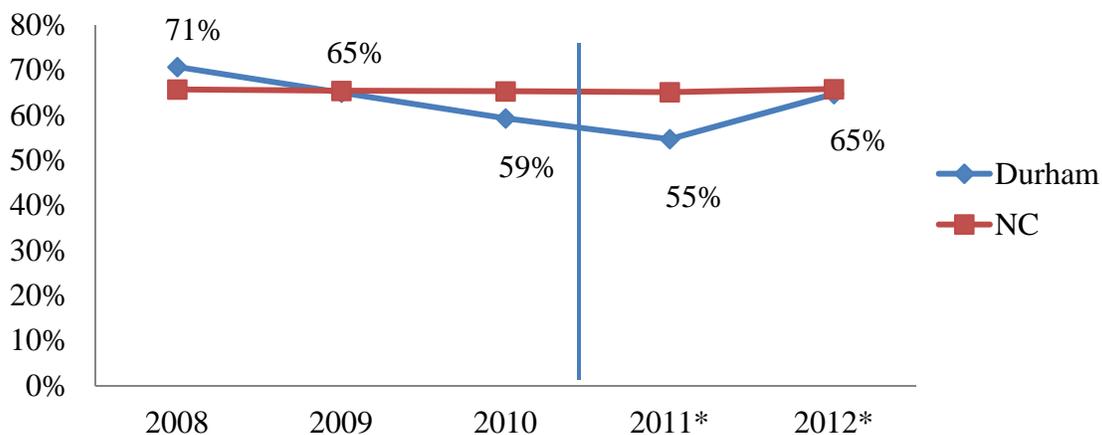
people of normal weight.<sup>13</sup> Additionally, a Duke University study of employees found that obese workers accounted for 13 times more lost work days than healthy weight employees.<sup>14</sup>

## Primary Data

### Adults

In Durham in 2012, 24% of adults were obese and 65% of adults were overweight or obese.<sup>15</sup> In North Carolina, overweight and obesity rates are comparable with 66% of adults overweight or obese.<sup>16</sup> The proportion of adults who are overweight or obese has remained approximately level since 2008; currently, almost two-thirds of Durham's residents have unhealthy weights.

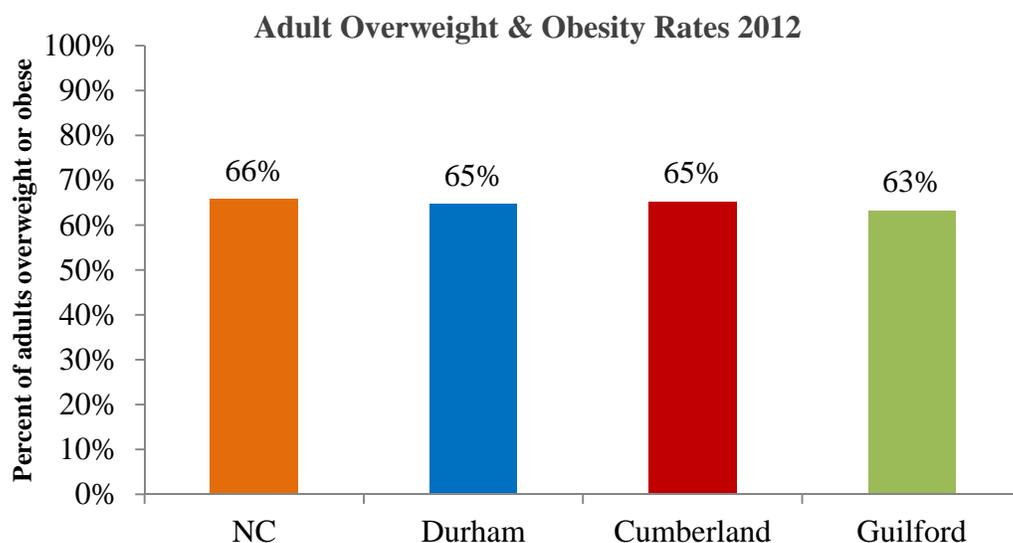
**Overweight and Obesity Trends in Durham and NC 2008-2012  
(BRFSS)**



\*2011 and 2012 data not comparable to earlier years

**Figure 6.04(a) 2008-2012 Overweight/Obesity Trends<sup>17</sup>**

Durham County's overweight and obesity rate is slightly lower than North Carolina's and Cumberland County's rates. Durham's rate is slightly higher than Guilford County.<sup>18</sup> Overall, Durham County's overweight and obesity rates do not differ greatly from those of its peer counties or North Carolina as a whole.



**Figure 6.04(b) 2012 Adult Obesity Data<sup>19</sup>**

Throughout North Carolina, striking differences emerge in certain demographic groups. Men have considerably higher rates of overweight and obesity, as do non-whites, those with high school or less education and those who earn less than \$50,000 per year.<sup>20</sup> This has implications for programming and outreach.

Even in the healthiest weight range groups, however, combined rates of obesity and overweight do not drop below 53%.<sup>21</sup> This means that more than half of Durham's residents risk poorer health because of excess weight.

Overweight and obesity rates in Durham increase from childhood to adulthood.<sup>22</sup> Teen obesity is of great concern because an obese teenager has more than a 70% greater risk than a healthy-weight teen of becoming an obese adult.<sup>23</sup>

**Durham High Schools (2013 YRBS)**

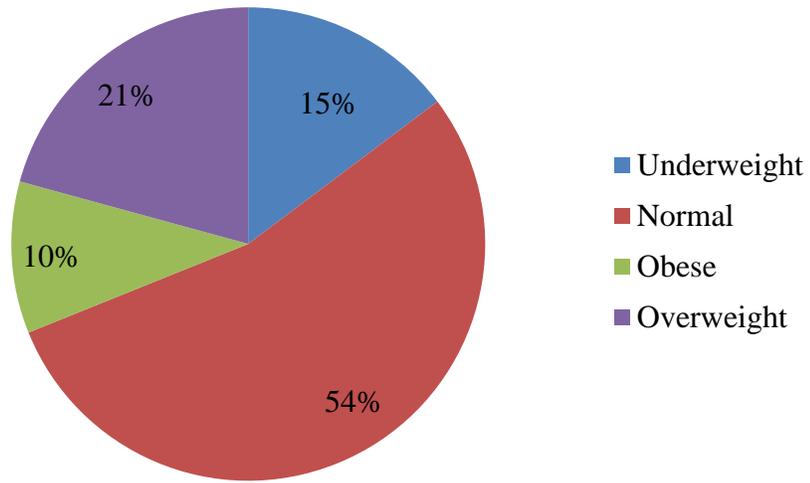


Figure 6.04(d) Weight Ranges by Age Groups<sup>24</sup>

**Durham Public Schools Kindergartners  
School year 2010-2011**

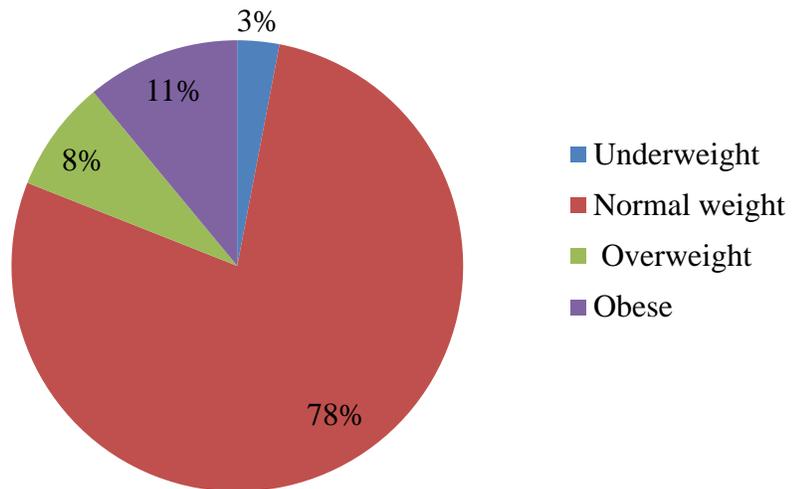


Figure 6.04(e) Weight Ranges by Age Groups<sup>25</sup>

## Children

While overweight and obesity rates are lower in childhood than in adulthood, even these rates have increased over time. Obesity prevalence among children and adolescents in the United States more than tripled (from 5% to 17%) from 1980 to 2008.<sup>26</sup> Rates have leveled off recently. In the last five years, the rate of overweight and obesity in U.S. high school students actually dropped from 28.8% in 2005 to 27.8% in 2009. In North Carolina, the obesity rate has remained relatively stable from 29.2% in 2005 to 28% in 2013.<sup>27</sup> However, the current combined overweight and obesity rate of 32% for high school students in Durham County is significantly greater than the North Carolina rate of 28%.<sup>28</sup>

In addition, data on low-income children and youth in North Carolina show that obesity rates rise as children get older and that rates within each age group have also risen from 2002 to 2008.<sup>29</sup> Data compiled by Durham's Partnership for Children show that 19% of children entering kindergarten in fall 2010 were overweight or obese (11% overweight; 8% obese).<sup>30</sup> This statistic indicates a need to reach children early with both education and opportunities for healthy eating and physical activity.

## Community Feedback

Residents of Durham identified overweight/obesity as Durham's number two health problem according to results from the 2013 Community Health Opinion Survey.

### Community-ranked Health Problems, Top 10

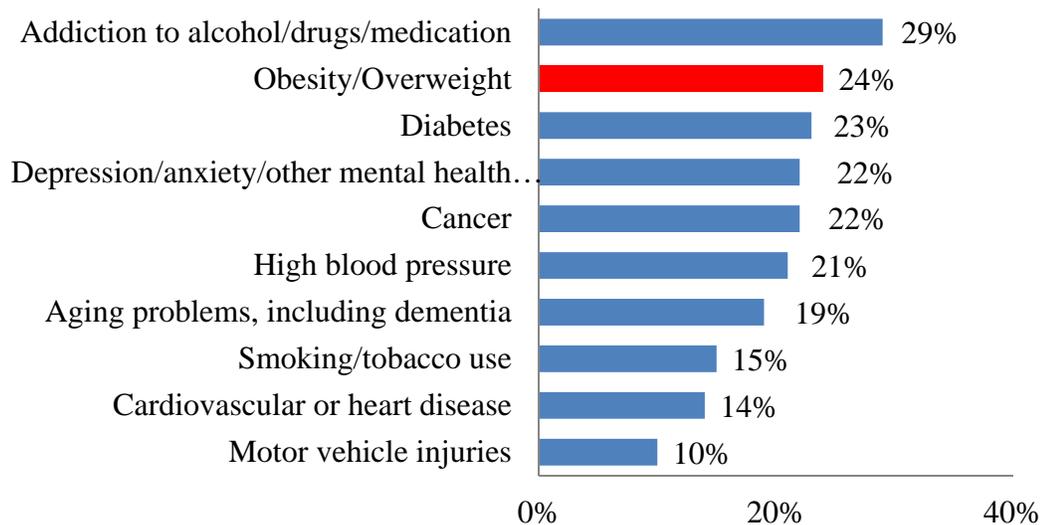


Figure 6.04(g) Top 10 Community-ranked Health Problems<sup>31</sup>

Respondents named cost, access and taste as some of the primary reasons for why they do not eat healthy foods. Approximately 70% of Durham residents sampled reported walking more than a few blocks each day. Of those that walked more than a few blocks per day, 29% said they walked

more than three miles a day and 48% reported walking one to three miles a day with the majority of respondents walking for their physical or mental health or for fun.<sup>32</sup> Neighborhood and areas close to home were listed as the top location for exercise. Better lighting and sidewalks to make walking easier were listed as the top motives that would increase walking.

### AHL-DHI Data<sup>33</sup>

The Achieving Health for a Lifetime (AHL) team of Durham Health Innovations (DHI) conducted town meetings, focus groups and interviews related to healthy weight with Durham residents in 2011. Their summaries stated, “Parents of overweight children thought their child’s weight problem was due to lack of exercise (both Spanish and English); lack of education, parent’s lack of time and modeling poor behavior (Spanish); eating habits, lifestyle and genetics (English).” When asked about what was needed to improve weight, “Spanish-speaking parents... cited improved nutrition and exercise practices as well as seeking professional help (One parent stated, “I need to change my eating habits first, participate in programs that teach you how to cook healthy meals, so I can teach my kids...”). English-speaking parents... cited the need for support (e.g., encouragement, empowerment and active friends), discipline (e.g., parent setting limits and controlling portions) and improved finances.”

Overweight adolescents (all black females) expressed the following: The types of support they looked for from friends and family were, “exercising together, eating together (to stay away from bad food choices) and general support/encouragement.” They wanted a “place to talk and get positive energy,” and identified the best locations for such a place as school, YMCA or other such as a gym.

“Formerly obese adults (all female who were using the Take Off Pounds Sensibly (TOPS) weight loss methods) attributed their success to... [a number of factors, including] moderate exercise and encouragement from friends, the support group, and their doctor. They cited temptation by family members and social events, financial stress and the inconvenience (especially time) of accessing healthy food. The most important things in a weight loss program were affordability, support and convenience. “Durham is a hard place to achieve/maintain a healthy weight due to too much fast food, lack of safety and a culture based in food events.”

In Northeast Central Durham (NECD), a low socioeconomic and high minority area, children at one elementary school were weighed and measured. Over 40% of the children were overweight or obese. Individual measurements were sent home to parents. Most residents attributed the weight issues to “the expense and inconvenience of obtaining healthy food (only fast food and no quality grocery stores in area, as well as the poor quality of cafeteria food.” They also said most kids do not have a SAFE place to play outside...” One parent summarized, “Kids need things to do, too, so they don’t sit at home eating junk and watching TV.”

### Interpretations: Disparities, Gaps, Emerging Issues

Lower income neighborhoods often lack easy access to grocery stores that carry healthy foods like fresh produce while they have abundant fast food restaurants. In fact, 61% of Durham respondents report eating out at a fast food restaurant, cafeteria or other restaurant at least two times per week,

with 28% of those people eating outside of the home more than three times a week.<sup>34</sup> Increasing access to grocery stores and making healthy foods more affordable may be an important step to decreasing fast food consumption and increasing healthier food purchases.

The lower income neighborhoods frequently also lack safe outdoor recreation facilities that would allow residents easy exercise opportunities. Residents of these neighborhoods who tend to be among the most overweight/obese in Durham, lack healthy eating and exercise options that are more readily available in higher-income areas.<sup>35</sup>

Although overweight and obesity are at their lowest in early childhood, this is also the time that children are learning habits that will last a lifetime. This is an important time to intervene, both with families and with day care providers. Focusing messages and education on healthy weight maintenance toward families and children should be a priority.

The 2013 Community Health Survey identified primary care facilities and medical staff as the principal source of health information for most Durham residents. Obesity and overweight reduction efforts in Durham County must involve primary care medical staff to ensure success.

The Community Health Survey of 2013 indicated 30% of Durham citizens surveyed were covered by Blue Cross/Blue Shield (BC/BS) health insurance plan. Health insurance agencies like Blue Cross/Blue Shield must provide coverage for healthy weight maintenance strategies such as nutrition counseling. Clients and medical care providers should be made aware of insurance plan coverage for weight management strategies. For example, BC/BS of North Carolina provides coverage for six individual nutrition counseling sessions per year.

The 2013 Community Health Survey identified a desire by Durham citizens for exercise opportunities that are low-cost and located in neighborhoods. Not having enough time to exercise was the number one reason given for not exercising. Making exercise available locally, conveniently and cheaply may help reduce obesity in Durham County.

Over 85% of those surveyed in the 2013 Community Health Survey indicated that they have access to the internet and use a cell phone. Future methods to address the obesity and overweight issue in Durham County should utilize the internet and cell phones.

Despite local efforts, the proportion of adults who are overweight or obese has not altered significantly over the past five years. Durham needs to coordinate its efforts to promote healthy weight to allow for maximum effectiveness.

## Recommended Strategies

Considering the overwhelming prevalence of obesity in Durham and nationally, no less than a culture change is needed to move the population toward the healthier eating and activity habits that will promote healthier weight. Resources are in place to begin to move towards cultural change. Change will work most effectively when coordinated to prevent overlap and gaps.

Early childhood nutrition education and access to healthy food and physical activity options are essential. So too, is continuing nutrition education, access to healthy food and focus on adequate physical activity throughout the school years in addition to the adult years.

Many evidence-based and promising strategies that have been developed and tested in other areas could work to lower obesity in Durham County. Several of these are described in Table 6.04(a) below.

**Table 6.04(a) Evidence-Based Resources and Promising Practices<sup>36</sup>**

<b>Setting</b>	<b>Name</b>	<b>Description / Website</b>	<b>Matching 2020 Objective</b>
School	Energizer Program	Energizers are classroom-based physical activities that help teachers integrate physical activity with academic concepts. These are short (about 10 minute) activities that classroom teachers can use to provide physical activity to children in accordance with the request from the North Carolina State Board of Education's Healthy Active Children Policy.  <a href="http://eatsmartmovemorenc.com/Energizers/Middle.html">http://eatsmartmovemorenc.com/Energizers/Middle.html</a>	Physical Activity & Nutrition Objective 1
School	NC Walks To School	This model brings key documents and tools into one convenient package to address components of planning local Walk to School events. Documents are comprehensive and provide instruction and examples for Walk to School programs, as well as guidance around technical issues involved in community change to support physical activity.  <a href="http://eatsmartmovemorenc.com/NCWalksToSchool/NCWalksToSchool.html">http://eatsmartmovemorenc.com/NCWalksToSchool/NCWalksToSchool.html</a>	Physical Activity & Nutrition Objective 1
School	New Moves	School-based series of classes for adolescent girls offered through physical education course. New Moves focuses on behavioral changes; aims to provide a supportive environment where girls feel comfortable being physically active and discussing weight-related issues, regardless of their size, shape, or level of physical activity. Eight behavioral objectives: (1) be more physically active, (2) limit sedentary time, (3) increase fruit and vegetable intake, (4) limit sugar-sweetened beverages, (5) eat breakfast every day, (6) pay attention to portion sizes and the body's signs of hunger and satiety, (7) avoid unhealthy weight control behaviors (e.g., skipping meals, fasting, taking diet pills, smoking cigarettes for	Physical Activity & Nutrition Objective 1

		weight control), and (8) focus on one's positive traits.  <a href="http://rtips.cancer.gov/rtips/programDetails.do?programId=236223#Program">http://rtips.cancer.gov/rtips/programDetails.do?programId=236223#Program</a>	
Community or worksite	Eat Smart Move More Weigh Less	15-week weight management program—Eat Smart, Move More, Weigh Less focuses on lifestyle habits to help achieve a healthy weight. Losing weight is part of the focus as are feeling better, having more energy, and becoming more mindful. The program is built on proven strategies that include mindful eating and physical activity.  <a href="https://esmmweighless.com/">https://esmmweighless.com/</a>	Cross-cutting Objective 4
Community	"Lighten up Iowa!"	Encourages residents to get involved in a program that promotes physical activity and improves nutrition.  <a href="http://activelivingbydesign.org/sites/default/files/Iowa.pdf">http://activelivingbydesign.org/sites/default/files/Iowa.pdf</a>	Physical Activity & Nutrition Objective 1, 2 & 3

Durham County has initiatives that include Bull City Open Streets, county and city employee wellness efforts, Eat Smart, Move More, Weigh Less programs and Living Healthy workshops. Pulling these together with elements of the Lighten Up Iowa program such as weekly meetings/support groups could result in a focused healthy weight program that produces ongoing results.

The NC Institute of Medicine in its Prevention Action Plan issued multiple recommendations for obesity prevention. These included addressing nutrition and physical activity in clinical care. Two recommendations that could be feasible to implement in Durham are:<sup>37</sup>

**Recommendation 4.11: Increase the Availability of Obesity Screenings and Counseling**

Primary care providers should screen adult patients for obesity using Body Mass Index (BMI) and provide high intensity counseling either directly, or through referrals, on nutrition, physical activity and other strategies to achieve and maintain a healthy weight. Insurers, payers and employers should cover screenings and counseling on nutrition and/or physical activity for adults who are identified as obese.

**Recommendation 4.12: Expand the CCNC Childhood Obesity Prevention Initiative**

If the Community Care of North Carolina Childhood Obesity Prevention Initiative pilots are shown to be successful, the initiative should be expanded throughout the state. The North Carolina General Assembly should appropriate \$174,000 in non-recurring funds to the North Carolina Office of Rural Health and Community Care to support this effort.

## Current Initiatives & Activities

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

This group, composed of members from Durham County Health Department, Duke University, Durham Public Schools (DPS), Durham Parks and Recreation, Lincoln Community Health Center, Durham Child Care Association, the community and others meets monthly to discuss and act on ways to move the people of Durham toward a healthier weight. Committee members collaborate on actions ranging from writing letters of support for issues like the continued existence of a DPS Wellness Coordinator to creating walking trails in Durham neighborhoods to advocating for healthier food options in DPS to promoting breastfeeding-friendly workplaces. In addition to more information about the group, the Partnership for a Healthy Durham website also offers resources to residents who want to get involved in programs that promote physical activity and weight loss.

Website: <http://www.healthydurham.org>

Phone Number: (919) 560-7833

### ▪ *Durham County Department of Public Health (DCoDPH)*

DCoDPH offers multiple services addressing healthy weight. Some of these include:

- Nutrition Division
  - **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.
  - **Durham Diabetes Coalition:** offers a team approach to diabetes management. Weight management is a key component of any diabetes program
- Health Education Division
  - **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: 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 560-7771

Website: <http://www.dconc.gov/publichealth>

Phone Number: (919) 560-7600

### ▪ *Duke University Health System*

- Healthy Lifestyles Program (<http://pediatrics.duke.edu/divisions/healthy-lifestyles-program>; 919-620-5356)

One in three children in North Carolina is overweight and suffers health problems, poor quality of life, and social isolation. The Healthy Lifestyles Program seeks to answer this

challenge by offering caring providers, family-centered treatment programs, highly trained educators and researchers, and strong community partnerships.

- Live for Life (<http://www.hr.duke.edu/about/departments/liveforlife/index.php>; 919-684-3136 )

Duke's employee wellness program, offers a variety of [programs and services](#), such as health assessments and education, smoking cessation programs, fitness activities and nutrition activities, to help eligible faculty, staff and family members reach their health and fitness goals.

- Duke Center for Living  
[http://www.dukehealth.org/services/health\\_and\\_fitness\\_center/about](http://www.dukehealth.org/services/health_and_fitness_center/about); 919-660-6610  
The Center for Living Campus at Duke University is the home of a host of health and wellness programs that provide innovative, personalized care for long-lasting lifestyle change.
- Duke Diet and Fitness Center <http://www.dukedietandfitness.org/>; 1-888-313-7174  
Duke Diet and Fitness Center treats individuals who are overweight or obese. Their therapeutic residential weight management program helps people affected by excess weight and impaired physical fitness achieve better health through weight loss, physical conditioning, and improved self-care habits.

Website: (See specific websites and phone numbers above with descriptions from the websites)

Phone Number: (919) 684-8111

▪ ***Durham Public Schools (DPS) Wellness Coordinator***

- DPS has developed a strong wellness policy that can make a difference in the weight-influencing habits of both students and staff if it is uniformly enforced. DPS employs a Wellness Coordinator who is trained in public health to oversee the implementation of the Wellness Policy. The Wellness Coordinator provides a framework for each school's wellness plan, reviews each plan and offers feedback to bring the school into compliance and monitors the progress of each school. For the Wellness Policy to be effective, the entire community must support its implementation, encourage the expectation that each school will make wellness part of its mission, and ensure that adequate resources are directed toward school wellness.

Website: <http://www.dpsnc.net>  
<http://www.dpsnc.net/about-dps/board-of-education/policies-for-adoption-revision/instructional-pdfs/policy-3021-school-wellness-policy/view>

Phone Number: Wellness Coordinator (919) 560-2898

▪ ***Durham Public Schools Child Nutrition Services (DPS CNS)***

- DPS CNS has implemented healthy menu changes ahead of the schedule dictated by federal regulations. Almost all grain products are at least 51% whole grain, and flavored milk has been removed from the breakfast offerings. Both of these changes promote healthier weight.

Website: <http://www.dpsnc.net/about-dps/departments/child-nutrition-services/about-cns>

Phone Number: 919-560-2370

- **YMCA**

The YMCA of the Triangle has three branches in Durham, each offering multiple opportunities for fitness and sometimes for nutrition information, both promoting healthy weight.

Website: <http://www.ymcatriangle.org>  
<http://www.facebook.com/DurhamYMCA>

Phone Number: (919) 667-9622

- **Durham Parks and Recreation Department (DPR)**

DPR offers many fitness options and sometimes classes that relate to healthy eating. These are all ways to promote healthy weight.

Website: <http://www.DPRPlayMore.org>  
<http://www.facebook.com/DurhamParksandRecreation>

Phone Number: (919) 560-4355

- **Blue Cross Blue Shield North Carolina (BCBSNC)**

BCBSNC offers a number of incentives and resources to its members. Information is available on the member portion of its website.

Website: <http://www.bcbsnc.com>  
<http://www.facebook.com/bcbsnc>

Phone Number: (919) 688-5528

Bull City Open Streets, county and city employee wellness efforts, Eat Smart, Move More, Weigh Less programs and Living Healthy workshops, Lighten Up Iowa program?

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## Section 6.05 *Mental health and substance abuse*

### Overview

Mental health and substance abuse disorders are major contributors to death and disability in North Carolina and Durham County. Addiction to drugs or alcohol is a chronic health problem, and people who suffer from abuse or dependence are at risk for premature deaths, co-morbid health conditions, injuries and disability. Individuals with poor mental health may have difficulties with interpersonal relationships, productivity in school or the workplace and their overall sense of well-being. Depression is linked to lower productivity in the workplace, is a leading cause of suicide and has been associated with increased use of health care services.<sup>1</sup> Moreover, addicted individuals are more likely to be involved with the criminal justice system<sup>2</sup> and individuals with severe mental illness have poor physical health and die prematurely when compared to individuals not suffering from chronic diseases.<sup>3</sup>

Addiction and mental illness are often seen as habits or moral failings. Recent research has dispelled this perspective as a myth. A combination of biological, environmental, nurturing and spiritual factors contribute to an increased risk of contracting the diseases.<sup>4</sup> Thus, prevention and early intervention are critically important in reducing risks.

### Healthy NC 2020 Objectives

#### Substance Abuse

Healthy NC 2020 Objective <sup>5</sup>	Current Durham	Current NC <sup>6</sup>	2020 Target
1. Reduce the percentage of high school students who had alcohol on one or more of the past 30 days	32% (2013) <sup>7</sup>	34.3% (2011)	26.4%
2. Reduce the percentage of traffic crashes that are alcohol-related	3.4% (2012) <sup>8</sup>	5.3% (2012)	4.7%
3. Reduce the percentage of individuals aged 12 years and older reporting any illicit drug use in the past 30 days	*8.5% <sup>9</sup> (North Central NC, 2006-2008)	8.9% (2011)	6.6%

\*The National Survey on Drug Use and Health measures self-reports of illicit drug use. An estimated 8.5% in the North Central region of North Carolina reported illicit drug use. Figures were not available for Durham County.

While the rate for Durham is below the statewide average and the 2020 target, the percent of fatal crashes related to alcohol has increased from 22% in 2004 to 27% of all crashes in 2012.<sup>10</sup>

**Mental Health**

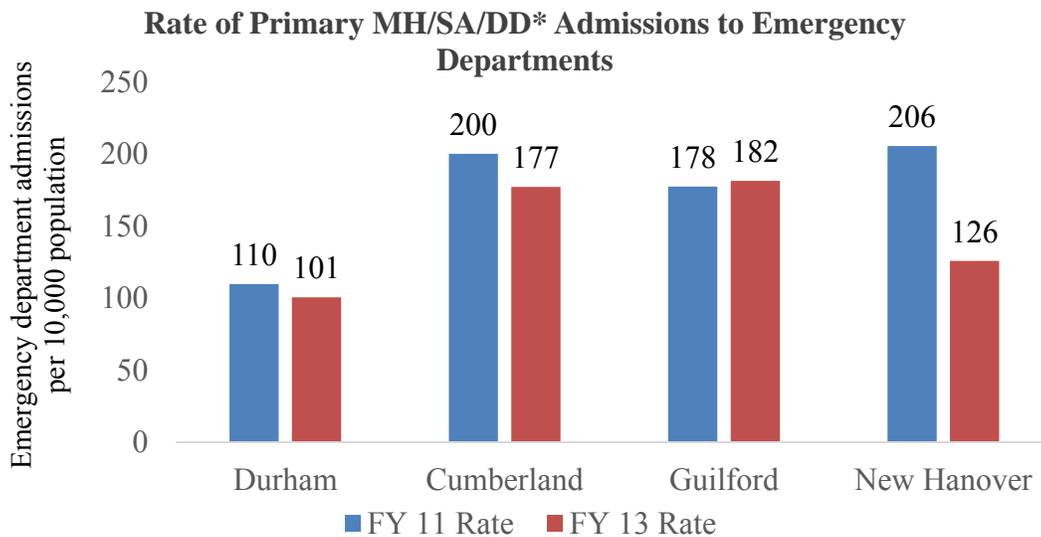
Healthy NC 2020 Objective <sup>11</sup>	Current Durham	Current NC <sup>12</sup>	2020 Target
1. Reduce the suicide rate (per 100,000 population)	8.3 (2007-11) <sup>13</sup>	12.9 (2012)	8.3
2. Decrease the average number of poor mental health days among adults in the past 30 days	3.5 (2012) <sup>14</sup>	3.9 (2012)	2.8
3. Reduce the rate of mental health-related visits to emergency departments (yearly admits per 10,000 population)	100.8 (2013) <sup>15</sup>	149.3 (2013) <sup>xv</sup>	82.8

**Secondary Data**

Many residents of Durham County are impacted by substance abuse and mental health disorders, either personally or by witnessing the struggles of a friend, significant other or family member. A mental health disorder requiring treatment may vary from a minor or periodic episode such as post-partum depression; to life-long illnesses resulting in severe functional impairment (examples include schizophrenia or bi-polar disorders). Approximately 19% of the U.S. adult population suffers from any mental illness, while 4.1% have been diagnosed with serious mental illness.<sup>16</sup> About 9% of the public struggle with substance use disorders such as alcohol or drug addiction.<sup>17</sup> An estimated 17,000 residents of Durham County need mental health treatment and 19,000 need substance use treatment.<sup>18</sup>

**Use of Emergency and Crisis Services**

In some cases, individuals experiencing a crisis related to behavioral health disorders seek treatment at local emergency departments. The emergency departments are not best equipped or staffed to manage a psychiatric crisis. The Durham community developed several collaborative initiatives to successfully reduce psychiatric admissions to local emergency departments. Behavioral health and developmental disability admissions to emergency departments have decreased by 5.4% from July 2010 to June 2013.<sup>19</sup> Durham's rate is lower than the state average. When compared to counties of the similar size, the rate of admission in Durham is lower than Cumberland, Guilford and New Hanover. This is shown in Figure 6.05(a) below.



\*Note: MH/SA/DD = mental health / substance abuse / developmental disabilities,  
FY 11=July 2010 – June 2011, FY 13=July 2012 – June 2013

**Figure 6.05(a) Rate of emergency department admissions for mental health, substance abuse, and developmental disability conditions<sup>20</sup>**

One such initiative has been the development and expansion of a local psychiatric crisis facility, Durham Center Access. The 24/7 crisis facility was established in 2006. In 2008, the facility increased capacity from five to 11 evaluation and observation chairs; from 12 to 16 longer-term beds and added evaluations of individuals for involuntary commitment when it moved to a newly-renovated facility next to Duke Regional Hospital. The renovation of the facility resulted from a close collaboration between The Durham Center (the former manager of public mental health dollars), the Durham Board of County Commissioners and Duke Medicine. In addition to providing on-site crisis services, the facility houses the Mobile Crisis Team (MCT), Psychiatric Walk-In Clinic (PWIC), an outpatient substance abuse treatment program and a primary healthcare clinic operated by Lincoln Community Health Care which provides on-site medical services and linkage to specialty care.

The facility has an average of 149 admissions per month into the crisis evaluation chairs (typically fewer than 23 hours length of stay) and 114 admissions per month into the short-term stabilization beds with an average length of stay of three days. During fiscal year 2013, the facility accommodated 1,786 admissions to crisis evaluation and observation services and 1,363 admissions to facility-based crisis services. These included 121 youth receiving crisis services.

The Durham Center Access Psychiatric Walk-in Clinic provides face-to-face assessments and intervention services Monday through Friday from 10:00am to 6:00 p.m. including crisis stabilization, brief treatment (including medication) and linkage with community services. Of the 411 individuals served in fiscal year 2013, 97% were linked to community-based mental health, substance abuse or developmental disabilities providers.

## Treatment

The delivery of behavioral health services differ depending on the financial resources of the individual. According to the most recent available national survey data, “34.5% of individuals who received *outpatient* mental health services in the past year indicated that most of the cost for those services was paid by private health insurance; 43.7% of those who received *inpatient* mental health services indicated that most of the costs were paid for by public insurance (Medicaid and Medicare)”. Yet, over 60% of the individuals who received mental health services had private insurance, suggesting that private insurance was not utilized for most of the services received.<sup>21</sup>

## Access to Mental Health Care

### *Private Mental Health Care*

Unlike the public mental health system, there is no central repository of data for treatment paid by private insurance. Blue Cross/Blue Shield is the largest insurer of health services in the state with 3.7 million customers. In Durham, Duke University and Duke University Medical Center manage their own plan.

### *Public Mental Health Care*

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. 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.<sup>22</sup> The number of individuals served for the time period of October 1, 2012 through December 31, 2012 is in the table below.<sup>23</sup>

Individuals Served in Durham-by Disability and Age

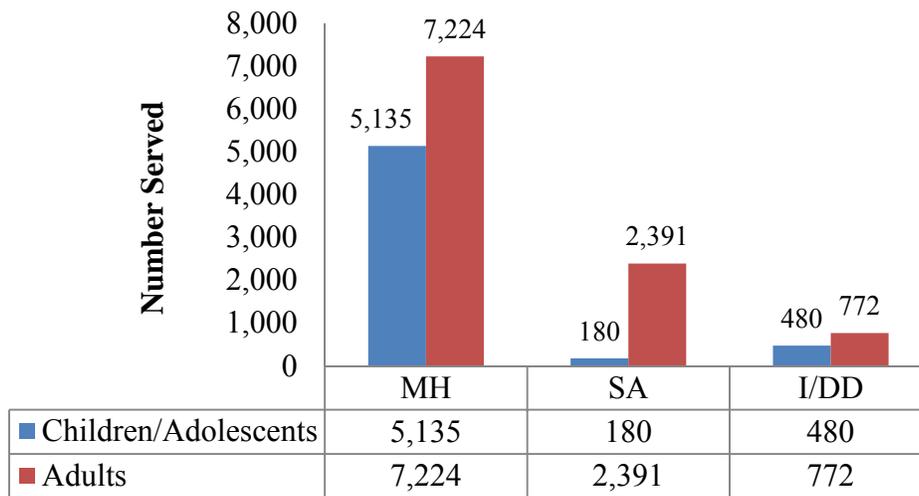


Figure 6.05(b) Individuals served in Durham, Oct-Dec 2012.

The Affordable Care Act will change access to mental health and substance abuse care and therefore the number of people receiving services. This is discussed further in the Interpretations section. For more information on the Affordable Care Act and its effects in Durham, see Section 4.04: Access to Healthcare, Insurance, and Information.

**Mental health and substance abuse in the criminal justice system**

Along with substance abuse, data indicates inmates experience mental illness at a much higher rate than the general public. In 2005, more than half of all prison and jail inmates had a recent history of diagnosis or treatment or symptoms of a mental health problem. Mental health symptoms are highly correlated with substance abuse. An analysis on Department of Justice data from 2006 is presented in Table 6.05 (c).<sup>24</sup>

	State prison		Federal prison		Local jail	
	With recent history of mental health problem	Without	With recent history of mental health problem	Without	With recent history of mental health problem	Without
Dependence on or abuse of:						
Alcohol	51%	36%	44%	30%	53%	35%
Drugs	62%	43%	53%	39%	63%	36%
No dependence or abuse	26%	44%	36%	51%	24%	47%

Table 6.05(c) Mental Health symptoms and alcohol and drug abuse in jails and prisons, 2006

Primary Data

2013 Durham County Community Health Opinion Survey<sup>25</sup>

The 2013 Durham County Community Health Opinion Survey randomly selected Durham County households and asked several questions related to mental health and substance abuse. One section of the survey asked respondents to look at several lists and identify their top three community issues. Drug and medication abuse was ranked as a top-three issue by 10% of respondents; it was the 10<sup>th</sup> most frequently ranked issue. While this survey is not directly comparable to the 2010 survey, substance abuse issues were ranked lower as community issues in 2013 than in 2010.

When respondents were asked to identify the top three health problems in their community, addiction to alcohol, drugs or medications ranked the highest (selected by 29% of respondents), and depression, anxiety and other mental health problems were ranked 5<sup>th</sup> (selected by 22% of respondents (chart 6.05c). These results are similar to 2010.

**Keeping in mind yourself and the people in your neighborhood, I would like for you to name the most important health problems (that is, diseases or conditions)**

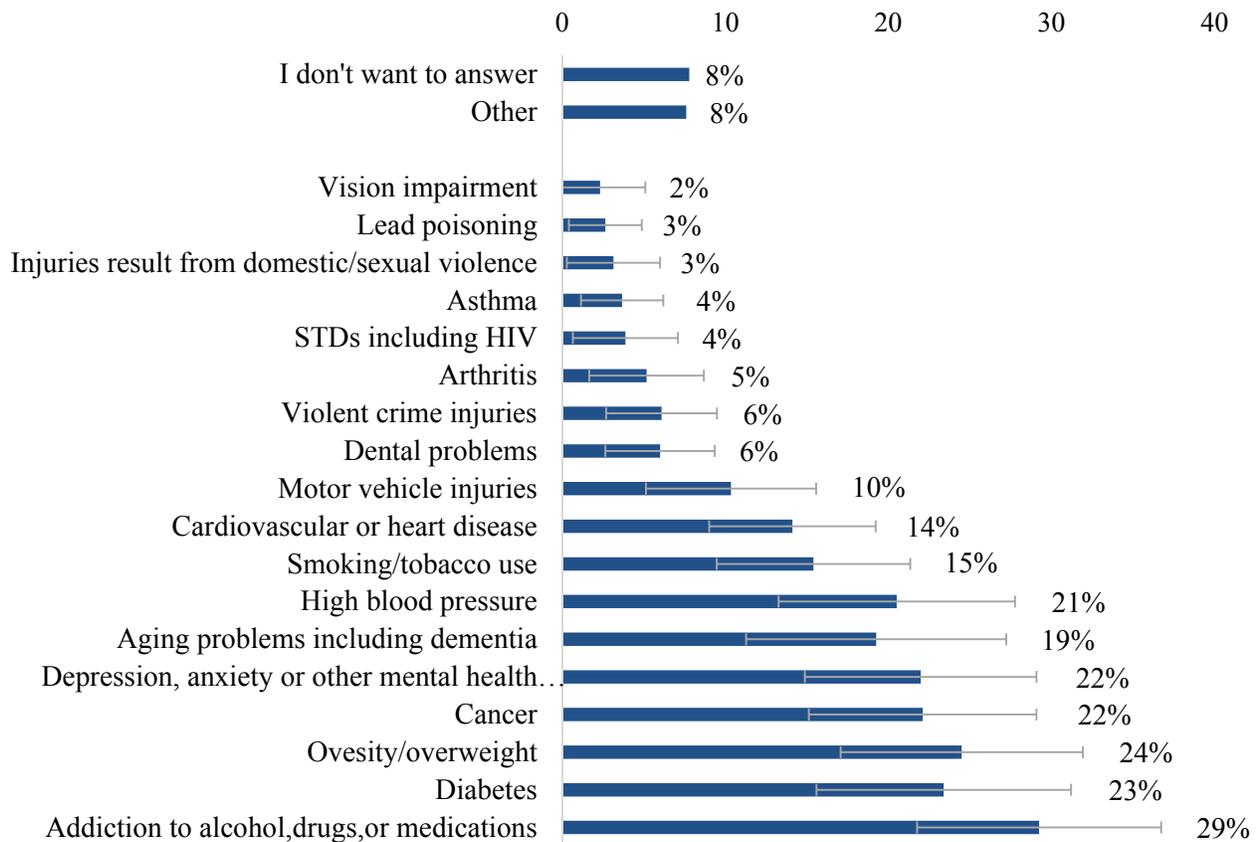


Table 6.05(d) High priority health problems, 2013 Durham Community Survey

When asked to identify which services needed the most improvement, 12% ranked “counseling/mental health/support groups” as among the three services that most needed improvement.

### Youth Risk Behavior Survey (YRBS)<sup>26</sup>

The YRBS is a Centers for Disease Control and Prevention (CDC) survey designed to monitor priority risk behaviors related to tobacco use, unhealthy diet, inadequate physical activity, alcohol and other drug use, unintended pregnancy and sexually transmitted diseases and unintentional injuries and violence. It surveys randomly selected classrooms of middle and high school students in Durham Public Schools.

Below is a selection of questions that middle school (MS) and high school (HS) students answered related to mental health and substance use. Between 20% and 30% of students report feeling some level of depression in the past year; a smaller proportion report having made plans to kill themselves (Figure 6.05(e)). These findings have been similar since 2007. White high school students least frequently reported sadness for more than two weeks; Latino students and students of other race/ethnicities most frequently reported this (Figure 6.05(f)). The proportion reporting planning about how they would kill themselves was similar across race/ethnicity groups. These findings suggest a decline since 2009; however, the change is small enough to make concrete conclusions difficult.

#### Durham YRBS mental health questions, Middle and High schools, 2007-2013

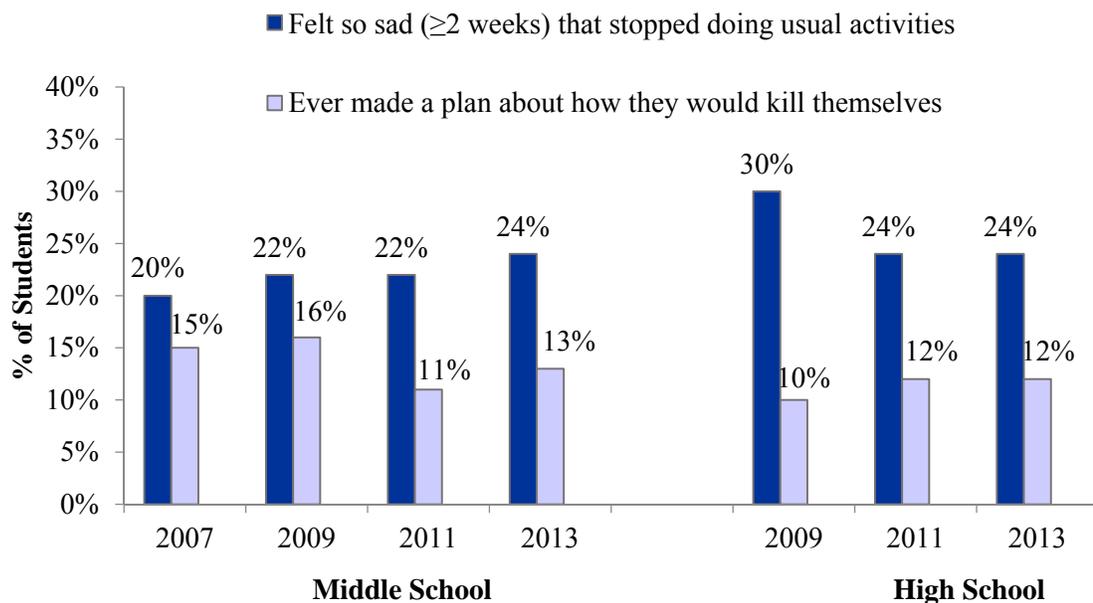
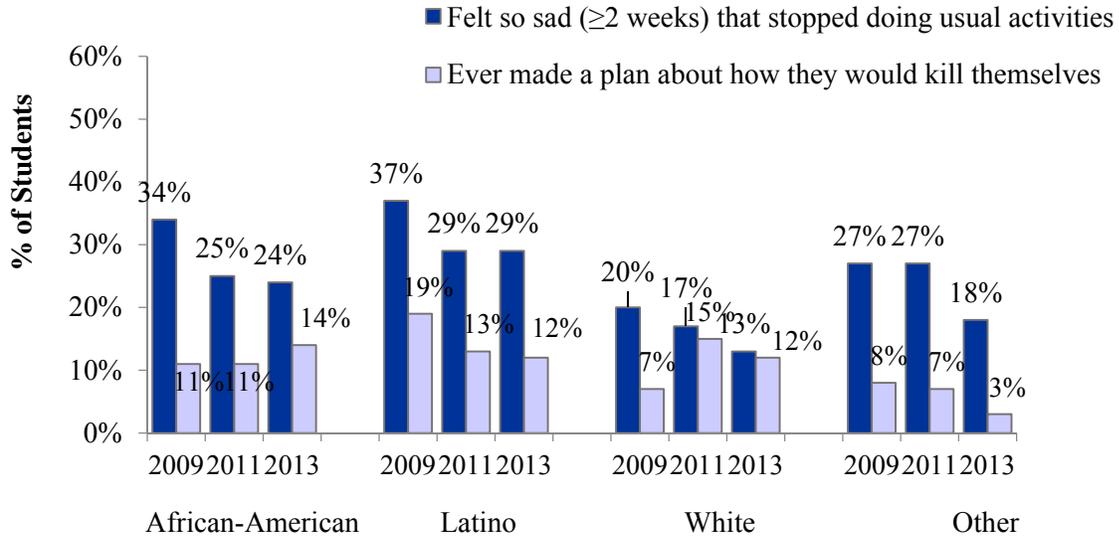


Figure 6.05(e) YRBS Data on mental health

**Durham YRBS mental health questions by race/ethnicity, High School, 2009-2013**



**Figure 6.05(f) YRBS data on mental health by race/ethnicity**

In addition to the results above, findings from Durham's Youth Risk Behavior Survey indicated that alcohol and marijuana are used frequently by high school students:

- 32% reported having at least one drink of alcohol in the past 30 days
- 35% reported using marijuana one or more times in the past 30 days

Other substances are also used by high school students; prescription drug was reported with the highest frequency. In 2013,

- 15% reported ever using cocaine
- 19% reported ever sniffing glue or other substances
- 16% reported ever taking steroid pills or shots without a doctor's prescription
- 25% reported ever taking a prescription drug without a doctor's prescription

### Interpretations: Disparities, Gaps, Emerging Issues

Priorities for service needs include:

- **Treatment for co-occurring disorders** – integrated mental health and substance abuse services for individuals leaving jail/prison and services for individuals with developmental disabilities who also suffer from mental health disorders.
- **Identification of individuals with developmental disabilities who need services** – estimates reported by the state indicated that individuals with developmental disabilities access services in Durham at rates lower than expected. However, there are 288 people waiting for CAP (Medicaid waivers for developmental disability services) services.

- ***Additional crisis services for youth*** – located close to or inside Durham County. Currently, there are limited options for Durham County youth in crisis. Durham Center Access (DCA) has the ability to accommodate up to two youth in its 23-hour Crisis Evaluation and Observation (CEO) chairs. If the youth has a treatment provider, DCA staff coordinate treatment planning with provider staff and family involved and ideally stabilize the individual to where he or she can be released from petition and returned to community-based services. If the youth does not have a current provider, every effort is made to connect that individual to a provider with the appropriate level of services and clinical care. For youth that are identified as needing a higher level of care, DCA attempts to locate community hospital beds prior to accessing State hospital beds for psychiatric stabilization.

In addition to DCA, Duke University Medical Center (DUMC) regularly has youth in crisis. DUMC is often able to stabilize youth in the emergency room; however, unlike some hospitals in the triangle area (e.g., UNC), DUMC does not have the capability to admit anyone under 18 for psychiatric reasons. While both DCA and DUMC are able to treat youth that present in various capacities, resources are needed for youth that require stabilization beyond 23 hours.

- ***Services for individuals involved with the criminal justice system*** – in addition to the co-occurring services mentioned above, data indicated additional services are needed to divert non-violent offenders with mental health and substance abuse disorders from the jail, treatment services for sex offenders, and specialized services for violent offenders. The data indicate a correlation between substance misuse and law enforcement involvement: approximately 20% - 60% of individuals incarcerated or involved with the juvenile justice system need substance abuse treatment and nearly 1/3 of domestic violence calls to law enforcement are related to substance use. Additional psychiatrist hours, improved medication management and effective co-occurring treatment services are indicated. Ongoing treatment would ease the transition to outside Providers.

- ***The Affordable Care Act and integration of mental health, substance abuse, and primary care***

The Affordable Care Act improves access to behavioral health care by requiring coverage by insurance plans, ensuring that people are not excluded from insurance for pre-existing conditions, requiring that mental health and substance abuse services are covered at parity with medical/surgical coverage and creating limits on the total out-of-pocket costs.

People with mental health and substance abuse disorders may have trouble linking to primary care; according to the Substance Abuse and Mental Health Services Administration, “Barriers to primary care, coupled with challenges in navigating complex healthcare systems, have been a major obstacle to care.”<sup>27</sup> The Affordable Care Act also supports integrating mental health and substance abuse care with primary care by funding the co-location of primary care at community mental health agencies and supporting other innovations to link these types of care. The need is to research and promote best practice integrated health care models that are appropriate and feasible for Durham County behavioral health and primary care providers. The North Carolina Foundation for Advanced Health Programs has been funded to support integrated care efforts and may be a valuable resource in this effort.<sup>28</sup> The Affordable Care Act should improve access to mental health and substance abuse care.

- ***Prescription Drug Abuse***

Deaths from drug overdose have been rising steadily over the past two decades and have become the leading cause of injury death in the United States.<sup>1</sup> In 2012, 91% of North Carolina deaths caused by unintentional poisoning were caused by drugs or medications and 60% were caused by opioid medications.<sup>29</sup> In Durham County, beside alcohol and marijuana, high school students most frequently reported using prescription drugs. Efforts to address prescription drug abuse should continue.

In addition to the service needs mentioned above, the data suggested that several groups of Durham County residents need specialized services:

#### *Spanish speakers*

According to the 2012 Census estimate, the Hispanic population in Durham has grown substantially in the last decade to 37,511 people, more than double the 17,039 individuals counted in the 2000 Census.<sup>30</sup> Since Hispanics have the highest uninsured rate of any ethnic group and tend to have lower incomes, Hispanic individuals would be expected to present in the public mental health system at a rate greater than other minority populations. In 2007, approximately 7% of public mental health consumers (475 individuals) were identified as Hispanic.<sup>31</sup> Beginning in 2009, a greater number of Spanish speaking individuals began presenting in the public mental health system for services. Many Spanish-speaking individuals do not receive treatment because they cannot pay or are sent to providers who do not have bi-lingual staff to communicate effectively with them. Providers rely on well-trained interpreter services. However, services are more effective when delivered by professionals who are bi-cultural and bi-lingual. The number of Spanish-speaking individuals presenting in the public mental health system is expected to continue to increase, and, thus, the system needs additional capacity to serve them.

#### *Senior Citizens*

Data suggest that mental illness and substance use disorders are prevalent among older adults aged 50 and over. National studies estimate that 5.2% of older adults abuse substances, particularly marijuana and prescription medications,<sup>32</sup> and six to 11% suffer from frequent mental distress.<sup>33</sup> Programs need to be designed specifically for older adults, using best practice guides such as Linking Older Adults with Medication, Alcohol, and Mental Health Resources.<sup>34</sup>

*“It’s hard for immigrants to come here and adapt to the differences.... That leads to anxiety, stress, and depression.”*

*“People are ... afraid that the police will stop them. That leads to mental health problems. Maybe somebody in your family has been deported. ...we don’t know what’s going to happen, this anxiety is the anxiety of our whole society.”*

*- Focus group of immigrant  
Durham County*

*Military /Veteran Population*

North Carolina is home to the fourth largest military population in the nation. There are currently 120,000 active-duty personnel based at seven military installations in North Carolina. It also home to almost 800,000 veterans, which places the state fifth in military retiree population and ninth in veteran population. Health care services and supports for the military population are not always available or easily accessible. Accessing comprehensive behavioral health care is complicated by several barriers, including stigma, insurance networks and lack of behavioral health professionals.<sup>35</sup> According to 2010 Census data, 15,211 veterans live in Durham County.<sup>36</sup> As the military population continues to grow in North Carolina, it is important that agencies work collaboratively at all levels to address the challenges and needs of this special population.

*Transition-Aged Youth*

Serving older youth transitioning into adulthood is one of the most difficult issues facing society, especially human service agencies. Older youth who have been frequent users of intensive child mental health services including out-of-home placements, are at considerable risk of disengagement from services as they age out of the child and into the adult mental health system. Such disengagement is a consequence of the substantial service chasm between the disparate child and adult mental health systems and yet, the service needs of individuals stuck in this chasm are extensive. In addition to being disengaged from the service system, high risk transition-aged youth may also experience a parallel separation from family and other social supports. The consequences of inappropriate or inadequate care can be enormous; failure to achieve developmental milestones such as education, employment, stable and independent housing and meaningful relations increases the risk for negative outcomes in the transition to adulthood. The Becoming initiative serves these youth in Durham County. However, there is still need for additional services.

**Recommended Strategies**

<b>Setting</b>	<b>Name</b>	<b>Description / Website</b>
Individual	Strengthening Families Program	An evidence-based family skills training program found to significantly reduce problem behaviors, delinquency, and alcohol and drug abuse in children and to improve social competencies and school performance.  <a href="http://www.strengtheningfamiliesprogram.org/">http://www.strengtheningfamiliesprogram.org/</a>
Individual	Evidence-Based Treatment Models	Models with curriculum manuals and specific training shown to effectively treat mental health and substance use disorders.  <a href="http://www.samhsa.gov/ebpWebguide/index.asp">http://www.samhsa.gov/ebpWebguide/index.asp</a>
School	Reconnecting Youth/Early Risers	School-based education and skill-development programs shown to prevent or reduce substance use among elementary and middle school youth.  <a href="http://www.reconnectingyouth.com/">http://www.reconnectingyouth.com/</a> <a href="http://wch.uhs.wisc.edu/13-Eval/Tools/Resources/Model%20Programs/Early%20Risers.pdf">http://wch.uhs.wisc.edu/13-Eval/Tools/Resources/Model%20Programs/Early%20Risers.pdf</a>

School	Coordinated school health programs	A policy statement indentifying the components of a coordinated school health program involving the local health department and the local education agency. Coordinated school health programs including “health and physical education, the provision of health services, health promotion for staff, counseling and psychological services, healthy school environments, and parental and community involvement” are associated with better health outcomes. <sup>37</sup>  <a href="http://www.cdc.gov/HealthyYouth/CSHP/">http://www.cdc.gov/HealthyYouth/CSHP/</a>
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## Current Initiatives & Activities

- ***Alliance Behavioral Healthcare***

Manager of public behavioral health and developmental disability services.

Website: <http://www.alliancebhc.org/>

Phone Number: (800) 510-9132 (access to services and information)

- ***Network of Care***

Online directory of behavioral health services and information place for the individuals, families, and agencies.

Website: <http://durham.nc.networkofcare.org>

- ***Partnership for a Healthy Durham***

Mental Health and Substance Abuse Committee - develops strategies to address mental health and substance abuse concerns in Durham County.

Website: <http://www.healthydurham.org/>

Phone Number: (919) 560-7833

- ***Durham System of Care***

Durham System of Care is a framework for organizing and coordinating services and resources into a comprehensive and interconnected network. Its goal is to help individuals and families who need services or supports from multiple human service agencies to be safe and successful at home, in school, at work and in the community. Durham System of Care builds on individual and community strengths, and makes the most of existing resources to help these individuals and families achieve better outcomes.

Website: <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.

Website: <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. TRY strategies are designed to reduce and prevent availability, reduce and prevent illegal access through environmental strategies, support diversion for some related offenses, change attitudes and perceptions about the dangers and acceptability of substance use, change social norms, raise awareness about available treatment and links to services, build skills in youth, parents and communities to deal, address substance abuse, support recovery and uncover health disparities.

Website: [www.DurhamTRY.org](http://www.DurhamTRY.org)

Phone Number: 919-491-7811

▪ ***BECOMING (Building Every Chance of Making It Now and Grown-up)***

Serves Durham County young adults ages 16 to 21 who are Medicaid eligible, have difficulty functioning in relationships, school or the community and are experiencing one (or more) of the following life challenges:

- No diploma and not in school
- Pregnant or parenting
- Criminal justice encounter
- Exiting foster care
- Long term unemployed or underemployed
- Homeless or at risk of being homeless

Website: <http://becomingdurham.org/>

Phone Number: 919-651-8856

▪ ***The Duke Pediatric Neuropsychology Program***

The program provides comprehensive neuropsychological and psychosocial evaluations for children and adolescents with chronic illnesses through outpatient services. The program consults with physicians, parents, and teachers to help patients adjust and cope with their challenges.

Website:

[www.dukechildrens.org/services/child\\_and\\_family\\_study\\_center/#treatments](http://www.dukechildrens.org/services/child_and_family_study_center/#treatments)

Phone Number: (919) 681-0025; appointments: (888) 275-3853 ASK-DUKE

▪ ***Duke Child Development and Behavioral Health Clinic***

Provides comprehensive diagnostic and treatment services for a wide range of pediatric developmental-behavioral and psychiatric illnesses including substance abuse. Substance abuse treatment services are available for patients from ages 13-24. Service to families with limited income remains a priority and new patients are accepted from ages three to college age.

Website: <http://pediatrics.duke.edu/divisions/chld-development-and-behavioral-health>

Phone Number: (919) 668-5559

▪ ***Duke Pain Medicine***

Provides outpatient services for the evaluation and treatment to chronic pain. The Pain Clinic offers the full realm of pain relief treatments, including medication, physical therapy, steroid injections, biofeedback and more.

Website: <http://www.dukemedicine.org/locations/duke-pain-medicine>

Phone Number: (919) 668-7246

▪ ***Carolina Behavioral Care (CBC)***

Accept new patients with Medicare, Alliance Medicaid, and commercial insurance and self-pay. CBC offers an evidence-based Opioid Detoxification and Maintenance to treat individuals addicted to opioids (prescription pain pills” or heroin) in a medically supervised, outpatient setting. Certified clinicians provide buprenorphine (Suboxone, Subutex, Zubsolv and Bunavail) to ease withdrawal symptoms, stop drug use and prevent relapse. Medication Management is integrated with outpatient counseling and monitoring to facilitate effective transition into ongoing recovery.

Phone Number: (919) 972-7700, ext. 7082

▪ ***Northern Piedmont Community Care Chronic Pain Initiative (NPCC) Project Lazarus***

The Chronic Pain Initiative is built upon the Project Lazarus Model which is a community-wide response to managing chronic pain. The goal of the program is to decrease mortality due to unintentional poisonings; decrease inappropriate utilization of ED for pain management; decrease inappropriate ED utilization of imaging with diagnosis of chronic pain; and increase use of Provider Portal and CSRS.

Website: <http://www.communitycarenc.com/population-management/chronic-pain-project/>

▪ ***Senate Bill 20 Good Samaritan/Naloxone Access Law***

As of April 9, 2013, individuals who experience a drug overdose or persons who witness an overdose and seek help for the victim can no longer be prosecuted for possession of small amounts of drugs, paraphernalia, or underage drinking. The purpose of the law is to remove the fear of criminal repercussions for calling 911 to report an overdose.

Website: <http://www.ncga.state.nc.us/Sessions/2013/Bills/Senate/HTML/S20v7.html>

▪ ***NC Controlled Substance Reporting System (CSRS)***

Established by State law, the CSRS is a prescription reporting system that allows registered dispensers and practitioners to review a patient’s controlled substance prescription history on the web. The purpose of the system is to assist practitioners in monitoring patients by identifying and referring patients for substance abuse treatment or specialized pain management.

All prescriptions for controlled substances, schedule II through V, dispensed in North Carolina are reported into the CSRS database. Currently, pharmacies transmit the data weekly.

Website: [www.nccsrs.org](http://www.nccsrs.org)

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## Section 6.06 *Asthma*

### Overview

Asthma is a common chronic disorder of the airways characterized by intermittent and reversible airflow obstruction, hyper responsiveness and inflammation. “Asthma attacks” or “episodes” are caused by severe narrowing of the airway secondary to chronic inflammation, mucus production and contraction of the smooth muscles surrounding the airways. 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.<sup>1</sup>

Asthma is a public health issue. 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; 8.9% of all adults and 7.1% of all children. In 2010, there were approximately 14.3 million visits to primary care providers, 1.8 million visits to emergency department and 439,000 hospitalizations with asthma listed as the primary diagnosis.<sup>2,3</sup>

The burden of asthma also extends to North Carolina. According to the 2012 Behavioral Risk Factor Surveillance System (BRFSS), one in 13 North Carolina adults (6.7%) currently have asthma. In 2012, The Child Health Monitoring Program (CHAMP) reported one in 10 children (10%) had asthma. This translated to about 105,542 students with asthma during the 2011-2012 school year as reported by school nurses in the School Health Services Report. The School Health Services Report also noted that asthma was the leading cause of absenteeism in North Carolina.<sup>4</sup>

### Healthy NC 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:<sup>5</sup>

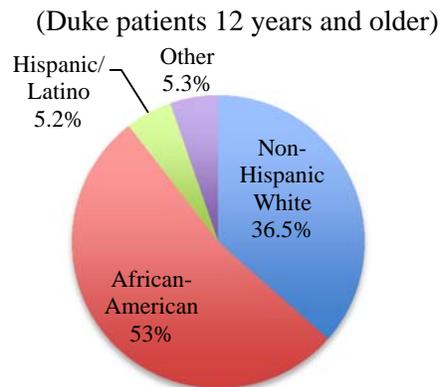
- Reduce asthma deaths
- Reduce hospitalizations
- Reduce emergency department (ED) visits
- Reduce activity limitations among persons with current asthma
- Reduce the proportion of person with asthma who miss school or works days
- Increase the proportion of persons with current asthma who receive formal 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

## Secondary Data

In 2011, 5.9% of all Duke University Health System patients, 12 years of age and older, had a diagnosis of asthma; 51.7% had poorly controlled asthma. Asthma was defined by the International Classification Diagnosis Ninth Edition (ICD-9) 493 codes. Poorly controlled asthma was defined as any asthma-related hospitalization, emergency department visit, an urgent care visit or four or more primary care visits for asthma in one year.

Of all the Duke University Health System patients with asthma living in Durham County, 36.5% were Non-Hispanic White, 53% were African-American and 5.2% were Hispanic/Latino.

**People with Astham in Durham County by Race- 2011**

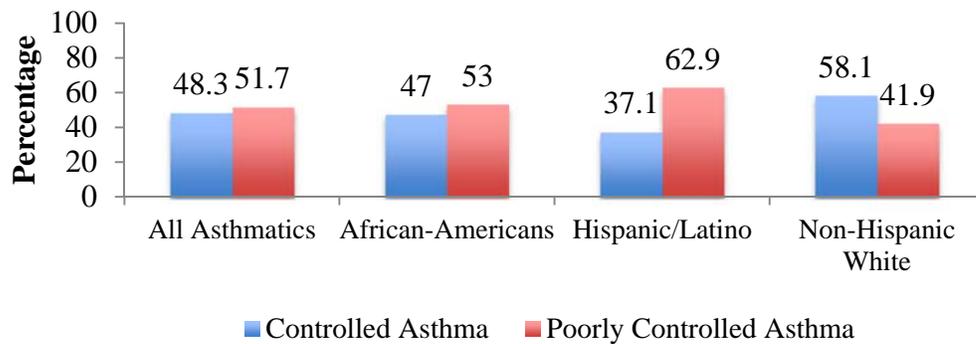


**Figure 6.06(a) People with Asthma in Durham County by Race 2011 (Duke patients 12 years and older).<sup>6</sup>**

Not only does asthma disproportionately affect minorities in Durham County, but they also experience higher rates of acute care utilization and higher percentages of poorly controlled asthma when compared to Non-Hispanic Whites. In 2011, 53% of African-Americans with asthma and 62.9% of Hispanic/Latinos with asthma were defined as poorly controlled versus only 41.9% of Non-Hispanic Whites with asthma.

**Figure  
6.06(b)**

**Percentage of Poorly Controlled Asthma in Durham County by  
Race- 2011 (Duke patients 12 years and older)**

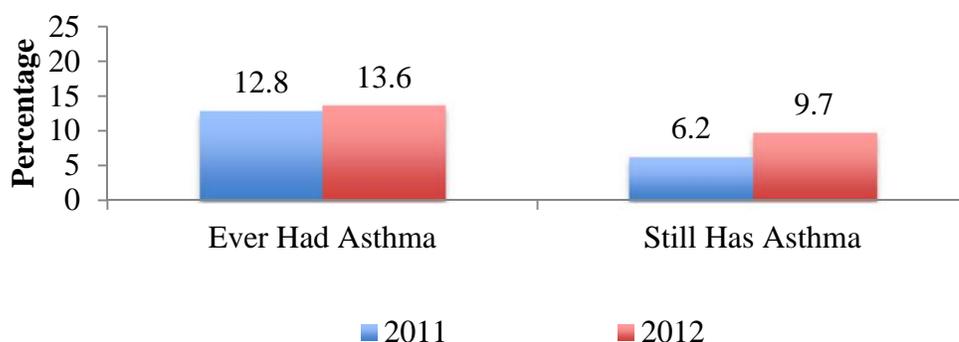


**Percentage of Poorly Controlled Asthma in Durham County by Race, 2011 (Duke patients 12 years and older).<sup>7</sup>**

### Primary Data

Approximately 11.7% of North Carolina adults have been told that they had asthma and 7.7% of North Carolina adults still have asthma.<sup>8</sup> The prevalence of asthma in Durham County is much higher than the state level and it continues to increase. In 2012, the North Carolina Behavioral Risk Factor Surveillance System (BRFSS) found 13.6% of Durham's adult residents reported ever having asthma compared to 12.8% in 2011. Similarly in 2012, 9.7% of Durham's adult residents reported still having asthma compared to 6.2% in 2011. Among children, 16.7% of North Carolina children have reported ever being told that they have asthma and 10.5% of North Carolina children still had asthma in 2011.<sup>9</sup> According to the 2011 Youth Risk Behavior Survey (YRBS), 21.8% of Durham middle school students who had been told by a doctor or nurse that they had asthma indicated that they still had asthma and 22% of Durham high school students who had been told by a doctor or a nurse that they had asthma still had asthma.<sup>10</sup>

**Asthma Prevalence among Durham County Adults**  
(BRFSS, 2011-2012)

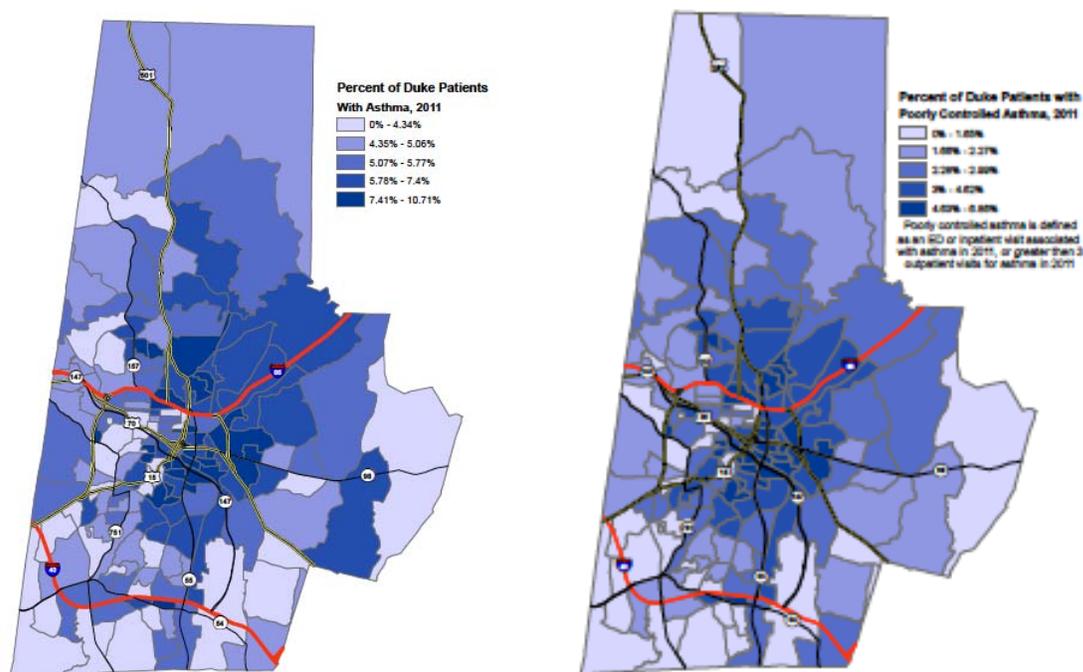


**Figure 6.06(c) Asthma Prevalence among Durham County Adults (BRFSS, 2011-2014)**

In terms of healthcare utilization, nearly 1702 emergency department visits for asthma occurred in Durham County. The age-adjusted emergency department visit rate per 10,000 residents for Durham (61.5) was much higher than North Carolina (51.1) in 2012.

### 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.<sup>11</sup> African-Americans are three times more likely to require hospitalization and die as a consequence of asthma and they are also 2.8 times more likely to have an asthma-related emergency department (ED) visit when compared to Non-Hispanic whites. Hispanic/Latino adults, on the other hand, have a 30% higher asthma hospital admission rate and two times the rate of asthma-related ED visits when compared to Non-Hispanic whites.<sup>12,13,14,15,16</sup> These disparities persist in Durham County and are evident in the higher incidence of poorly controlled asthma and acute care utilization in African-Americans and Hispanic/Latinos. In addition, geospatial mapping of asthmatics treated in the Duke University Health System in 2011 show a higher concentration of asthmatics and poorly controlled asthmatics in low socioeconomic areas.



Asthma, 2011

Figure 6.06(d) Percent of Duke Patients with

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.<sup>17,18,19,20,21</sup> 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.<sup>22</sup> 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.<sup>23</sup>

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:<sup>24</sup>

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.<sup>25</sup>

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.<sup>26</sup> 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.

**Table 1: Intervention Characteristics and Components of Home-Based, Multi-Trigger, Multi-Component Interventions with an Environmental Focus To Reduce Asthma Morbidity<sup>27</sup>**

<b>Intervention Characteristics</b>	<b>Definition</b>
Home Visits	Some effort to change the home environment by: <ul style="list-style-type: none"> <li>• Assessments</li> <li>• Remediation</li> <li>• Education</li> </ul> Conducted by someone with training or experience such as: <ul style="list-style-type: none"> <li>• Community health workers</li> <li>• Pest control professionals</li> <li>• Clinicians or healthcare providers</li> </ul>
Multi-Trigger Reduction	Activities that reduce exposure to <i>two or more</i> environmental triggers that exacerbate asthma
Multicomponent Interventions	Includes more than one of the seven identified intervention components (below). Including at least one component directed toward the home environment
<b>Intervention Components</b>	
Environment Assessment	In-home written assessment of environmental triggers
Environmental Remediation	Actions conducted or financed to reduce triggers in the home
Environmental Education	Patient education regarding actions to reduce triggers in the home
Self-Management Education	Patient education on monitoring symptoms and taking action to modify treatment
Asthma Education	General education on asthma without a self-management education component
Social Services	Services to improve access to medical care or to advocate for environmental remediation
Coordinated Care	Services to improve coordination of care between healthcare providers and home health workers

At least one environmental component is necessary for each intervention. The three environmental components are Environmental Assessment (EA), Environmental Remediation (ER), and Environmental Education (EE).

Evidence-based models provide the science behind implementing quality improvement processes to improve care delivery to patients. The models also offer comprehensive asthma self-management strategies to improve the overall quality of life for people with asthma in primary care clinics and the community.

## Current Initiatives & Activities

### ▪ *North Carolina Asthma Program*

The North Carolina Asthma program strives to reduce the burden of asthma upon the citizens of our state by:

- Developing and maintaining a comprehensive statewide asthma surveillance system
- Developing and implementing a State Asthma Plan that effectively address asthma in all ages, ethnic groups, backgrounds, and in multiple settings
- Increasing public awareness of the importance of reducing the burden of asthma and the need for supportive policies and environments
- Providing technical assistance and resources to support local asthma coalitions
- Providing leadership and administration for the largest statewide coalition, the Asthma Alliance of North Carolina (AANC)

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.

Website: [www.asthma.ncdhhs.gov](http://www.asthma.ncdhhs.gov)

### ▪ *Asthma Alliance of North Carolina*

The Alliance serves as an “umbrella” group to ensure coordination and collaboration among the many asthma-related organizations in this state. Its partner, the NC Division of Public Health has established a program infrastructure that is helping to move the Alliance forward and strengthen the relationships between this statewide effort and local initiatives. Most recently, the Alliance played a key advisory role in the development and now in the implementation of the North Carolina Asthma Plan 2007-2012.

Website: <http://www.ashtma.ncdhhs.gov/ncapAANC.htm>

Phone Number: (919) 707-5212

▪ ***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.

▪ ***Duke Division of Community Health***

Duke Medicine's Division of Community Health operates two care management programs – Northern Piedmont Community Care (NPCC) for Medicaid enrollees and Local Access to Coordinated Healthcare (LATCH) for the uninsured that conduct home assessments and assist with gathering information for the asthma action plans developed by primary care providers for their patients with asthma. Care management staff also receive referrals from primary care practices to conduct community follow-up with patients with asthma. Both NPCC and LATCH care management staff have been trained on environmental factors as asthma triggers and looks for these specific factors in patients' homes. In addition, both programs collaborate to conduct quarterly asthma education classes at Lincoln Community Health Center.

Website: <http://communityhealth.mc.duke.edu/>

Phone Number: (919) 681-3025

▪ **National Heart, Lung, and Blood Institute**

- Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma (EPR-3)

[www.nhlbi.nih.gov/guidelines/asthma](http://www.nhlbi.nih.gov/guidelines/asthma)

- Physician Asthma Care Education (PACE):

[www.nhlbi.nih.gov/health/prof/lung/asthma/pace/](http://www.nhlbi.nih.gov/health/prof/lung/asthma/pace/)

- National Asthma Control Initiative (NACI):

<http://naci.nhlbi.nih.gov>

▪ **Allergy & Asthma Network Mothers of Asthmatics**

Website: <http://www.aanma.org>

Phone Number: 800-878-4403

▪ **American Academy of Allergy, Asthma, and Immunology**

Website: [www.aaaai.org](http://www.aaaai.org)

Phone Number: (414) 272-6071

- **American Academy of Pediatrics**

Website: [www.aap.org](http://www.aap.org)  
Phone Number: (847) 434-4000

- **American Association of Respiratory Care**

Website: [www.aarc.org](http://www.aarc.org)  
Phone Number: (972) 243-2272

- **American College of Chest Physicians**

Website: [www.chestnet.org](http://www.chestnet.org)  
Phone Number: (847) 498-1400

- **American College of Allergy, Asthma & Immunology**

Website: [www.acaai.org](http://www.acaai.org)  
Phone Number: (847) 427-1200

- **American Lung Association**

Website: [www.lungusa.org](http://www.lungusa.org)  
Phone Number: (800) LUNG-USA (800-586-4872)

- **American School Health Association**

Website: [www.ashaweb.org](http://www.ashaweb.org)  
Phone Number: (800) 445-2742

- **Asthma and Allergy Foundation of America**

Website: <http://aafa.org>  
Phone Number: (800) 7-ASTHMA (800-727-8462)

- **Centers for Disease Control and Prevention**

Website: [www.cdc.gov/asthma](http://www.cdc.gov/asthma)  
Phone Number: (800) CDC-INFO (800-232-4636)

- **Environmental Protection Agency/ Asthma Community Network**

Website: [www.asthmacommunitynetwork.org](http://www.asthmacommunitynetwork.org)  
Website: [www.epa.gov/asthma/publications.html](http://www.epa.gov/asthma/publications.html)  
Phone Number: (800) 490-9198 (to order EPA publications)

- **National Association of School Nurses**

Website: [www.nasn.org](http://www.nasn.org)  
Phone Number: (240) 821-1130

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- <sup>2</sup>Ibid
- <sup>3</sup>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.
- <sup>4</sup>NC Annual School Health Services Report 2011-2012. NC Department of Health and Human Services, Division of Public Health. Women's and Children's Health Section. Children and Youth Branch School Health Unit. pg. 13-18. <http://www.ncdhhs.gov/dph/wch/doc/stats/SchoolHealthServicesAnnualReport2011-2012.pdf>
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- <sup>7</sup>Children's Environmental Health Initiative. School of Natural Resources and Environment. University of Michigan. 440 Church Street, Ann Arbor, MI <http://cehi.snre.umich.edu/>. March 2014
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## Section 6.07 *Sickle cell disease and sickle cell trait*

### Overview

Sickle cell disease is a genetic condition scientifically known as a hemoglobinopathy or blood disorder. It is characterized by a dysfunction of the red blood cells which carry oxygen from the lungs throughout the body causing chronic, lifelong debilitating health problems. Some of these health problems include stroke, acute chest syndrome, leg ulcers and pain crisis. The originator to this inherited disease is the presence of the sickle cell gene. According to the Centers for Disease Control and Prevention, people who inherit one sickle gene and one normal gene are born as carriers and are considered carriers of the sickle cell gene.<sup>1</sup> These persons are referred to as having sickle cell trait and typically do not have any of the symptoms of the disease, but they can pass it on to their children. It is possible for persons with sickle cell trait to experience complications of sickle cell disease such as splenic sequestration, pain crisis and rarely, sudden death. This can happen under extreme conditions of:

- High altitudes (flying, mountain climbing or cities with high altitudes)
- Increased pressure (scuba diving)
- Low oxygen (mountain climbing, exercising extremely hard, such as in military boot camp or when training for an athletic competition)
- Dehydration

People at high risk for sickle cell disease and sickle cell trait are those whose ancestors come from Africa, Central America, Caribbean, Mediterranean countries, India and Saudi Arabia. However, persons of any race or ethnicity can have sickle cell disease and sickle cell trait.<sup>2</sup>

In 2008, there were 92 babies born with sickle cell disease in North Carolina. These babies were:

- 95% African American
- 0% Asian
- 1% Native American
- 1% White
- 3% Other/unknown race
- 2% Hispanic (note that race and Hispanic ethnicity categories may overlap)<sup>3</sup>

Since 1994, all infants born in North Carolina have been tested for sickle cell disease and sickle cell trait through the state's newborn screening program. Many people (those born before 1994 and those who did not receive notification of screening results) still do not know if they have sickle cell trait. Citizens must be educated about this condition and the potential risk for passing sickle cell trait or sickle cell disease to their unborn children. From a public health standpoint, education, access to counseling, testing and longitudinal clinical care are critical to reduce sickle cell disease and sickle cell trait.

## Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective for sickle cell disease or sickle cell trait.

According to the U.S. Department of Health and Human Services (DHHS), there is a national goal and several objectives for hemoglobinopathies (blood disorders) which include sickle cell disease, sickle cell trait and blood safety. The goal and objectives defined by the DHHS Healthy People 2020 are as follows:<sup>4</sup>

**Goal: To prevent illness and disability related to blood disorders and the use of blood products.**

### Key Objectives:

BDBS-2: Increase the proportion of persons with a diagnosis of hemoglobinopathies and their families who are referred to evaluation and treatment

BDBS-10: Increase the proportion of hemoglobinopathy carriers who know their own carrier status

## Secondary Data

Below are sickle cell statistics for the United States, North Carolina and Durham County:<sup>5</sup>

- It is estimated that up to 100,000 persons have sickle cell disease in the U.S.
- It is estimated that more than two million people have sickle cell trait which occurs in about one in 12 African Americans.
- In 2013, Durham County had an estimated 4,174 live births and of those live births, five infants were born with sickle cell disease and 157 babies were diagnosed with sickle cell trait.

### Cost of Sickle Cell

According to the Centers for Disease Control and Prevention (CDC), in 2005 medical costs for children with sickle cell disease averaged \$11,702 for children with Medicaid coverage and \$14,772 for children with employer-sponsored insurance. During this time, 40% of both groups had at least one hospital stay.<sup>6</sup> Between 1989 and 1993, there was an average of 75,000 hospitalizations per year due to sickle cell disease in the U.S., with costs totaling close to \$475 million.<sup>7</sup>

## Primary Data

There is no primary data available on this topic.

## Interpretations: Disparities, Gaps, Emerging Issues

Durham County is unique when compared to other parts of the state because it is home to Duke University Medical Center and UNC–Chapel Hill is located within 30 miles of its borders. Both of these institutions have comprehensive medical centers that offer specialized clinical services to persons with sickle cell disease and sickle cell trait. Statistics maintained by the NCSCSP indicate that the overwhelming majority of clients served in Durham County are African-American. Special efforts should be made to reach out to and educate this group and the emerging population of Hispanics about sickle cell disease and sickle cell trait.

The Bridges Pointe Foundation, a local sickle cell community-based organization, has identified several major problems for sickle cell disease clients. These include limited employment opportunities, inadequate psychosocial support services and the failure of local agencies to put raising the awareness of sickle cell disease and trait high on their agendas. Bridges Pointe Foundation provides education about sickle cell disease to local employers in an effort to improve the work environment for sickle cell disease clients.

Although Durham County does have resources within the sickle cell provider community, there are still gaps in the coordination of client care, public awareness about sickle cell disease and reaching at-risk populations. While babies are identified at birth for sickle cell disease and sickle cell trait through newborn screening, many adults may not know if they carry the sickle cell trait. Sickle cell trait testing and counseling is important and should be promoted for all Durham County residents.

## Recommended Strategies

The recommended strategies for strengthening services for sickle cell clients and providing general sickle cell education to Durham County residents include:

- Increase the distribution of education materials to clients that attend Durham County Department of Public Health (e.g. place posters & brochures in visible client areas).
- Continue to provide sickle cell trait testing at no charge to Durham County residents at the Durham County Department of Public Health.
- Coordinate activities with the state employed regional sickle cell educator counselor for counseling, referral and education services.
- Provide opportunities for sickle cell education at meetings, conferences, health fairs and other health related activities.
- Work with other health agencies to enhance sickle cell trait counseling services.
- Refer sickle cell clients to Duke University Medical Center Comprehensive Sickle Cell Program and to UNC-Chapel Hill Comprehensive Sickle Cell Program.

## Current Initiatives & Activities

### ▪ *North Carolina Sickle Cell Syndrome Program (NCSCSP)*

NCSCSP is a state legislated program created under House Bill 32 that began in 1973. The program is housed in the North Carolina Division of Public Health within the North Carolina Department of Health and Human Services. It is supported by the governor appointed North Carolina Council on Sickle Cell Syndrome and Related Genetic Disorders. This 15-member advisory council has representatives from around the state committed to enhancing the lives of those affected by sickle cell disease and sickle cell trait.

NCSCSP currently serves 5,575 clients and operates a staff of 12 employees. Three are central office staff and nine are sickle cell educator counselors who provide sickle cell care coordination, counseling and education services to persons living in 81 counties. Three state-contracted community-based organizations with four locations provide these same services in 19 counties, thereby covering all 100 counties.

In addition, the program provides services and resources which include sickle cell education, training and genetic counseling. NCSCSP has educator counselors who work with local health departments to ensure residents receive free sickle cell testing and counseling. An added benefit of the program is the state funded Purchase of Medical Care (POMC) component which offers financial assistance to cover medical costs for eligible clients.

Since 2010, the program has been conducting the Registry and Surveillance of Hemoglobinopathies (RuSH) project funded by the CDC. The aim of this project is to identify those individuals with sickle cell and thalassemia that are not captured in any formalized or comprehensive data system. This project includes partnerships with UNC Greensboro, the State Laboratory of Public Health, vital records, Medicaid/Medicare, Newborn Screening, the three community based organizations and the six comprehensive sickle cell medical centers. This project is reaching its end. Currently, RuSH sites are analyzing the data collected and preparing to launch health prevention and promotion activities.<sup>8</sup>

- As of December 2013, the NCSCSP served approximately 5,575 people in North Carolina with abnormal blood disorders including sickle cell disease.
- As of December 2013, the NCSCSP provided care coordination to 118 persons in Durham County with sickle cell disease. These services are provided by a state employed Regional Educator Counselor.

### ▪ *North Carolina Sickle Cell Syndrome Program (NCSCSP)*

Website: <http://www.ncsicklecellprogram.org>  
Phone Number: Regional Educator Counselor: (919)707-5700 or (252) 438-5733  
Attention: (Ester Kearney)

- ***Medical Centers***

There are also six state-contracted comprehensive medical centers which provide specialized clinical care to persons with sickle cell disease. These medical centers are: Duke University, UNC-Chapel Hill, East Carolina University, Missions Hospital, Wake Forest Baptist Medical Center and Carolina's Medical Center. They have been at the forefront of sickle cell research and conduct clinical trials and important work advancing patient care and seeking a cure for individuals living with sickle cell disease.

- ***Duke University Comprehensive Medical Center***

Provides specialized clinical care to persons with sickle cell disease.

Website: <http://www.dukemedicine.org/treatments/blood-disorders>

Phone Number: (919) 684-6464

- ***UNC-Chapel Hill***

Provides specialized clinical care to persons with sickle cell disease.

Website: <http://www.med.unc.edu/gi/centers/unc-comprehensive-sickle-cell-program-1>

Phone Number: (919) 966-0178

- ***Community-based organizations and resources***

The three community based organizations are: Community Health Interventions and Sickle Cell Agency, Piedmont Health Services and Sickle Cell Agency and Sickle Cell Disease Association of America, Inc., Eastern North Carolina Chapter. These three community-based organizations support summer camps for youth and have been funded by the federal government to promote telemedicine and sickle cell trait studies.

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

Provides sickle cell testing at no charge to residents who request it.

Website: <http://dconc.gov/index.aspx?page=379>

Phone Number: (919) 560-7600

- ***Bridges Point Foundation***

Provides services to young adults with sickle cell disease to facilitate their transitions to adulthood and help the cope with complications of the disease. It is a local resource for sickle cell education, including local events and educating employers to improve the work environment for sickle cell disease clients.

Website: <http://www.bridgespointefoundation.org>

Phone Number: (919) 684-6464 (Attention: Elaine Whitworth)

- ***The North Carolina Sickle Cell Disease Consortium***

This state-wide organization meets quarterly in Durham and has representatives from the sickle cell community-based organizations, the comprehensive medical centers, sickle cell educator counselors, persons living with sickle cell disease, their family members and other interested persons. They address issues that people with sickle cell disease face and try to find solutions.

Website: <http://www.sicklecell.mc.duke.edu/services/community.html>

Phone Number: (919) 684-6464 (Attention: Elaine Whitworth)

## References

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<sup>1</sup> Centers for Disease Control and Prevention. Sickle Cell Trait. Centers for Disease Control and Prevention website. <http://www.cdc.gov/sicklecell/index.html> Accessed on March 20, 2014.

<sup>2</sup> Ibid.

<sup>3</sup> Department of Health and Human Services/Division of Public Health/Women's and Children's Section/Women's Health Branch/ North Carolina Sickle Cell Syndrome Program website.

<http://www.ncsicklecellprogram.org/Documents/SC-DiseaseinNC-Community.pdf> Accessed on March 20, 2014.

<sup>4</sup> Health People.gov Blood disorders and blood safety. U.S. Department of Health and Human Services website.

<http://www.healthypeople.gov/20/topicsobjectives2020/objectiveslist.aspx?topicId=4> Accessed on March 20, 2014.

<sup>5</sup> Department of Health and Human Services/Division of Public Health/ Women's and Children's Section/Women's Health Branch/North Carolina Sickle Cell Syndrome Program website. <http://www.ncsicklecellprogram.org> Accessed on March 20, 2014.

<sup>6</sup> Centers for Disease Control and Prevention. Centers for Disease Control and Prevention website.

<http://www.cdc.gov/ncbddd/sicklecell/data.html> Accessed on March 20,2014.

<sup>7</sup> Ibid.

<sup>8</sup> Centers for Disease Control and Prevention Hemoglobinopathies. Centers for Disease Control and Prevention website. <http://www.cdc.gov/ncbddd/hemoglobinopathies/rush.html> Accessed on March 20, 2014.



# 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 implies that individuals are able to have a responsible, satisfying and safe sex life and have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in good reproductive health is the right of men and women to be informed of and to have access to safe, effective, affordable and acceptable methods of fertility regulation of their choice. This also means the right of access to appropriate health care services that will enable women to go safely through pregnancy and childbirth in order to provide the best chance of having a healthy infant.

Maternal health is the health of a woman during her pregnancy, birth and postpartum period. Maternal health is an important predictor of newborn health and well-being, but also an important indicator of the health of a society due to the important and complex role women play in families and communities. The well-being of mothers, infants, and children determines the health of the next generation and can help predict future public health challenges for families, communities and the medical care system. Moreover, healthy birth outcomes and early identification and treatment of health conditions among infants can prevent death or disability and enable children to reach their full potential.

Addressing women's health is essential to improving birth outcomes and the health of new mothers, which in turn affects their families and communities. Many factors affect maternal health including individual health behaviors, access to appropriate care and socioeconomic factors. Focusing on the health of a woman *before* pregnancy is also essential to help prevent poor birth outcomes such as low birth weight, pre-term birth, and infant death.<sup>1</sup> This strategy has been shown to improve the lives of women, their babies and families.<sup>2</sup>

This chapter includes:

- ❖ [Pregnancy, fertility and abortion](#)
- ❖ [Access to birth control](#)
- ❖ [Prenatal care](#)
- ❖ [Substance abuse during pregnancy](#)
- ❖ [Infant mortality](#)

## Section 7.01 *Pregnancy, fertility and abortion*

### Overview

Preconception health is a woman's health before she becomes pregnant and is important to consider in ensuring the health of future pregnancies. Preconception health helps to predict how health conditions and risk factors could affect a woman or her unborn baby if she becomes pregnant. For example, diet, behavior, and medication can greatly affect a baby- even before he or she is conceived.<sup>3</sup>

The unintended pregnancy rate in the U.S. and particularly in North Carolina and Durham County, continues to be high. 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 are unintended. Unintended pregnancies can result in serious health, social and economic consequences for women, families and communities. They are associated with delayed entry into prenatal care as well as low-birth weight babies and poor maternal nutrition. Additionally, women with unintended pregnancies are more likely to smoke and less likely to breastfeed, which can negatively affect the growth and development of their babies.<sup>4</sup> While more than three out of four unintended pregnancies are among women 20 years and older in North Carolina, the risk of unintended pregnancy is higher among younger women.<sup>5</sup> In 2011, 80.6% of all pregnancies in women under the age of 20 were unintended.<sup>6</sup>

### Healthy NC 2020 Objective

#### Sexually Transmitted Diseases and Unintended Pregnancies

Healthy NC 2020 Objective <sup>7</sup>	Current Durham	Current NC	2020 Target
1. Decrease the percentage of pregnancies that are unintended.	36.5% (2006-2008) <sup>8</sup>	42.7% (2011) <sup>9</sup>	30.9%

### Secondary Data

#### Pregnancy, Fertility, and Abortion:

Figure 7.01(a) gives an overview of North Carolina's and Durham County's 2012 pregnancy, fertility and abortion rates (per 1,000 population) by age group. The pregnancy rate is much higher in Durham County than North Carolina among ages 15-19 and among women ages 35 and older. In Durham County, the rate of abortions is higher among all ages compared to North Carolina; among 15-19 year olds, it is almost twice as high.<sup>10</sup>

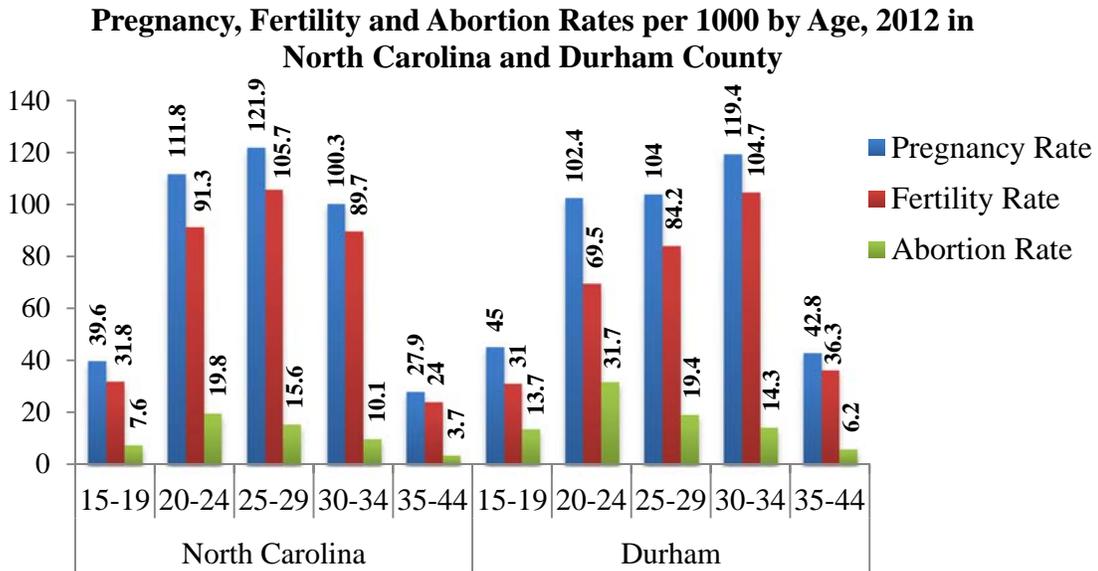
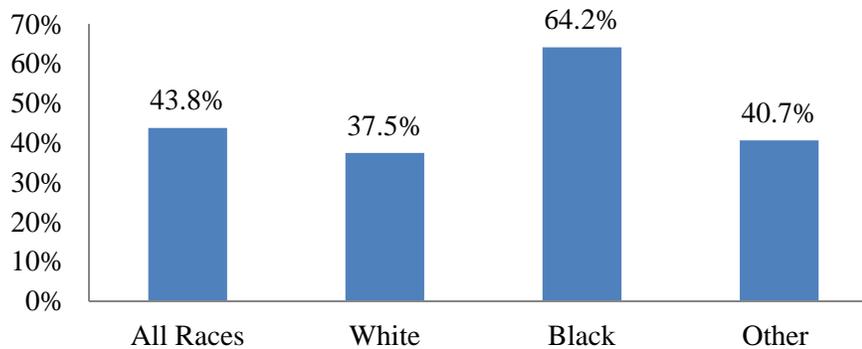


Figure 7.01(a) Pregnancy, fertility and abortion rates by age, 2012.<sup>11</sup>

*Unintended pregnancy:* Education, income, race, age and marital status are associated with unintended pregnancy. Women with less than a high school education are 1.6 times more likely to have an unintended pregnancy than women with greater than a high school education.<sup>12</sup> The data below is based on the responses of 4,355 mothers who delivered between January 1, 2006 and December 31, 2008 in the state of North Carolina and participated in the North Carolina Pregnancy Risk Assessment Monitoring System (PRAMS) survey two to four months after delivery. This represents the most recent data for North Carolina. Specifically, the data focuses on mothers who responded to the question, “Thinking back to just before you got pregnant, how did you feel about becoming pregnant?” Options for answers included, “I wanted to be pregnant sooner; I wanted to be pregnant later; I wanted to be pregnant then and; I didn’t want to be pregnant then or at any time in the future.” Of those with an unintended pregnancy, 65.3% reported *other* as their marital status. In addition, as seen in Figure 7.01(b) African-American women are 1.7 times more likely than white women to report that their pregnancy was unintended (64.2% versus 37.5%). In the smaller sample from 2011, the rate of unintended pregnancy increased for African-American women (68.5%), while there was a slight decrease in the unintended rate for white women (36.5%). In 2011, 42.7% of all pregnancies in this sample were unintended.<sup>13</sup>

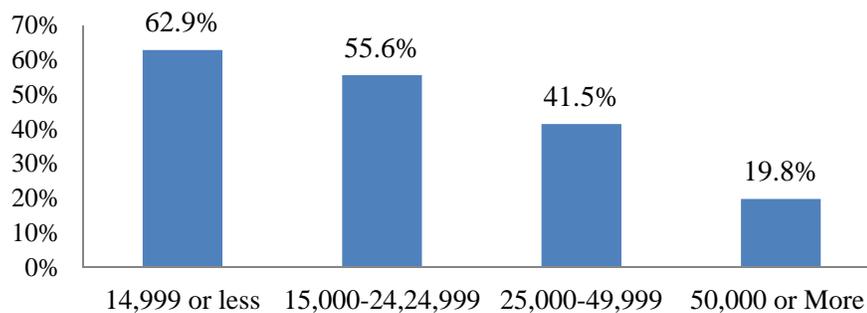
**Percentage of North Carolina Mothers Who Report Unintended Pregnancies, by Maternal Race  
NC PRAMS 2006-2008**



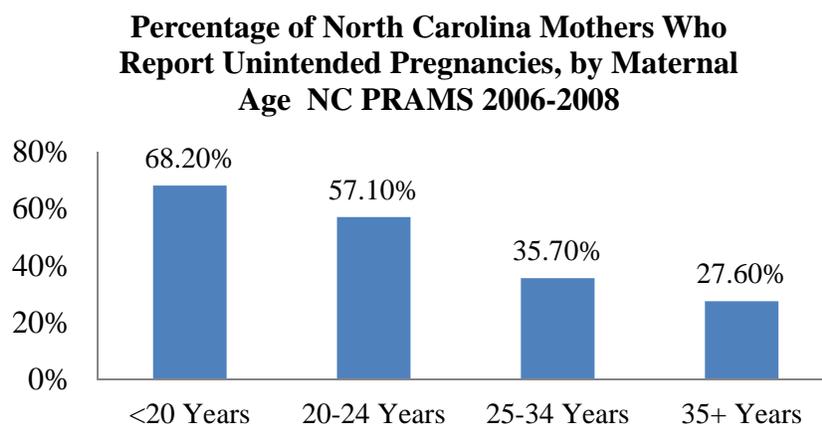
**Figure 7.01 (b) Unintended pregnancies by race<sup>14</sup>**

Women making less than \$15,000 per year were more than three times as likely to have an unintended pregnancy than women making \$50,000 or more--see Figure 7.01(c). Figure 7.01(d) shows that unintended pregnancies decrease as women get older.<sup>15</sup>

**Percentage of North Carolina Mothers Who Report Unintended Pregnancies, by Income  
NC PRAMS 2006-2008**



**Figure 7.01 (c) Unintended pregnancies by income<sup>16</sup>**



**Figure 7.01 (d) Unintended pregnancies by maternal age<sup>17</sup>**

*Teen Pregnancy:* While reducing the rate of unintended pregnancy is a 2020 Healthy NC Objective, a further statewide goal is to reduce teen pregnancy rate by 30%.<sup>18</sup> Teenage pregnancies are more likely to be unplanned, which has been shown to negatively affect mothers and babies. Teen pregnancy places teens at risk for relying on social services and reduces educational and career attainment of teen mothers.<sup>19</sup> Teen pregnancy in Durham County remains high, even though there is promising evidence to suggest that the rate of teen pregnancy and repeat teen pregnancy is decreasing.

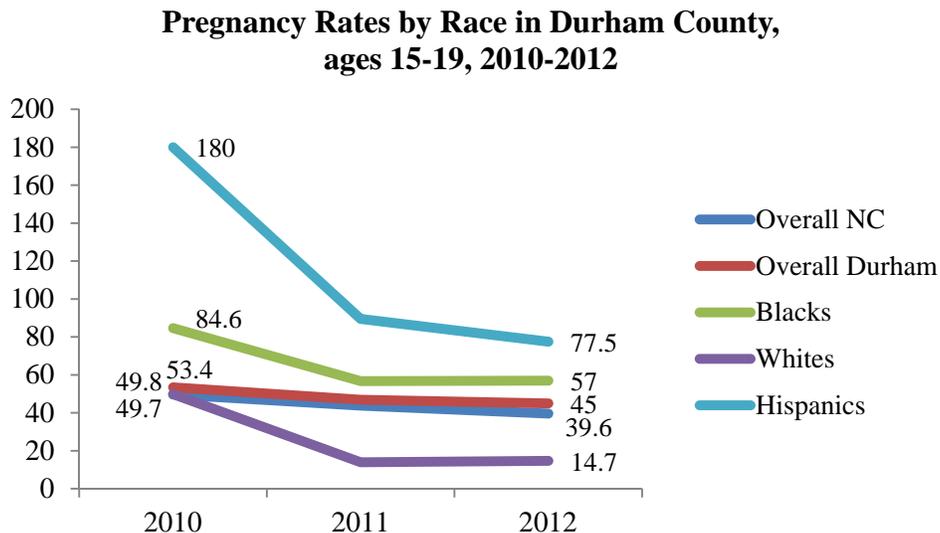
- Slightly over 39 of every 1,000 Durham County teen girls ages 15 to 19 became pregnant in 2013. The new rate reflects a 5.5% decrease from the 2012 rate of 45 per 1,000 in this age group. In 2013, there were 361 pregnancies among ages 15-19.<sup>20</sup>
- In 2013, Durham County had the 41<sup>st</sup> highest teen pregnancy rate in North Carolina.<sup>21</sup>
- The Durham County teen repeat pregnancy rate was 31.3% in 2013.<sup>22</sup>

Table 7.01(a) summarizes pregnancy outcomes including pregnancies, live births, abortion and fetal deaths for Durham County girls ages 10-19 between 2009 and 2013. This is the most recent published data available for Durham County. Although there is evidence to suggest that the abortion rate has gone down in recent years (the abortion rate has decreased from 22.7 in 2009 to 10.9 in 2012), during this 5-year span, 20-30% of pregnancies have resulted in abortion.<sup>23</sup>

**Table 7.01(a) Durham County Pregnancies and Pregnancy Outcomes for Adolescent Girls Ages 15 to 19, 2009-13 (Most up-to-date data available for Durham County)<sup>24</sup>**

Year	Pregnancies	Live Births	Abortions	Abortion Rate
2013	361	153	100	10.9
2012	412	287	125	13.7
2011	421	282	142	15.8
2010	478	315	167	18.7
2009	597	401	197	22.7

Figure 7.01(e) illustrates Durham County's teen pregnancy rate by race from 2010-2012. Black teens have consistently had higher pregnancy rates than white teens as well as the overall Durham County and North Carolina rates. Hispanic teens in Durham County have a pregnancy rate that is slightly over 1.7 times the county rate, but this is a marked improvement from 2010. Between 2010 and 2011, the teen pregnancy rate decreased sharply in all racial categories, which may be reflective of increased prevention efforts.<sup>25</sup>



**Figure 7.01(e) Durham County pregnancy rates per 1,000 by race, ages 15-19<sup>26</sup>**

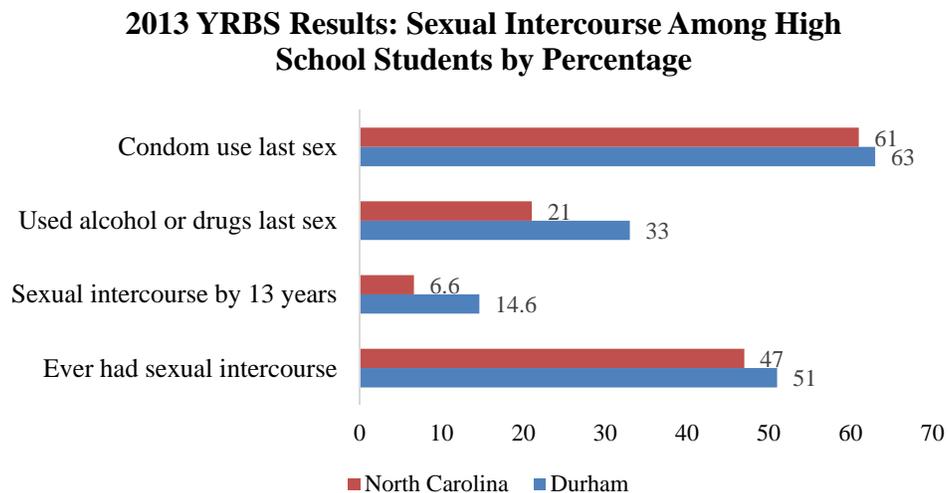
While the drop in teen pregnancy rates have mimicked national trends, North Carolina still lags behind the rest of the nation. The most recent state rankings by The National Campaign to Prevent Teen and Unplanned Pregnancy shows North Carolina had the 16th highest teen pregnancy rate (31.8 per 1,000) in the U.S. in 2012, even though there was a 9.6% decrease from 2011.<sup>27</sup>

**2013 Youth Risk Behavior Survey<sup>28</sup>**

The Youth Risk Behavior Survey (YRBS) was given to randomly selected classrooms of middle and high school students in Durham Public Schools. The YRBS is a Centers for Disease Control and Prevention (CDC) survey designed to monitor priority risk behaviors related to tobacco use, unhealthy diet, inadequate physical activity, alcohol and other drug use, unintended pregnancy and sexually transmitted diseases (STDs) and unintentional injuries and violence. The full results are available at [www.healthydurham.org](http://www.healthydurham.org).

Figure 7.01(f) summarizes YRBS survey data for Durham County and North Carolina high school students. These data were selected for inclusion in this section because early initiation of sexual activity and risky sexual behaviors are directly linked to increased risk of teen pregnancy.

- 51.1% of Durham County high school students reported ever having sexual intercourse compared to 47.3% of North Carolina high school students.
- Of the Durham County students who reported ever having sexual intercourse, 45.6% had had sexual intercourse for the first time before the age of 13.
- 33% of Durham County high school students used alcohol or drugs before the last time they had sexual intercourse which is significantly higher than the state percentage of 21%.
- Durham County teens were more likely to have used a condom during last sex (63%) than North Carolina teens (61%).<sup>29, 30</sup>



**Figure 7.01(f) 2013 YRBS results<sup>31, 32</sup>**

## Primary Data

### 2013 Durham County Community Health Opinion Survey Results<sup>33</sup>

The Durham County Community Health Opinion Survey randomly selected Durham County households. (Details on survey data collection are in Chapter 1 and all survey results are in Appendix E.) One section of the survey asked respondents to look at several lists and rank their top three neighborhood concerns related to community issues, risky behaviors and health problems.

- Of the perceived top three risky behaviors that individuals participate in that impact the community, 2% chose having unsafe sex (including STDs and teenage pregnancy)
- Four percent believed that STDs including HIV was one of three most important health problems facing their community.
- Of the services in their neighborhood or community, 20% of respondents believed that positive teen activities need improvement.<sup>34</sup>

### Interpretations: Disparities, Gaps, Emerging Issues

- Racial disparity: In 2012, 90.5% of pregnant teens in Durham were African-American or Hispanic, racial and ethnic groups already at risk for adverse health outcomes, reliance on social services, and poorer quality of life.<sup>35</sup>
- Unintended pregnancy: According to the 2011 PRAMS sample, 42.7% of all pregnancies in North Carolina were unintended, which is a small decrease from 2010 (45.2% of pregnancies were unintended). Unintended pregnancy was almost twice as prevalent in African-American women compared to white women.<sup>36</sup>
- Teen pregnancy: Teen pregnancy remains high in Durham County (45 per 1,000). In 2012, 24.5% of all teen pregnancies were among girls ages 15-19 who had previously been pregnant.<sup>37</sup>

## Recommended Strategies

Table 7.01(b) Evidence-based Resources and Promising Practices

Setting	Name and Website	Description
School	Postponing Sexual Involvement <sup>38</sup> <a href="http://www.advocatesforyouth.org/storage/advfy/documents/sciencesuccess.pdf">http://www.advocatesforyouth.org/storage/advfy/documents/sciencesuccess.pdf</a>	Postponing Sexual Involvement is designed for use in eighth grade to augment course information on human sexuality, including contraceptive information.
School	Safer Choices <sup>39</sup>	A two-year, HIV/STI and teen pregnancy prevention program with the primary goal of reducing unprotected sexual intercourse by

	<a href="http://www.advocatesforyouth.org/storage/advfy/documents/sciencesuccess.pdf">http://www.advocatesforyouth.org/storage/advfy/documents/sciencesuccess.pdf</a>	encouraging abstinence among students who report having sex.
Community	Making Proud Choices! <sup>40</sup> <a href="http://www.advocatesforyouth.org/storage/advfy/documents/sciencesuccess.pdf">http://www.advocatesforyouth.org/storage/advfy/documents/sciencesuccess.pdf</a>	This HIV risk reduction curriculum for urban, African-American youth, ages 11 to 13, acknowledges that abstinence is the best choice.
Healthcare	Provision of Long Acting Reversible Contraceptives (LARC) <sup>41</sup>	Women of reproductive age, including adolescents seeking highly effective, reversible contraceptives that have no adherence issues in its efficacy.
Healthcare	Use of "Are You Ready Sex and Your Future" guide <sup>42</sup>	Content in this booklet is based on the CDC's Preconception Health Recommendations. Focus testing on this booklet has demonstrated that both providers and clinic patients thought it helped initiate patient conversations about preconception health and raised important questions that would lead them to make better health decisions.

The following recommendations are from the North Carolina Prevention Action Plan:<sup>43</sup>

- Ensure students receive comprehensive sexuality education in North Carolina public schools. (Priority recommendation)  
Local school boards should adopt an opt-out consent process to automatically enroll students in the comprehensive reproductive health and safety education program unless a parent or legal guardian specifically requests that their child not receive any or all of this education.
- Expand the availability of family planning services for low-income families. The North Carolina Division of Medical Assistance and Division of Public Health (DPH) should enhance access to family planning services for low-income families, including implementation of best practices for the Medicaid family planning waiver. The North Carolina General Assembly should appropriate \$931,000 in recurring funds to DPH to purchase long acting contraceptives for low-income women who do not qualify for the Medicaid family planning waiver.
- Continue and expand the Healthy Youth Act, which requires schools to provide 7th, 8th and 9th graders with medically accurate information on STD prevention, pregnancy prevention and healthy relationships.
- Investigate and support implementation of science-based teen pregnancy prevention initiative. Refer to Office of Adolescent Health [list of programs](#).
- Identify funding sources to expand pregnancy prevention programs and sexual health services for adolescents and young adults.

## Current Initiatives and Activities

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

The family planning clinic offers several options for low-cost contraceptive services for women of childbearing age. Prenatal services include all recommended assessments and information to help women have a healthy pregnancy and a healthy baby. The Women's Health Clinic also provides family planning services that include physical examinations, contraceptive counseling and supplies.

Website: <http://dconc.gov/index.aspx?page=795>

Phone Number: (919) 560-7600

- ***Planned Parenthood of Central North Carolina***

Professional staff provides high-quality, affordable sexual and reproductive health care for millions of women, men, and teens. Planned Parenthood of Central North Carolina provides Teen Voices and Joven a Joven Adolescent Pregnancy Prevention Programs. The programs follow a peer education model and are open to male and female adolescents 14-18 years old. The weekly sessions are three hours long and cover a broad range of adolescent health topics with a focus on sexual and reproductive health.

Website: <http://www.plannedparenthood.org/centralnc/local-education-training-2836.htm>

Phone Number: (919) 929-5402

- ***Department of Social Services (APP)***

The **Adolescent Parenting Program** provides first time pregnant and parenting teens with support to prevent a second pregnancy, complete high school and prevent child abuse and neglect. Clients referred to this program are matched with an adult female volunteer through The Volunteer Center in a one-to-one relationship for at least a year.

Website:

[http://www.durhamcountync.gov/departments/dssv/Family\\_Support/Community\\_Initiative.html](http://www.durhamcountync.gov/departments/dssv/Family_Support/Community_Initiative.html)

Phone Number: (919) 560-8125

- ***DCAPP (Durham Coalition on Adolescent Pregnancy Prevention)***

DCAPP is a non-profit organization with a mission to support, advocate, and develop strategies in our community that reduce adolescent pregnancy.

Phone Number: (919) 560-7762

- ***The Morning after Pill***

Emergency contraception is an affordable pregnancy prevention option for women who experience a birth control method failure. It is available over the counter for any person age 17 years of age or older, and with prescription for persons under 17.

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## Section 7.02 *Access to birth control*

### Overview

Access to birth control is an equality issue for women. Using birth control allows women to plan when and whether to have a family. Access to safe and reliable birth control options and counseling helps individuals and couples plan and space births; contributing to positive birth outcomes and improved health for women and infants. Most women use some method of birth control at some point in their lives.<sup>1</sup>

The Title X Family Planning program ["Population Research and Voluntary Family Planning Programs" (Public Law 91-572)], was enacted in 1970 as Title X of the Public Health Service Act. Title X is the only federal grant program dedicated solely to providing individuals with comprehensive family planning and related preventive health services. The Title X program is designed to provide access to contraceptive services, supplies and information to all who want and need them. By law, priority is given to persons from low-income families.<sup>2</sup>

In fiscal year 2013, Congress appropriated approximately \$278.3 million for family planning activities supported under Title X, although a substantial increase is proposed for the budget in FY2014. At least 90% of the appropriation is used for clinical family planning services as described in the statute and regulations (45 CFR Part 59).<sup>3</sup>

During the past 40 years, Title X family planning clinics have played a critical role in ensuring access to a broad range of family planning and associated preventive health services for millions of low-income or uninsured individuals and others. In addition to contraceptive services and related counseling, Title X-supported clinics provide a number of preventive health services such as patient education and counseling, breast and pelvic examinations, breast and cervical cancer screenings according to nationally recognized standards of care, sexually transmitted infection (STI) and Human Immunodeficiency Virus (HIV) prevention education, counseling, testing and referral and pregnancy diagnosis and counseling. By law, Title X funds may not be used in programs where abortion is a method of family planning.<sup>4</sup>

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective related to Access to Birth Control.

### Secondary Data

In calendar year 2011, Title X grantees provided family planning services to roughly five million women and men (92% women and 8% men) through a network of more than 4,500 community-based clinics that include state and local health departments, tribal organizations, hospitals, university health centers, independent clinics, community health centers, faith-based organizations and other public and private nonprofit agencies. In approximately 75% of U.S. counties, there is

at least one clinic that receives Title X funds and provides services as required under the Title X statute.<sup>5</sup>

The number of unintended pregnancies may decrease as a wider range of birth control choices become available. Additional choices may also help decrease abortion rates and pregnancy-associated health risks. Health experts in the reproductive health field highly recommend women be offered and placed on the highest level of protection, which may be a long-acting reversible contraceptive (LARC) that is more effective and reduces the risk of patient error. This strategy helps decrease potential for unintended pregnancy while on a contraceptive method.<sup>6</sup>

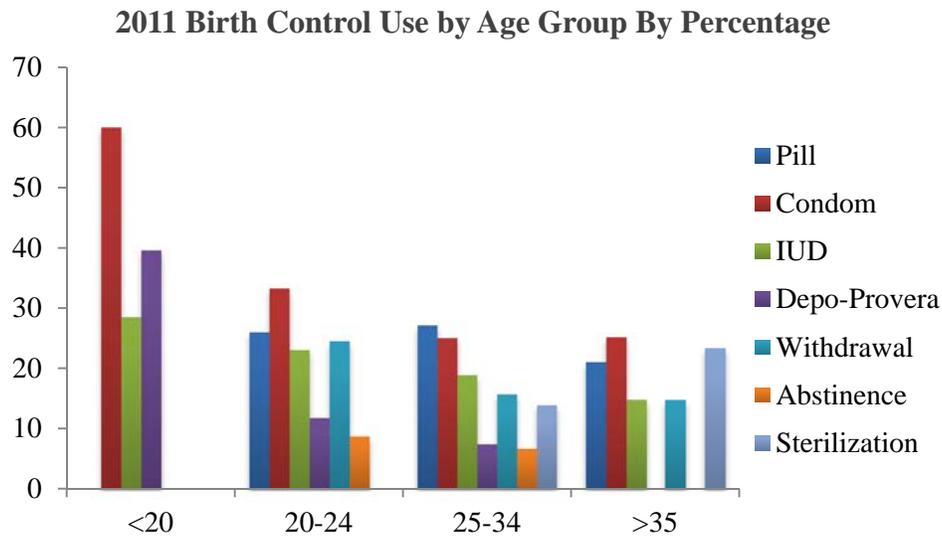
Improved contraceptive choices, such as intrauterine devices (IUDs) and hormonal implants (both LARC methods) are gaining in popularity due to the ease of use and high effectiveness of pregnancy prevention. The IUD is as effective as tubal sterilization, but is less expensive, safer, more convenient and immediately reversible.<sup>7</sup> Table 7.02 (a) summarizes the birth control methods currently available.

**Table 7.02(a) Current Birth Control Options**

Current Birth Control Options	
• Abstinence	• IUD
• Vaginal Ring	• Pills (Combined/Mini)
• Cervical Cap	• Rhythm Method or Natural Family Planning
• Condoms (Male and Female)	• Sponge
• Contraceptive Patch	• Tubal Ligation
• Depo-Provera (Shot every 3 months)	• Vasectomy
• Diaphragm	• Withdrawal
• Implants	• Essure

The North Carolina Pregnancy Risk Assessment Monitoring System (PRAMS) is a Centers for Disease Control and Prevention (CDC) initiative to reduce infant mortality and low birth weight. NC PRAMS is a random, stratified, monthly mail/telephone survey of North Carolina women who recently delivered a live-born infant. The PRAMS survey collects data on maternal behaviors and experiences before, during, and after pregnancy from a sample of North Carolina women. The data below is from a 2011 sample of 956 women across the state and represents the most recent and comprehensive data available for these outcomes in North Carolina.<sup>8</sup>

Figure 7.02(a) summarizes the responses to the following question by age group: *What kind of birth control are you or your husband or partner using now to keep from getting pregnant?*



**Figure 7.02(a) Method of preferred birth control.<sup>9</sup>**

Condoms, the pill and IUDs respectively, are the most popular choices for women trying to prevent a pregnancy, although women under 20 are increasingly preferring to use the Depo-Provera shot. Women between 20 and 24 prefer condoms and the pill while the top choices for women over 35 years are condoms followed by sterilization.<sup>10</sup>

## Primary Data

### 2013 Durham County Community Health Opinion Survey Results <sup>11</sup>

The Durham County Community Health Opinion Survey randomly selected Durham County households. (Details on survey data collection are in Chapter 1 and all survey results are in Appendices B-F.) There were few issues raised in this survey about availability or cost of birth control methods in Durham at the time the survey was conducted. However availability and quality of health insurance is a predictor of adherence and use of birth control. In Durham County Community Health Opinion Survey, 19% of respondents reported not having any health insurance coverage in the last 12 months. The most common reasons were unemployment and high cost of coverage.<sup>12</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

- *Long Active Reversible Contraceptive Methods (LARC):* Long acting reversible contraceptive options such as IUDs and hormonal implants are becoming more popular. LARC use is especially helpful for the prevention of unintended pregnancy due to high efficacy and ease of use.
- *Affordability of Birth Control:* Birth control options are often expensive for patients who do not have insurance or are underinsured. Currently, Medicaid expansion pays for most methods of birth control, but many uninsured poor women do not qualify for those benefits.

Currently, the Durham County Department of Public Health offers multiple birth control methods on a sliding scale, but women may still not be able to afford their preferred method. A further barrier is lack of knowledge of services (access).

- *Birth Control Access:* A number of states have either passed laws or are considering laws to allow pharmacists to refuse to fill prescriptions they feel violate their personal, moral or religious beliefs such as birth control and emergency contraceptive pills. Currently, North Carolina is not considering such a law, but some anecdotal reports exist of pharmacists refusing requests for emergency contraception.

## Recommended Strategies

Better access to birth control means fewer unintended pregnancies. There are various ways to ensure that women get the birth control they need:

- Emergency contraception can prevent pregnancy if used up to five days after sex.
- Pharmacies should not be able to refuse to fill a woman's prescription for birth control.
- The government should make sure that low-income women can afford birth control at family-planning clinics.
- If an insurance company covers prescription drugs, it should cover prescription birth control.
- Pass legislation that will require pharmacies to provide access to and dispense birth control options regardless of religious or moral beliefs.
- Conduct media campaigns for the emergency contraceptive pill.
- Increase visibility of clinics that provide family planning services.

Even after improving access to birth control methods, unintended pregnancy may continue to be a problem. In one literature review sponsored by the National Campaign to Prevent Teen and Unplanned Pregnancy, it was found that many women are ambivalent about childbearing. This influences their decisions to both acquire birth control and consistently use their birth control method of choice. Ambivalence also reduces the likelihood that a pregnancy is intentionally planned, affecting maternal and infant outcomes. The authors recommend developing more evidence-based best practices for contraceptive counseling, developing strategies for translating intentions into behaviors and increasing self-efficacy around preconception planning.<sup>13</sup>

## Current Initiatives & Activities

Residents of Durham County have several options for low-cost contraceptive services. The most widely used are the Family Planning Clinic at the Durham County Department of Public Health and Planned Parenthood of Central North Carolina in Durham. Both agencies accept Medicaid and receive Title X funds. Title X is a federal grant program that makes it possible for these agencies to provide services on a sliding fee scale based on family size and income. A grant-funded family planning clinic at Duke University Medical Center (the Ryan Clinic) provides long-term contraception to postpartum women at low cost.

The Family Planning Medicaid Waiver “Be Smart” has been available in North Carolina since 2005 for women 19 to 55 years and men 19 to 60 years with incomes up to 185% of the federal

poverty level. This program provides Medicaid to legal residents and is designed to reduce unintended pregnancies and improve the wellbeing of children and families in N.C. by extending eligibility for family planning services.<sup>14</sup>

- ***Planned Parenthood of Central North Carolina***

Provides high-quality, affordable sexual and reproductive health care for women, men, and teens.

Website: <http://www.plannedparenthood.org/centralnc/>

Phone Number: (919) 929-5402

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

The Family Planning Clinic offers several options for low-cost contraceptive services.

Website: <http://www.dconc.gov/index.aspx?page=795>

Phone Number: (919) 560-7630

- ***Ryan Clinic (Duke Hospital)***

Provides LARC methods for postpartum women at reduced cost.

Website: [http://www.dukehealth.org/locations/duke\\_clinic/](http://www.dukehealth.org/locations/duke_clinic/)

Phone Number: 888-275-3853

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## Section 7.03 *Prenatal care*

### Overview

Pregnant women should seek prenatal care with an obstetrician/gynecologist (OB/GYN), family practice doctor, a certified-nurse midwife or other health professional. Regular prenatal care helps monitor pregnancies and spot any potential health problems before they become serious. Some pregnant women may experience complications such as gestational diabetes or preeclampsia, but with regular prenatal care, health issues can be better managed.<sup>1</sup>

Providers may offer the following prenatal tests to ensure that a baby is healthy and growing. Some of these tests include:

- Amniocentesis (test for certain birth defects).
- Chorionic villus sampling or CVS (test for certain birth defects).
- Glucose screenings (monitor blood sugar and test for gestational diabetes).
- Cystic fibrosis carrier screening (check for cystic fibrosis gene).
- Maternal blood screening (check for neural tube defects).

### Healthy NC 2020 Objective

There is no Healthy NC 2020 objective related to prenatal care.

### Secondary Data

The majority of women in Durham County access prenatal care. In 2000, 64 Durham mothers reported receiving no prenatal care<sup>2</sup>. In the 2011 Pregnancy Risk Assessment Monitoring System (PRAMS) sample, there were no respondents who did not receive prenatal care.<sup>3</sup> According to vital statistics, 3.3% of women in Durham did not receive any prenatal care during their pregnancy.<sup>4</sup> Furthermore, the total number of births between 2000 and 2011 increased from 3,768 to 4,231.<sup>5</sup>

In Durham County, the initiation of prenatal care during the first trimester is fairly consistent across educational levels and race, although only 60% initiated care within the first, second, or third month of pregnancy in 2012.<sup>6</sup> This is consistent with the state as a whole. In North Carolina, only 62% of women with less than a high school education began prenatal care during the first trimester.<sup>7</sup>

In Durham County, a mother's age may be predictive of when she initiates prenatal care. In 2012, 59.8% of women in all age groups (14 to 45+ years) initiated care during the first three months (ranging from 69.2% of those in the <20 age group to 84% ages 30-34). In North Carolina overall, 71.3% of all ages initiated prenatal care during the first trimester.<sup>8</sup> Timing of prenatal care, in addition to whether a woman receives any prenatal both affect birth weight. In Durham County, 27% of women with no prenatal care had low or very low birth weight babies.<sup>9</sup> The number of

very low and low birth weight babies decreases to an average of 9.2% among women who received any prenatal care throughout their pregnancy.<sup>10</sup> Table 7.03(a) summarizes birth outcomes among Durham County women in 2012 based on the month that prenatal care was initiated.

**Table 7.03(a) Durham County Resident Births by Month Prenatal Care Began and Birth Weight in Grams, 2012<sup>11</sup>**

Month Prenatal Care Began	Birth Weight in Grams					% of low birth weight
	Very Low <1500	Low 1500-2499	Normal >=2500	Unknown	Total	
<b>None</b>	<b>19</b>	<b>20</b>	<b>104</b>	<b>3</b>	<b>146</b>	<b>27.3%</b>
First Month	1	3	44	0	48	<b>8.3%</b>
2nd Month	4	35	712	0	751	<b>5.2%</b>
3rd Month	23	121	1642	1	1787	<b>8.1%</b>
4th Month	16	62	594	2	674	<b>11.6%</b>
5th Month	9	30	304	2	345	<b>11.4%</b>
6th Month	5	18	211	0	234	<b>9.8%</b>
7th Month	4	8	128	0	140	<b>8.6%</b>
8th Month	2	7	94	0	103	<b>8.7%</b>
9th Month	1	7	63	0	71	<b>11.3%</b>
Not Stated	1	2	18	1	22	
<b>TOTAL</b>	<b>85</b>	<b>313</b>	<b>3914</b>	<b>9</b>	<b>4321</b>	

There appears to be a correlation between the number of prenatal visits and whether the baby was born at a low or very low birth weight. As seen in Table 7.03(b), there is a steep decline in low birth weight babies among mothers who had six or more prenatal visits.<sup>12</sup>

**Table 7.03(b) Durham County Resident Births by Number of Prenatal Visits and Birth Weight in Grams for All Women, 2012.<sup>13</sup>**

Number of Prenatal Visits	Birth Weight in Grams					% of Low birth weight
	Very Low <1500	Low 1500-2499	Normal >=2500	Unknown	Total	
<b>None</b>	19	20	104	3	146	34%
<b>One</b>	8	6	22	0	36	39%
<b>Two</b>	7	12	30	0	49	39%
<b>Three</b>	7	3	59	2	71	14%
<b>Four</b>	4	19	69	0	92	25%
<b>Five</b>	8	18	93	0	119	22%
<b>Six</b>	9	14	157	0	180	13%
<b>Seven</b>	5	25	218	1	249	12%
<b>Eight</b>	4	33	325	0	362	10%
<b>Nine</b>	1	35	327	0	363	9.9%
<b>Ten</b>	3	31	351	1	386	8.8%
<b>Eleven</b>	4	29	369	0	402	8.2%
<b>Twelve</b>	0	17	395	0	413	4.1%
<b>Thirteen</b>	2	14	403	0	419	3.8%
<b>Fourteen</b>	1	8	349	0	358	2.5%
<b>Fifteen</b>	1	8	225	0	234	3.8%
<b>16 or more</b>	1	17	376	0	394	4.6%
<b>Not Stated</b>	1	4	42	1	106	
<b>TOTAL</b>	85	313	3914	1	4321	

Durham County has been fairly successful in educating mothers across the educational and age spectrum about the importance of prenatal care. Only 3.2% of all Durham women who gave birth in 2012 reported having received no prenatal care. This shows that consistency of pre-natal visits throughout a pregnancy has a strong association with infants born at a healthy weight (over 2500 grams). However, work needs to be done in order to reach minority women. In 2012, the percentage of low or very low-birth weight babies was almost twice as high among infants born to African-American women compared to white and Hispanic women as shown in Table 7.03(c).<sup>14</sup>

**Table 7.03(c) Number and percentage of low- and very low-birth weight babies by race of mother in Durham County, 2012.**

	Very Low <1500	Low 1500-2499	Normal ≥2500	% Low Birth Weight
All Women	85	313	3914	9.2
White	19	106	1542	7.5
Black	52	145	1250	13.6
Hispanic	9	48	858	6.2
Other	5	14	264	6.7

An important concept to preconception health is proper interbirth spacing. While no data are specifically collected in Durham on this topic, the percentage of women in North Carolina having a live birth less than 18 months between their previous live birth and the start of the most recent pregnancy is 41%.<sup>15</sup> It is recommended that all women wait at least two years between births to allow their bodies to recover fully, giving them the best chance at a healthy subsequent pregnancy.<sup>16</sup>

## Primary Data

### 2013 Durham County Community Health Opinion Survey<sup>17</sup>

No concerns were raised in the 2013 Durham County Community Health Opinion Survey about prenatal care, maternal health, or birth outcomes. The 2010 Durham County Community Health Opinion Survey, however, asked community members to select their top three unhealthy behaviors in Durham County. In 2010, 5.6% of respondents ranked “not getting prenatal care” as one of the top three.<sup>18</sup>

### North Carolina Pregnancy Risk Assessment Monitoring System Survey

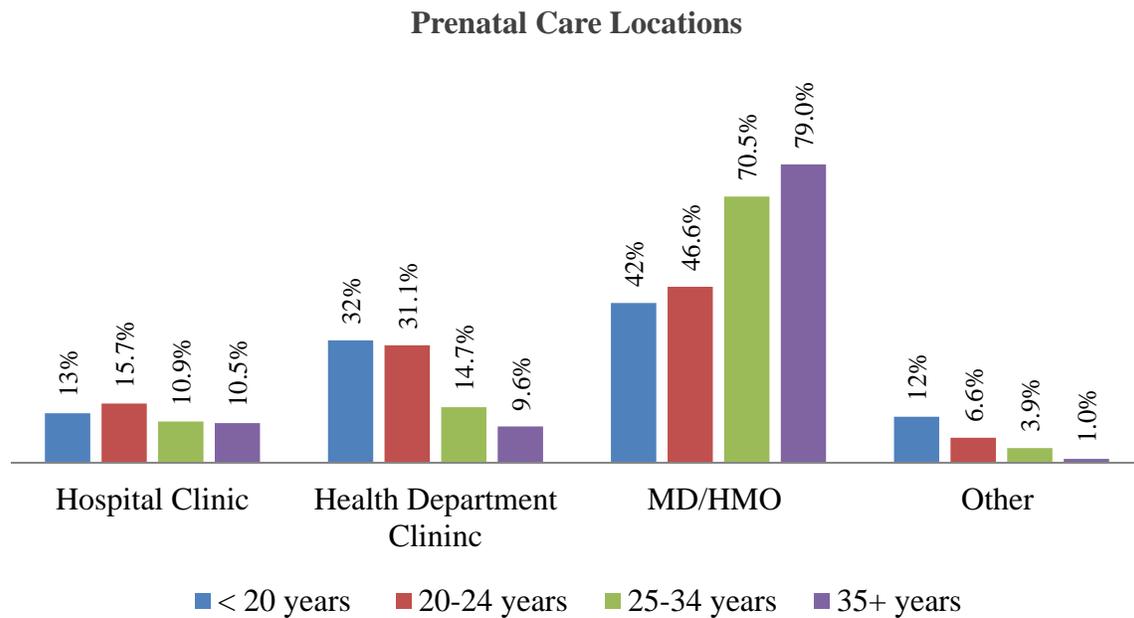
The North Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), is a Centers for Disease Control and Prevention (CDC) initiative to reduce infant mortality and low birth weight. PRAMS is a random, stratified, monthly mail/telephone survey of North Carolina women who recently delivered a live-born infant. The PRAMS survey collects data on maternal behaviors and experiences before, during, and after pregnancy for a sample of North Carolina women. This data is from 2006-2008 and from a sample of 4,378 women across the state.<sup>19</sup>

More than half (51%) of women younger than 25 years, reported experiencing barriers when trying to obtain prenatal care compared to 34.9% of 25-34 year olds and 31.5% of women 35 and older. However, there is evidence that barriers to prenatal care are improving. In a smaller subset of this population from 2011 (n=959), only 27% of women younger than 25 years, 17.3% of 25-34 year olds, and 16.2% of women 35 and older reported experiencing barriers.<sup>20</sup> Table 7.03(d) summarizes the barriers by age that women encountered seeking prenatal care according to the 2006-2008 PRAMS sample. The most commonly cited barriers were the inability to obtain an earlier appointment, lack of insurance or money and not wanting anyone to know about the pregnancy.<sup>21</sup>

**Table 7.03(d) Prenatal Care Barriers<sup>22</sup>**

Barrier	<20 years	20-24 years	25-34 years	35+ years
I didn't want anyone to know I was pregnant	13.7%	10.9%	6.0%	5.4%
I didn't have my Medicaid card	14.1%	17.8%	8.9 %	6.6 %
I couldn't get an appointment earlier in my pregnancy	16.9%	22.5%	15.0%	10.6%
I didn't have enough money or insurance to pay for the visit	16.3%	19.2%	12.0 %	11.1%
I had no way to get to the clinic or doctor's office	9.7%	9.8%	5.7%	4.6%
The doctor or my health plan would not start care as early as I wanted	9.2%	11.4%	9.6%	6.7%
I couldn't get time off work	7.6%	8.8%	6.4%	3.3%
I had too many other things to do	7.7%	6.6%	4.9%	3.6%

Figure 7.03(e) shows the locations survey respondents received prenatal care, by age. Women 24 years of age or younger were more likely to seek care at the health department whereas women 25 and older were more likely to get care from a private medical provider.<sup>23</sup>



**Figure 7.03(e) Prenatal care locations by age.<sup>24</sup>**

**Interpretations: Disparities, Gaps, Emerging Issues**

- **Barriers to Care:** Reducing barriers to obtaining prenatal care will help women enter care sooner and receive care for a longer period during their pregnancy, which will translate to better outcomes for mother and baby. Focusing on reducing barriers for younger women

(51% of whom reported barriers to obtaining prenatal care) will also help improve birth outcomes.

- **Racial disparity:** There is a disparity in the rate of low and very low birth weight babies between African-American women and women of other races. The risk of preterm labor and babies weighing less than 2500 g is almost twice as high in the African-American population, which may be reflective of lack of access to services and socioeconomic disadvantage.

## Recommended Strategies

Increasing access to prenatal care and encouraging the inclusion of preconception information into well-woman visits can contribute to healthy mothers and healthy babies.

### Moving beyond Prenatal Health to Preconception Health

Poor pregnancy outcomes associated with nicotine and alcohol use, obesity, pre-existing medical conditions and use of specific over the counter drugs (teratogens) remain prevalent. During the first 4 to 10 weeks after conception, the fetus is most susceptible and these negative behaviors can cause the greatest harm to the developing fetus. Prenatal care, which usually begins at week 11 or 12 of a pregnancy, often occurs too late to prevent many serious maternal and infant health problems. Therefore, preconception care including pre-pregnancy planning, screenings, and risk-reduction interventions is vital.<sup>25</sup>

## Current Initiatives & Activities

The Durham Department of Public Health and the Duke Family Medicine Center offer the evidence-based program, Centering Pregnancy. Centering Pregnancy offers group prenatal care in which women of similar gestational age receive their care in small groups (usually 8 to 12). The program incorporates health assessment, education and support. The program has been shown to improve health outcomes for women and their infants. Centering Pregnancy has been available at the Durham County Department of Public Health since 2004 and at the Duke Family Medicine Center since 2014. The service continues to grow at the Durham County Department of Public Health, but remains dependent upon the availability of grant funding.

The NC Division of Medical Assistance, the NC Division of Public Health and Community Care of North Carolina developed a program in March 2011, Pregnancy Medical Home (PMH). This program strives to improve birth outcomes for mothers and babies. Maternity care providers utilize a Risk Screening Form to assess priority risk factors for prematurity and poor birth outcomes. Patients that are identified as being high risk are assigned an OB care manager. The goal is to increase access to care, reduce poor birth outcomes and lower the cost of expenditures for this population by our collaborative efforts in serving these high risk patients.

There are public and private prenatal care providers in Durham County. Most providers accept Medicaid for prenatal services. The prenatal clinic at Durham County Department of Public Health

accepts Medicaid and also provides services on a sliding fee scale based on family size and income. Other Durham prenatal care providers include:

- ***Duke University Health System***

Website: <http://www.dukemedicine.org>  
Phone Number: 855-855-6484

- ***NC Women's Hospital (UNC Health Care)***

Website: <http://www.newomenshospital.org>  
Phone Number: (919) 966-4131

- ***The Birth Place (Duke University Health System)***

Website: <http://www.dukemedicine.org/locations/birth-place-duke-regional-hospital>  
Phone Number: (919) 470-4000

- ***Harris & Smith OB-GYN (Harris and Smith Obstetrics and Gynecology)***

Website: <http://www.harrissmith.com>  
Phone Number: (919) 471-1573

- ***Duke Perinatal Consultants – Durham***

Website: <https://www.dukemedicine.org>  
Phone Number: (919) 668-7430

- ***Lincoln Community Health Center***

Website: <http://www.lincolnchc.org>  
Phone Number: (919) 956-4000

- ***Durham Women's Clinic***

Website: <http://www.durhamwomensclinic.com>  
Phone Number: (919) 471-2273

- ***Durham OB/GYN***

Website: <http://www.durhamobgyn.com>  
Phone Number: (919) 220-5435

- ***Duke Family Medicine***

Website: <http://www.dukemedicine.org>  
Phone Number: (919)-684-6721

- ***Duke Women's Health***

Website: <http://www.dukemedicine.org>

Phone Number: (919) 687 4688

- ***Highgate Family Medical Center (UNC at Chapel Hill)***

Website:

[http://www.unchealthcare.org/site/healthpatientcare/community\\_practices/Highate\\_Family](http://www.unchealthcare.org/site/healthpatientcare/community_practices/Highate_Family)

Phone Number: (919) 361-2644

- ***Department of Obstetrics and Gynecology (UNC at Chapel Hill)***

Website: <http://www.med.unc.edu/obgyn>

Phone Number: (919) 966-2131

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- <sup>1</sup> Shore R. & Shore B., “Preventing Low Birthweight,” A Kids Count Indicator Brief (July 2009), [www.kidscount.org](http://www.kidscount.org). Accessed March 7, 2014.
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- <sup>18</sup> 2010 Durham County Community Health Opinion Survey. Partnership for a Healthy Durham website. [http://www.healthydurham.org/docs/file/durhams\\_health/Durham%20CHA%20Presentation%204-20-2011.pdf](http://www.healthydurham.org/docs/file/durhams_health/Durham%20CHA%20Presentation%204-20-2011.pdf) Accessed March 7, 2014.
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- <sup>21</sup> Ibid
- <sup>22</sup> Ibid
- <sup>23</sup> Ibid
- <sup>24</sup> Ibid
- <sup>25</sup> Centers for Disease Control and Prevention. Preconception Care: Why Preconception is Preconception Care a Public Health Concern. Centers for Disease Control and Prevention website. <http://www.cdc.gov/ncbddd/preconception/whyconception.htm>. Accessed May 21, 2011.

## Section 7.04 *Substance use during pregnancy*

### Overview

Substance use during pregnancy has multiple consequences for the health of a pregnant woman and her baby. According to the Centers for Disease Control and Prevention (CDC), babies who are born to women who smoke have a greater chance of being born prematurely, are more likely to be born with low birth weight and are more likely to die of Sudden Infant Death Syndrome (SIDS).<sup>1</sup> Drinking alcohol during pregnancy can lead to birth defects and no amount of drinking has been proven to be safe.<sup>2</sup> According to the March of Dimes, studies suggest that the heavy use of marijuana during pregnancy may result in premature births and in learning difficulties as the children get older.<sup>3</sup>

### Healthy NC 2020 Objective

#### Maternal and Infant Health

Healthy NC 2020 Objective <sup>4</sup>	Current Durham	Current NC	2020 Target
1. Reduce the percentage of women who smoke during pregnancy	6.8% (2012) <sup>5</sup>	10.6 % (2012) <sup>6</sup>	6.8 %

### Secondary Data

There are few data on alcohol or other drug use collected in vital statistics or the Pregnancy Risk Assessment Monitoring System (PRAMS) specifically for Durham County. However, in the Northeast North Carolina region (including Caswell, Alamance, Orange, Chatham, Lee, Person, Durham, Granville, Vance, Warren, Franklin, Wake, Johnston counties), 9.2% reported drinking during the last three months of pregnancy (0.1% reported binge drinking—having more than 5 drinks in one sitting) from 2006 to 2008.<sup>7</sup>

In Durham County, 6.8% of all mothers smoked during pregnancy. In 2012, 8.9% of minority mothers smoked during pregnancy compared to 10.6% of pregnant women in North Carolina who did. African-American women were more likely to smoke, however. In 2012, 13.2% reported smoking during pregnancy.<sup>8</sup> The 2012 Durham County overall rate marks one of the first years that Durham has met this Healthy NC 2020 objective.

Durham also has a lower percentage of women who reported smoking during pregnancy than many of its peer counties such as Cumberland County at 11.2%, Guilford County at 8.0% and Forsyth at 8.5%. Mecklenburg and Wake County had lower percentages, at 4.0% and 3.3%, respectively. However, Durham's 2012 rate does not indicate a positive trend. The rate of mothers who smoked during pregnancy was lower in previous years.<sup>9</sup> Figure 7.04(a) shows how the number of women

who smoked during pregnancy has increased nearly each year since 2007 (data are not available for 2010).

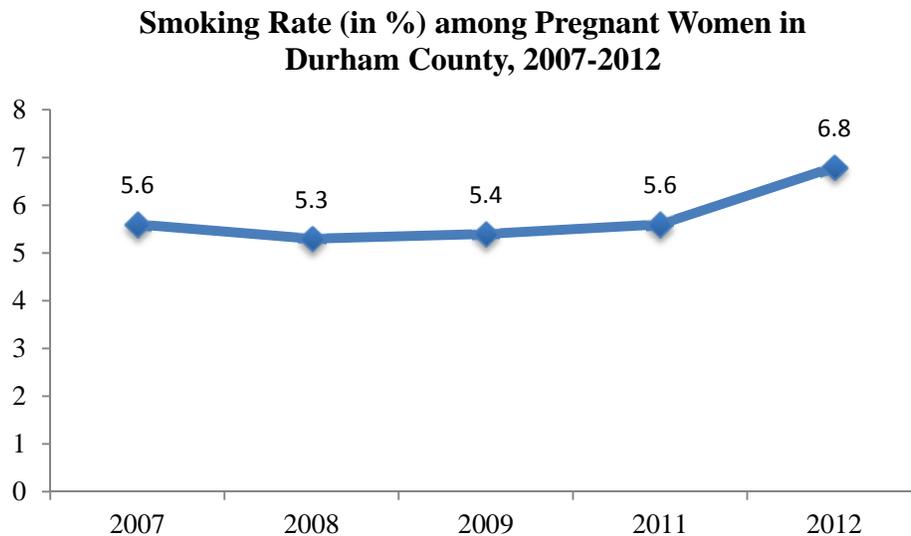


Figure 7.04(a) Maternal smoking, this pregnancy<sup>10</sup>

## Primary Data

### 2013 Durham County Community Health Opinion Survey Results<sup>11</sup>

While there were no questions included on the survey that directly addressed substance use during pregnancy, among the adult male and female respondents (most of whom were not pregnant, but were currently smoking):

- 5% of those surveyed who smoke say they would go to a doctor for help quitting, while only 1% responded that they would access Quitline NC
- 30% said they would go to a doctor for drug/alcohol abuse problems
- 52% responded that they had been exposed to secondhand smoke in the past year
- 38% of respondents were not aware that Durham has a smoking ban that does not allow smoking in outdoor public spaces such as parks, county government properties, certain sidewalks and bus stops<sup>12</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

- **Racial disparity:** The number of minority women in Durham County who report smoking during pregnancy is higher than reported by white women, but still lower than rates in North Carolina as a whole.
- **Dearth of Data:** More Durham data needs to be collected on other potential substance abuse during pregnancy in order to understand more about women who use harmful substances during their pregnancies. This strategy could lead to better education about the harmful

effects of substance use and better interventions to address substance abuse cessation during pregnancy and beyond.

## Recommended Strategies

Table 7.04(a) Evidence-Based Resources and Promising Practices<sup>13</sup>

Setting	Name and Website	Description
Individual	Baby & Me Tobacco Free <a href="http://www.naccho.org/topics/mo-delpractices/database/practice.cfm?PracticeID=147">http://www.naccho.org/topics/mo-delpractices/database/practice.cfm?PracticeID=147</a>	The Baby & Me Tobacco Free Program addresses the need to reduce smoking in pregnant women and increase cessation duration to at least one-year after the birth of the baby.
Individual	Nurse-Family Partnership <a href="http://nrepp.samhsa.gov/ViewIntervention.aspx?id=88">http://nrepp.samhsa.gov/ViewIntervention.aspx?id=88</a>	Nurse-Family Partnership (NFP) is a prenatal and infancy nurse home visitation program that aims to improve the health, well-being, and self-sufficiency of low-income, first-time parents and their children.
Community	Tennessee Intervention for Pregnant Smokers (TIPS) <a href="http://www.etsu.edu/tips/documents/TIPS_Progress_Report.docx">http://www.etsu.edu/tips/documents/TIPS_Progress_Report.docx</a>	The TIPS program was funded in 2007 by Governor Bredesen's Office of Children's Care Coordination, for a total of \$1.4 million over a four year period. The program goal is to improve birth outcomes in Northeast Tennessee by reducing rates of pregnancy smoking and smoke exposure.

Women who receive cessation counseling are more likely not to smoke during pregnancy. One of the evidence-based approaches to help women stop smoking is called "The 5 A's." This stands for "Ask, Advise, Assess, Assist, and Arrange." This counseling method is promoted by Quitline NC (1-800-QUIT-NOW), which is jointly funded by the North Carolina Health and Wellness Trust Fund and the North Carolina Department of Health and Human Services. Health department prenatal clinics in the state use this approach to help their pregnant patients stop smoking.

## Current Initiatives & Activities

- ***Health Education Division of the Durham County Department of Public Health***  
The Durham County Department of Public Health offers smoking cessation programs.

Website: <http://www.dconc.gov/index.aspx?page=1312>  
Phone Number: (919) 560-7765

- ***Duke Family Care Program***  
Family Care Program (FCP) provides outpatient treatment to help pregnant or mothering women overcome drug addictions and be the best parents possible.

Website: <http://psychiatry.duke.edu/divisions/addictions/family-care-program>  
Phone Number: (919) 681-5531

- ***The Horizons Program***  
Offers education and support to pregnant and postpartum women with substance abuse problems.

Phone Number: (919) 966-9169

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## Section 7.05 *Infant mortality*

### Overview

Infant mortality refers to a baby who dies before reaching his or her first birthday. The infant mortality rate is often used to measure the overall health of a community, as infant mortality is low in healthy communities where citizens have ample access to health care, social services and a healthy environment.<sup>1</sup>

Two conditions that lead to a majority of infant mortality cases are prematurity (born four or more weeks before the due date) and low birth weight (born weighing less than 2500 grams). Children who are born too small or too early can also have developmental and other health problems throughout their lifetime. Congenital anomalies (birth defects) are the second leading cause of infant deaths in Durham, followed by acute illnesses such as blood stream infections or pneumonia. Other factors associated with infant mortality include, but are not limited to:

- Health of the mother and family throughout their lives, including chronic diseases like diabetes and high blood pressure
- Family healthcare, including prenatal care and management of medical risks before conception
- Emotional factors, such as high levels of stress or degree of social support
- Nutrition
- The physical environment, such as exposure to pollution or contaminants
- Minority status, particularly African-Americans
- Poverty<sup>2</sup>

### Healthy NC 2020 Objectives

#### Maternal and Infant Health

Healthy NC 2020 Objective <sup>3</sup>	Current Durham	Current NC	2020 Target
1. Reduce the infant mortality racial disparity between whites and African-Americans	3.28 (2008-12) <sup>4</sup>	2.50 (2008-12) <sup>5</sup>	1.92
2. Reduce the infant mortality rate (per 1,000 live births)	7.9 (2012) <sup>6</sup>	7.4 (2012) <sup>7</sup>	6.3

### Secondary Data

Based on the most recent available data, Durham is not meeting Healthy NC 2020 infant mortality objectives. For many years, Durham County consistently has had worse infant mortality rates and racial disparity than North Carolina as a whole.<sup>8,9</sup> This difference could be due to the fact that there

has been a slight increase in infant mortality rates for both whites and minorities in the past year, although it is unclear whether this is due to confounding reporting bias.

In 2012, 34 infants died in Durham County, 27 of which were African-American and four were white. The African-American infant death rate in Durham is 18.6 per 1,000 and the white infant death rate is 2.4 per 1,000 (7.75 times the rate of white infants).<sup>10</sup> These data show that there continues to be a significant racial disparity in infant mortality in Durham County (disparity ratio of 3.28), which is higher than in North Carolina (disparity ratio of 2.50).<sup>11</sup>

Table 7.05(a) summarizes the 2012 number of infant deaths and infant mortality rates among the races in North Carolina, Durham County and Durham's peer counties.

Table 7.05(a) 2012 Infant mortality rate report.<sup>12</sup>

Residence	Infant Deaths					Infant mortality rates (per 1000 live births)				
	White	African-American	Hispanic	Other	Total	White	African-American	Hispanic	Other	Total
<b>Total NC</b>	369	395	43	76	883	5.5	13.9	6.7	4.2	7.4
<b>Durham</b>	4	27	1	2	34	2.4	18.6	3.5	2.2	7.9
<b>Cumberland</b>	10	28	1	4	43	3.7	15.1	3.4	5.6	7.8
<b>Forsyth</b>	17	20	2	8	47	8.0	14.8	15.6	7.9	10.2
<b>Guilford</b>	16	26	2	5	49	6.5	10.7	4.1	6.3	7.9
<b>Mecklenburg</b>	15	45	5	9	74	2.6	10.1	4.5	3.5	5.3
<b>Wake</b>	32	44	4	7	87	4.9	16.0	3.9	3.5	7.1

Figure 7.05(b) shows the 2012 infant mortality rates in North Carolina, Durham County and its peer counties. Durham County's rate of 2.4 per 1,000 live births in white women is lower than all of its peer counties and the State, but the infant mortality rate in African-American women is the highest in this sample (18.6 per 1,000 live births) illustrating the considerable racial disparity that exists in Durham County.<sup>13</sup>

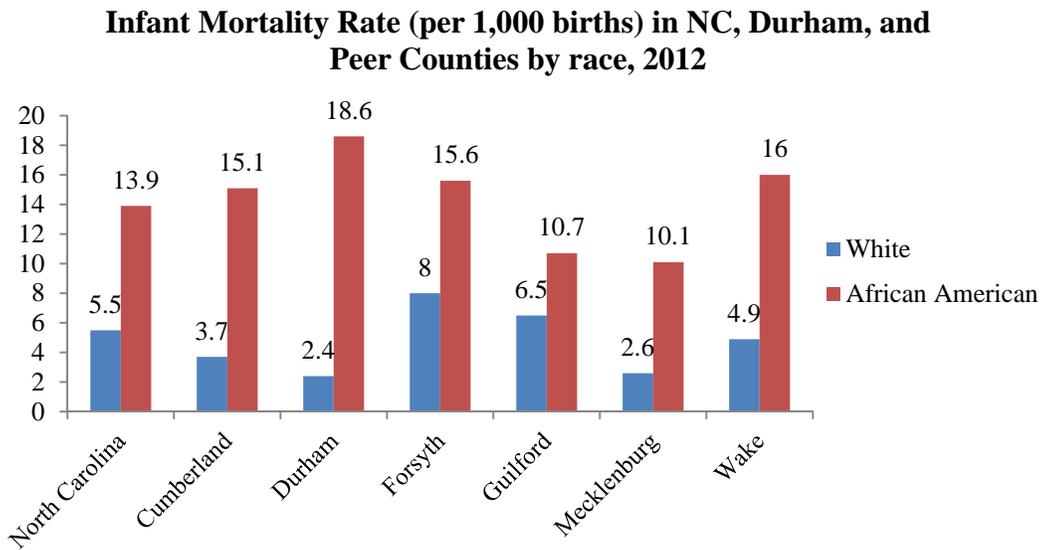


Figure 7.05(b) Infant mortality rates, 2012<sup>14</sup>

Figure 7.05(c) shows the wide racial disparity that has persisted in Durham County between 2008 and 2012. In 2012 had the widest disparity gap in infant mortality between white and minority women, where the minority infant mortality rate was 2.93 times higher than whites. In the past year, there has been an increase in infant mortality rate among all races.<sup>15</sup>

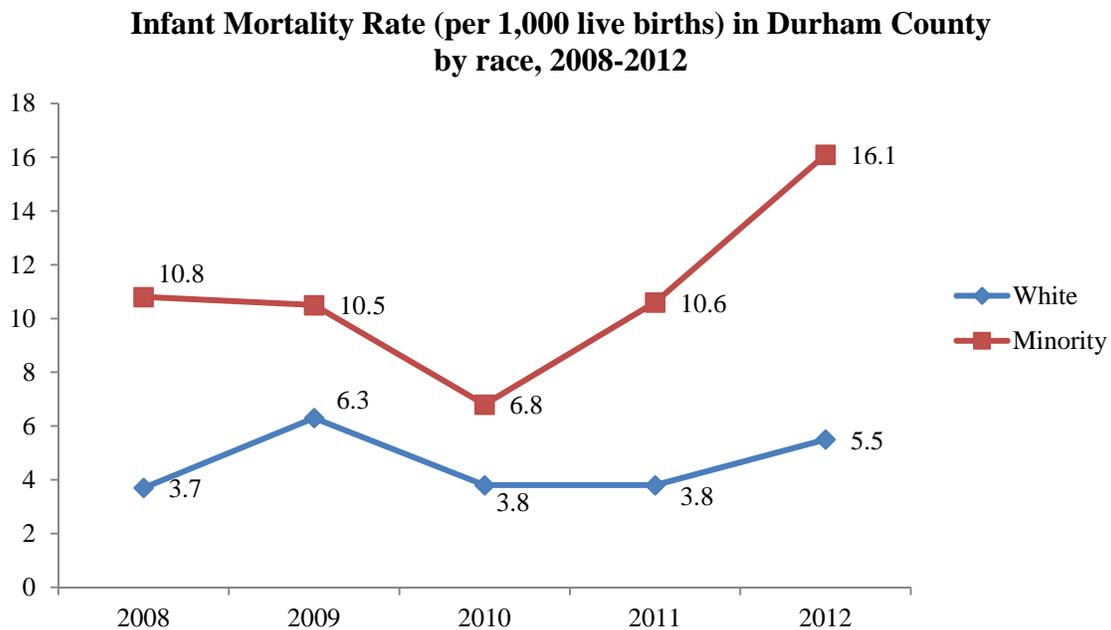


Figure 7.05(c) Durham County Infant mortality rate, 2008-2012<sup>16</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

Racial Disparity: Although minorities make up 44% of all Durham births, they account for approximately 58% of all infant deaths. According to the most recent available data (2012), African-Americans are the most disproportionately affected with a rate of 18.6 deaths per 1000 births compared to the overall rate of 7.4 per 1000 births and 5.5 per 1,000 among white women.<sup>17</sup>

## Recommended Strategies

### Preventing Low Birthweight

Preventing low birth weight is a recommended strategy to address infant mortality, since babies born with low or very low birth weight are at increased risk of death within the first year of life. An Annie E. Casey Foundation funded Kids Count Indicator Brief, “Preventing Low Birthweight” from July 2009 states that strategies employed during pregnancy are not enough to prevent low birth weight. It requires a lifespan approach that takes into account medical, socioeconomic and environmental factors. Programs and policies in the following areas can help prevent poor pregnancy outcomes, which often lead to infant deaths:

- Improving the accessibility and affordability of healthcare of women before and between pregnancies can help women manage chronic health
- Promoting and encouraging well-woman visits, before and between pregnancies
- Smoking cessation in women during pregnancy
- Encouraging and promoting the use of a multivitamin with folic acid pre and interconceptionally
- Early and regular prenatal care
- Use of 17P injections during pregnancy as recommended by a physician
- Continue multivitamin distribution. Encourage women of childbearing age to develop a reproductive health plan so that a pregnancy is intentionally started when a woman is in optimal health to improve her chances of having a good birth outcome.<sup>18</sup>

With the disproportionate burden of disease and mortality experienced by minorities and the diversity of the state and nation growing, more people will be at risk for poor health. Increasing numbers of people with poor health will lead to a less productive workforce and higher health care costs. To reduce health disparities while improving population health, large scale public policy and public health interventions should be structured so the effects of interventions are independent of motivation, resources or actions of individuals.<sup>19</sup>

### Prevention Action Plan Recommendations<sup>20</sup>

The following are recommendations to address the significant racial disparity that exists in infant mortality rates in North Carolina. If the racial disparity gap narrows, infant mortality rates will more closely match Healthy NC 2020 goals. The Prevention Action Plan recommendations are as follows:

- Public and private funders supporting prevention initiatives in North Carolina should place priority on funding evidence-based programs and practices. Intervention selection should take into account the racial, ethnic, cultural, geographic and economic diversity of the population being served. When evidence-based programs are not available for a specific population, public and private funders should give funding priority to best and promising practices/programs and to those that are theory-based and incorporate elements identified in the research literature as critical elements of effective programs.
- The North Carolina Division of Public Health (DPH) should examine racial and ethnic disparities in all of its health promotion and disease prevention activities. To increase the effectiveness of prevention initiatives targeting racial and ethnic disparities, DPH should involve community members, including faith-based health ministries, beauty salons/barber shops, civic and senior citizen groups and other community leaders and lay health advisors.
- North Carolina foundations should provide funding to support and expand evidence-based initiatives targeting racial and ethnic disparities, and expand funding for community-based participatory research.<sup>21</sup>

### 17 Hydroxyprogesterone

In February 2011, the U.S. Food and Drug Administration (FDA) approved the new drug called 17 hydroxyprogesterone (17P) for use in preventing recurring preterm birth. Women who are pregnant with a singleton pregnancy and who have a history of a previous singleton spontaneous preterm birth between 20<sup>0</sup> and 36<sup>6</sup> weeks gestation are eligible. Treatment should be initiated between 16 and 21<sup>6</sup> weeks gestation. In cases where a woman has begun prenatal care late, injections may be started up to 23<sup>6</sup> weeks gestation. In order to prevent late preterm birth, 17P should be administered until 36<sup>6</sup> weeks gestation. While this is not a desirable situation, 17P should continue to be given on a weekly basis. The pregnant woman may need additional assistance and support in completing the full course. While the risk of delivery appears to increase with cessation of 17P, the benefit of partial therapy still outweighs the risk of no therapy. In North Carolina, the 17P Initiative was started in April 2011 with hopes to reduce preterm birth through better access to this medical intervention. The program was expanded in October 2013 (running through at least May 2014) with funding from the General Assembly to reach eligible uninsured women.<sup>22</sup>

**Table 7.05(d) Office of Healthy Carolinians and Health Education. Evidence-based Resources and Promising Practices<sup>23</sup>**

Setting	Name and Website	Description
<i>Community</i>	Back to Sleep Campaign <a href="http://www.nichd.nih.gov/sids/">http://www.nichd.nih.gov/sids/</a> <a href="http://www.nchealthystart.org/ba-&lt;br/&gt;cktosleep/index.htm">http://www.nchealthystart.org/ba- cktosleep/index.htm</a>	To educate parents, caregivers, and health care providers about ways to reduce the risk for Sudden Infant Death Syndrome (SIDS). The campaign was named for its recommendation to place healthy babies on their backs to sleep.
<i>Individual</i>	What About Mom?	The goal of this program is to lower the overall infant mortality rates and low birth rates by providing free ICC services to high-risk new

	<a href="http://www.naccho.org/topics/mo-delpractices/database/practice.cfm?PracticeID=436">http://www.naccho.org/topics/mo-delpractices/database/practice.cfm?PracticeID=436</a>	mothers in the unique setting of a pediatrician's office.
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## Current Initiatives & Activities

The Durham County Department of Public Health offers a variety of prenatal, pregnancy and postpartum services.

### ▪ *Durham County Department of Public Health*

- Family Planning Clinic: provides access to birth control methods
- Medical Nutrition Therapy: Individual nutrition counseling provided to women during pregnancy or postpartum, and for infants and children of all ages.
- Centering Pregnancy: group prenatal care
- SIDS training for child care professionals
- Pregnancy Care Management: Provides maternity care coordination to women of low income during pregnancy and up to 6 weeks postpartum

Website: <http://www.dconc.gov/index.aspx?page=379>

Phone Number: (919) 560-7600

### ▪ *NC Pregnancy Medical Home (PMH)*

The Division of Medical Assistance (DMA), in partnership with Community Care of North Carolina (CCNC) and other community stakeholders including Medicaid providers, local health departments, and the North Carolina Division of Public Health, created a program that provides pregnant Medicaid recipients with a Pregnancy Medical Home (PMH). The goal is to improve birth outcomes in North Carolina by providing evidence-based, high-quality maternity care to Medicaid patients. This is done by modeling PMH after the enhanced primary care case management (PCCM) program developed by CCNC. PMH practices agree to work toward quality improvement goals. Pregnant Medicaid patients at risk of poor birth outcome are identified through standardized risk screening and are referred for pregnancy care management to address those risk factors. Local health departments working in partnership with CCNC networks provide individualized pregnancy care management services. The level of service provided is in proportion to the individual's identified needs. Care managers closely monitor the pregnancy through regular contact with the physician and patient to promote a healthy birth outcome. Care managers are an integral part of the patient's care team.

Website: <http://www.ncdhhs.gov/dma/pmh/PMHSpecialBulletin.pdf>

Phone Number: (919) 384-6428

- ***Durham Connects***  
Provides in-home visitations to mothers of all newborns in Durham County. Links parents and babies with resources and support within the community.  
  
Website: <http://www.durhamconnects.org>
- ***Welcome Baby***  
Provides education and support programming to parents of young children to encourage proper infant care and development.  
  
Website: <http://www.welcomebaby.org>
- ***Women, Infants and Children (WIC)***  
Provides food vouchers and nutrition counseling for pregnant, breastfeeding and postpartum women, infants and children up to age five. Staff offers nutrition and breastfeeding consultations and classes. Limited electric breast pump loans are available for WIC participants. Participants must meet income guidelines.  
  
Website: <http://www.nutritionnc.com>
- ***Healthy Start Foundation***  
Non-profit organization dedicated to reducing infant mortality and improving the health of women through public education, training of professionals, advising policy-makers.  
  
Website: <http://www.nchealthystart.org>
- ***March of Dimes***  
Non-profit organization that supports the reduction of infant mortality by supporting local preconception and interconception health projects.  
  
Website: <http://www.marchofdimes.com>
- ***North Carolina Preconception Health Campaign***  
Website: <http://www.getfolic.com>
- ***Child Care Coordination for Children (CC4C)***  
A statewide program that provides home or childcare visits for children who are at-risk of social, medical or developmental concerns in the first five years of life. Nursing and social work staff provide support, education and community resource information. All services are free.  
  
Website: <https://www.communitycarenc.org/emerging-initiatives/care-coordination-children-cc4c/>

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- <sup>13</sup> Ibid
- <sup>14</sup> Ibid
- <sup>15</sup> Ibid
- <sup>16</sup> The Annie E. Casey Foundation. Kids Count. 25<sup>th</sup> Edition 2014 Data book. State Trends in Child Well-Being. Embargoed until 12:01. July 22, 2014.
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# Communicable Diseases

The prevention of infectious diseases is historically part of the bedrock of public health practice. Fortunately, many infectious diseases such as chicken pox, measles, influenza, and hepatitis B can now be prevented through immunizations. However, people do not always receive the recommended vaccinations and become sick, disabled or die from infectious diseases that are entirely preventable. Foodborne illnesses are among the most common infectious diseases. They can lead to acute illness, hospitalization and even death. Foodborne illnesses are not vaccine preventable but can be avoided through safe food preparation and storage tactics.<sup>1</sup>

Sexually transmitted diseases (STDs) including human immunodeficiency virus (HIV) infection, affect tens of thousands of North Carolinians each year. These preventable conditions can lead to reduced quality of life, premature death and disability and result in millions of dollars in annual health expenditures. As with many diseases and health conditions, the burden of sexually transmitted diseases and falls disproportionately on disadvantaged populations, young people and minorities.<sup>2</sup>

This chapter includes:

- ❖ [Vaccines and Vaccine-preventable diseases](#)
- ❖ [Infectious diseases \(Not sexually transmitted\)/TB](#)
- ❖ [Sexually transmitted diseases](#)
- ❖ [Outbreaks](#)

## Section 8.01 *Vaccines and vaccine-preventable diseases*

### Overview

Vaccines work to safeguard children and adults from illnesses and death caused by infectious diseases. The decline in vaccine-preventable diseases is one of the U.S. public health's greatest achievements. The prevention of infectious disease is paramount to public health practice as the spread of vaccine preventable diseases presents a real threat to health and quality of life. Immunizing individual children also helps to protect the health of the community. When a critical portion of a community is immunized against a contagious disease, most members of the community are protected against that disease because there is little opportunity for an outbreak. Even those who are not eligible for certain vaccines—such as infants, pregnant women, or immune-compromised individuals—gain some protection because the spread of contagious disease is contained. This is known as “community immunity.”<sup>3</sup>

Vaccines are responsible for the control of many infectious diseases that were once common in the U.S. such as pertussis or whooping cough, measles, mumps, rubella, polio and diphtheria. According to the North Carolina Division of Public Health Immunization Branch, in 2012 Durham County achieved a childhood immunizations completion rate of 68% for children 24 to 35 months of age. This rate, which was lower than the county goal rate of 72% is reflective of the new requirement for four pneumonia vaccines for that age group. Achieving and maintaining high vaccination coverage levels is important to reduce the burden of vaccine-preventable diseases and prevent a resurgence of these diseases in this country, particularly in under-vaccinated populations. Continued partnerships among national, state, local, private and public entities are needed to sustain vaccination coverage levels and ensure that coverage levels for the more recently recommended vaccines continue to increase.

### Healthy NC 2020 Objective

#### Infectious Disease / Foodborne Illness

Healthy NC 2020 Objective <sup>4</sup>	Current Durham	Current NC <sup>5</sup>	2020 Target
1. Increase the percentage of children aged 19-35 months who receive the recommended vaccines.	68% (2011)	75.3* (2011)	91.3%
2. Reduce the pneumonia and influenza mortality rate (per 100,000 population)	17.2%% (2007-2011)	16.3% (2011)	13.5%

\*2010 North Carolina Immunization Registry (NCIR) Annual Immunization Rate Assessment of children **24-35 months of age** in Durham County for whom immunization data was entered into the NCIR and that received 4 DTaP, 3 Polio, 1 MMR, 2 HIB, 3 Hep B, 4 pneumonia, and 1 Varicella vaccine. The Durham County Department of Public Health's rate was 85%.

## Secondary Data

The Centers for Disease Control and Prevention (CDC) published "Ten Great Public Health Achievements—United States, 2001-2010" in the May 20 issue of *Morbidity and Mortality Weekly Report* (MMWR). The following is an abstract from the section titled Vaccine-Preventable Disease:

“The past decade has seen substantial declines in cases, hospitalizations, deaths, and healthcare costs associated with vaccine-preventable diseases. New vaccines (i.e., rotavirus, quadrivalent meningococcal conjugate, herpes zoster, pneumococcal conjugate, and human papillomavirus vaccines, as well as tetanus, diphtheria, and acellular pertussis vaccine for adults and adolescents) were introduced, bringing to 17 the number of diseases targeted by U.S. immunization policy. A recent economic analysis indicated that vaccination of each U.S. birth cohort with the current childhood immunization schedule prevents approximately 42,000 deaths and 20 million cases of disease, with net savings of nearly \$14 billion in direct costs and \$69 billion in total societal costs.

The impact of two vaccines has been particularly striking. Following the introduction of pneumococcal conjugate vaccine, an estimated 211,000 serious pneumococcal infections and 13,000 deaths were prevented during 2000- 2008. Routine rotavirus vaccination, implemented in 2006, now prevents estimated 40,000-60,000 rotavirus hospitalizations each year.”<sup>6</sup>

### **Vaccinations: infants, children and teens**

The North Carolina General Statutes (G.S. 130-A-152(a)) mandate immunizations for each child living in the state. Every parent, guardian or person in loco parentis is responsible for ensuring that their child(ren) receive required immunizations. North Carolina has made a concerted effort to ensure that all children receive age-appropriate immunizations. These efforts have been rewarded through North Carolina’s consistent recognition as having one of the highest percentages of immunized two-year-olds in the country.

Children in North Carolina are required to receive vaccinations against ten different diseases by the time they enter kindergarten. Beginning with the 2008–2009 school year, new immunization standards were enacted for kindergarten, 6th grade and college students in North Carolina. Administrative rules require a booster of tetanus, diphtheria, acellular pertussis (Tdap) vaccine and a second dose of the mumps vaccine. The changes were based on recommendations from the CDC and are aimed at reducing the incidence of whooping cough and mumps in the state.<sup>7</sup>

In an effort to facilitate better reporting and surveillance of childhood immunizations, the North Carolina Division of Public Health continues to expand the North Carolina Immunization Registry (NCIR). The electronic registry is a secure, web-based clinical tool designed to have a single consolidated immunization record for each child in the state, regardless of how many immunization providers have seen the child. This system allows providers to search the immunization status of a child and determine which additional immunizations may be necessary. The registry will also provide quick access in the event of an outbreak, vaccine recall or other situation that requires rapid identification of immunizations administered. Currently, all local public health departments are participating in the North Carolina Immunization Registry.<sup>8</sup> More

than 600 private medical providers also participate.<sup>9</sup> Completely accurate statistics on the vaccination status of children in Durham County will not be available until all providers participate in the NCIR.

According to 2009 National Immunization Survey-Teen, adolescent vaccination rates are increasing across the United States. Continued increases—as much as 15 percent—were made nationally for vaccines specifically recommended for pre-teens.

At 11 and 12 years of age, the Advisory Committee on Immunization Practices (ACIP) recommends preteens receive one dose of tetanus, diphtheria, and acellular pertussis (Tdap) vaccine, one dose of meningococcal conjugate (MenACWY) vaccine and three doses of human papillomavirus (HPV) vaccine. ACIP recommends administration of all age-appropriate vaccines during a single visit. Large and increasing coverage differences between Tdap and other adolescent recommended vaccines indicate that substantial missed opportunities remain for vaccinating teens, especially against HPV infection. Health-care providers should administer the recommended HPV and meningococcal vaccinations to boys and girls during the same visit as when the Tdap vaccine is given.<sup>10</sup> The percentage of North Carolina adolescents that received a Tdap vaccine in 2012 was 87.9% compared to the national average of 84.6%.

The administration of the HPV vaccine varied significantly between first, second and third doses; as well as between girls and boys. In 2012, North Carolina's percentage of girls receiving the first dose of HPV was 53.3% compared to 18.8% in boys. The second dose rate dropped to 46.5% in girls and 11.8% in boys. The third and final dose decreased to 35.5% for girls and 8.6% for boys.<sup>11</sup>

### **Vaccinations: college students**

College freshmen, especially those living in dormitories are at a slightly increased risk for bacterial meningitis caused by the *Neisseria meningitidis* bacteria (meningococcal disease) compared with other persons of the same age. As of 2009, a total of 34 states had adopted legislation requiring colleges to provide information on risks of meningococcal disease to incoming students and/or students residing on campus. Fifteen states have mandated vaccination for certain students unless a vaccination waiver is provided.<sup>12</sup>

In Durham County, Duke University and North Carolina Central University (NCCU) require undergraduates to meet the North Carolina immunization requirements for college entry. In addition, Duke University is currently requiring undergraduates to get vaccinated against meningococcal disease while NCCU strongly recommends it.<sup>13, 14</sup>

### **Vaccinations: refugees**

In 2010, the Durham County Department of Public Health Immunization Program provided services to 203 refugees from numerous countries including Vietnam, Iraq, Bhutan, Ethiopia, Malaysia, Congo, Burma and Thailand. The I-693, Report Vaccination Record was provided to 93 refugees. Table 8.01(a) below depicts the number of refugees in Durham County receiving the I-693 vaccine between the years of 2004-2010.

**Table 8.01(a) Refugees receiving I-693****Number of Refugees receiving I-693 Vaccination  
Report of Vaccination Record at DCHD<sup>15</sup>**

<b>Year</b>	<b>Number of Refugees</b>
2004	55
2005	80
2006	75
2007	38
2008	53
2009	41
2010	93

**Pneumonia and influenza:**

Individuals more than 65 years of age, those with chronic health conditions, pregnant women, and young children (6 months- 5 years) are at higher risk of developing complications such as pneumonia from influenza.<sup>16</sup> Between 2008 and 2010, pneumonia and influenza were the ninth leading cause of death among Durham County residents with a total of 196 deaths. During this same period, there was a total of 8,710 flu deaths in North Carolina.<sup>17</sup>

On February 24, 2010, vaccine experts declared everyone 6 months and older should receive an annual flu vaccine starting with the 2010-2011 influenza season. The Durham County Department of Public Health administered 3,429 influenza vaccines during the 2011-2012 influenza season.<sup>18</sup>

**Primary Data**

In 2011, 42.5% of Durham County residents compared to 41.9% of North Carolinians reported receiving an influenza vaccine in their arm. Also in 2011, 25.3% of Durham County residents reported that they had ever had a pneumonia shot compared to 29.3% of North Carolina residents.<sup>19</sup>

Nearly two-thirds (65.4%) of Durham County residents over the age of 65 reported receiving the flu vaccine during the 2011-2012 influenza season.<sup>20</sup> Over the last several years, seniors have reported that the influenza vaccine is readily available at grocery stores, pharmacies, their primary care providers as well as the Durham County Department of Public Health.

## Interpretations: Disparities, Gaps, Emerging Issues

### Disparities

Since 1994, The National Immunization Survey (NIS) has collected data to monitor childhood and adolescent immunization coverage. This survey found that coverage differed by race and ethnicity. In general, racial minorities were less likely to receive certain immunizations compared to white children and adolescents. For example, compared to white children, black children had lower coverage for receiving more than four diphtheria, tetanus and whooping cough pertussis (DTAp), full series of Haemophilus influenzae type b (Hib), greater than four doses of pneumococcal conjugate vaccine (PCV) and the rotavirus vaccine. American Indian/Alaska Native children and Asian children had higher coverage for three doses of Hepatitis B (HepB) compared with white children. Black, Hispanic, and multicultural children had higher coverage for the birth dose of HepB compared to white children. Children in families with incomes below the federal poverty level had lower coverage than children in families at or above the poverty level.<sup>21</sup>

### Emerging issues

The Vaccines for Children (VFC) program has been effective in reducing gaps in vaccine coverage levels related to poverty status. Effective July 1, 2010, the North Carolina Immunization Program (NCIP) changed to a VFC-only program. This means only children who qualify for the federal VFC entitlement program may receive vaccines at no cost from the state. Prior to this change, the North Carolina Immunization Branch used federal funds for children eligible for the federal VFC program and used state funds to provide vaccines for children who were not eligible for the VFC program. Currently, the North Carolina Immunization Branch will no longer provide vaccines for children who are ineligible for the federal VFC program. The NCIP will continue to exist and serve the approximately 67% of children in North Carolina who qualify for VFC vaccines.<sup>22</sup>

Unfortunately, the United States has recently seen a return of children falling ill from immunizable conditions such as measles and whooping cough. Complications from these conditions can be severe for children resulting in hospitalization, disability and even death. Nationally, some recent cases have been associated with parents intentionally rejecting vaccines out of religious beliefs or concerns that some immunizations might be linked to autism and other disorders.<sup>23</sup> The most common and specific claims are that autism stems from the measles-mumps-rubella (MMR) vaccine or from vaccines that contain the preservative, thimerosal. Many large studies have been conducted to investigate these specific concerns, but no link has ever been found between vaccines and autism. Still, these unproven claims persist and they have led some parents to refuse vaccination for their children.

During the 2012-2013 influenza season, the Durham County Department of Public Health offered influenza vaccines to their employees by going from clinic to clinic to ensure higher compliance rates. There were 184 employees vaccinated on site at the Durham County Department of Public Health. Durham County employees were able to receive their flu vaccines during three separate clinics. A total of 216 county employees were vaccinated. Flu outreach was performed at Triangle Residential Options for Substance Abusers (TROSAs). Over a two-day period, 273 vaccines were administered to the residents.

## Recommended Strategies

- Promote the NCIR to all providers:  
Immunization providers may access all recorded childhood immunizations administered in North Carolina, regardless of where the immunizations were given. The primary purposes 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;
  - To assist in the evaluation of a child's immunization status and identify children who need (or are past due for) immunizations;
  - To assist communities in assessing their immunization coverage and identifying areas of under-immunization; and
  - To fulfill federal and state immunization reporting needs.
- Promote the Immunization Action Coalition (IAC) as a premier source of childhood, adolescent and adult immunization information for healthcare professionals. The IAC (<http://www.immunize.org>) works to increase immunization rates and prevent disease by creating and distributing educational materials for health professionals and the public that enhance the delivery of safe and effective immunization services. IAC also facilitates communication about the safety, efficacy, and use of vaccines within the broad immunization community of patients, parents, healthcare organizations, and government health agencies.
- Promote the CDC's highly informative websites related to vaccines such as:
  - CDC's Vaccine & Immunization Homepage: <http://www.cdc.gov/vaccines>
  - New Preteen and Teen Vaccines: <http://www.cdc.gov/vaccines/who/teens>
  - CDC's Travel Vaccinations: <http://wwwnc.cdc.gov/travel/page/vaccinations.htm>
- The CDC encourages the use of evidence-based methods of improving coverage, which include parent and provider reminders, reducing out-of-pocket costs, increasing access to vaccination and multi-component interventions that include education. Research is under way to understand barriers to implementing proven methods of improving coverage and identify approaches to promoting more widespread implementation.<sup>24</sup>

## Current Initiatives & Activities

- ***North Carolina (NC) Immunization Branch***  
The NC Immunization Branch promotes public health through the identification and elimination of vaccine-preventable diseases. In 2001, the Branch incorporated an adult education component into the program to raise awareness of the agelessness of immunizations. Information is available for parents, adults and about child care, schools and colleges.

Website: <http://www.immunize.nc.gov/>  
Phone Number: (919) 707-5550

- ***Durham County Department of Public Health (DCoDPH) Immunization Clinic***  
The clinic offers immunizations by appointment Monday thru Friday from 8:30 am until 5 p.m. by appointment or a walk-in basis. DCoDPH clinics are closed the first Wed. afternoon of each month for staff development. This Clinic also provides immunizations services to refugees.  
  
Website: <http://www.dconc.gov/index.aspx?page=792>  
Phone Number: (919) 560-7608
  
- ***Lincoln Community Health Center (LCHC), Inc.***  
LCHC is an accredited facility by The Joint Commission (TJC) that provides accessible and affordable outpatient health care services to the medically underserved including pediatric services that includes immunizations.  
  
Website: <http://www.lincolnchc.org/>  
Phone Number: (919) 956-4000
  
- ***For parents with concerns about vaccines and autism:***  
The American Academy of Pediatrics has issued a statement  
Website: <http://www2.aap.org/advocacy/releases/autismparentfacts.htm>  
<http://www.aap.org/healthtopics/Autism.cfm>  
[www.immunize.org/catg.d/p4026.pdf](http://www.immunize.org/catg.d/p4026.pdf)  
[www.immunize.org/catg.d/p4028.pdf](http://www.immunize.org/catg.d/p4028.pdf)  
  
Books: *Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure*, by Paul A. Offit  
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## **Section 8.02 *Infectious diseases (not sexually transmitted)/TB***

### **Overview**

Infectious diseases are caused by agents that are infective and may originate from bacteria, fungus, viruses or parasites.<sup>1</sup> Infectious diseases include three major types: diseases that have existed for years, new or recently identified infectious diseases known as emerging infectious diseases and zoonotic infectious diseases (diseases that spread from animals to humans). Some commonly known infectious diseases include tuberculosis (TB) and Salmonella and Rocky Mountain Spotted Fever (RMSF).

The National Center for Emerging and Zoonotic Infectious Diseases, a division of the Centers for Disease Control and Prevention (CDC), aims to prevent disease, disability and death caused by a wide range of infectious diseases.<sup>2</sup> Each of the center's seven divisions works with partners to protect and improve the public's health in the United States and worldwide.

Non-sexually transmitted communicable diseases are reported at both the state and national levels. This list of reportable diseases is periodically revised. Communicable disease reporting is mandated by legislation or regulation at both the state and local levels; however, state reporting to the CDC is voluntary. Officials at state health departments and the CDC collaborate to determine which communicable diseases should be reportable nationally.

Communicable diseases not only impact the morbidity of Durham County residents, but in some cases may also lead to death. Additionally, the individual's health and well-being are affected by time lost from work and school. The impact of communicable diseases such as TB can be felt throughout entire communities due to the potential for large-scale outbreaks and increases in health care expenses.

### **Healthy NC 2020 Objective**

There are no Healthy NC 2020 objectives for non-sexually transmitted infectious diseases.

The Durham County Department of Public Health's Communicable Disease Program created objectives based on the objectives of the Epidemiology and Communicable Disease Branch of the North Carolina Department of Public Health, which include:

1. To eliminate the occurrence and transmission of tuberculosis in the community.
2. To conduct thorough reporting and investigation of communicable diseases and prompt communicable disease control management to protect the health of the community.<sup>3</sup>

## Secondary Data

### Tuberculosis

Figure 8.02(a) depicts preliminary data of 9,588 TB cases reported in the United States in 2013, for an incidence of 3.0 cases per 100,000 population compared with 3.2 cases per 100,000 population in 2012. The average TB case rate in North Carolina was less than 3.0 per 100,000, which was lower than the national average of 3.8 per 100,000 during this year.<sup>4</sup>

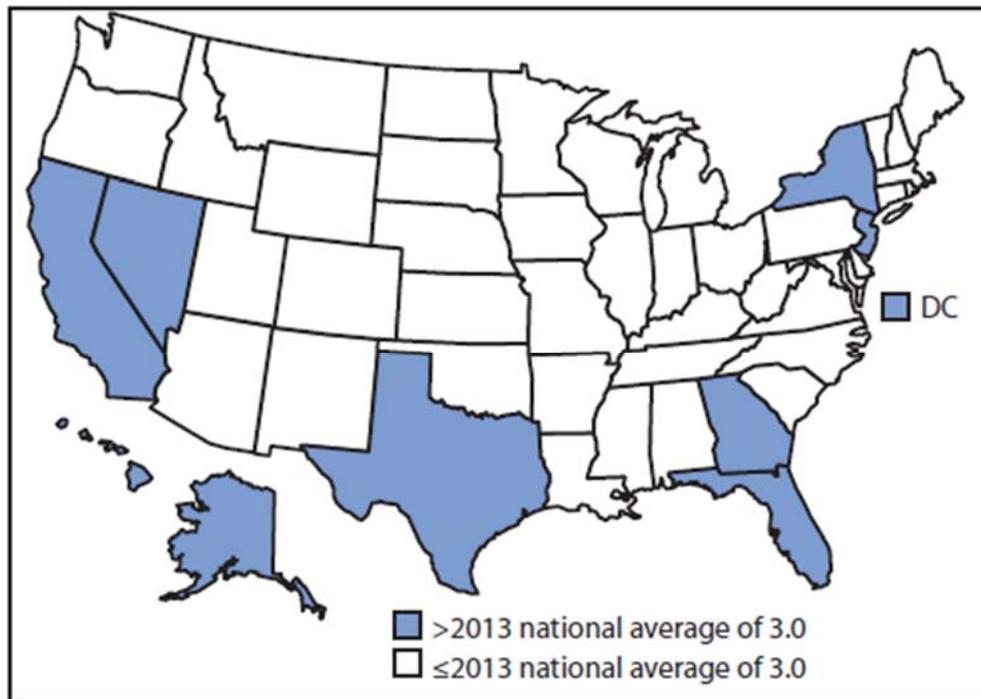
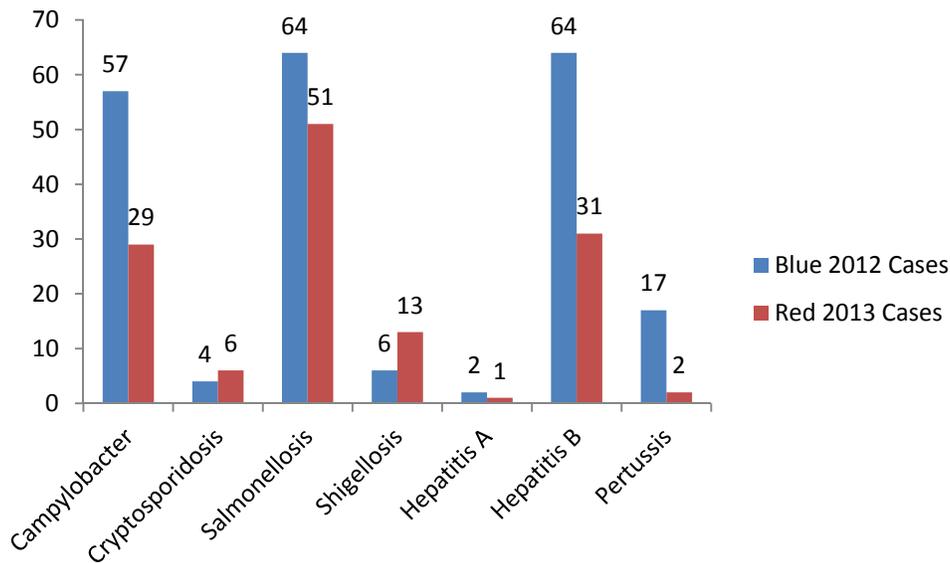


Figure 8.02(a) Rate of tuberculosis cases, by state/area – United States, 2013  
\*per 100,000

### Other Communicable Diseases (excluding vaccine-preventable diseases, TB, and STDs)

Based on the information provided in Figure 8.02(b), the number of some communicable diseases reported in the county such as Campylobacter and Salmonellosis (food-borne illnesses), Hepatitis B and Pertussis has declined; however, this may be due to under-reporting from local healthcare providers. Reported Shigellosis on the other hand, increased between 2012 and 2013. Shigellosis is a bacterial infection that is spread by oral-fecal transmission, meaning it is carried in the infected person's stool for the duration of their illness and for one to two weeks after. The bacteria is transferred to others by unclean or soiled hands touching shared surfaces or food products. Shigellosis symptoms include fever, stomach cramps and diarrhea with bloody stools that can last between five to seven days, but some individuals can present with no symptoms and still be considered infectious. There is no vaccine preventing Shigellosis, but effective and frequent hand washing with soap and water, cleaning surfaces with bleach and basic food safety precautions can stop the transmission of the bacteria to others.

**2012-2013 Number of Durham County Reported Communicable Diseases**



**Figure 8.02(b) Food-borne and Vaccine Preventable Illness<sup>5</sup>**

Other communicable diseases may present in the community at any time. The Durham County Department of Public Health’s Communicable Disease Program must investigate reports in a timely manner in order for rapid initiation of required or needed control measures to be instituted. All reported suspected or confirmed cases are investigated and followed up. Communicable disease follow-up may affect individuals or large groups. All reported and investigated communicable diseases must be entered in the North Carolina Electronic Disease Surveillance System (NCEDSS). NCEDSS is a web-based surveillance and reporting system. NCEDSS is also part of the Public Health Information Network (PHIN).<sup>6</sup> The reportable diseases in North Carolina are shown in the Table 8.02(a) below.

**Table 8.02(a) North Carolina Reportable Diseases**

<p><b>CHAPTER 41 – HEALTH: EPIDEMIOLOGY</b>  <b>SUBCHAPTER 41A – COMMUNICABLE DISEASE CONTROL</b>  <b>SECTION .0100 – REPORTING OF COMMUNICABLE DISEASES</b>  <b>10A NCAC 41A .0101 REPORTABLE DISEASES AND CONDITIONS</b></p> <p>(a) The following named diseases and conditions are declared to be dangerous to the public health and are hereby made reportable within the time period specified after the disease or condition is reasonably suspected to exist:</p> <ol style="list-style-type: none"> <li>(1) Acquired Immune Deficiency Syndrome (AIDS) - 24 hours;</li> <li>(2) anthrax - immediately;</li> <li>(3) botulism - immediately;</li> <li>(4) brucellosis - 7 days;</li> <li>(5) campylobacter infection - 24 hours;</li> <li>(6) chancroid - 24 hours;</li> <li>(7) chlamydial infection (laboratory confirmed) - 7 days;</li> </ol>
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- (8) cholera - 24 hours;
- (9) Creutzfeldt-Jakob disease – 7 days;
- (10) cryptosporidiosis - 24 hours;
- (11) cyclosporiasis - 24 hours;
- (12) dengue - 7 days;
- (13) diphtheria - 24 hours;
- (14) Escherichia coli, shiga toxin-producing - 24 hours;
- (15) ehrlichiosis - 7 days;
- (16) encephalitis, arboviral - 7 days;
- (17) foodborne disease, including Clostridium perfringens, staphylococcal, Bacillus cereus, and other and unknown causes - 24 hours;
- (18) gonorrhea - 24 hours;
- (19) granuloma inguinale - 24 hours;
- (20) Haemophilus influenzae, invasive disease - 24 hours;
- (21) Hantavirus infection – 7 days;
- (22) Hemolytic-uremic syndrome – 24 hours;
- (23) Hemorrhagic fever virus infection –immediately;
- (24) hepatitis A - 24 hours;
- (25) hepatitis B - 24 hours;
- (26) hepatitis B carriage - 7 days;
- (27) hepatitis C, acute - 7 days;
- (28) human immunodeficiency virus (HIV) infection confirmed - 24 hours;
- (29) influenza virus infection causing death in persons less than 18 years of age – 24 hours;
- (30) legionellosis - 7 days;
- (31) leprosy – 7 days;
- (32) leptospirosis - 7 days;
- (33) listeriosis – 24 hours;
- (34) Lyme disease - 7 days;
- (35) lymphogranuloma venereum - 7 days;
- (36) malaria - 7 days;
- (37) measles (rubeola) - 24 hours;
- (38) meningitis, pneumococcal - 7 days;
- (39) meningococcal disease - 24 hours;
- (40) monkeypox – 24 hours;
- (41) mumps - 7 days;
- (42) nongonococcal urethritis - 7 days;
- (44) plague - immediately;
- (45) paralytic poliomyelitis - 24 hours;

*Adapted from North Carolina Division of Public Health Communicable Disease Manual Public Management of Communicable Diseases and Conditions Updated December 4, 2013.*

### 2007-2010 Trends for Non-Vaccine Preventable Communicable Diseases in Durham County<sup>7</sup>

Figure 8.02(c) below depicts the three highest reported non-vaccine preventable communicable diseases in Durham County from 2007-2010, according to data collected through NCEDSS. Salmonella, a food-borne illness, consistently ranks in the top three communicable diseases between 2007 and 2010, while Campylobacter (another food-borne illness) remained in the top three between 2007 and 2009. RMSF, a vectorborne illness transmitted by ticks ranked in the top three for both 2007 and 2008 and ultimately became the highest reported non-vaccine preventable communicable disease in 2010. In 2009, Streptococcus A, more commonly known as “Strep Throat,”<sup>8</sup> entered the top three highest reported diseases, accounting for 9.4% of all reported non-vaccine preventable communicable diseases. In 2010, Ehrlichia, HME, another vectorborne disease transmitted by ticks, joined Salmonella and RMSF in the top three accounting for 13.6% of all reported non-vaccine preventable communicable diseases.

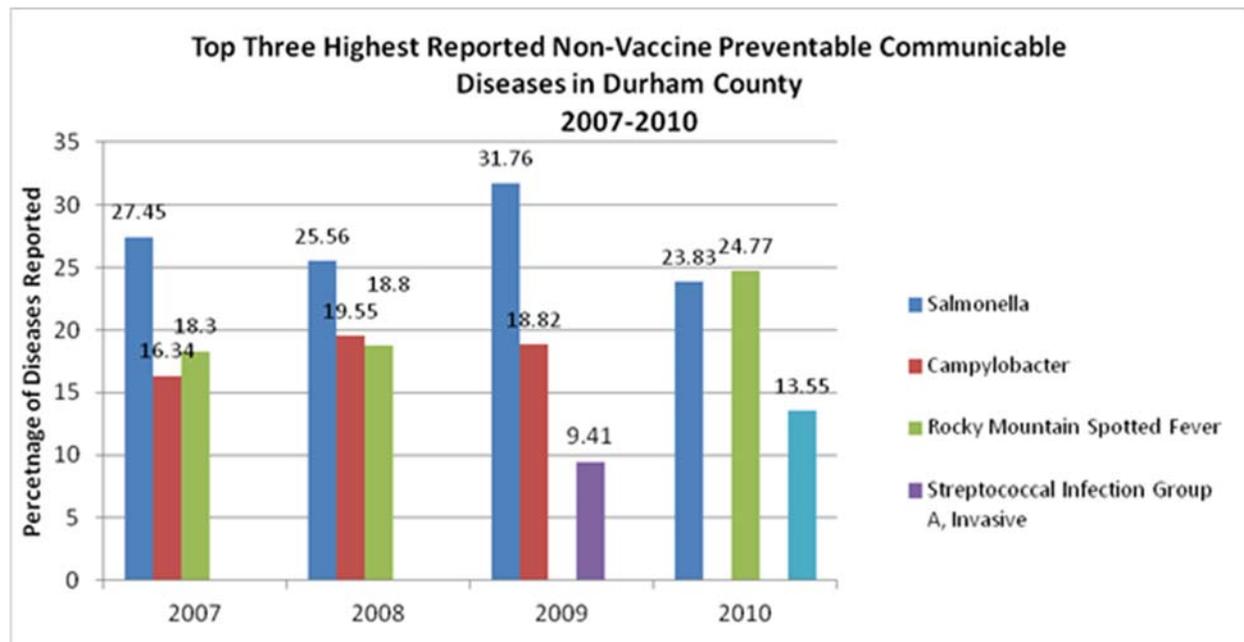


Figure 8.02(c) 2007-2010 Trends<sup>9</sup>

### Emerging Diseases

In Durham County, waterborne illnesses such as Cryptosporidium infection (Cryptosporidiosis) have been reported as emerging infectious diseases. Cryptosporidium is a gastrointestinal disease that causes diarrhea and has become one of the most common causes of recreational water illness in the United States; it is found in almost every part of the world.<sup>10</sup> *Vibrio vulnificus*, a kind of bacteria found in warm coastal waters in North Carolina and vector-borne diseases (diseases transmitted via insect or arthropod) are also causes of some of these emerging infectious diseases.<sup>11</sup>

## Primary Data

In 2013, the Durham County Community Health Opinion Survey was conducted. Two hundred and ten (210) households were randomly selected in this survey. One question on the survey asked respondents to choose their top three health problems in Durham County from a list. Addiction to alcohol, drugs and medications and obesity/overweight were the top two selected issues. While a concern in 2010, infectious diseases (non-sexually transmitted) was not included as an option on the 2013 Durham County Community Health Opinion Survey and it was not mentioned by residents.<sup>12</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

### Disparities

The CDC states that although the number of reported TB cases is at an all-time low in the U.S., the rates of TB in foreign-born persons from countries of high prevalence as well as TB rates among U.S.-born racial/ethnic minorities, is excessively high.<sup>13</sup> According to 2009 CDC data, the highest rate of TB for U.S.-born individuals was found among Black/African-Americans, accounting for 42% of the cases.<sup>14</sup> Additionally, foreign-born Hispanics and Asians represented 80% of TB cases in foreign-born persons and accounted for 48% of the national case total.<sup>15</sup>

### Gaps

A gap in the community exists around awareness and education of TB. There is also a need for medical providers and health care organizations to be educated on the new reporting system for communicable diseases. There continues to be a lag in medical providers' timely reporting of communicable diseases to the health department. New arrivals to Durham County will also need to be informed of the preventative services available for communicable diseases in order to control the spread of these diseases.

### Emerging Issues

Immigrants and refugees from countries with high endemic rates of infectious diseases such as TB and HIV are becoming residents of Durham County. This contributes to increased health care costs and public health workforce workloads. Imported communicable diseases puts further strain on the community's ability to control and prevent communicable diseases. Furthermore, complex care is required for managing co-infected TB/HIV patients.

## Recommended Strategies

Timely reporting and investigation of communicable diseases such as TB will ensure prompt communicable disease control in protecting the health of the community. The continued enforcement of North Carolina's communicable disease statutes and rules, and implementation of the required control measures will assist efforts to control and prevent the spread of communicable diseases. There must be ongoing efforts to address the disparities between U.S.-born and foreign-

born persons and between whites and minorities in the United States.<sup>16</sup> Provision of culturally-competent healthcare is vital to successful treatment and prevention of communicable diseases in the community. Continued education via websites and outreach activities will promote health care access, thus preventing the transmission of communicable diseases in the community.

## Current Initiatives & Activities

### ▪ *Durham County Department of Public Health (DCoDPH) TB Control Program*

The DCoDPH provides a comprehensive Tuberculosis Control Program for early identification of persons with TB, their contacts, and positive reactors to PPD Mantoux tuberculin skin test. All individuals of Durham County who present with symptoms or are referred by a private physician, hospital, or another health care provider are eligible for services.

The TB Control Program at DCoDPH provides the following services to residents:

- TB testing for high risk individuals.
- TB evaluation for people with a history of a previous positive TB skin test but no active TB disease.
- Preventive treatment for people with inactive TB infection.
- Identification and treatment of individuals with active TB disease.
- TB education for health care workers and people at risk for TB infection.

Website: <http://dconc.gov/index.aspx?page=797>

Phone Number: (919) 560-7600

### ▪ *Durham County Department of Public Health Communicable Disease Program*

The staff of the DCoDPH's Communicable Disease Program conduct thorough reporting and investigation of communicable diseases and prompt communicable disease control management to protect the health of the community. The program also provides enforcement of North Carolina's communicable disease statutes and rules through implementation of appropriate control measures.

Website: <http://dconc.gov/index.aspx?page=1388>

Phone Number: (919) 560-7600

### ▪ *North Carolina Department of Health and Human Services Division of Public Health-Communicable Disease Control Branch Epidemiology Section*

The Communicable Disease Branch promptly investigates disease outbreaks and unusual situations as well as implements control measures to minimize further transmission of disease. Additionally, this branch is in charge of monitoring disease reporting by physicians and laboratories in order to detect trends and to assess the public health impact of diseases, among other tasks.

Website: <http://epi.publichealth.nc.gov/cd/>

Phone Number: (919) 733-3419

- ***North Carolina Department of Health and Human Services Division of Public Health Tuberculosis Control Branch***

The state TB Control Branch provides access to information about TB disease and prevention in North Carolina. The Tuberculosis Control program, located in the Public Health Division of the NC Department of Health and Human Services, is the lead agency in combating tuberculosis in the state.

Website: <http://epi.publichealth.nc.gov/cd/diseases/tb.html>

Phone Number: (919) 733-3419

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## Section 8.03 *Sexually transmitted diseases (STDs)*

### Overview

HIV/AIDS and other sexually transmitted diseases (STDs) disproportionately affect minority communities in North Carolina. These preventable conditions can lead to reduced quality of life as well as premature death and disability and result in millions of dollars in preventable health expenditures annually.<sup>1</sup> Many factors such as poverty, income and education, racial segregation, discrimination and incarceration rates influence sexual behavior and sexual networks. This contributes to the disparities in the rates of HIV, AIDS and other STDs among minorities and the economically challenged in North Carolina. Comprehensive STD/HIV education, testing and treatment of individuals and their partners are essential components of communicable disease control in North Carolina.

Data from the North Carolina Institute of Medicine show that Chlamydia, gonorrhea, and syphilis are the three most common STDs in North Carolina. STD rates among North Carolinians are persistently above national averages and Chlamydia is the most prevalent reportable STD in North Carolina, which can cause cervicitis, infertility and pelvic inflammatory disease (PID) in females.<sup>2</sup> Syphilis is another STD in which rates are beginning to rise again in the state. Untreated syphilis can lead to long term complications such as organ damage, paralysis or blindness and infection in pregnant women can cause premature births or infant deaths.<sup>3</sup> Of great concern is the infection rate for North Carolina youth aged 15 to 24 years, who account for nearly half of all reported STDs.<sup>4</sup> Research shows that adolescents are at increased risk, both behaviorally and biologically for HIV infection.<sup>5</sup> As examined below, Durham County also has one of the highest rates of sexually transmitted diseases in North Carolina.

In 2010, among all 50 states and six territories, the rate of AIDS diagnoses in North Carolina was the 17<sup>th</sup> highest in the nation at 10.4 per 100,000 (slightly lower than the national rate of 14.0 per 100,000).<sup>6</sup> In addition, HIV/AIDS was the 9<sup>th</sup> leading cause of death among 25-to 44-year-olds by age group in 2010.<sup>7</sup> In 2010, the principal risk for HIV was men having sex with men. Based on Counseling, Testing and Referral (CTR) data collected by the North Carolina State Lab of Public Health (SLPH), persons reporting this risk factor are the highest percentage of those testing HIV positive.<sup>8</sup> Heterosexual sex was the most significant mode of transmission for women.<sup>9</sup>

Recently, the Centers for Disease Control and Prevention (CDC) and the North Carolina Division of Public Health have recommended increased Hepatitis C testing for individuals with high-risk sexual behaviors, multiple sexual partners and/or sexually transmitted diseases and those with HIV infection. Hepatitis C is a liver disease caused by the Hepatitis C virus (HCV). Hepatitis C is spread when blood of an infected person enters the body of a person who is not infected. There are approximately three million individuals infected with Hepatitis C in the United States.<sup>10</sup> Anyone can get hepatitis C, but adults born from 1945-1965 or baby boomers, are five times more likely to have hepatitis C.<sup>11</sup> Most individuals do not know they are infected

because a person can live with the virus for decades without any symptoms. About three in four do not know they are infected so they are not getting the necessary medical care and treatment.<sup>12</sup>

## Healthy NC 2020 Objective

### Sexually Transmitted Diseases

Healthy NC 2020 Objective <sup>13</sup>	Current Durham	Current NC <sup>14</sup>	Baseline NC	2020 Target
1.Reduce the percentage of positive results among individuals aged 15 to 24 tested for Chlamydia	n/a*	10.9% (2011)	9.7% (2009)	8.7%
2. Reduce the rate of new HIV infection diagnoses (per 100,000 population).	29.9 (2011) <sup>15</sup>	17.3 (2011)	24.7 (2008)	22.2

\*In 2012, the total number of cases of Chlamydia reported in Durham was 2,328. This reflects an increase from 2011 (1,923 cases).<sup>16</sup> In 2012, Durham County's rate of new Chlamydia infections was 851.5 per 100,000.<sup>17</sup> Data on percentage of positive results for individuals tested for Chlamydia is not available for Durham County because Durham is not funded by the CDC's Infertility Prevention Project.

## Secondary Data

### HIV

Durham County has the 4<sup>th</sup> highest rate of HIV in North Carolina with 1,467 of its residents living with HIV.<sup>18</sup> Data from 2011 shows those diagnosed with HIV in North Carolina, more than 50% were from seven counties: Mecklenburg (17.6%), Wake (10.4%), Guilford (7.4%), Durham (5.8%), Forsyth (4.9%), Cumberland (4.7%) and New Hanover (2.4%).<sup>19</sup> HIV three year trend data, comparing Durham to peer counties are depicted in both Table 8.03(a) and Figure 8.03(a) below.

*HIV Rates: Peer Counties (Cumberland, Guilford, Forsyth, Wake and Mecklenburg) and NC* Durham ranks 4<sup>th</sup> highest in North Carolina, and has an average rate of HIV disease well above the state rate. The three-year (2009-2011) average rate of diagnosed HIV disease in North Carolina was 16.4 per 100,000 and Durham's rate was 29.9 per 100,000.<sup>20</sup>

**Table 8.03(a)<sup>21</sup> Durham, Peer Counties and North Carolina Three Year Trends for HIV Disease Rank Order\***

Rank	County/State	2009 Cases	2010 Cases	2011 Cases	2009 Rate	2010 Rate	2011 Rate	AVG Rate
2	Mecklenburg	338	309	339	37.0	33.6	36.9	35.8
4	<b>Durham</b>	<b>80</b>	<b>88</b>	<b>73</b>	<b>29.7</b>	<b>32.9</b>	<b>27.3</b>	<b>29.9</b>
5	Cumberland	82	80	97	26.0	25.0	30.4	27.1
6	Guilford	129	114	128	26.9	23.3	26.2	25.5
8	Forsyth	87	59	84	24.2	16.8	24.0	21.7

12	Wake	186	170	153	20.7	18.9	17.0	18.9
	<b>NC</b>	<b>1634</b>	<b>1469</b>	<b>1563</b>	<b>17.4</b>	<b>15.4</b>	<b>16.4</b>	<b>16.4</b>

\*Rank based on three-year average rate per 100,000

**HIV Rates per 100,00 for Durham, Selected Peer Counties and North Carolina 2009-2011**

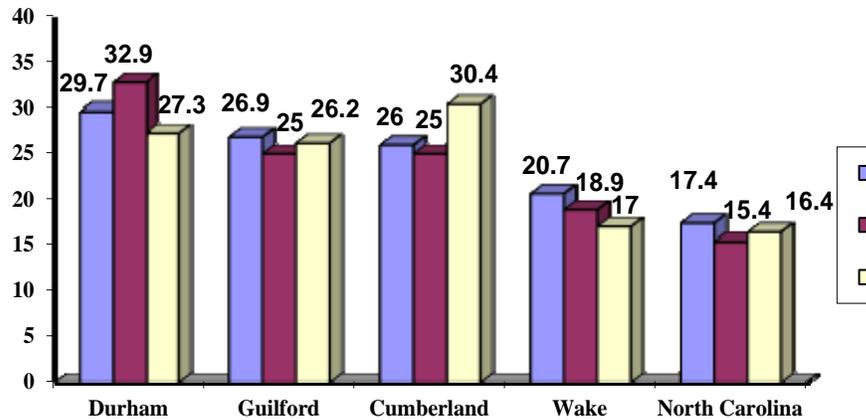


Figure 8.03(a) 2009-2011 HIV Rates

**Chlamydia, Gonorrhea and Syphilis**

In 2012, Durham County reported the 7<sup>th</sup> highest number of early syphilis cases in North Carolina (n=26), after Mecklenburg (134), Wake (84), Guilford (66), Forsyth (43), Pitt (35) and Cumberland (32).<sup>22</sup> These data for Durham are depicted in both Table 8.03(b) and Figure 8.03(b) below.

**Table 8.03(b) Five year trends for Chlamydia, Gonorrhea & Syphilis\* rates / 100,000 in Durham**<sup>23</sup>

	2008 Cases	2009 Cases	2010 Cases	2011 Cases	2012 Cases	2008 Rate	2009 Rate	2010 Rate	2011 Rate	2012 Rate
Chlamydia	1,460	1,471	1,642	1,923	2,328	555.0	545.4	611.7	703.4	851.5
Gonorrhea	728	561	680	747	820	276.8	208.0	253.3	273.2	299.9
Syphilis	24	25	14	11	20	9.1	9.3	5.2	4.0	7.3

\*Primary and Secondary Syphilis

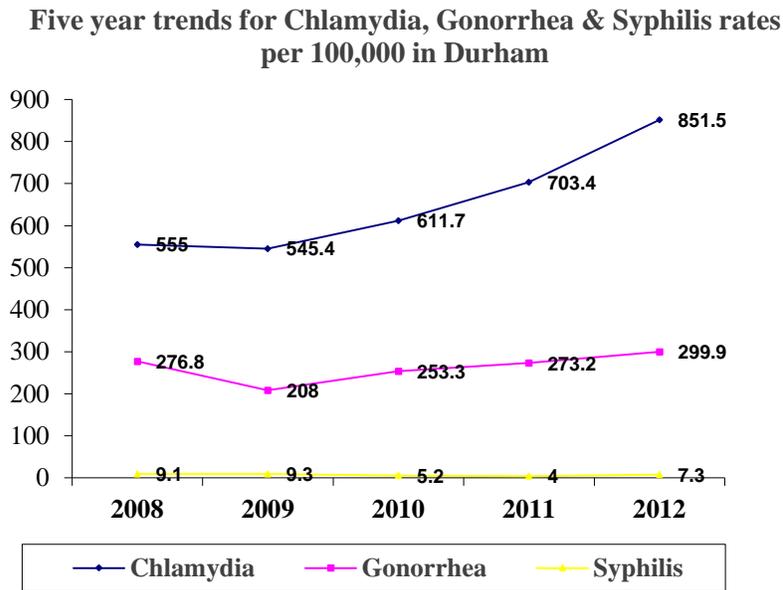


Figure 8.03(b) Five Year Trends<sup>24</sup>

The Youth Risk Behavior Survey (YRBS) was given to randomly selected classrooms of high school students in Durham Public Schools. The YRBS is a CDC survey designed to monitor priority risk behaviors related to tobacco use, unhealthy diet, inadequate physical activity, alcohol and other drug use, unintended pregnancy and sexually transmitted diseases and unintentional injuries and violence. In the 2013 High School Youth Risk Behavior Survey, North Carolina students were asked a question regarding their sexual behavior. Of the students surveyed, 47.3% responded that they had ever had sex.<sup>25</sup> In Durham County, 51.1% of those surveyed reported having had sex.<sup>26</sup>

### Primary Data

From the 2013 Durham County Community Health Opinion Survey:<sup>27</sup>

A random sample of Durham residents were asked to select three community issues that have the greatest effect on quality of life in Durham County. Of the sample, 2% indicated unprotected sex (including STDs and unplanned pregnancies) as a community issue. The sample was also asked to identify the most important health problems, in which 4% indicated STDs including HIV.

### Interpretations: Disparities, Gaps, Emerging Issues

HIV/AIDS is disproportionately distributed among the state’s population with infection rates highest for non-Hispanic blacks and men who identify as having sex with other men (MSM) However, these rates are not mutually exclusive. The 2011 rate of new HIV diagnosis for non-Hispanic blacks (62.8 per 100,000) was almost ten times greater than that of whites (6.3 per 100,00) and the rate of new diagnosis for Hispanics (19.1 per 100,000) was almost three times

greater than that of whites.<sup>28</sup> The highest rate of new HIV reports was found among adult/adolescent black males (99.3 per 100,000).<sup>29</sup>

In 2011, 77 percent of new adult and adolescent HIV disease cases for males were attributed to MSM, four percent to injecting drug use (IDU), two percent to MSM who also inject drugs (MSM/IVDU) and 18 percent were attributed to heterosexual sex.<sup>30</sup> The proportion of male HIV reports with MSM as a risk factor has increased over the past few years for all racial/ethnic groups. In 2011, MSM accounted for 90 percent of the white non-Hispanic male HIV reports, 75 percent of black non-Hispanic male reports and 75 percent of reports for other minority males.<sup>31</sup>

The largest disparity was found in comparing adult/adolescent white and black females. The HIV rate for black females (31.9 per 100,000) was nearly 19 times higher than that for white non-Hispanic females (1.7 per 100,000).<sup>32</sup> The ratio of male-to-female HIV disease cases diagnosed has risen from 2.5 in 2007 to 3.2 in 2011.<sup>33</sup> Heterosexual sex as a primary risk factor accounts for 35 percent of all (male and female) 2011 adult/adolescent HIV disease reports and was the principal risk for females (92%), especially younger females (100% of likely female adolescent exposure).<sup>34</sup>

Identified areas of need for persons living with HIV/AIDS include lack of affordable housing, lack of access to healthcare and treatments and lack of supportive services to maintain health and wellness. The expansion of housing specifically for the use of people with HIV/AIDS has been slow, although the demand has more than tripled in the past few years. Additionally, this demand has shifted towards a greater housing need for families with children.

Primary healthcare may become more attainable with recent healthcare changes, better known as health care reform or The Affordable Care Act. HIV positive individuals may be able to receive quality health care without being turned away due to pre-existing conditions. However, with North Carolina's decision to opt-out of Medicaid expansion, linkage to community-based services is necessary for many persons living with HIV/AIDS who continue to be uninsured. Continuity or reestablishment of healthcare is particularly challenging for persons living with HIV/AIDS as they are released from prison and for those that have been lost to care after initial presentation for clinical treatment. Personnel who are available to assist individuals with this transition and aid in navigating the healthcare system are important to reduce the amount of HIV in disadvantaged and disenfranchised communities. Bridge counselors are effective in providing the linkage of services for individuals newly diagnosed, recently released from prison and lost to care.

Community HIV and STD testing and educational events have increased awareness in Durham County and assisted many residents in knowing their status. As rates of HIV and STDs remain above the state average in Durham, it is clear that there is more work to be done to support effective prevention strategies, especially for those who do not consider themselves at risk. Stigma and fear continue to serve as catalysts that fuel the spread of HIV. It is imperative to concentrate on populations and subsets of populations at greater risk for contracting HIV and other STDs. Traditional outreach efforts and prevention messages targeting young men of color who have sex with men will need to incorporate more social media networks and social networking apps (Twitter, Facebook, Instagram, Adam4Adam, etc...). Effective cyber outreach

programs are vital to reaching this population in order to disseminate culturally appropriate materials and prevention messages. Finally, there is also a need for structured activities and programs for youth ages 13 to 18 that focus on esteem building, cultural values, bullying, cyber bullying, gang violence, sexual assault and sexual health to help reduce the likelihood of young people engaging in behaviors that place them at risk for HIV and other STDs.

## Recommended Strategies

Table 8.03(c) Evidence –Based and Promising Practices Resources<sup>35</sup>

Category	Name	Description	Website	Matching 2010 Objective
Individual	Counseling, Testing and Referral (CTR)	Individual level intervention for adults, adolescents and pregnant women which occurs in clinics, dedicated sites, and through outreach or other services. CTR can be delivered confidentially, but it should be undertaken voluntarily and only with informed consent.	<a href="http://www.ncdhhs.gov">www.ncdhhs.gov</a>	
Individual	RESPECT	Individual 15-30 minutes HIV prevention counseling intervention sessions conducted in community settings or local health departments	<a href="http://www.effectiveinterventions.org">www.effectiveinterventions.org</a>	STD/UP Objective 3
School	Reproductive Health and Safety Education	State law effective at the beginning of the 2010-2011 school year that requires students in grades 7, 8 and high school receive comprehensive sexuality education that is age appropriate and medically accurate.	<a href="http://www.nchealthyschools.org/rhse">http://www.nchealthyschools.org/rhse</a>	STD/UP Objective 1, 2, & 3
Clinic		Provide screening, counseling and treatment of STDs/HIV infection, screen women younger than 25 years and others at risk for Chlamydia, use provider-referral partner notification to identify people with HIV, offer HPV vaccine to females aged 11-26 years old and to males aged 9-26 years, provide friendly services to men who have sex with men.	<a href="http://www.effectiveinterventions.org">www.effectiveinterventions.org</a>	STD/UP Objective 1, 2, & 3

Community	Adolescent Pregnancy Prevention Campaign of North Carolina	The state's leader in preventing teen pregnancy and promoting healthy adolescence through advocacy, collaboration and education. Empowering families, communities and educators to help teens become healthy, contributing adults is a surefire way to strengthen our future.	<a href="http://appnc.org/">http://appnc.org/</a>	STD/UP Objective 1, 2, & 3
Community	ONECALL	A toll-free HIV call center staffed by specially trained nurses who can provide patients and non-specialist providers with referral to HIV care and support services across North Carolina.	1-866-883-1836	STD/UP Objective 1, 2, & 3

**Four recommendations to Prevent Sexually Transmitted Disease and Unintended Pregnancies as reported in the NC Prevention Action Plan, Revised July 2010:<sup>36</sup>**

1. Increase awareness, screening and treatment of Sexually Transmitted Diseases and reduce unintended pregnancies.
2. Increase HIV testing in prisons, jails and juvenile centers.
3. Ensure students receive comprehensive sexuality education in NC Public Schools.
4. Expand the availability of family planning to low-income families.

New strategies with effective prevention messages should be developed to reach youth, especially young men of color who have sex with men. In an effort to reach unmet populations in the community, an expansion of non-traditional testing for HIV and STDs with community partners, AIDS service agencies and faith-based organizations is suggested. Additionally, the development of marketing initiatives is recommended to combat stigma, especially as it pertains to HIV through collaborative community-wide events.

Secondary preventive strategies for HIV should prioritize getting people living with HIV in care and keeping them in care. Durham County should sustain and expand Care Bridge Coordination (CBC) programs for people living with HIV in Durham. A major focus of the CBC program is ensuring early entry into treatment and care for those newly diagnosed as well as reestablishing care for persons living with HIV/AIDS. Connecting individuals to healthcare is not only essential for supporting physical health, but it additionally allows for linkage to social support groups and services, mental health services and drug assistance programs.

### Current Initiatives & Activities

Testing continues to increase across Durham and North Carolina. There has been an increase in HIV testing availability with an expansion of rapid HIV testing initiatives to community health centers, emergency departments and community based organizations. Community agencies such as Alliance of AIDS Service - Carolina, the Durham County Department of Public Health

(DCoDPH), El Centro Hispano, Planned Parenthood, CAARE, Inc., the Lincoln Community Health Center (LCHC) and the LCHC Early Intervention Clinic, local hospitals and some private health care providers offer HIV and STD testing in Durham. Several agencies offer HIV/STD screening and testing at no cost to the client. Testing has risen since 2006 when the CDC recommended that HIV testing become a part of routine health screening and an increase in testing throughout prenatal care and up to delivery.<sup>37</sup> In addition, these groups and others are actively involved in providing prevention education including evidence based interventions, community education, counseling and testing events.

DCoDPH is currently piloting Hepatitis C (HCV) testing through the State Lab of Public Health. Targeted screening, education and confirmatory HCV testing will be completed. This will provide an opportunity for increased testing, faster result turnaround and more education to the population at risk. However, finding linkage to care and treatment options for many who test positive for chronic HCV is difficult due to cost of treatment and minimal service providers specializing in HCV treatment.

At the end of 2013, the State Lab of Public Health began using a 4<sup>th</sup> generation Antigen/Antibody test for HIV. This test not only allows for detection of acute, or early HIV infection, it also reduces the turnaround time for test result reporting to counseling and testing sites. Early detection and notification are essential goals in prevention, as clients who know their positive HIV status will potentially adopt safer sex practices. To ensure and promote prompt notification and referral, DCoDPH utilizes a local Disease Intervention Specialist (DIS) who locates and counsels individuals testing positive for HIV and Syphilis and their partners. Early notification ensures timely referral for treatment or testing and prevents the further spread of these communicable diseases.

DCoDPH is contracting with a community based organization to implement Safe Spaces. The Safe Spaces initiative effectively identifies, engages and helps to retain MSM living with HIV (PLWH) in care and treatment. In addition to ensuring people living with HIV have uninterrupted treatment and care access, this initiative is aimed at continued counseling, education and mentoring beyond the HIV positive diagnosis. As men who have sex with men (MSM) are disproportionately affected by HIV, it is essential that efforts to engage this population with relevant and meaningful dialogue are supported. Peer mentoring and counseling for HIV positive MSM is an initiative that aims to provide a safe space to encourage meaningful dialogue about treatment compliance, disclosing HIV status to partners and about preventing further spread of the virus.

▪ ***Partnership for a Healthy Durham HIV/STI Committee***

The HIV/STI Advisory Council brings together community members and agencies to focus on strategies to prevent the spread of syphilis and HIV/AIDS, which disproportionately impacts the minority community.

Website: [http://www.healthydurham.org/index.php?page=committees\\_std](http://www.healthydurham.org/index.php?page=committees_std)

Phone Number: (919) 560-7833

- ***Alliance of AIDS Services – Carolinas (AAS-C)***

The mission of AAS-C is to serve people living with HIV/AIDs, their loved ones, caregivers and communities at large, through compassionate and non-judgmental care, Prevention, education and advocacy.

Website: <http://www.aas-c.org/>

Phone Number: (919) 973-2010

- ***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 Durham, Chapel Hill, Carrboro and the surrounding area.

Website: <http://www.elcentronc.org/ELCentroHispaio/Main.html>

Phone Number: (919) 687-4635

- ***CAARE, Inc.***

Healing with CAARE, Inc., a nonprofit community-based organization has helped reduce a broad range of health disparities that are affecting global health. The top five health disparities - cancer, cardiovascular disease, diabetes, obesity, and HIV/AIDS are CAARE's primary focus areas.

Website: <http://caare-inc.org/>

Phone Number: (919) 683-5300

- ***Planned Parenthood***

Planned Parenthood is the nation's leading sexual and reproductive health care provider and advocate. Planned Parenthood also works with partner organizations worldwide to improve the sexual health and well-being of individuals and families everywhere.

Website: <http://www.plannedparenthood.org/health-center/centerDetails.asp?f=2196&a=90840&v=details>

Phone Number: (919) 286-2872

- ***Lincoln Community Health Center – Early Intervention Clinic***

The mission of Lincoln Community Health Center is to provide comprehensive primary and preventive health care in a courteous, professional and personalized manner. The early Intervention clinic provides medical treatment and social work services to people with HIV/AIDS in any stage of the disease.

Website: <http://www.lincolnchc.org>

Phone Number: (919) 560-7726

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

The mission of DCoDPH is to work with the community to prevent disease, promote health and protect the environment. The DCoDPH provides confidential HIV testing and counseling, STD screening, HIV/STD outreach, education and testing in the community and in the county jail.

Website: <http://www.dconc.gov>

Phone Number: (919) 560-7600

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## Section 8.04 *Outbreaks*

### Overview

The American Public Health Association defines a communicable disease as an illness due to an infectious agent or its toxic products that is transmitted from an infected person, animal or inanimate source to a susceptible host (person or animal not possessing sufficient resistance to that particular infectious agent to prevent from contracting the illness after an exposure).<sup>1</sup> In North Carolina, there are over 80 specific diseases or conditions that are reportable to public health officials under communicable disease laws.<sup>2</sup> In addition, outbreaks of illnesses are also reportable, which are defined as an increase above the expected number of persons with a communicable disease (ex: number of children in a daycare with diarrheal illnesses). This section will focus on influenza, foodborne illnesses, especially norovirus.

Influenza, also known as the flu, is a contagious respiratory disease caused by viruses. There are two main types of influenza (A and B) and several different strains of that can circulate each year. In 2009, the world experienced a pandemic of novel influenza A from a new strain not previously seen before (H1N1) that caused more deaths in children and young adults than seasonal flu. Over the 2013-2014 flu season, the pandemic strain of H1N1 (pH1N1) was the predominant circulating strain, and resulted in severe respiratory illnesses among young and middle-aged adults. Influenza is a preventable illness due to the availability of vaccines for circulating strains including pH1N1. However, clusters of illnesses or outbreaks of the flu can still occur especially in the setting of a novel flu strain.

Foodborne diseases, including food-borne intoxications (ex: heavy metals) and food-borne infections are acquired through consumption of contaminated food or water. Many bacterial, viral or parasitic organisms can cause foodborne diseases, which can range from self-limited illnesses, mild gastrointestinal symptoms to more severe infections from bloodstream involvement. Foodborne diseases like salmonella and shigella may be one of the most common causes of acute illness; however, many cases and outbreaks are unrecognized and unreported.

Noroviruses are a group of viruses that cause the “stomach flu,” or gastroenteritis, and are the most common cause of foodborne illnesses in the country. Norovirus is a very contagious virus, and people can become infected in several ways, including: 1) eating food or drinking liquids that are contaminated with norovirus; 2) touching surfaces or objects contaminated with norovirus, and then placing their hand in their mouth; 3) having direct contact with another person who is infected and showing symptoms. The symptoms of norovirus illness usually include nausea, vomiting, diarrhea, and some stomach cramping. In most people, the illness is self-limiting and they get better within one or two days without any long-term health effects. However, norovirus infections can lead to hospitalizations from severe dehydration, especially among the elderly, young infants, and immunocompromised persons.

## Healthy NC 2020 Objective

### Infectious Disease and Foodborne Illness

Healthy NC 2020 Objective <sup>3</sup>	Current Durham	Current NC <sup>4</sup>	2020 Target
1. Reduce the pneumonia and influenza mortality rate (per 100,000) population	17.2 (2011)	19.6 (2012)	13.5
2. Decrease the average number of critical violations per restaurant/food stand	2.0 (2012)	6.5 (2011)	5.5

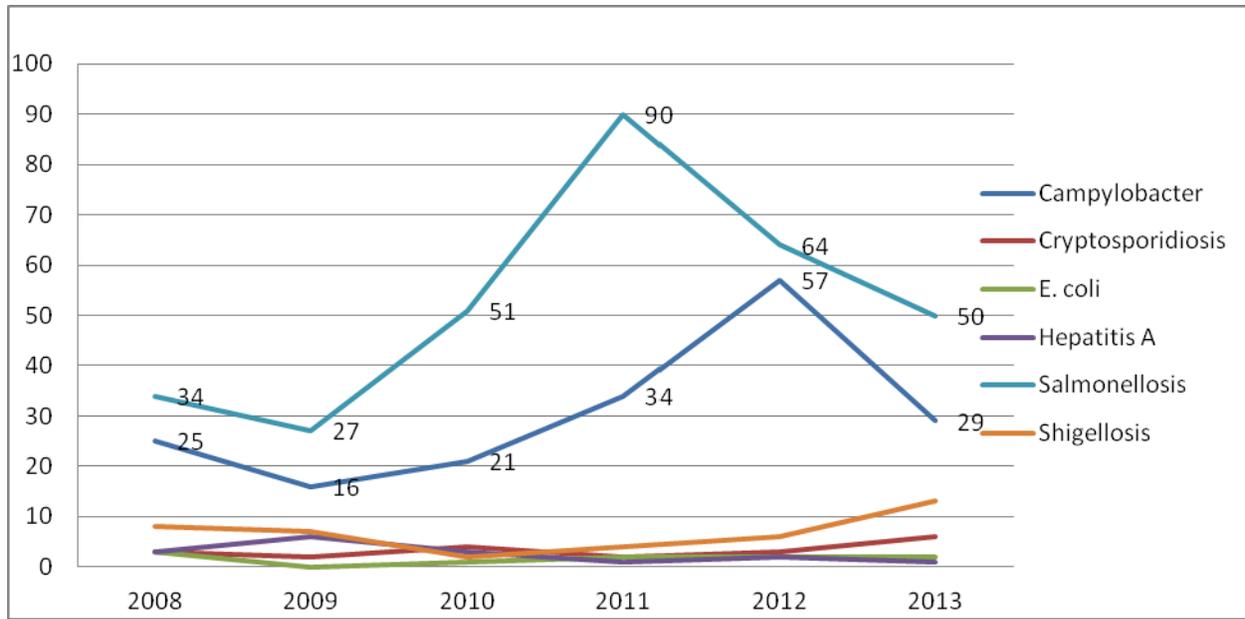
## Secondary Data

### Influenza

Seasonal influenza is not a reportable disease, but novel strains of influenza are reportable because they constitute a greater public health threat. Prior to 2009, only seasonal influenza deaths in children were captured along with influenza-like illnesses (ILI) at ILI surveillance sites in North Carolina. Currently, adult and pediatric deaths from laboratory confirmed influenza are reportable in the state. From October 2013, Durham County had two deaths reported from the pH1N1 influenza virus. However, many more presented to the emergency rooms and their primary care doctors with influenza-like illnesses, which peaked in late December 2013 throughout the state. Of the 13 isolates of influenza virus sent from the Durham County providers to the State Laboratory of Public Health as part of the NC Influenza Surveillance System, all were subtyped as influenza A H1N1.

### Foodborne Illnesses

The most common foodborne illnesses reported in Durham County are salmonellosis, campylobacter, shigellosis, hepatitis A, cryptosporidium and *Escherichia coli* infections.<sup>5</sup> Since 2008, the number of cases of foodborne illnesses has remained steady with some increases overall, with a peak in salmonellosis in 2011 and campylobacter in 2012 (Figure 8.04(a) below). Norovirus can also cause diarrhea, vomiting, and abdominal pain, but is not a reportable illness. However, norovirus is the number one cause of domestically acquired foodborne diseases in the country,<sup>6</sup> and is also a frequent cause of diarrheal outbreaks in long-term care facilities.



**Figure 8.04(a) Number of cases of common foodborne illnesses in Durham County, 2008-2013.**

The Durham County Department of Public Health (DCoDPH) received several reports of illnesses that could have been foodborne-related between 2008 and 2013. Two notable events were an outbreak of norovirus in 2013 associated with a local diner and an outbreak of norovirus in 2012 associated with a long term care facility.

On November 20, 2012, DCoDPH initiated a formal investigation of a gastrointestinal illness outbreak affecting residents and staff of a local long term care facility. Over 66 exposed persons from the facility were reported with illness, and three were confirmed with the infection. The etiologic cause was subsequently identified to be norovirus from the stool specimens of ill persons residing/working at the facility.

On May 14, 2013, DCoDPH Environmental Health staff received information regarding employees who had become ill after eating food catered from a local restaurant. With assistance from many staff, crossing multiple DCoDPH divisions and Orange County Health Department staff, over 41 persons were identified with gastrointestinal illness from the outbreak, and five were confirmed with the infection. The etiologic cause was subsequently identified to be norovirus from the stool specimens of ill persons having eaten the prepared food.

Other reports of potential foodborne infections were not associated with clusters of illnesses and were not investigated as foodborne outbreaks. These cases could have been limited to single incidents associated with food from a domestic kitchen or a food service establishment.

## Primary Data

### Foodborne Illnesses

During the long term care facility norovirus outbreak in 2012, information was gathered that assisted in the development of the case definition of nausea, vomiting and/or diarrhea of a resident or staff of the facility on or after November 16, 2012. Based on the epidemiological data regarding the onset of symptoms and the timing of the exposure among different groups of ill persons, the outbreak investigation concluded that norovirus was presumably transmitted from person to person within the facility.

During the norovirus outbreak in 2013, DCoDPH Environmental Health staff received a complaint from a family that had purchased food catered by a local restaurant. The Communicable Disease and Environmental Health staff from DCoDPH along with assistance from the Orange County Health Department interviewed all reported cases of gastrointestinal illness symptoms to obtain food histories and correlate with specimen testing. The Environmental Health staff completed onsite inspection of the facilities multiple locations with assistance from Orange County. Education and assistance was ongoing by all health department staff involved.

During the investigation it was determined six additional events were found to have been catered during this time frame along with a phone call from a patron eating in the restaurant. Additional interviews were conducted from patrons who ate at the restaurant or at one of the events catered. Probable cases were defined as individuals who reported being ill with nausea/vomiting or diarrhea within the identified time period consuming food prepared by the restaurant. Confirmed cases were similarly defined but had laboratory testing that was positive for norovirus.

## Interpretations: Disparities, Gaps, Emerging Issues

### Foodborne Illnesses

Investigations of foodborne outbreaks can be extensive and require multidisciplinary teams, including communicable disease and environmental health specialists. Prevention and early disease recognition is important to promote among the public, restaurant owners and food-handlers. Assistance from agencies including the N.C. Communicable Disease Branch is also crucial, especially in large outbreaks requiring data collection from multiple sources and prompt analysis in order to determine potential sources of transmission.

### Norovirus

Norovirus is the most common cause of acute gastroenteritis in the United States. Each year, it causes 19 to 21 million illnesses and contributes to 56,000 to 71,000 hospitalizations and 570 to 800 deaths. Norovirus can spread quickly from person to person in crowded, closed places like long-term care facilities, daycare centers, schools, hotels, and cruise ships. Healthcare facilities, including nursing homes and hospitals, are the most commonly reported places for norovirus

outbreaks in the United States and other industrialized countries. Over half of all norovirus outbreaks reported in the United States occur in long-term care facilities.

## Recommended Strategies

### Influenza

- Enhance promotion of seasonal influenza vaccination and disease recognition among the public, especially among African-American residents.
- Engage stakeholders in the African-American community to more effectively address community concerns about vaccinations.
- Continue to maintain a ready public health workforce that can be activated in the event of another pandemic.
- Adopt best practices to facilitate effective vaccination services and increase opportunities for vaccination at schools, pharmacies and stores, workplaces and other nonmedical sites.

### Foodborne Illnesses

- Improve food safety education for consumers and the public. Proper food handling techniques in the home are as important as those in commercial establishments.
- Food service operators should increase training for employees about food safety and sanitation measures, proper hand-washing procedures, and the importance of exclusion of sick food handlers from the work place. Durham County Environmental Health provides biannual manager food safety certification through the ServSafe training classes. ServSafe training is also offered through private vendors.
- Training for additional public health staff in outbreak investigations and data analysis.

### Norovirus

- Continue surveillance for norovirus outbreaks among elderly persons in long term care facilities (LTCFs) and among patrons of restaurants.
- Provide more education for LTCF and restaurant staff regarding communicable disease control and preventive measures.
- Emphasize the importance of quality infection control programs in LTCFs to decrease the potential transmission of communicable diseases that can lead to outbreaks.

## Current Initiatives & Activities

- ***North Carolina Electronic Disease Surveillance System (NC EDSS)***  
NC EDSS is a component of the Centers for Disease Control and Prevention (CDC) initiative to move states to web-based surveillance and reporting systems. NC EDSS is also part of the Public Health Information Network (PHIN). NC Division of Public Health (DPH) is customizing a system developed by Consilience Software Inc. NC EDSS represents a major change in the way local health departments and the Division of Public Health (DPH)

exchange and report data. NC EDSS will be used by DPH, 86 local health departments (LHDs), 8 HIV/STD Regional Offices, and the Department of Environment Health and Natural Resources (DENR).

Website: <http://epi.publichealth.nc.gov/cd/lhds/manuals/cd/ncedss.html>

Phone Number: (919) 733-3419

▪ ***North Carolina Division of Public Health Communicable Disease Control Branch***

The Branch has four main objectives:

- To promptly investigate disease outbreaks and unusual situations and to implement control measures to minimize further transmission of disease
- To monitor disease-reporting by physicians and laboratories in order to detect trends and to assess the public health impact of diseases
- To provide a channel of communication between public health agencies, private physicians, and hospital and occupational infection control personnel, as an essential part of disease control efforts
- To explain public health interventions and disseminate health education messages to the community and the media in order to enhance disease control efforts

Website: <http://epi.publichealth.nc.gov/cd/>

Phone Number: (919) 733-3419

▪ ***The Centers for Disease Control and Prevention (CDC)***

For over 60 years, CDC has been dedicated to protecting health and promoting quality of life through the prevention and control of disease, injury, and disability. The CDC is committed to programs that reduce the health and economic consequences of the leading causes of death and disability, thereby ensuring a long, productive, healthy life for all people.

Website: <http://www.cdc.gov/>

Phone Number: 800-CDC-INFO (800-232-4636)

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## Injury and Violence

Injury is a leading cause of death and disability in North Carolina and Durham County. The two major categories that define injury data are *intentional* and *unintentional*. Intentional injuries result from interpersonal or self-inflicted violence and include homicide, assaults, suicide and suicide attempts, child abuse and neglect, intimate partner violence, elder abuse, and sexual assault. Unintentional injuries include, but are not limited to, those that result from motor vehicle crashes, falls, poisonings, drowning, suffocations, choking, and recreational and sport-related activities.

This chapter includes:

- ❖ [Unintentional injuries](#)
- ❖ [Intimate Partner Violence](#)
- ❖ [Sexual violence](#)
- ❖ [Child abuse and neglect](#)
- ❖ [Human trafficking](#)
- ❖ [Homicide](#)
- ❖ [Harassment and bullying](#)

## Section 9.01 *Unintentional injuries*

### Overview

Injury and violence are significant problems in North Carolina, causing thousands of deaths and disabilities each year. Unintentional injuries account for more than two-thirds of all injury deaths in the United States and North Carolina.<sup>1</sup> Injury is a serious cause of disability, resulting in more than 148,000 hospitalizations, 819,000 emergency department (ED) visits, and an unknown number of outpatient visits and medically unattended injuries in North Carolina each year.<sup>2</sup> The effects of these injuries are very costly with an estimated \$80 billion in medical cost and over four times that amount in lost productivity each year in the US.<sup>3</sup>

The three leading causes of death and hospitalizations due to unintentional injury are motor vehicle crashes, poisoning and falls.

### Healthy NC 2020 Objective

#### Injury and Violence; Environmental Health

Healthy NC 2020 Objective <sup>4</sup>	Current Durham	Current NC <sup>5</sup>	2020 Target
1. Reduce the unintentional poisoning mortality rate to 9.9 (per 100,000 population).*	7.8 (2010-12) <sup>1</sup>	11.3 (2012)	9.9
2. Reduce the unintentional falls mortality rate to 5.3 (per 100,000 population)	7.5 (2012); 7.2 (2010-12) <sup>2</sup>	9.2 (2012)	5.3
3. Reduce mortality rate from work-related injuries (per 100,000 population)	6.32 (2005-09) <sup>6</sup>	7.3.7 (2011)	3.5

\*The number of poisonings in 2012 was too small to calculate a reliable rate, so three years were combined.

### Secondary Data

In 2012, three of the top four leading causes of deaths due to injuries in North Carolina were all related to *unintentional injuries* (accounting for combining all self-inflicted injury deaths):

1. Motor vehicle accidents (MVA) (1,185 deaths)
2. Poisonings (1,101 deaths)
3. Falls (900 deaths).<sup>8</sup>

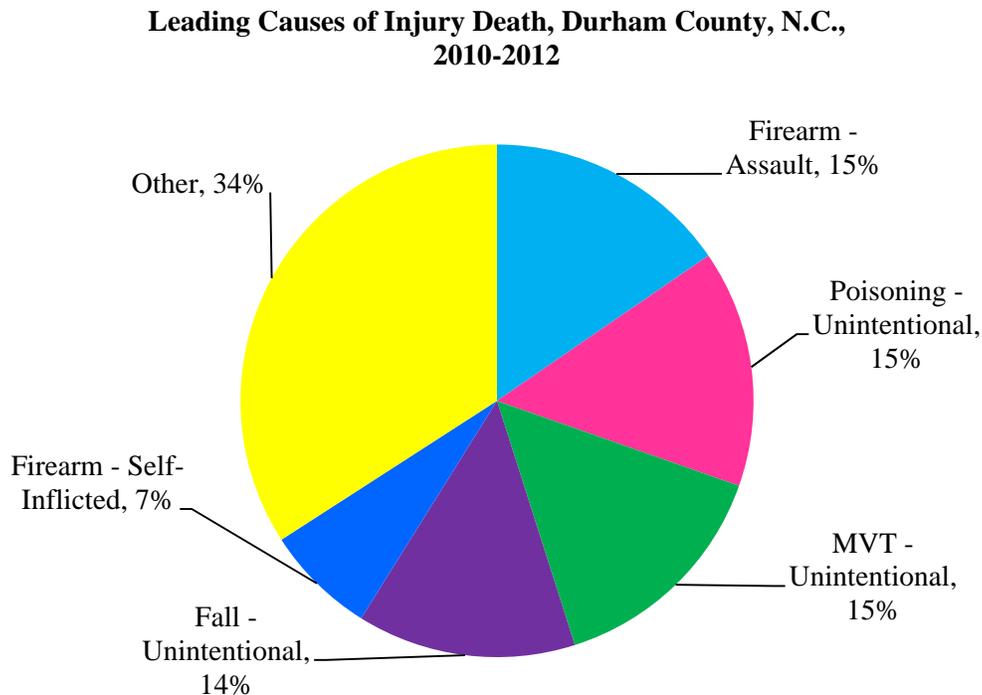
<sup>1</sup> Analysis by the Epidemiology Unit, Injury and Violence Prevention Branch. North Carolina Department of Health and Human Services. February 27, 2014

<sup>2</sup> Analysis by the Epidemiology Unit, Injury and Violence Prevention Branch. North Carolina Department of Health and Human Services. February 27, 2014

Similarly, three of the top four leading causes of injury deaths in Durham from 2010-2012 were due to *unintentional injuries* and are as follows:

1. Poisonings (64 deaths)
2. Motor vehicle accidents (MVA) (63 deaths)
3. Falls (59 deaths).<sup>9</sup>

Durham data is depicted in Figure 9.01(a) below.



**Figure 9.01(a) Leading Causes of Injury Death Durham County, 2010-2012<sup>10</sup>**

There are far more hospitalizations (7,972) and visits to the Emergency Department (49,495) due to injuries than there are deaths (428). The two leading causes of unintentional injury hospitalization and injury-related emergency department visits in Durham County, as seen in Tables 9.01(b) and (c), are falls and motor vehicle trauma.<sup>11</sup>Note that adverse effects from medications are not included in these rankings but are included in the totals.

<b>Leading Causes of Injury Hospitalization, Unintentional, All Ages: 2010 to 2011 Durham</b>		
<b>Rank</b>	<b>Cause</b>	<b>#</b>
1	Fall, Unintentional	1,126
2	MVT, Unintentional	315
3	Poisoning, Self-inflicted	229
4	Other, Unintentional	220
5	Poisoning, Unintentional	204
	Other/Missing	5,878
<b>TOTAL</b>		<b>7,972</b>

Table 9.01(b)

<b>Leading Causes of Injury ED Visits, Unintentional, All Ages: 2010 to 2012 Durham</b>		
<b>Rank</b>	<b>Cause</b>	<b>#</b>
1	Fall, Unintentional	9,670
2	MVT, Unintentional	7,918
3	Struck, Unintentional	3,570
4	Unspecified, Unintentional	3,177
5	Overexertion, Unintentional	2,965
	Other/Missing	22,195
<b>TOTAL</b>		<b>49,495</b>

Table 9.01(c)

Each of these leading causes of unintentional injury is discussed in more depth throughout the remainder of this section.

### Motor Vehicle Injuries

Motor vehicle injuries are the leading cause of unintentional injury death in North Carolina and the second leading cause in Durham County.<sup>12</sup> They are also the second leading cause of unintentional injury hospitalization (2010-2011) and injury-related emergency department visits (2010-2012) 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.

Injuries from motor vehicle crashes and falls are the two most common causes of Traumatic Brain Injury (TBI). At least 1.7 million people sustain a TBI in the United States each year; of those individuals, about 52,000 die, 275,000 are hospitalized, and 1.4 million are treated and released from an emergency department.<sup>13</sup> According to the Centers for Disease Control and Prevention (CDC), the number of people with TBI who are not seen in a hospital or emergency department or who receive no care is currently unknown.<sup>14</sup> It is important to understand the impact of TBI associated with a motor vehicle collision and falls because many of these individuals sustain long-term injuries requiring ongoing medical care, alterations in their ability to care for themselves and loss of productive years. TBI costs the nation about \$60 billion for ongoing care and rehabilitation; and the greatest number of TBIs occur in people aged 15–24, making the cost to society high due to loss of productive years, disability and death.<sup>15</sup> Knowing who is affected by TBIs and how they occur can help shape prevention strategies, priorities for research, and also support the need for services among individuals living with TBI.

Between 2001 and 2012, rates of unintentional motor vehicle injuries have decreased in Durham County. Between 2001 and 2003, the motor vehicle traffic-related mortality rate was 13.1 per

100,000; between 2012 and 2012, this number dropped to 7.7 per 100,000. As shown in Figure 9.01(d), Durham's rates have remained consistently lower than North Carolina's and its peer counties during this same 11-year time period.<sup>16</sup>

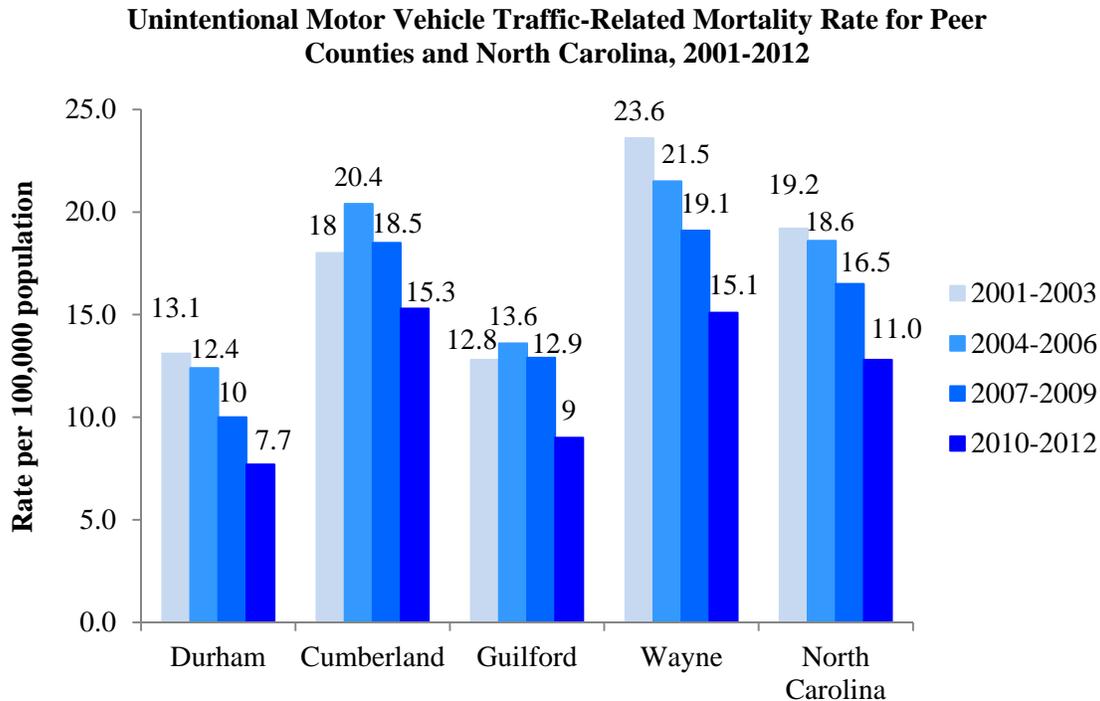


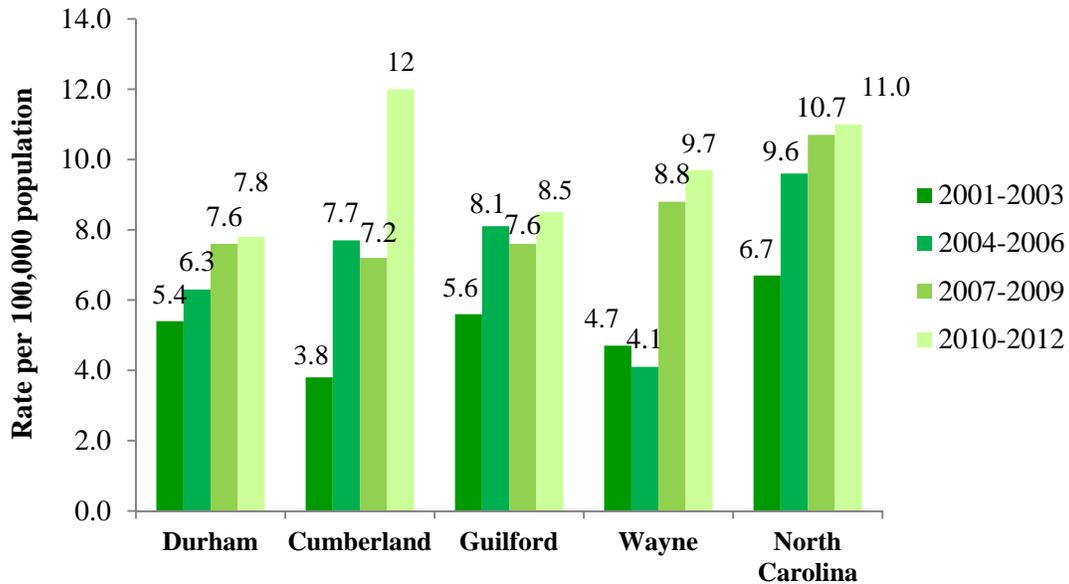
Figure 9.01(d) Unintentional Motor Vehicle Mortality Data<sup>17</sup>

### 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.<sup>18</sup> The average North Carolinian fills 14 prescriptions annually, totaling over 127 million prescription drugs that enter our households each year.<sup>19</sup> In 2008, 72% of North Carolina's poisoning deaths were caused by narcotics, cocaine, heroin and methadone.<sup>20</sup> The state rate of poisoning-related deaths has increased by more than 300% since 1999.<sup>21</sup> From 1999 to 2012, unintentional poisoning-related deaths in Durham County increased by 157%.<sup>22</sup> If deaths from unintentional poisonings continue to escalate at the current rate in North Carolina, the number of unintentional poisoning deaths will surpass motor vehicle deaths by the year 2017; this alarming trend has already become a reality in seven states and the District of Columbia.<sup>23</sup>

Between 2008 and 2009, the North Carolina Poison Control Center answered over 252,000 calls from families and healthcare facilities requesting treatment information for poisonings. Prescription and non-prescription pain medicines (analgesics) were the most frequently involved substances in these exposures.<sup>24</sup> Contributing factors to unintentional poisoning may include illicit or street drugs used for recreational purposes, alcohol, illegally obtained prescription medications, improper usage of prescribed medications by the elderly and ingestions by children.<sup>25</sup>

**Unintentional Poisoning Mortality Rate for Peer Counties and North Carolina, 2001-2012**



**Figure 9.01 (e) Unintentional Poisoning-Related Mortality Data<sup>26</sup>**

As shown in Figure 9.01 (e) above, North Carolina reflects the unfavorable upward trend in unintentional poisoning-related deaths. Between 2001 and 2012, the rates of unintentional poisoning-related deaths almost doubled statewide from 6.7 to 11.0 per 100,000. In Durham county, the rates during this same 11-year time period increased from 5.4 to 7.8 per 100,000, respectively.<sup>27</sup>

### Unintentional Falls

Unintentional falls are the third leading cause of unintentional injury related deaths and the leading cause of injury-related Emergency Department visits in North Carolina. They are the leading cause of injury hospitalizations in Durham County and in North Carolina.<sup>28</sup> 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.<sup>29</sup> 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.<sup>30</sup> Healthcare expenses due to falls were expected to reach \$54.9 billion in 2010, nearly tripling in 20 years.<sup>31</sup>

As depicted in Figure 9.01 (f), deaths due to unintentional falls in Durham County have steadily risen in recent years. There have been little change in rates between the years 2001-03 and 2004-

06 (4.0 and 4.9 per 100,000, respectively); however, over time the crude mortality rate due to unintentional falls rose significantly, topping out at 7.2 per 100,000 between 2010 and 2012.<sup>32</sup>

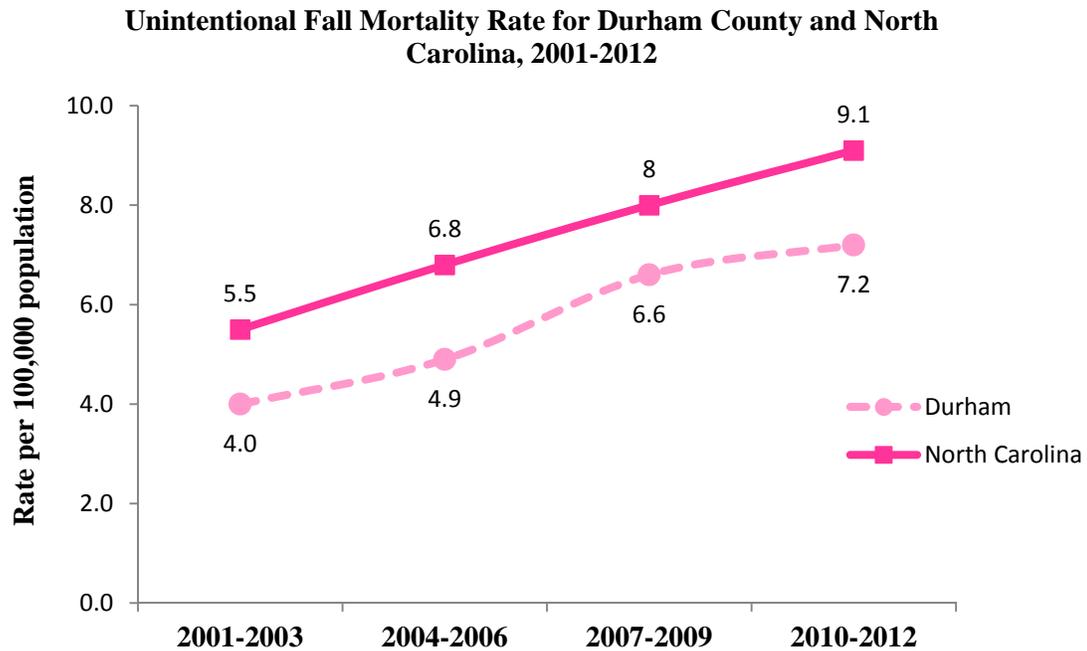


Figure 9.01 (f) Unintentional Falls Mortality Data<sup>33</sup>

Seventy-five percent of North Carolina's counties are projected to have more people over the age of 59 than under the age of 18 by the year 2030; this shift in the percentage of older adults will result in a falls "epidemic" unless falls risks are addressed.<sup>34</sup> In 2010-2011, according to data gathered by the North Carolina Injury and Violence Prevention Branch, unintentional falls account for almost 45% of all hospitalizations in Durham for unintentional injuries with costs totaling \$91,479,475.<sup>35</sup>

## Primary Data

The impact of unintentional injury and violence on the Durham community is reflected in the results of the 2010 Durham County Community Health Opinion Survey. When survey respondents were asked to pick what they felt were the top three risky behaviors that have the greatest impact on the quality of life in Durham County, six injury-related topics made the top three. A selection of the injury-related responses from the *risky behaviors* question is shown in Figure 9.01 (g).<sup>36</sup> This question was not asked on the 2013 Durham County Community Health Opinion Survey.

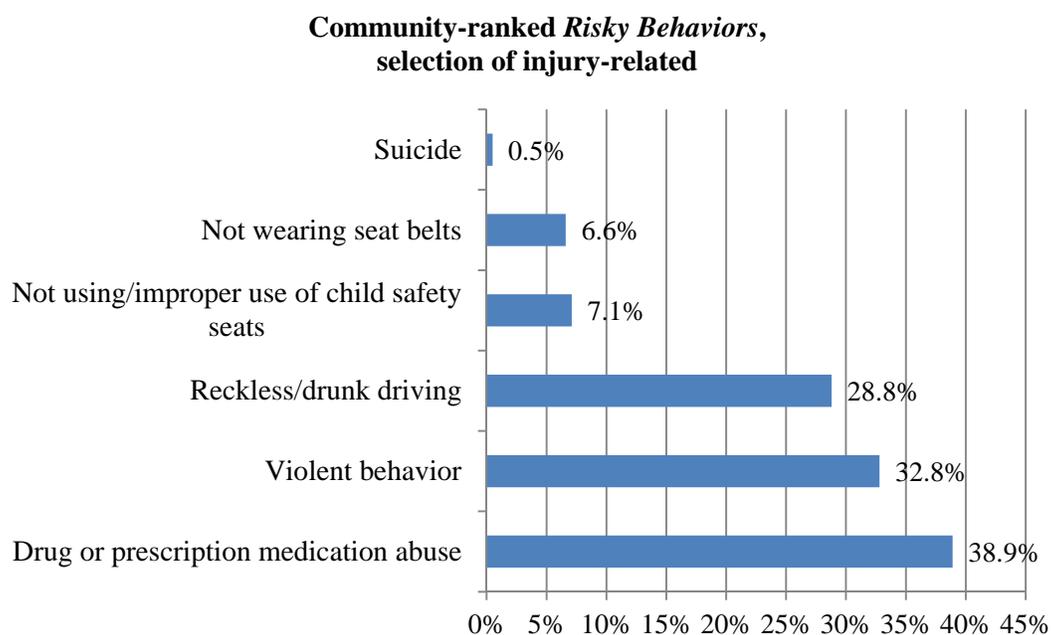


Figure 9.01 (g) Results from the 2010 Durham County Community Health Opinion Survey<sup>37</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

### Disparities

Age-adjusted death rates due to falls in North Carolina among the white population were twice that of African Americans in 2012<sup>38</sup> and women account for 30% more emergency department visits than men.<sup>39</sup> Falls are a dramatically life-altering event for older adults because the crude death rate for adults over the age of 65 (56.1 per 100,000 residents) is 33 times that of adults younger than 65 (1.7 per 100,000 residents) in 2012.<sup>39</sup>

### 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.<sup>40</sup> 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.

There are racial disparities among unintentional prescription drug poisoning; white males are eight times more likely to die from unintentional overdose than blacks and almost two-thirds are between the ages of 25 and 54.<sup>40</sup>

## Recommended Strategies

Table 9.01 (d) Evidence-Based and Promising Practices<sup>41</sup>

Setting	Name and Website	Description
Individual	San Francisco Community Home Injury Prevention Program for Seniors (CHIPPS)  <a href="http://www.sfdph.org/dph/comupg/oprograms/CHPP/Injury/CHIPPS.asp">http://www.sfdph.org/dph/comupg/oprograms/CHPP/Injury/CHIPPS.asp</a>	The goal of the CHIPPS program is to: create awareness that many injuries to older people can be prevented; develop simple ways to recognize and correct injury hazards; and provide resources and information to health professionals and the public.
Workplace	Fall-Safe Project <a href="http://cbpp-pcpe.phac-aspc.gc.ca/intervention/549/vie-w-eng.html">http://cbpp-pcpe.phac-aspc.gc.ca/intervention/549/vie-w-eng.html</a>	The Fall-Safe intervention is an initiative developed by the Safety and Health Extension at West Virginia University and designed as an organizational intervention which targets construction contractors. The aim of Fall-Safe is to increase the use of established fall prevention practices and technologies
Community	Operation Medicine Drop  <a href="http://www.ncdoi.com/osfm/safekids/sk_OperationMedicineDrop.asp">http://www.ncdoi.com/osfm/safekids/sk_OperationMedicineDrop.asp</a>	Operation Medicine Drop is a take back initiative that is part of a grassroots effort working on medication disposal. By providing safe and secure ways for people to get rid of unwanted medications, Operation Medicine Drop helps prevent accidental poisonings and drug abuse while protecting our waters. This is a partnership of the River Keepers of NC, Community Anti-Drug Coalitions of NC and local law enforcement agencies.
School	Children Act Fast, So Do Poisons!  <a href="http://www.ncpoisoncenter.org/body.cfm?id=95">http://www.ncpoisoncenter.org/body.cfm?id=95</a>	A curriculum designed to educate children pre-K to 3rd grade about the dangers of poisons.

## Current Initiatives & Activities

- **North Carolina Buckle Up Program**

Safe Kids North Carolina, through grant funding from Governor's Highway Safety Program, distributes car seats to Buckle Up agencies across North Carolina. In Durham County, that agency

is Safe Kids Durham County. At-risk families are provided seats at permanent checking stations and community check up events.

Website: [www.buckleupnc.org](http://www.buckleupnc.org)

Phone Number: (800) 672-4527 toll free in NC, 8-5pm Monday-Friday

▪ ***Safe Kids North Carolina Operation Medicine Drop***

Safe Kids North Carolina partners with the State Bureau of Investigation, the Drug Enforcement Administration and local Safe Kids Coalitions and law enforcement agencies to provide a safe disposal method for over the counter medicines and old or unneeded prescriptions. This initiative helps prevent accidental poisonings and drug abuse while protecting our waterways. A majority of North Carolina take back events occur in March, Poison Prevention month.

Website: [www.ncdoi.com](http://www.ncdoi.com)

Phone Number: (888) 347-3737

▪ ***Welcome Baby***

Durham County residents can attend a car seat information session to learn about the correct use of car seats. Discounted car seats are available for eligible parents. Classes are held two or three times a month (one class is in Spanish) and pre-registration is required.

Website: [www.welcomebaby.org](http://www.welcomebaby.org)

Phone Number: (919) 560-7150

▪ ***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.

EMS Station 6 (226 Milton Rd) For appointment call 560-8287 between the hours of 9-5pm Monday-Friday. Families can make their own appointments by accessing the appointment calendar at [www.co.durham.nc.us](http://www.co.durham.nc.us), click on the Community Portal and follow the directions to choose a date and time.

Parkwood Fire Department (1409 Seaton Rd) Call for an appointment (919) 361-0927. Appointments preferred but drop in possible based on availability of technicians.

Bethesda Fire Department (1724 S. Miami Boulevard) Call for an appointment (919) 596-7862. Drop-in possible based on availability of technicians.

Websites: [www.co.durham.nc.us](http://www.co.durham.nc.us)

[www.pvfd.com](http://www.pvfd.com)

[www.bethesdavfd.org](http://www.bethesdavfd.org)

Phone Number: (919) 560-7150

- ***Safe From the Start: A Child Passenger Awareness Program***

*Safe From the Start* is a program developed through Children’s Miracle Network funding at Duke Children’s Hospital and was designed to give healthcare professionals basic knowledge about child passenger safety. This four hour class allows hospital employees caring for infants and children to give families evidenced-based information about safe transportation in vehicles. *Safe From the Start* also includes information on children with special health care needs; special orthopedic appliances, low birth weight infants and post-surgical indications. Questions regarding *Safe From the Start* can be directed to Theresa Cromling at [Theresa.cromling@duke.edu](mailto:Theresa.cromling@duke.edu)

- ***Helmets Are a Necessity Not an Accessory Program***

Safe Kids Durham County and the Durham Bike Co-op work together to provide bike helmets to our community. Access to these helmets is through community health/ social fairs, mobile repair clinics and the “Earn a Bike” program.

Website: [www.durhambikecoop.org](http://www.durhambikecoop.org)

Phone Number: (919) 675-2453

- ***Click It or Ticket Campaign***

North Carolina's "Click It or Ticket" program began in 1993 to increase seat belt and child safety use rates through stepped-up enforcement of the state's seat belt law. Nearly every law enforcement agency in the state participates in "Click It or Ticket," one of the most intensive law enforcement efforts of its kind. North Carolina's "Click It or Ticket" program is so successful that it serves as a model for the National Highway Traffic Safety Administration (NHTSA). States throughout the country conduct "Click It or Ticket" campaigns, increasing awareness of seat belt safety daily.

Website: [www.ncdot.gov](http://www.ncdot.gov)

Phone Number: (919) 715-7000

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## Section 9.02 *Intimate partner violence (IPV)*

### Overview

Intimate partner violence (IPV) refers to any physical, sexual or psychological/emotional aggressive or controlling behavior one wields over a current or former partner or spouse. IPV can occur among heterosexual or same-sex couples.<sup>1</sup> Each year, almost five million women and almost three million men are the victims of intimate partner related physical assaults.<sup>2</sup>

IPV affects not only primary victims (those who are abused), but also has a substantial negative effect on secondary victims (e.g., family members, friends and co-workers), and the community at large. Children who grow up witnessing IPV are among those seriously affected by this crime as they learn that violence is a normal way of life. IPV greatly impacts primary and secondary victims' mental and physical health. Victims often become predisposed to numerous social and physical problems and are at increased risk of becoming the next generation of victims and abusers.<sup>3</sup>

About 42% of women and 20% of men who were physically assaulted sustained injuries during their most recent victimization; injuries range from minor (e.g., scratches and bruises) to chronic and stress-induced (e.g., fibromyalgia and irritable bowel syndrome) to most severe (e.g., death).<sup>4</sup> In the United States, there were an estimated 2,340 intimate partner homicide victims in 2007, including 1,640 women and 700 men.<sup>5</sup> In 2012, at least 10% of all homicide victims in the U.S. were killed by an intimate partner.<sup>6</sup> Intimate partner homicides account for 40-50% of all murders of women in the U.S.<sup>7</sup>

Psychological abuse often accompanies physical violence and frequently contributes to emotional problems such as depression and suicidal ideation.<sup>8</sup> Healthcare professionals must learn to ask the right questions and make the right associations in order to provide appropriate referrals and resources, as emotional assault is often hidden and not easily recognized. Healthcare providers may lose the opportunity to provide timely help to victims if they overlook the connection between emotional abuse and physical symptomatology.

“When answering the crisis line, it is not uncommon to have a female victim state that her abuse increased tremendously during her pregnancy. Many times female victims report an increase in physical violence during pregnancy such as punches to the abdomen, strangulation and being thrown across the room. What we have been able to conclude from this type of behavior over the years is that a victim’s level of fear is increased due to her vulnerability and due to the potential harm to her unborn child.”

--Paige Wiggs, Community Educator, DCRC

Pregnant women are often at increased risk of IPV. Pregnancy offers an important opportunity to screen for violence. While the Affordable Care Act has imposed requirements on many health insurance plans to provide no-cost coverage for preventive health services including domestic and

interpersonal violence screenings, most women report that they are not asked about violence during pregnancy.<sup>9,10</sup>

Risk factors for IPV victimization overlap with those for other forms of perpetration. Cyclically, childhood physical or sexual victimization is a risk factor for future IPV perpetration and victimization. Individual factors (e.g., adherence to strict gender roles), relational factors (e.g., economic strain), community factors (e.g., restricted access to resources) and societal factors combine to increase the risk of becoming a victim or perpetrator of IPV.<sup>11</sup>

### Healthy NC 2020 Objective

There is no Healthy NC 2020 objective for Intimate Partner Violence.

### Secondary Data

IPV places a significant burden on society. Costs associated with IPV in 2003 were estimated to exceed \$8.3 billion, including \$6.2 billion for physical assault, \$461 million for stalking, and \$1.2 billion in the value of lost lives. Each year, victims of severe IPV lose nearly 8 million days of paid work and approximately 5.6 million days of household productivity.<sup>12</sup>

**Domestic Violence-Related Homicides in North Carolina**

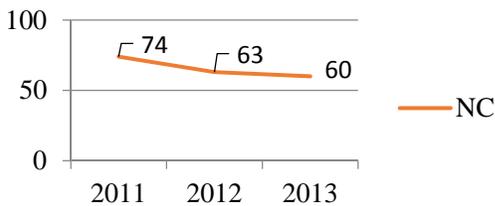


Figure 1(a) Domestic Violence-related Homicides in North Carolina by Year, 2011-2013. Source: NCCADV

of violence before people are seriously hurt and killed.”<sup>14</sup>

The Durham Police Department’s Domestic Violence Unit is dedicated to handling cases of IPV in Durham. Compared to reported rates in 2011, 2012 saw increases in IPV-related aggravated assaults (257 reported cases), IPV-related rapes (18 reported cases) and a decrease in robberies (13 reported cases).<sup>13</sup>

“Domestic Violence is a dangerous crime and can lead to deadly results,” Attorney General Roy Cooper said in a news release. “North Carolina has to work to get victims the help they need to stop early signs

**IPV-Related Homicides in Durham**

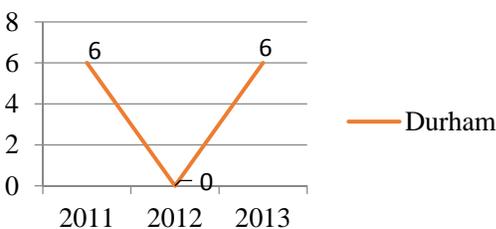


Figure 1(b) IPV Homicides in Durham by Year, 2011-2013. Source: Durham Police Department

Comparing IPV statistics across jurisdictions presents significant challenges. The North Carolina Department of Justice tracks domestic violence-related homicides, of which only a portion are intimate partner relationships such as a current or former spouse or romantic partner.<sup>15</sup> The North Carolina Coalition against Domestic Violence (NCCADV) also maintains a list of homicides in the state, but it includes victims according to definitions slightly different from state and local authorities. Figure 1(a) illustrates the number of domestic violence-related homicides in in North Carolina from 2011 – 2013 according to

NCCADV.<sup>16</sup> Figure 1(b) shows the number of IPV-related homicides as recorded by the Durham Police Department Domestic Violence Unit.<sup>17</sup>

Durham Crisis Response Center (DCRC) works to repudiate myths that compel people to ask, “Why doesn’t she just leave him?” or to imply that it is actually an act of love that prompts a man to kill his partner or others. In reality, half of the 2013 homicides occurred after the victims left their relationships. 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

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. Table 9.02(c) compares the number of IPV calls received in Durham and peer counties in fiscal year 11-12.<sup>18</sup>

**Table 9.02(c) Durham and Peer County Crisis Line Calls, FY 11-12**

	Durham	Cumberland	Forsyth	Guilford	Mecklenburg	Wake
<b>County Population<sup>19</sup></b>	<b>269,974</b>	<b>319,431</b>	<b>350,670</b>	<b>488,406</b>	<b>919,628</b>	<b>900,993</b>
<b>IPV Calls to Crisis Lines</b>	<b>1965</b>	<b>1782</b>	<b>1639</b>	<b>1278</b>	<b>4075</b>	<b>6996</b>

IPV is also a serious concern for Durham youth. The 2013 Youth Risk Behavior Survey (YRBS) data indicates that 15.2% of Durham high school student respondents had been hit, slapped or physically hurt on purpose by their boyfriend or girlfriend over the preceding year.<sup>20</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

Many factors put individuals at risk for IPV including poverty and unemployment. From 2008 to 2012, 18% of persons living in Durham County lived below poverty level compared to 16.8% of persons in all of North Carolina.<sup>21</sup> While IPV occurs across all racial and economic groups, “poor women experience violence by their partners at higher rates, partly because they have fewer options.”<sup>22</sup> An abusive partner may control a victim’s access to money, employment, friends and family and transportation, making it more difficult for victims without their own resources or sources of income to seek help or leave violent relationships.

For non-white and immigrant victims, race, ethnicity, class, language and immigration status often serve as significant barriers to accessing help in IPV situations. Durham County’s Latino/Hispanic population has grown to 13.5% of the overall population in 2011, up from 8% in 2000.<sup>23</sup> To better serve the growing Latino/Hispanic population, DCRC added a Spanish Crisis Line in fiscal year 2010. Spanish Crisis Line advocates have noticed a marked increase in IPV calls as well as an increase in the number of young Latina women under the age of 18, who are seeking help in response to IPV perpetrated by older men with whom they were partnered.

Additional concerns exist regarding IPV within Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex (LGBTQQI) communities. Despite the prevalence of this issue, LGBTQQI

victims of IPV face significant barriers to accessing remedies such as a lack of culturally competent social criminal justice and medical service providers. Special considerations when working with members of this community include fear of “outing” the victim, fears that they will not be believed or helped because of their sexual orientation or identity and justifying abuse as being normal for their relationships.<sup>24</sup>

In Durham and surrounding communities, finding shelter for transgendered clients presents challenges since all domestic violence shelters are gender specific. Some service providers are able to shelter clients at hotels when resources are available.

People with disabilities are also at great risk of IPV. The 2007 National Crime Victimization Survey data indicated that 16% of nonfatal violence experienced by women with disabilities was IPV related and 5% of nonfatal violence experienced by men with disabilities was IPV related.<sup>25</sup> Men, as well as women, are victimized by violence.

However, men and boys are less likely to report the violence and seek out support given challenges such as the stigma attached to being a male victim, perceived failure to personify the “macho stereotype,” a fear of not being believed, being denied victim status and the lack of support from society as well as loved ones.<sup>26</sup> Male victims of IPV often encounter significant barriers to IPV remedies. For instance, currently Durham has no IPV emergency shelters that accept men. Additionally, male victims may encounter bias or ignorance from service providers who are more accustomed to working with female victims of IPV.<sup>27</sup>

IPV knows no age limits. Researchers estimate that over two million Americans are victims of IPV in later life.<sup>28</sup> Identifying IPV among the elderly can be harder to recognize and is sometimes dismissed or not believed by the community at large. Older people with dementia are at even higher risk of abuse or maltreatment by their caregivers.<sup>29</sup> Cases of elder abuse are very likely to go unreported.

## Recommended Strategies

The Centers for Disease Control and Prevention (CDC) recommends preventing IPV through strategies that include encouraging respectful, nonviolent intimate partner relationships on multisystemic levels.<sup>30,31</sup> Middle and high schools, colleges and universities should implement evidence-based education programs that promote healthy behaviors in relationships and teach skills to prevent dating violence.<sup>32</sup>

To assist individuals leaving violent relationships, Durham needs affordable housing options with a complete continuum of support services. Many victims of violence have limited resources and extensive needs including trauma counseling, childcare, transportation, employment, and ongoing support. While these priorities overlap with efforts to end homelessness in our community, individuals escaping abusive homes need additional appropriate services to create new lives free of violence.

## Current Initiatives & Activities

- ***Durham Crisis Response Center (DCRC)***

DCRC's sole mission is to provide comprehensive services to primary and secondary victims of intimate partner and sexual violence through services including a 24-hr crisis line, crisis intervention, emergency shelter, counseling, legal advocacy and support groups.

Website: [www.durhamcrisisresponse.org](http://www.durhamcrisisresponse.org)  
Phone Number: (919) 403-9425

- ***InStepp***

InStepp, Inc. is a community-based non-profit company that works to empower at-risk adult women and adolescent girls to succeed personally and professionally through gender-responsive training, education and prevention services.

Website: [www.instepp.org](http://www.instepp.org)  
Phone Number: (919) 680-8000

- ***El Centro Hispano***

A grassroots community based organization dedicated to strengthening the Latino community and improving the quality of life of Latino residents in Durham and surrounding areas.

Website: [www.elcentronc.org](http://www.elcentronc.org)  
Phone Number: (919) 687-4635

- ***KIRAN***

KIRAN is a multi-cultural, non-religious, community-based, South Asian organization that values and maintains confidentiality while promoting the self-reliance and empowerment of South Asian women and men who are in crisis through outreach, peer support, and referrals.

Website: [www.kiraninc.org](http://www.kiraninc.org)  
Phone Number: 1 (877) 625-4726

- ***Legal Aid of North Carolina***

Legal Aid of North Carolina has attorneys who can help victims of intimate partner violence, regardless of their income.

Website: [www.legalaidnc.org](http://www.legalaidnc.org)  
Phone Number: 1 (866) 219-5262

- ***Duke Regional Hospital***

Medical professionals are available to provide care to victims in the wake of intimate partner violence.

Website: [www.dukeregional.org/](http://www.dukeregional.org/)  
Phone Number: (919) 470-4000

- ***Duke University Hospital***

Medical professionals are available to provide care to victims in the wake of intimate partner violence.

Website: [www.dukehealth.org](http://www.dukehealth.org)  
Phone Number: (919) 684-8111

- ***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.

Website: [www.durhampolice.com/dvu/](http://www.durhampolice.com/dvu/)  
Phone Number: (919) 560-4910

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## Section 9.03 *Sexual violence*

### Overview

Sexual violence is a term that encompasses a broad array of offenses from rape<sup>1,2</sup> to sexual assault<sup>3</sup> to sexual offenses in which there is no physical contact such as voyeurism and verbal threats of sexual assault.<sup>4</sup> The term “force” includes psychological as well as physical coercion. While the Federal Bureau of Investigation (FBI), has broadened the definition of rape to “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,”<sup>5</sup> North Carolina has maintained a much more narrow definition: (a) A person is guilty of rape in the first degree if the person engages in vaginal intercourse:

- (1) With a victim who is a child under the age of 13 years and the defendant is at least 12 years old and is at least four years older than the victim; or
- (2) With another person by force and against the will of the other person, and:
  - a. Employs or displays a dangerous or deadly weapon or an article which the other person reasonably believes to be a dangerous or deadly weapon; or
  - b. Inflicts serious personal injury upon the victim or another person; or
  - c. The person commits the offense aided and abetted by one or more other persons.<sup>6</sup>

While only 56% of sexual assaults were reported to police in 2003 that number dropped to 28% in 2012.<sup>7</sup> Many consider sexual assault to be the most underreported violent crime in the United States.<sup>8</sup>

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) and the Durham community and society as a whole. Primary victims of sexual violence often experience physical, psychological and behavioral health concerns, many of which have a likelihood of becoming chronic without adequate and appropriate treatment. Some possible health consequences include gynecological complications, depression and Post Traumatic Stress Disorder (PTSD).<sup>9</sup> Secondary victims are also at risk for a number of psychological concerns such as anxiety, anger and fear.<sup>10</sup>

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective on Sexual Violence.

### Secondary Data

Victims of sexual violence report to law enforcement agencies, seek services from agencies that support victims (e.g. Durham Crisis Response Center, local hospitals) and/or disclose their experiences to other third parties such as researchers or clergy. Incidents of sexual violence are not reported uniformly and varying language is often used across sources. This makes gauging the impact of sexual violence difficult. The data presented in this section, gathered from multiple sources, are intended to present a more comprehensive picture of sexual violence.

## Sexual Assaults Reported to Law Enforcement

**Rapes Reported to Durham Police Dept. by Age of Victim**

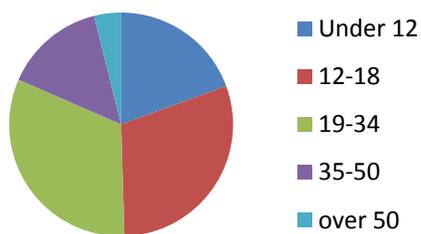


Figure 9.03 (a) Rapes reported to the Durham Police Department Special Victims Unit by Age, 2013<sup>1</sup>

Women between the ages of 12 and 34 are at most risk for becoming primary victims of sexual assault. Research indicates that about 10% of sexual assault victims are men, although this number is likely an underestimation as males are less likely to report sexual assault.<sup>11</sup> Of the 102 victims of sexual assault who reported to the Durham Police Department Special Victims Unit in 2013, 63% involved victims between the ages of 12 and 34. Contrary to messages often promulgated in the media, most sexual assaults are not committed by strangers to the victims. Nationally, approximately 73% of assaults are perpetrated by someone known to the victim.<sup>12</sup> In 91 of 102 cases in Durham, the assailant was known to the victim.

In 2011, an estimated 83,425 forcible rapes were reported to law enforcement in the United States.<sup>13</sup> In the same year, 1,995 forcible rapes were reported in North Carolina.<sup>14</sup> The table below shows the breakdown of forcible rape offenses known to North Carolina law enforcement that occurred in Durham County and its five peer counties in 2012.<sup>15</sup> These figures for crimes reported to law enforcement include only rape, as defined by the FBI and not all forms of sexual assault.

Table 9.03(a) Forcible Rapes Known to Law Enforcement – 2012<sup>16</sup>

	Durham	Cumberland	Forsyth	Guilford	Mecklenburg	Wake
County Population <sup>17</sup>	269,974	319,431	350,670	488,406	919,628	900,993
Forcible rapes reported by sheriff's office or county police department <sup>18</sup>	5	15	13	4	*	23
Forcible rapes known to law enforcement by cities per county <sup>19**</sup>	63	73	83	89	223	142

\*Not available.

\*\*Figures reflect available data on forcible rapes reported to law enforcement in incorporated cities per county.

### 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. The table below shows the number of calls received on DCRC's Crisis line related to sexual violence and the number of victims accompanied to Duke Medical Center or Duke Regional Hospital by DCRC advocates during the past five years. These numbers do not include all sexual assault clients served by DCRC each year. While DCRC continues to receive calls from victims immediately following assaults, they have also answered an increasing number of calls from adult victims of child sex abuse in recent years.

Table 9.03(b) Numbers of Sexual Assault Victims Served by DCRC, by Fiscal Year<sup>20</sup>

	2008-2009	2009-2010	2010-11	2011-12	2012-13
<b>Sexual Assault (SA) Crisis Line Calls</b>	<b>128</b>	<b>321</b>	<b>366</b>	<b>359</b>	<b>324</b>
<b>SA Hospital Accompaniments</b>	<b>10</b>	<b>144</b>	<b>122</b>	<b>162</b>	<b>156</b>

Victims of sexual violence seeking medical attention from the hospital or reporting sexual victimization to DCRC are not mandated to report their experiences to law enforcement. Thus, the numbers of cases of sexual violence reported by law enforcement and those reported by DCRC rarely correspond. DCRC works closely with Duke University Health System, the Durham Police Department, Durham County Sheriff's Office, the Durham District Attorney's Office and other agencies to ensure that all victims receive appropriate, timely, and confidential services and ongoing support.

Since 2013, a specialized Sexual Assault Investigator has worked in the Durham County District Attorney's office to assist the Assistant District Attorney in preparing sexual assault cases for trial. This and other coordinated efforts have increased the rate of prosecution of sexual assaults in Durham, although the number of prosecutions remains a small percentage of the crimes reported.

### Sexual Assault on Campus

Nationally, 19% of undergraduate women experience an attempted or completed sexual assault during their college years.<sup>21</sup> The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act requires U.S. colleges and universities to disclose information about crime on and around their campuses, tying campus compliance to federal student financial aid.<sup>22</sup> In accordance with the Clery Act, Durham's post-secondary educational institutions report the number of sexually violent crimes committed on and around their campuses each year.<sup>23</sup> The chart below shows the number of reported forcible sex offenses at Duke University, Durham Technical Community College (DTCC) and North Carolina Central University (NCCU).<sup>24</sup>

"Many of Durham Crisis Response Center advocates receive crisis line calls where the victim describes being manipulated, coerced, guilted and threatened into having sex by their partner, boyfriend and/or spouse, but they do not think it is rape because physical force or weapon was not used." - Tasha Venters, Former Rape

Number of Reported Forcible Rapes at Duke University, DTCC and NCCU

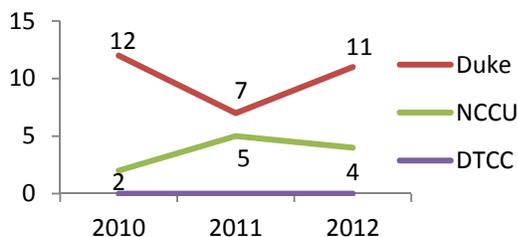


Figure 9.03(b) Reported Forcible Rapes by Campus by Year<sup>1</sup>

Underreporting of sexual assault is as significant a problem on campus as it is in the wider community. The Clery data include only those incidents reported to campus authorities and therefore are likely to represent only a small proportion of the actual number of sexual offenses committed on and around college/university campuses.

While drug facilitated sexual assault does occur on college campuses, alcohol and voluntary intoxication are more often associated with sexual assault.<sup>25</sup> These assaults are unlikely to be reported. In one national study, students who told researchers they were

sexually assaulted while incapacitated did not report the incident to authorities for several reasons. Half of the respondents said they felt partially or fully responsible for the incident; nearly 30% said they did not want police to know (possibly because they were under legal drinking age or using illegal drugs); and 31% did not remember or know what had happened to them.<sup>26</sup>

## Primary Data

In 2010, the Durham Crisis Response Center conducted an assessment of Durham community members' knowledge, attitudes, beliefs and behaviors related to sexual violence. The majority of respondents surveyed were women between the ages of 18 and 45. Major findings were: 1) the majority of respondents were engaged bystanders and had accurate attitudes, beliefs and behaviors towards sexual violence; 2) approximately 58% of respondents reported having witnessed inappropriate sexual behavior among family members, friends, co-workers and peers; and 3) approximately 69% of respondents reported having experienced inappropriate sexual behavior. Focus groups conducted with Durham teens in 2010 revealed participants' beliefs that sexual violence is considered 'normal,' and that participants had witnessed some type of emotional and/or physical violence among their peers on a regular basis.<sup>27</sup>

The 2013 Youth Risk Behavior Survey (YRBS) data indicate that, at some point in their lives, 13.4% of Durham teenage respondents said they had been forced to have sexual intercourse when they did not want to. Statewide, 8.9% of North Carolina high schools students reported similar experiences.<sup>28</sup>

## 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. The most common reasons include guilt, self-blame, shame, embarrassment and the belief that sexual assault is a "private matter."<sup>29 30</sup> Other victims fear reprisal, that they will not be believed or that the justice system is biased and not to be trusted. In addition to the reasons already listed, male victims may be less likely to report in the context of a society that equates masculinity with invulnerability.<sup>31</sup>

For non-white and immigrant victims, race, ethnicity, class, language and immigration status often serve as significant barriers to accessing help following sexual violence. Among Latino residents, the age gap between young female victims and older perpetrators is a growing concern for law enforcement.<sup>32</sup> Given the rising Latino and Asian immigrant populations in Durham, it is imperative that services be provided in culturally competent and linguistically sound manners<sup>33, 34</sup>

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.<sup>35</sup> Many barriers may preclude LGBTQQI community members from getting help including a fear of hostile homophobic responses from representatives of the legal system and trouble locating culturally-competent service providers.<sup>36</sup> Both NCCU and Duke University have centers dedicated to supporting LGBTQQI members on their campuses.<sup>37 38</sup> Agencies in the community, including DCRC, serve all clients seeking help regardless of sexual orientation.

Individuals with disabilities and the elderly are also particularly vulnerable to sexual violence.<sup>39</sup> In 2011, the rate of reported rape/sexual assault of persons with disabilities was 2.7 per 1000 compared to 0.9 per 1000 for people without disabilities.<sup>40</sup> Sexual assault agencies are often ill-prepared to meet the needs of individuals with disabilities for several reasons such as service providers' unfamiliarity with issues unique to individuals with disabilities.<sup>41</sup> Often physically and financially dependent on their caregivers who may be their abusers, individuals with disabilities and older adults may not have the resources or means of their own to escape or seek assistance.<sup>42</sup> Thus, people with disabilities and the elderly often go without the support and services they need in the wake of sexual violence.

Inmates in jails and prisons are also at high risk of sexual violence. In 2011 and 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.<sup>43</sup> Prison staff at the Federal Correctional Institution in Butner is working with Duke University Health System and local agencies to provide appropriate services to prisoners who have been sexually assaulted.

As the prevalence of cell phones increases among youth, the incidence of internet and cyber-crimes is also on the rise. A 2010 national study reports that 9% of youth internet users received an unwanted sexual solicitation in the previous year while 115 were victims of online harassment.<sup>44</sup> In the Triangle, a February 2014 incident involving nude pictures of high school students being shared online exemplified the speed at which such sharing can go viral and spread to thousands of viewers.<sup>45</sup> While the original photos may be shared voluntarily, the subject loses control of the images immediately and sharing can spiral far out of the subject's reach. This can lead to shaming, harassment, abuse and potentially more serious consequences. With young people rapidly adopting new forms of social media such as SnapChat and Kik, parents and law enforcement are challenged to stay updated and monitor all channels of mobile and online communication.

## Recommended Strategies

The Centers for Disease Control and Prevention (CDC) recommends Rape Prevention Education (RPE) through partnerships among schools, community agencies, faith communities and law enforcement. These programs should be implemented with evidence-based curricula focused on creating healthy relationships and preventing acquaintance and intimate partner rape with community members of all ages.<sup>46</sup>

Studies by the National Institute of Justice have found that Sexual Assault Nurse Examiner (SANE) programs and Sexual Assault Response Teams (SART) improve the quality of health care for victims; improve the quality of forensic evidence collected; increase the ability of law enforcement to gather information, file charges and refer cases to prosecution, and lead to increased rates of prosecution over time.<sup>47</sup> 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, the 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 discuss and improve their victim-centered, coordinated community response to sexual violence. In addition, DCRC arranges

trainings and other initiatives for team members and other community agencies throughout the year.

To address the increasing incidence of unwanted online sexual communication, the Crimes against Children Research Center recommends that schools implement evidence-based anti-bullying programs and social-emotional learning curricula that incorporate information about online harassment and behavior. These programs should focus on skill-building to teach key relational and social skills that are necessary for healthy communication and relationships in any environment or communication modality.<sup>48</sup>

## Current Initiatives & Activities

### ▪ *Durham Crisis Response Center*

DCRC offers the following services to victims of sexual assault: 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.

Website: <http://www.durhamcrisisresponse.org/>

Phone Number: (919) 403-9425

Crisis Line: (919) 403-6562 (English) or (919) 519-3735

### ▪ *Duke Healthcare System*

The Duke Healthcare System offers the service of Sexual Assault Nurse Examiners (SANEs), who collect evidence from victims of sexual assault who present in the Emergency Departments of Duke and Durham Regional Hospitals. 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.<sup>49</sup>

Website: [http://www.dukehealth.org/services/emergency/programs/emergency\\_medicine\\_and\\_trauma\\_center](http://www.dukehealth.org/services/emergency/programs/emergency_medicine_and_trauma_center)

Phone Number: (919) 684-2413; (919) 470-4000

### ▪ *Durham Police Department Special Victims Unit*

The Durham Police Department's Special Victims Unit (SVU) investigates crimes of sexual assault, child pornography, child physical abuse, allegations of child neglect and any other matter at the direction of the Criminal Investigations Division commander. The Special Victims Unit consists of investigators who specialize in child abuse and sexual assaults. SVU works closely with the Durham County District Attorney's Office and the Durham County Department of Social Services during an investigation. The goal of the Durham Police Department is to make Durham a safe city to live in.

The Special Victims Unit does not investigate domestic violence related cases or non-sex crimes committed by juvenile offenders. If a sex crime is involved, the Special Victims Unit may assist in the investigation. Crimes that are domestic violence related are investigated by the Domestic

Violence Unit and crimes committed by juvenile offenders are investigated by Patrol Services Bureau district investigators.

If you have been the victim of sexual assault, it is important to seek medical attention immediately. Call 9-1-1.

Website: <http://durhamnc.gov/ich/op/DPD/Pages/Youth.aspx>

Phone Number: (919) 560-4440

▪ ***Duke University Women's Center***

Female or male students who are victims of gender violence--sexual assault, rape, sexual harassment, dating violence or stalking can get information and support about their options including, but not limited to talking to academic Deans, room reassignment, reporting to the Office of Student Conduct, referrals and accompaniment for medical care, assistance with law enforcement or the district attorney's office or obtaining a no contact order. The Duke University Women's Center also helps survivors think through access to other support by helping them make the best decisions about who to tell and if and how they should tell their parents.

Website: <http://studentaffairs.duke.edu/wc>

Phone Number: (919) 684-3897

▪ ***Duke University Center for Sexual and Gender Diversity***

The Center for Sexual and Gender Diversity provides education, advocacy, support, mentoring, academic engagement, and space for lesbian, gay, bisexual, pansexual, transgender, transsexual, intersex, questioning, queer and allied students, staff and faculty at Duke. The Center for Sexual and Gender Diversity also serves and supports Duke alumni/ae and the greater LGBTQ community.

Website: <http://studentaffairs.duke.edu/csgd>

Phone Number: (919) 684-6607

▪ ***North Carolina Central University Women's Center***

Historically Black Colleges and Universities (HBCU) HAVEN (Helpers and Advocates for Violence Ending Now) is an initiative that seeks to provide streamlined, efficient and comprehensive culturally-competent services to members of the NCCU campus community who are victims of domestic violence, sexual assault, dating violence and stalking. HBCU HAVEN also aims to increase educational awareness for students, faculty and staff.

Website: <http://www.nccu.edu/womenscenter/>

Phone Number: (919) 530-6811

▪ ***North Carolina Central University LGBTQA Center***

The Lesbian, Gay, Bisexual, Transgender and Ally (LGBTQA) Center in the Alfonso Elder Student Union strives to create a place at North Carolina Central University (NCCU) where every student feels welcome. The LGBTQA Center serves as a clearinghouse of information and upon request provides Straight Talk classes and presentations. When the center opened on April 9, 2014, NCCU

was only the second HBCU (Historically Black Colleges and Universities) in the nation to dedicate a center to the LGBT community, and the first HBCU in North Carolina to do so.

Website: <http://www.nccu.edu>

Phone Number: (919) 530-6100

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## Section 9.04 *Child abuse and neglect*

### Overview

Child maltreatment includes all types of abuse and neglect of children under the age of 18, by a caregiver or custodian (e.g., parent, sibling, teacher, coach, or clergy). There are four major types of child maltreatment;

- *Physical abuse* (use of physical force against a child, including hitting, kicking, shaking, and burning);
- *Sexual abuse* (such as engaging in sexual acts with the child, including fondling, rape and purposeful exposure to sexual acts);
- *Emotional abuse* (behaviors that harm a child's emotional/psychological health such as shaming, ridicule, rejection, placing the child or child's loved ones in dangerous situations, threatening, and withholding care or love);
- *Neglect*, which is the failure to address a child's basic needs including housing, food, clothing, education, supervision and access to medical care.

Effects of child abuse and neglect may have significant, long-lasting psychological effects on the individual, and these effects may effect the individual's ability to parent their own children. One-third of abused children grow up to continue patterns of inept, neglectful, or abusive parenting. A forty-year study of abused and neglected children found that half of these children had been convicted as adults of serious crimes, were mentally ill, had substance abuse problems, or died at an early age.<sup>1</sup> Child abuse increases an individual's chances of delinquency and adult criminality (including violent crimes) by 53 percent as a juvenile and 38 percent as a young adult.<sup>2</sup>

Child maltreatment has many negative acute and long-term effects on health. The (Center for Disease Control and Prevention) CDC's most recent fact sheet reports that maltreated children often suffer immediate physical injuries including cuts, bruises, burns, and broken bones. In addition, maltreatment causes stress that can disrupt early brain development.<sup>3</sup> Extreme stress can harm development of the nervous and immune systems.<sup>4</sup> As a result, abused or neglected children are at higher risk for health problems as adults. These problems include alcoholism, depression, drug abuse, eating disorders, obesity, high-risk sexual behaviors, smoking, suicide and other chronic diseases.<sup>5,6</sup>

Child maltreatment risk factors include age of the child, family environment and community. According to the CDC 2014 Fact Sheet<sup>7</sup>, children under four years of age are at greatest risk for severe injury and death from maltreatment. While abuse and neglect may occur across the spectrum, children living in families where there is a great deal of stress sustained over long periods of time are at greater risk for abuse and neglect. The stress can result from a family history of violence, substance abuse, unemployment, poverty, isolation and chronic health problems. Children who are disabled and developmentally challenged or are medical fragile have a higher incidence of abuse and neglect. Families that do not have nearby friends, relatives and other social support are at risk. On-going violence in communities creates an environment where child abuse is more prevalent. Very often, children who are maltreated have more than

one form of abuse that they have to deal with (multiple traumas). In other words, some children are in situations where they are being physically and/or sexually abused, have witnessed a homicide or suicide and are separated from their family. These multiple negative exposures can have significant long-term damaging effects on their development and ability to lead healthy, active lives.

## Healthy North Carolina 2020 Objective

There is no Healthy NC 2020 Objective on Child Maltreatment.

## Secondary Data

Table 9.04(a) presents the number of reports of abuse and neglect for Durham County compared to North Carolina collected by the Jordan Institute for Families, UNC-CH School of Social Work. During this period (FY 2007-2008 to FY 2012-2013), the number of reports of abuse and neglect for Durham County peaked in FY 2011-2012. In North Carolina, reports peaked in fiscal year (FY) 2007-2008 with a decline until it peaked again in FY 2011-2012.

**Table 9.04(a) Reports of Child Abuse and Neglect in Durham County and NC by Fiscal Year (FY)\***

<b>County/State</b>	<b>FY2007-08</b>	<b>FY2008-09</b>	<b>FY2009-10</b>	<b>FY2010-11</b>	<b>FY2011-12</b>	<b>FY2012-13</b>
<b>Durham County</b>	1,468	1,589	1,504	1,384	1,673	1,531
<b>North Carolina</b>	69,740	67,528	66,901	68,428	68,646	64,988

\*<http://ssw.unc.edu/ma/> (partial year data is also available for FY 2013-14)

The Durham County Department of Social Services (DSS) receives reports of alleged abuse, neglect or dependency on children under the age of 18 from individuals in the community. If the conditions described in the report meet the statutory definition of abuse, neglect or dependency and the alleged perpetrator is a parent, guardian, custodian or caretaker, Durham County DSS will initiate an assessment of all children residing in the home to determine if protective services are needed.

The county has two approaches to reports of child abuse, neglect or dependency; first, family assessments for reports of neglect & dependency and secondly, investigative assessments for reports of abuse (emotional, physical and sexual) or abuse and neglect.

A family assessment may have a finding of neglect or dependency with services needed for ongoing intervention, services recommended and closed, services not recommended and closed, and services provided, no longer needed and closed. An investigative assessment may have a finding of unsubstantiated and closed or substantiated, closed or remaining open for ongoing

intervention. It is possible for one family to have multiple types of maltreatment (e.g. abuse and neglect).

Table 9.04(b) presents the types of maltreatment findings that were reported within Durham County following the completion of a family assessment and an investigative assessment from FY 2007 to FY 2013. For this period, neglect was the most frequently reported maltreatment type when compared to abuse and neglect and abuse. Abuse and neglect and neglect alone continues to show a decreasing trend in the counts per year. Services recommended and needed show a general increasing trend for the same time period.

**Table 9.04(b) Durham County: Type of Finding Reported Post Assessment (not exclusive)\***

Type	FY2007-08	FY2008-09	FY2009-10	FY2010-11	FY2011-12	FY2012-13
Unsubstantiated	337	319	375	411	433	258
Abuse and Neglect	6	8	5	5	7	6
Abuse	17	35	28	13	42	14
Neglect	108	48	44	24	91	59
Dependency**	1	0	5	0	1	1
Services Needed	56	91	49	61	74	53
Services Recommended	317	245	198	251	429	453
Services Not Recommended	580	711	676	570	549	657
Services Provided, No Longer Needed	57	133	125	52	47	30

\*<http://ssw.unc.edu/ma/> (a record could be counted within more than one category) \*\* Dependency means that a child needs assistance or placement because either the child has no parent, guardian, or custodian responsible for their care or the child's parent, guardian, or custodian is not able to provide for the child's care because of physical or mental incapacity.

## Primary Data

The 2013 Durham County Community Health Opinion Survey<sup>8</sup> 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.*” Child neglect and abuse received 5% of the responses. When asked about services that need the most improvement in their neighborhood or community, healthy family activities was chosen 9% of the time. (See Appendix E for full results of the Community Health Opinion Survey.)

## Interpretations: Disparities, Gaps, Emerging Issues

The data in Table 9.04(c) show pronounced racial and ethnic disparities within Durham County regarding child maltreatment reports. Within each fiscal reporting year presented, reports for Blacks were as much as three times the number of reports for Whites. Reports for Other Races increased over the time periods presented from 170 reports in FY 2007-08 to 218 reports in FY 2012-13. Reports for Non-Hispanics were as much as five times the number of reports for Hispanics. Also, over this time period, the data show that reports for zero to five-year-olds are one and a half to four times more than reports for children in other age categories.

**9.04(c) Durham County: Child Abuse and Neglect Reports by Race, Ethnicity, Gender and Age\***

Type	FY2007-08	FY2008-09	FY2009-10	FY2010-11	FY2011-12	FY2012-13
Black	983	1,097	948	880	1,064	990
White	311	275	302	341	405	320
Other Races	170	217	254	163	201	218
American Indian**	4	0	0	0	3	3
Non-Hispanic	1,217	1,314	1,206	1,129	1,366	1,324
Hispanic	251	275	298	255	307	207
Male	746	812	762	687	852	800
Female	722	777	742	697	821	731
Ages 0-5	768	816	823	743	890	800
Ages 6-12	441	507	488	43	527	507
Ages 13-17	249	259	184	203	251	212
Unknown/Missing	10	7	9	7	5	12

\*<http://ssw.unc.edu/ma/> (a record could be counted within more than one category)

\*\*Includes Alaskan's

According to the UNC-CH, Jordan Institute for Families website (<http://ssw.unc.edu/ma/>), from FY 2004 to FY 2010, the percentage of Black children ranged from approximately 79% to 83% of all children in the custody of Durham County. While during the same time period, the percentage of White children and children of other races in custody ranged from 13% to 16% and 4.3% to 4.4%, respectively.

A United States Government and Accountability Office (GAO)<sup>9</sup> survey done in 2008 reported findings on factors that contribute to the proportion of African-American children in foster care. Factors include a higher rate of poverty, challenges in accessing support services, racial bias and distrust and difficulties in finding appropriate adoptive homes. The survey also found that families living in poverty have greater difficulty accessing housing, mental health and other support services needed to keep families stable and children in safe environments.

Misunderstandings and distrust between child welfare decision makers and the families they serve contributes to this disparity. African-American children also stay in foster care longer because of difficulties in recruiting adoptive parents, the lack of services for parents trying to reunify with their children and a greater reliance on relatives to provide foster care who may be unwilling to terminate parental rights.

According to the report, strategies states use to address this disparity include building community supports, providing cultural competency training for caseworkers and broadening the search for relatives to care for children. Researchers and officials also stressed the importance of carefully analyzing data to address the proportion of African- American children in care.

According to the GAO survey, states viewed federal policies that promote adoption as helpful for reducing the proportion of African-American children in foster care.<sup>10</sup> However, states also expressed concerns regarding policies that limit the use of preventive services and legal guardianship arrangements. As an alternative to adoption, subsidized guardianship is considered particularly promising for helping African-American children exit from foster care.

### **Foster Care:**

There is a critical need for foster families in Durham County, particularly for African-American children and sibling groups. Matching the needs of the child to the skills of the foster family requires a wide variety of available foster families – from those who can supply basic foster parenting needs to those who are specially trained to house medically fragile children and provide therapeutic foster care. Respite care families can support foster families by providing weekend care or needed breaks to help prevent burnout.

Children often enter foster placement with significant health problems, including emotional/behavioral problems, chronic physical disabilities, birth defects, developmental delay and poor school achievement. Health care for foster children is often compromised by poor funding and lack of access, long wait times for medical and mental health care and lack of service coordination. These issues highlight the critical need for children in foster care having to have access to experienced health professionals who can provide immediate consultation and services when needed.

### **Recommended Strategies**

The CDC online Community Guide Book is a comprehensive resource for evidenced-based community intervention strategies (see resource list below). Also, the Guide to Clinical Preventive Services: Report of the U.S. Preventive Services Task Force, offers information on screening for Depression, Suicidal Intent and Violent Injuries. The World Health Organization also has a comprehensive report available (2006) that details prevention and treatment strategies and can be found at [http://whqlibdoc.who.int/publications/2006/9241594365\\_eng.pdf](http://whqlibdoc.who.int/publications/2006/9241594365_eng.pdf).

Healthy North Carolina 2020 speaks indirectly to this topic by recommending strategies to prevent and reduce injury and violence.<sup>11</sup> For example, the 2020 report states one strategy within schools and child care would be to “establish a social environment that promotes safety and prevents unintentional injuries, violence, and suicide; maintain safe playgrounds, school grounds, and school buses; provide health, counseling, psychological, and social services to meet the needs of students; implement evidence-based healthful living curricula in schools.” However, no specific strategies to address child maltreatment are presented in the Healthy North Carolina 2020 report.

### **Current Initiatives & Activities**

Durham County has several community-based resources available for assisting families and children in need and provides a network of referral services through county, private and related websites. Some of Durham’s hallmark programs are briefly described below.

- ***Durham County Department of Social Services***

The Durham County Department of Social Services (DSS) has a mission to partner with families and communities in achieving well-being through prosperity, permanence, safety, and support. The agency can help meet basic economic needs, provides access to health care and nutrition to improve health status and helps people find jobs, develop strong work habits and create a career path. The agency also invests in the safety and stability of families, the disabled, and the elderly.

Website: <http://dconc.gov/government/departments-f-z/social-services>

Phone Number: (919) 560-8000

- ***Durham Connects: Growing Healthy Babies***

Durham Connects is a resource that is housed within the Office of Community Resources. It brings together families, community agencies and healthcare providers together to give babies adequate nutrition, a safe home, educational stimulation, nurturing parents and high quality childcare. Its mission is to increase child well-being by bridging the gap between parent needs and community resources. For example, starting this year, all babies born in the county (and their families) can get up to three nursing visits. During these visits, well baby and the six-week post partum follow-up visits are reinforced. The Durham Connects program also created the GrandParent Network of Durham. The GrandParent Network recruits, trains, and matches Durham residents aged 50 and above with new families looking for an experienced mentor.

Website: <http://www.durhamconnects.org/>

Phone Number: (919) 688-3279

- ***East Durham Children's Initiative (EDCI)***

Working with residents of the community and other key stakeholders and partners, EDCI is developing a plan to create a continuum of services from birth through high-school to college or career prep. The plan includes such services as:

- Parenting classes, home visits, high quality and affordable child care
  - After school and summer school services
  - Library services, housing assistance, financial literacy, social services
  - Expansion of wellness centers, adult literacy programs and job training

Website: <http://www.eastdurhamchildrensinitiative.org>

Phone Number: (919) 419-3474

- ***Durham's Network of Care***

Durham's Network of Care is an online resource center for families and children. This site provides a single point of entry for a myriad of services and resources within and outside of the Durham community (e.g., information regarding access to services, child care, community networking, education, employment, financial assistance, mental health care and raising children).

Website: <http://durham.nc.networkofcare.org/mh/>

- ***CDC Community Guide Book***

The CDC's online Guide to Community Preventive Services is a free resource that suggests effective community interventions for such topics as alcohol use, mental health, social environment and violence. For example, the website presents a recommended intervention for Early Childhood Home Visitation to Prevent Violence.

Website: <http://www.thecommunityguide.org/index.html>

- ***Duke Child Abuse and Neglect Medical Evaluation Clinic (CANMEC)***

The Child Abuse and Neglect Consult Service is dedicated to providing medical consultation and guidance to health care professionals referring child abuse and neglect cases:

- Provide the initial comprehensive health assessment within seven days for all children placed into foster care in Durham County according to American Academy of Pediatrics standards.
- Address both acute and chronic needs of the child with a goal of identifying potential medical and mental health concerns.
- Offer appropriate recommendations to best meet the needs of the foster child to include dental, developmental, mental health, educational and social concerns.
- To establish standards and clinical procedures for child abuse/neglect medical evaluations,
- To provide teaching and training about medical, social and legal aspects of child abuse and neglect,
- To administer the NC Child Medical Evaluation Program within the Duke Health System,
- To record and maintain statistics of referred cases of child abuse and neglect,
- To conduct child abuse/neglect research, develop resource materials for teaching/education,
- To provide expert medical testimony related to Duke child abuse and neglect cases,
- To establish affiliations with mental health, domestic violence, drug rehabilitation and prevention programs which could impact child abuse and neglect outcomes.

Website: [http://www.dukechildrens.org/services/child\\_abuse\\_and\\_neglect](http://www.dukechildrens.org/services/child_abuse_and_neglect)

- ***Center for Child and Family Health***

The Center for Child and Family Health strive to define, practice, and disseminate the highest standards of care in the field of prevention and treatment of childhood trauma. The Center for Child & Family Health uniquely integrates community-based practice and academic excellence. Our professionals utilize multidisciplinary measurable approaches for professional training and research related to child traumatic stress.

Website: <http://www.ccfhnc.org/index.php>

Phone Number: (919) 419-3474

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## Section 9.05 *Human trafficking*

### Overview

Human trafficking, commonly referred to as a form of modern-day slavery, is the exploitation of an individual for commercial sex or labor by means of force, fraud or coercion. It is a crime that greatly affects the most vulnerable of our population, women and children, but can also affect men. Every year, thousands of men, women and children fall into the hands of traffickers in their own countries and abroad. According to the Polaris Project (a leading organization in the United States that combats all forms of Human Trafficking), more people are held in slavery today than at the height of the transatlantic slave trade. Our communities are not immune from this pervasive crime.

There are two major types of Human Trafficking. The Trafficking Victims Protection Act (TPVA) of 2000 defines sex trafficking and labor trafficking as follows:

- Sex Trafficking is the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act in which the commercial sex act is induced by force, fraud, or coercion, or in which the victim induced to perform such an act is less than 18 years of age.
- Labor Trafficking is the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage or slavery.

North Carolina has since adopted the language of this act to reflect in state laws. In October 2013, Senate Bill 683, commonly referred to as the Safe Harbor Bill was passed, reinforcing the clause that individuals induced to perform a commercial sex act under the age of 18 are considered victims of human trafficking and cannot be charged with prostitution or other related solicitation charges. This law also required human traffickers to be registered on the sex offender's registry and increased the overall penalty for traffickers.<sup>1</sup>

Victims can come from any background, race, age, gender or socio-economic status. Victims can be both domestic (U.S. citizens) and foreign born (from a country other than the U.S.). There are no identifying characteristics of a potential victim of human trafficking, but all victims exhibit some form of vulnerability ranging from low self-esteem to poverty to immigration status. Traffickers are equally ambiguous. In fact, almost half of all traffickers are women. One commonality amongst traffickers is a position of power over the victims. The trafficker uses the position of power over the vulnerability of the victim to gain control physically, mentally or emotionally.

### Impact on Health

Victims of human trafficking face many physical health risks, including drug and alcohol addiction, physical injuries (broken bones, concussions, burns, vaginal/anal tearing), traumatic

brain injury, sexually transmitted infections (e.g., HIV/AIDS, gonorrhea, syphilis), sterility, miscarriages, menstrual problems, TB, hepatitis, malaria, pneumonia and forced or coerced abortions.<sup>2</sup>

Victims of human trafficking also commonly exhibit severe psychological trauma due to their trafficking experiences. Psychological trauma can include mind/body separation/disassociated ego states, shame, grief, fear, distrust, hatred of men, self-hatred, suicide, suicidal ideation, Post Traumatic Stress Disorder (PTSD), acute anxiety, depression, insomnia, physical hyper alertness and self-loathing. Prior to their trafficking experience, many victims have undergone previous traumatic events such as past sexual abuse, physical abuse and neglect which can contribute to complex trauma after the victim is re-victimized through the trafficking experience. Many victims exhibit pre-existing behavioral and mental health disorders such as depression, bi-polar disorder, borderline personality disorder and general anxiety disorder. During and after their trafficking experience, victims may also suffer from traumatic bonding – a form of coercive control in which the perpetrator instills in the victim fear as well as gratitude for being allowed to live.<sup>3</sup>

Human trafficking is an estimated 32 billion dollar industry.<sup>4</sup> It is the second largest illicit criminal industry in the world, second only to drug trafficking and recently surpassing arms trade.<sup>5</sup> In the United States, human trafficking is a leading source of income for organized crime and other criminal enterprises bringing an estimated eight to 10 billion dollars a year in profit to the criminal enterprises involved.<sup>6</sup> Asian, Mexican, Central American, Russian and Eurasian gangs are among the major traffickers. Though almost all countries are affected in some manner by human trafficking, the majority of victims come from Asian countries.<sup>7</sup> Women from the Eurasian countries and the former Soviet bloc however, are considered the largest source of victims for prostitution and the sex industry in Europe and North America.<sup>8</sup>

The problem in the United States has become so serious that President Barack Obama recently declared January “National Slavery and Human Trafficking Prevention Month” to raise awareness about this rising criminal enterprise.

## Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective on Human Trafficking.

## Secondary Data

The United Nations estimates that at least 600,000 to 800,000 men, women and children are trafficked across international borders every year and at least 17,500 of those victims are trafficked into the United States.<sup>9</sup> More than 80% of the victims are female and 70% of these victims are forced into the commercial sex trade.<sup>10</sup> The FBI estimates approximately 23% of those trafficked into the United States arrive in the Southeast.<sup>11</sup> Reports of trafficked or potentially trafficked victims have been documented across North Carolina, both in cities and rural areas.

According to the Polaris Project, North Carolina ranks ninth as the most likely state for human trafficking to occur. There are many reasons for this ranking including the fact that traffickers take advantage of the I-40, I-85 and I-95 network of highways to recruit, enslave and traffic victims. Traffickers and their victims typically move from one place to another in order to intentionally avoid local law enforcement and disorient victims.

North Carolina is also a top ten agricultural state which attracts approximately 100,000 migrant farm workers (60,000 of which are Latinos) who can also be lured into forced labor and domestic servitude. According to Legal Aid of NC, agricultural production in North Carolina is a 46 billion dollar industry, which involves the fifth most farm workers of any state. Unfortunately, this industry remains intertwined with extreme exploitation and for some, modern-day slavery. In addition, there are nine active military bases in North Carolina (two Air Force, two Army, one Coast Guard, three Marine and one Navy), which can serve as magnets to sex traffickers and traders.

## Primary Data

The Salvation Army of Wake County's Project FIGHT (a state-wide anti-human trafficking case management program) has seen over 90 cases of human trafficking since 2011. Of those cases, 85% of all cases were females and 15% were male. Almost half of all cases are foreign born while more than half are domestic, U.S. citizens. Project FIGHT has worked with clients from ages 13 to 63, with the majority of cases ranging between 18 and 25 years of age. Many cases exhibit internet solicitation and gang involvement. Many victims disclose past abuse.

## Interpretations: Disparities, Gaps, Emerging Issues

Children are highly desired in both sex and labor trafficking and are often exploited in the commercial sex trades performing the same jobs as adults in prostitution, pornography and sex tourism. Outside of the illicit sex trade, children are regularly found in domestic service, migrant farm work, hotel or restaurant work and sweat shops.

In instances of sex trafficking, traffickers lure victims into exploitative situations through promises of a better life, employment or intimate relationships and then alter the situation so that those individuals fall victim to sexual servitude. Many victims of sex trafficking within the United States are runaways or individuals who have been kidnapped. According to a recent study of the 1.6 million missing or abandoned children in the United States, over 40,000 are at risk for sexual endangerment or exploitation.<sup>12</sup>

Shocked by trafficking statistics in our state, State Senator Eleanor Kinnaird, drafted Senate Bill 547, a measure that would create a state commission on human trafficking. The bill gives the Governor power to appoint 18 members in various law enforcement roles with a focus on victim assistance (<http://www.ncleg.net/Sessions/2011/Bills/Senate/PDF/S547v0.pdf>).

## Recommended Strategies

### Signs of Trafficking

It is important to remember that although human trafficking is a specific violent crime, it overlaps with several existing violations, such as sexual assault, child pornography, labor exploitation, domestic violence and various juvenile crimes. All direct service providers who work within these areas should screen for signs of force, fraud or coercion in relation to their exploitation and be mindful of potential indicators of human trafficking.

Even with a greater public awareness of the issue, signs of trafficking are often missed by providers. It can be hard to identify, as victims rarely view themselves as victims and they are rarely in a position to seek help. However there are several commonalities that may help identify a trafficking situation. Some red flags to look for include situational indicators and physical indicators:

- History of foster care, repeatedly absent from group homes
- Truancy or stops attending school
- Early sexual initiation
- Knowing a lot about sex a young age
- Runaway/ homeless
- Controlling behavior of boyfriend
- A non-English speaking individual with a boyfriend or guardian answering all questions
- History of arrest for drug offense, theft or prostitution
- Lack of identification documents
- Sudden changes in appearance (Nail, hair, clothing, tattoos)
- Having access to large amount of cash
- Frequent missed appointments, unable to follow-up
- Multiple pregnancies or abortions
- Repeated emergency room visits
- High number of sexual partners
- Multiple Sexually Transmitted Diseases

In addition to situational indicators of trafficking, there are also many physical indicators that may be warning signs. These physical indicators include, but are not limited to:

- Lingered outside of one particular business or hotel
- Bodyguards around a home, factory, or business
- Bars on the windows of a home, factory, or business
- Vehicles coming and going from a building at odd hours
- Men or women coming to and leaving a building at odd hours
- People escorted to and from a building
- Many people loaded into one vehicle and driven somewhere all together<sup>13</sup>

## Cyber Trafficking

With the advancement of technology, traffickers are able to stay one step ahead of law enforcement and other service providers by utilizing the internet. The internet is a perfect venue for attracting and recruiting impressionable youth and runaways and for advertising victims. Online (network) communities are considered a magnet for the international sex trade via adult services sections.<sup>14</sup> Internet ads draw the innocent into the clutches of the trafficker by offering great jobs for high pay in big cities. They often hide behind the lure of modeling, singing or acting jobs.<sup>15</sup> After the victims accept this work, they are exploited for commercial sex purposes, rather than the initially promised employment. Traffickers also use social media networks such as Facebook to recruit or trick youth into joining a trafficking scheme or personal retail websites such as Backpage.com to advertise and sell victims over the internet. This makes it easier for traffickers to reach a greater volume of potential buyers while distancing the trafficker from the actual situation, making it difficult for law enforcement to connect him to any specific crime. These media networks and websites help other traffickers to network with each other to barter, trade and sell their victims.

## Individuals Who are Most Likely To Encounter a Victim of Trafficking

Anyone may encounter a victim of trafficking, whether it is a nurse or neighbor. They could be someone you interact with on a daily basis but would never know it. In at least one case in North Carolina, a U.S. Postal Carrier noticed something was wrong at a home on his delivery route and contacted the appropriate law enforcement officers to check out the situation. In another case, a gas station attendant became suspicious of a circumstance at his place of employment and notified the National Hotline, who was able to connect the victims with local services. Although anyone can interact with and identify a victim, here is a list of some of the individuals who are more likely to interact with someone who has been a victim of trafficking:

- **Health care professionals** (e.g., paramedics, doctors, nurses, emergency room personnel, medical clinic personnel, community lay health advisors, etc.)
- **Human service workers** (e.g., social workers, rape crisis advocates, health department workers, department of social services workers, teachers, etc.)
- **Law enforcement** (e.g., local police departments, state highway patrol, sheriff departments, FBI, State Bureau of Investigation, undercover officers, Immigration and Customs Enforcement, airport police officers, etc.)
- **Members of religious communities** (e.g., monks, rabbis, imams, priests, deacons, pastors, etc.)
- **Attorneys** (e.g., Public Defenders, District Attorneys, divorce lawyers, employment lawyers, immigration lawyers, Legal Aid attorneys, etc.)<sup>16</sup>
- **Employees of travel and transportation businesses** (e.g. hotel clerks, gas station attendants, taxi cab drivers, etc.)

## Current Initiatives & Activities

Trafficking is a large, global problem but it often remains an invisible issue. There are numerous barriers that contribute to identifying victims, including, but not limited to:

- Trafficking victims can be very hidden
- Victims may be kept moving by traffickers
- Lack of awareness of trafficking among general public and health, legal, and human service professionals
- Law enforcement often detains and removes possible victims before they can be interviewed, identified, and assisted by legal counsel<sup>17</sup>
- Lack of state coordination for general response and direct services
- Lack of resources specifically allocated for victims of human trafficking

One of the most impactful things we may be able to do is talk to kids about the issue. The average age of entry into prostitution ranges from 11 to 14, depending on the gender and it is estimated that one out of every three runaways are lured into prostitution within 48 hours of running away.<sup>18</sup> Therefore, talking to children about this issue and how to protect themselves from an early age may increase their ability to identify a dangerous situation for themselves or a friend. Increasing awareness of the issue can be done by contacting local elected officials and finding out how to advocate for change.

The Polaris Project ([www.polarisproject.org](http://www.polarisproject.org)) coordinates a National Human Trafficking Resource Center 24 hours a day, seven days a week. Service providers, victims and community members can contact the National Resource Center to report suspicious behavior, seek help or find resources for victims. The National Human Trafficking Hotline can be reached at 1.888.373.7888. The website is very comprehensive and contains information about Human Trafficking, frequently asked questions, recognizing signs, how to take action (raising awareness, fundraising, and reporting), resources and tools, media kits, press releases and trainings. The site also includes many links to other information including child labor information, trafficking statistics and laws that are in place to combat trafficking. Other useful websites (some of which include comprehensive reports co-sponsored by law enforcement) include:

- Department of Health and Human Services:  
<http://www.acf.hhs.gov/programs/endtrafficking>
- UNDOC:  
<http://www.unodc.org/unodc/human-trafficking/>

- ***Office to Monitor and Combat Trafficking in Persons***

The Department of State's Office to Monitor and Combat Trafficking in Persons leads the United States' global engagement on the fight against human trafficking, partnering with foreign governments and civil society to develop and implement effective strategies for confronting modern slavery. The Office has responsibility for bilateral and multilateral diplomacy, targeted foreign assistance, and public engagement on trafficking in persons.

Website: <http://www.state.gov/g/tip>  
Phone Number: (202) 647-4000 or 1 (800) 877-8339

- ***NC Coalition Against Sexual Assault (NCCASA)***

The North Carolina Coalition Against Sexual Assault is an inclusive, statewide alliance working to end sexual violence through education, advocacy, and legislation. Among other services, the coalition provides information, referrals, and resources to individuals, rape crisis programs, and other organizations.

Website: <http://www.nccasa.org>  
Phone Number: (919) 871-1015

- ***NC Victim Assistance Network***

The North Carolina Victim Assistance Network is a nonprofit 501(c)3 organization founded in 1986. The North Carolina Victim Assistance Network promotes the rights and needs of crime victims by educating North Carolina's citizens and public policy leaders about the devastating impact that crime has on our society.

Website: <http://www.nc-van.org>  
Phone Number: (919) 831-2857 or 1 (800) 348-5068 (toll free)

- ***NC Coalition Against Human Trafficking***

Established in 2004 as a collaboration between the NC Attorney General's Office, NCCASA, and several other organizations, the North Carolina Coalition Against Human Trafficking (NCCAHT) is a group of professionals from multiple fields (including law enforcement, legal services, social services, policy, etc.) that works to raise awareness about human trafficking across North Carolina, support efforts to prosecute traffickers, and identify and assist victims.

Website: <http://humantrafficking.unc.edu/nccaht.html>  
Phone Number: (888)373-7888 (toll free)

- ***Project FIGHT (Freeing Individuals Grippped by Human Trafficking)***

Established in 2011, Project FIGHT is a comprehensive case management program for victims and survivors of human trafficking in the state of North Carolina. Project FIGHT works with victims to connect them to the practical resources necessary to regain stability in their lives. Project FIGHT also trains community members and professionals about how to identify victims and raise awareness within the community.

Website: <http://www.wakearmy.org>

Phone Number: 1(888) 373-7888 (toll free)

Phone Number: 1 (919) 834-6733 Ext. 111

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## Section 9.06 *Homicide*

### Overview

According to the Centers for Disease Control and Prevention (CDC), in 2010 over 16,000 people were killed as a result of homicide in the United States. Firearms accounted for 68% of those deaths. The average cost per homicide in the U.S. is \$1.3 million in lost productivity and \$4,906 in medical costs.<sup>1</sup> In 2010, there were 539 homicides in North Carolina; 70% were caused by firearms. From 2005 to 2009 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.<sup>2</sup>

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.<sup>3</sup> In North Carolina, reported fatal and nonfatal injuries due to firearms resulted in 6,811 visits to the emergency department between 2006 and 2008.<sup>4</sup>

Nationwide, the majority of homicides are committed with a firearm, most often a handgun. Likewise in Durham County, approximately 85% of homicides were committed with a firearm in 2011 and 2012. Suspicion of intoxication was reported in 26% of homicides and in most incidences the victims knew the assailant.<sup>5</sup>

### Healthy NC 2020 Objective

#### Injury and Violence

Healthy NC 2020 Objective <sup>6</sup>	Durham (2011)	NC (2011)	2020 Target
3. Reduce the homicide rate (per 100,000 population) <sup>7</sup>	11.0	5.4	6.7

### 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, legal intervention, and unintentional firearm deaths. From 2004 to 2009, there were 301 violent deaths from injuries sustained in Durham County. Homicides and suicides comprised the vast majority of the violent deaths. There were 170 homicides (56%) and 117 suicides (39%). This is in contrast to national data whereby suicides outnumber homicides.

From 2000 to 2012, there has been an average of 28 homicides per year in Durham County. The trend line in Figure 9.06(a) illustrates that homicides have slightly decreased over this same time

period. In 2009, there were 24 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 (2005-2009).<sup>8</sup>

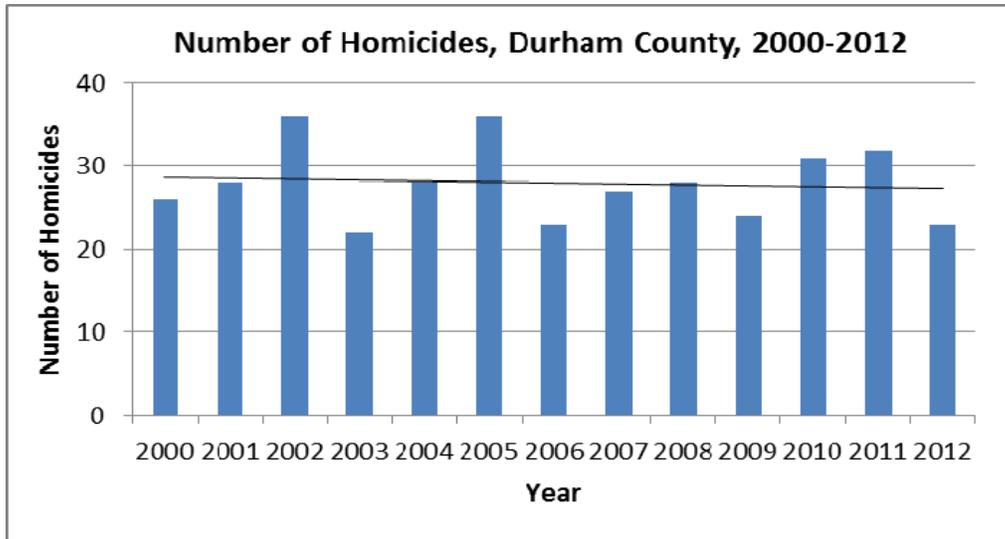


Figure 9.06(a) Number of homicides, Durham County, 2000-2012

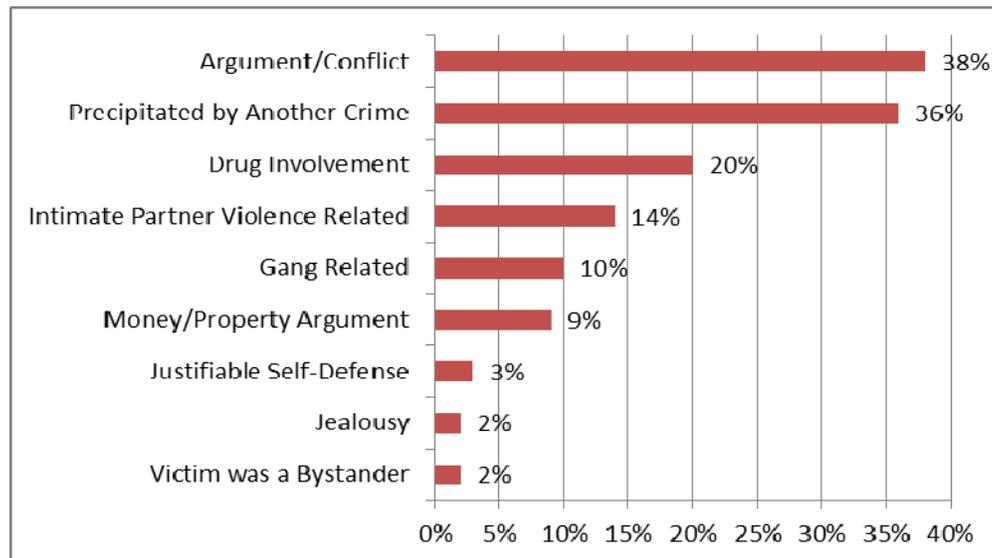


Figure 9.06(b) Circumstances of homicides, Durham County, 2004-2011

Figure 9.06(b) illustrates the identified and reported circumstances that contributed to homicides in Durham County between 2004 and 2011. The most commonly known reported circumstances in which homicides occurred in Durham County included: arguments/conflicts (38%), precipitated by another crime such as robbery or burglary (36%), drug related (20%) and intimate partner violence (14%).<sup>9</sup>

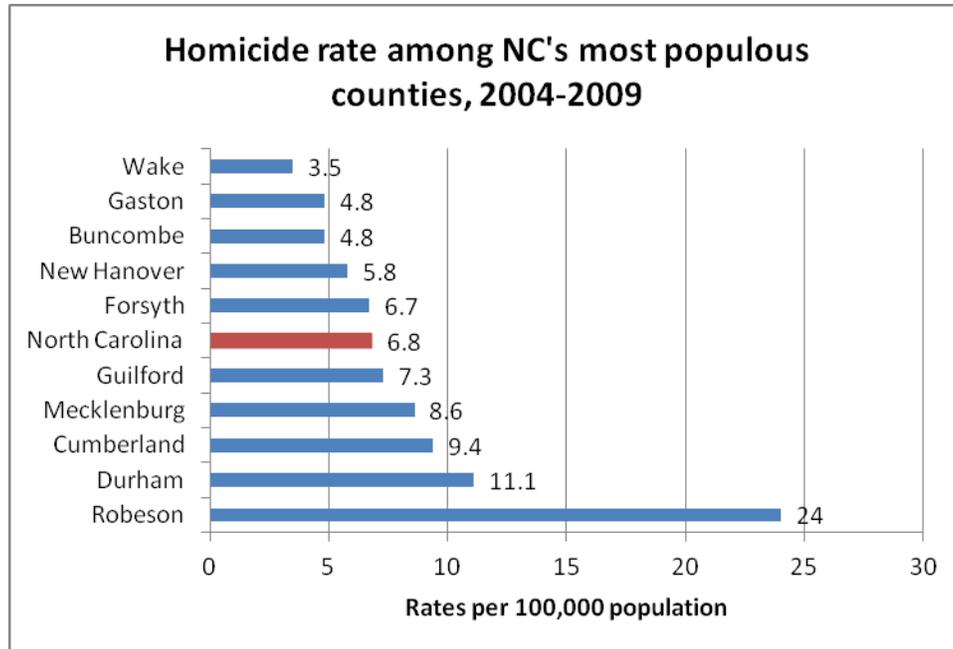


Figure 9.06(c) Homicide rate among NC's most populous counties, 2004-2009

Among North Carolina's most populous counties, Durham ranks second in homicide rates with 11.1 homicides per 100,000 individuals. This is above the North Carolina rate of 6.8 per 100,000. Durham and North Carolina's rates are higher than the Healthy People 2020 goals of 6.7 per 100,000 individuals.

## Primary Data

### Durham County Community Health Opinion Survey <sup>10</sup>

The 2013 Durham County Community Health Opinion 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.”* The fifth most popular response was “gang involvement” (14%) while “violent crime” was chosen by 18% of residents. When residents were asked to choose the top three health concerns in their neighborhood, 6% of residents chose “violent crime injuries.”

Finally, residents were asked, *“In your opinion, which one of the following services needs the most improvement in your neighborhood or community? (Please choose up to three.)”* Crime control received one response.

### Operation Bulls Eye

In May 2006, the densest two square mile area in the city was analyzed for “Sound of Shots” calls for service. When police data was analyzed for a one-year period from May 1, 2006 to

April 30, 2007, it was discovered there was a spatial correlation between shots fired calls, violent gun crimes and validated gang members. A disproportionate number in all three categories was located in a similar area of East Durham. In response, the Police Department embarked on an initiative called “Operation Bull’s Eye.” The primary goal of the initiative was to reduce the occurrence of violent activity in the area. In its sixth year, there was a 46 percent decrease in violent gun crime, 42 percent drop in drug calls, 53 percent reduction in “sound of shots” calls and 61 percent decline in prostitution.

### Interpretations: Disparities, Gaps, Emerging Issues

Specific groups of individuals are at greater risk of being the victims of a homicide. In general, males, young people ages 24-34 and African Americans are disproportionately impacted. However, evidence suggests that race is often a marker for other factors related to homicide, such as poverty, employment, education and discrimination.

*North Carolina:* Of all racial and ethnic groups in North Carolina, African Americans and American Indians are at greater risk of homicide, with rates of 15.9 and 20.8 deaths per 100,000 respectively, versus 4.4 deaths per 100,000 for whites. The highest homicide rates are among individuals aged 15-34 years.<sup>11</sup>

*Durham County:* In Durham County, (2004-2007) 86.7% of homicide victims was male. African Americans had a homicide rate that was 4.7 higher than whites: 22.6 per 100,000 population compared to 4.8 homicides per 100,000. Young people ages 15-34 accounted for 65.9% of the victims.<sup>12</sup>

#### Emerging Issues

It has been consistently shown 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. By adding unnecessary regulations on health care providers that govern what they can and cannot confidentially discuss in the course of preventive care counseling with patients and their parents, as in the bill No Firearm Questions During Health Exams (Brock and Daniel), tragedies that may have been prevented by a simple conversation will, instead, occur. Also due to recent gun legislation in North Carolina, particularly House Bill 937, more guns will be present in community at venues such as parks, restaurants and sporting events.

#### Current Initiatives & Activities

- *The Community Response to Violent Acts* consists of a door-to-door canvassing of neighborhoods where a crime occurred that is conducted by the Durham Police Department, partnering agencies organizations, and concerned citizens.
- *Gun Crime Reviews* analyze all arrests involving possession of a firearm by a team of law enforcement officers and prosecutors to determine the best venue for prosecution.

- *Youth and Parent Workshops* are coordinated by Project Safe Neighborhoods to educate parents and young people about the dangers of at-risk lifestyles and the dangers of gang involvement.
- *Youth and Family Support* is provided to Durham families in need of accessing appropriate community resource services. The Project Safe Neighborhoods Outreach Coordinator is co-located at Project BUILD (Building Uplifting and Impacting Lives Daily), Durham's comprehensive gang outreach model, to connect families to service providers and serve as an advocate for them.

- ***Project Safe Neighborhoods***

Project Safe Neighborhoods (PSN) identifies community awareness gaps and emerging issues and responds to those needs through resident events, presentations, and year-long initiatives. Law enforcement and the community work collaboratively to decrease gun violence through targeted outreach efforts and public awareness campaigns.

Website: <http://durhamnc.gov/ich/op/DPD/Pages/PSN.aspx>  
Phone Number: (919) 560-4438, ext. 29230

- ***Gang Resistance Education and Training (GREAT)***

Programs addressing gang violence and teaches resistance and positive alternative to gangs.

Website: <http://www.great-online.org>  
Phone Number: (919) 560-4438 x29226

- ***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 safe (violence free) environments for our children.

Phone Number: (919) 560-7765

- ***North Carolinians Against Gun Violence***

Educate the public in preventing gun violence and keeping North Carolinians safe from gun violence through education, enforcement, and enactment.

Website: [www.ncgv.org](http://www.ncgv.org)  
Phone Number: (919) 403-7665

- ***Religious Coalition for a Non-Violent Durham***

Actively seeks an end to the violence that is plaguing Durham neighborhoods through an expression of their faith and goodwill.

Website: [www.nonviolentdurham.org](http://www.nonviolentdurham.org)  
Phone Number: (919) 358-1113

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## Section 9.07 *Harassment and bullying*

### Overview

*While there are laws that provide protections against workplace and sexual harassment, this section focuses on youth. It is from the perspective of the public school system and references matters of school age children in Durham's Local Education Agency.*

The Centers for Disease Control and Prevention (CDC) defines bullying as any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated.<sup>1</sup> Harassment and bullying include but are not limited to, acts reasonably perceived as being motivated by any actual or perceived differentiating characteristic, such as race, color, religion, ancestry, national origin, gender, socioeconomic status, academic status, gender identity, physical appearance, sexual orientation, or mental, physical, developmental, or sensory disability, or by association with a person who has or is perceived to have one or more of these characteristics.

Bullying or harassing behavior can occur in the form of:

- Physical acts
- Threatening communications,
- Pattern of gestures or written, electronic, or verbal communications

Harassment and bullying are often seen as a part of the school environment and are relegated to the school community rather than the general community. Bullying, however, can impact the larger community with violence and acts of suicide. North Carolina is one of 45 states with anti-bullying legislation. The North Carolina School Violence Prevention Act gives students, parents, teachers, school administrators and community partners the strength of state law to address harassment and bullying.

The School Violence Prevention Act was signed into law in June 2009 and took effect at the start of the 2009-2010 school year. It aims to reduce incidences of “bullying and harassing behaviors” in public schools by:<sup>2</sup>

- Establishing a general prohibition on such activity; and
- Requiring all school boards to adopt a policy providing procedures for reporting and investigating, and consequences for “bullying and harassing behaviors.

More specifically:

- No student or school employee shall be subjected to bullying or harassing behavior by school employees or students.
- No person shall engage in any act of reprisal or retaliation against a victim, witness, or a person with reliable information about an act of bullying or harassing behavior.

- A school employee who has witnessed or has reliable information that a student or school employee has been subject to any act of bullying or harassing behavior shall report the incident to the appropriate school official.
- A student or volunteer who has witnessed or has reliable information that a student or school employee has been subject to any act of bullying or harassing behavior should report the incident to the appropriate school official.<sup>3</sup>

In Durham Public Schools, policies 4411 & 5126 (Bullying and Harassment Policy) shall be distributed annually in the Durham Public Schools Student Handbook and the Durham Public Schools Employee Handbook. At the beginning of each school year principals shall provide copies of these policies to school personnel and parents or guardians of all students.<sup>4,5</sup>

Harassment and Bullying are defined broadly by the statute as activities that either:

- Place a student or school employee in fear of harm to him/herself or his/her property or
- Create (or is certain to create) a hostile environment by substantially interfering with a student's educational performance or opportunities or benefits.

An environment free from harassment and bullying takes an entire community. According to [stopbullying.gov](http://stopbullying.gov), "Bullying can be prevented, especially when the power of a community is brought together. Community-wide strategies can help identify and support children who are bullied, redirect the behavior of children who bully, and change the attitudes of adults and youth who tolerate bullying behaviors in peer groups, schools, and communities."<sup>6</sup>

### Impact on health

Victims of harassment and bullying may experience stress-related illness, physical and emotional symptoms including depression, anxiety, fatigue, involvement in interpersonal violence or sexual violence, poor social functioning and pain and frequent colds. Youth who are subjected to bullying often receive poor grades, have lower self-esteem, more health problems, use alcohol and drugs and struggle with weight management issues. Youth involved in bullying in any way including those who bully others, youth who are bullied and youth who both bully others and are bullied by others are referred to as bully-victims.<sup>7</sup> Mental health services may be required and these also impact families, friends, and agencies that aim to serve youth and their families.

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective related to Harassment or Bullying.

### Secondary Data

Many school districts collect data on office discipline referrals and the reason for the referral, which may involve harassment and bullying. Durham Public Schools policy requires

investigations of all reported incidents. According to the district data office, discipline referrals reflect very few reported cases related to harassment and bullying behaviors.

Youth who report both bullying others and being bullied have the highest risk for suicide-related behavior of any groups that report that involvement in bullying.

There is data to support that many of the youth suicides nationwide are often connected to the results of victimization through acts of harassment and bullying. Suicide is the third leading cause of death for young people ages 12 to 18.<sup>8</sup> In a typical 12-month period, nearly 14% of American high school students seriously consider suicide; nearly 11% make plans about how they would end their lives; and 6.3% actually attempt suicide.<sup>9</sup> Both victims and perpetrators of bullying are at a higher risk for suicide than their peers. Children who are both victims and perpetrators of bullying are at the highest risk.<sup>10</sup>

The relationship between bullying and suicide-related behavior is a multifaceted public health problem. A person's vulnerability to either of these behaviors are affected by varying levels of influence; individual, family, community, and society such as:<sup>11</sup>

- Emotional distress
- Exposure to violence
- Family conflict
- Relationship problems
- Lack of connectedness to school/sense of supportive school environment
- Alcohol and drug use
- Physical disabilities/learning differences
- Lack of access to resources/support

Public health researchers have identified evidence based action-oriented prevention interventions grounded in understanding the relationship between bullying and suicide-related behaviors. It is important for schools to have access to information and resources applicable to prevention to protect students from harm.

## Primary Data

### Nationally:

During the 2007–2008 school year; 32% of the nation's students ages 12–18 reported being bullied.<sup>12</sup> Of these students:

- 21 percent said they were bullied once or twice a month.
- 10 percent reported being bullied once or twice a week.
- 7 percent indicated they were bullied daily.
- Nearly 9 percent reported being physically injured as a result of bullying.

**2013 Youth Risk Behavior Survey (YRBS):<sup>13</sup>**

The Durham County Youth Risk Behavior Survey (YRBS) was given to randomly selected classrooms of middle and high school students in Durham Public Schools. Three randomly selected middle and high schools were chosen to reflect district diversity of race/ethnicity and income level. Survey methods were designed to protect students' privacy by allowing for anonymous and voluntary participation. Before the survey was administered, parents were given the opportunity to complete a permission form for their student to opt out of the survey. Students completed the self-administered questionnaire during one class period and recorded their responses directly on a bubbled answer sheet. No identifying information was collected.

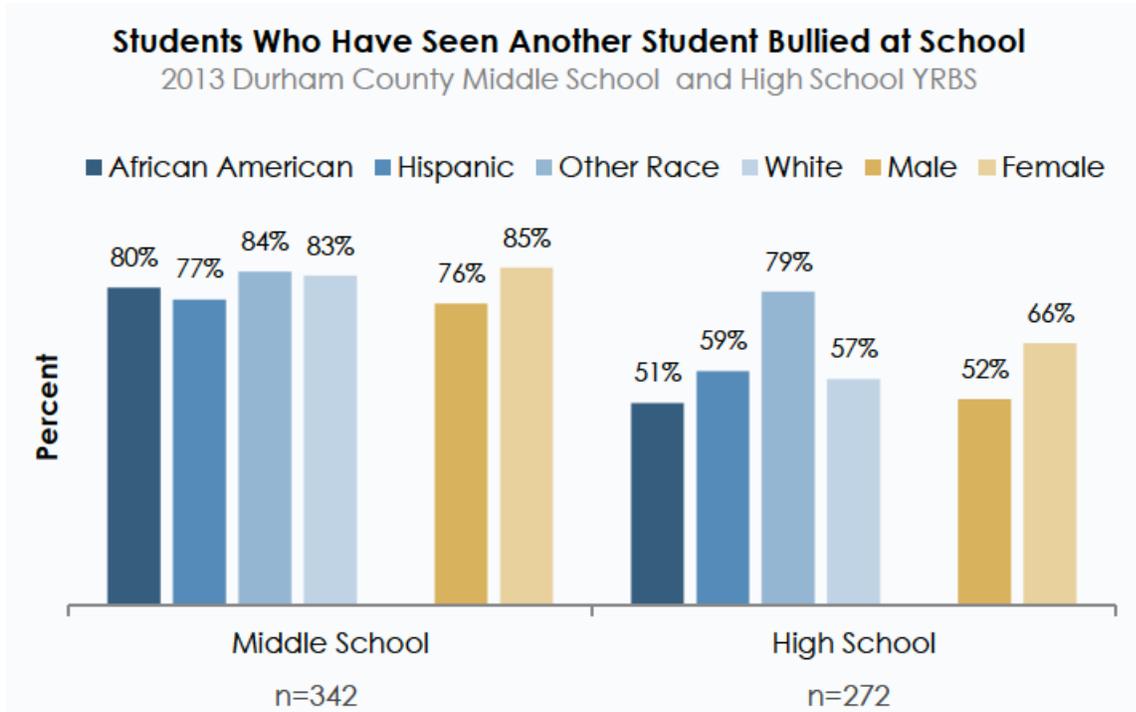
The YRBS data show that Durham's middle school students were less at-risk for behaviors related to weapons, bullying at school, and substance abuse including prescription drugs.

Bullying was introduced on the survey with the following text, "The next 4 questions ask about bullying. Bullying is when 1 or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way."

**Interpretations: Disparities, Gaps, Emerging Issues**

In 2013, 80% of Durham County middle school students and 57% of high school students reported seeing another student bullied at school.<sup>14</sup> Females were significantly more likely than males to report seeing other students bullied at school, in middle school (85% of females compared to 76% of males) and in high school (66% of females compared to 52% of males).<sup>15</sup>

High school students who identify as Asian, American Indian/Alaskan Native, Native Hawaiian/Pacific Islander, or multiple races (79%) were significantly more likely to report seeing another student bullied at school.<sup>16</sup>



**Figure 9.07(a) Students Who Have Seen Another Student Bullied at School**

While traditional modes of bullying often occur face to face in the school environment and have witnesses, cyberbullying uses technology such as computers, cell phones and other electronic devices. Studies have shown that cyberbullying peaks around the end of middle school and the beginning of high school. Victims of cyberbullying are also at risk for depression. One study found that victims of cyberbullying had higher levels of depression than victims of face-to-face bullying.<sup>17</sup>

The majority of Durham County high school (85%) and middle school (82%) students have not been electronically bullied through email, chat rooms, instant messaging, websites or texting. Among high school students, females (22%) were more likely than males (10%) to report having been electronically bullied.<sup>18</sup>

**Table 9.07(a) North Carolina Legislation Prohibiting Cyberbullying.**

State	Cyber-stalking	Cyber-harassment	Cyber-bullying
North Carolina	N.C. Gen. Stat. §§ <a href="#">14-196.3</a>	N.C. Gen. Stat. §§ <a href="#">14-196(b)</a>	N.C. Gen. Stat. §§ <a href="#">14-458.1</a> , <a href="#">115C-407.15-17</a>

North Carolina has legislation prohibiting cyberbullying.

**AN ACT PROTECTING CHILDREN OF THIS STATE BY MAKING CYBER-BULLYING**

**A CRIMINAL OFFENSE PUNISHABLE AS A MISDEMEANOR**

**14-458.1. Cyber-bullying; penalty.<sup>19</sup>**

- (a) Except as otherwise made unlawful by this Article, it shall be unlawful for any person to use a computer or computer network to do any of the following:
- (1) With the intent to intimidate or torment a minor:
- Build a fake profile or Web site;
  - Pose as a minor in an Internet chat room; an electronic mail message; or an instant message;
  - Follow a minor online or into an Internet chat room; or
  - Post or encourage others to post on the Internet private, personal, or sexual information pertaining to a minor.

### Special populations

Research indicates that harassment and bullying behaviors often disproportionately impact special populations such as gay, lesbian, bisexual and transgender (GLBT) individuals, students with disabilities and those with conditions affecting their appearance. GLBT youth experience more bullying (including physical violence and injury) at school than their heterosexual peers. GLBT youth also attempt suicide at a rate two to four times higher than that of their heterosexual peers.<sup>20</sup>

In the words of one expert, GLBT adolescents “must cope with developing a sexual minority identity in the midst of negative comments, jokes, and often the threat of violence because of their sexual orientation and/or transgender identity.”<sup>21</sup> While trying to deal with all the challenges of being a teenager, GLBT teens have to also deal with harassment, threats, and violence directed at them on a daily basis. They hear anti-gay slurs such as “homo,” “faggot” and “sissy” about 26 times a day or once every 14 minutes. The mental health and education, not to mention physical well-being, may be at-risk for GLBT students.  
<http://www.cdc.gov/violenceprevention/pdf/bullying-suicide-translation-final-a.pdf>

### Recommended Strategies

Harassment and bullying are serious issues that every school in the nation confronts. Research indicates that more than half of all school-aged children nationwide will be involved in bullying this year as a victim or a perpetrator and that many more witness bullying acts on a regular basis. Parents, schools and community organizations must take active roles to work collaboratively to educate and create messages of anti-harassment and bullying prevention. The best approach is a comprehensive effort that helps end physical, verbal and technological harassment and adds violence prevention with anti-bullying measures.

The following action steps are quoted directly from the Suicide Prevention Resource Center’s fact sheet on suicide and bullying:<sup>22</sup>

- Start prevention early. Bullying begins at an age before many of the warning signs of suicide are evident. Intervening in bullying among younger children, and assessing both bullies and victims of bullying for risk factors associated with suicide, may have significant benefits as children enter the developmental stage when suicide risk begins to rise.
- Keep up with technology. Bullying often takes place in areas hidden from adult supervision. Cyberspace has become such an area. At the same time, young people may also use social

media and new technologies to express suicidal thoughts that they are unwilling to share with their parents and other adults. Both bullying prevention programs and suicide prevention programs need to learn how to navigate in this new world.

- Pay special attention to the needs of LGBT youth and young people who do not conform to gender expectations. These youth are at increased risk for both bullying victimization and suicidal behavior. It is essential to respond to the needs of these young people, especially the need for an environment in which they feel safe, not just from physical harm, but from intolerance and assaults upon their emotional well-being.
- Use a comprehensive approach. Reducing the risk of bullying and suicide requires interventions that focus on young people (e.g., mental health services for youth suffering from depression) as well as the environment (especially the school and family environments) in which they live.

The important thing to remember is bullying prevention is not just for the schools, but the entire community. Community activists at every opportunity can create events that encourage peer leaders to become trained in how to recognize, stop and report bullying.

CDC resources for fostering school connectedness:

[www.cdc.gov/healthyouth/adolescenthealth/connectedness.htm](http://www.cdc.gov/healthyouth/adolescenthealth/connectedness.htm)

CDC's Applying Science, Advancing Practice: Preventing Suicide Through Connectedness:

[www.cdc.gov/ViolencePrevention/pdf/ASAP\\_Suicide\\_Issue3-a.pdf](http://www.cdc.gov/ViolencePrevention/pdf/ASAP_Suicide_Issue3-a.pdf)

Stop Bullying.gov is an official U. S. government Website managed by the Department of Health and Human Services in partnership with the Department of Education and Department of Justice.

[www.stopbullying.gov](http://www.stopbullying.gov).

Special Edition on Bullying at School and Online gives parents the tools they need to intervene in informed and effective ways. It includes more than 30 original articles, video clips, quizzes, online workshops, community forums and quick-fact lists, all available free-of-charge

<http://www.education.com/special-edition/bullying/>

Addressing Bullying in Schools: An Introduction to the Olweus Bullying Prevention Program  
Susan P. Limber, Ph.D. Clemson University. Retrieved from:

[http://www.dropoutprevention.org/downloads/docs/webcast/20080527/slides\\_20080527.pdf](http://www.dropoutprevention.org/downloads/docs/webcast/20080527/slides_20080527.pdf).

The ABCs of Bullying Addressing, Blocking, and Curbing School Aggression. Retrieved from:

[http://pathwayscourses.samhsa.gov/bully/bully\\_1\\_pg1.htm](http://pathwayscourses.samhsa.gov/bully/bully_1_pg1.htm).

Bullying is Not a Fact of Life: Common Sense Rules for Parents helps continue the conversation. The booklet helps dispel myths about schoolyard behavior, and continues the goals of the ongoing Safe Schools/Healthy Students campaign. Retrieved from: <http://ndstatepirc.org/pdf/bfact.pdf>

**Evidence-Based, Social-Emotional Learning Approaches:**

- Good Behavior Game: [www.air.org/focus-area/education/?type=projects&id=127](http://www.air.org/focus-area/education/?type=projects&id=127)
- Steps to Respect: Bullying Prevention for Elementary School: [www.cfchildren.org/steps-to-respect.aspx](http://www.cfchildren.org/steps-to-respect.aspx)

**Current Initiatives & Activities****▪ *Durham Public Schools***

Durham Public Schools has several initiatives that aim to address bullying and harassment in the schools. Some initiatives are listed below.

- Bullying Tips and Hotline was planned for the 2011-2012 school year. School Security and Student Support Services will partner to ensure that acts of harassment and bullying can be reported anonymously.
- Year-long district level anti-bullying campaign
- Annually, school counselors (or counselor teams) complete anti-bullying projects which can consist of one or several of the following: a school event (assembly presentation, PTA program, etc), students, grade or team projects, contests and/or instructional programs. Project efforts will be reported to the Office of Student Support Services.
- G.R.E.A.T. Gang Resistance Education and Training School-based, law enforcement officer-instructed classroom curriculum. With prevention as its primary objective, the program is intended as an immunization against delinquency, youth violence, and gang membership. It targets students in grades 4 and 6.
- Conflict Resolution/Peer Mediation/Bullying Instructional program where students are trained in ways to handle conflict peacefully and to combat bullying. Peer mediation is used to settle conflicts between students. Resources and strategies are provided to school staff in an effort to reduce the number of fights and batteries.
- SAVE Students Against Violence Everywhere (SAVE) is an after school club which focuses on planning and implementing violence prevention activities at the school. Middle Schools are given opportunities to help youth start early with campus leadership and identification of program and school efforts that improve the school climate and culture.
- School Support Staff Professional Development In-service training is provided to social workers, counselors, instructional coaches and administrators on prevention topics. These topics include substance use prevention, violence prevention, gang awareness, teen issues, communication skills, conflict resolution, peer mediation, anti-bullying, health education and character education.
- Reconnecting Youth A Peer Group Approach to Building Life Skills and helping high-risk youth in grades 9-12 raise grades and manage their anger, while decreasing drug use, depression, and suicide risk. The research-based RY curriculum is divided into four major units: Self-Esteem Enhancement, Decision-Making, Personal Control, and Interpersonal Communications.
- Suicide Intervention Training for all counselors, social workers and school psychologist; ASIST (Applied Suicide Intervention Skills Training) for counselors and social workers

Website: <http://www.dpsnc.net/>  
Phone Number: (919) 560-2000

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- <sup>4</sup> Durham Public Schools. 4411– Bullying / harassment policy. Durham Public Schools website. [http://www.dpsnc.net/pages/Durham\\_Public\\_Schools/District/About\\_DPS/District\\_Policies/Series\\_4000\\_-\\_Student\\_Services/4411](http://www.dpsnc.net/pages/Durham_Public_Schools/District/About_DPS/District_Policies/Series_4000_-_Student_Services/4411) .Accessed August 2014.
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## 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, and those who delay care often have higher treatment costs when they finally receive it.

Healthy North Carolina 2020 includes three objectives for oral health. Their rationale for inclusion is below:<sup>1</sup>

- 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 1-5 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:

- ❖ [Oral health](#)

## Section 10.01 *Oral health*

### Overview

Dental caries, the disease process that causes tooth decay, is the most prevalent childhood disease<sup>2</sup> and according to the Centers for Disease Control and Prevention (CDC) affects more than 25 % of US children aged two to five and half of those aged 12 to 15. In addition the CDC says “28% of those 35 to 44 years of age have untreated tooth decay and the rate is 18% in adults 65 and older.” The CDC states further that “the occurrence of tooth decay is unacceptably high and disproportionately affects minorities and low-income populations.” In the 2013 American Dental Association (ADA) Action for Dental Health report it states that medical conditions also play a role and that there are 125 health conditions that may affect or be affected by oral health, including cardiovascular disease, human papillomavirus infection, HIV/AIDS, osteoporosis, obesity, and autoimmune disorders like rheumatoid arthritis<sup>3</sup>.

The report goes on to say that according to the CDC, adults with diabetes are almost twice as likely to have gum disease as non-diabetic patients of equivalent ages. Therefore, the condition of the mouth mirrors the condition of the body as a whole, and good oral health means more than just an attractive smile. Many diseases appear first in the mouth and are thus found while patients are in the dental chair.

Periodontal (gum) disease or tooth decay (cavities) are the most frequent causes of tooth loss. Poor oral health can have negative results that affect health, social, and financial circumstances. For example, dental caries (cavities) left untreated can lead to needless pain, infection, swollen faces and suffering, which in turn can lead to problems with nutrition, growth, school readiness, speech problems and diminished self-esteem, as well as other medical conditions.<sup>4,5</sup> People with disabilities and other health conditions like diabetes are more likely to have poor oral health. According to the CDC, nationally, one in three adults have untreated decay, and one in seven adults have gum disease.<sup>6</sup>

Despite major improvements in oral health for the population as a whole, oral health disparities exist. Oral health disparities are profound in the United States as a result 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, insurance status and geography.<sup>7,8</sup> 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. Children from lower-income families often do not receive timely treatment for tooth decay, so they are more likely to suffer from it.<sup>9</sup>

There are a number of social determinants that affect oral health. In general, they include lower levels of education, income, and specific racial/ethnic groups that have been found to result in higher rates of disease. Lack of awareness of the need for care, cost of care, and fear of dental procedures can also be deterrents to seeking dental care.<sup>10,11</sup> Other barriers have been observed to contribute to difficulty in gaining access to dental care for people who are Medicaid insured, such as finding a dental provider who accepts Medicaid and long waits for appointments.<sup>12</sup>

Dental decay is five times more prevalent than asthma and seven times more prevalent than hay fever.<sup>13</sup> Fortunately, most oral diseases can be prevented and 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 or an adult will not develop periodontal disease that will result in the loss of teeth.<sup>14</sup> 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. Other behaviors that will also lead to poor oral health include tobacco use, excessive alcohol consumption and poor dietary choices.<sup>15</sup>

### Healthy NC 2020 Objectives

Public health and prevention experts identified three measures for objectives in the oral health focus area that are list in Table 10.01(a). The rationale for Objective 1 is that increasing the percentage of children ages one to five years who are enrolled in Medicaid who receive dental services each year will lead to oral health improvement in a population that is at increased risk of oral health problems and also have less access to care than the general population.<sup>16</sup> The second objective listed in the table below was the result of a 2008-09 report that approximately 40% of all children in North Carolina entering kindergarten already had tooth decay. It is believed that interventions to prevent and reduce dental caries in this population are needed. 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. According to North Carolina data objective three also illustrates health issues of concern for particular segments of the population. Tooth loss as a result of gum disease and dental decay has been associated with certain racial and ethnic groups as well as individuals with less education and those with lower household incomes.<sup>17</sup>

**Table 10.01(a) Healthy NC 2020 Oral Health Objectives**

Healthy NC 2020 Objective <sup>18</sup>	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.	58.1% (2011) <sup>19</sup>	57.3% (2012) <sup>20</sup>	56.4%
2. Decrease the average number of decayed, missing, or filled teeth among kindergarteners.	1.76 (2008-09) <sup>21</sup>	1.5 (2008-09) <sup>22</sup>	1.1
3. Decrease the percentage of adults who have had a permanent tooth removed due to tooth decay or gum disease.	37.8% (2010) <sup>23</sup>	48.3% (2012) <sup>24</sup>	38.4%

## Secondary Data

### Children

A decrease in decayed, missing, or filled teeth has been observed to occur with dental education that makes the public more aware of the importance of good dental hygiene and the importance of taking care of primary (baby) teeth to keep them healthy by accessing dental services available in the community at an early age.<sup>25,26,27,28</sup> The 2012 National Health and Nutrition Examination Survey (NHANES) report<sup>29</sup> and the ADA<sup>30</sup> recommend prevention and education programs to prevent decay before it can begin and suggests dental visits from the advent of the child’s first tooth. The percentage of kindergarten children with decay in Durham has remained roughly the same since 2008 with a slight increase to 12% observed during the school year 2012-13 (Table 10.01(b)). The 2008-09 North Carolina Oral Health Section Report of elementary school oral health assessments indicates that the prevalence of kindergartners in Durham County with decayed, missing, or filled teeth currently is 1.76;<sup>31</sup> the Healthy NC 2020 target is 1.1. This same report also indicates that the percentage of kindergarten children in Durham County with cavities significantly decreased from 17% for school year 2007-08 to 11% for school year 2008-09.<sup>32</sup> Continuation of a downward trend will result in Durham County meeting the Healthy NC 2020 objective two.

**Table 10.01(b) Percent Kindergarten Children Observed to have Decayed Teeth in Durham Public Schools, 2007-2013**

Year	Percent
2007-08	17
2008-09	11
2009-10	11
2010-11	n/a
2011-12	10
2012-13	12

N.C. County Level Oral Health Assessment Data<sup>33</sup>  
 n/a – not available

According to data from North Carolina Department of Health and Human Services, the percentage of children in Durham ages one to five years enrolled in Medicaid who received dental services in fiscal year (FY) 2009 was 56.6% and increased to 60.4% in 2010,<sup>34</sup> surpassing the Healthy NC 2020 target of 56.4%. In 2011 the percent for Durham decreased to 58.1% but is still higher than the HNC 2020 target. (Table 10.01(c)) Targeted efforts towards this age group are justified to maintain and increase the percentage of children who access dental services (Healthy NC 2020 oral health objective one). This will further reduce the prevalence of dental decay, missing or filled teeth enabling Durham to meet, maintain and decrease the second Healthy NC 2020 objective as well.<sup>35,36,37</sup> Dental education that continues to raise the public awareness of the importance of preventing early childhood decay by increasing access to dental care for economically disadvantaged children will help Durham County maintain if not exceed

the first Healthy NC 2020 Oral Health Objective. It is important to keep increasing the number of children aged one to five years who receive dental services.<sup>38,39</sup>

**Table 10.01(c) Percentage of Children Ages 1 to 5 Years Enrolled in Medicaid Who Received Dental Services<sup>40</sup>**

	2010	2011
Healthy NC 2020 Target	56.4	56.4
North Carolina	51.7	53.4
Durham	60.4	58.1
Cumberland	45.6	49.0
Forsyth	54.6	58.8
Guilford	60.9	63.0

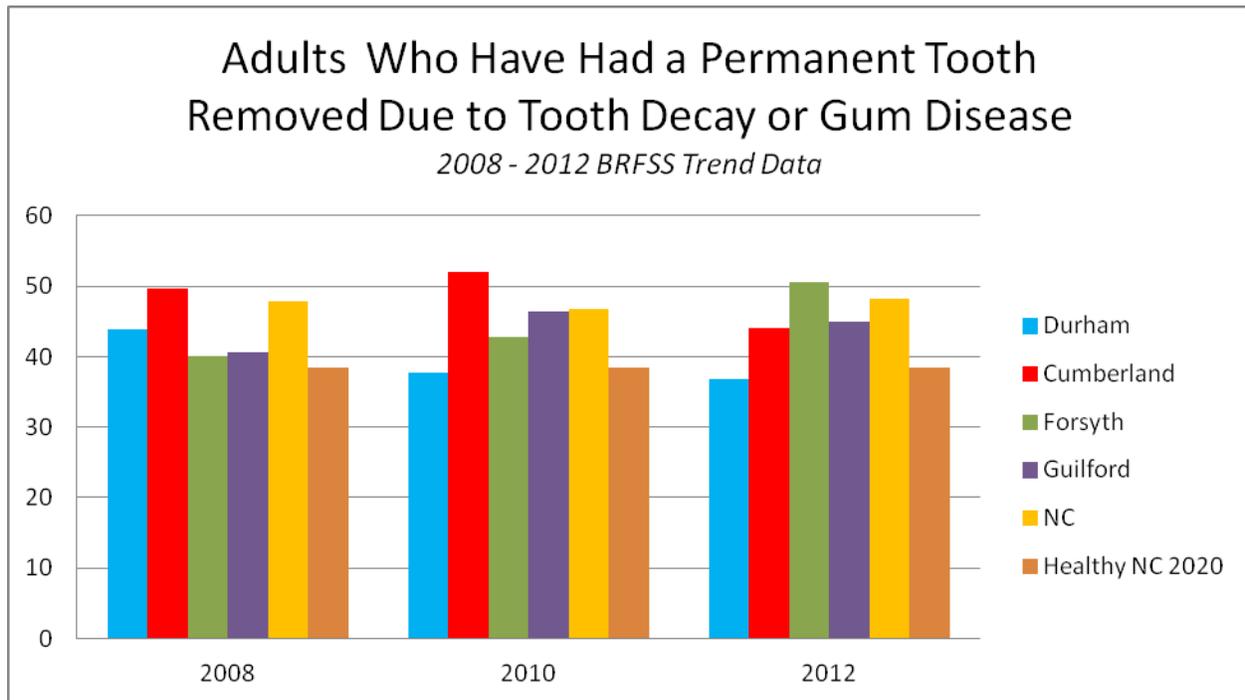
## Adults

According to the North Carolina Division of Medical Assistance, only 32.2% of the Medicaid eligible adults (21 years of age or older) in Durham County received dental services during fiscal year 2009 compared to 30.6% of the eligible adults in the state of North Carolina that received dental services.<sup>41</sup> The percent of eligible adults in counties comparable to Durham is roughly the same (Table 10.01(d)). This suggests that more efforts in the state and these counties are needed to increase the percent of adults with Medicaid who utilize dental services. The low percent of utilization can be due to lack of awareness of the importance for routine dental care or difficulty gaining access to a provider.

**Table 10.01(d) Percent Utilization of Dental Services by Medicaid Eligible 21+ Years of Age<sup>42</sup>**

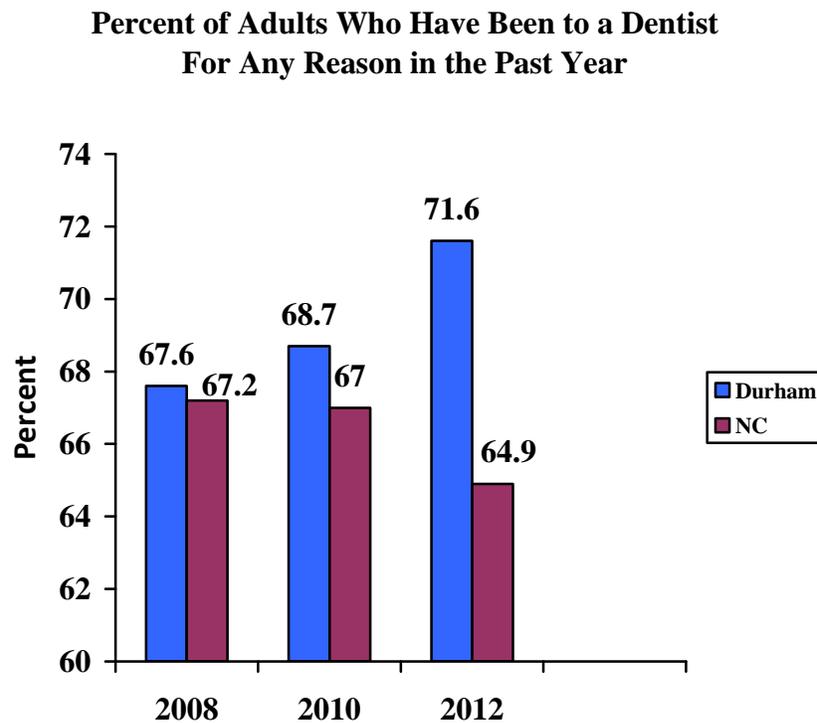
	Cumberland	Durham	Forsyth	Guilford	NC
<b>FY2009</b>	32.2%	32.2%	30.6%	30.0%	30.6%
<b>FY2010</b>	32.8%	33.3%	30.8%	30.2%	31.6%

According to 2008-2012 Behavioral Risk Factor Surveillance Survey (BRFSS) data, the percentage of Durham County adults (43.9% to 36.8%) who have had a permanent tooth removed due to tooth decay or gum disease is lower than the percentage for the State (47.8% to 48.3%) during years 2008 to 2012. Figure 10.01(a) shows the percent in Durham in 2012 is less than the Healthy NC 2020 objective of 38.4%.<sup>43</sup> The results from the surveys conducted in 2008, 2010 and 2012 show a decrease in the percent of adults who have had a permanent tooth removed due to decay or gum disease in Durham than the state as a whole or the comparable counties.



**Figure 10.01(a) Percentage of Adults Who Have had Permanent Teeth Removed<sup>44</sup>**

Additional BRFSS data shows that the percentage of adults who have visited a dentist, dental hygienist or dental clinic in the past year for Durham County increased from 67.6% in 2008 to 71.6% in 2012, which is in contrast to the state and two peer counties.<sup>45</sup> Durham is the only county amongst its peers and the state where the percentage of dental-related visits showed an *increase* each year the survey was conducted in 2008, 2010 and 2012. At the state level, the number of visits remained the same from 2008 to 2010 (67.2%) but decreased to 64.9% in 2012.<sup>46</sup>



**Figure 10.01(b) Percent of Adults Who Have Been to a Dentist for Any Reason in the Past Year<sup>47</sup>**

### Children

The August 2012 NHANES report showed that the rate of untreated cavities varied by race, ethnicity and poverty level among children and adolescents. The Youth Risk Behavioral Survey (YRBS) data in 2013 showed that over half of Durham County middle school students had a well-child check-up (55%) and routine dental exam (61%) in the past year.<sup>48</sup>

- The proportion of middle school students reporting a dental exam in the past year increased from 53% in 2007 to 61% in 2013.
- High school students were not asked about routine exams in 2013.

**Middle School Students Who Had a Routine Well-Child Check-Up or Dental Exam in the Past Year**  
2013 Durham County Middle School YRBS

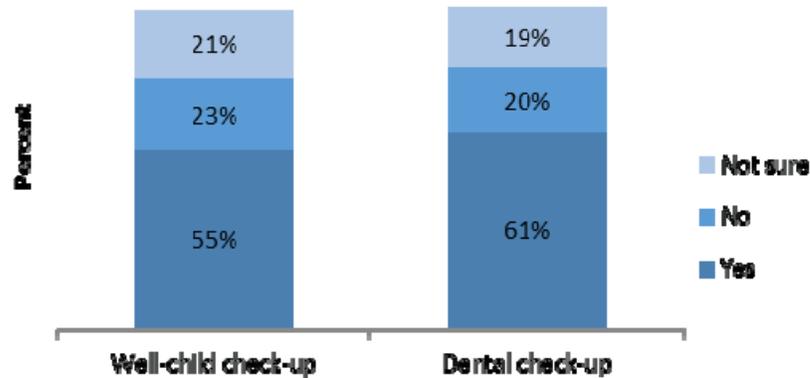


Figure 10.01(c) 2013 YRBS Data for Middle School Students<sup>49</sup>

### Interpretations: Disparities, Gaps, Emerging Issues

According to BRFSS data, both racial and economic disparities persist in oral health. Close to 80% of whites in Durham reported that they received dental care within a 12-month period, compared to only 60.1% of all other races. During this time period, 83.9% of households with an income of \$50,000 or more received dental care, compared to only 54.5% of households grossing less than \$50,000.<sup>50, 51</sup> In 2010, the gap observed is approximately the same for race, education, and income. The weighting methodology used was different in 2012, however, the gap in disparities was very similar.

Table 10.01(e) Percent Adults Who Visited a Dentist or a Dental Clinic for any reason during the past 12 months<sup>52</sup>

	Race		Education		Income	
	White	Other	<HS	>HS	<\$50,000	>\$50,000
2008						
NC	72.2	55.3	50.5	76.55	54.8	81.8
Durham	78.8	60.1	59.6	72.5	54.5	83.9
2010						
NC	71.0	60.55	49.95	75.6	53.2	81.95
Durham	77.8	59.2	46.5	77.0	52.1	80.4

2012**						
NC	69.1	57.6	40.3	75.6	55.1	81.75
Piedmont North Carolina++	69.7	57.7	42.1	70.2	54.8	82.9

\*\*Changes made in the weighting methodology and other factors result in 2012 not being comparable to 2010 and earlier years

++**Piedmont North Carolina:** 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.

\*BRFSS - NC State Center for Health Statistics

The YRBS data shows that white middle school students were significantly more likely to have a well-child check-up (73%) and a routine dental exam (83%) in the past year compared to their peers of other races/ethnicities.<sup>53</sup>

Despite improvement in the nation's oral health over the years, not everyone in the U.S. has benefited equally. Oral, dental and craniofacial conditions remain among the most common health problems for low-income, disadvantaged, disabled and institutionalized individuals.<sup>54</sup> Given the diversity of the U.S. population, it is unrealistic to anticipate an easy, one-size-fits-all solution. Approaches that are tailored and targeted to an individual, a community and societal/environmental-level factors are needed to achieve health equality.<sup>55</sup> The National Institute of Dental and Craniofacial Research (NIDCR) funded Centers for Research to Reduce Disparities in Oral Health has demonstrated the need to partner with communities throughout the research process in order to fully understand what factors contribute to dental disease in each community, and to develop appropriate intervention strategies. For example, one center discovered that only 14% of the tooth decay found among children in the poorest sections of Detroit can be attributed to "classical" risk factors.<sup>56</sup> A community's cultural beliefs about preventive care, understanding of the importance of "baby" teeth, mistrust of drinking tap water, maternal health fatalism, fear of dental care and even the proximity to places of worship and grocery stores all contribute to oral health risk. Creative interventions are needed to address these factors.<sup>57</sup>

Early childhood caries (ECC) and tooth decay in young children are a national concern because of widespread and increasing prevalence in children from low-income families.<sup>58,59</sup> The Durham community of dental professionals must continue efforts that will result in an increase in the number of children one to five years of age that are able to access dental services. The increase in the number of children ages one to five years accessing dental services should decrease the number of children with decayed, missing, and filled teeth, thus increasing the chance of Durham County reaching the Healthy NC 2020 objectives. Programs in Durham County such as the "Zero Out Early (ZOE)" in Early Head Start (EHS) programs,<sup>60</sup> "baby Oral Health programs (bOHP)<sup>61</sup>" as well as "Into the Mouth of Babes (IMB)<sup>62</sup>" in medical and dental clinics 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.<sup>63,64</sup>

These programs provide training needed to teach parents and daycare staff how to provide good oral hygiene for children ages zero to five years and education regarding nutrition and other

factors necessary for good oral health for children from their first tooth and throughout life. Most importantly these programs provide training for staff at EHS centers, medical office staff, dental clinic staff, and parents who provide oral healthcare for children.<sup>65,66</sup> A summary (Table 10.01 (f)) of 2010 to 2013 Medicaid claims in Durham County for children zero to two years of age and three to five years of age shows how many children enrolled in Medicaid are provided access to dental care in medical and dental offices as a result of these programs.

There has been a remarkable increase in the number of Medicaid enrolled children zero to five years of age in Durham who received oral evaluations or oral exams with fluoride varnish in dental offices. In 2010 the number of children zero to two years was 926 and three to five years was 569. In 2013 the number of zero to two year-olds was 2221 and three to five year-olds was 4906. Medical and dental offices in will need to continue increasing their efforts to meet the Healthy NC 2020 Oral Health Objective to increase the percent of children enrolled in Medicaid who receive any dental service during a 12-month period.

In Durham County, 37.7 % of adults in 2010 surveyed said they had a permanent tooth removed due to tooth decay or gum disease, which is lower than the 38.4% Healthy NC 2020 target. Dental professionals and the community will need to continue collaborative efforts in place currently to provide discounted or free dental care to adults who have difficulty accessing dental services because they do not have insurance and cannot afford the cost of dental treatment. Several collaborative efforts exist in Durham County providing options for its low-income citizens to access dental services such as the Lincoln Community Health Center (LCHC) dental clinic, Project Access of Durham County coordinated by LCHC, a free dental clinic at the Durham Rescue Mission Good Samaritan Inn and the Student National Dental Association (SNDA) dental clinic at CAARE, Inc., free dental clinics held by the North Carolina Dental Society “Missions of Mercy” (NCMOM) and the NC Baptist Men’s Bus that are supported not only by volunteer dental personnel but nearby University of North Carolina-Chapel Hill School of Dentistry as well.

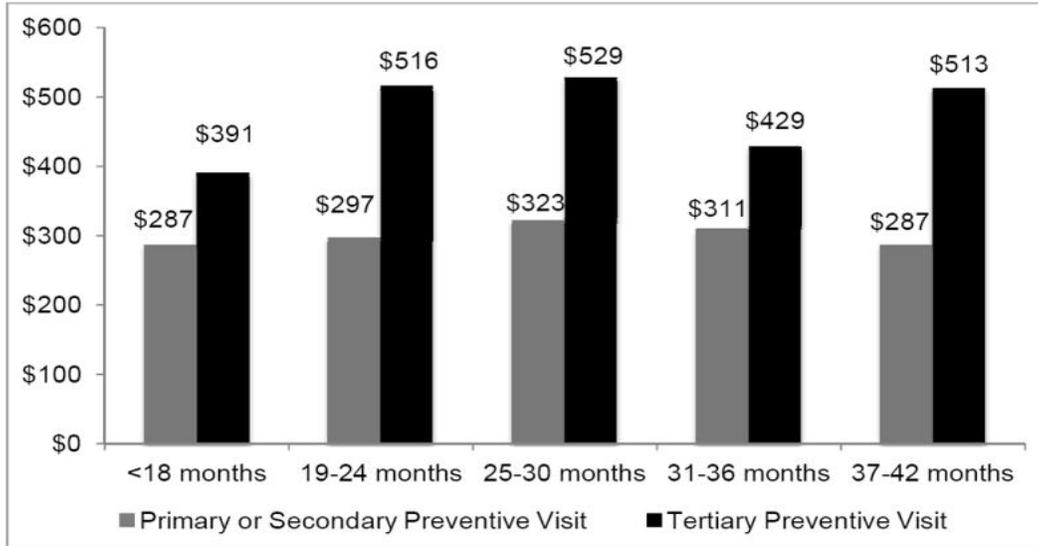
**Table 10.01(f) Number of Medicaid Claims Paid for Children**

<b>Number of Medicaid Claims Paid For Children Receiving Oral Evaluations/Exams and Fluoride Treatment/Year</b>				
<b>Provider Type/Age</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Medical Office 0-2 yrs. of age</b>	2757	2694	2533	2623
<b>Dental Office 0-2 yrs. of age</b>	926	920	1080	2221
<b>Dental Office 3-5 yrs. of age</b>	569	607	790	4906

NC-DHHS-DMA-IT data for oral evaluation/exam procedure codes D0120, D0145, and D0150. Data for fluoride treatment procedure codes D1206 and D1208.<sup>67</sup>

## Recommended Strategies

In 2013 the American Dental Society launched *Action for Dental Health: Dentists Making a Difference*<sup>68</sup>, an aggressive campaign to deliver care now to people suffering from untreated disease; strengthen and expand the public/private safety net to provide more care to more Americans; and bring dental health education and disease prevention to people in underserved communities. “Disease prevention is the object of increasing focus in all of health care and holds the greatest promise for continued success” states American Dental Association president Dr. Charles H. Norman, III, “With prevention the occurrence of disease can be reduced dramatically” he continues. In the December 2013 ADA series on *Access to Oral Health* it is noted that preventive services provided by dental professionals combined with dental education on behavioral modification such as brushing with fluoride toothpaste, flossing, sticking to a healthy diet, avoiding tobacco and excessive alcohol consumption, in addition to drinking optimally community fluoridated water, can greatly reduce decay. Examples of evidenced-based and promising practices shown to yield a reduction in decay are listed in (Table 10.01 (g)). Preventive measures and education have also been found to yield significant savings.<sup>69,70</sup> The National average cost of preventive services range from \$31.70 for topical fluoride application to \$82.08 for a prophylaxis (cleaning) compared to the National average cost of restorative services that range from \$146.61 for a filling to \$1,026.30 for a porcelain crown.



**Figure 10.01(d) Comparison of Dental Expenditures for Children Who had Dental Visits Before age 18 Months (Primary or Secondary Preventive Visits) to Children Who Had a Visit at 18 to 42 Months (Tertiary Preventive Visits).<sup>71</sup>**

In the sample of preventive dental users in Medicaid studied, it was found that children at highest risk of dental disease benefited tremendously from a dental visit before the age of 18 months in that they experienced less extensive dental needs and therefore less dental care. As a result, it

was observed in the study, the cost of dental care for children who started dental visits before the age of 18 months was much less than those who did not start dental visits until after 18 months of age.

The ADA series on *Access to Oral Health* also recommends surveillance, the ongoing systematic collection, analysis, and interpretation of data to be used in determining dental disease rates to see what the problems are for planning, developing, and implementing public health practices. Additionally, collaboration among service agencies, health care provider groups, and patient advocacy organizations was recommended.<sup>72,73</sup>

It is believed that comprehensive oral health education should include nutrition. Eating patterns and food choices play an important role in preventing, or promoting, tooth decay. The ADA promotes a diet that is low in added sugar. The Association is lobbying Congress and the United States Department of Agriculture (USDA) to update the nutrition standards for foods sold in schools.<sup>74</sup>

Further, the ADA feels that establishing dental homes for children found in school-based dental screenings to need dental care provides them a dentist of record and a continuum of care (at a reasonable price if not eligible for Medicaid) which is felt critical to maintaining good oral health throughout childhood. However, the ADA recommends that comprehensive dental care that begins no later than one year is best.<sup>75,76</sup> North Carolina's IMB and bOHP programs have been successful in facilitating the provision of preventive oral health services to children younger than three years of age by medical providers. The IMB model was developed in the year 2000 because the number of young children with dental disease was increasing and access to dental care was limited especially for children younger than three years.

Several medical providers in North Carolina have been trained to incorporate into their primary care program: oral evaluation, parent counseling, fluoride varnish application, and to make dental referrals for the children determined to be high risk for tooth decay by a caries risk assessment. By 2012, approximately 45% of North Carolina Medicaid eligible children one to three years old received oral preventive care as part of the "Into the Mouth of Babes" program.<sup>77</sup> Although there has been a significant increase in the number of children in Durham receiving oral preventive care (Table 10.01 (f)), efforts need to continue to encourage more primary medical and dental providers to render oral preventive care to children less than three years of age. It has been shown that increasing the number of children in this age group receiving these services will result in a reduction in the number of kindergarten children with decay.<sup>78</sup> Dental health education programs for parents of children in day care programs are imperative in order for parents to be aware of the benefits of oral preventive care for toddlers so they will ask for as well as give consent for these services.

Dental offices in Durham provide the application of sealants, when deemed necessary once the primary molars have erupted, as well as oral exams and application of fluoride varnish. Sealants are a plastic film coating that is applied to and adheres to the caries-free chewing surfaces of teeth to seal pits and fissures where plaque, food, and bacteria usually become trapped. Dental sealants are reported to reduce the incidence of caries in children's teeth.<sup>79</sup> Historically, first and second permanent molars have to be removed due to decay more often than any other permanent

teeth. First permanent molars erupt in the mouth around age 6, second permanent molars around age 12. Data in (Table 10.01(h)) shows the number of Medicaid claims paid for children who received sealants in age group six to 12 years was almost twice the amount for the other age groups. Just after the permanent molars are newly erupted is the ideal time for the protective coating to be placed. The continued practice and an increase in the number of children receiving oral preventive services from the eruption of their first tooth in primary care medical offices and dental offices, the placement of sealants as appropriate in dental offices, community fluoridated water, and dental health education regarding good oral health habits as well as a low sugar diet are key to reducing decay in the teeth of children and the loss of teeth by adults in Durham.

**Table 10.01(g) Evidence-Based and Promising Practices<sup>80</sup>**

Category	Name	Description	Website	Matching 2020 Objective
School	CDC's School-Based Dental Sealant Program	This resource defines sealants and school based programs and why they are effective. Other resources are given that can be useful when forming a school-based sealant program.	<a href="http://www.cdc.gov/OralHealth/topics/dental_sealant_programs.htm">http://www.cdc.gov/OralHealth/topics/dental_sealant_programs.htm</a>	Oral Health Objective 1 & 2
Community	1. Oral Health Surveillance Program  2. IMB, bOHP, ZOE  3. Community water fluoridation  4. Collaborative NC Dental Society "Missions of Mercy" (NCMOM) free dental program.	1. Dental screening of pre-K, K and 5 <sup>th</sup> grades by a standardized screening technique.  2. Starting dental visits with child's first tooth to educate parents and provide preventive care.  3. Optimally fluoridated community water  4. This is a NC Dental Society outreach program to provide free dental services to those in financial need with few or no other options. In this grass roots effort a large amount of portable dental equipment owned by the NC Dental Society is utilized by dental professionals to provide free dental services throughout various communities in NC.	1. NCOHS <a href="http://www.ncdhhs.gov/dph/oralhealth/status/">http://www.ncdhhs.gov/dph/oralhealth/status/</a> 2. <a href="http://www.bohp.unc.edu">http://www.bohp.unc.edu</a>  3. <a href="http://www.ncdhhs.gov/dph">http://www.ncdhhs.gov/dph</a> 3. <a href="http://www.cdc.gov/fluoridation/factsheets/">http://www.cdc.gov/fluoridation/factsheets/</a> 4. <a href="http://www.ncmom.info/">http://www.ncmom.info/</a>	Oral Health Objective 1,2, & 3
Healthcare	Hospital-Based Pediatric Clinics Increase Access to	1. An outpatient clinic providing comprehensive dental care to uninsured and underinsured children and to children with medical, physical, or developmental disabilities. This program aims to increase access to		Oral Health Objective 1,2

	Dental Care & Improves Oral health for Low-Income Children and Children with Disabilities	dental care and improve oral health for underserved children in southwestern Virginia.  2. A pediatric dental office that focuses on dental needs of medically compromised children.		
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Table 10.01(h) Number of Medicaid Claims Paid For Children Receiving Sealants<sup>81</sup>

Dental Practice Types	2010	2011	2012	2013
0-5 yrs. DPH	64	34	91	46
0-5 yrs. Gen Prac	994	758	753	765
0-5 yrs. Pedo	49	63	97	164
6-12 yrs. DPH	84	68	205	104
6-12 yrs. Gen Prac	1407	1349	1393	1361
6-12 yrs. Pedo	23	25	49	124
13-15 yrs. DPH	8	2	11	16
13-15 yrs. Gen Prac	252	246	250	257
13-15 yrs. Pedo	1	4	6	7

## Current Initiatives & Activities

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

The Department of Public Health Dental Clinic provides low cost dental care children 6 months through 20 years of age and also see pregnant women through their sixth month of pregnancy. Services are provided on a sliding-scale (for those without insurance) or billed through Medicaid. Treatment includes education, cleanings, x-rays and exams, fillings, extractions, fluoride applications (children), and sealants to help prevent cavities (children).

Website: <http://dconc.gov/index.aspx?page=791>

Phone Number: (919) 560-7680

- ***“Tooth Ferry” mobile dental van***

A mobile van outfitted with dental equipment to provide complete general dental services. The dental van provides dental services at select Durham Public Elementary Schools for children with urgent dental needs who have difficulty accessing dental services.

Website: <http://dconc.gov/index.aspx?page=791>

Phone Number: (919) 560-7680

- ***Dental Screening***

Dental screening is provided to Kindergarten and 5<sup>th</sup> Grade children in Durham Public schools annually to monitor the status of oral health in Durham County children.

Website: <http://dconc.gov/index.aspx?page=791>

Phone Number: (919) 560-7680

- ***Dental Health Education***

Presentations are provided for Durham Public School and day care classrooms as well as community health fairs as time permits.

Website: <http://dconc.gov/index.aspx?page=791>

Phone Number: (919) 560-7680

- ***“Zero Out Early (ZOE)” Childhood Tooth Decay***

An Early Head Start Dental Health Initiative is a project designed to zero out early childhood decay in children enrolled in Early Head Start (EHS) programs in NC. ZOE offers trainings in oral health and motivational interviewing to all participating programs in NC. Durham County Partnership for Children is one of the participating programs.

Website: <http://www.sph.unc.edu/zoe/>

Phone Number: (919) 966-7350

- ***“baby Oral Health Program (bOHP)”***

A program designed to educate dental health care providers on the principles of infant and toddler oral health in order to equip them with the necessary tools to be comfortable and competent at providing oral health services for young children.

Website: <http://www.bohp.unc.edu/>

Phone Number: (919) 966-5723

- ***Hospital-based pediatric dental office***

A pediatric dental office that focuses on the dental needs of medically compromised children.

Website: [http://www.dukehealth.org/physicians/martha\\_ann\\_keels](http://www.dukehealth.org/physicians/martha_ann_keels)

Phone Number: (919) 220-1416

- ***Samaritan Health Center Dental Clinic***

A free volunteer (local dentists, UNC dental faculty and students) dental clinic at the Samaritan Health Center. Currently the clinic is providing dental care to residents of the Durham Rescue Mission.

Website: <http://www.samaritanhealthcenter.org>

Phone Number: (919) 688-9641 ext.5060

- ***NC Baptist Men's Dental Bus***

NC Baptist Men offer the use of the bus to churches and service organizations within NC. Patients targeted through this ministry may include people without insurance, the impoverished, and more.

Website: <http://www.baptistsonmission.org/Projects/Type/Medical-and-Dental>

Phone Number: 1 (800) 395-5102 ext.5603

- ***SNDA CAARE Dental Clinic***

The SNDA CAARE dental clinic is a student-run clinic located in Durham, North Carolina that provides free urgent care services to the uninsured population in the local community. The clinic was made possible through a partnership with the UNC School of Dentistry (UNC-SOD) and the UNC Chapter of the Student, National Dental Association (SNDA), as well as CAARE Inc., a grassroots non-profit organization in Durham that provides a wide variety of services that help treat not only the medical roots of chronic diseases, but also the social and human factors that contribute to these health deficits.

Website: <http://www.uncsnda.com/caare-clinic/>

Phone Number: (919) 687-0793

- ***Project Access of Durham County***

Project Access Durham County and the Durham County Department of Public Health work in unison to offer dental screenings to uninsured adults in need of care. A volunteer dentist completes screenings at the Department of Public Health, and, based upon the results, Project Access makes a referral to a local dentist to complete the treatment plan. Currently the program is offered two afternoons per month, treating 4-6 patients at each session.

Phone Number: (919) 470-7266

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# Environmental Health

The environment in which individuals live and work affects their health. Contaminants in water and air can have adverse health consequences. Both short-term and chronic exposure to pollution can cause serious health risks. Air pollution from ozone can lead to respiratory symptoms, disruption in lung function, and inflammation of airways. Water pollution has been linked to both acute poisonings and chronic long-term effects. The worksite is another aspect of the environment that is important to consider with respect to the public's health.

This chapter includes:

- ❖ [Air quality](#)
- ❖ [Water quality](#)
- ❖ [Lead poisoning](#)
- ❖ [Waste management](#)
- ❖ [Food safety](#)

## Section 11.01 *Air quality*

### Overview

Clean air is essential to the public. Air pollution may cause lung damage and increased risk for allergies, asthma, cancer, and other undesirable pulmonary conditions. There are many sources, both indoor and outdoor, which are responsible for contributing contaminants to the atmosphere. Legislation and regulations regarding air pollution have been enacted at both federal and state levels to protect the environment and public health. The U.S. Environmental Protection Agency (EPA) serves as a resource for disseminating information that describes various atmospheric contaminants and their effects, measures of air quality, and the standards used to regulate air quality.<sup>1</sup>

### Healthy NC 2020 Objective

#### Environmental Health

Healthy NC 2020 Objective <sup>2</sup>	Current Durham	Current NC <sup>3</sup>	2020 Target
1. Increase the percentage of air monitor sites meeting the current ozone standard of 0.075ppm.	99% * (2012) <sup>4</sup>	80.5%	100%

\*99% of days measured were below the 8-Hour standard\*

### Secondary Data

#### Outdoor Air Quality

In 1970, Congress passed the Clean Air Act which established the National Ambient Air Quality Standards (NAAQS). By 1990, a regulatory structure was in place to control six criteria pollutants. These are particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and ozone. Of these criteria pollutants, by far the most persistent pollutant is ozone.<sup>5</sup> Relatively low levels of ozone can cause health effects ranging from cough, chest pain, throat irritation, reduced lung function, and exacerbation of preexisting lung conditions such as bronchitis, asthma, and emphysema.<sup>6</sup>

Ozone concentrations in Durham County are measured on an hourly basis using one air monitoring station located at the Durham Armory building on Stadium Drive. Measurements begin April 1<sup>st</sup> and continue through October 31<sup>st</sup> of each year. The most recent data available from the NC Division of Air Quality for this station is from 2012. During this period there were two days within the measured 214 days when ozone levels in Durham County exceeded the current Healthy NC 2020 8-hour standard of 0.075ppm. These two days represent less than 1% non-compliance for all days measured during 2012 however the Healthy NC 2020 objective is worded such that a single day above the limit would render the monitoring station non-compliant. This Boolean style approach is of little value in attempting to survey trends in air

quality. The 1-hour standard of 0.12ppm was not exceeded during this period.<sup>7</sup> The 2012 data is illustrated in Figure 11.01(a) below.

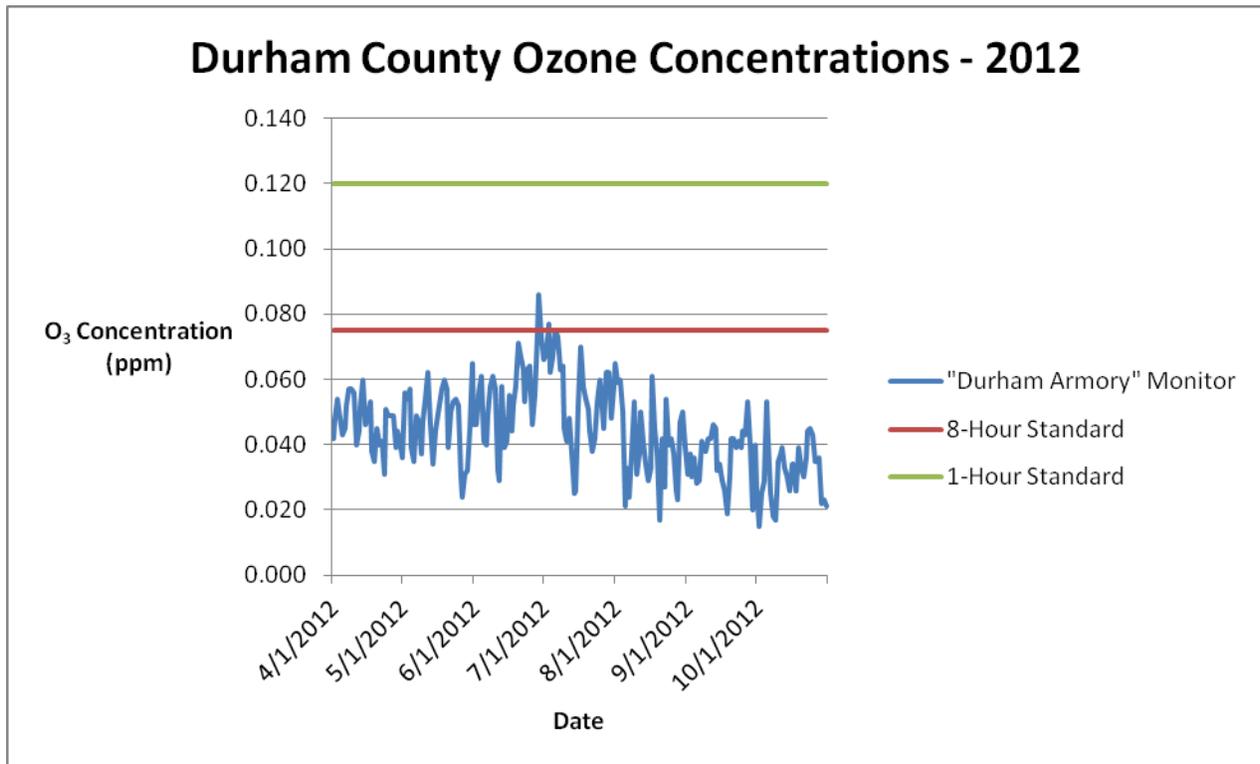


Figure 11.01(a)<sup>8</sup> Durham County Ozone Concentrations - 2012

### Indoor Air Quality

There is no Healthy NC 2020 Objective that addresses indoor air quality; however, it is estimated that on average, Americans spend at least 90% of their time indoors,<sup>9</sup> which indicates that indoor air quality is just as important as outdoor air quality.

As environmental tobacco smoke (ETS) has been proven to cause cancer, heart disease, and asthma attacks, the North Carolina General Assembly banned smoking in public places and places of employment in January 2010 and in many cases, in and around government-owned buildings.<sup>10</sup> Effective August 1, 2012 an ordinance adopted by The County Commissioners prohibits smoking on City of Durham grounds, City of Durham parks system (athletic fields and playgrounds), City and County bus stops, Durham County grounds, Durham station transportation centers, and sidewalks owned or leased or occupied by the City or County of Durham, in addition to hospital grounds within the City of Durham.<sup>11</sup>

- For more information on smoking and secondhand smoke in Durham County, please see Section 5.03 on Tobacco.

There are other sources of indoor air pollution that should not be ignored. These include combustion sources (such as oil, gas, and wood) radon, mold, and other allergens.<sup>12</sup> More

information on sources of indoor air pollution and their impacts on human health can be found on the website for the U.S. EPA’s Indoor Air Quality.

### Primary Data

Results from the 2013 Durham Community Health Opinion Survey show that pollution is an issue of importance to Durham County residents. This survey involved 182 Durham households chosen at random and had 55 questions. One question asked respondents to prioritize what they felt were the top three community health issues that have the greatest effect on the quality of life in Durham County; 12% of respondents feel that environmental pollution is one of these issues. Results from this question are depicted in Figure 11.01(b) below.<sup>13</sup>

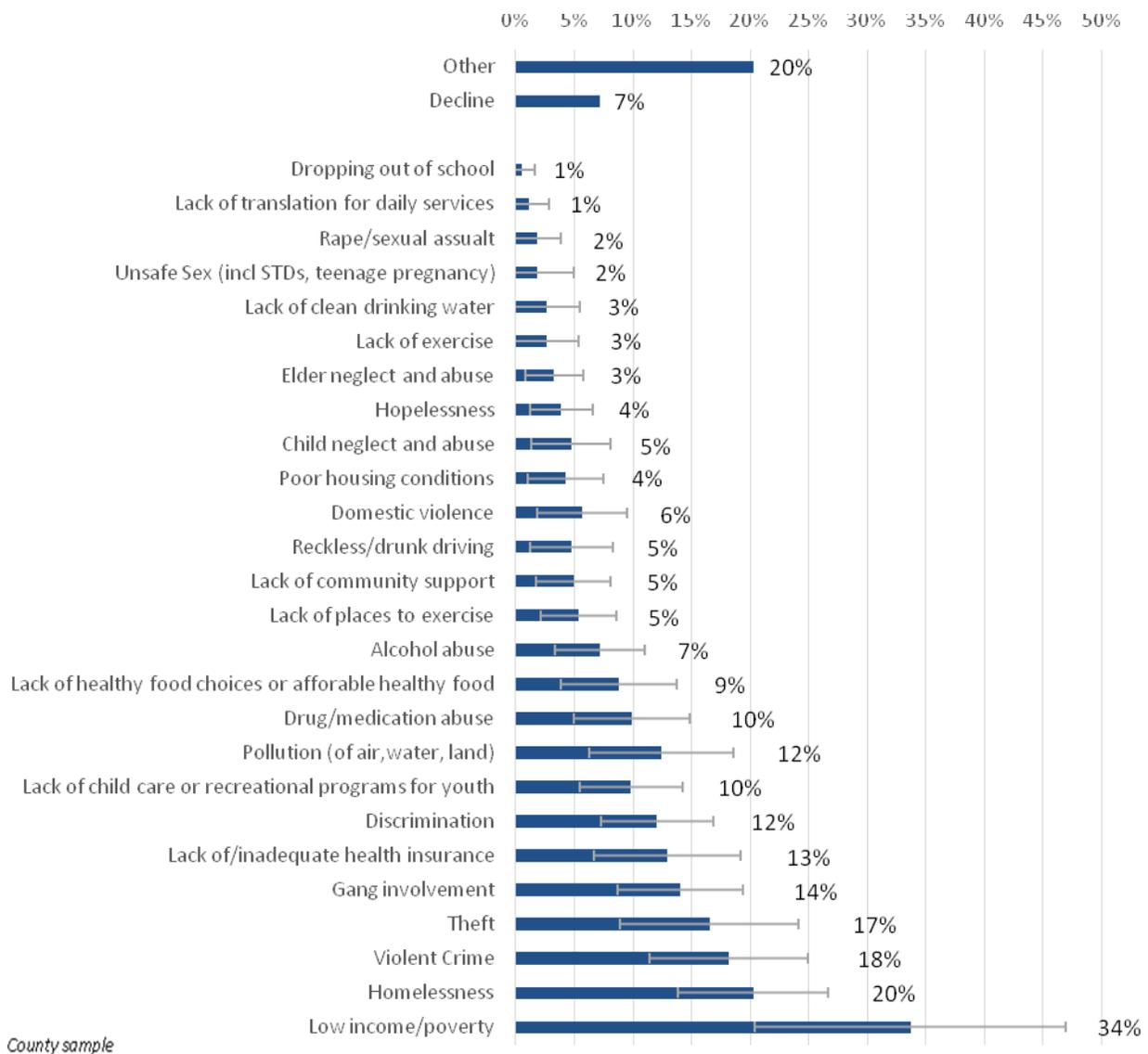


Figure 11.01(b) What are the top 3 environmental issues in Durham County?

## Interpretations: Disparities, Gaps, Emerging Issues

Air pollution is not evenly distributed across the country, or even within a 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 sensitive, and therefore, at greater risk from ground-level ozone, particulate pollution, and other pollutants.<sup>14</sup> Furthermore, 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.<sup>15,16,17,18</sup>

## Recommended Strategies

Table 11.01(a) Evidence-Based and Promising Practices<sup>19</sup>

Category	Name	Description	Website	Matching 2010 Objective
Individual	Ozone Monitoring	This article provides the procedures for ozone monitoring site calibration and operation. By using the information in this resource, programs can be formed and educational intervention can be made	<a href="http://daq.state.nc.us/monitor/QAPLans/o3/o3_operator.pdf">http://daq.state.nc.us/monitor/QAPLans/o3/o3_operator.pdf</a>	Environmental Health Objective 1
Individual	N.C. Air Awareness Program: Take Action	Ozone and particle pollution, the two biggest air quality concerns in North Carolina, come from many of the same sources, primarily motor vehicles and industry (including power plants). Our individual activities create air pollution, and all of us have the power to improve air quality through our actions	<a href="http://daq.state.nc.us/airaware/takeaction.shtml">http://daq.state.nc.us/airaware/takeaction.shtml</a>	Environmental Health Objective 1
Individual	N.C. Air Awareness Program: Idle Reduction	Vehicle emissions are one the biggest contributors toward poor air quality in North Carolina. By simply turning off idling vehicles, when not in traffic, air pollution can be reduced.	<a href="http://www.ncair.org/motor/idle/">http://www.ncair.org/motor/idle/</a>	Environmental Health Objective 1

- **Recommendation: Establish a voluntary action program to incentivize the replacement of conventional gasoline powered lawn mowers with electric mowers.**

Internal combustion engine exhaust is a leading contributor to the formation of ground level ozone. In Durham County, ozone levels are highest during the summer months which also coincide with peak landscape maintenance activities. According to the EPA, “Americans spend more than three billion hours per year using lawn and garden equipment. Currently, a push mower emits as much hourly pollution as 11 cars and a riding mower emits as much as 34 cars.”<sup>20</sup> The exchange of only 1,000 gasoline-powered lawn mowers for electric mowers has the potential of reducing volatile organic compound (VOC) emissions by 9.8 tons per year, which is

equivalent to removing 230 cars from the highways.<sup>21</sup> These programs have been successfully established in California, Kansas, Kentucky, and South Carolina.

## Current Initiatives & Activities

- ***Triangle Air Awareness***

The Triangle Air Awareness Program website enables students, teachers, individuals, and businesses to quickly access information about Air Quality in our region. Its goal is to help everyone in the area learn how to take action, be informed, and help reduce air pollution to keep the air clean and healthy for everyone.

Website: <http://triangleairawareness.org/>  
Phone Number: (919) 715-7647

- ***Clean Energy Durham***

Clean Energy Durham is a non-profit in Durham with the mission of moving America toward cleaner and safer energy by creating organizations of neighbors helping neighbors save energy.

Website: <http://www.cleanenergydurham.org/>

- ***Share the Ride NC***

The Share the Ride NC website allows users with each other based upon proximity and similar schedule in order to promote carpooling.

Website: <https://www.sharetheridenc.org/public/home.aspx>

- ***US EPA - Office of Air and Radiation's Environmental Justice Website***

This website provides descriptions of community-based air toxics projects designed to assess and address health and environmental issues at the local level. EPA supports air toxics in about thirty communities across the nation to help inform and empower citizens to make local decisions concerning the health of their communities.

Website: <http://epa.gov/air/ej/>

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## Section 11.02 *Water quality*

### Overview

Water is one of the vital natural resources upon which all life depends, and 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.<sup>1</sup> Our public drinking water systems are comprised of both community and non-community systems. Community water systems, or 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).<sup>2</sup> 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).<sup>3</sup>

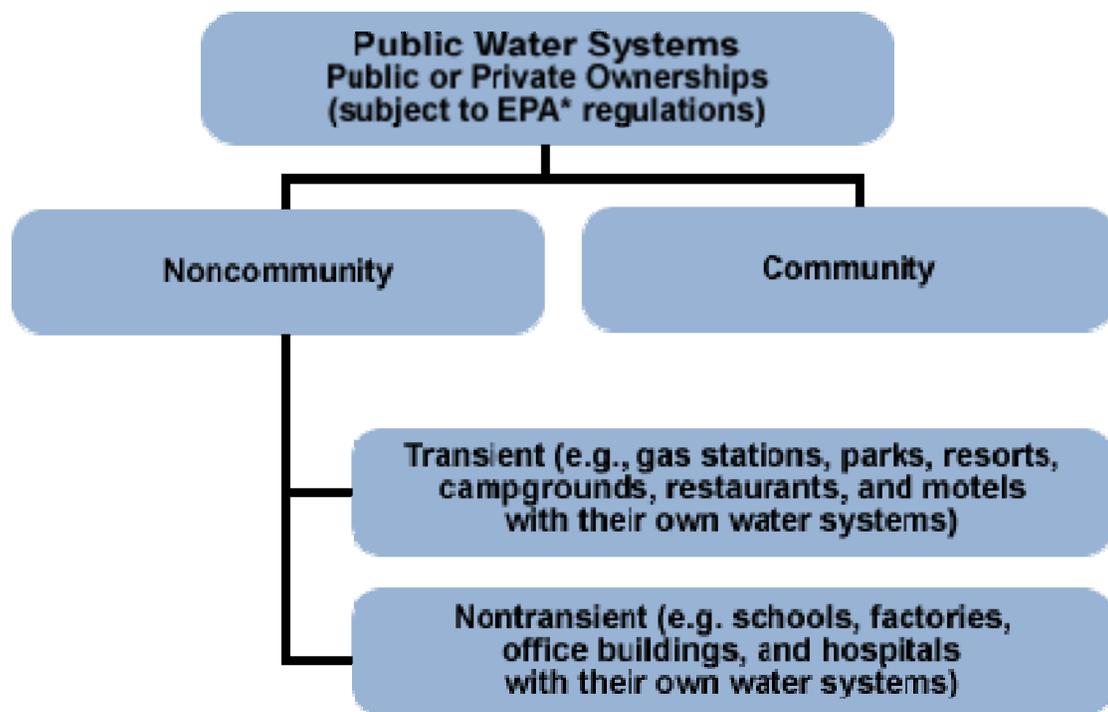


Figure 11.02(a) Drinking Water- Public Water Systems<sup>4</sup>

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 March 30, 2014 there are 19 active water supply systems in Durham County classified as CWS.<sup>5</sup>

## Healthy NC 2020 Objective

### Environmental Health

Healthy NC 2020 Objective <sup>6</sup>	Current Durham	Current NC <sup>7</sup>	2020 Target
2. 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%.	94.7% (2013) <sup>8</sup>	93.8% (2011)	95%

## Secondary Data

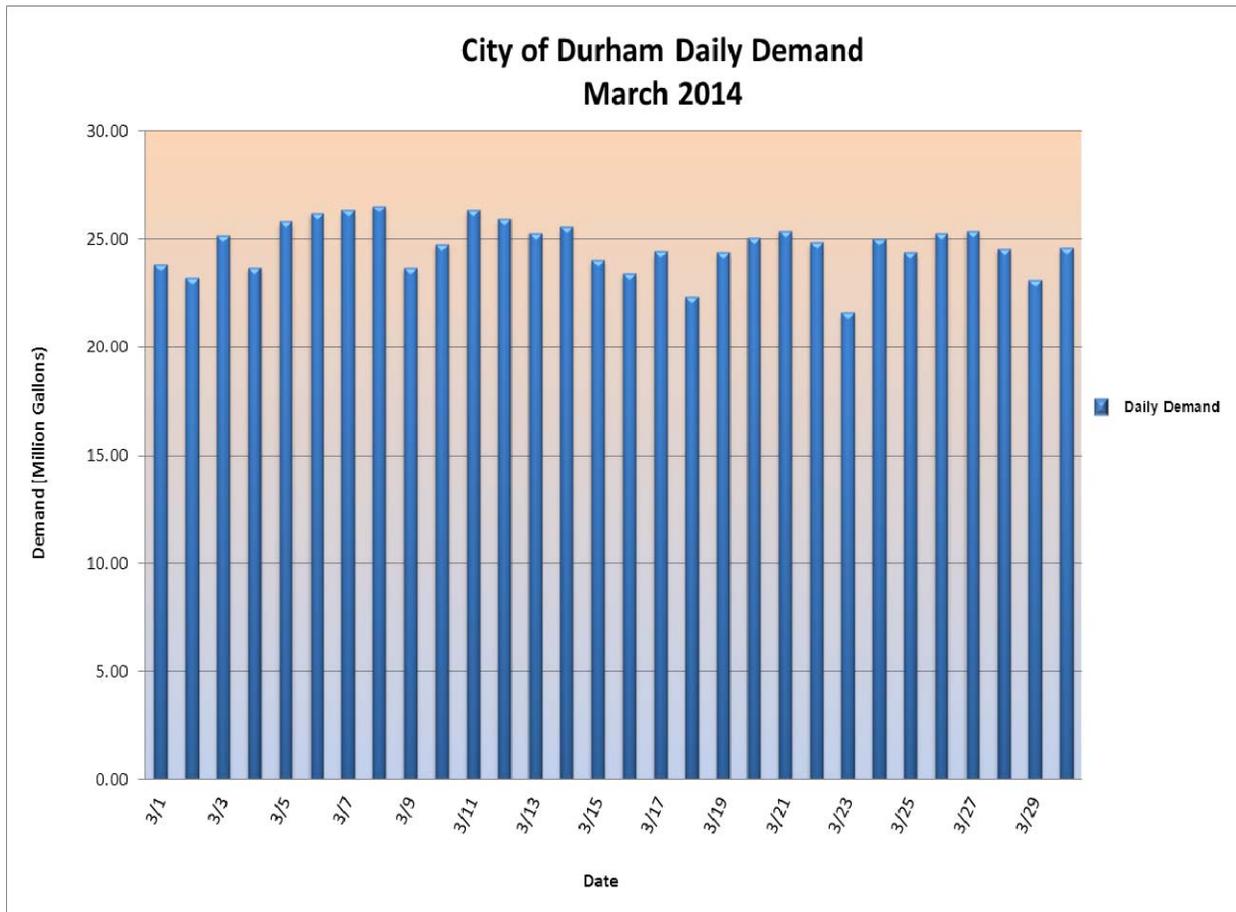
### Municipal Drinking Water

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 37 million gallons per day (MGD), which is treated in one of two plants.<sup>9</sup> 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 28.2 MGD in 2010 with a peak daily production of 38.84 MGD in July of 2011.<sup>10</sup>

The Brown Plant terminal reservoir holds approximately 90 million gallons and the Williams Plant Terminal reservoir holds approximately 45 million gallons representing a two to three day supply of water and providing a constant supply of raw water for the treatment plants should any interruption in delivery occur from the reservoirs due to water line servicing or breaks.<sup>11</sup>

## Current Conditions



**Figure 11.02(b) City of Durham Daily Demand**

Figure 11.02(b) above depicts the 30-day running average demand as of March 30, 2014 of 24.67 MGD:<sup>12</sup>

- Days of supply of easily accessible, premium water remaining (Lake Michie, Little River Reservoir): 257 days
- Days in Teer Quarry storage remaining: 24 days
- Days of less accessible water below the intake structures remaining: 49 days
- Total days of supply = 330.

### Quality of Drinking Water

According to their website, “The City of Durham is dedicated to providing high quality drinking water to its customers, while protecting the environment through effective wastewater treatment. To achieve this, the City’s water treatment plants and water reclamation facilities are staffed 24 hours a day, 365 days a year. Lab staff perform thousands of analyses every year to ensure that drinking water and wastewater discharge meets all state and federal standards. Cross connection

control program staff inspects back-flow prevention installations to ensure that Durham's high quality drinking water is not compromised by contamination.”<sup>13</sup>

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; both of these reports are available online.<sup>14</sup> The City of Durham is required to test for more than 150 different constituents in the drinking water. During 2012, all detected substances were below the water quality levels allowed by the Environmental Protection Agency (EPA).<sup>15</sup>

Wastewater reuse will increase dramatically in the future as demand for safe drinking water supplies climb. A massive worldwide trend towards wastewater reuse is taking place. Durham is a part of this movement. This water will then be available for safe non-drinking water purposes such as industrial processing, irrigation, and other uses.

## Primary Data

Results from the 2013 Durham Community Health Opinion Survey show that pollution is an issue of importance to Durham County residents. This survey involved 182 Durham households chosen at random with 55 questions. Although no questions in the survey directly addressed water quality, one question did ask respondents to prioritize what they felt were the top three community health issues that have the greatest effect on the quality of life in Durham County; 12% of general county respondents and 16% of respondents in the Latino sample felt that environmental pollution (air, water, land) is one of these issues. Results from this question are depicted in Figure 11.02(c) below.<sup>16</sup>

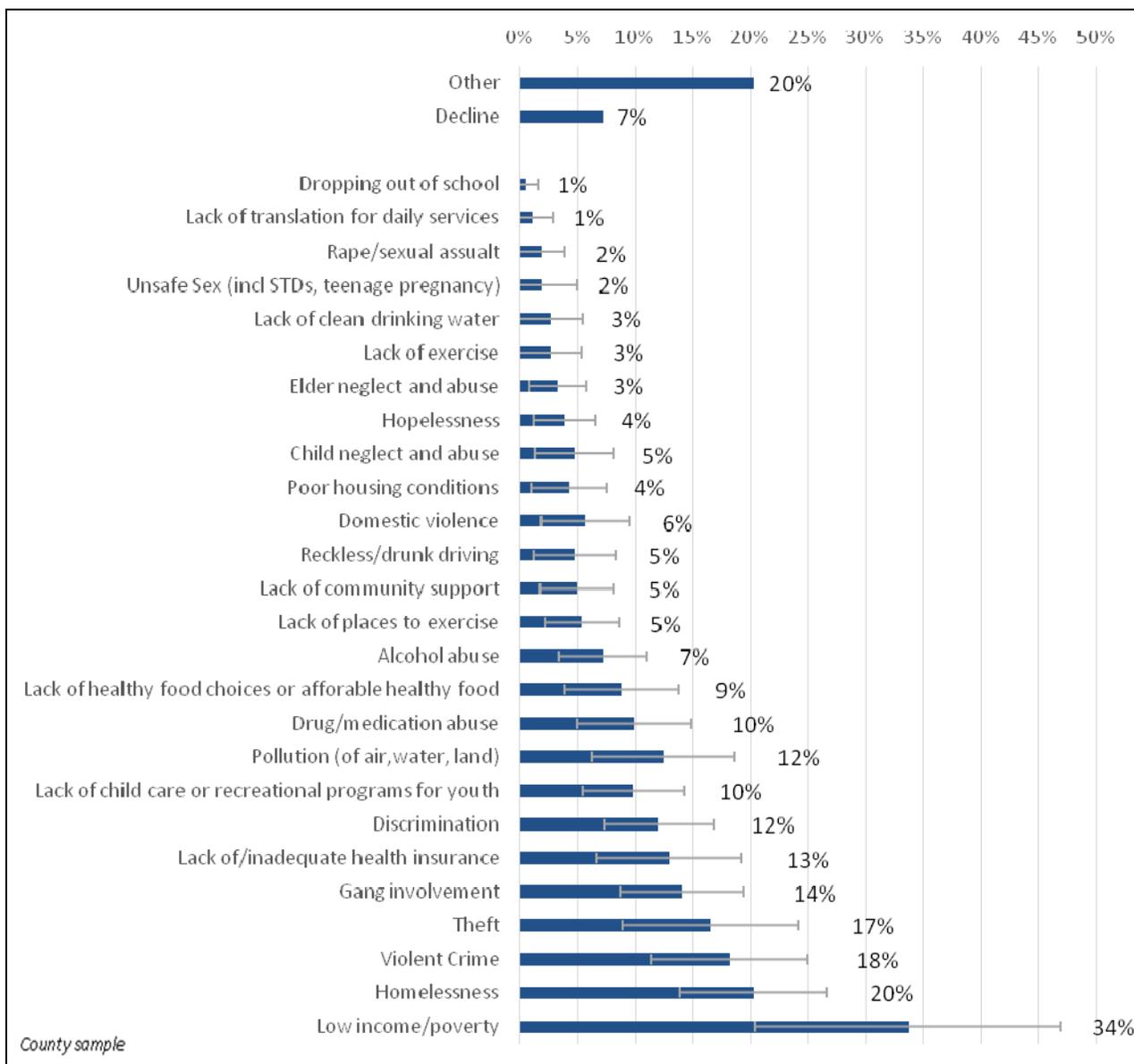


Figure 11.02(c) Keeping in mind yourself and the people in your neighborhood, tell me the community issues that have the greatest effect on quality of life in Durham County. Please choose up to 3.

### Interpretations: Disparities, Gaps, Emerging Issues

The advantages of municipal water over private well water can be debated. The costs of well drilling can vary due to the depth at which the water is found and the quality and quantity of that water; however, private wells serve a substantial portion of North Carolina’s rural population and as a general rule are deemed as a reliable and safe supply of drinking water. Certain individuals actually prefer well water because they deem it as free of certain additives found in municipal supplies.

Areas outside of the city limits are predominantly served by on-site septic systems. This includes 10,326 residential parcels. Approximately 68% (7,016) of the septic systems in Durham County are greater than 32 years old.<sup>17</sup> Due to age, many of these septic systems will need repair or replacement in the near future.<sup>18</sup>

Spurred by a citizen complaint, in August 2012 the Durham City Council asked the Durham County Board of Health to investigate fluoridation of the City's water supply. An ad hoc committee was formed to evaluate the issue.<sup>19</sup> On June 13, 2013, the Board of Health issued a non-binding recommendation that fluoridation be continued at current levels.<sup>20</sup> This decision was reached after 10 months of study which included literature review and public comment by both opponents and proponents of fluoridation.

The economic status of some private well owners can impact their ability to perform needed water sampling and/or repairs for wells identified with contamination problems. Private water supply well testing is a service offered by health departments statewide. The Durham County Department of Public Health has the ability to perform total coliform and e-coli testing in-house. Other parameters such as inorganic metals, nitrate/nitrite, pesticides, and petroleum are analyzed by the NC State Lab of Public Health (NCSLPH). The NCSLPH notified health departments that fees for water testing would increase in an effort to become more financially sustainable and to help offset reduced appropriations. The new testing fees were published on August 15, 2014 which showed increases of 260% and higher. This will most likely result in higher service fees assessed by the Durham County Department of Public Health. These increases may deter well owners from testing regularly and may prevent testing by low-income households.

## Current Initiatives & Activities

### ▪ *City of Durham Brown Water Treatment Plant Upgrade*

The Brown Water Treatment Plant is being up-graded. Upon completion, treatment capacity will be increased by 12 MGD to a total production capacity of 42 MGD.

Website: <http://durhamnc.gov/ich/op/dwm/Pages/Home.aspx>

Phone Number: (919) 560-4381

### ▪ *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.

Website: <http://water.epa.gov/drink/contaminants/>

Phone Number: (202) 566-1729

### ▪ *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.

Website: <http://www.cdc.gov/healthywater/drinking/index.html>

Phone Number: 1 (800) 232-4636

▪ ***The City of Durham Department of Water Management***

The Department of Water Management is responsible for the operation and maintenance of Durham's water supply, water treatment and water reclamation (wastewater treatment) facilities, the wastewater collection and water distribution systems (including meter reading), and customer billing services.

Website: <http://www.durhamnc.gov/departments/wm/>

Phone Number: (919) 560-4381

▪ ***The City of Durham Department of Water Management- Water Quality***

The City of Durham provides annual water quality reports. For more information on the water quality in Durham and to understand the water treatment process, please visit the website shown below.

Website: [http://www.durhamnc.gov/departments/wm/water\\_quality.cfm](http://www.durhamnc.gov/departments/wm/water_quality.cfm)

Phone Number: (919) 560-4362

▪ ***North Carolina Department of Environment and Natural Resources***

States can use funds that the EPA makes available through the Drinking Water State Revolving Fund program to help their water suppliers improve drinking water quality. You can view North Carolina's Public Water Supply Section for more information.

Website: <http://www.ncwater.org/pws/>

Phone Number: (919) 733-2321

▪ ***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

Website: <http://water.epa.gov/drink/hotline/index.cfm>

Phone Number: 1 (800) 426-4791

## References

- <sup>1</sup>Centers for Disease Control and Prevention (CDC). Drinking Water: Public Water Systems. CDC website. <http://www.cdc.gov/healthywater/drinking/public/index.html>. Accessed March 30, 2014.
- <sup>2</sup>United States Environmental Protection Agency (USEPA) Public Drinking Water Systems: Facts and Figures website. <http://water.epa.gov/infrastructure/drinkingwater/pws/factoids.cfm> Accessed June 12, 2014.
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- <sup>5</sup>North Carolina Division of Water Resources, Drinking Water Watch website. <https://www.pwss.enr.state.nc.us/NCDWW2/index.jsp> Accessed March 30, 2014.
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- <sup>11</sup>City of Durham. Department of Water Management, Water Quality and Treatment website. <http://durhamnc.gov/ich/op/dwm/Pages/Water-Quality-and-Treatment.aspx>. Accessed March 30, 2014.
- <sup>12</sup>City of Durham. Department of Water Management, Water Supply Status webpage. <http://durhamnc.gov/ich/op/dwm/Pages/Water-Supply-Status.aspx> Accessed March 31, 2014.
- <sup>13</sup>City of Durham. Department of Water Management, Water Quality and Treatment website. <http://durhamnc.gov/ich/op/dwm/Pages/Water-Quality-and-Treatment.aspx>. Accessed March 30, 2014.
- <sup>14</sup>City of Durham. Department of Water Management, Water Quality website. <http://durhamnc.gov/ich/op/dwm/Pages/Water-Quality.aspx> Accessed March 30, 2014.
- <sup>15</sup>City of Durham. *Water Quality Report 2012*. Durham, NC: City of Durham; 2012. <http://durhamnc.gov/ich/op/dwm/Documents/Water%20Management%20Home/DurhamWaterQualityReport.pdf>. Accessed March 30, 2014.
- <sup>16</sup>2013 Durham County 2013 Community Health Assessment Survey Results. Partnership for a Healthy Durham website. <http://healthydurham.org/docs/2013%20Survey%20results%20-%20Full%20county%20sample.pdf>. Accessed March 30, 2014.
- <sup>17</sup>Durham County Public Health, Environmental Health Division
- <sup>18</sup>County of Durham Public Health Department, Environmental Health Division
- <sup>19</sup>Durham County Board of Health. *Board of Health Recommends Continued Fluoridation of Drinking Water*. News. Durham County Government website, 14 June 2013. Accessed. 2 Nov. 2014. <http://dconc.gov/index.aspx?page=31&recordid=545>.
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## Section 11.03 *Lead poisoning*

### Overview

Childhood lead poisoning is considered the most preventable environmental health disease among young children. In spite of that, exposure to lead poisoning hazards remains a serious environmental health issue in the United States. Nationally, half a million children ages 1-5 have blood lead levels above 5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ), which is the action level adopted by the Center for Disease Control and Prevention (CDC) in 2012.<sup>1</sup> The change in this value means that more children are likely to be identified as having lead exposure allowing parents, doctors, public health officials, and communities to take action earlier to reduce the child's future exposure to lead.<sup>2</sup>

Lead exposure can cause serious health effects in young children and the fetus of a pregnant woman. Lead is easily absorbed into their growing bodies and their brains and nervous systems are more sensitive to the damaging effects of lead. Lead can damage almost every organ and system in the body.<sup>3</sup> Even low levels of lead in a child's blood can cause learning disabilities, reduced attention span, behavior problems, lower IQ, delayed growth, hearing problems, and anemia. Young children, especially toddlers, are at greatest risk for lead exposure because they tend to place their hands and other objects in their mouth; these may contain lead dust. The most hazardous sources of lead for children are lead-based paint and lead-contaminated dust.<sup>4</sup>

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective for lead poisoning.

### Secondary Data

In 2011, 4,156 one and two-year-olds in Durham County were tested for lead poisoning, with 81.6% of Medicaid enrolled children being tested. Of the children tested, 12 (or 0.3%) had blood lead levels in the range of 10-19 ( $\mu\text{g}/\text{dL}$ ).<sup>5</sup> This is similar to the lead testing results in 2010.

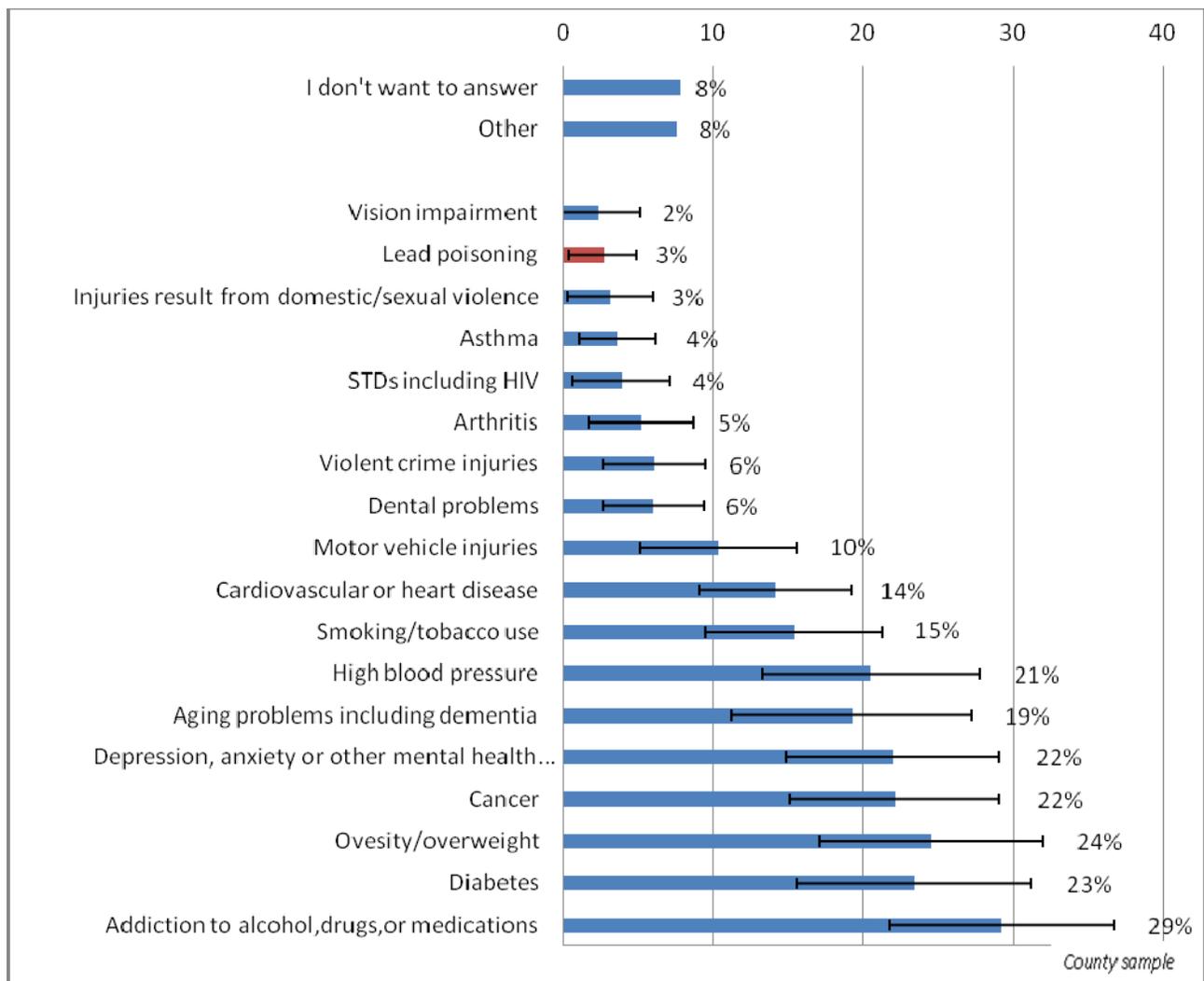
**Table 11.03(a) Ages 1 and 2 Years Tested for Lead Poisoning in Durham County<sup>6</sup>**

<b>Year</b>	<b>Number Tested</b>	<b>Tested Among Medicaid</b>	<b>Lead <math>\geq 10</math></b>	<b>Percent <math>\geq 10</math></b>
2011	4,156	81.6	12	0.3
2010	4,071	83.0	14	0.3

The data suggests that health care providers in Durham County have increased the number of one and two-year old children, enrolled in Medicaid, tested for lead by 1.4%.

## Primary Data

Results from the 2013 Durham County Community Health Opinion Survey show that lead poisoning is not a significant concern for Durham County residents. Survey respondents were asked to cite what they feel are the top three health problems in Durham County; of the 182 respondents, 3% cited lead poisoning as one of their top 3 issues, which is depicted in Figure 11.03(a) below.



**Figure 11.03(a) Keeping in mind yourself and the people in your neighborhood, tell me the health issues that have the greatest effect on quality of life in Durham County. Please choose up to 3.<sup>7</sup>**

## Interpretations: Disparities, Gaps, Emerging Issues

In conjunction with the CDC's Healthy Homes Initiative, Durham County Environmental Health partnered with Reinvestment Partners to implement the initiative by forming the Durham Healthy Homes Coalition. Under the partnership, the Coalition was able to:

- Broaden the scope of single-issue public health programs, such as childhood lead poisoning prevention and asthma programs, to address multiple housing deficiencies that affect health and safety.
- Build capacity and competency among environmental public health practitioners, public health nurses, housing specialists, managers, and others who work in the community, to develop and manage comprehensive and effective healthy homes programs.
- Foster interagency cooperation with key partners in the housing sector and community based organizations.
- Conduct outreach efforts and disseminate information at community health fairs.
- Work with Durham City regarding new code requirements.

## Recommended Strategies

Durham County Department of Public Health (DCoDPH) has been shifting its focus to primary prevention of lead exposure in response to CDC's recommendations on children's blood lead levels (BLLs). DCoDPH developed a comprehensive plan to provide onsite and community lead screening and referral for their patients. DCoDPH provides non-patients resources and referrals for lead case management, utilizing the established guidelines and procedures developed by the CDC to manage patients with BLLs between 5-9 µg/dL.

## Current Initiatives & Activities

- ***Durham County Department of Public Health (DCoDPH)***  
Offers lead poisoning education and free onsite and community site testing for children six-months to six years old. Conducts lead home investigations. Provides nutritional counseling with children who have elevated blood lead levels.

Website: <http://dconc.gov/index.aspx?page=1386>

Phone Number: (919) 560-7600

- ***Reinvestment Partners***  
Promotes safe, fair and affordable housing in Durham, NC. Provide free counseling for homeowners, home buyers and renters to improve their credit and qualify to buy and rent a home.

Website: <http://www.reinvestmentpartnes.org>

Phone Number: (919) 667-1000

- ***Partnership Effort for the Advancement of Children's Health (PEACH)***  
Strives to eliminate all home health hazards that result in lead poisoning, asthma and other health problems to create healthy homes for all children, families and communities.

Website: <http://www.clearcorps.org/local-sites/durham-north-carolina>

Phone Number: (919) 682-1300

- ***North Carolina Childhood Lead Poisoning Prevention Program (CLPPP)***  
Coordinates clinical and environmental services aimed at eliminating childhood lead poisoning.

Website: <http://ehs.ncpublichealth.com/hhccehb/cehu/index.htm>

Phone Number: (919) 707-5950

## References

- <sup>1</sup> Centers for Disease Control and Prevention (CDC). Lead. CDC website. <http://www.cdc.gov/nceh/lead/>. Accessed June 9, 2014. Updated June 2013.
- <sup>2</sup> Centers for Disease Control and Prevention (CDC). What Do Parents Need to Know to Protect Their Children. CDC website. [http://www.cdc.gov/nceh/lead/ACCLPP/blood\\_lead\\_levels.htm](http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm). Accessed June 9, 2014. Updated October 2012.
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## Section 11.04 *Waste management*

### Overview

Waste that is not properly managed can create serious health and social problems in a community. Through waste treatment and reduction, recycling, and appropriate wastewater disposal, waste management provides part of the solution to preventing such health and social problems in the community, in addition to protecting the environment. Consistent waste reduction and recycling activities means there will be less waste materials to send to landfills. Reusing and recycling of used items will also result in conservation of our natural resources.

Durham County's long-range vision is for a comprehensive solid waste management program. The components of the program would provide waste disposal capacity, waste collection services, and waste reduction programs to all members of the community at an equitable price.<sup>1</sup> The vision includes: the elimination of improper disposal of waste and expanded waste reduction opportunities that are convenient for residents; a community that understands the environmental benefits of waste reduction and proper waste disposal; foresees financial expenditures, but intends to keep them at a reasonable level; and is translated into the following long range planning goals:

- To provide everyone in the community with waste disposal capacity, waste collection services, and waste education opportunities.
- To increase the efficiency and cost effectiveness of the solid waste program.
- To meet the established local waste reduction goals.
- To decrease improper waste removal.
- To protect public health and the environment.<sup>2</sup>

### Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective for Waste Management.

### Secondary Data

#### Solid Waste

The City of Durham transfer station, located at 2115 E. Club Blvd, disposed of 146,784 tons of municipal solid waste/yard waste in 2012-2013.<sup>3</sup> This figure does not include tires, recycled materials or white goods (such as refrigerators or washing machines). The city provides curb side pickup of household garbage and recycling. Up to three bulky items can be placed on the curb on the same day as normal household collection. Yard waste collection is an optional fee-based program and television collection is offered by appointment only and is considered a bulky item. The transfer station allows "drive-in" load dumping. Fees vary with the size and type of load. Durham County Government does not provide roadside garbage collection for residents who live outside of city limits. County residents located within the unincorporated portions of the County may set up roadside garbage collection with a solid waste hauler. Since the County does not

operate a sanitary landfill, the County depends on the City of Durham as its primary source of solid waste disposal. The City of Durham operates a solid waste transfer station which transfers the City and the County's solid waste to a landfill in Sampson County, North Carolina.

**Table 11.04(a) City of Durham Transfer Station: Total Municipal Solid/Yard Waste<sup>4</sup>**

<b>Fiscal Year (July 1 to June 30)</b>	<b>Total Tonnage</b>
2009-2010	147,167
2010-2011	149,853
2011-2012	142,758
2012-2013	146,784
2013-Feb2014	90,630

All figures are taken from the Durham County Waste Disposal Reports Durham County (<http://www.wastenotnc.org>) that are created by NCDENR based on annual reports that all solid waste facilities are required to file with the state.

In fiscal year (FY) 2014, the City of Durham Solid Waste Department received additional funding to cover projected fuel gaps in the major programs (garbage, recycling, yard waste and bulky) and a \$1.80 monthly solid waste fee was adopted.

### **Recycling**

The City of Durham provides recycling for most of the residential sector (excluding multi-family complexes) inside the city limits. The "Star Recycler" program gives Durham households the chance to win a \$25 gift card supplied by Sonoco Recycling, Inc. The City's waste reduction coordinator, along with the Star Recycling Team will randomly check recycling carts on the day of collection to determine if the proper items are being recycled. Residents identified as a "Star Recycler" will be instructed to contact the waste reduction coordinator to be entered into a drawing and receive their "Star Recycler" sign to be placed in their front yard. Signs will be displayed for two weeks and rotated between winners. Recycling correct items is vitally important to avoid contamination of the recycling process.<sup>5</sup> Durham County also provides roadside collection of recyclables for its unincorporated residents. Collection occurs every other week. Each home is issued one 18 gallon recycling bin free of charge. Additional bins cost \$8.00 each. Customers may choose to use their own bin of the same shape and size (18 gallons or smaller).<sup>6</sup>

**Table 11.04(b) Recycling Collected in City of Durham<sup>7</sup>**

<b>Fiscal Year</b>	<b>Recycling Tons</b>
2011-2012	13,852
2012-2013	13,812
2013-March 2014	10,285

In 1997, Durham passed an ordinance making it unlawful to place target recyclables in the garbage. The ordinance applies to all waste generators – residential, commercial, and industrial. Target recyclables currently include:<sup>8</sup>

- Aluminum cans
- Steel cans
- Glass bottles and jars
- Newspaper
- Plastic bottles
- Corrugated cardboard
- Computer equipment – effective July 1, 2011
- Televisions – effective July 1, 2011

The City provides recycling opportunities for the targeted items as well as several other items through drop-off centers and curbside collections. Residents and businesses may face financial penalties for not complying with the ordinance.

In addition to the City’s recycling ordinance, state law also bans the following items from being disposed of in a landfill:

- Antifreeze – effective July 1, 1994
- Aluminum cans – effective July 1, 1994
- Appliances – effective January 1, 1991
- Beverage containers from ABC permit holders – effective January 1, 2008
- Lead-acid batteries - effective January 1, 1991
- Oil filters – effective October 1, 2009
- Plastic bottles - effective October 1, 2009
- Scrap (whole) tires – effective March 1, 1990
- Televisions and electronics – January 1, 2011
- Used oil – effective October 1, 1990
- Wood pallets (may be disposed in C&D landfill) – effective October 1, 2009
- Yard Waste – effective January 1, 1993

### **Wastewater Treatment**

There are three municipal wastewater treatment plants located in Durham County; two are operated by the City and one by the County. The City of Durham operates the North Durham Water Reclamation Facility on East Club Boulevard and the South Durham Water Reclamation Facility near Farrington Road. Additionally, Durham County operates the Triangle Wastewater Treatment Plant, located at 5926 Hwy 55 in southern Durham County.

The City of Durham is located on a ridgeline that generally runs along Pettigrew Street and the railroad tracks. Wastewater on the north side of the ridgeline flows to the North Durham Water Reclamation Facility and, after treatment, is ultimately discharged into the Neuse River Basin. The South Durham Water Reclamation Facility receives wastewater that flows south of the ridgeline. After processing, the discharge flows into the Cape Fear Basin. The Triangle Wastewater Treatment Plant serves most of Research Triangle Park, Parkwood and a few other southern Durham neighborhoods both inside and outside the City limits.

Both the City and the County systems implement an Industrial Pretreatment Program to control pollutants from industrial users which may pass through or interfere with plant operation, or contaminate the wastewater sludge. Permits are issued to facilities determined by the type of business activity they conduct or the type(s) of wastewater discharged from their facility. All together, the City and County monitors and inspects at least 20 significant industrial users and hundreds of commercial establishments with high-strength discharges. In 2013 Durham County amended the Sewer Use Ordinance setting forth uniform requirements for direct and indirect contributors into the wastewater collection and treatment system for the county that enables the county to comply with all applicable state and federal laws, including the Clean Water Act (33 United States Code § 1251 et seq.) and the General Pretreatment Regulations (40 CFR, Part 403).<sup>9</sup>

The table below details the capacities and average daily flow for the three centralized treatment plants in Durham. Included in the flow for the Triangle Plant is approximately two million gallons per day of wastewater from the Town of Cary, under an Inter-local Agreement between Durham County and the Town of Cary. In the fall of 2014, the Town of Cary flow to the Triangle Plant will stop and instead be treated at the new Western Wake Regional Wastewater Management Facility.<sup>10</sup>

The Triangle Wastewater Treatment Plant meets the future Jordan Lake Nutrient Rules for both total nitrogen (TN) (3.04 mg/l) and total phosphorus (TP) (0.23 mg/l). Both North Durham and South Durham Water Reclamation Facilities were designed to achieve low levels of nitrogen and phosphorus removal and have to meet an effluent TN of 5.5 mg/L and an effluent of TP of 0.5 mg/L in the summer and 2.0 mg/L TP in the winter at design flow. Future treatment standards are still being finalized and will require nutrient removal to or below the limits of conventional technology beginning in 2016.<sup>11</sup>

The South Durham Plant has had no major upgrades since the mid 1990's but will begin upgrades that will improve nutrient removal in the near future. The North Durham Plant's most recent upgrades include the addition of an aeration basin and more effective ultraviolet disinfection equipment.<sup>12</sup>

**Table 11.04(c) Wastewater Treatment Facilities in Durham County<sup>13</sup>**

Municipal Plants	Treatment	Permitted Capacity (million gal/day)	Average Daily Flow (million gal/day)				
			2009	2010	2011	2012	2013
North and South Durham Water Reclamation Facilities <sup>14</sup>		20 (each facility)	17.87 (total)	19.34 (total)	17.5 (total)	16.77 (total)	18.01 (total)
Triangle Treatment Plant <sup>15</sup>	Wastewater	12	5.07	5.29	5.43	6.06	6.52 <sup>16</sup>

Other areas of Durham County are served by municipal sewer connections from treatment facilities not located in Durham. An area of Durham adjacent to Chapel Hill is served by the Orange Water

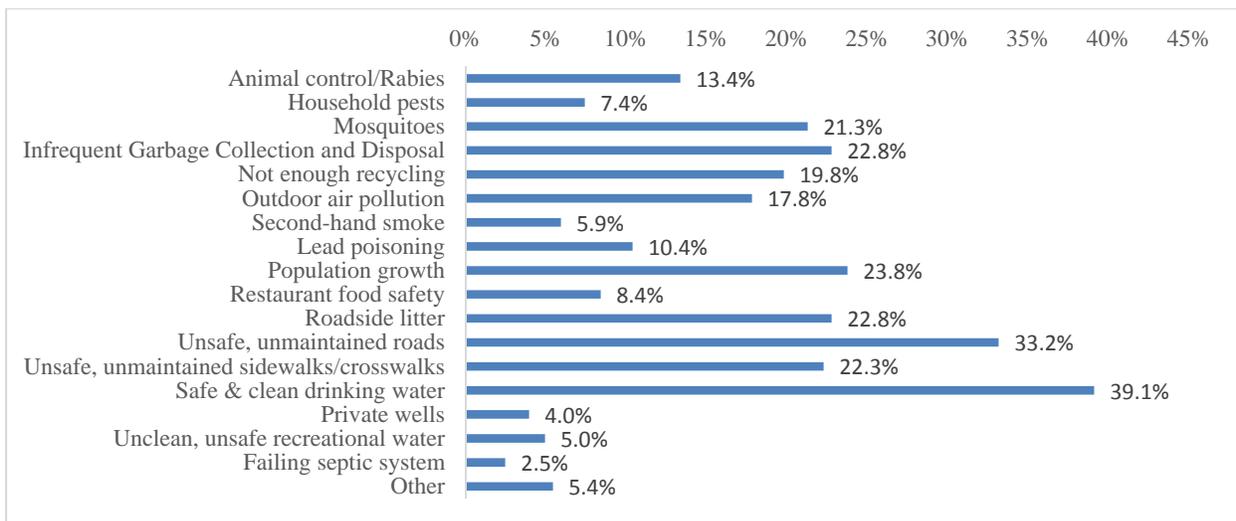
and Sewer Authority; and another area of Durham adjacent to Wake County is served by the Raleigh Municipal Sewer System.

According to Geographic Information System and Durham Environmental Health data, there are approximately 10,326 private septic systems in Durham. Only 3,310 of these systems are less than 30 years old.<sup>17</sup> Assuming the census average of 2.34 persons per household, this translates to approximately 24,163 persons served by septic systems out of a total Durham population of 267,587.<sup>18, 19</sup>

## Primary Data

Waste management is a community issue of relative importance according to results from the 2010 Durham County Community Health Opinion Survey.<sup>20</sup> (This question was not asked on the 2013 survey.) When survey participants were asked to choose what they felt were the top 3 environmental issues in Durham County, 22.8% cited infrequent garbage collection and disposal, 19.8% cited not enough recycling, and 22.8% cited roadside litter. Results from this question on the survey are shown below:

**Figure 11.04(a) Pick your 3 most important environmental issues in Durham County (2010 survey)**



Effective, quality refuse and recycling programs have a direct impact on limiting the level of pollution at the local level. According to the 2013 Community Health Assessment Survey pollution of air, water, and land tied for 5<sup>th</sup> overall for specific issues that have the greatest effect on quality of life in Durham.<sup>21</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

### City vs. County Solid Waste Management

The City of Durham provides trash pick-up, yard debris pick-up and recycling for those living within City limits only. Those residing outside City limits have to dispose of their own trash at four different locations scattered about the County or contract with a hauler, as mentioned previously.<sup>22</sup> This could negatively impact the health of County residents who have limited or no access to these disposal locations, or cannot afford to hire a private trash collection service, as solid waste will likely accrue in or around their homes.

Additionally, the majority of homes inside the city limits are served by municipal sewer. Areas outside of the city limits are predominantly served by on-site septic systems. This includes 10,326 residential parcels. Approximately 68% (7,016) of the septic systems in Durham County are greater than 32 years old.<sup>23</sup> Due to age, many of these septic systems will need repair or replacement in the near future.<sup>24</sup>

### Electronic Waste

One of the fastest-growing waste streams in the world is disposing of technology such as computers, televisions and other electronic devices.<sup>25</sup> Durham County has implemented an electronic waste (or “e-waste”) program. Technology that is still working and can be re-used can be dropped off at the County Swap Shop, located at the Redwood Convenience Site (on the corner of Redwood Road and Electra Road). Non-working technological items can be recycled at the City of Durham’s Waste Reduction and Recycling Center located at 2115 E. Club Boulevard in Durham or the HHW Facility located at 1900 E. Club Boulevard.<sup>26</sup>

Durham residents and businesses looking for a chance to kick off the annual Earth Day weekend by keeping old electronics and paper out of our landfills should mark their calendars for the City/County E-Waste Recycling and Paper Shredding Event. Residents and businesses may safely dispose of nearly all electronic devices with a cord and unwanted paper documents. The event for FY 2012-2013 collected 25.03 tons of Electronic Waste and Collected/Shredded 38.28 tons of paper documents. For information about items accepted at this event or the City’s recycling facilities, contact Durham One Call at (919) 560-1200 or visit [http://DurhamNC.gov/ich/op/swmd/Pages/wr\\_transfer.aspx](http://DurhamNC.gov/ich/op/swmd/Pages/wr_transfer.aspx).<sup>27</sup>

## Current Initiatives & Activities

### ▪ *Durham County Solid Waste Management*

Durham County does not endorse any solid waste hauler, but provides a list of solid waste hauler contact information for citizen convenience. You must contact these haulers directly for service rates and collection information. Waste Industries: 919-596-1363, Republic Services, Inc.: 919-772-1316, Clayton & Hurdle Disposal: 919-688-4993. Additional haulers may be available. There are 4 locations in which Durham residents living outside City limits can dispose of their trash and recyclables.<sup>28</sup>

Area	Location	Phone Number
Parkwood	Highway 55 & Alexander Dr	(919) 560-0460
Redwood	Redwood Road & Electra Dr.	(919) 682-8200
Bahama	Quail Roost Road & Ball Road	(919) 477-8552
Rougemont	Bill Poole Road & Highway 501 North	(919) 477-4325

Access to the centers is gained by the display of a Durham County Solid Waste decal. Decals are issued on a fiscal year basis. If you have lost your decal or have additional questions, contact the Durham County Tax Office at (919) 560-0300.

Phone Number: (919) 560-0430

▪ ***Durham County Roadside Trash Collection***

County residents can contact the companies below for trash pick-up service rates:

- Waste Industries - (919) 596-1363
- Republic Services, Inc. - (919) 772-1316
- Clayton & Hurdle Disposal - (919) 688-4993

Website: <http://www.dconc.gov/index.aspx?page=235>

Phone Number: (919) 560-0300

▪ ***Durham County E-Waste Recycling & Durham County Swap Shop (Re-usable e-waste)***

County residents can dispose of functional, but outdated, technology such as computers, televisions and cell phones. Residents who are in need of items such as these can pick them up free of charge.

Website: <http://www.dconc.gov/index.aspx?page=240>

Phone Number: (919) 560-0300

- ***City of Durham's Waste Reduction and Recycling Center***      2115 E. Club Boulevard  
***Household Waste (HHW) Facility***      1900 E. Club Boulevard

Website: <http://durhamnc.gov/ich/op/swmd/Pages/Home.aspx>

Phone Number: (919) 560-4186

▪ ***City of Durham Solid Waste Management Department***

City residents can get more information on solid waste disposal and recycling.

Website: <http://durhamnc.gov/ich/op/swmd/Pages/Home.aspx>

Phone Number: (919) 560-4186

▪ ***Earth 911***

Visit this website for a list of local companies that provide electronic recycling options

Website: <http://earth911.com>

Phone Number: 1-800-CLEANUP

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[http://durhamnc.gov/ich/op/swmd/Documents/10yr\\_main.pdf](http://durhamnc.gov/ich/op/swmd/Documents/10yr_main.pdf)
- <sup>3</sup> DURHAM COUNTY WASTE DISPOSAL Reports Durham County (<http://www.wastenotnc.org>)
- <sup>4</sup> DURHAM COUNTY WASTE DISPOSAL Reports Durham County (<http://www.wastenotnc.org>)
- <sup>5</sup> [http://durhamnc.gov/ich/op/swmd/Pages/recycling\\_guidelines.aspx](http://durhamnc.gov/ich/op/swmd/Pages/recycling_guidelines.aspx)
- <sup>6</sup> <http://dconc.gov/index.aspx?page=854>
- <sup>7</sup> [http://www.durhamnc.gov/departments/solid/pdf/10yr\\_main.pdf](http://www.durhamnc.gov/departments/solid/pdf/10yr_main.pdf)
- <sup>8</sup> City of Durham Solid Waste Management Department:  
[http://www.durhamnc.gov/departments/solid/wr\\_default\\_new.cfm#Guidelines](http://www.durhamnc.gov/departments/solid/wr_default_new.cfm#Guidelines)
- <sup>9</sup> Chapter 26. Utilities Article IV. Sewer Use Division 1. Generally
- <sup>10</sup> County of Durham Engineering Department, Utilities Division: <http://dconc.gov/index.aspx?page=180>
- <sup>11</sup> Hazen and Sawyer, Environmental Engineers & Scientists
- <sup>12</sup> City of Durham Department of Water Management  
[http://durhamnc.gov/ich/op/dwm/Documents/Misc.%20PDF's/dwm\\_directions\\_ndwrf.pdf](http://durhamnc.gov/ich/op/dwm/Documents/Misc.%20PDF's/dwm_directions_ndwrf.pdf)
- <sup>13</sup> County of Durham Engineering Department, Utilities Division: <http://dconc.gov/index.aspx?page=180>
- <sup>14</sup> <http://durhamnc.gov/ich/op/dwm/Pages/Home.aspx>
- <sup>15</sup> County of Durham Engineering Department, Utilities Division: <http://dconc.gov/index.aspx?page=180>
- <sup>16</sup> DCo Engineering & Environmental Services, Triangle Wastewater Treatment Plant
- <sup>17</sup> City of Durham Geographic Information Systems: <http://www.durhamnc.gov/departments/gis/>
- <sup>18</sup> County of Durham Public Health Department, Environmental Health Division
- <sup>19</sup> City of Durham Geographic Information Systems: <http://www.durhamnc.gov/departments/gis/>
- <sup>20</sup> 2010 Durham County Community Health Opinion Survey. Partnership for a Healthy Durham website.  
[http://healthydurham.org/index.php?page=health\\_recent](http://healthydurham.org/index.php?page=health_recent). Accessed June 22, 2011.
- <sup>21</sup> Durham County 2013 Community Health Assessment Survey Results
- <sup>22</sup> <http://dconc.gov/index.aspx?page=237>
- <sup>23</sup> Durham County Public Health, Environmental Health Division
- <sup>24</sup> County of Durham Public Health Department, Environmental Health Division
- <sup>25</sup> <http://dconc.gov/index.aspx?page=240>
- <sup>26</sup> <http://dconc.gov/index.aspx?page=240>
- <sup>27</sup> Durham County General Services. City of durham<http://durhamnc.gov/Pages/NNDetails.aspx?detailId=392>
- <sup>28</sup> <http://dconc.gov/index.aspx?page=237>

## Section 11.05 *Food safety*

### Overview

The terms *foodborne illness* and *foodborne disease* are often incorrectly used interchangeably. A foodborne disease is a condition that has been diagnosed by a physician with an understanding and identification of the etiologic agent(s), while a foodborne illness is a condition of being unwell without identifying the specific etiologic agent(s) responsible for the condition.<sup>1</sup> Food has been known to transmit or cause more than 250 different diseases.<sup>2</sup> The common etiologic agents of foodborne diseases are biological, chemical, or physical in nature.

The most common types of foodborne disease and illness result from infection with a pathogenic microorganism (bacteria, viruses, protozoans, helminths, or prions), involving the gastrointestinal tract.<sup>3</sup> Common symptoms of foodborne disease include nausea, vomiting, abdominal cramps, and diarrhea. The Centers for Disease Control and Prevention (CDC) and the U. S. Food and Drug Administration (FDA) have identified the five most common foodborne pathogens transmitted by food workers: Norovirus, Hepatitis A virus, *Salmonella* Typhi, *Shigella* spp., and *Escherichia coli* (O157:H7).<sup>4</sup>

Foodborne diseases cause about 47.8 million illnesses, 127,839 hospitalizations, and 3,037 deaths every year in the United States.<sup>5</sup> Restaurant settings are responsible for almost half of all reported foodborne illness outbreaks in the United States each year.<sup>6</sup> In addition, acute foodborne illnesses constitute a large economic burden on the U.S., costing an estimated \$152 billion annually in health care, workplace, and economic losses.<sup>7</sup>

The CDC has identified the top five foodborne illness risk factors as: poor employee health and personal hygiene, improper hot and cold holding temperatures of potentially hazardous foods, inadequate cooking temperatures, contamination of utensils and equipment, and unsafe food sources.<sup>8</sup> Every four years, the FDA publishes the *Food Code*, a model that assists food control jurisdictions at all levels of government by providing them with a scientifically sound, technical, and legal basis for regulating the retail and food service segment of the industry (restaurants, grocery stores and institutions such as nursing homes).<sup>9</sup> In sum, the FDA *Food Code* is a science-based compendium for best practices in food safety, based upon the top five foodborne illness risk factors. Local, state and federal regulators use the *FDA Food Code* as a model to develop or update their own food safety rules and to be consistent with national food regulatory policy.<sup>10</sup>

In September of 2012 North Carolina adopted, by reference, the 2009 FDA model food code,<sup>11</sup> which allowed for a more science-based regulatory inspection. The goal of Environmental Health Specialists is to protect the public health through education, surveillance, inspection, and enforcement of local and state environmental health laws and regulations including the 2009 NC Food Code.

## Healthy NC 2020 Objective

Table 11.05(a) Environmental Health

Healthy NC 2020 Objective <sup>12</sup>	Current Durham (2012-2013)	2020 Target
1. Decrease the average number of critical violations per restaurant/food stand	2	5.50

### Secondary Data

The average number of critical violations per restaurant/food stand in Durham County is based on the fiscal year beginning July 1 and ending June 30. In fiscal years July 2009 – June 2012 there was an average of three critical violations per restaurant or food stand (Figure 11.05(a)).<sup>12</sup> In September of 2012 NC adopted, by reference, the 2009 FDA model food code,<sup>13</sup> which allowed for a more science-based regulatory inspection. Prior to the 2009 implementation of the NC Food Code, there were 18 critical violation risk factors identified during a normal regulatory inspection. Critical violation risk factors were considered those contributing factors that increase the chance of developing foodborne illness and included categories such as: employee health, good hygiene practices, preventing contamination by hands, approved source, protection from contamination, and potentially hazardous food.

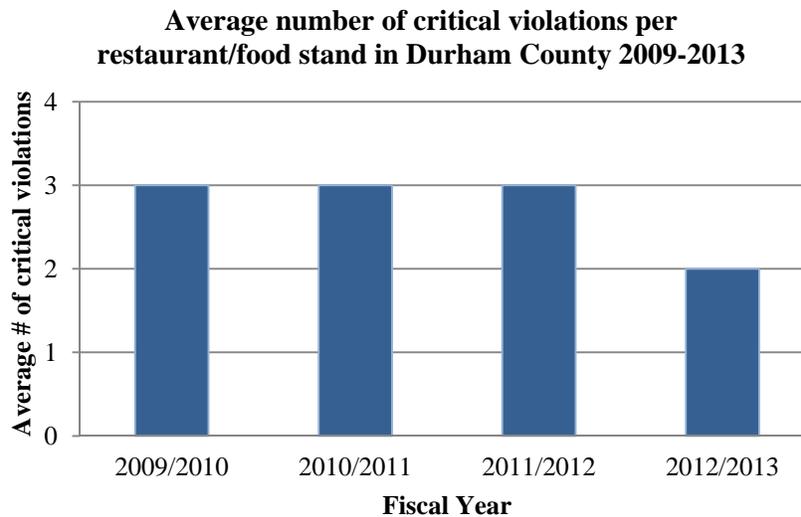
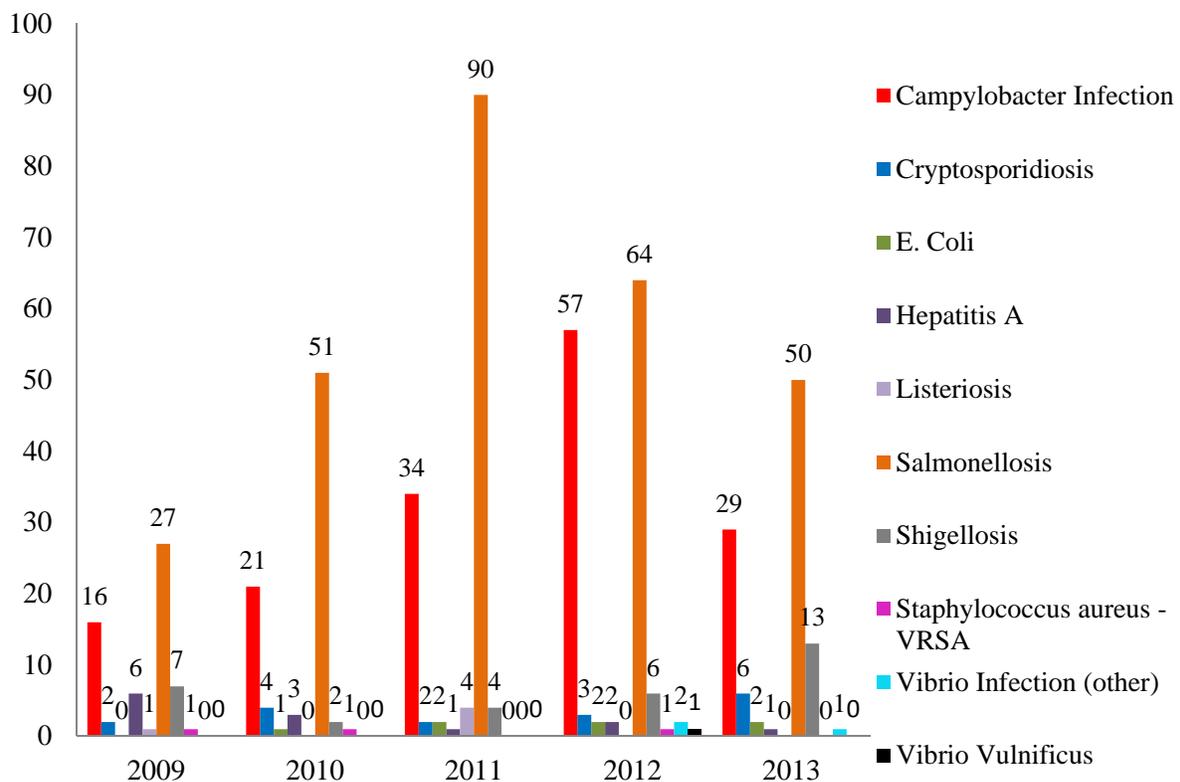


Figure 11.05(a) Average number of critical violations per restaurant/food stand in Durham County 2009-2013

After Food Code implementation, there were 27 critical violations. The definition of risk factors remained the same, but public health interventions were added as control measures to prevent foodborne illness or injury. Both foodborne illness risk factors and public health interventions are considered critical violations in the 2009 Food Code and include categories such as: supervision,

employee health, good hygienic practices, preventing contamination by hands, approved source, protection from contamination, potentially hazardous food time/temperature, consumer advisory, highly susceptible populations, chemical, and conformance with approved procedures. For fiscal year 2012-2013, after Food Code implementation, there was an average of two critical violations per restaurant or food stand in Durham County (Figure 11.05(a)).

In the state of North Carolina all foodborne illnesses are reportable and food establishment operators are required to report any suspected outbreaks to the local health department.<sup>14</sup> The numbers of confirmed cases of various foodborne illness, in Durham County, from 2009-2013 is shown in Figure 11.05(b).<sup>15</sup>

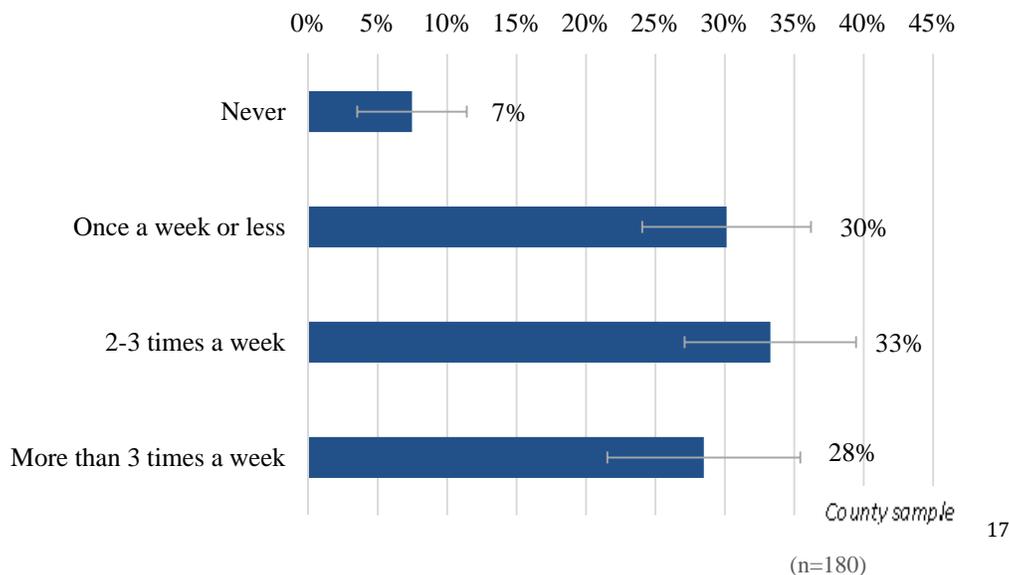


**Figure 11.05(b) Number of Confirmed Reportable Foodborne Illnesses each year in Durham County from 2009-2013**

The most common foodborne illnesses in Durham County are Salmonellosis and Campylobacter infection.

## Primary Data

A large number of county residents are eating meals at restaurants or food stands, outside the home. The 2013 Durham County Community Health Opinion Survey<sup>16</sup> asked participants, “Thinking about breakfast, lunch, and dinner, how many times in a typical week do you eat meals that were not prepared at home, like from restaurants, cafeterias, or fast food?” According to the survey results, only 7% of 180 respondents are never eating meals outside the home (Figure 11.05(c)).



**Figure 11.05(c).** The frequency of meals eaten outside the home by a sample of 180 Durham County Residents in 2013.

Restaurants bring together large numbers of employees and consumers, on a daily basis, providing ample opportunity for contamination of food, and transmission of foodborne illness causing pathogens. In addition, it is estimated that a large number of foodborne illnesses remain undiagnosed and unreported.<sup>18</sup> With such a large proportion of the county eating meals at restaurants and food stands, food safety in the retail setting should be a top priority of the county and the Durham County Department of Public Health.

### Interpretations: Disparities, Gaps, Emerging Issues

In September of 2012 North Carolina adopted the 2009 NC Food Code.<sup>19</sup> The NC Food Code has a risk-based framework, aimed at preventing foodborne illness outbreaks; while previous regulations were more response based. The NC Food Code added 9 new critical violations. Therefore, it was expected that during initial implementation of the 2009 NC Food Code, the number of critical violations per restaurant or food stand would rise. This was not the case in Durham County, as the following fiscal year, after food code adoption, there was an average of

two critical violations per restaurant or food stand, compared with an average of three critical violations the previous three fiscal years (Figure 11.05(a)). This is probably due to the steep learning curve in adopting a new food safety and regulatory inspection framework. During the first few months of implementation Environmental Health Specialists were being trained on the new form and inspection format which probably resulted in violations being marked in the wrong spot on the inspection form. It is anticipated that the number of critical violations per restaurant or food stand will continue to rise for the next few years as both managers, food service workers, and the environmental health specialists adapt to the new requirements of the NC Food Code.

## Recommended Strategies

Table 11.05(b) Recommended Evidence –based Promising Practices<sup>20</sup>

Category	Name	Description	Website
Individual	Comprehensive Foodborne Illness Investigation	These procedures were developed by a cross-departmental team to make food borne illness complaint follow-up more efficient and consistent, to identify foodborne outbreaks and their underlying causes, to prevent further disease transmission, and to provide education for community members and food service workers.	<a href="http://www.naccho.org/topics/modelpractices/database/practices.cfm?PracticeID=110">http://www.naccho.org/topics/modelpractices/database/practices.cfm?PracticeID=110</a>
Individual	Section .2600 - The Sanitation of Food Service	Guidelines for Food Service Establishments in North Carolina.	<a href="http://www.ncdhhs.gov/aging/food/rules_governing_food_protection_sanitationfoodestablishments.pdf">http://www.ncdhhs.gov/aging/food/rules_governing_food_protection_sanitationfoodestablishments.pdf</a>

## Current Initiatives & Activities

### ▪ *Public Information Access*

Durham County Environmental Health implemented data management software in 2007 to better capture the information and violations from routine inspections. Since the Durham County Department of Public Health started publishing restaurant sanitation grades and inspection reports on the Health department website, it has been the most frequently accessed page in the County website.

Website:

[https://public.cdpehs.com/NCENVPBL/ESTABLISHMENT/ShowESTABLISHMENTTablePage.aspx?ESTTST\\_CTY=32](https://public.cdpehs.com/NCENVPBL/ESTABLISHMENT/ShowESTABLISHMENTTablePage.aspx?ESTTST_CTY=32)

- ***Food Service Educational Program***

Durham County has partnered with Orange County and the Cooperative extension agencies for Durham and Orange Counties since 1997 in providing ServSafe food safety educational programs. Classes are offered multiple times a year, and have participation from 10 to 90 students for each class. The classes have produced over a thousand certified food service managers and food handlers trained in the industry standards.

Website: [www.servsafe.com](http://www.servsafe.com)

Phone Number: (866) 901-7778

- ***Durham County Department of Public Health-Food borne Illness Investigation***

An investigation is initiated when a confirmed outbreak arises and/or several individuals have a common source of illness. An Environmental Health Specialist (EHS) and a member of the Epi Team interviews those persons affected or potentially exposed to determine foods consumed, symptoms experienced, and time of onset of symptoms. For more information please visit the link below.

Website: <http://dconc.gov/index.aspx?page=379>

Phone Number: (919) 560-7600

- ***Centers for Disease Control and Prevention (CDC) – Food borne Illness***

To learn more about food borne illness both nationally and statewide, visit the CDC's website.

Website: <http://www.cdc.gov/foodborneburden/>

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# Public Health Emergency Preparedness

Public Health Emergency Preparedness focuses on the ability of the Health Department to mitigate, plan, respond, and recover from emergencies that pose a risk to the health of the public. This is accomplished through planning with other county and community partners on best practices, training on these plans, and exercising the plans at the appropriate time when an emergency occurs. The goal is to reduce the illness or injury risk to the community during acts of terrorism, natural disasters, and communicable disease outbreaks. This goal is accomplished through community education to promote personal and family preparedness.

This chapter includes:

- ❖ [Public health emergency preparedness](#)

## Overview

Public Health Emergency Preparedness focuses on the ability of the health department to plan, respond, and recover from emergencies that pose a risk to the health of the public. This is accomplished through planning with other county and community partners on best practices, training on these plans, and exercising the plans at the appropriate time when an emergency occurs. The goal is to reduce the illness or injury risk to the community during acts of terrorism, natural disasters, and communicable disease outbreaks. This goal is accomplished through community education to promote personal and family preparedness.

In August 2011, “CDC implemented a systematic process for defining a set of public health preparedness capabilities to assist state and local health departments with their strategic planning. 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.”<sup>1</sup>

According to the *Prevention for the Health of North Carolina: Prevention Action Plan*<sup>2</sup>, relying on prevention as a basic strategy can save lives, reduce disability, improve quality of life, and, in some cases, decrease costs. While the plan does not specifically address public health emergency preparedness, it is important to focus on this concept because helping the community be better prepared in emergency or disaster situations reduces the likelihood for injury or illness, and thus reduces morbidity and mortality. Public Health Preparedness will share the 2013 Community Health Assessment with community preparedness partners.

## Healthy NC 2020 Objective

There is no Healthy NC 2020 Objective for Public Health Preparedness.

## Secondary Data

### Terrorism

On September 11, 2001, the United States experienced its largest on-soil terrorist attack when terrorists used airplanes to destroy the World Trade Center and damage the Pentagon. In the months that followed the attacks of September 11, inhalation anthrax spores were released into Washington, D.C., Florida, New Jersey, and New York via the postal service, resulting in illness to many, and even deaths in some cases. As a result of these attacks, a new emphasis was placed on public health emergency preparedness.

Public health agencies at the federal, state, and local levels evaluated existing and developed new emergency response plans. The North Carolina Department of Public Health responded by developing the Office of Public Health Preparedness and Response (PHP&R) in 2002, which developed regional teams to assist local health departments with preparedness planning, training and exercising. In 2011, Centers for Disease Control and Prevention (CDC) developed Public Health Capabilities as a tool to help assist state and local health departments with their strategic planning. Local health departments from across the State (including Durham County) received grant funding from state and federal sources to develop and/or improve emergency response plans, emergency preparedness education programs, volunteer cadres for surge capacity, and response exercises.

According to the Rand Corporation's Center for Terrorism Risk Management Policy, the most important components in assessing a region's terrorism risk are threat (the likelihood of a target being attacked), vulnerability (the amount of potential damage), and consequence (the magnitude of damage).<sup>3</sup> Rand makes an important assessment that density-weighted population data shows that those cities that have a higher population-density generally project to have a larger risk for terrorist activities. Rand also explains that it is also important to consider more than just population. Areas that could suffer major economic impact have major infrastructure implications for additional areas, in addition to injuries and deaths, may be a more valued target for terrorism than simply population alone.

Durham is the sixth largest county in North Carolina and the City of Durham is the fourth largest municipality in the state; approximately 85% of all Durham County residents live within the city limits of Durham.<sup>4</sup> The City of Durham's population grew from 187,035 to 284,437 during 2000-2014.<sup>5</sup> There are a number of major institutions within Durham County that could present as potential target for terrorism. There are multiple educational facilities, including colleges, located within Durham County, as well as major medical facilities. Also, Research Triangle Park (RTP) is partially located within Durham County, and in neighboring Wake County, and RTP is a major economic center within the state that holds a number of technology, medical, and research companies that could have a significant impact on the local, state, and federal landscape if attacked. Durham County is located within the 50 mile emergency planning zone of the Harris Fixed Nuclear Facility and is also serviced by the Raleigh Durham International Airport.

Because of its potentially high-value targets, as well as the higher population density for the city, Durham County should be considered to be at an elevated risk for terrorist activities.

### **Natural Disasters**

Public health preparedness also extends to natural disasters. According to Federal Emergency Management Agency (FEMA), there have been 14 major disaster declarations and four emergency declarations in North Carolina since 2001<sup>6</sup>. This list includes the storms of April 16, 2011, in which the state of North Carolina had a new record of 28 tornadoes that occurred during one storm system<sup>7</sup>. In addition to these tornadoes, North Carolina has experienced hurricanes, severe winter storms (snow and ice), tropical storms, and flooding. Hurricanes have been one of the most common natural disasters for North Carolina, with 13 storms impacting North Carolina since 2003.<sup>8</sup>

The Durham County Hazard Mitigation Plan (HMP) lists 10 specific hazards as those that could impact Durham County and the city of Durham. Of these 10, eight are naturally occurring, and include earthquake, floods, hurricanes, thunderstorms, tornadoes, and winter storms. The HMP states that while hurricanes are not frequent, and they are often moderate in their intensity, their impact can be high and pose a significant risk to the population.<sup>9</sup>

### **Communicable Disease**

The possibility of a widespread communicable disease outbreak is also a public health preparedness concern. The CDC defines communicable disease as disease that can pass from a person or animal to another person. Many communicable diseases exist and the impact of each case may vary by type, geographic location, and attack rate. As with a man-made or natural disaster, emergence of a widespread communicable disease could prohibit continuity of operations for multiple sectors of society.

The threat of pandemic influenza resurfaced in 2009, as the H1N1 virus emerged as a public health emergency. As is expected with any pandemic event, the number of those who became infected with the H1N1 virus was substantial, totaling between approximately 43 million and 89 million cases according to CDC estimates. This led to between approximately 195,000 and 403,000 hospitalizations and 8,870 to 18,300 deaths as a result of H1N1 infections. Surprisingly, unlike normal influenza statistics which impact the very young (under age 18) and the very old (over age 65), the H1N1 virus appeared to have a greater impact on what is normally considered the median population, 18-64 years old, with over 75% of the deaths occurring within this age group.<sup>10</sup>

The first case of Ebola Virus Disease (EVD) was reported in late March 2014 in West Africa. The majority of EVD cases have been concentrated in Guinea, Liberia, and Sierra Leone. As of October 27, 2014, there have been 13,676 cases in these three countries with 4,910 deaths reported. This is the largest outbreak of EVD ever documented and the first recorded in West Africa. There have also been four reported cases in the United States with one death. CDC and partners are working to prevent the further spread of Ebola within the United States and many organizations and volunteers are working to stop this global epidemic.<sup>11</sup> The Durham County Department of Public Health, Duke Medicine and several other entities are training staff in the event that there is an EVD case in Durham.

### **Personal and Family Preparedness**

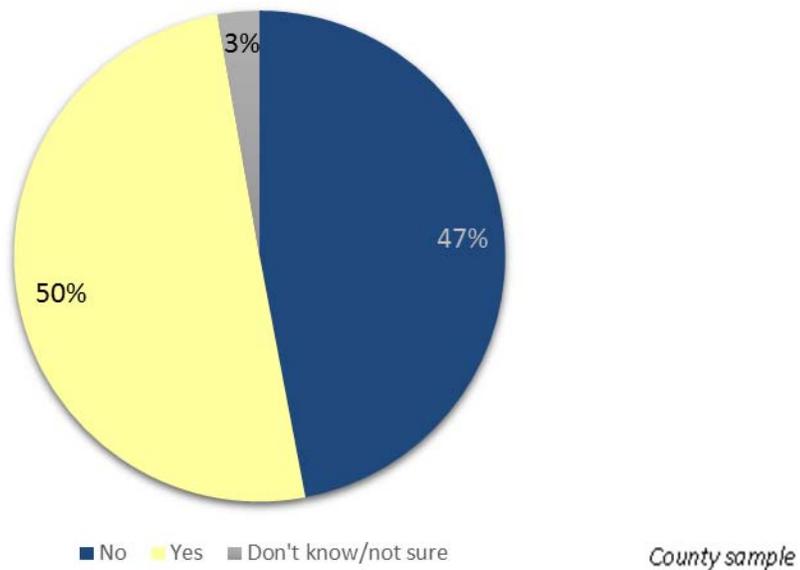
Personal and family preparedness requires a series of steps taken in advance to prepare for an emergency. At minimum, individuals and families are encouraged to develop a preparedness plan that includes an emergency preparedness kit, shelter-in-place and evacuation strategies, a communication plan, and a pet preparedness plan. Community members should be ready to comply with emergency evacuation or shelter-in-place notices when ordered to ensure safety during disasters.

**Primary Data**

During the 2013 Durham County Community Health Opinion Survey, respondents were asked the following questions assessing their level of preparedness: (1) “Does your household have working smoke and carbon monoxide detectors?” (2) “Does your family have a basic emergency supply kit and plan? If yes, how many days do you have supplies for?” (3) “What would be your three top sources of information in a large-scale disaster or emergency?” (4) “If you couldn’t remain in your house, where would you go in a community-wide emergency?” (5) “What would be the main reason you might not evacuate if asked to do so?”

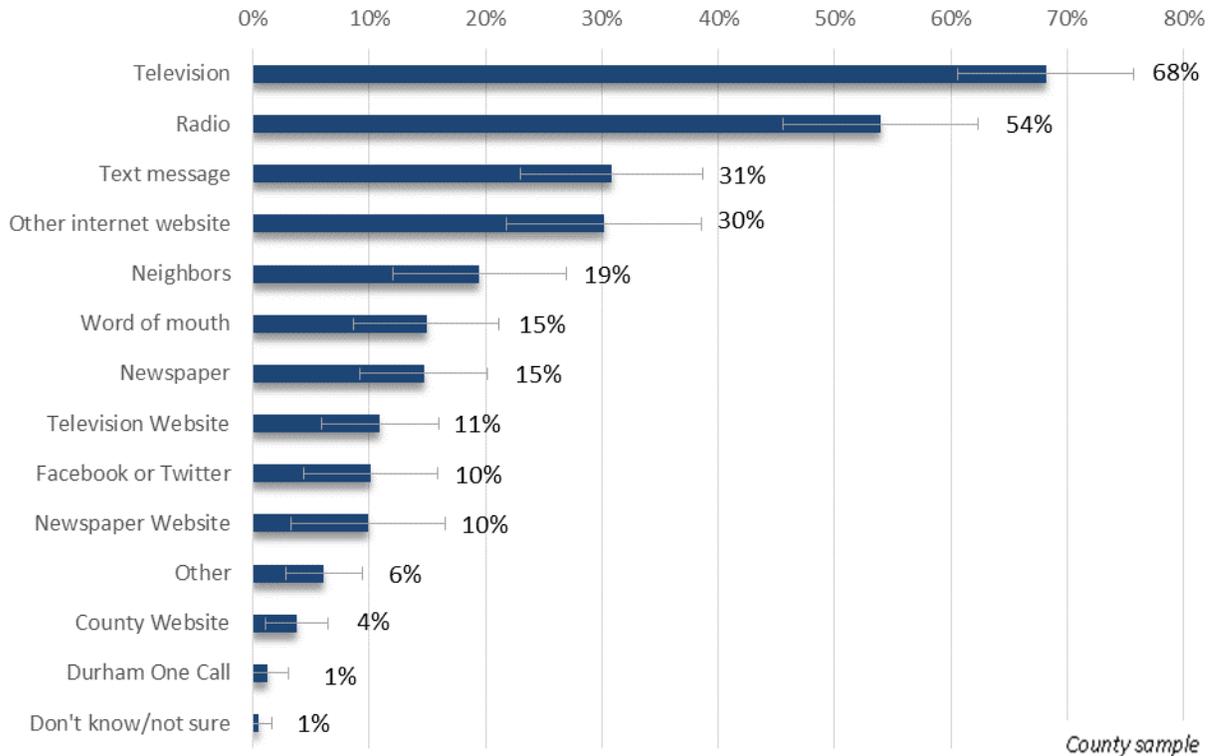
The following graphs, illustrate the findings from several of these emergency preparedness questions.

**Figure 12.01(a) Does your family have a basic emergency supply kit and plan?** (These kits include water, non-perishable food, any necessary prescriptions, first aid supplies, flashlight and batteries, non-electric can opener, blanket, etc.)



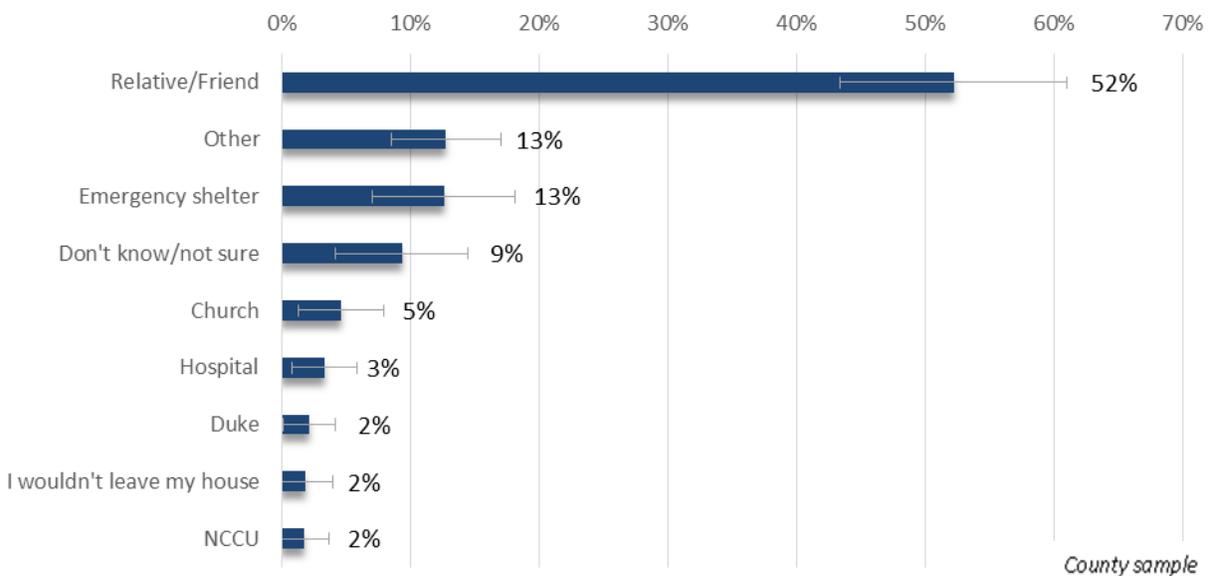
Half of Durham County residents have an emergency plan and supply kit. Of those with a supply kit, 50% have supplies that will last 1-7 days and 33% have enough supplies for 22-30 days. Respondents from the Latino sample were less prepared – only 35% had a plan and kits and they had supplies for a fewer number of days.

**Figure 12.01(b) What would be your three top sources of information in a large-scale disaster or emergency? (Check all that apply)**



Similar to the 2010 survey, the vast majority of Durham County residents (68%) reported television as their primary source of information in a disaster, following by radio (54%). A new answer choice in 2013, text message, was the third highest rated response (31%). Respondents in the Latino sample responded similarly.

**Figure 12.01(c) If you couldn't remain in your house, where would you go in a community-wide emergency? Choose one.**



The top response, similar to 2010, was to stay with a relative/friend during a community-wide emergency. However, in 2013, survey data indicates that residents have put more thought into where they would stay compared to 2010. In 2010, the second response was “don’t know” whereas in 2013, “don’t know” was the fourth response and only 9% of respondents. Other was the second highest response and included workplaces, the library, out of town, motel, and under car. Those in the Latino sample chose emergency shelters as the top response (40%), followed by friend/relative (21%) and don’t know (19%).

Residents were also asked, “What would be the main reason you might not evacuate if asked to do so?” The most common response was health problems, could not be moved (40%), followed by concern about leaving pets behind (15%).

### Interpretations: Disparities, Gaps, Emerging Issues

Based on the 2013 Community Health Assessment survey responses, there are 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, Mass Care CDC Public Health Capability 7 and Emergency Public Information and Warning CDC Public Health Capability 4. Upon examining the data, there are two key issues that need to be addressed in the future of the Public Health Emergency Preparedness program. These issues are:

***Where to go in a community-wide emergency:*** When asked where Durham County residents would go during a community-wide emergency if they were unable to remain in their home, 52% said they would go to stay with a relative/friend. However, 48% of the survey respondents said

they would either stay in an emergency shelter or *other* shelter locations (*other* for this question includes specific workplaces, the Library, out of town, motel, under car, churches, hospitals or educational institutions). Latinos were more likely to go emergency shelters.

When residents were asked what would be the main reason they would not evacuate if asked to do so, 40% of residents reported not leaving their home due to health problems (could not be moved) while 15% of residents reported not evacuating because of concern for their pets. The first response among Latinos, however, was “would evacuate if told to do so.” This indicates that Latinos are more likely to go to emergency shelters and evacuate compared to whites and African Americans in Durham.

The general county sample indicated that residents were more prepared to shelter at home with an emergency response plan, kit and supplies for a longer period of time. Conversely, Latinos were less likely to have a plan or supplies; when they did, the supplies would last less than a week.

**Sources of Disaster Public Information:** When asked to list all sources of disaster or emergency information, the majority of Durham County residents (68%) reported the TV as their primary source of information in a disaster, followed by radio (54%) and text messages (31%) closely followed by Internet (30%). The ability to communicate effectively with the public will require a skilled and unified team. There were no major differences in preference of communication source between the two survey samples.

## Recommended Strategies

**Issue 1:** The 2013 Durham County Community Health Opinion Survey data for emergency preparedness shows the need for increased partner education about communicating the importance of evacuation, going to emergency shelters, better preparing for sheltering during emergencies and better planning to deal with at-risk populations. The health department and partner agencies must increase promotion of educational and community service resources related to emergency preparedness while developing a more comprehensive plan that includes all Durham County residents.

### Strategies related to planning for populations during an emergency that may require evacuation and sheltering (including at-risk)

- With community partners, identify at-risk populations in Durham County (as they relate to the risks and hazards).
- Increase outreach to populations through collaboration, awareness, education and planning with groups and facilities that have been identified as *other* shelter locations.
- Improve coordination with partner agencies that provide services to all shelter populations by attending quarterly coordination and update meetings.

- Identify the roles of partner agencies in preparedness and recovery specific to at-risk populations. Update plans and revise county special needs shelter plan.

The goal for the Public Health Emergency Preparedness program is to work with community partners to identify the at-risk population in Durham County and identify the specific agency that interacts with the identified groups by 2016. Through collaboration with the at-risk population advocacy agencies develop specific preparedness educational material and update plans to include identified groups.

**Issue 2:** The 2013 Durham County Community Health Opinion Survey data for emergency preparedness shows that the top two sources for citizens to get information in a large-scale disaster are television and radio. This identifies the need for increased coordination of disaster public information dissemination between the health department and other community partners. The health department and partner agencies need to come together in a Joint Information Center to craft and deliver coordinated disaster public information related to response and recovery information for all Durham County residents.

#### **Strategies related to training for crisis communications staff:**

Increase capacity and capability for crises communications in those individuals identified as having this role:

- Create a list of health department staff who need to complete the required Public Information Officer (PIO) training (i.e., PIOs and other health department staff with PIO related roles and responsibilities.
- Create a list of local PIO or spokespersons (at least one designated individual per response agency)
- Provide crisis communication required training, update communications plans and exercise the plan
- Ensure required PIO training is updated at least every 5 years

The goal for the Public Health Emergency Preparedness program is to have an effective crisis communications plan with trained PIOs who can function in a Joint Information Center with other response agency PIOs.

### **Current Initiatives & Activities**

#### **▪ *Public Health Preparedness Planning***

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.

Website: <http://dconc.gov/index.aspx?page=379>  
Phone Number: (919) 560-7102

Other community partners, such as Duke Health Systems, also employ personnel to handle the preparedness response for their staff and facilities, as well as the community. They work closely with the Durham County Department of Public Health to further enhance the preparedness efforts for the community.

Phone Number: (919) 681-2933

▪ ***Durham County Medical Reserve Corps (DCMRC)***

The DCMRC is one of the Durham County Department of Public Health's community volunteer programs. The DCMRC mission is to build a reserve of health professionals and other community members with specialized skills that will strengthen the health department's ability to respond to local public health emergencies such as natural disasters and man-made disasters, like acts of terrorism. The DCMRC is a Medical Reserve Corps unit, which is a component of the National Citizen Corps program.

Website: <http://www.medicalreservecorps.gov/detail.asp?id=938>  
Phone Number: (919) 560-7102

▪ ***Durham County Emergency Management and Fire Marshal Office***

The office is responsible for maintaining the County Emergency Operations Plan, and will be the coordinating agency for all emergency response/recovery force activity when the emergency operations plan is implemented, and it will be the agency through which the county board of commissioners and the Durham city council exercise the authority vested in them during accidents and disasters.<sup>12</sup>

Website: <http://dconc.gov/index.aspx?page=153>  
Phone Number: (919) 560-0660

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## Older Adults and People with Disabilities

The health, function and quality of life of older adults and adults with disabilities are public health issues that must be seriously addressed in Durham County.

This chapter includes:

- ❖ [Older adults and people with disabilities](#)

## ***Older adults and people with disabilities***

### **Overview**

In 2013, the North Carolina Legislature formally defined older adults in North Carolina to be individuals 65 years or older.<sup>1</sup> Durham County, like the rest of the nation will experience a significant growth in the number and proportion of older adults due to longer life spans and aging baby boomers. *The State of Aging & Health in America 2013* describes how this demographic shift will impact the nation's public health, social services, and health care systems and details "how the public health sector is ideally positioned to meet the growing needs and demands of a rapidly aging nation by advocating for those in need, linking individuals and communities to available services, and promoting healthy aging because of its effects on personal, societal, cultural, economic, and environmental factors."<sup>2</sup>

In anticipation of this impending demographic shift, aging plans have been developed and health indicators for older adults and adults with disabilities have been identified. It has been well documented that older adults and adults with disabilities prefer to remain in the community and in their own homes for as long as possible. However, older adults are at a higher risk of developing chronic illnesses which may result in disability. Illness, chronic disease, or injury may limit an individual's physical or mental ability to complete basic daily activities. These limitations can make it difficult for older adults and adults with disabilities to remain in their homes. Early prevention, health promotion and physical activity can help prevent such declines.<sup>3</sup>

Adults with disabilities are significantly more likely to report being in fair or poor health than adults without disabilities.<sup>4</sup> The North Carolina Office on Disability and Health describes how a disability can be physical, mental, emotional, intellectual, or communication-related and that it can be present from birth or may occur 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, there is evidence that 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.<sup>5</sup> In addition, compared with people without disabilities, people with disabilities are more likely to experience difficulties or delays in getting the health care they need. This includes not having annual dental visits, mammograms in the past two years or Pap tests within the last three years. Individuals with disabilities 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.<sup>6</sup>

## Healthy NC 2020 Objective

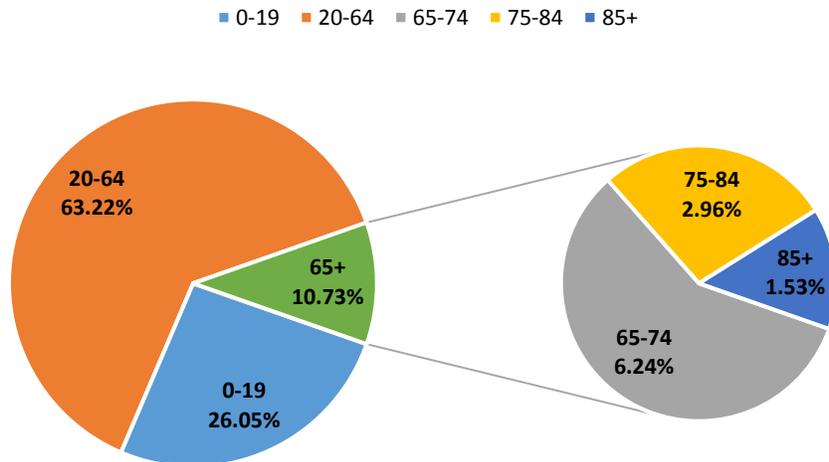
While there are no Healthy NC 2020 Objectives that specifically reference the health of older adults or adults with disabilities, the North Carolina Division of Aging and Adult Services has specified several goals and objectives in its North Carolina Aging Service Plan that are worth noting. This plan views aging as a lifelong process and any discussion of long-term services and supports includes the needs and interests of people with chronic illnesses and disabilities, regardless of their age.<sup>7</sup>

**Table 13.0 (a) NC Aging Service Plan Goals and Objectives <sup>8</sup>**

<b>Goal 1: Empower older adults, their families, and other consumers to make informed decisions and to easily access existing health and long-term care options.</b>
Objective 1.1: Educate the public on the availability of services to foster independence, self-sufficiency, and their future planning for long-term supports.
Objective 1.2: Streamline and strengthen access to long-term care services and supports to facilitate informed decision-making.
Objective 1.3: Ensure inclusion of diverse cultures and abilities in all aspects of the aging and adult services network.
<b>Goal 2: Enable older adults to age in their place of choice with appropriate services and supports.</b>
Objective 2.1: Promote flexibility in publicly funded services and supports to allow people more opportunities to choose how and where they receive these services and supports.
Objective 2.2: Maintain and expand the availability of community-based services and supports.
<b>Goal 3: Empower older adults to enjoy optimal health status and to have a healthy lifestyle.</b>
Objective 3.1: Build capacity and infrastructure to develop and sustain health and wellness programs and initiatives.
Objective 3.2: Expand access to and increase participation of evidence-based health promotion and disease prevention programs.
<b>Goal 4: Ensure the safety and rights of older and vulnerable adults and prevent their abuse, neglect, and exploitation.</b>
Objective 4.1: Maximize collaboration, outreach, and training to stop or prevent abuse, neglect, and exploitation.
<b>Goal 6: Prepare North Carolina for an aging population.</b>
Objective 6.2: Support local communities to plan and better prepare for an aging population.

Secondary Data

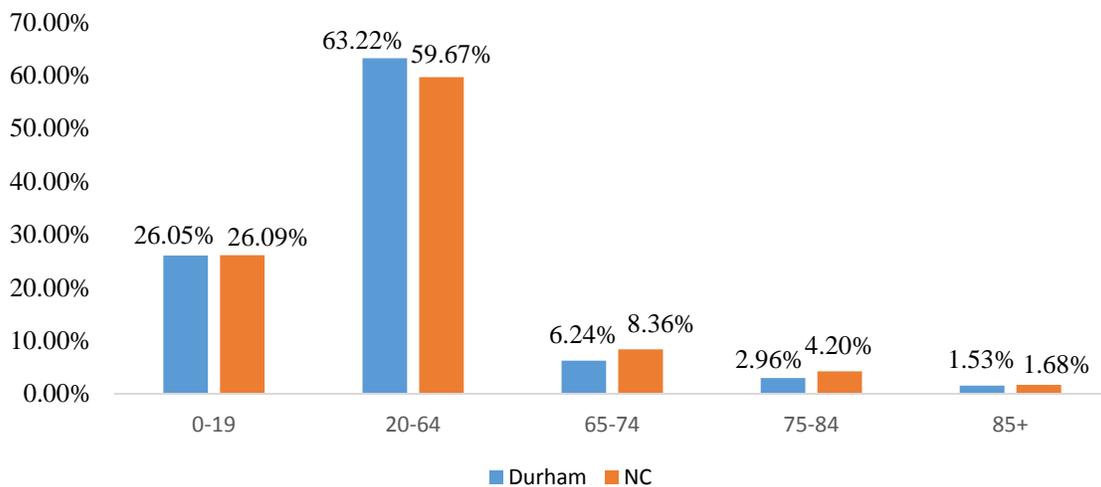
**Age Groups in Durham County  
2013**



**Figure 13.0 (a) Age Groups in Durham County, 2013<sup>9</sup>**

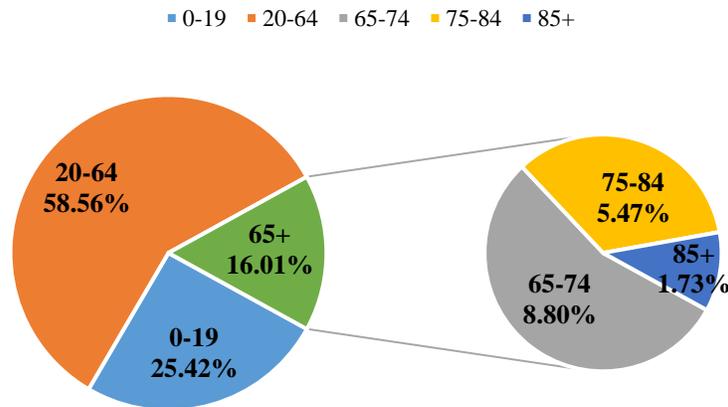
Figure 13.0 (a) shows that 10.73% of the population in Durham County are older adults, while Figure 13.0 (b) shows that North Carolina has a slightly higher proportion of older adults than Durham County.<sup>10</sup>

**Age Groups in Durham County and NC  
2013**



**Figure 13.0 (b) Age Groups in Durham County and North Carolina, 2013<sup>11</sup>**

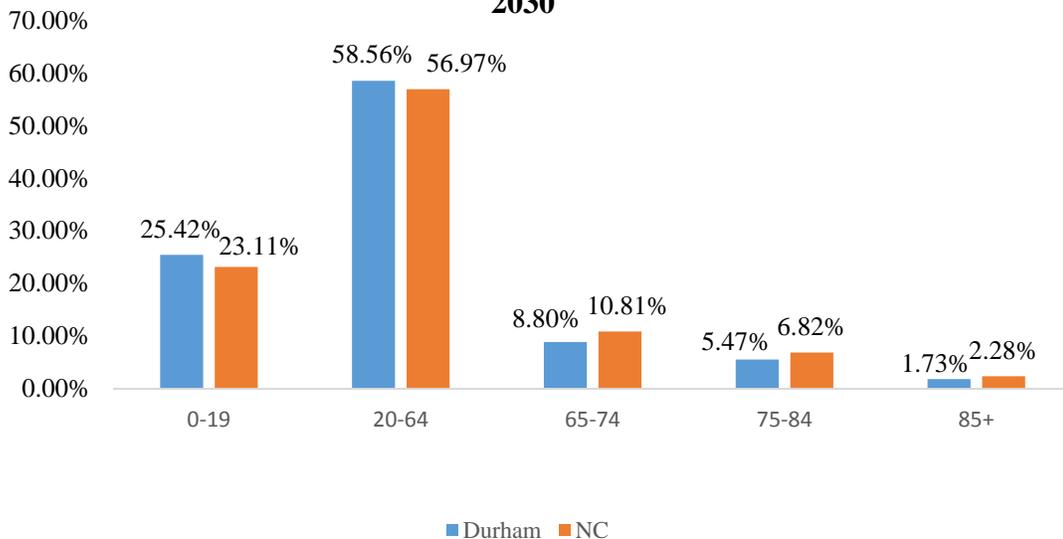
**Projected Age Groups in Durham County  
2030**



**Figure 13.0 (c) Projected Age Groups in Durham County, 2030**<sup>12</sup>

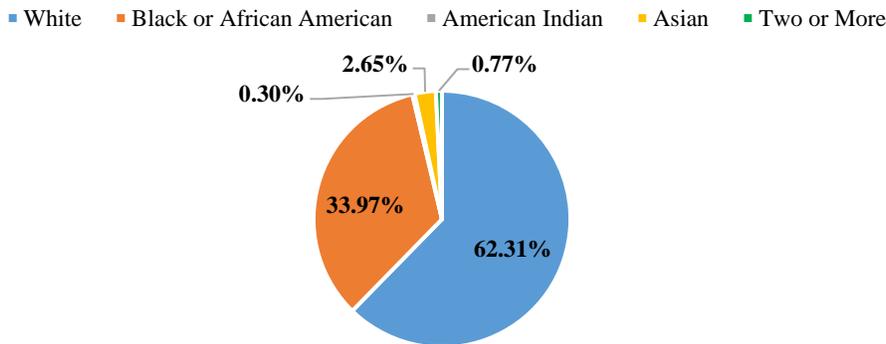
In 2030, the last baby boomers will turn 65 and Figure 13.0 (c) and 13.0 (d) shows the aging of Durham County and North Carolina. In Durham County, the number of older adults will increase from 30,703 to 60,051, which is a tremendous 96% increase in less than twenty years. During this same time period, the overall Durham County population is expected to grow 31% from 286,142 residents to 375,039. Although Durham County will have a slightly smaller proportion of older adults when compared to North Carolina, the dramatic aging of Durham County residents is undeniable.<sup>13, 14</sup>

**Projected Age Groups in Durham County and NC  
2030**



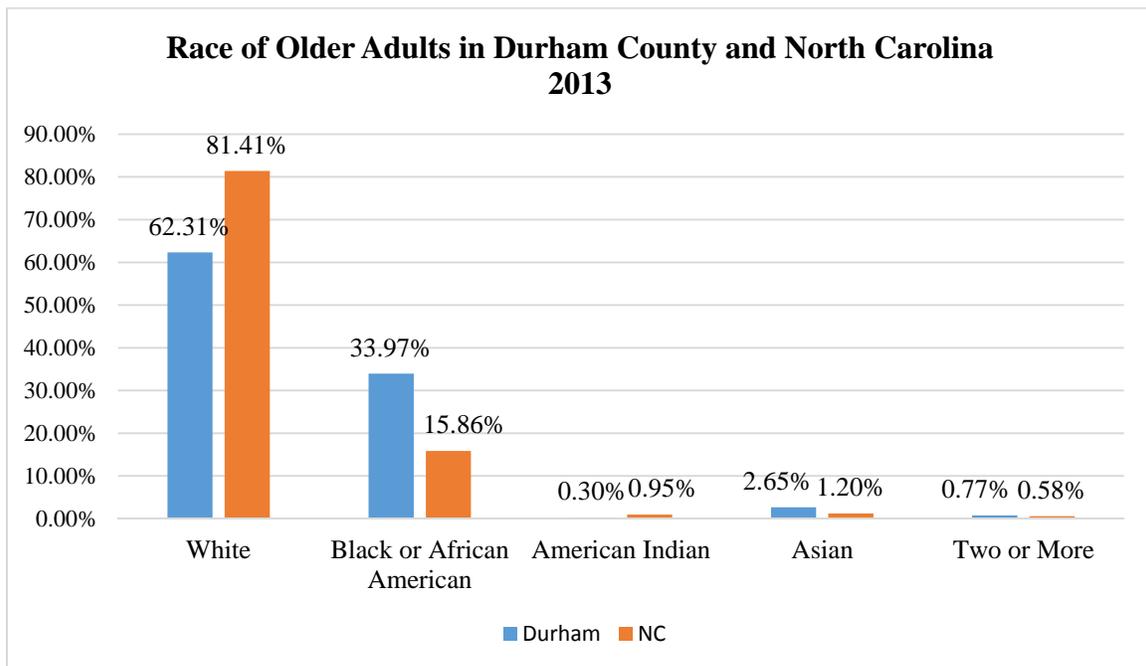
**Figure 13.0 (d) Projected Age Groups in Durham County and North Carolina, 2030**<sup>15</sup>

**Race of Older Adults in Durham County  
2013**



**Figure 13.0 (e) Race of Older Adults in Durham County, 2013** <sup>16, 17, 18, 19, 20</sup>

Figures 13.0 (e) and (f) show that Durham County is significantly more diverse than North Carolina. This data is important as there are documented disparities in health, activity limitations and active life based on race and ethnicity among older adults in the United States.<sup>21</sup> Non-Hispanic African-American adults are 50% more likely to die of heart disease and stroke than non-Hispanic Whites.<sup>22</sup> Additionally, the prevalence of diabetes in Durham County among non-Hispanic African Americans is 52.2% compared to 38.7% for non-Hispanic Whites.<sup>23</sup> Finally, Alzheimer’s disease poses a major and increasing public health challenge as older African Americans may be disproportionately burdened by the disease. Currently, older African-Americans are twice as likely to have Alzheimer’s and other dementias as older Whites.<sup>24</sup>



**Figure 13.0 (f) Race of Older Adults in Durham County and NC, 2013** <sup>25, 26, 27, 28, 29</sup>

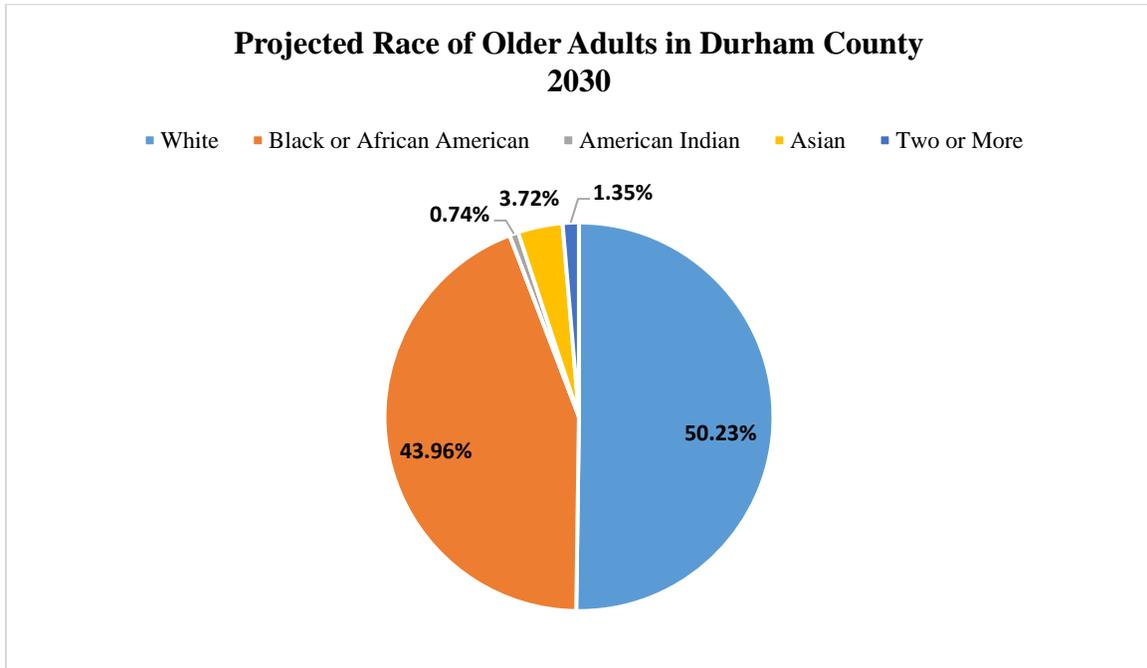


Figure 13.0 (g) Projected Race of Older Adults in Durham County, 2030<sup>30, 31, 32, 33, 34</sup>

Figures 13.0 (g) and (h) show the projected growth of diversity in Durham County, especially when compared to North Carolina. Among older adults in Durham County, half will be non-White.

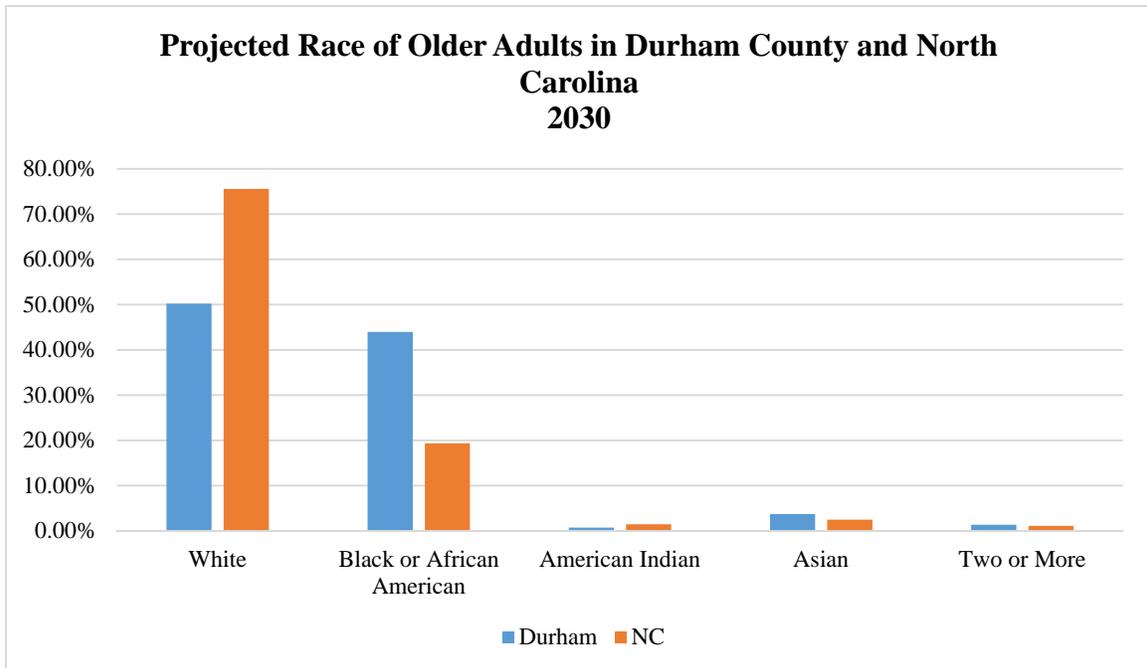


Figure 13.0(h) Projected Race of Older Adults in Durham County and NC, 2030<sup>35, 36, 37, 38,</sup>

39

**Table 13.0 (b) Poverty: Count and Percentage of Age Group in Durham County and NC, 2012** <sup>40</sup>

Poverty, 2012	Durham		North Carolina	
	#	%	#	%
Persons aged 65 to 74 below 100% poverty level	1,148	8.16%	60,845	8.70%
Persons aged 65 to 74 in 100 – 199% poverty level	2,365	16.81%	146,280	20.92%
Persons aged 75 years and over below 100% poverty level	998	9.04%	62,398	12.30%
Persons aged 75 years and over in 100 – 199% poverty level	2,279	20.65%	151,951	29.94%

In 2012, 27% of older adults in Durham County were living in or near poverty.<sup>41</sup> The ratio of income to poverty defines living in poverty as below the 100% federal poverty level and near poverty is between 100 – 199% poverty level.<sup>42</sup> 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.<sup>43</sup>

**Table 13.0 (c) Other Demography in Durham County and NC, 2012** <sup>44</sup>

Other Demography, 2012	Durham		North Carolina	
	#	%	#	%
Veterans age 65 years and older	5,171	19.40%	277,130	22.20%
Living alone 65 years and older	7,574	28.50%	342,358	27.40%
Grandparents aged 60 years and older responsible for grandchildren less than 18 years of age	2,616	--	101,875	--

In Durham County, 28.50% of older adults in Durham County live alone, a risk factor for social isolation.<sup>45</sup> There are 2,616 grandparents age 60 years and older who are responsible for raising a grandchild. These grandparents often lack information about the range of support services, resources, programs, benefits, laws and policies available to help them successfully fulfill their role as caregiver.<sup>46</sup>

**Table 13.0 (d) Non-Institutionalized Adults with Disabilities in Durham County and NC, 2013** <sup>47</sup>

Number of Disabilities, 2013	Durham		North Carolina	
	#	%	#	%
18 to 64 years of age with one type of disability	8,502	4.47%	368,754	6.15%
18 to 64 years if age with two or more types of disabilities	7,998	4.21%	333,898	5.56%
65 years and over with one type of disability	3,984	13.53%	231,046	16.93%
65 years and over with two or more types of disabilities	6,150	20.89%	290,415	21.28%

**Table 13.0 (e) Non-Institutionalized Adults Disability Type in Durham County and NC, 2013** <sup>48</sup>

Type of Disability	Durham		North Carolina	
	#	%	#	%
Population 18 to 64 years with a disability	16,500	8.70%	702,652	11.70%
With a hearing difficulty	3,047	1.60%	132,783	2.20%
With a vision difficulty	3,691	1.90%	132,602	2.20%
With a cognitive difficulty	6,494	3.40%	293,686	4.90%
With an ambulatory difficulty	8,115	4.30%	378,269	6.30%
With a self-care difficulty	2,706	1.40%	135,231	2.30%
With an independence difficulty	5,983	3.10%	251,610	4.20%
Population 65 years and older with a disability	10,134	34.40%	521,461	38.20%
With a hearing difficulty	4,247	14.40%	207,379	15.20%
With a vision difficulty	1,912	6.50%	103,345	7.60%
With a cognitive difficulty	3,173	10.80%	139,710	10.20%
With an ambulatory difficulty	6,612	22.50%	342,055	25.10%
With a self-care difficulty	2,256	7.70%	121,324	8.90%

With an independence difficulty	4,375	14.90%	225,335	16.50%
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### Primary Data

#### 2013 Durham County Health Opinion Survey

The 2013 Durham County Community Health Opinion Survey highlights the importance of aging and disability issues in Durham County. Currently, 4% of Durham residents are caring for an elderly or disabled parent.<sup>49</sup>

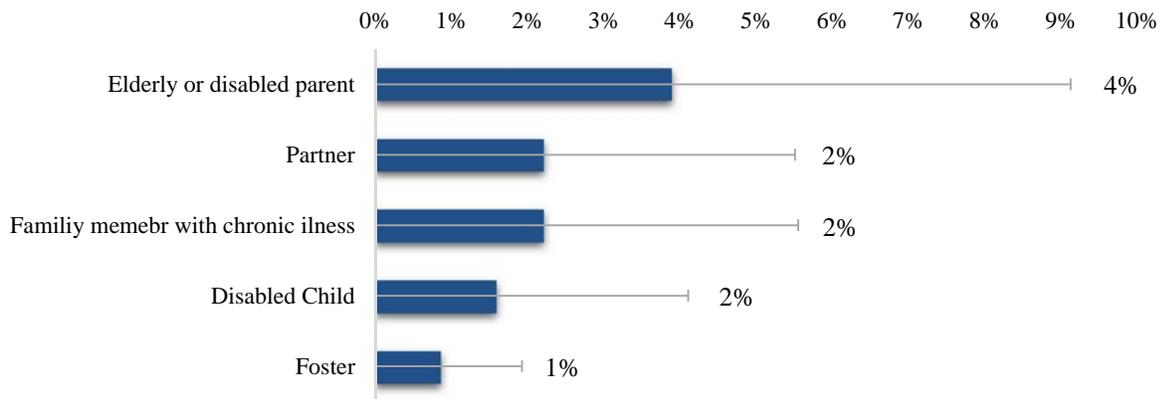
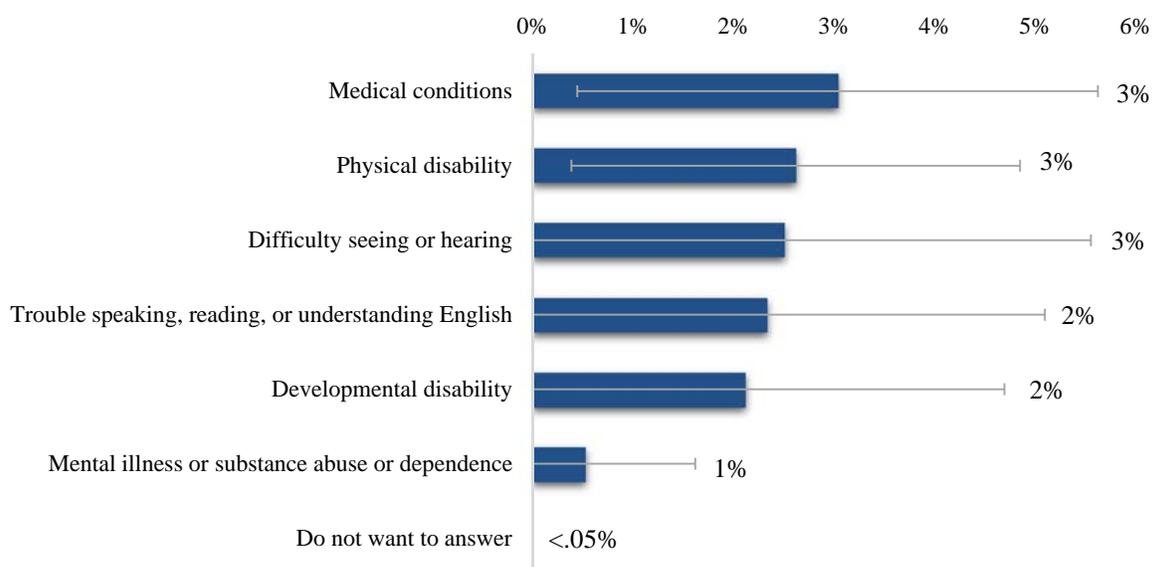


Figure 13.0 (i) Are you currently caring for?<sup>50</sup>

This survey also documents the impact of disabilities on residents in Durham County. Among those who need support to be independent in their daily activities, 3% of residents have a physical disability, 3% have difficulty hearing or seeing, and 2% have a developmental disability.<sup>51</sup>



**Figure 13.0 (j) Does anyone in your household, including yourself, need support to be independent in daily activities because of a...**<sup>52</sup>

This survey also captures the perceived impact of aging on Durham County. It reveals that 19% of residents believe aging problems, including dementia, are important health problems for themselves and the people in their neighborhood. Additionally, Durham residents believe elder care options (13%), elder care and neglect (2%) and services for people with disabilities (10%) are all services that need the most improvement in their neighborhood or community. Finally, 3% of Durham County residents believe elder neglect and care options are community issues that have the greatest effect on the quality of life in Durham County.<sup>53</sup>

### Issues Prioritized by the Durham Partnership for Seniors and the Durham Health Innovations Project

The issues identified by the Durham Partnership for Seniors (DPfS), a coalition of service providers and community volunteers focused on improving the lives of older adults and adults with disabilities, mirror many of the issues identified by Durham County residents. In 2012, the DPfS identified five priority issues to include access to services and information, better coordination of services, social isolation, access to nutritional food and caregiver/respite services.<sup>54</sup>

In 2009, the Durham Health Innovations (DHI) Project was launched by the Duke Translational Medicine Institute with the support from a National Institute of Health grant. As a result of this grant, a unique partnership was formed between Duke Medicine and the health and service professionals within the community. From this DHI Project, the Seniors Healthy In Place (HIP Seniors) team was created and included community members, health and human services officials, non-profit agencies and faculty from Duke University, the University of North Carolina at Chapel Hill, and Campbell University. Through extensive literature reviews and assessments of existing

programs, the HIP Senior team identified the following key strategies that would improve the health of older adults: transitional care (focusing on hospital discharge); falls prevention; medication therapy management; and wellness.<sup>55</sup>

## Interpretations: Disparities, Gaps, Emerging Issues

### Access to Care

Older adult and adults with disabilities who have traditional Medicare Private Fee-for Service Plans (i.e., Medicare A and B) generally have good access to medical care in Durham. Another option is replacing Medicare A and B with a privately administered Medicare Advantage Plan. Most of these individuals also have secondary medical coverage from a past employer, Medicare Supplement Insurance (i.e., Medigap) or Medicaid. While some North Carolina communities struggle to identify providers who will see new Medicare patients, access to health care providers in Durham who accept traditional Medicare is not an issue. However, those enrolled in a Medicare Advantage plans are responsible for finding providers, hospitals and home health agencies that are considered “in network” for their particular plans.<sup>56</sup> Finally, those Durham residents who are eligible for benefits through the Veterans Administration are able to receive their care at the Durham Veterans Affairs Medical Center.<sup>57</sup>

As a result of the Medicare Modernization Act of 2003, access to more affordable prescription medication increased when Medicare Part D went into effect in 2006.<sup>58</sup> However, since Medicare Advantage and stand-alone Medicare approved drug plans often change every year, it is recommended that Medicare beneficiaries conduct an annual review of their plan to make sure they have the best coverage for their medications. In North Carolina, the Seniors’ Health Insurance Information Program (SHIIP) assists Medicare beneficiaries review their Part D coverage. In Durham, Senior PharmAssist is the SHIIP coordinating site and in 2014 assisted 896 individuals in reviewing their Part D medication coverage, two-thirds of which decided to change their Part D plan resulting in an average projected savings of \$661.<sup>59</sup>

Adults with disabilities face many barriers to good health. Studies show that individuals with disabilities are more likely to report having poorer overall health, having less access to adequate health care and avoid medical care because of cost than people without disabilities.<sup>60</sup> “Approximately 39% of adults with disabilities in the United States reported experiencing fair to poor health based on a 5-level health status question, compared with fewer than 9% of adults without disabilities.”<sup>61</sup> In the United States, people with disabilities are more than twice as likely to postpone needed health care because they cannot afford it and are four times more likely to have special needs that are not covered by their health insurance.<sup>62</sup> Other “barriers include physically inaccessible health care locations, exam and diagnostic equipment that cannot be adjusted for a range of functional needs, and policies or practices that do not meet the communication and accommodation needs of patients with various disabilities.”<sup>63</sup> In 2012, 33.9% of adults with disabilities in North Carolina could not see a doctor due to cost in the past 12 months compared to 16.1% of adults without disabilities.<sup>64</sup> In Durham County, it is estimated that 19.7% of adults 18 to 64 years with a disability do not have health insurance coverage.<sup>65</sup>

Transportation can significantly impact health care access for older adults and adults with disabilities. Transportation barriers result in postponement of care, rescheduled or missed

appointments, and missed or delayed medication use, especially among those with lower incomes or the under/uninsured.<sup>66</sup> Durham County is fortunate to have several options for transportation to medical appointments, including the American Red Cross, Durham Area Transit Authority (DATA), Durham County ACCESS, and Lincoln Community Health Center.<sup>67</sup> Durham County ACCESS provides curb-to-curb service, which means that an ACCESS van pulls up to the curb or into the driveway to pick-up or drop-off passengers. While ACCESS van drivers can assist an individual with getting on or off of the van, they are not permitted to leave the van to provide a door-to-door service.<sup>68</sup>

The community survey conducted by the 2013 Durham County Coordinated Public Transit – Human Service Transportation Plan underscored the need for door-to-door service in Durham County. This community survey and subsequent public workshop worked to identify and prioritize the transportation needs of older adults and individuals with disabilities. The need for door-to-door service received the most points at 90 as compared to the other thirteen identified needs which received scores ranging from 64 – 86; however, despite receiving the most votes, door-to-door service was not prioritized during the workshop.<sup>69</sup>

### **Services and Supports for Older Adults and Adults with Disabilities/Transitional Care**

The North Carolina Aging Plan and the DPfS both identified the need for access to and information about the long-term services and supports (LTSS) available for older adults and adults with disabilities. According to the Commission on Long-Term Care Report to Congress, LTSS are “defined as assistance with activities of daily living (ADLs, including bathing, dressing, eating, transferring, walking) and instrumental activities of daily living (IADLs, including meal preparation, money management, house cleaning, medication management, transportation) to people who cannot perform these activities on their own due to physical, cognitive, developmental, or chronic health condition that is expected to continue for an extended period of time, typically 90 days or more” (p. 7).<sup>70</sup> While having these services and supports is essential for some individuals to remain in their home, the LTSS system has been described as “a labyrinth of complicated services, programs, funding streams, and eligibility requirements...and that many people, even those who have financial resources to pay for the care themselves, do not know where to get help or may not know how to access preferred services.”<sup>71</sup>

LTSS are also essential when transitioning a person from their home into a skilled nursing facility or discharging them from the hospital back to their home. Transitional care is defined as “a set of actions designed to ensure the coordination and continuity of health care as patients transfer between different locations or different levels of care with the same location.”<sup>72</sup> Key characteristics of the transitional care model include “comprehensive medication management, face-to-face self-management education for patients and families, timely outpatient follow-up with a medical home that has been fully informed about the hospitalization, and any clinical or social issues that complicate the patient’s care.”<sup>73</sup> In North Carolina, transitional support has proven to reduce the hospital readmission among Medicaid patients by 20%.<sup>74</sup> The HIP Senior Team also determined transitional care to be a priority as participants in their focus groups described how older adults want and need assistance navigating the fragmented health care delivery system, especially after being discharged from the hospital.<sup>75</sup>

The cost of home and community-based LTSS is expensive and can prove to be a financial burden, especially for those on a limited or fixed income. In 2012, a year of home health services at 20 hours a week averaged \$21,840 and adult day care at \$70/day averaged \$18,200.<sup>76</sup> As a result, the majority of LTSS are provided by unpaid caregivers. The Commission on Long-Term Care included in their report to Congress that the value of caregiving exceeded the total value of all paid LTSS as “family caregiving was estimated to be worth \$450 billion in 2009 as compared to \$211 billion in spending on all paid caregiving in 2011” (p. 12).<sup>77</sup> In the United States, paid LTSS are financed through Medicaid (40%), Medicare post-acute care (20%), other public and private sources (e.g., Veterans Administration, Home Care and Community Block Grant) (18%), out-of-pocket (15%) and private insurance (7%).<sup>78</sup>

The Home and Community Care Block Grant (HCCBG) was established in 1992 under NCGS 143B-181.1(a)(11) to provide a common funding stream for a comprehensive and coordinated system of home and community-based services and opportunities for older adults. HCCBG is administered through the NC Division of Aging and Adults Services and the Area Agencies on Aging and it combines federal and state funds with a local match. HCCBG services are available to people age 60 and older, specifically targeting individuals who are socially and economically disadvantaged. In Durham County, the available services funded by the HCCBG grant are adult day health, adult day social, congregate nutrition, home-delivered meals, information and options counseling, in-home aide services, senior center operations and transportation. However, while HCCBG funding enables Durham County older adults to access LTSS that would not be available to them otherwise, significant barriers still remain including wait lists due to funding for many of the services, especially for in-home aide services and home-delivered meals. It is expected these waiting lists will only increase as the most recent North Carolina legislature reduced the state’s contribution to the HCCBG.<sup>79</sup>

### Caregivers/Respite Care

The Family Caregiver Alliance defines a caregiver as “an unpaid individual (a spouse, partner, family member, friend, or neighbor) involved in assisting with activities of daily living and/or medical tasks.”<sup>80</sup> The US Department of Health and Human Services estimates that 70% of Americans who reach the age of 65 will need some form of long-term care in their lives for an average of three years.<sup>81</sup> Furthermore, it is estimated that 80% of those who need long-term care services live at home or in community settings and that more than 78% of adults who received long-term care at home get all their care from unpaid family and friends.<sup>82</sup> A survey of adult North Carolinians found that one in four persons report providing regular care for someone age 60 or older and that almost half of these caregivers are caring for someone with dementia.<sup>83</sup>

In 2013, the Associated Press and then National Opinion Research Center conducted a study of public attitudes related to long-term care in the United States and found that few Americans aged 40 or older were prepared for long-term care or understood its costs. Additionally, those surveyed acknowledged they while they would need some type of long-term care in the future, they are counting on their families to provide this assistance for them as they age.<sup>84</sup> This study underscores the importance of Durham County educating its residents on the importance of planning for long-term care and ensuring there are sufficient resources in place for caregivers.

Elder abuse prevention in Durham County must also focus on caregivers. While providing care to a family member or friend can be a positive and rewarding experience, the physical, emotional, and financial demands can sometimes be overwhelming and stressful.<sup>85</sup> As a result, the Centers for Disease Control and Prevention (CDC) considers caregiving to be a public health priority as it exacts a tremendous toll on caregivers' health and well-being. Family caregiving has been associated with increased levels of depression and anxiety as well as higher use of psychoactive medications, poorer self-reported physical health, compromised immune function and increased mortality.<sup>86</sup> Caregiver stress often results in unnecessary nursing home placement. Additionally, it is estimated that one to two million older adults in the United States are injured or mistreated by a loved one or a caregiver.<sup>87</sup>

Respite care, "which includes crisis care, provides temporary relief for caregivers from the ongoing responsibility of caring for an individual of any age with special needs, or who may be at risk of abuse or neglect."<sup>88</sup> Respite care is an important resource to caregivers as it is often the most frequently requested and needed family support service. Respite care reduces the risk of abuse and neglect and prevents or delays costly institutionalizations.<sup>89</sup> A recent study examined the effects of use of adult day services by caregivers of individuals with dementia on daily stressors, affect, and health symptoms. Caregivers who used adult day services had a lower exposure to care-related stressors, more positive experiences and more non-care stressors. The use of adult day services also reduced anger and the impact of non-care stressors on depressive symptoms.<sup>90</sup> The average daily cost for adult day services in the Raleigh/Durham area is \$59, which is a financial barrier for many caregivers.<sup>91</sup>

### Chronic Disease/Managing Multiple Chronic Diseases

Another health issue facing older adults and adults with disabilities, and referenced in the HIP Senior report, is the burden of chronic disease and managing multiple chronic diseases. As indicated in Figure 13.0 (k), the leading causes of death for older adults in Durham County are all chronic diseases.

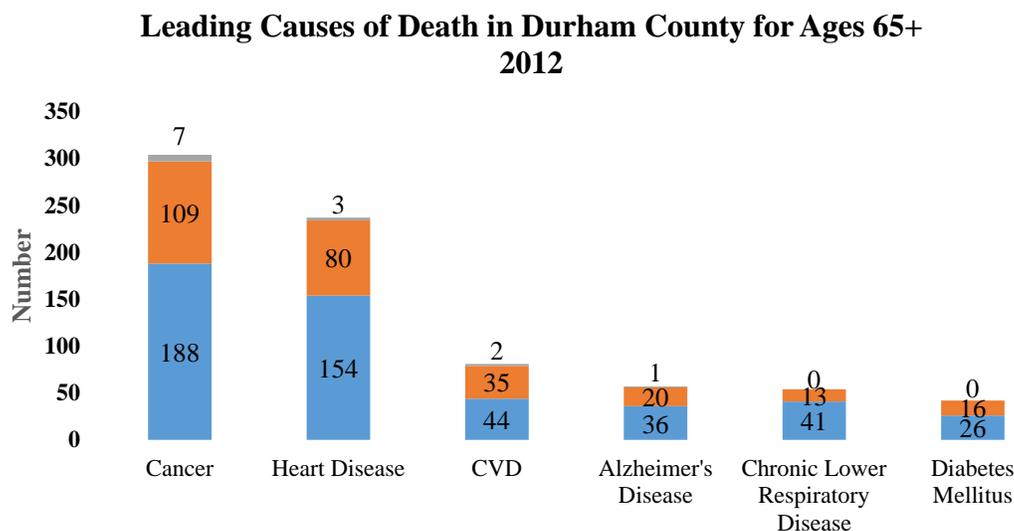


Figure 13.0 (k) Leading Causes of Death in Durham County for Ages 65+, 2012 <sup>92</sup>

It has been documented that individuals who are living with a chronic disease often experience a diminished quality of life due to a long period of decline and disability associated with their disease. Chronic diseases can also impact an individual's ability to maintain their independence and remain in their home by affecting their ability to perform important and essential activities inside and outside of their home. Placement in an institutional setting often occurs when an individual is unable to safely and appropriately care for themselves or have a caregiver who is able to provide that level of care.<sup>93</sup>

Complicating the care of many older adults is the management of multiple chronic diseases. Nationally, two out of three older adults have multiple chronic conditions and the different nature of these conditions require multiple physicians and a variety of treatment regimens and medications that might not be compatible with one another. As a result, "people with multiple chronic conditions face an increased risk of conflicting medical advice, adverse drug effects, unnecessary and duplicative tests, and avoidable hospitalizations, all of which can further endanger their health."<sup>94</sup>

Chronic medical conditions also impact adults with disabilities as the Disability and Health Data System reports that North Carolinians with a disability experience more chronic conditions than adults without disabilities. These chronic conditions include arthritis, asthma, cancer, chronic obstructive pulmonary diseases, diabetes, heart disease, kidney disease and stroke. For example, 11.2% of adults with disabilities in North Carolina have heart disease compared to 5.1% adults without disabilities. Additionally, 16.9% of adults with disabilities in North Carolina have diabetes compared to 7.5% of adults without disabilities.<sup>95</sup>

Adults with disabilities who do not engage in physical activity are 50% more likely to have certain chronic conditions (e.g., heart disease, stroke and diabetes) than those who get the recommended amount of physical activity. In their May 2014 issue of Vital Signs, the CDC emphasized that doctors and other health professionals should recommend the 2008 Physical Activity Guidelines to all United States adults, including those living with disabilities.<sup>96</sup> In North Carolina, adults with developmental disabilities were more likely to lead a sedentary life than adults without disabilities.<sup>97</sup> Only 38.3% of adults with disabilities had sufficient aerobic physical activity compared to 50.2% of adults without disabilities.<sup>98</sup> However, according to the CDC, adults with disabilities were 82% more likely to be physically active if their doctor recommended it than if they did not receive the doctor recommendation. Unfortunately, only 44% of adults with disabilities who visited a doctor in the past year received a physical activity recommendation.<sup>99</sup>

### **Access to Nutritional Food**

DPfS has identified access to nutritional food as a priority for older adults and adults with disabilities. The United States Department of Agriculture (USDA) defines food insecurity as "the limited or uncertain availability of nutritionally adequate and safe food or limited or uncertain ability to acquire acceptable foods in socially acceptable ways."<sup>100</sup> Food insecurity for older adults is caused by financial limitations, poor health, physical limitations and lack of social support. In 2011, the prevalence of food insecurity among older adults in the United States was estimated to be 2.5 million (8.4%) households with an older adult and 1.1 million (9.1%) households composed of seniors living alone. Older adults who are low income, less educated, racial-ethnic minorities

and residing in Southern states are disproportionately affected by food insecurity. Food insecurity is associated with “poor food and nutrient intake, physical and mental health problems, poor chronic disease management, medication nonadherence and increased health care services use, all of which may contribute to the development or exacerbation of diet-related chronic illnesses (e.g., diabetes, hypertension, and coronary heart disease)”.<sup>101</sup>

A recent study from the University of North Carolina at Chapel Hill assessed the prevalence of malnutrition among older adults who presented at the emergency department. Among 138 older adults, 16% were malnourished and 44% were at risk for malnourishment. The prevalence of malnutrition was higher among those older adults who were diagnosed with depression, lived in assisted living facilities, had a difficulty eating (e.g., oral health, denture fit) and difficulty in buying groceries (e.g., transportation, mobility).<sup>102</sup>

According to the National Foundation to End Senior Hunger annual report, *The State of Senior Hunger in America (2012)*, 20% of older adults in North Carolina were “facing hunger” (i.e. very low food secure). It is worth noting this report did not indicate the percentage of seniors who were food insecure, but reported those who were very close (i.e. very low food secure versus food insecure).<sup>103</sup> In Durham County, it is estimated that 24.3% of households with one or more people 60 years and older are receiving benefits from the Supplemental Nutrition Assistance Program (SNAP) (i.e. food stamps). Furthermore, it is estimated that 35.3% of households with one or more people with a disability in Durham County are also receiving SNAP benefits.<sup>104</sup>

### **Social Isolation**

DPfS also prioritized the issue of social isolation, which is defined “disengagement from social ties, institutional connections or community participation.”<sup>105</sup> Indicators of social isolation that have been associated with worse health include living alone, having a small social network, low participation in social activities, a perceived lack of social support and feelings of loneliness. Older adults who experience social isolation are at a greater risk for all-cause mortality, increased morbidity, diminished immune function, depression and cognitive decline.<sup>106</sup> “Older adults are more likely to experience bereavement and encounter health problems that increase their need for social support and companionship, so the health-damaging aspects of social isolation can be particularly deleterious at older ages.”<sup>107</sup> Currently, 28.5% of older adults in Durham live alone, and while it cannot be assumed that all are socially isolated, living alone is considered to be an indicator of social isolation.<sup>108</sup>

### **Mental Health**

Mental health issues exist for older adults and adults with disabilities. It is estimated that up to one-fifth of older adults in the United States are experiencing one or more mental health conditions or substance use problems. Older women are more likely to have a mental health disorder, and older men are more likely to have a substance misuse/abuse disorder.<sup>109</sup> In 2012, 18% of adults 65 and older in North Carolina reported the status of their mental health was not good during the past 30 days.<sup>110</sup>

Depression in older adults is often misdiagnosed or undertreated due to erroneous belief that depression is a normal part of aging or it may be mistaken as a symptom for dementia, Alzheimer’s

disease, arthritis, cancer, heart disease, thyroid disorders or Parkinson's disease. Older adults with depression are at risk for suicide.<sup>111</sup> In North Carolina, males have a higher suicide rate than females across all ages, with an increase with older age and a peak of 46.7 per 100,000 for males aged 85 or older. Although adults ages 65 or older represented only 16.3% of the total suicides from 2004 to 2008, the older adult suicide rate during this time ranged from 15.3 per 100,000 for ages 65 to 74 to 17.4 per 100,000 for ages 75 to 84. For older adults aged 65 or older, there were 875 suicides (16.2 per 100,000) and 932 self-inflicted injury hospitalizations (17.2 per 100,000) from 2004 to 2008, and 508 emergency visits (15.3 per 100,000) for self-inflicted injuries between 2006 and 2008. Mental health circumstances were common in older adult suicide victims with 56.2% having a depressed mood; 43.3% having a current mental health problem; and 42.4% having ever been treated for mental illness. At the time of suicide, 40% of older adult suicide victims were currently being treated for mental illness, and the most common current mental health problems were depression (89.1%), bipolar disorder (2.9%) and anxiety disorder (2.6%).<sup>112</sup>

In 2012, 42.3% of adults with disabilities in North Carolina reported a history of depression compared to 11.4% of adults without disabilities. It was also reported that 55.3% of adults with disabilities indicated they had mentally unhealthy days in the past 30 days compared to 27.4% of adults without disabilities. In 2010, 68.2% of adults with disabilities reported that they always or usually get the needed social and emotional support compared to 83.8% of adults without disabilities.<sup>113</sup>

## Recommended Strategies

The Patient Protection and Affordable Care Act of 2010 “includes several new policies and programs designed to reduce costs and improve quality of patient care, including reducing payments associated with unnecessary hospital readmissions and hospital-acquired infections, pilot programs related to the delivery of post-acute care, value-based purchasing for providers and the establishment of accountable care organizations.”<sup>114</sup> These new policies and programs will provide opportunities for agencies and providers in Durham to navigate silos and work more closely with one another and the individuals they serve to improve the overall health of older adults and adults with disabilities.

Person-Centered Planning is one example of a policy included in the Affordable Care Act that encourages collaboration as it is a process directed by the person with LTSS needs. The Person-Centered Planning approach identifies the person's strength, goals, preferences, needs (medical and home and community based) and their desired outcomes. The role of the service providers, family and other team members is to enable and assist the person to identify and access a unique mix of paid and unpaid services to meet their needs, and to provide support during planning and implementation. This coordinated care will enable those who need services and supports to reach their goals and achieve a better quality of life.<sup>115</sup>

The Affordable Care Act has also resulted in the development of Accountable Care Organizations (ACO), which are groups of doctors, hospitals, and other health care providers who come together voluntarily to give coordinated high quality care to their Medicare patients. The goal of this coordinated care is to ensure that patients, especially those who are chronically ill, receive the right care at the right time while avoiding unnecessary duplication of services and preventing medical

errors.<sup>116</sup> Duke Medicine has been approved by the Centers for Medicare & Medicaid Services (CMS) to create an ACO called Duke Connected Care. As Duke Connected Care delivers high-quality care and spends health care dollars more wisely, it will be able to share in the savings it achieves by reinvesting in its infrastructure and distributing the savings back to those doctors, hospitals, and other health care providers who are participating in the ACO.<sup>117</sup>

The strategies included in Table 13.0 (f) are strongly recommended and based on the priorities identified by DPfS, the HIP Seniors Report, and the Affordable Care Act:

**Table 13.0 (f) Evidence-based Resources and Promising Practices**

Category	Name	Description	Website	Priority
Community	Community Resource Connections for Aging & Disability	Community Resource Connections for Aging and Disabilities (CRC) is a network of organizations which together provide a coordinated system of information and access for all people seeking long-term supports and services, minimizes confusion, enhances individual choices, and supports informed decision making. North Carolina CRCs takes the “no wrong door” approach to services. Consumers encounter seamless access to relevant, needed information about services regardless of how or where they encounter the system. CRCs help modernize the long-term care system by supporting individuals of all disabilities and incomes to make informed, cost-effective choices regarding the services and supports they may need in a manner most suitable to their desired quality of life.	<a href="http://www.ncdhhs.gov/agin/g/crc/crc.htm">http://www.ncdhhs.gov/agin/g/crc/crc.htm</a>	Long Term Services and Supports
Individual	PASSPORT	Transitions of care take place each time an individual goes from one health care provider or health care setting to another. Problems often happen during these transitions because the correct information is not communicated. The Person-Centered Approaches Supporting Successful Patient Outcomes for Recovery & Transitions (PASSPORT) guide is a tool that assists the patient and their family members/caregivers get the information and services needed during the care transition.	<a href="https://www.communitycarenc.org/media/tool-resource-files/passport-workbook.pdf">https://www.communitycarenc.org/media/tool-resource-files/passport-workbook.pdf</a>	Transitional Support

Individual	Project RED	Project RED is an intervention that helps hospitals create safe and effective discharges. This Project RED tool formalizes the role family caregivers play in a successful transition from the hospital by building upon their relationship with the patient and identifying and addressing their needs for training and support. It structures the process of working with family caregivers into five steps: identifying the family caregiver, assessing the family caregiver's needs, integrating the family caregiver's needs into the after-hospital care plan, sharing family caregiver information with the next setting of care, and providing telephone reinforcement of the discharge plan.	<a href="http://www.bu.edu/fammed/projectred/toolkit.html#new">http://www.bu.edu/fammed/projectred/toolkit.html#new</a>	Transitional Support/ Caregiver Support
Individual	REACH II	Resources for Enhancing Alzheimer's Caregiver Health II (REACH II) is a multicomponent psychosocial and behavioral training intervention for caregivers (21 years and older) of patients with Alzheimer's disease or dementia. The intervention is designed to reduce caregiver burden and depression, improve caregivers' ability to provide self-care, provide caregivers with social support, and help caregivers learn how to manage difficult behaviors in care recipients. REACH II participants are provided with educational information, skills to manage care recipient behaviors, social support, cognitive strategies for reframing negative emotional responses, and strategies for enhancing healthy behaviors and managing stress. Methods used in the intervention include didactic instruction, role-playing, problem-solving tasks, skills training, stress management techniques, and telephone support groups.	<a href="http://www.edc.gsph.pitt.edu/Reach2/">http://www.edc.gsph.pitt.edu/Reach2/</a>	Caregiver Support
Individual	Healthy Eating for Successful Living in Older Adults	Healthy Eating for Successful Living in Older Adults is both an educational and support program designed to assist older adults in the self-management of their nutritional health. The focus of this program is to encourage participants to understand and implement eating and	<a href="http://www.nc-ia.org/improve-health/center-for-healthy-aging/content-">http://www.nc-ia.org/improve-health/center-for-healthy-aging/content-</a>	Nutrition

		activity behaviors that support health and bone health. The main components of the program include self-assessment and management of dietary pattern, goal-setting, problem-solving and group support, education, relying on both group interaction and the expertise of a Registered Dietician/Nutritionist when need and behavior change strategies.	<a href="#">library/Healthy-Eating.pdf</a>	
Individual	Senior Reach	Senior Reach is a service-based intervention targeting older adults experiencing problematic mental and emotional states, personality and physical changes, poor health, social isolation, substance abuse, physical abuse or neglect, and risk factors for suicide. Training is provided to members of the community to identify, offer outreach services to, and refer at-risk independent-living older adults. These community partners serve as nontraditional (e.g., restaurant and retail staff, bus drivers, senior center staff) and traditional (e.g., primary care physicians, adult protective services) referral sources. When a trained community partner identifies an older adult who may be in need of help, he or she contacts a call center and provides information on the senior, including name, contact information, and concerns, all of which is kept confidential. The call center then contacts the senior to explain the program, engage the senior, establish possible needs (e.g., transportation, medication, health care, help with financial concerns, mental health care, recreation), and offer Senior Reach services.	<a href="http://www.seniorreach.org/">http://www.seniorreach.org/</a>	Social Isolation Mental Health
Individual	Program to Encourage Active Rewarding Lives for Seniors (PEARLS)	PEARLS is an intervention for individuals with a depression or dysthymia diagnosis and aims to reduce symptoms of depression and suicidal ideation and improve quality of life. It is designed to empower clients through behavioral techniques, PEARLS consists of these primary components:	<a href="http://www.pearlsprogram.org/">http://www.pearlsprogram.org/</a>	Mental Health

		<ol style="list-style-type: none"> <li>1. Problem-solving treatment: Participants learn to understand the link between unsolved problems and depression and to apply a seven-step approach to solving their problems.</li> <li>2. Social and physical activation: Participants are encouraged to engage in social and physical activities that most interest them.</li> <li>3. Pleasant activity scheduling: Participants identify and participate in activities they find pleasurable.</li> </ol> <p>PEARLS has been successfully implemented with older adults, including those who have chronic conditions and were receiving home-based social services from community services agencies.</p>		
Individual	Healthy IDEAS – North Carolina	<p>Healthy IDEAS (Identifying Depression, Empowering Activities for Seniors) is designed to detect and manage depressive symptoms among at-risk older adults and their caregivers through existing community-based case management services. Agencies providing case management services to older adults embed the Healthy IDEAS core components into their current delivery of services. The program is delivered by non-mental health professionals, such as case managers, social workers, and care coordinators who employ a short-term focused intervention to support better management of depressive symptoms and fuller engagement in meaningful activities. Healthy IDEAS engages local mental health experts to provide back up and support for case management staff.</p> <p>Staff receive training on depression in older adults and participate in an intensive, two-day Healthy IDEAS training to learn the skills necessary to conduct each core component. Staff learn to:</p>	<a href="http://healthyideasnc.web UNC.edu/">http://healthyideasnc.web UNC.edu/</a>	Mental Health

		<ul style="list-style-type: none"> <li>• Screen clients for depressive symptoms</li> <li>• Assess symptom severity using a standardized depression scale</li> <li>• Educate clients about depression treatment options and self-management</li> <li>• Refer and link clients to health and mental health care practitioners</li> <li>• Help engage clients in Behavioral Activation, an approach to depression that helps clients combat the inactivity commonly associated with depression</li> <li>• Reassess clients for progress</li> </ul>		
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### Current Initiatives and Activities

- **American Red Cross Transportation Services**  
Assists eligible clients of Durham County who have no other means of transportation to and from critical medical appointments.

Website: <http://www.redcross.org/nc/durham/local-programs-services/transportation-services>

Phone Number: (919) 489-6521 ext. 316

- **CAARE, Inc.**  
CAARE is a grassroots non-profit organization in Durham, North Carolina that promotes a holistic and community approach to health. CAARE provides a wide variety of services that help treat not only the medical roots of chronic diseases, but also the social and human factors that contribute to these health deficits.

Website: <http://caareinc.org/>

Phone Number: (919) 683-5300

- **Duke Connected Care**  
Duke Connected Care is a community-based, physician-led network that aims to improve the quality of health care while addressing the national challenge of rising health care costs. Duke Connected Care is an Accountable Care Organization (ACO).

Website: <http://dukeconnectedcare.org/>

Phone Number: (919) 613-9719

- **Durham Area Transit Authority**  
Durham Area Transit Authority (DATA) operates a network of 29 fixed routes using 41 buses during peak hours within the City of Durham. Service is provided Monday through

Saturday from 5:30 a.m. to 12:30 a.m. Sunday and holiday service is operated from 6:30 a.m. to 7:30 p.m.

Website: <http://www.gotriangle.org/go-local/partners/durham-area-transit-authority/>  
Phone Number: (919) 560-1551

▪ ***Durham County ACCESS***

Durham County ACCESS (DCA) provides curb-to-curb, demand-response, shared-ride service to residents who are age 60 or over, have a disability, live outside the City of Durham or need transportation for work-related purposes and have no other form of transportation.

Website: <http://durham.ces.ncsu.edu/durham-county-access/>  
Phone Number: (919) 560-0520

▪ ***Just for Us***

Just for Us offers in-home medical services to older adults and adults with disabilities in Durham's public and subsidized housing facilities and group homes who cannot access care on their own.

Website: <http://communityhealth.mc.duke.edu/clinical/?/justforus>  
Phone Number: (919) 956-5386

▪ ***Lincoln Community Health Center***

The mission of Lincoln Community Health Center is to provide comprehensive primary and preventive health care in a courteous, professional and personalized manner. As a leader in the provision of community health care, Lincoln Community Health Center is committed to collaborating with other institutions dedicated to the continuous improvement in services being provided to decrease health disparities, while assuring access to all.

Website: <http://www.lincolnchc.org/>  
Phone Number: (919) 956-4000

▪ ***North Carolina Office on Disability and Health (NCDOH)***

NCDOH works to integrate the health concerns of persons with disabilities into state and local public health programs. This integration helps create sustainable infrastructure, build capacity, maximize resources, and promote inclusive initiatives.

Website: <http://www.ncdhhs.gov/dph/wch/aboutus/disability.htm>  
Phone Number: (919) 707-5600

▪ ***Project Access of Durham County***

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

Website: <http://www.projectaccessdurham.org>  
Phone Number: (910) 470-7262

▪ ***Senior PharmAssist***

Senior PharmAssist is a unique Durham-based nonprofit that works closely with seniors, caregivers and a wide range of health care and social service providers to help seniors remain as active, healthy, and independent as possible – for as long as possible.

Website: [www.seniorpharmassist.org](http://www.seniorpharmassist.org)  
Phone Number: (919) 688-4772

▪ ***The Arc of the Triangle***

The Arc of the Triangle partners with people with developmental disabilities and their families to help them achieve their life goals. The Arc of the Triangle offers advocacy, information, and referral services for individuals and/or families who need assistance in negotiating the often complex system of services, public awareness, and community education services.

Website: <http://www.arctriangle.org/>  
Phone Number: (919) 493-8141

▪ ***Care Transitions to the Community and Home (CATCH)***

CATCH is a grant-based project that provides hospital-to-home transitions program for Medicare fee-for-service patients (Part A & B) at no extra charge for patients discharged from Duke University, Duke Regional, Duke Raleigh, Maria Parham, Johnston Health, Rex Healthcare, UNC Hospitals, WakeMed-Raleigh, and WakeMed-Cary.

Phone Numbers: (919) 724-5792 or (919) 257-9882

▪ ***Money Follows the Person (MFP)***

A North Carolina demonstration project that assists people who live in inpatient facilities to move into their own communities with supports. The intent of MFP is to support North Carolinians to have greater choice about where they receive their long-term supports. MFP also helps identify and address barriers to receiving quality, community-based, long-term care and supports.

Website: <http://www.ncdhhs.gov/dma/moneyfollows/>  
Phone Number: 1-855-761-9030

▪ ***Program of All-Inclusive Care for the Elderly Program (PACE)***

The PACE program provides the entire spectrum of care and services to seniors with chronic care needs while maintaining their independence in their homes for as long as possible.

Website: <http://seniorcommunitycarenc.org/>  
Phone Number: (919) 425-3000

- ***Adult Day Health Program (ADH)***

The ADH Program at the Durham Center for Senior Life provides a structured day for older adults who may have difficulty managing on their own because of frailty or the effects of disease. ADH works to help older adults maintain their cognitive, social, emotional, and physical well-being; promotes personal independence and health; and provides respite and support for families and caregivers.

Website: <http://dcslnc.org/adh.php>

Phone Number: (919) 688-8247

- ***Family Caregiver Program***

The Family Caregiver Support Service at the Durham Center for Senior Life is for Durham residents, provides caregivers with assistance in obtaining information, making decisions and solving problems related to their responsibilities in caring for older adults. Through this service, caregivers can access information on resources and services available within their community.

Website: <http://www.dcsln.org/caregiver.php>

Phone Number: (919) 688-8247

- ***Project Caregiver Alternatives to Running on Empty (C.A.R.E.)***

The goal of Project C.A.R.E. is to reduce caregiver stress and uncertainty so that people with dementia can remain at home as preferred. Project C.A.R.E. offers ongoing family consulting services by telephone and email to caregivers of persons with Alzheimer's and other types of dementia.

Website: <http://centerforaging.duke.edu/service/dfsp/services.htm>

Phone Number: (919) 660-7510

- ***Adult Protective Services (APS)***

Durham County Social Services will screen and evaluate the need for protection of elderly and disabled adults who are incapacitated and are being abused, neglected or exploited and provide services to those individuals who are in need of protection. APS will evaluate and substantiate referrals of abuse, neglect and exploitation.

Website: <http://dconc.gov/socialservices>

Phone Number: (919) 560-8600

- ***Ombudsmen Program***

The Triangle J Area Agency on Aging (TJAAA) Ombudsman Program serves to advocate on behalf of long-term care facility residents to uphold residents' rights and to address quality of care and quality of life issues. Long-term care facilities are defined as nursing homes and adult care homes (assisted living homes/ family care homes).

Website: <http://www.tjaaa.org/ombudsmen.aspx>

Phone Number: 1-800-310-9777

- ***Geriatric Evaluation and Treatment (GET) Clinic***

The GET Clinic, part of Duke's Center for the Study of Aging and Human Development, is both a service and a resource for the elderly and their families. The purpose of the GET Clinic is to help persons over age 65 cope with the challenges of daily living and health maintenance, a goal that often is made more difficult by chronic illness and the aging process.

Website: <http://centerforaging.duke.edu/services/59>

Phone Number: (919) 620-4070

- ***Living Healthy with Chronic Disease***

A chronic disease self-management program, offered by the Durham County Department of Public Health, is a workshop given two and a half hours, once a week, for six weeks, in community settings such as senior centers, churches, libraries and hospitals.

Website: [www.dconc.gov/publichealth](http://www.dconc.gov/publichealth)

Phone Number: (919) 560-7600

- ***Durham Center for Senior Life – Congregate Meals***

Congregate Meal Services are intended to promote social, emotional, and physical well-being in older adults age 60 years plus and adults with a disability who are under the age of 60. A nutritional lunch is provided five days a week at selected sites throughout the county.

Website: [www.dcsln.org](http://www.dcsln.org)

Phone Number: (919) 688-8247

- ***Food & Nutrition Services***

The Durham County Social Services Food & Nutrition Services Program is designed to promote the general welfare of the Durham County residents and to safeguard their health by raising nutrition levels among low-income households.

Website: <http://dconc.gov/socialservices>

Phone Number: (919) 560-5761

- ***Meals on Wheels of Durham***

Meals on Wheels of Durham, Inc. (MOW) is a non-profit agency committed to enhancing the quality of life for eligible homebound adults in Durham County. MOW's mission is to serve the elderly, frail, disabled, convalescing and others who cannot provide proper nutrition for themselves. Dedicated volunteers deliver lunches to clients each weekday, with the objective of improving the nutritional status and health of these individuals.

Website: <http://www.mowdurham.org/>

Phone Number: (919) 667-9424

- ***A Helping Hand***

A Helping Hand is a non-profit companion care provider committed to assisting seniors and individuals with disabilities maintain self-sufficiency, quality of life, and the highest level of independence. For nearly two decades, A Helping Hand has enabled adults to age in place, providing customized, person-centered care to meet both short-term and long-term needs.

Website: <http://www.ahelpinghandnc.org>

Phone Number: (919) 403-5555

- **Durham Center for Senior Life (DCSL):**

- **Social and Senior Center Services:** The services at DCSL sites have a wide range of physical activity classes, educational courses, health and wellness seminars, computer classes, and special events. Programs offered at the DCSL sites enable many older adults to remain engaged mentally, physically, and socially.

- **Telephone Reassurance Program:** Provides weekly calls to seniors who are homebound or may have limited contact with other people.

Website: [www.dcsln.org](http://www.dcsln.org)

Phone Number: (919) 688-8247

- **Alliance Behavioral Healthcare**

Alliance Behavioral Healthcare manages the public mental health, intellectual/developmental disability and substance abuse services for the citizens of Durham, Wake, Cumberland and Johnston counties.

Website: <http://www.alliancebhc.org/>

Phone Number: 1-800-510-9132

- **National Alliance on Mental Illness Durham (NAMI Durham)**

The mission of NAMI Durham is to promote recovery and optimize life for those in Durham County affected by mental illness. NAMI Durham is a group dedicated to support, education, and advocacy on behalf of persons with mental illness. Their members are consumers, relatives and friends, mental health professionals, policy makers, and other who are concerned and want to help.

Website: [www.namidurham.org](http://www.namidurham.org)

Phone Number: (919) 231-5016

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## 2013 Community Health Opinion

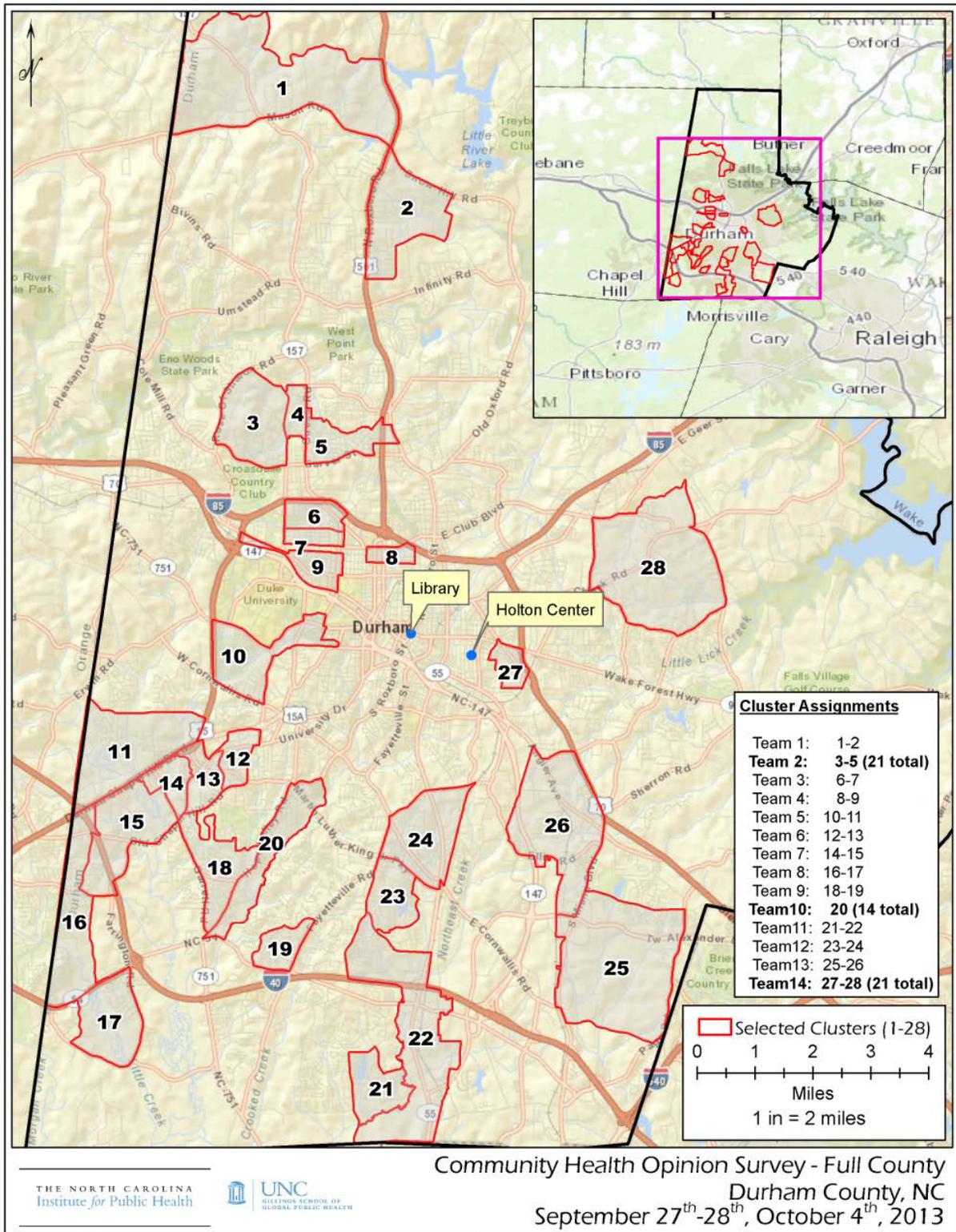
### Survey Volunteers

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Ater Worlds

2013 Community Health Opinion Survey selected census blocks (n = 28) for Durham County sample





## 2013 Community Health Opinion Survey

Hello, I am \_\_\_\_\_ and this is \_\_\_\_\_ representing Durham County Department of Public Health. (Show badges.) We are here to ask you to participate in a survey on health and household emergency preparedness. We are conducting interviews in randomly selected neighborhoods throughout the county. The purpose of this survey is to learn more about the health and quality of life in Durham County. The Health Department and the Partnership for a Healthy Durham will use the results of this survey to develop plans for addressing major health and community issues. All the information you give us will be completely confidential and will not be linked to you in any way.

The survey is completely voluntary. It should take no longer than 20 minutes to complete. If you have already completed this survey, or if you don't live in Durham County, please tell me now.

*Do you live in this household? (If no, ask if to speak with someone who does. If no, go to next house.)*

*Are you 18 years old or older? (If no, ask if someone who is can talk. If no, go to next house.)*

*Would you be willing to participate?*

### **Notes for interviewers:**

*All notes for the interviewer are in red italics.*

*All questions have an option for "I don't want to give an answer". Don't read this out loud, just mark it if the respondent prefers not to answer the question. This answer is in italics as a reminder not to read it.*

*Abbreviations: Sexually transmitted diseases: STDs*

## Durham County Community Health Opinion Survey

### Part 1. Emergency Preparedness

**1. Does your household have working smoke and carbon monoxide detectors?**  
(Choose one.)

- |   |  |
|---|--|
| <input type="radio"/> Yes, smoke detectors only           | <input type="radio"/> Don't know/ Not sure   |
| <input type="radio"/> Yes, both                           | <input type="radio"/> No                     |
| <input type="radio"/> Yes, carbon monoxide detectors only | <input type="radio"/> I don't want to answer |

**2. Does your family have a basic emergency supply kit and plan?**  
(These kits include water, non-perishable food, any necessary prescriptions, first aid supplies, flashlight and batteries, non-electric can opener, blanket, etc.)

- |  |   |
|--|---|
| <input type="radio"/> Yes                              | <input type="radio"/> I don't want to answer (Skip to Q4) |
| <input type="radio"/> No (Skip to Q4)                  |   |
| <input type="radio"/> Don't know/Not sure (Skip to Q4) |   |

**3. If yes, how many days do you have supplies for? \_\_\_\_\_ (Write # of days)**

**4. What would be your three top sources of information in a large-scale disaster or emergency? (Flip to WHITE sheet of information sources; read choices if respondent prefers. Check all that apply)**

- |  |  |
|--|--|
|  | <u>Internet sources:</u>   |
| <input type="checkbox"/> Television  | <input type="checkbox"/> Facebook or Twitter                     |
| <input type="checkbox"/> Radio   | <input type="checkbox"/> County or Dept of Public Health website |
| <input type="checkbox"/> Newspaper   | <input type="checkbox"/> Television news website                 |
| <input type="checkbox"/> Neighbors   | <input type="checkbox"/> Newspaper website                       |
| <input type="checkbox"/> Text message (e.g. Code Red, employer alert system) | <input type="checkbox"/> Internet other (including "Google")     |
| <input type="checkbox"/> Durham One Call                                     | <input type="checkbox"/> Other (describe) _____                  |
| <input type="checkbox"/> Word of mouth                                       | <input type="checkbox"/> Don't know/ Not sure                    |
|  | <input type="checkbox"/> I don't want to answer                  |

**5. If you couldn't remain in your house, where would you go in a community-wide emergency? (DO NOT read the options.) Choose one.**

- NCCU
- Duke
- Relative/friend
- Emergency shelter (community center, school)
- I wouldn't leave my house
- Hospital
- Church
- Other \_\_\_\_\_
- Don't know
- I don't want to answer

**6. What would be the main reason you might not evacuate if asked to do so? (Choose one.)**

- Lack of transportation
- Lack of trust in public officials
- Concern about leaving property behind
- Concern about personal safety
- Concern about family safety
- Concern about leaving pets
- Concern about traffic jams and inability to get out
- Health problems (could not be moved)
- Other (describe) \_\_\_\_\_
- Don't know/ Not sure
- I don't want to answer

-----

**Part 2 Health Information**

**7. Where do you get most of your health-related information? I'll read a list of options. Please choose only one. (Read choices.)**

- Friends and family
- Doctor/nurse/clinic
- Pharmacist
- Church
- Internet
- My child's school
- Hospital
- Health department
- Help lines
- Books/magazines
- Other \_\_\_\_\_
- I don't want to answer

**8. Do you think that the Durham County Department of Public Health is a credible source of health information?**

- Yes
  - No
  - I don't know – I haven't gotten information from the Department of Public Health
  - I don't want to answer
-

### **PART 3: Personal Health**

Now I am going to ask you some questions about your own personal health. Remember, the answers you give for this survey will not be linked to you in any way.

9. Where do you go **most often** when you are sick or want to talk to someone about your health? (**DO NOT read the options. Check all apply and only the one they say. If they cannot think of one, read: Here are some possibilities. Read responses. Choose the one that you usually go to.**)

- |   |  |
|---|--|
| <input type="radio"/> Lincoln Community Health Center | <input type="radio"/> Pharmacy               |
| <input type="radio"/> Doctor's office                 | <input type="radio"/> Workplace Nurse        |
| <input type="radio"/> Durham Center Access            | <input type="radio"/> Urgent Care Center     |
| <input type="radio"/> Health Department               | <input type="radio"/> I don't go anywhere    |
| <input type="radio"/> Hospital Emergency Department   | <input type="radio"/> Other _____            |
| <input type="radio"/> Medical Clinic                  | <input type="radio"/> I don't want to answer |
| <input type="radio"/> Minute Clinic                   |  |

#### **Access to Healthcare:**

10. During the past 12 months, was there any time that you did not have any health insurance or coverage?

- Yes  
 No (*skip to Q12*)  
 I don't want to answer (*skip to Q12*)

11. If Yes, why did you not have health insurance or coverage?
-

**12. What is your current primary health insurance plan? This is the plan which pays the medical bills first or pays most of the medical bills? (Please choose only one.)**

[Note: The State Employee Health Plan is also called the “North Carolina Teacher’s and Employee Health Plan.” Medicare is a federal health insurance program for people 65 and older or some younger people with disabilities. Medicaid is a state health insurance program for families and individuals with limited financial resources or special circumstances.]

- The State Employee Health Plan
- Blue Cross and Blue Shield of North Carolina
- Other private health insurance plan purchased from employer or workplace
- Other private health insurance plan purchased directly from an insurance company
- Medicare
- Medicaid
- The military, Tricare, CHAMPUS, or the VA
- The Indian Health Service
- Other government plan
- No health plan of any kind
- Don't know/Not sure
- I don't want to answer*

**13. 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, dentist, pharmacy, or other facility?**

- Yes (*Continue Q13a*)
- No (*Skip to Q16*)
- Don't know/ Not sure (*Skip to Q16*)
- I don't want to answer (Skip to Q16)*

**13a. Who in your household had the problem?(Check all that apply then go to Q14)**

- Self
- Someone in your household
- I don't want to answer*

**14. Since you said “yes,” what type of care (provider or facility) did you or people in your household have trouble getting health care from? I will read a list and you can choose as many of these as you need to. If there was a kind of care that you tried to get but we do not have listed here, please tell me and I will write it in. (*Read Providers.*)**

- |  |   |
|--|---|
| <input type="checkbox"/> Dentist                                   | <input type="checkbox"/> Hospital                         |
| <input type="checkbox"/> General practitioner                      | <input type="checkbox"/> Urgent Care Center               |
| <input type="checkbox"/> Eye care/ optometrist/<br>ophthalmologist | <input type="checkbox"/> Medical Clinic                   |
| <input type="checkbox"/> Pharmacy/ prescriptions                   | <input type="checkbox"/> Lincoln Community Health Center  |
| <input type="checkbox"/> Pediatrician                              | <input type="checkbox"/> Specialist ( <i>What type?</i> ) |
| <input type="checkbox"/> OB/GYN                                    | <input type="checkbox"/> Other: _____                     |
| <input type="checkbox"/> Mental health provider                    | <input type="checkbox"/> I don't know                     |
| <input type="checkbox"/> Health department                         | <input type="checkbox"/> <i>I don't want to answer</i>    |

**15. What was the problem that prevented you or people in your household from getting the necessary health care? I will read a list and you can choose as many of these as you need to. If you had a problem that we do not have written here, please tell me and I will write it in. (*Read Problems.*)**

- |  |   |
|--|---|
| <input type="checkbox"/> No health insurance                                       | <input type="checkbox"/> Dentist would not take my/our insurance or Medicaid            |
| <input type="checkbox"/> Insurance didn't cover what I/we needed                   | <input type="checkbox"/> No transportation to get there                                 |
| <input type="checkbox"/> My/our share of the cost (deductible/co-pay) was too high | <input type="checkbox"/> Didn't know where to go  |
| <input type="checkbox"/> Doctor would not take my/our insurance or Medicaid        | <input type="checkbox"/> Couldn't get an appointment or couldn't go during clinic hours |
| <input type="checkbox"/> Hospital would not take my/our insurance                  | <input type="checkbox"/> The wait was too long  |
| <input type="checkbox"/> Pharmacy would not take my/our insurance or Medicaid      | <input type="checkbox"/> No interpreter or couldn't speak the language well enough      |
|  | <input type="checkbox"/> Other: _____   |
|  | <input type="checkbox"/> I don't want to answer   |

**16. 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? *If they can't think of anyone...* Here are some possibilities. You can choose as many as you want. *Read responses.* Which do you think you would choose?**

- |   |  |
|---|--|
| <input type="checkbox"/> Private counselor or therapist       | <input type="checkbox"/> School counselor                |
| <input type="checkbox"/> Support group (AA, Al-Anon)          | <input type="checkbox"/> Community agency e.g. El Centro |
| <input type="checkbox"/> Durham Center Access or Alliance BHC | <input type="checkbox"/> Family/friends                  |
| <input type="checkbox"/> Doctor                               | <input type="checkbox"/> I don't know                    |
| <input type="checkbox"/> Minister/religious official          | <input type="checkbox"/> <i>I don't want to answer</i>   |

**17. Have you ever been told by a doctor, nurse, or other health professional that you have any of the health conditions I am going to read?**

*(DK= Don't know/ Not sure; R= Refuse to answer)*

- a. Arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia       Yes    No    DK    R
- b. Asthma       Yes    No    DK    R
- c. Any kind of cardiovascular or heart disease (not high blood pressure)       Yes    No    DK    R
- d. Cancer       Yes    No    DK    R
- e. Depression or anxiety       Yes    No    DK    R
- f. Diabetes (not during pregnancy)       Yes    No    DK    R
- g. High blood pressure       Yes    No    DK    R
- h. High cholesterol       Yes    No    DK    R
- i. Lung disease       Yes    No    DK    R
- j. Overweight/Obesity       Yes    No    DK    R

**Exercise**

**18. Where do you go to exercise or engage in physical activity? *Check all that apply. After answering, skip to Q20 unless respondent answers "I don't exercise."***

- Private gym or pool
- Park
- Public Recreation Center
- Neighborhood
- Home
- Work
- Other: \_\_\_\_\_
- I don't exercise (*continue to Q19*)
- I don't want to answer*

**19. If you said “I don’t exercise”, what are the reasons you don’t exercise during a normal week? You can give as many of these reasons as you need to. (DO NOT read the options. Check all that apply & only the ones they say. If they really can’t think of one, then mark I don’t know.)**

- My job is physical or hard labor
- I don’t have access to an exercise facility
- I’m too tired to exercise.
- I don’t have enough time to exercise.
- It costs too much to exercise
- I don’t like to exercise.
- There is no safe place to exercise
- I’m physically disabled or not well enough to exercise.
- I feel embarrassed about how I look exercising
- Other \_\_\_\_\_
- Don’t know
- I don’t want to answer*

**20. There are many different ways to exercise or get physical activity. For the next set of questions, we are only interested in walking and biking. On a typical day, how much do you walk?**

- A few blocks (*skip to Q22*)
- More than a few blocks (*continue to Q21*)
- I don’t walk at all (*skip to Q24*)
- I don’t want to answer (skip to Q24)*

**21. How far do you walk each day in miles?**

- ½ to 1 mile
- 1 – 3 miles
- Over 3 miles
- Don’t know
- I don’t want to answer*

**22. Why do you walk? (*Read responses and check all that apply*)**

- |   |   |
|---|---|
| <input type="checkbox"/> I walk for my physical health (for example, my doctor told me to)                | <input type="checkbox"/> I walk because it is cheaper than other types of transportation. |
| <input type="checkbox"/> I walk for my mental or social health (for example, to see a friend, be outside) | <input type="checkbox"/> Other _____  |
| <input type="checkbox"/> I walk to use the car less and keep the air cleaner                              | <input type="checkbox"/> <i>I don't want to answer</i>                                    |

**23. Where do you walk? (*Read responses and check all that apply, then skip 24 and proceed to 25*)**

- |  |   |
|--|---|
| <input type="checkbox"/> To places I go every day (work, the bus-stop, the gym, my child's school) | <input type="checkbox"/> For fun or exercise (around the neighborhood, on a trail or in a park) |
| <input type="checkbox"/> To social events (like church or a friend's house)                        | <input type="checkbox"/> Other _____  |
| <input type="checkbox"/> To do errands (for example, go shopping)                                  | <input type="checkbox"/> <i>I don't want to answer</i>  |

**24. If you do not walk very much currently, why not? (*Read responses and check all that apply*)**

- |   |   |
|---|---|
| <input type="checkbox"/> I have trouble walking             | <input type="checkbox"/> The conditions are poor (for example, sidewalks or lighting) |
| <input type="checkbox"/> I have no time to walk             | <input type="checkbox"/> Other: _____   |
| <input type="checkbox"/> It feels unsafe in my neighborhood | <input type="checkbox"/> <i>I don't want to answer</i>                                |

**25. Whether you currently walk or not, what would make you want to walk more? (*Read responses and check all that apply*)**

- |   |  |
|---|--|
| <input type="checkbox"/> Better lighting, sidewalks, or crosswalks to make walking easier.          | <input type="checkbox"/> Enforcement of speed limits and traffic rules so walking is safer |
| <input type="checkbox"/> Encouragement – a walking partner, more information on why it is important | <input type="checkbox"/> Other: _____  |
| <input type="checkbox"/> More access to off-road tracks or trails                                   | <input type="checkbox"/> <i>I don't want to answer</i>                                     |

**26. Do you ride a bike (not including an exercise bike)? If so, how often?**

- Once a month or less *(skip to Q28)*
- 2-3 times a month *(skip to Q28)*
- Once a week
- More than once a week
- I own a bike but don't ride it *(skip to Q28)*
- I don't own a bike *(skip to Q28)*
- I don't want to answer *(skip to Q28)*

**27. When you do ride your bike, where do you go? *(Check and answer sub-questions for all that apply)***

	How many times per week do you bike to this place?	About how far is this trip one way in miles?
<input type="checkbox"/> To places I go every day (work, the bus-stop, the gym, my child's school)	A1. _____	A2. _____
<input type="checkbox"/> To social events (like church or a friend's house)	B1. _____	B2. _____
<input type="checkbox"/> To do errands (for example, go shopping)	C1. _____	C2. _____
<input type="checkbox"/> For fun or exercise (around the neighborhood, on a trail or in a park)	D1. _____	D2. _____
<input type="checkbox"/> Other _____	E1. _____	E2. _____
<input type="checkbox"/> I don't want to answer		

**Diet:**

**28. 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? Tell me all that apply. *(Read responses; choose all that apply.)***

- Healthy food doesn't taste good
- Healthy food costs too much
- It takes too much time to prepare and shop for healthy choices
- I don't know how to prepare the food we like (or food in general) in a healthy way
- It's hard to find healthy choices when you eat outside the home
- There aren't places in my neighborhood to buy healthy foods
- Because nobody else in my family would eat it
- Other: \_\_\_\_\_
- I don't want to answer

**29. Thinking about breakfast, lunch, and dinner, how many times in a typical week do you eat meals that were not prepared at home, like from restaurants, cafeterias, or fast food?**

- Never
- Once a week or less
- 2-3 times a week
- More than 3 times a week
- I don't want to answer*

**30. In the last 12 months, did you ever cut the size of your meals or skip meals because there wasn't enough money for food? (*Read answer choices*)**

- Yes, all of the time
- Yes, sometimes
- No
- Don't know
- I don't want to answer*

**Smoking:**

**31. Do you currently smoke?**

- Yes
- No (*Skip to Q33*)
- I don't want to answer (Skip to Q33)*

**32. If yes, where would you go for help if you wanted to quit?**

**(*DO NOT read the options. Check all that apply. Mark only the ones they say.*)**

- |  |  |
|--|--|
| <input type="checkbox"/> Quitline NC                 | <input type="checkbox"/> Health Department             |
| <input type="checkbox"/> Doctor                      | <input type="checkbox"/> Other: _____                  |
| <input type="checkbox"/> Church                      | <input type="checkbox"/> Not applicable                |
| <input type="checkbox"/> Pharmacy                    | <input type="checkbox"/> I don't know                  |
| <input type="checkbox"/> Private counselor/therapist | <input type="checkbox"/> <i>I don't want to answer</i> |

**33. Have you been exposed to secondhand smoke in Durham County in the past year?**

- Yes
- No (*Skip to Q35*)
- Don't know/ Not sure (*Skip to Q35*)
- I don't want to answer (Skip to Q35)*

**34. If yes, where do you think you are exposed to secondhand smoke most often?**  
*(Choose one)*

- Home
- Workplace
- Hospitals
- Restaurants
- School
- Other \_\_\_\_\_
- I don't want to answer*

**35. Are you aware that Durham has a Smoking Rule that does not allow smoking in outdoor public spaces such as parks, county government properties, certain sidewalks and bus stops?**

- Yes
- No
- I don't want to answer*

**Household**

The next few questions ask about your household.

**36. Are you currently caring for: *(read responses, check all that apply)***

- Elderly or disabled parent
- Disabled spouse/partner
- Disabled child
- Foster child(ren)
- Family member with chronic illness
- None (Do not read)*
- I don't want to answer*

**37. Does anyone in your household, including yourself, need support to be independent in daily activities because of a: *(read options, check all that apply)***

- Physical disability
- Developmental disability
- Difficulty seeing or hearing
- Mental illness or substance abuse or dependence
- Medical conditions
- Trouble speaking, reading, or understanding English
- None (Do not read this response)*
- I don't want to answer*

**38. Do you have access to the Internet?**

- Yes
- No
- I don't want to answer*

**39. Do you feel like you know what City or County agencies to approach if you have problems with your house or household services (for example, your sewer, building code, or personal rights).**

- Yes                       No                       *I don't want to answer*

**40. Do you feel like you know what City or County agencies to approach if you have problems in your neighborhood (for example, with your sidewalk, roads, or neighborhood disputes).**

- Yes                       No                       *I don't want to answer*

**PART 4: Community Improvement**

Okay, now having thought about all these health issues, we are going to ask you some questions about health priorities for our community. *Give respondents a chance to answer before you direct them to the colored sheet with the list of alternatives.*

**41. 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. Remember this is your opinion and your choices will not be linked to you in any way.**

**If you would like some suggestions, please look at this list of community issues. (Tell person to flip to YELLOW sheet of community issues.) If you do not see a community problem you consider one of the most important, please let me know. I can also read these out loud as you think about them. (Read community issues if they prefer to have them read.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Pollution (of air, water, land)                       | <input type="checkbox"/> Lack of healthy food choices or affordable healthy food                |
| <input type="checkbox"/> Dropping out of school                                | <input type="checkbox"/> Lack of places to exercise   |
| <input type="checkbox"/> Low income/poverty                                    | <input type="checkbox"/> Elder neglect and abuse  |
| <input type="checkbox"/> Homelessness  | <input type="checkbox"/> Child neglect and abuse  |
| <input type="checkbox"/> Lack of/ inadequate health insurance                  | <input type="checkbox"/> Domestic violence  |
| <input type="checkbox"/> Lack of child care or recreational programs for youth | <input type="checkbox"/> Violent crime (murder, assault)  |
| <input type="checkbox"/> Hopelessness  | <input type="checkbox"/> Theft  |
| <input type="checkbox"/> Discrimination/ racism                                | <input type="checkbox"/> Rape/sexual assault  |
| <input type="checkbox"/> Lack of community support                             | <input type="checkbox"/> Lack of exercise   |
| <input type="checkbox"/> Poor housing conditions                               | <input type="checkbox"/> Reckless/drunk driving   |
| <input type="checkbox"/> Lack of clean drinking water                          | <input type="checkbox"/> Lack of translation or interpretation when needed for daily activities |
| <input type="checkbox"/> Gang involvement                                      | <input type="checkbox"/> Other: _____   |
| <input type="checkbox"/> Alcohol abuse   | <input type="checkbox"/> <i>I don't want to give an answer</i>                                  |
| <input type="checkbox"/> Drug/medication abuse                                 |   |
| <input type="checkbox"/> Unsafe sex incl. STDs, teenage pregnancy              |   |

**42. Keeping in mind yourself and the people in your neighborhood, I would like for you to name the most important health problems (that is, diseases or conditions). You can choose up to 3. Remember this is your opinion and your choices will not be linked to you in any way.**

**If you would like some suggestions, please look at this list of health problems. (Tell person to flip to BLUE sheet of health problems.) If you do not see a health problem you consider one of the most important, please let me know. I can also read these out loud as you think about them. (Read if desired.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Addiction to alcohol, drugs, or medications           | <input type="checkbox"/> Injuries resulting from domestic/sexual violence               |
| <input type="checkbox"/> Aging problems including dementia, decreased mobility | <input type="checkbox"/> Lead poisoning   |
| <input type="checkbox"/> Arthritis   | <input type="checkbox"/> Motor vehicle injuries including to bicyclists and pedestrians |
| <input type="checkbox"/> Asthma  | <input type="checkbox"/> Obesity/overweight   |
| <input type="checkbox"/> Cancer  | <input type="checkbox"/> STDs including HIV   |
| <input type="checkbox"/> Dental problems                                       | <input type="checkbox"/> Smoking/tobacco use  |
| <input type="checkbox"/> Depression, anxiety, and other mental health problems | <input type="checkbox"/> Violent crime injuries   |
| <input type="checkbox"/> Diabetes  | <input type="checkbox"/> Vision impairment  |
| <input type="checkbox"/> Cardiovascular or heart disease                       | <input type="checkbox"/> Other: _____   |
| <input type="checkbox"/> High blood pressure                                   | <input type="checkbox"/> <i>I don't want to answer</i>                                  |

**43. (Give the person the GREEN list of services.) In your opinion, which one of the following services needs the most improvement in your neighborhood or community? (Please choose up to three.) If there is a service that you think needs improvement that is not on this list, please let me know and I will write it in. If you would like, I can read these out loud as you think about them. (Read services aloud if they prefer.)**

- |  |  |
|--|--|
| <input type="checkbox"/> Elder neglect and abuse   | <input type="checkbox"/> Counseling/ mental health/support groups                                |
| <input type="checkbox"/> Animal control  | <input type="checkbox"/> Better/ more recreational facilities (parks, trails, community centers) |
| <input type="checkbox"/> Child care options  | <input type="checkbox"/> Healthy family activities   |
| <input type="checkbox"/> Elder care options  | <input type="checkbox"/> Positive teen activities  |
| <input type="checkbox"/> Services for disabled people  | <input type="checkbox"/> Transportation options  |
| <input type="checkbox"/> More affordable health services   | <input type="checkbox"/> Availability of employment  |
| <input type="checkbox"/> More affordable/better healthy food choices                                 | <input type="checkbox"/> Higher paying employment  |
| <input type="checkbox"/> More affordable/better housing  | <input type="checkbox"/> Road maintenance  |
| <input type="checkbox"/> Number of health care providers<br><i>What kind?</i> _____                  | <input type="checkbox"/> Road safety   |
| <input type="checkbox"/> Health services designed for your culture or the language you speak at home | <input type="checkbox"/> Other: _____  |
|  | <input type="checkbox"/> <i>I don't want to answer</i>   |

## **Part 5. Demographic Questions**

**This last set of questions are general questions about you, which will only be reported as a summary of all answers given by survey participants. Your answers will remain anonymous.**

**44. What year were you were born? \_\_\_\_\_(enter year)**

    *Refused/No Response*

**45. What is your gender? *(In most cases, this question can be answered by the interviewer without asking.)***

- Male
   
  Other/Transgender  
 Female
   
  *I don't want to answer*

**46. Are you of Hispanic, Latino, or Spanish origin?**

- Yes
   
  Don't know*(skip to Q48)*  
 No *(skip to Q48)*
   
  *I don't want to answer(skip to Q48)*

**47. If yes, are you: *(Check all that apply)***

- Mexican, Mexican American, or Chicano  
 Other Hispanic or Latino (please specify) \_\_\_\_\_  
 *I don't want to answer*

**48. What is your race? Please choose all that apply.  
*(If other, please write in the person's race.)***

- American Indian or Alaska Native  
 Asian  
 Black or African American  
 White  
 Other race not listed here: *(write in race)* \_\_\_\_\_  
 *I don't want to answer*

**49. What languages do you speak at home? *(Check all that apply)***

- English
   
  Other 1 \_\_\_\_\_  
 Spanish
   
  Other 2 \_\_\_\_\_  
 *I don't want to answer*

**50. What is the highest level of school, college or vocational training that you have finished? (*Read choices. Choose one.*)**

- |   |   |
|---|---|
| <input type="radio"/> Some school, no high school diploma       | <input type="radio"/> Some college (no degree)        |
| <input type="radio"/> High school diploma or GED                | <input type="radio"/> Bachelor's degree               |
| <input type="radio"/> Associate's Degree or Vocational Training | <input type="radio"/> Graduate or professional degree |
|   | <input type="radio"/> Other: _____                    |
|   | <input type="radio"/> <i>I don't want to answer</i>   |

**51. What was your total household income last year, before taxes? I will read out categories. Let me know which you fall into. (*Read choices. Choose one.*)**

- |  |   |
|--|---|
| <input type="radio"/> Less than \$14,999   | <input type="radio"/> \$50,000 to \$74,999          |
| <input type="radio"/> \$15,000 to \$24,999 | <input type="radio"/> Over \$75,000                 |
| <input type="radio"/> \$25,000 to \$34,999 | <input type="radio"/> <i>I don't want to answer</i> |
| <input type="radio"/> \$35,000 to \$49,999 |   |

**52. How many people does your total household income support? \_\_\_\_\_**

*(If you are asked about child support: If you are paying child support but your child is not living with you, this still counts as someone living on your income.)*

**53. What is your employment status? I will read a list of choices. Let me know which ones apply to you. (*Read choices. Check all that apply.*)**

- |  |  |
|--|--|
| <input type="checkbox"/> Employed full-time                                    | <input type="checkbox"/> Disabled                      |
| <input type="checkbox"/> Employed part-time (including several part-time jobs) | <input type="checkbox"/> Student                       |
| <input type="checkbox"/> Retired   | <input type="checkbox"/> Homemaker                     |
| <input type="checkbox"/> Military  | <input type="checkbox"/> Self-employed                 |
| <input type="checkbox"/> Unemployed  | <input type="checkbox"/> <i>I don't want to answer</i> |

**54. Which form of communication do you regularly use? (*Ask each, and check all that apply*)**

- |  |  |
|--|--|
| <input type="checkbox"/> Land line telephone | <input type="checkbox"/> Facebook                      |
| <input type="checkbox"/> Cell phone          | <input type="checkbox"/> Twitter                       |
| <input type="checkbox"/> Texting             | <input type="checkbox"/> Other _____                   |
| <input type="checkbox"/> Email               | <input type="checkbox"/> <i>I don't want to answer</i> |

**55. What one thing would make Durham County or your neighborhood a healthier place to live?**

Record response: \_\_\_\_\_



## Partnership for a Healthy Durham

A Certified Healthy Carolinians Partnership

### Asociación para la salud en Durham - Asociación certificada por *Healthy Carolinians* Encuesta de opinión sobre la salud en la comunidad- 2014

*Buenos(as) días (tardes), mi nombre es \_\_\_\_\_ y este(a) es \_\_\_\_\_. Representamos al Departamento de Salud Pública del condado de Durham. Quisiéramos saber si desea participar en una encuesta a los hogares sobre la salud y la preparación en casos de emergencia. Estamos realizando entrevistas en comunidades escogidas al azar en todo el condado. El propósito de esta encuesta es conocer más acerca de la salud y la calidad de vida en el condado de Durham. El Departamento de Salud y la Alianza para un Durham Saludable (Partnership for a Healthy Durham) utilizarán los resultados de esta encuesta para desarrollar planes y atender las necesidades más urgentes de la salud y la comunidad. Toda la información que usted nos proporcione será completamente confidencial y no se va a asociar con usted en ninguna forma.*

*La encuesta es completamente voluntaria. El completarla toma como máximo unos 20 minutos. Si usted ya ha completado esta encuesta, o si usted no vive en el condado de Durham, por favor dígamelo ahora.*

*¿Vive usted en este hogar? (Si responde que no, pida hablar con alguien que viva en el hogar. Si nadie más vive en el hogar, vaya a la siguiente vivienda.)*

*¿Tiene usted 18 años de edad o más? (Si responde que no, pregunte si puede hablar con alguien que tiene 18 años de edad o más. Si nadie más tiene 18 años de edad o más, vaya a la siguiente vivienda.)*

*¿Desea participar en la encuesta?*

#### **Notas para los entrevistadores:**

- Todas las notas para los entrevistadores figuran en letra cursiva de color rojo.*
- En todas las preguntas existe la opción de respuesta llamada “No deseo responder”. No lea esa respuesta en voz alta; solo marque dicha respuesta si el entrevistado prefiere no responder a la pregunta. Dicha respuesta figura en letras cursivas como recordatorio de que no debe leerse al entrevistado.*
- Abreviaturas: Enfermedades de transmisión sexual: ETS*

## Encuesta de opinión sobre la salud en la comunidad en el condado de Durham

### SECCIÓN 1. Preparación para emergencias

**1. ¿Hay detectores de humo y de monóxido de carbono en su hogar en funcionamiento?**

*(Escoja una respuesta.)*

- |  |   |
|--|---|
| <input type="radio"/> Sí, solo detectores de humo                | <input type="radio"/> No sabe/No está seguro    |
| <input type="radio"/> Sí, de ambos tipos                         | <input type="radio"/> No                        |
| <input type="radio"/> Sí, solo detectores de monóxido de carbono | <input type="radio"/> <i>No deseo responder</i> |

**2. ¿Tiene su familia un kit básico de suministros para emergencias y un plan en caso de emergencias?**

**(Dichos kits incluyen agua, alimentos no perecederos, medicamentos de receta médica que fuesen necesarios, suministros de primeros auxilios, una linterna, baterías, un abrelatas manual, una cobija, etc.)**

- |   |   |
|---|---|
| <input type="radio"/> Sí  | <input type="radio"/> <i>No deseo responder (Salte a la P4)</i> |
| <input type="radio"/> No <i>(Salte a la P4)</i>                     |   |
| <input type="radio"/> No sabe/No está seguro <i>(Salte a la P4)</i> |   |

**3. Si responde «Sí», ¿Para cuántos días tiene suministros? \_\_\_\_\_ *(Anote el número de días.)***

**4. ¿Cuáles serían sus tres fuentes más importantes de información en caso de ocurrir un desastre o una emergencia de gran magnitud? *(Pase a la hoja BLANCA sobre las fuentes de información; lea las opciones si el entrevistado lo prefiere. Marque todas las respuestas que correspondan.)***

Fuentes en Internet:

- |  |   |
|--|---|
| <input type="checkbox"/> Televisión  | <input type="checkbox"/> Página web del condado o del Depto. de Salud Pública |
| <input type="checkbox"/> Radio   | <input type="checkbox"/> Página web de las noticias de la televisión          |
| <input type="checkbox"/> Periódico   | <input type="checkbox"/> Página web de un periódico                           |
| <input type="checkbox"/> Vecinos   | <input type="checkbox"/> Otro sitio de internet (incluyendo "Google")         |
| <input type="checkbox"/> Mensaje de texto (por ej.: Código Rojo, sistema de alerta para los empleados) | <input type="checkbox"/> Otro (describir) _____                               |
| <input type="checkbox"/> <i>Durham One Call</i>  | <input type="checkbox"/> No sabe/No está seguro                               |
| <input type="checkbox"/> Información de boca en boca   | <input type="checkbox"/> <i>No deseo responder</i>                            |
| <input type="checkbox"/> Facebook o Twitter  |   |

5. Si usted no pudiese permanecer en su vivienda, ¿dónde iría en el caso de que ocurriese una emergencia en toda la comunidad? **(NO LEA las opciones.)**

**Escoja una respuesta.**

- |   |   |
|---|---|
| <input type="radio"/> NCCU  | <input type="radio"/> Hospital                  |
| <input type="radio"/> Duke  | <input type="radio"/> Iglesia                   |
| <input type="radio"/> Familiar/Amigo                                      | <input type="radio"/> Otro _____                |
| <input type="radio"/> Refugio de emergencia (centro comunitario, escuela) | <input type="radio"/> No sabe                   |
| <input type="radio"/> No saldría de mi vivienda                           | <input type="radio"/> <i>No deseo responder</i> |

6. Aun si le indicaran que debe evacuar su vivienda, ¿cuál sería el motivo principal por el cual usted podría negarse a hacerlo?

**(Escoja una respuesta.)**

- Falta de transporte
- Desconfía de los funcionarios públicos
- Le preocupa abandonar su propiedad
- Le preocupa su seguridad personal
- Le preocupa la seguridad de su familia
- Le preocupa dejar solas a sus mascotas
- Le preocupa la congestión vehicular y la imposibilidad de salir del área
- Problemas de salud (no podría ser movilizado)
- Otro (describir) \_\_\_\_\_
- No sabe/No está seguro
- No deseo responder*

---

## **SECCIÓN 2. Información sobre la salud**

7. ¿Dónde obtiene la mayor parte de la información acerca de la salud? Voy a leerle una lista de opciones. Por favor escoja **solo una**. **(Lea las opciones.)**

- |  |  |
|--|--|
| <input type="radio"/> Amistades y familiares   | <input type="radio"/> Departamento de Salud            |
| <input type="radio"/> Médico/Enfermera/Clínica | <input type="radio"/> Líneas telefónicas de asistencia |
| <input type="radio"/> Farmacéutico             | <input type="radio"/> Libros/revistas                  |
| <input type="radio"/> Iglesia                  | <input type="radio"/> Otro _____                       |
| <input type="radio"/> Internet                 | <input type="radio"/> <i>No deseo responder</i>        |
| <input type="radio"/> La escuela de mi hijo    |  |
| <input type="radio"/> Hospital                 |  |

8. ¿Piensa que el Departamento de Salud Pública del condado de Durham es una fuente confiable de información sobre la salud?

- Sí
- No
- No lo sé – No he obtenido información del Departamento de Salud Pública
- No deseo responder*

---

### **SECCIÓN 3: Sobre su propia salud**

Ahora voy a hacerle algunas preguntas sobre su propia salud. Recuerde que las respuestas que usted dé en esta encuesta no se van a asociar con usted en ninguna forma.

9. ¿Dónde acude usted **con mayor frecuencia** cuando está enfermo o cuando desea consultar con alguien acerca de su salud? **(NO LEA las opciones. Revise todas las opciones y marque solo la respuesta que le indiquen. Si no mencionan una respuesta, lea lo siguiente: Estas son algunas de las opciones. Lea las posibles respuestas. Escoja aquella donde usted acude generalmente.)**

- |   |   |
|---|---|
| <input type="radio"/> Centro comunitario de salud Lincoln         | <input type="radio"/> Farmacia                        |
| <input type="radio"/> Consultorio del médico                      | <input type="radio"/> Enfermera del trabajo           |
| <input type="radio"/> Durham Center Access                        | <input type="radio"/> Centro de atención de urgencias |
| <input type="radio"/> Departamento de Salud                       | <input type="radio"/> No acudo a ningún lugar         |
| <input type="radio"/> Sala de Emergencias del hospital            | <input type="radio"/> Otro _____                      |
| <input type="radio"/> Clínica médica                              | <input type="radio"/> <i>No deseo responder</i>       |
| <input type="radio"/> <i>Minute Clinic</i> (Clínica de urgencias) |   |

#### **Acceso a la atención médica:**

10. Durante los últimos 12 meses, ¿hubo algún momento en que usted no tuvo cobertura de un seguro médico?

- Sí
- No *(Salte a la P12)*
- No deseo responder (Salte a la P12)*

11. Si responde «Sí»: ¿Por qué no tuvo cobertura de un seguro médico?

---

**12. ¿Cuál es su principal plan de seguro médico en la actualidad? Ese es el plan que paga las facturas médicas o que paga la mayor parte de las facturas médicas. (Por favor escoja solo una respuesta.)**

[Nota: El Plan de seguro médico de los empleados estatales también se conoce como el “Seguro médico de los educadores y empleados de Carolina del Norte” (“*North Carolina Teacher’s and Employees Health Plan*”, en inglés). Medicare es un programa federal de seguro médico para las personas de 65 años de edad o más, o para algunas personas más jóvenes con discapacidades. Medicaid es un programa de seguro médico estatal para las familias y las personas con recursos financieros limitados o con circunstancias especiales.]

- El Plan de seguro médico de los empleados estatales
- Blue Cross and Blue Shield of North Carolina
- Otro plan de seguro médico privado adquirido a través del empleador o del trabajo
- Otro plan de seguro médico privado adquirido directamente de la compañía de seguros
- Medicare
- Medicaid
- Seguro médico militar, Tricare, CHAMPUS o la Administración de Veteranos (VA)
- Servicio de Atención Médica a los Indígenas (*Indian Health Service*)
- Otro plan gubernamental de seguro médico
- No cuenta con ningún seguro médico
- No sabe/No está seguro
- No deseo responder*

**13. En los últimos 12 meses, ¿tuvo algún problema para obtener la atención médica que necesitaba usted mismo u otra persona en su hogar por parte de cualquier clase de proveedor de atención médica, dentista, farmacia u otro establecimiento?**

- Sí (*Continúe a la P13a*)
- No (*Salte a la P16*)
- No sabe/No está seguro (*Salte a la P16*)
- No deseo responder (Salte a la P16)*

**13a. ¿Qué persona en su hogar tuvo dicho problema? (Marque todas las respuestas que correspondan y vaya a la P14)**

- Usted mismo
- Otra persona en su hogar
- No deseo responder*

**14. Si respondió “Sí”, ¿con qué tipo de atención médica (con qué proveedor o establecimiento) encontró usted u otra persona en su hogar problemas para obtener atención médica? Voy a leerle una lista y usted puede escoger todas las respuestas que correspondan. Si hubo algún tipo de atención médica que usted trató de obtener pero que no figura en esta lista, por favor dígamelo y yo lo anotaré. (Lea la lista de proveedores de atención médica.)**

- |  |  |
|--|--|
| <input type="checkbox"/> Dentista  | <input type="checkbox"/> Hospital                              |
| <input type="checkbox"/> Médico general                                  | <input type="checkbox"/> Centro de atención de urgencias       |
| <input type="checkbox"/> Atención de la vista/<br>optómetra/ oftalmólogo | <input type="checkbox"/> Clínica médica                        |
| <input type="checkbox"/> Farmacia / Recetas médicas                      | <input type="checkbox"/> Centro de salud comunitario Lincoln   |
| <input type="checkbox"/> Pediatra  | <input type="checkbox"/> Especialista ( <i>¿De qué tipo?</i> ) |
| <input type="checkbox"/> Ginecólogo / Obstetra                           | <input type="checkbox"/> Otro: _____                           |
| <input type="checkbox"/> Atención de la salud mental                     | <input type="checkbox"/> No sabe                               |
| <input type="checkbox"/> Departamento de salud                           | <input type="checkbox"/> <i>No deseo responder</i>             |

**15. ¿Cuál fue el problema que impidió que usted u otra persona en su hogar obtuviera la atención médica que necesitaba? Voy a leerle una lista y usted puede escoger todas las respuestas que correspondan. Si usted tuvo algún problema que no figura en esta lista, por favor dígamelo y yo lo anotaré. (Lea la lista de posibles problemas.)**

- |  |  |
|--|--|
| <input type="checkbox"/> No tenía seguro médico  | <input type="checkbox"/> El dentista no aceptaba mi/nuestro seguro o Medicaid                          |
| <input type="checkbox"/> El seguro no cubría lo que necesitaba/necesitábamos                         | <input type="checkbox"/> No conseguí transporte para llegar allí                                       |
| <input type="checkbox"/> Mi/Nuestra porción del costo (monto deducible/copago) era demasiado elevada | <input type="checkbox"/> No sabía adónde ir  |
| <input type="checkbox"/> El médico no aceptaba mi/nuestro seguro o Medicaid                          | <input type="checkbox"/> No pude conseguir una cita o no podía acudir durante el horario de atención   |
| <input type="checkbox"/> El hospital no aceptaba mi/nuestro seguro                                   | <input type="checkbox"/> La espera era demasiado larga   |
| <input type="checkbox"/> La farmacia no aceptaba mi/nuestro seguro o Medicaid                        | <input type="checkbox"/> No había un intérprete o yo no podía hablar el idioma lo suficientemente bien |
|  | <input type="checkbox"/> Otro: _____   |
|  | <input type="checkbox"/> <i>No deseo responder</i>   |

**16. Si usted o un amigo o familiar suyo necesitaran orientación psicológica para tratar un problema de salud mental o de alcoholismo o drogadicción, ¿a quién podrían llamar o a quién podrían consultar? *Si no mencionan una respuesta...* Estas son algunas posibles respuestas. Puede escoger todas las respuestas que correspondan. *Lea la lista de posibles respuestas.* ¿Cuáles cree que escogería usted?**

- |  |  |
|--|--|
| <input type="checkbox"/> Consejero o terapeuta privado       | <input type="checkbox"/> Consejero de la escuela                                 |
| <input type="checkbox"/> Grupo de apoyo (AA, Al-Anon)        | <input type="checkbox"/> Agencia comunitaria (Por ej. <i>El Centro Hispano</i> ) |
| <input type="checkbox"/> Durham Center Access o Alliance BHC | <input type="checkbox"/> Familiares/Amistades                                    |
| <input type="checkbox"/> Médico                              | <input type="checkbox"/> No sabe   |
| <input type="checkbox"/> Ministro/funcionario religioso      | <input type="checkbox"/> <i>No deseo responder</i>                               |

**17. ¿Alguna vez le dijo un médico, una enfermera u otro profesional de atención médica que usted tiene algunas de las condiciones médicas que voy a leerle a continuación? (*NS= No sabe/No está seguro; R= Rehusó responder*)**

- |   |                          |                          |                          |                         |
|---|--------------------------|--------------------------|--------------------------|-------------------------|
| k. Artritis, artritis reumatoide, gota, lupus o fibromialgia                                  | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| l. Asma   | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| m. Cualquier tipo de enfermedad cardiovascular o del corazón (excepto presión sanguínea alta) | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| n. Cáncer   | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| o. Depresión o ansiedad   | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| p. Diabetes (excepto diabetes del embarazo)   | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| q. Presión sanguínea alta   | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| r. Colesterol elevado   | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| s. Enfermedad pulmonar  | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |
| t. Exceso de peso/Obesidad  | <input type="radio"/> Sí | <input type="radio"/> No | <input type="radio"/> NS | <input type="radio"/> R |

**Ejercicio**

**18. ¿Adónde va a hacer ejercicio o a realizar actividades físicas? *Marque todas las respuestas que correspondan. Luego de responder, salte a la P20, salvo que el entrevistado responda “No hago ejercicio”.***

- |  |   |
|--|---|
| <input type="checkbox"/> Gimnasio o piscina privados | <input type="checkbox"/> En el trabajo                                  |
| <input type="checkbox"/> Parque                      | <input type="checkbox"/> Otro: _____                                    |
| <input type="checkbox"/> Centro recreativo público   | <input type="checkbox"/> No hago ejercicio ( <i>continúe a la P19</i> ) |
| <input type="checkbox"/> En la comunidad donde vive  | <input type="checkbox"/> <i>No deseo responder</i>                      |
| <input type="checkbox"/> En casa                     |   |

**19. Si respondió “No hago ejercicio”, ¿por qué razones no hace ejercicio durante una semana normal? Usted puede mencionar todas las razones que correspondan. *(NO LEA las opciones. Marque todas las respuestas que correspondan y anote únicamente aquellas razones que menciona el entrevistado. Si este realmente no puede mencionar ninguna respuesta, marque “No sabe”.)***

- Mi trabajo requiere de esfuerzo físico o de labores manuales arduas.
- No tengo acceso a un local para hacer ejercicio.
- Estoy demasiado cansado para hacer ejercicio.
- No tengo suficiente tiempo para hacer ejercicio.
- Es demasiado costoso hacer ejercicio.
- No me gusta hacer ejercicio.
- No hay un lugar seguro para hacer ejercicio.
- Tengo una discapacidad física o no estoy lo suficientemente bien para hacer ejercicio.
- Me da vergüenza que me vean haciendo ejercicio.
- Otro \_\_\_\_\_
- No sabe
- No deseo responder*

**20. Existen distintas maneras de hacer ejercicio o de realizar actividad física. Para el siguiente grupo de preguntas solo nos interesa el caminar y andar en bicicleta. ¿Cuánto camina usted en un día típico?**

- Una pocas cuadras (*Salte a la P22*)
- Más que unas pocas cuadras (*continúe a la P21*)
- No camino en absoluto (*Salte a la P24*)
- No deseo responder (Salte a la P24)*

**21. ¿Qué distancia en millas camina usted todos los días? *(Una milla equivale a 1.6 kilómetros)***

- De ½ milla a una milla       No sabe  
 De una a tres millas       *No deseo responder*  
 Más de tres millas

**22. ¿Por qué camina usted? *(Lea las posibles respuestas y marque todas las que correspondan.)***

- Camino por mi salud física (Por ej.: El médico me lo recomendó)       Camino porque es más barato que otros tipos de transporte.  
 Camino por mi salud mental o social (Por ej.: para ve a un amigo, para estar al aire libre)       Otro \_\_\_\_\_  
 Camino para utilizar menos el automóvil y no contaminar el aire.       *No deseo responder*

**23. ¿Dónde camina usted? *(Lea las posibles respuestas y marque todas las que correspondan, luego sáltese la P24 y vaya a la P25.)***

- A los lugares a donde voy a diario (el trabajo, la parada del autobús, el gimnasio, la escuela de mi hijo)       Como diversión o para hacer ejercicio (en la comunidad donde vive, en un sendero para peatones o en un parque)  
 A eventos sociales (como la iglesia o la casa de un amigo)       Otro \_\_\_\_\_  
 A hacer mandados (por ejemplo, ir de compras)       *No deseo responder*

**24. Si usted no camina mucho en la actualidad, ¿cuál es el motivo? (Lea las posibles respuestas y marque todas las que correspondan.)**

- |   |   |
|---|---|
| <input type="checkbox"/> Tengo problemas al caminar         | <input type="checkbox"/> Las condiciones son malas (por ejemplo, falta de veredas o de iluminación) |
| <input type="checkbox"/> No tengo tiempo de caminar         | <input type="checkbox"/> Otro: _____  |
| <input type="checkbox"/> Mi comunidad no es un lugar seguro | <input type="checkbox"/> <i>No deseo responder</i>  |

**25. Sin importar si usted camina o no en la actualidad, ¿qué le motivaría a caminar más? (Lea las posibles respuestas y marque todas las que correspondan.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Mejor iluminación, veredas o cruces peatonales para facilitar las caminatas.      | <input type="checkbox"/> Que se hagan cumplir los límites de velocidad y las reglas de tránsito para que sea más seguro caminar |
| <input type="checkbox"/> Motivación – caminar en compañía; más información sobre la importancia de caminar | <input type="checkbox"/> Otro: _____  |
| <input type="checkbox"/> Mayor acceso a senderos o caminos para peatones en áreas naturales                | <input type="checkbox"/> <i>No deseo responder</i>  |

**26. ¿Anda usted en bicicleta (no incluye una bicicleta estacionaria para ejercicio)? Si es así, ¿con qué frecuencia?**

- Una vez al mes o menos (*Salte a la P28*)
- De 2 a 3 veces al mes (*Salte a la P28*)
- Una vez a la semana
- Más de una vez a la semana
- Tengo una bicicleta pero no la uso (*Salte a la P28*)
- No tengo una bicicleta (*Salte a la P28*)
- No deseo responder (Salte a la P28)*

**27. ¿A dónde va usted cuando anda en bicicleta? (*Pregunte y responda todas las sub preguntas que correspondan*)**

	¿Cuántas veces a la semana va en bicicleta a este lugar?	¿Aproximadamente qué distancia recorre solo de ida en millas?
<input type="checkbox"/> A lugares a los que voy diariamente (el trabajo, la parada del autobús, el gimnasio, la escuela de mi hijo)	A1. _____	A2. _____
<input type="checkbox"/> A eventos sociales (como la iglesia o la casa de un amigo)	B1. _____	B2. _____
<input type="checkbox"/> A hacer mandados (Por ejemplo, ir de compras)	C1. _____	C2. _____
<input type="checkbox"/> Por diversión o ejercicio (en la comunidad, en un sendero o un parque)	D1. _____	D2. _____
<input type="checkbox"/> Otro _____	E1. _____	E2. _____
<input type="checkbox"/> <i>No deseo responder</i>		

**La alimentación:**

**28. La mayoría de nosotros no nos alimentamos en forma saludable en todo momento. Cuando usted no come alimentos saludables, ¿por qué cree que es difícil para usted consumir alimentos saludables? Por favor dígame todas las respuestas que correspondan. (*Lea las respuestas; marque todas las que correspondan.*)**

- Los alimentos saludables no tienen buen sabor
- Los alimentos saludable son demasiado costosos
- Toma demasiado tiempo comprar y preparar alimentos saludables
- No sé cómo preparar los alimentos que nos gustan (o los alimentos en general) de una manera saludable
- Es difícil encontrar alimentos saludables si uno come fuera de casa
- En mi comunidad no existen lugares donde se pueda comprar alimentos saludables
- Porque nadie más en mi familia los comería
- Otra: \_\_\_\_\_
- No deseo responder*

**29. Pensando acerca del desayuno, el almuerzo y la cena, ¿cuántas veces en una semana típica come usted alimentos que no han sido preparados en casa, tales como en restaurantes, cafeterías o locales de comida rápida?**

- Nunca
- Una vez a la semana o menos
- 2 ó 3 veces a la semana
- Más de 3 veces a la semana
- No deseo responder*

**30. En los últimos 12 meses, ¿alguna vez redujo usted las porciones de sus comidas o se saltó las comidas porque no tenía dinero suficiente para comprar alimentos? (*Lea las posibles respuestas*)**

- Sí, todo el tiempo
- Sí, a veces
- No
- No sabe
- No deseo responder*

### **El fumar:**

**31. ¿Fuma usted actualmente?**

- Sí
- No (*Salte a la P33*)
- No deseo responder (Salte a la P33)*

**32. Si responde «Sí», ¿dónde buscaría ayuda si usted tratara de dejar de fumar? (*NO LEA las opciones. Marque todas las respuestas que correspondan. Marque únicamente las respuestas que indique el entrevistado.*)**

- |                                      |  |
|--------------------------------------|--|
| <input type="checkbox"/> Quitline NC | f. <input type="checkbox"/> Health Department      |
| <input type="checkbox"/> Médico      | <input type="checkbox"/> Health Department privado |
| <input type="checkbox"/> Iglesia     | <input type="checkbox"/> Departamento de Salud     |
| <input type="checkbox"/> Farmacia    | <input type="checkbox"/> Otro: _____               |
|                                      | <input type="checkbox"/> No se aplica              |
|                                      | <input type="checkbox"/> No sabe                   |
|                                      | <input type="checkbox"/> <i>No deseo responder</i> |

**33. ¿Ha estado usted expuesto al humo de segunda mano en el condado de Durham en el último año?**

- Sí
- No *(Salte a la P35)*
- No sabe/No está seguro *(Salte a la P35)*
- No deseo responder *(Salte a la P35)*

**34. Si responde «Sí», ¿dónde piensa usted que está expuesto al humo de segunda mano con más frecuencia? *(Escoja una respuesta)***

- En su hogar
- En el trabajo
- En hospitales
- En restaurantes
- En la escuela
- En otro lugar \_\_\_\_\_
- No deseo responder

**35. ¿Sabía usted que en Durham existe una ordenanza que prohíbe fumar en lugares públicos tales como los parques, los locales de propiedad del condado, algunas veredas y las paradas de autobús?**

- Sí
- No
- No deseo responder

### **Su hogar**

**A continuación le haremos unas cuantas preguntas acerca de su hogar.**

**36. ¿En la actualidad está usted cuidando de un...? *(Lea las posibles respuestas. Marque todas las que correspondan.)***

- |  |   |
|--|---|
| <input type="checkbox"/> Padre o madre ancianos o discapacitados | <input type="checkbox"/> Hijo(s) de crianza temporal <i>(Foster care)</i> |
| <input type="checkbox"/> Cónyuge/pareja discapacitado(a)         | <input type="checkbox"/> Familiar con una enfermedad crónica              |
| <input type="checkbox"/> Hijo(a) discapacitado(a)                | <input type="checkbox"/> Ninguno <i>(No leer en voz alta)</i>             |
|  | <input type="checkbox"/> No deseo responder                               |

**37. ¿Alguna persona en su hogar, incluyéndose usted, necesita de ayuda para realizar sus actividades cotidianas en forma independiente debido a...? (Lea las posibles respuestas; marque todas las que correspondan.)**

- Discapacidad física
- Discapacidad del desarrollo
- Limitación en la visión o la audición
- Enfermedad mental, alcoholismo o adicción
- Condiciones médicas
- Dificultad en hablar, leer o entender el idioma inglés
- Ninguna (*No lea en voz alta esta posible respuesta*)
- No deseo responder

**38. ¿Tiene usted acceso a Internet?**

- Sí                       No                       No deseo responder

**39. ¿Piensa que usted sabría qué agencias de la ciudad o el condado debe contactar si tiene problemas con su vivienda o con los servicios relacionados con su vivienda (por ejemplo, el desagüe, el reglamento de construcción o sus derechos personales)?**

- Sí                       No                       No deseo responder

**40. ¿Piensa que usted sabría qué agencias de la ciudad o el condado debe contactar si tiene problemas en su comunidad (por ejemplo, con las aceras, los caminos o conflictos en su comunidad)?**

- Sí                       No                       No deseo responder

## **SECCIÓN 4: El mejoramiento de la comunidad**

Bueno, ya que estamos tratando de todos los temas relacionados con la salud, quisiéramos hacerle algunas preguntas acerca de las prioridades de nuestra comunidad con respecto a la salud. *Dé a los entrevistados la oportunidad de responder antes de mostrarles la hoja coloreada con la lista de alternativas.*

**41. En su opinión y la de las personas en su comunidad, por favor dígame qué problemas en su comunidad tienen el mayor impacto en la calidad de vida en el condado de Durham. Por favor escoja un máximo de 3 problemas. Recuerde que ésta es su opinión y que sus respuestas no se van a asociar con usted en ninguna forma.**

**Si usted desea algunas sugerencias, por favor vea esta lista de problemas en la comunidad. (Dígale al entrevistado que busque la hoja AMARILLA con la lista de problemas en la comunidad.) Si no encuentra algún problema de la comunidad que usted considera que es uno de los más importantes, por favor hágamelo saber. También puedo leer la lista en voz alta al tiempo que usted piensa en esto. (Lea la lista de problemas de la comunidad en voz alta si el entrevistado lo prefiere.)**

- |   |   |
|---|---|
| <input type="checkbox"/> Contaminación (del aire, el agua y el suelo)                                       | <input type="checkbox"/> Ausencia de alimentos saludables o de alimentos saludables a un precio accesible |
| <input type="checkbox"/> Abandono de los estudios escolares   | <input type="checkbox"/> Falta de lugares para hacer ejercicio  |
| <input type="checkbox"/> Bajos ingresos/Pobreza   | <input type="checkbox"/> Abuso y descuido de las personas mayores   |
| <input type="checkbox"/> Personas sin hogar   | <input type="checkbox"/> Abuso y descuido de los niños  |
| <input type="checkbox"/> Ausencia de seguro médico/Seguro médico insuficiente                               | <input type="checkbox"/> Violencia doméstica  |
| <input type="checkbox"/> Ausencia de servicios de cuidado infantil o programas recreativos para los jóvenes | <input type="checkbox"/> Delitos de violencia (asesinatos, ataques)                                       |
| <input type="checkbox"/> Falta de esperanza   | <input type="checkbox"/> Robos  |
| <input type="checkbox"/> Discriminación/ racismo  | <input type="checkbox"/> Violación/Agresión sexual  |
| <input type="checkbox"/> Falta de apoyo comunitario   | <input type="checkbox"/> Falta de ejercicio   |
| <input type="checkbox"/> Malas condiciones de vivienda  | <input type="checkbox"/> Conducir en forma imprudente/embriagado  |
| <input type="checkbox"/> Falta de agua potable  | <input type="checkbox"/> Falta de traducción o interpretación necesaria en las actividades cotidianas     |
| <input type="checkbox"/> Presencia de pandillas   | <input type="checkbox"/> Otro: _____  |
| <input type="checkbox"/> Alcoholismo  | <input type="checkbox"/> <i>No deseo responder</i>  |
| <input type="checkbox"/> Abuso de drogas/medicamentos   |   |
| <input type="checkbox"/> Sexo inseguro, que incluye las ETS y el embarazo de las adolescentes               |   |

**42. En su opinión y la de las personas en su comunidad, por favor dígame cuáles son los problemas de salud (es decir, las enfermedades o los trastornos de la salud) más importantes. Puede escoger un máximo de 3 problemas de salud. Recuerde que ésta es su opinión y que sus respuestas no se van a asociar con usted en ninguna forma.**

**Si usted desea algunas sugerencias, por favor vea esta lista de problemas de salud. (Dígale al entrevistado que busque la hoja AZUL con la lista de problemas de salud.) Si no encuentra algún problema de salud que usted considera que es uno de los más importantes, por favor hágamelo saber. También puedo leer la lista en voz alta al tiempo que usted piensa en esto. (Lea la lista en voz alta si el entrevistado lo prefiere.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Adicción al alcohol, las drogas o los medicamentos                                    | <input type="checkbox"/> Lesiones provocadas por violencia sexual/doméstica                       |
| <input type="checkbox"/> Problemas de la ancianidad, que incluyen la demencia y la disminución de la movilidad | <input type="checkbox"/> Intoxicación por plomo   |
| <input type="checkbox"/> Artritis  | <input type="checkbox"/> Lesiones por accidentes vehiculares, que incluyen a ciclistas y peatones |
| <input type="checkbox"/> Asma  | <input type="checkbox"/> Obesidad/Exceso de peso  |
| <input type="checkbox"/> Cáncer  | <input type="checkbox"/> ETS, que incluyen al VIH (SIDA)  |
| <input type="checkbox"/> Problemas dentales  | <input type="checkbox"/> El fumar/consumo de tabaco   |
| <input type="checkbox"/> Depresión, ansiedad y otros problemas de salud mental                                 | <input type="checkbox"/> Lesiones por delitos de violencia  |
| <input type="checkbox"/> Diabetes  | <input type="checkbox"/> Problemas de la visión   |
| <input type="checkbox"/> Enfermedades cardiovasculares o del corazón   | <input type="checkbox"/> Otro: _____  |
| <input type="checkbox"/> Presión sanguínea alta  | <input type="checkbox"/> <i>No deseo responder</i>  |

**43. (Dele al entrevistado la lista de servicios de color VERDE.) En su opinión, por favor dígame cuáles de los siguientes servicios necesitan mejorarse en mayor medida en su comunidad o en el lugar donde usted vive. (Por favor escoja un máximo de tres servicios.) Si hay algún servicio que usted piensa que necesita mejorarse y que no figura en esta lista, por favor hágamelo saber y lo anotaré. Si desea puedo leerle la lista en voz alta al tiempo que usted piensa en esto. (Lea la lista de servicios en voz alta si el entrevistado lo prefiere.)**

- |   |  |
|---|--|
| <input type="checkbox"/> Abuso y descuido de personas mayores   | <input type="checkbox"/> Orientación psicológica/ salud mental/ grupos de apoyo                      |
| <input type="checkbox"/> Control de animales  | <input type="checkbox"/> Más/Mejores lugares de recreación (parques, senderos, centros comunitarios) |
| <input type="checkbox"/> Opciones de cuidado infantil   | <input type="checkbox"/> Actividades saludables para las familias                                    |
| <input type="checkbox"/> Opciones de cuidado de personas mayores  | <input type="checkbox"/> Actividades positivas para los adolescentes                                 |
| <input type="checkbox"/> Servicios para personas con discapacidades   | <input type="checkbox"/> Opciones de transporte  |
| <input type="checkbox"/> Servicios de atención médica a un costo más accesible                                    | <input type="checkbox"/> Oferta de empleos   |
| <input type="checkbox"/> Alimentos saludables de mejor calidad/a un precio más accesible                          | <input type="checkbox"/> Empleos mejor remunerados   |
| <input type="checkbox"/> Viviendas de mejor calidad/a un precio más accesible                                     | <input type="checkbox"/> Mantenimiento de los caminos  |
| <input type="checkbox"/> Mayor número de proveedores de atención médica   | <input type="checkbox"/> Seguridad vial  |
| <i>¿De qué tipo? _____</i>  | <input type="checkbox"/> Otro: _____   |
| <input type="checkbox"/> Servicios de salud diseñados de acuerdo a su cultura o al idioma que usted habla en casa | <input type="checkbox"/> <i>No deseo responder</i>   |

### **SECCIÓN 5. Preguntas demográficas**

**Este último grupo de preguntas son preguntas generales acerca de usted. Esta información solamente se reportará como un resumen de todas las respuestas de quienes participaron en la encuesta. Sus respuestas se mantendrán en forma anónima.**

**44. ¿En qué año nació usted? \_\_\_\_\_ (Anote el año)**

*\_\_\_Rehusó responder/No respondió*

**45. ¿Cuál es su género? (La mayoría de las veces el entrevistador puede completar esta información sin preguntar.)**

- |                              |   |
|------------------------------|---|
| <input type="radio"/> Hombre | <input type="radio"/> Otro/Transexual           |
| <input type="radio"/> Mujer  | <input type="radio"/> <i>No deseo responder</i> |

**46. ¿Es usted hispano, latino o de origen español?**

- Sí
- No (*Salte a la P48*)
- No sabe (*Salte a la P48*)
- No deseo responder(*Salte a la P48*)

**47. Si responde «Sí», ¿Es usted...: (*Marque todas las respuestas que correspondan*)**

- mexicano, mexicano americano o chicano?
- otro tipo de hispano o latino? (por favor especifique) \_\_\_\_\_
- No deseo responder

**48. ¿De qué raza es usted? Por favor indique todas las que correspondan. (*Si responde «Otra», por favor escriba la raza que indique el entrevistado.*)**

- Indígena americana o nativa de Alaska
- Asiática
- Negra o africana americana
- Blanca
- Otra: (*escriba la raza*) \_\_\_\_\_
- No deseo responder

**49. ¿Qué idiomas habla usted en su hogar? (*Marque todos los que correspondan.*)**

- Inglés
- Español
- No deseo responder
- Otro 1 \_\_\_\_\_
- Otro 2 \_\_\_\_\_

**50. ¿Cuál es el nivel más alto de estudios escolares, universitarios o de capacitación vocacional que usted completó? (*Lea las opciones. Escoja una respuesta.*)**

- Algunos estudios escolares, sin diploma de educación secundaria (*High School*)
- Diploma de *High School* o GED
- Título de Asociado (*Associate's Degree*) o Capacitación Vocacional
- Algunos estudios universitarios (*college*) sin título profesional
- Título de licenciado (*Bachelor's degree*)
- Título de posgrado o profesional
- Otro: \_\_\_\_\_
- No deseo responder

**51. ¿Cuál fue el ingreso total de su hogar el año pasado antes de la deducción de impuestos? Voy a leerle las categorías de ingreso. Por favor dígame cuál de ellas le corresponde a usted. (*Lea las opciones. Escoja una respuesta.*)**

- |  |   |
|--|---|
| <input type="radio"/> Menos de \$14,999      | <input type="radio"/> De \$50,000 a \$74,999    |
| <input type="radio"/> De \$15,000 a \$24,999 | <input type="radio"/> Más de \$75,000           |
| <input type="radio"/> De \$25,000 a \$34,999 | <input type="radio"/> <i>No deseo responder</i> |
| <input type="radio"/> De \$35,000 a \$49,999 |   |

**52. ¿Cuántas personas viven del ingreso total de su hogar? \_\_\_\_\_**

*(Si el entrevistado pregunta por la manutención de los hijos) Si usted está pagando por la manutención de sus hijos pero sus hijos no viven con usted, ello todavía se considera como si su hijo viviera de su ingreso.)*

**53. ¿Cuál es su estatus de empleo? Voy a leerle una lista de posibles respuestas. Por favor dígame cuáles de ellas corresponden en su caso. (*Lea las opciones. Marque todas las que correspondan.*)**

- |  |  |
|--|--|
| <input type="checkbox"/> Empleado de tiempo completo   | <input type="checkbox"/> Desempleado               |
| <input type="checkbox"/> Empleado de tiempo parcial<br>(esto incluye varios empleos de tiempo parcial) | <input type="checkbox"/> Discapacitado             |
| <input type="checkbox"/> Jubilado  | <input type="checkbox"/> Estudiante                |
| <input type="checkbox"/> Militar   | <input type="checkbox"/> Ama(o) de casa            |
|  | <input type="checkbox"/> Trabaja por cuenta propia |
|  | <input type="checkbox"/> <i>No deseo responder</i> |

**54. ¿Qué forma de comunicación utiliza usted por lo general? (*Mencione cada una de ellas y marque todas las que correspondan.*)**

- |   |  |
|---|--|
| <input type="checkbox"/> Línea telefónica de casa   | <input type="checkbox"/> Facebook                  |
| <input type="checkbox"/> Teléfono celular           | <input type="checkbox"/> Twitter                   |
| <input type="checkbox"/> Mensajes de texto          | <input type="checkbox"/> Otro _____                |
| <input type="checkbox"/> Correo electrónico (Email) | <input type="checkbox"/> <i>No deseo responder</i> |

**55. ¿Qué haría que el condado de Durham o la comunidad donde usted vive sean lugares más saludables para vivir?**

Anote la respuesta: \_\_\_\_\_

## Durham County 2013 Community Health Assessment Survey Results

### Durham County Sample

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Authors: Dana Alicia McKinney, Emory University; Matt Simon MA, Institute for Public Health, Gillings Global School of Public Health, University of North Carolina-Chapel Hill; Erika Samoff, Durham County Department of Public Health and Partnership for a Healthy Durham.

We gratefully acknowledge the United Way of the Greater Triangle for supporting this survey.

#### **Introduction and Methods**

The Durham County Community Health Assessment survey was conducted over six interview days between September 27<sup>th</sup> and October 25<sup>th</sup>, 2013. Administration of the community health survey was performed in collaboration with the North Carolina Institute for Public Health (NCIPH). A two-stage cluster sampling method developed by the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) was employed, using population-based sampling weights from each census block. This sampling method involves randomly selecting 30 census blocks and seven random interview sites in each block to generate a geographic random sample of households. In the first stage of sampling, 30 census blocks were randomly selected with a probability proportionate to the population size (so that the most populated census blocks were more likely to be selected). In the second stage of sampling, seven random interview locations were selected in each census block.

#### ***County random sample***

The random sample of 30 census blocks resulted in 28 unique census blocks (two selected twice). The selected census blocks throughout Durham County are shown in Figure 1. This sample allows for generalizability of the collected data to the entire population of Durham County.

#### ***Survey administration***

Interviewers were recruited from Durham County health organizations and the community in general and trained in survey interview methods. Interviewers worked in teams of two; 90% of the teams had at least one interviewer with prior survey experience. Teams obtained oral consent in English or Spanish before interviewing potential survey participants. Eligible participants were at least 18 years of age and a resident of the selected households. Responses were recorded at the time of interview using EpiInfo on a Google Nexus tablet.

#### ***Data analysis***

During the analysis, results were weighted to account for the sampling method, such that the final results are generalizable to the population sampled.

Data were analyzed in SAS 9.3 (Cary, NC), and results for each question in the survey are reported as weighted proportions with their 95% confidence intervals (CI). Survey weights were calculated using methods described in the CDC CASPER toolkit, which 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. These weights were used to calculate the standard error for each proportion, from which 95% CIs were derived. These confidence intervals should be interpreted as the interval that contains the true value in 95% of repeated samples. Qualitative data were summarized into categorical variables where appropriate. Each data chart is labeled with the number of respondents that answered the particular question, in the format “n=number”.

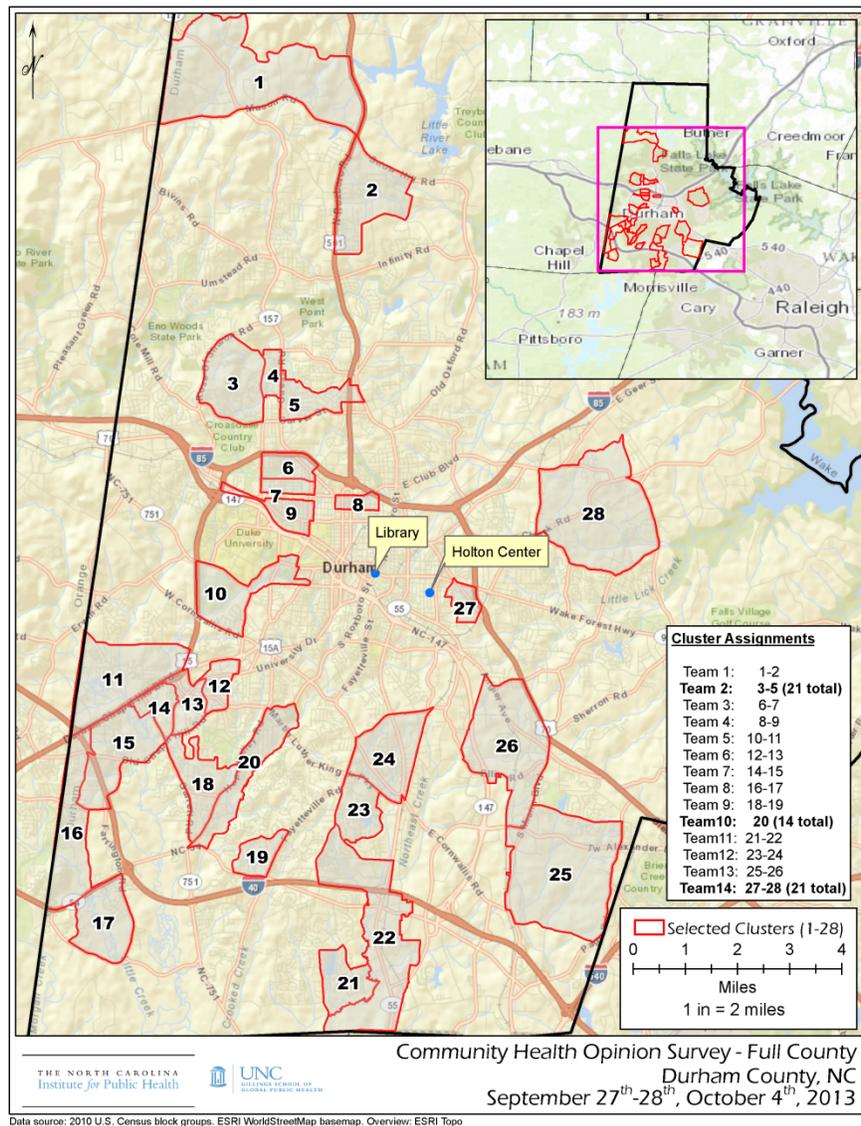


Figure 1. Selected census blocks (n = 28) for Durham County sample

## Results

### County random sample

A total of 182 interviews were successfully conducted among randomly sampled census blocks across the county, from the planned set of 210 interviews for a sampling success rate of 86.7%. The median age of survey respondents from this whole county sample was 50 years (range 18-92). Females made up 52% of survey respondents (95% CI: 43.7%, 60.8%) (Table 1). The majority of respondents were white (64.2%; 95% CI: 53.7%, 74.6%) and not of Hispanic origin (90.0%; 95% CI: 84.5%, 95.5%) (Table 1). Nine percent of respondents self-identified as Hispanic, and 8.3% of respondents spoke Spanish in the home. Respondents in this sample were similar to residents of Durham County.

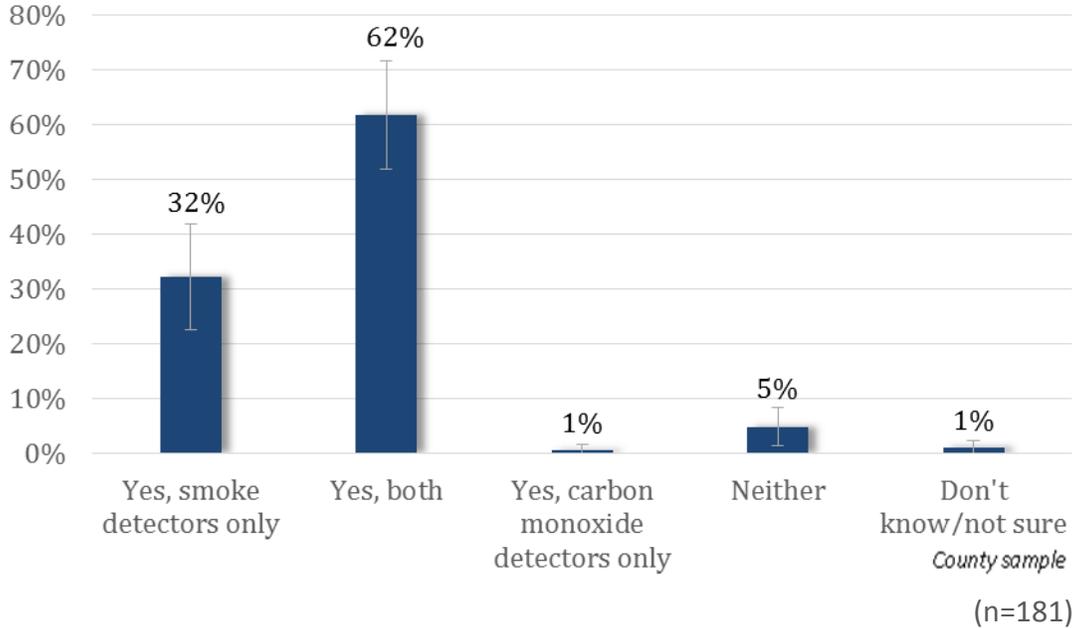
Table 1. Demographic characteristics of survey respondents

	Sample Percent (95% CI)	Durham County*
<b>Gender (n= 180)</b>		
Female	52.3% (43.7%, 60.8%)	52.4%
Male	47.7% (39.2%, 56.3%)	47.6%
<b>Race (n= 168)</b>		
American Indian/ Alaskan Native	2.5% (0.0%, 5.6%)	0.1%
Asian	2.1% (0.0%, 4.2%)	4.9%
Black or African American	30.7% (21.2%, 40.2%)	38.8%
White	64.2% (53.7%, 74.6%)	53.0%
Refused	0.6% (0.0%, 1.7%)	---
<b>Hispanic origin (n=175)</b>		
Hispanic	8.9% (4.7%, 13.1%)	13.4%

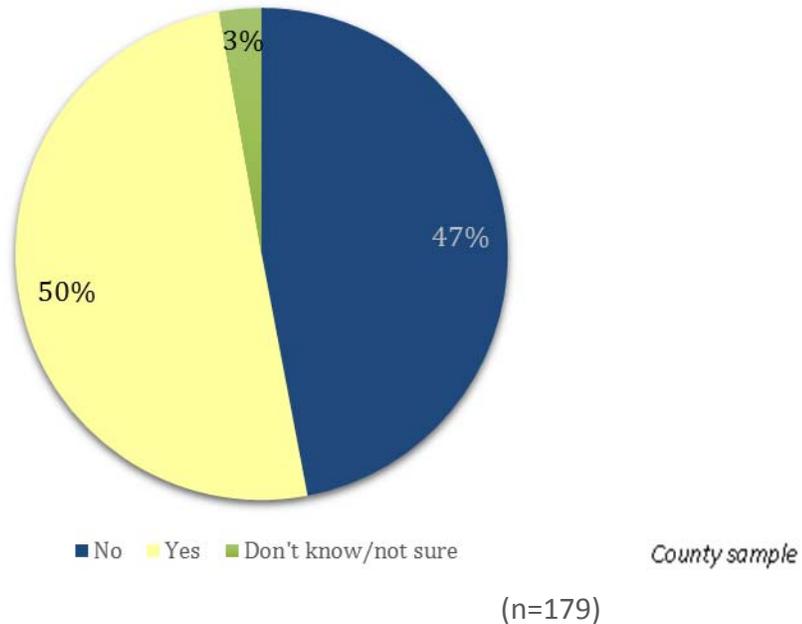
\*Source: 2012 U.S. Census QuickFacts

**Part 1. Emergency Preparedness**

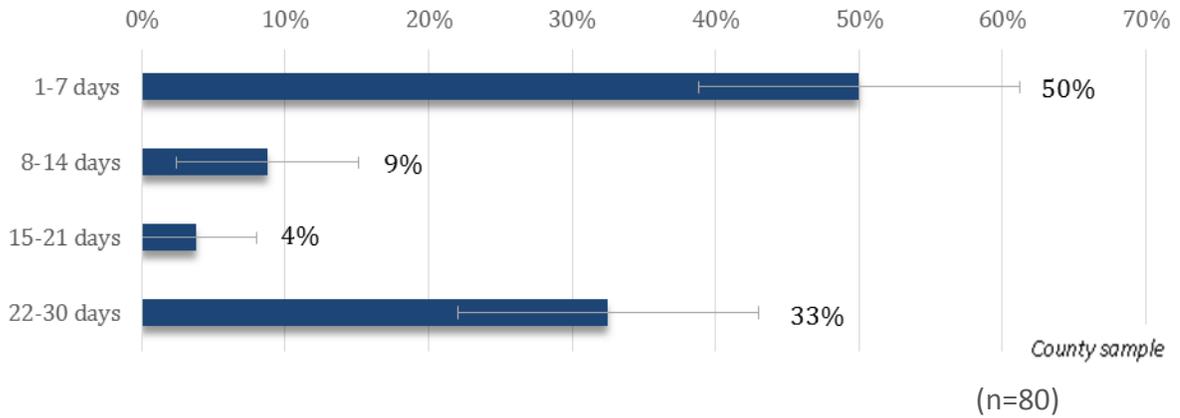
**1. Does your household have working smoke and carbon monoxide detectors? (Choose one.)**



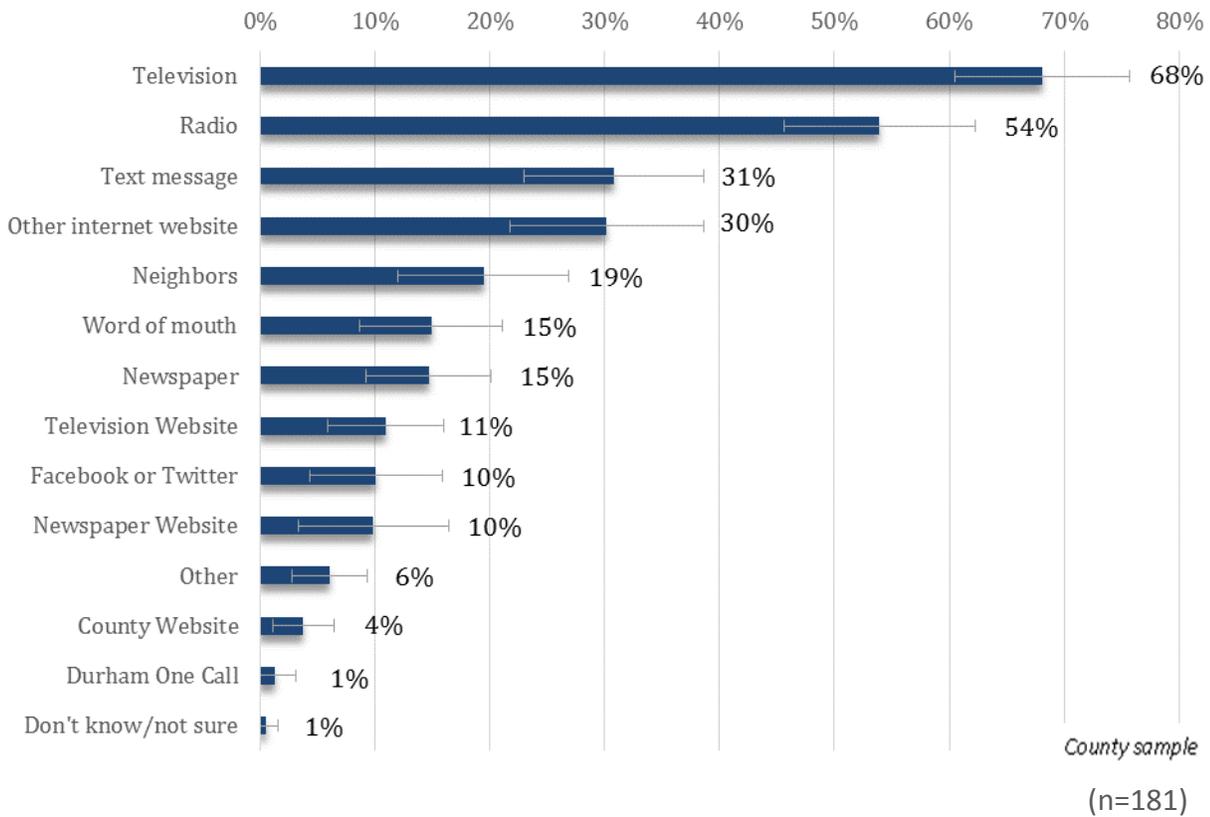
**2. Does your family have a basic emergency supply kit and plan? (These kits include water, non-perishable food, any necessary prescriptions, first aid supplies, flashlight and batteries, non-electric can opener, blanket, etc.)**



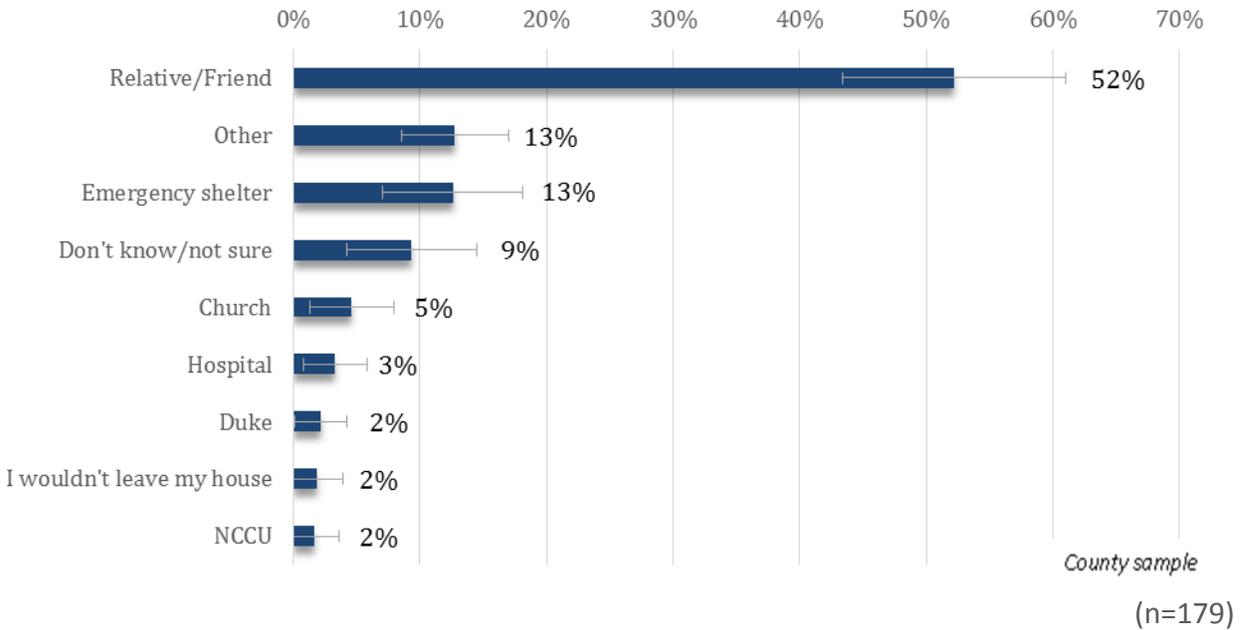
**3. If yes, how many days do you have supplies for? (Write # of days)**



**4. What would be your three top sources of information in a large-scale disaster or emergency? (Check all that apply)**

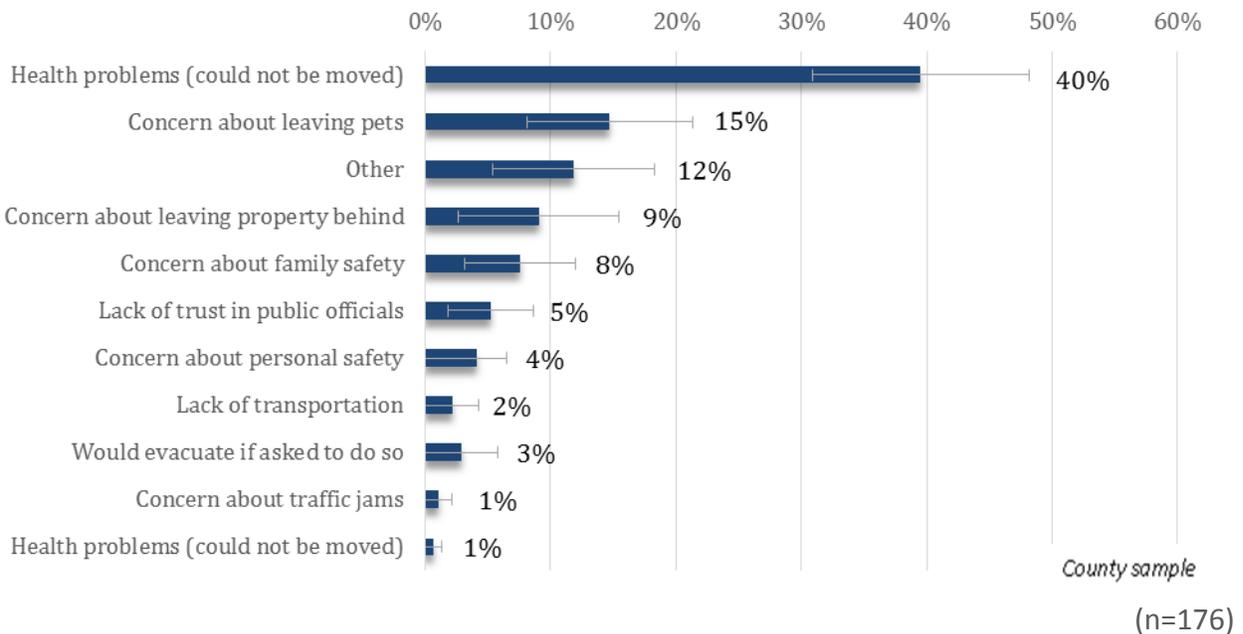


**5. If you couldn't remain in your house, where would you go in a community-wide emergency? Choose one.**



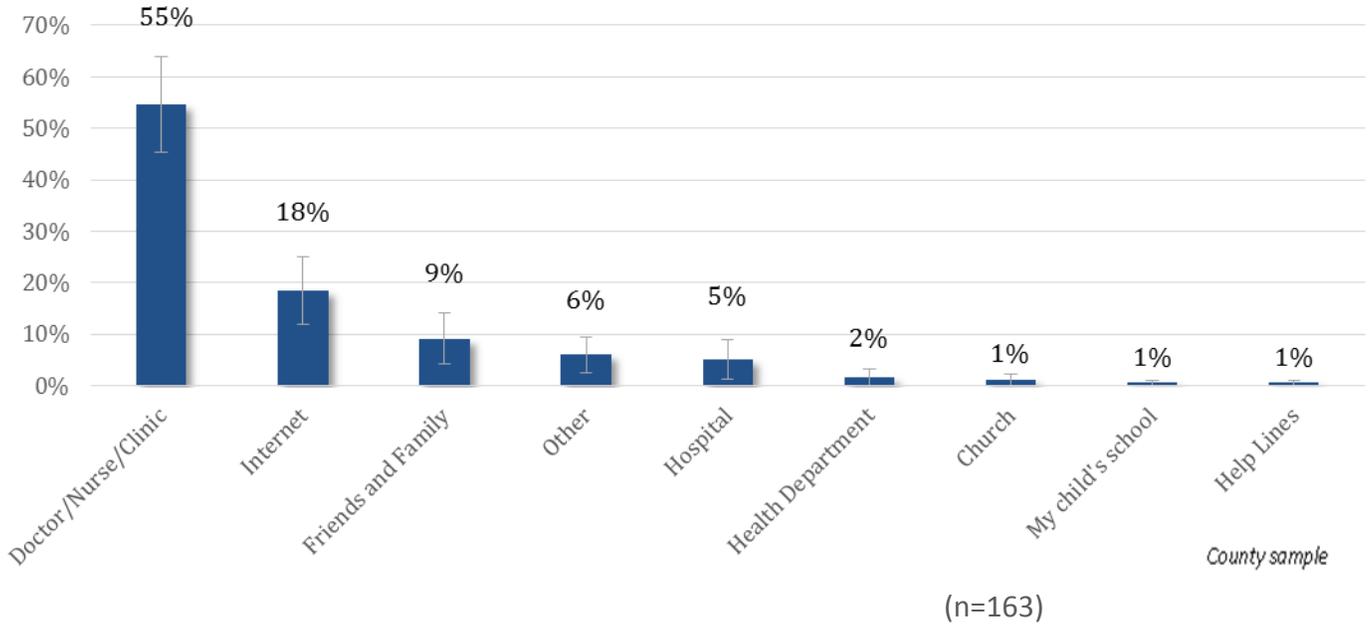
Other for this question includes specific workplaces, the Library, out of town, motel, under car.

**6. What would be the main reason you might not evacuate if asked to do so? (Choose one.)**

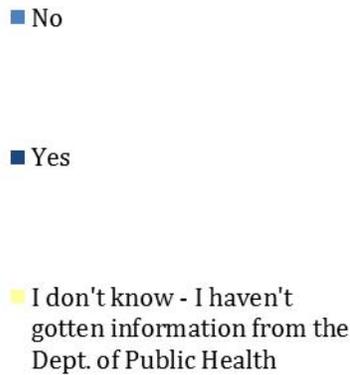


**Part 2 Health Information**

**7. Where do you get most of your health-related information? Please choose only one.**



**8. Do you think that the Durham County Department of Public Health is a credible source of health information?**

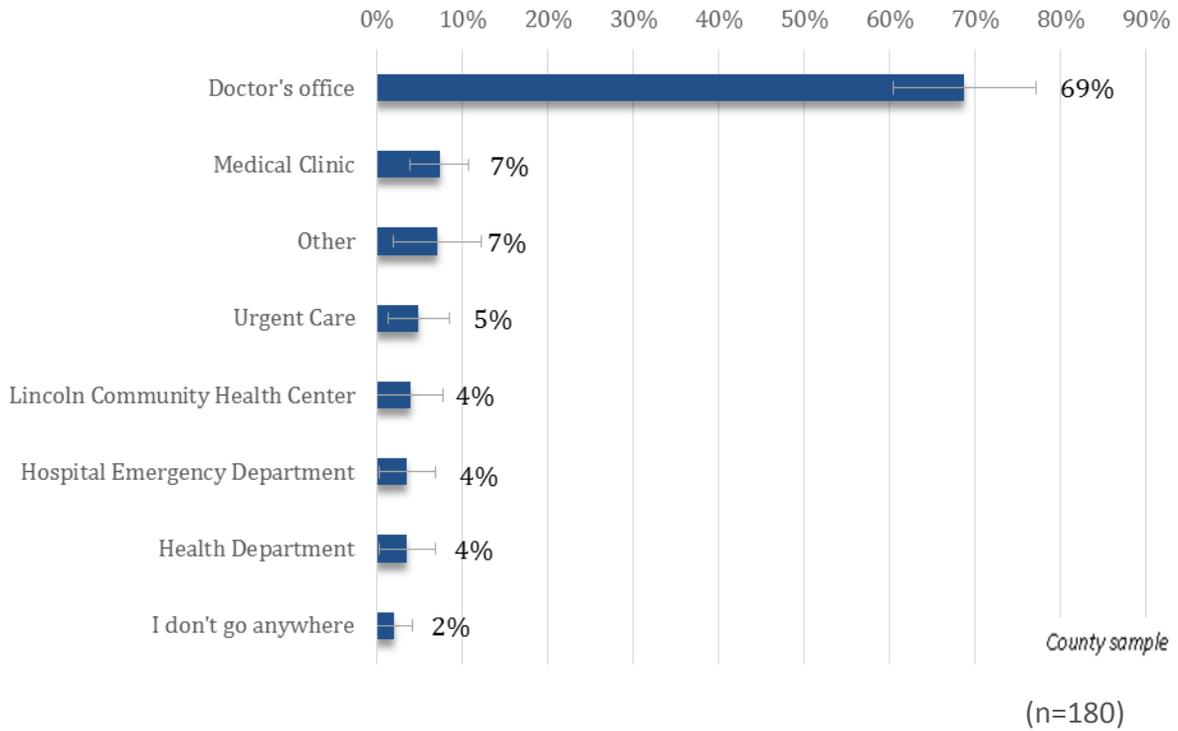


County sample

(n=179)

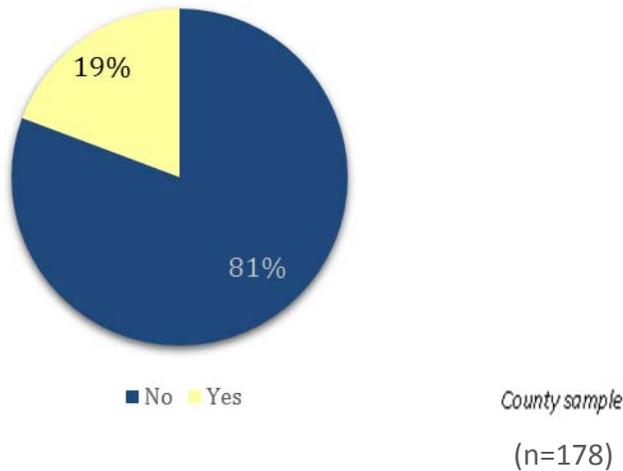
**PART 3: Personal Health**

**9. Where do you go most often when you are sick or want to talk to someone about your health? Check all apply.**



**Access to Healthcare:**

**10. During the past 12 months, was there any time that you did not have any health insurance or coverage?**

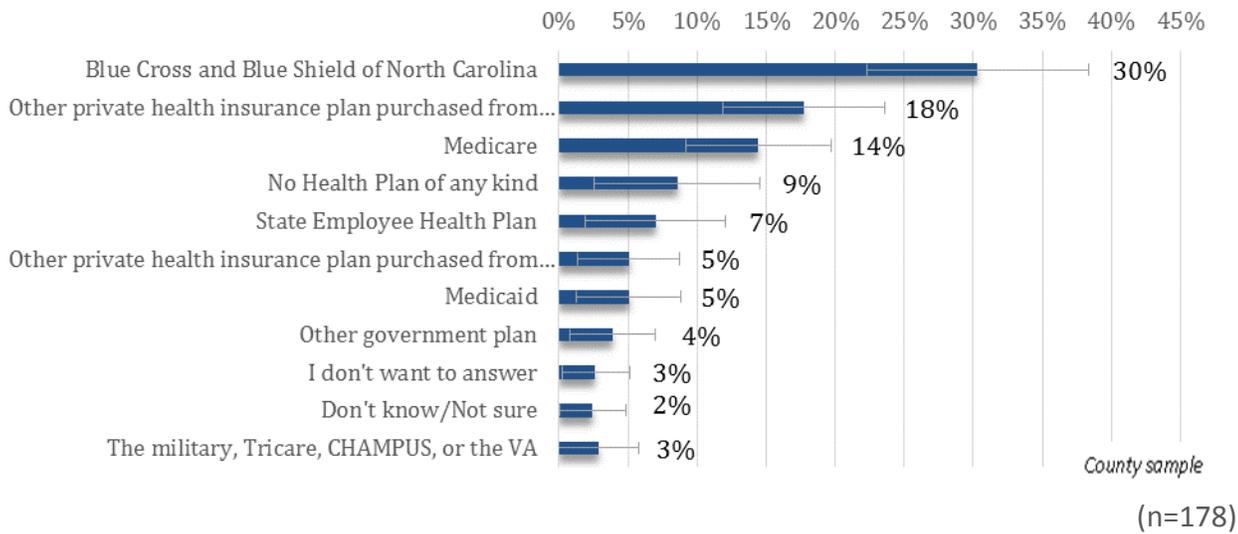


**11. If yes, why did you not have health insurance or coverage?**

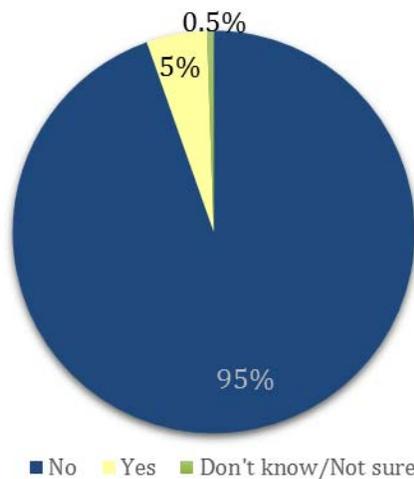
Reasons included: I was unemployed (4%), cost (3%), no reason (2%), no papers, confusion on carriers, it's a process to get health insurance.

(n=25)

**12. What is your current primary health insurance plan? This is the plan which pays the medical bills first or pays most of the medical bills? (Please choose only one.)**



**13. 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, dentist, pharmacy, or other facility?**



(n=179)

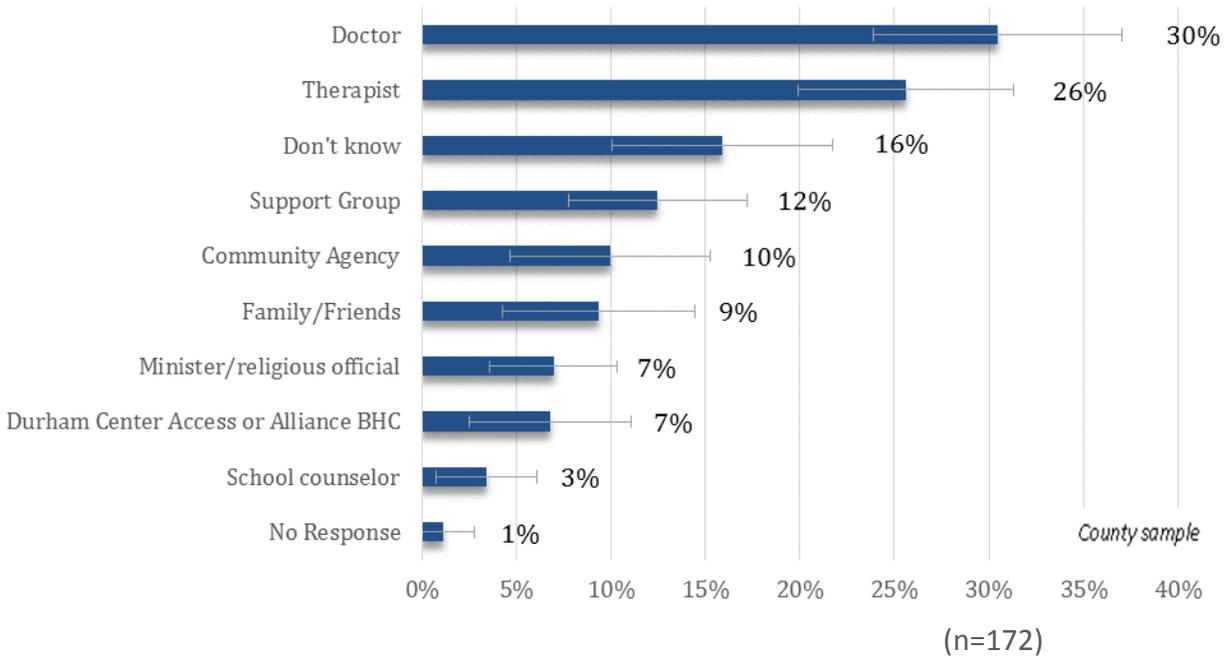
**14. Since you said “yes,” what type of care (provider or facility) did you or people in your household have trouble getting health care from? I will read a list and you can choose as many of these as you need to. (Read Providers.)**

Responses: Dentist (3%), Pharmacy (2%), general (1%), hospital, eye (both <1%).  
(n=14)

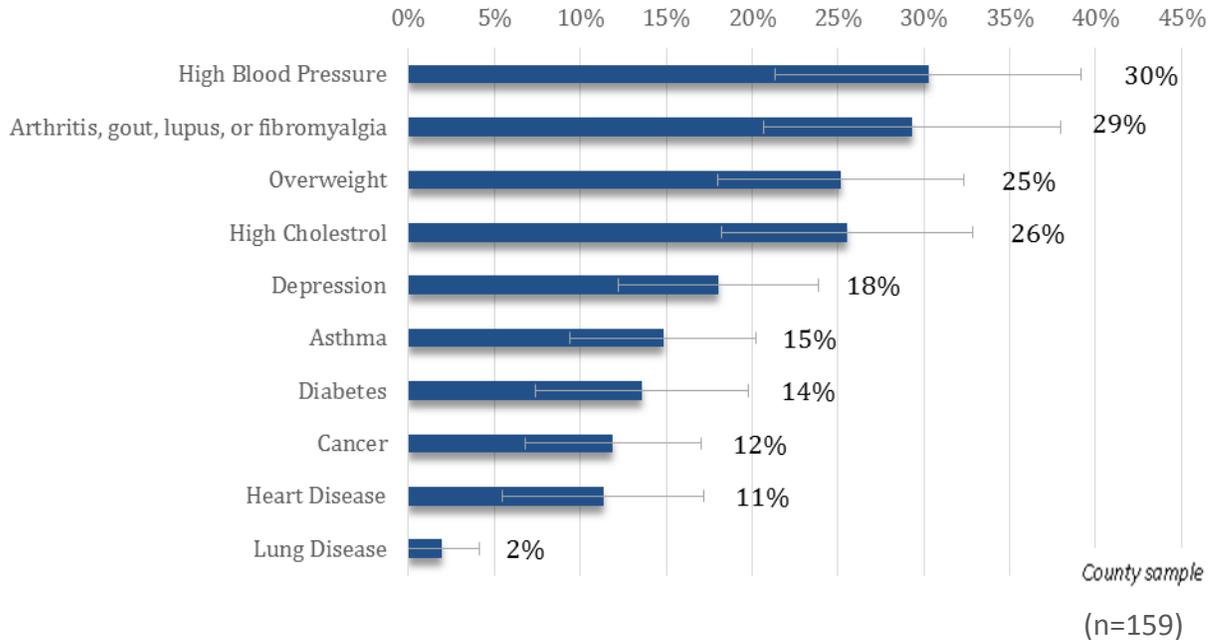
**15. What was the problem that prevented you or people in your household from getting the necessary health care?**

Responses: No health insurance (3%), no dental insurance (0.5%), I didn’t have insurance coverage for my problem (0.5%)

**16. 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? You can choose as many as you want. Read responses. Which do you think you would choose?**

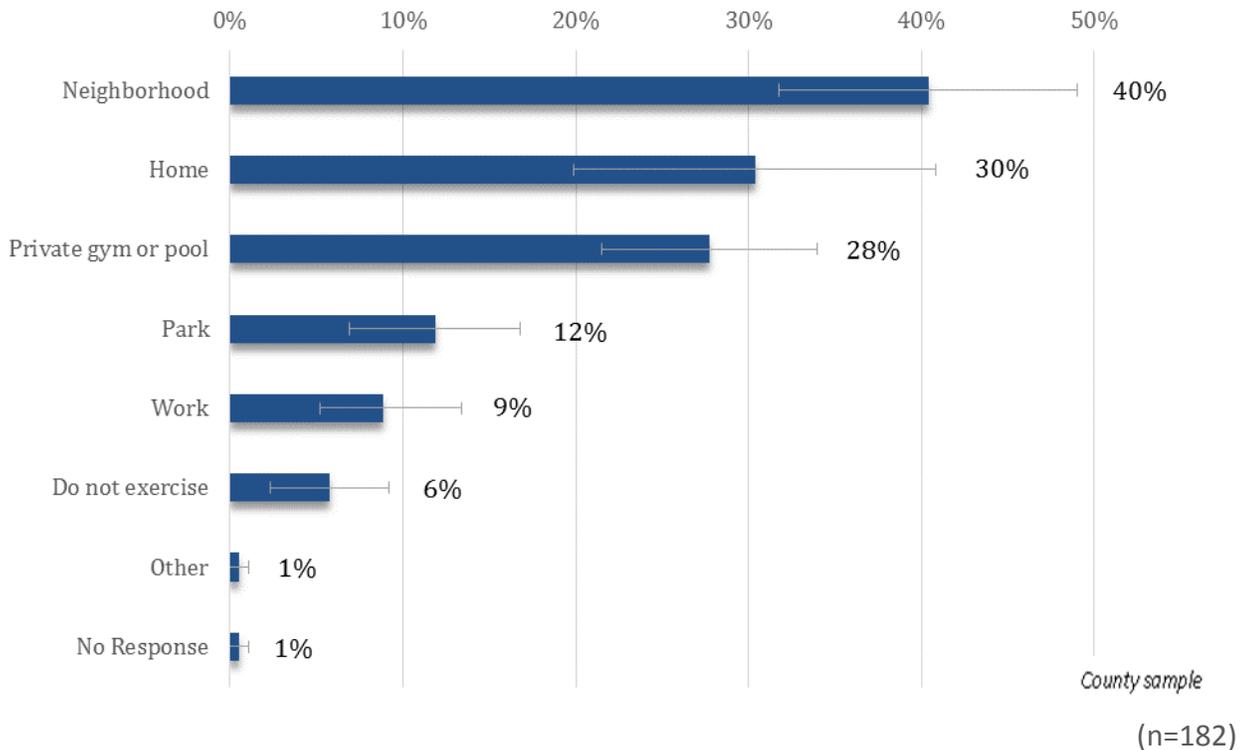


**17. Have you ever been told by a doctor, nurse, or other health professional that you have any of the health conditions I am going to read?**



**Exercise:**

**18. Where do you go to exercise or engage in physical activity? Check all that apply.**

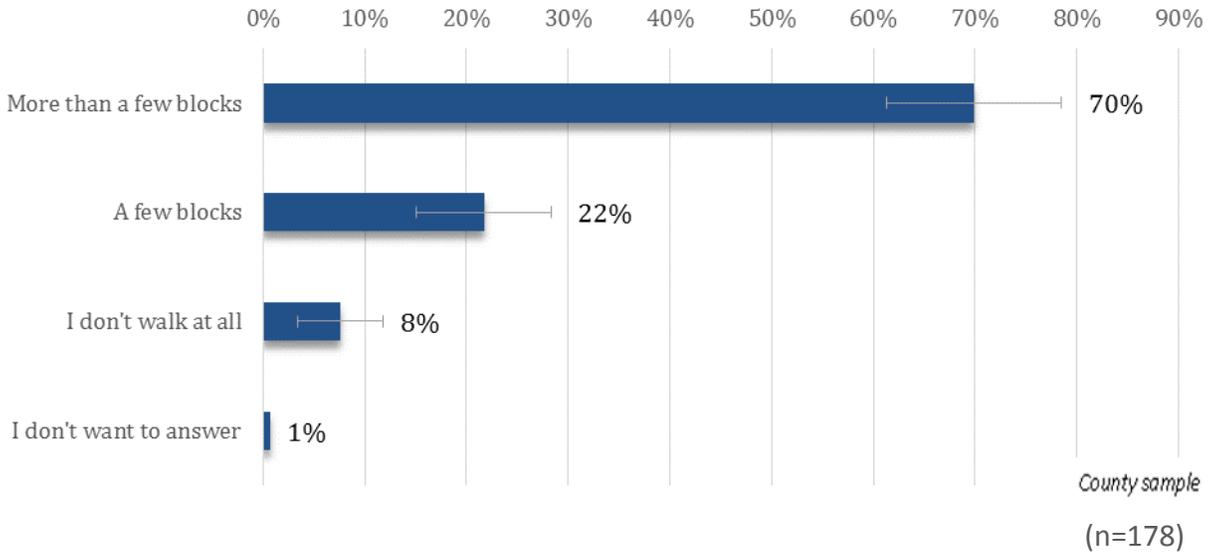


**19. If you said “I don’t exercise”, what are the reasons you don’t exercise during a normal week? You can give as many of these reasons as you need to.**

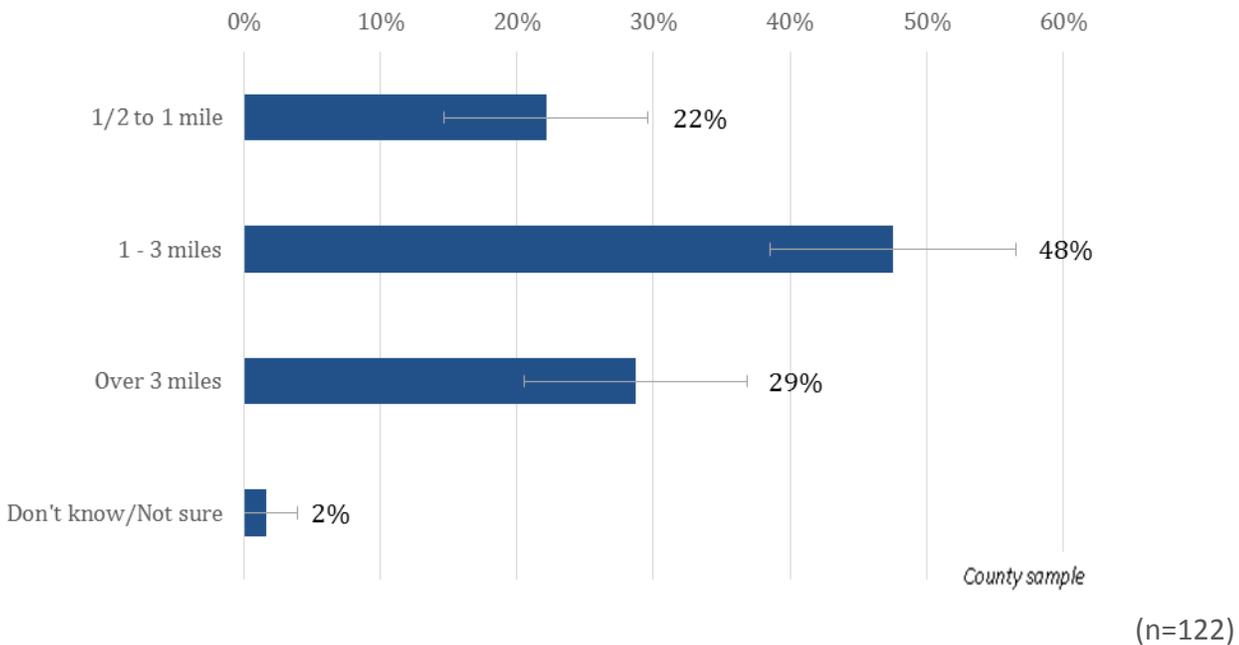
Reasons: There is no safe place to exercise (1%), not enough time (1%), I don’t like to exercise, no access to a facility, I’m disabled, I’m embarrassed (all <0.5%).

(n=7)

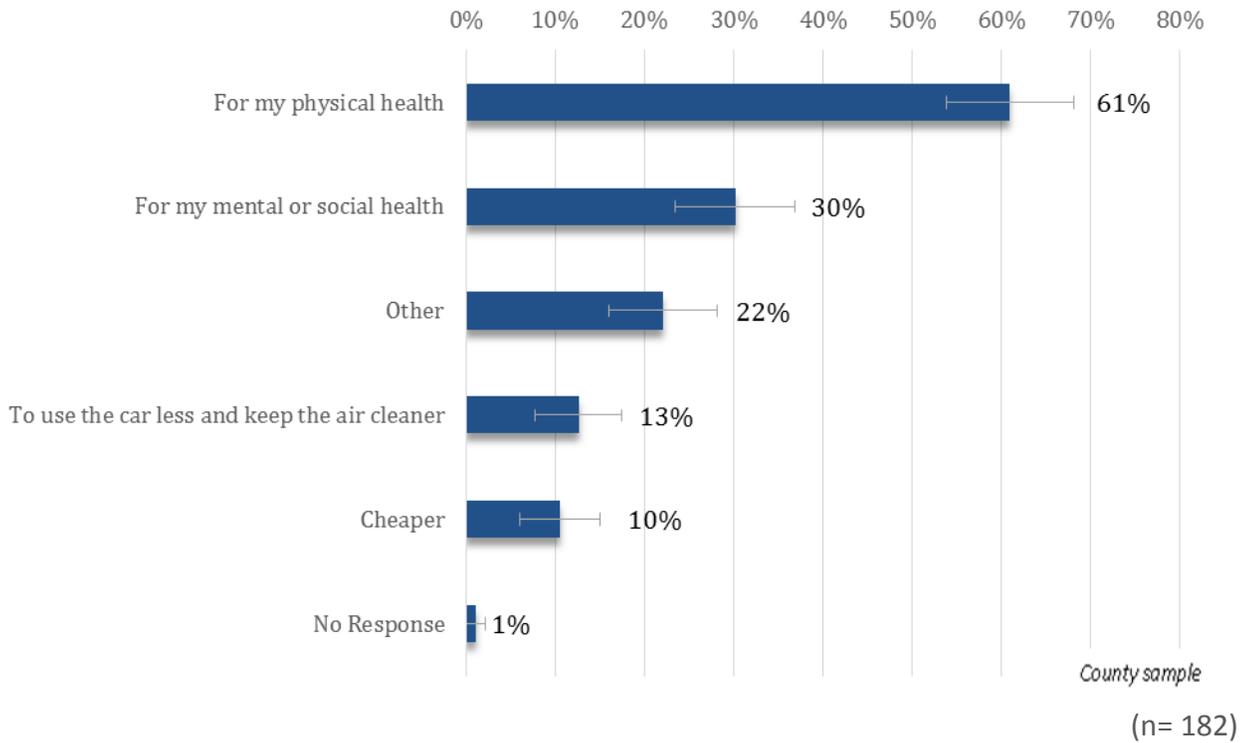
**20. There are many different ways to exercise or get physical activity. For the next set of questions, we are only interested in walking and biking. On a typical day, how much do you walk?**



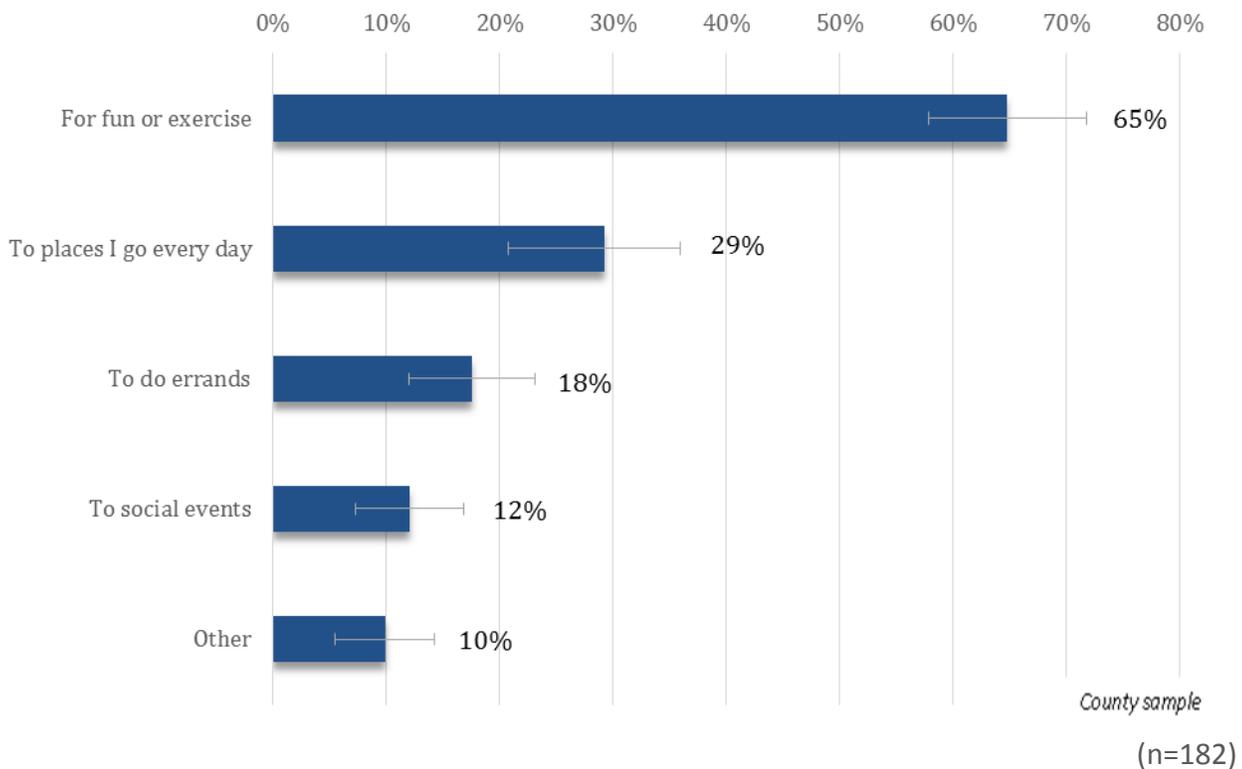
**21. Among those who walk more than a few blocks: How far do you walk each day in miles?**



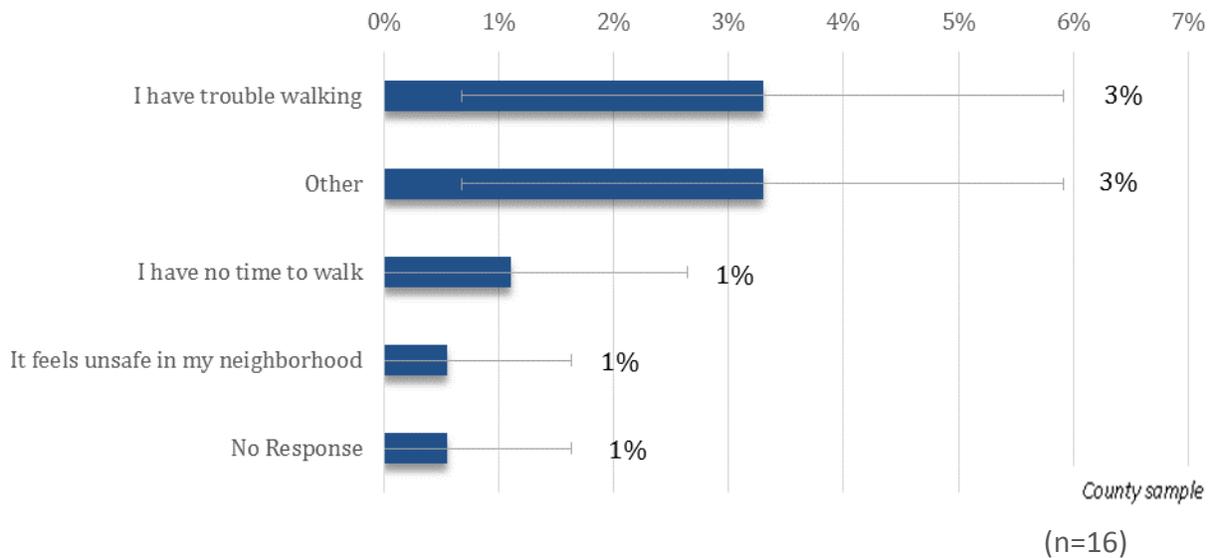
**22. Why do you walk? (Read responses and check all that apply)**



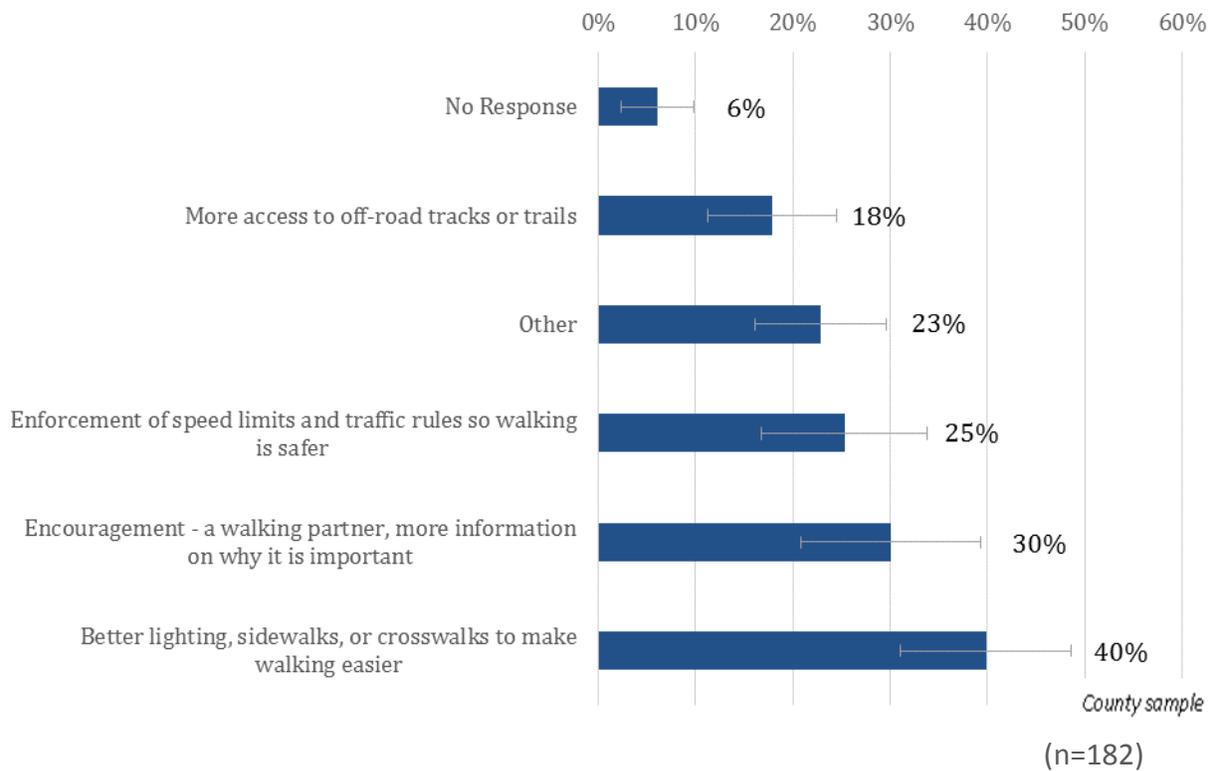
**23. Where do you walk? (Read responses and check all that apply)**



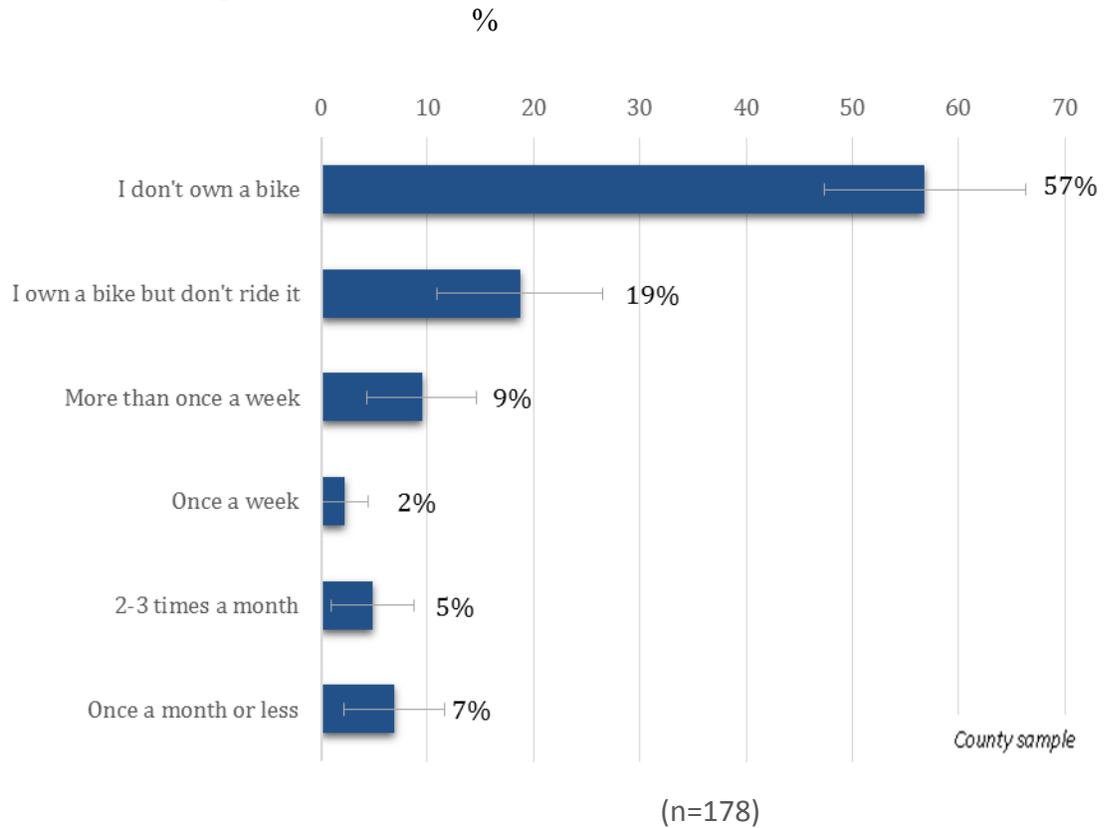
**24. If you do not walk very much currently, why not? (check all that apply)**



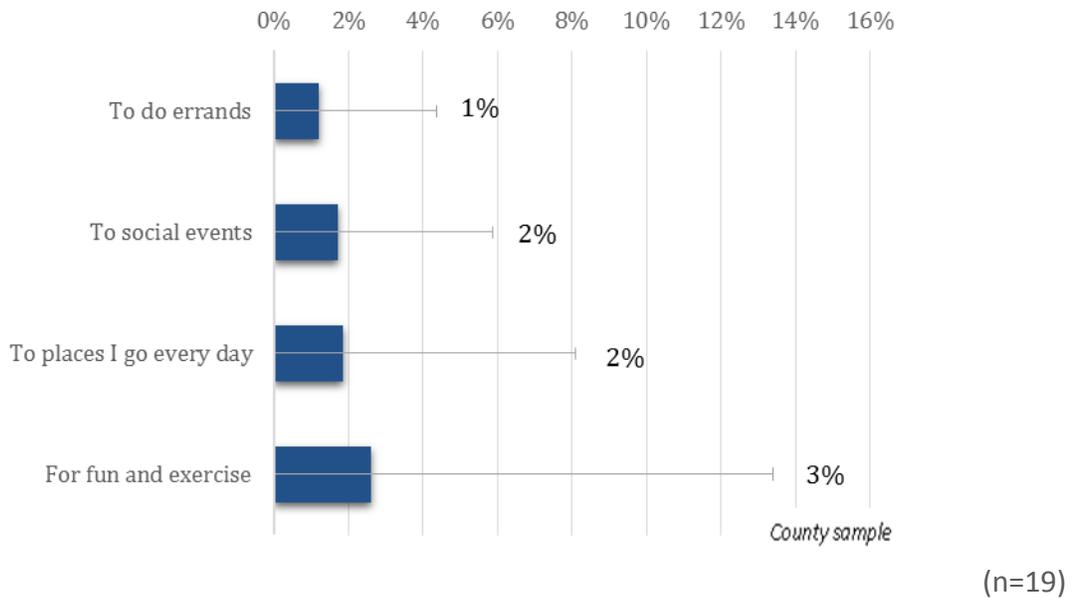
**25. Whether you currently walk or not, what would make you want to walk more? (check all that apply)**



**26. Do you ride a bike (not including an exercise bike)? If so, how often?**

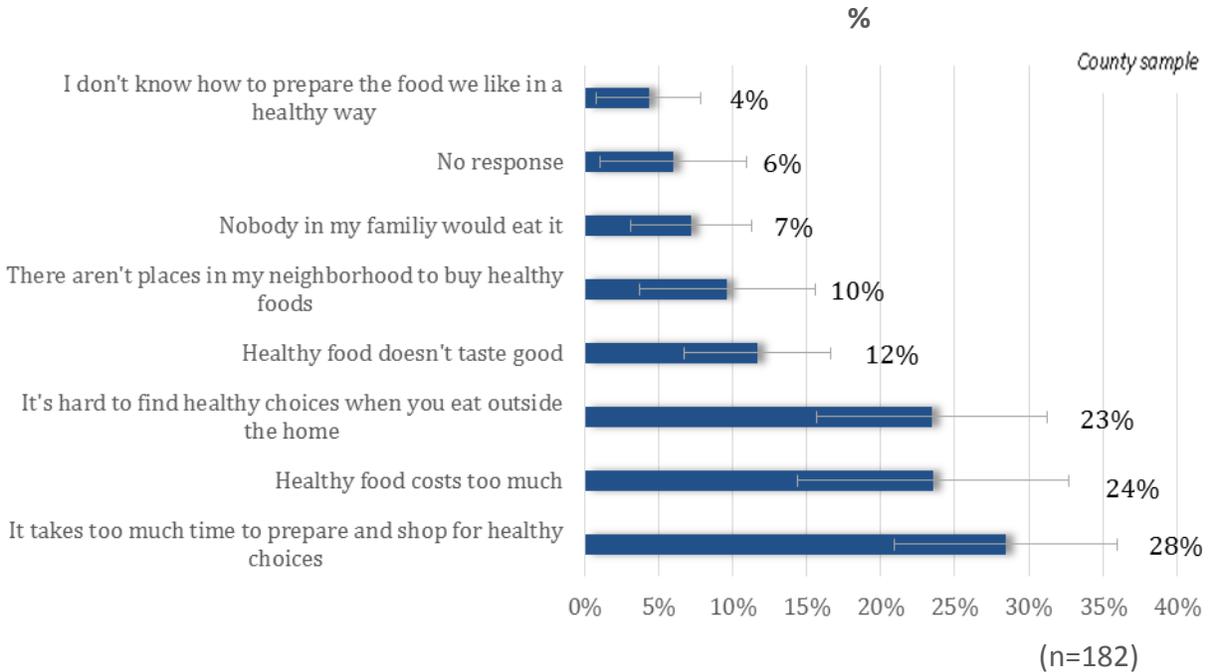


**27. When you do ride your bike, where do you go? (Check and answer all that apply)**

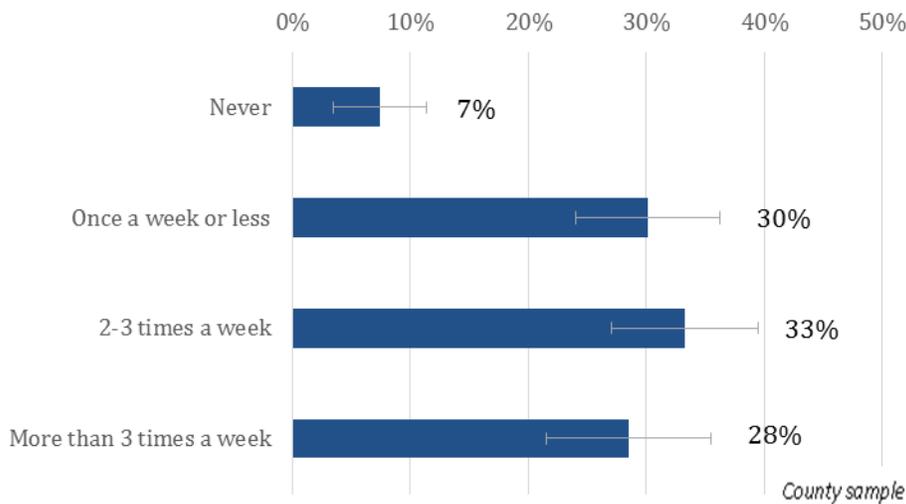


**Diet:**

**28. 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? Tell me all that apply. (choose all that apply.)**

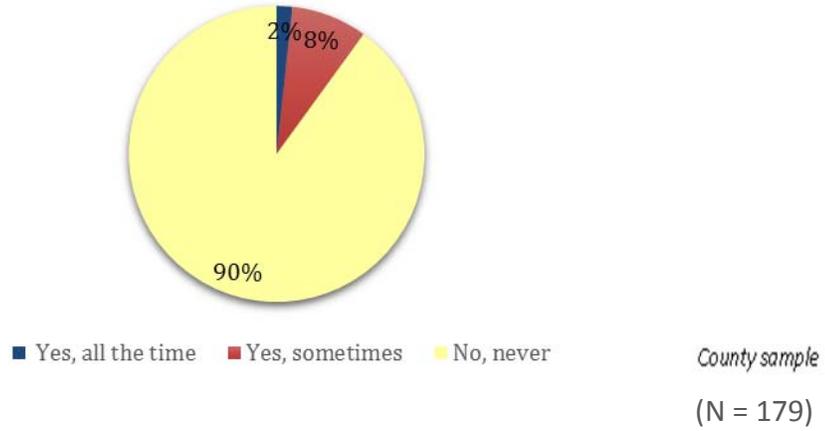


**29. Thinking about breakfast, lunch, and dinner, how many times in a typical week do you eat meals that were not prepared at home, like from restaurants, cafeterias, or fast food?**



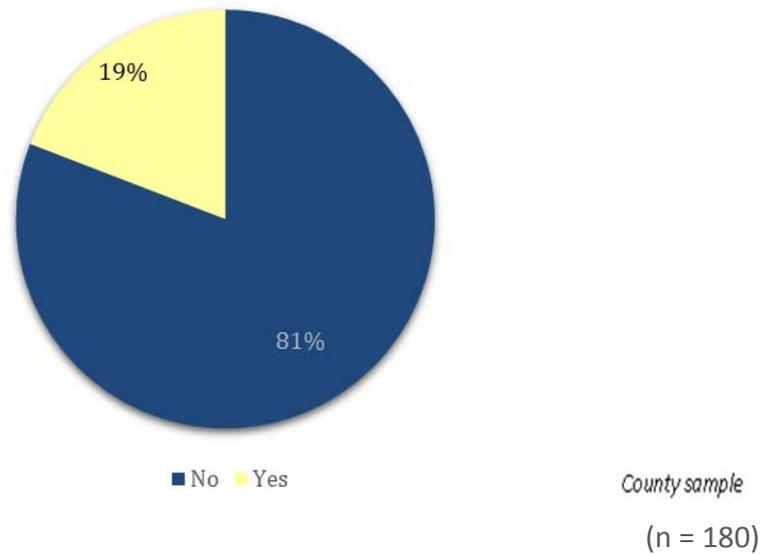
(n=180)

30. In the last 12 months, did you ever cut the size of your meals or skip meals because there wasn't enough money for food? (Read answer choices.)

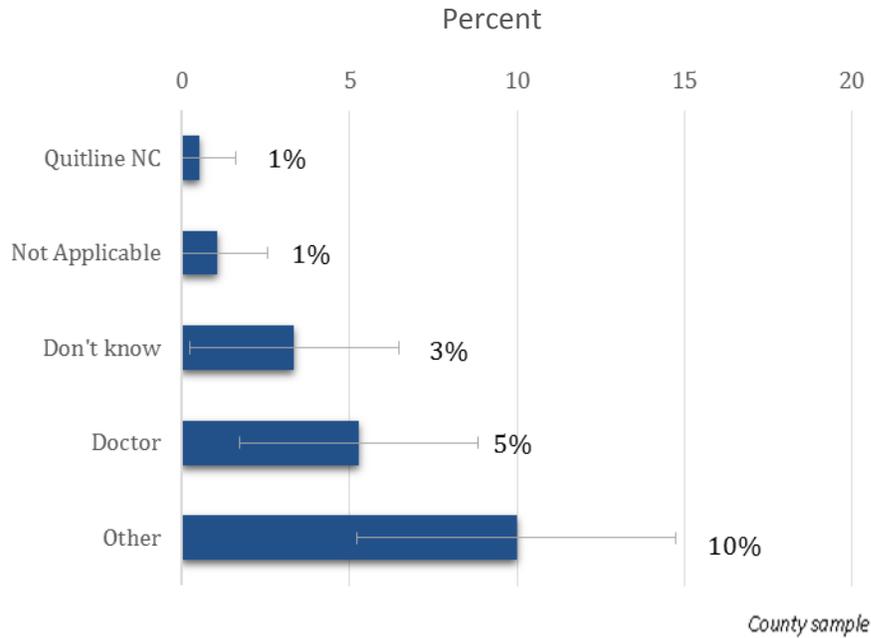


**Smoking:**

31. Do you currently smoke?

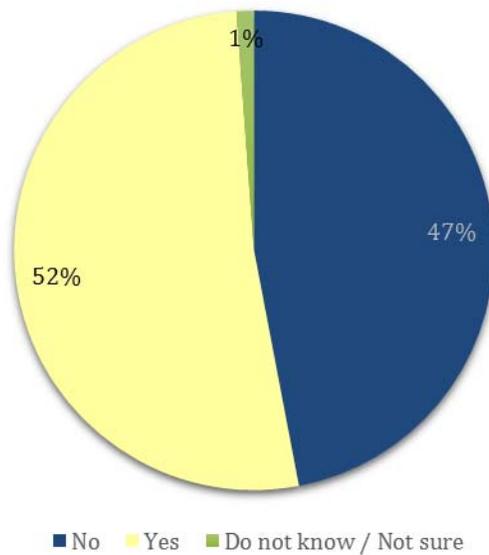


**32. If yes, where would you go for help if you wanted to quit? (Check all that apply.)**



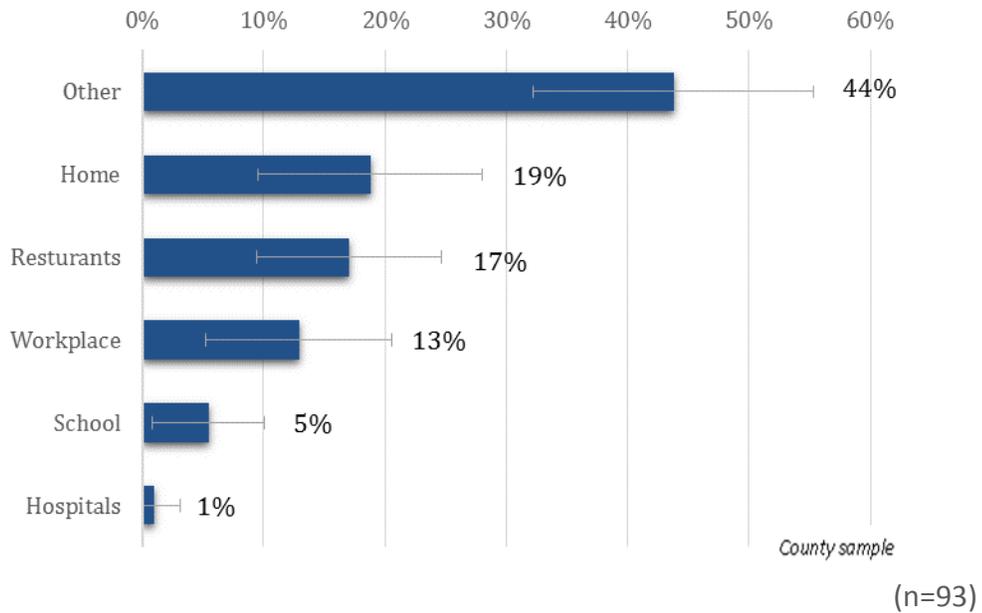
Other for this question includes one response each for private counselor, therapist, Department of Public Health, and church.

**33. Have you been exposed to secondhand smoke in Durham County in the past year?**



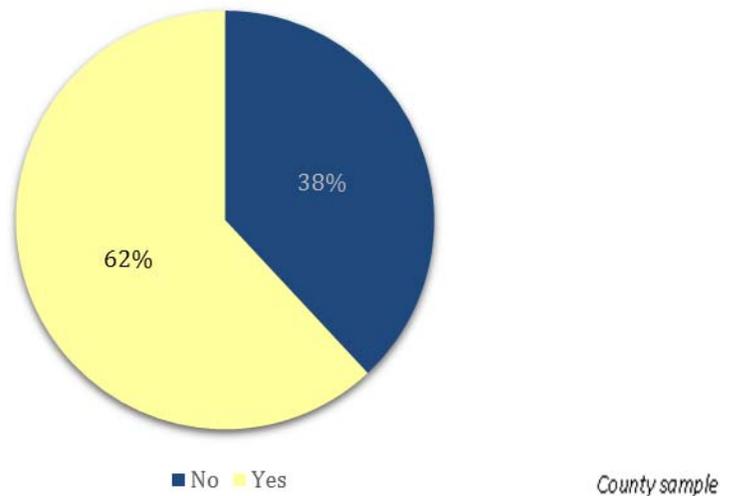
County sample (n=179)

**34. If yes, where do you think you are exposed to secondhand smoke most often? (Choose one)**



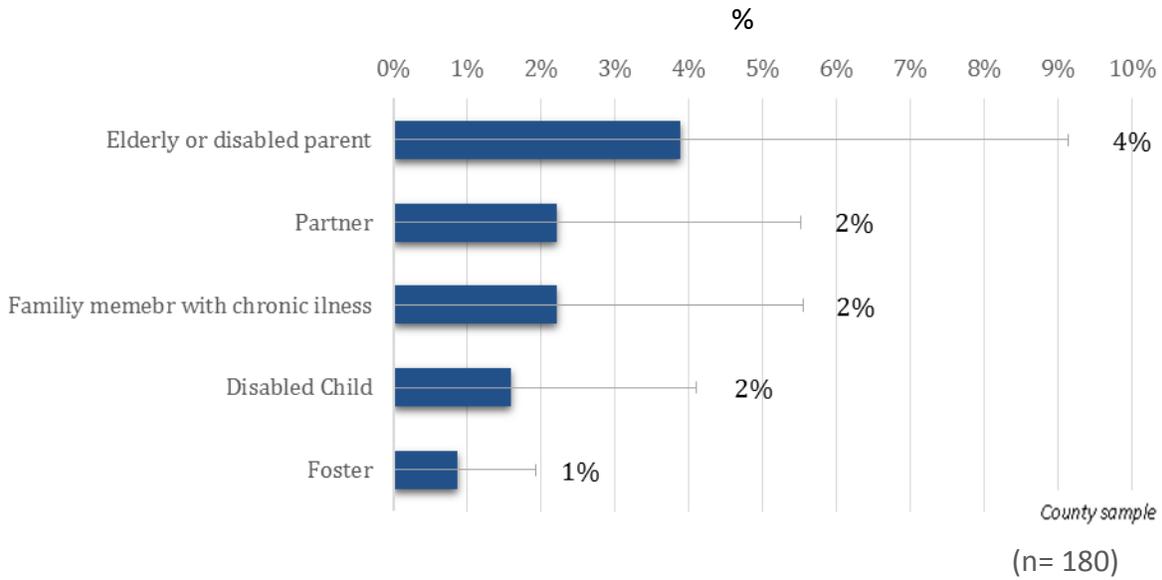
For this question, “Other” included: Public places (parks, neighborhoods, malls; 15%), family and friends (10%), in cars (10%), and in bars (9%).

**35. Are you aware that Durham has a Smoking Rule that does not allow smoking in outdoor public spaces such as parks, county government properties, certain sidewalks and bus stops?**

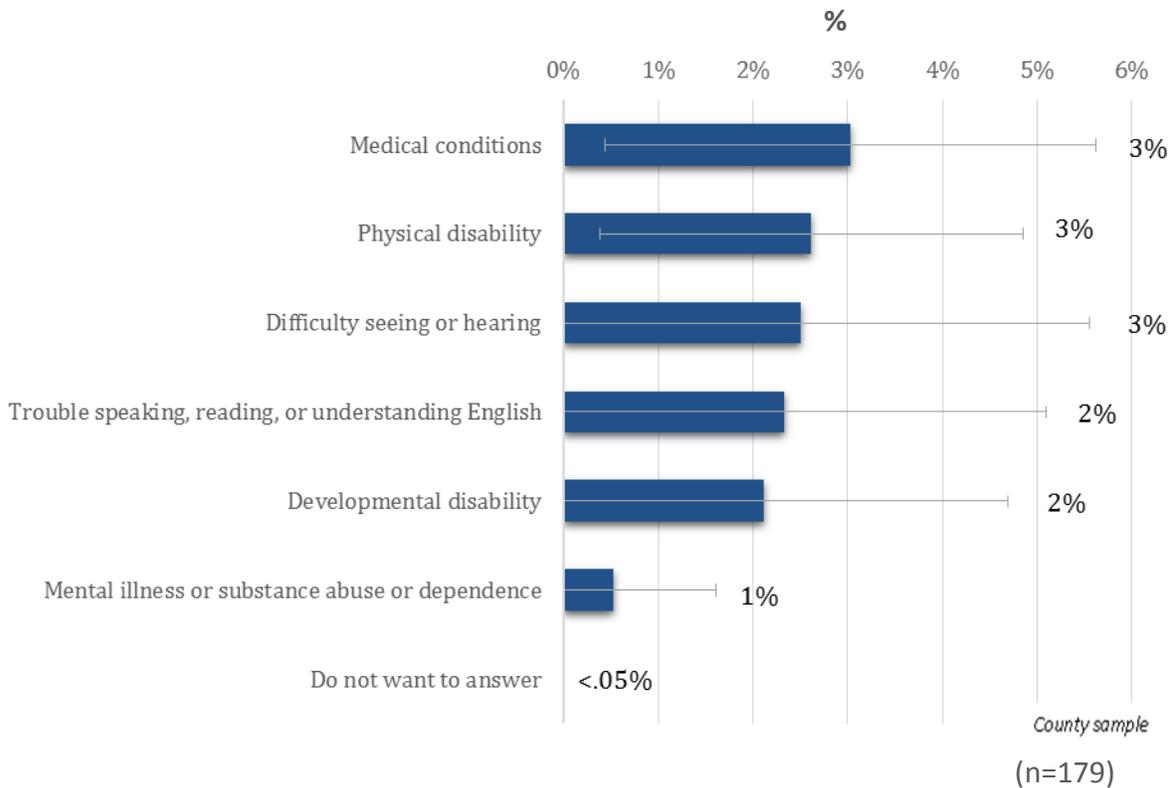


**Household:**

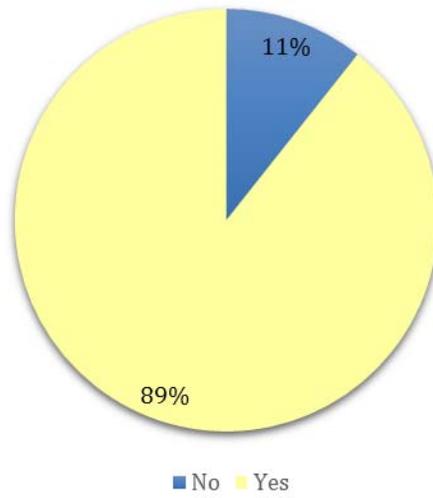
**36. Are you currently caring for: (check all that apply)**



**37. Does anyone in your household, including yourself, need support to be independent in daily activities because of a: (check all that apply)**



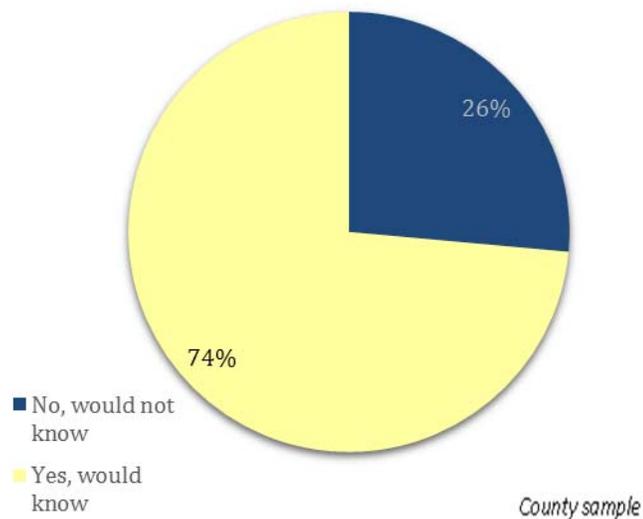
**38. Do you have access to the Internet?**



County sample

(n= 174)

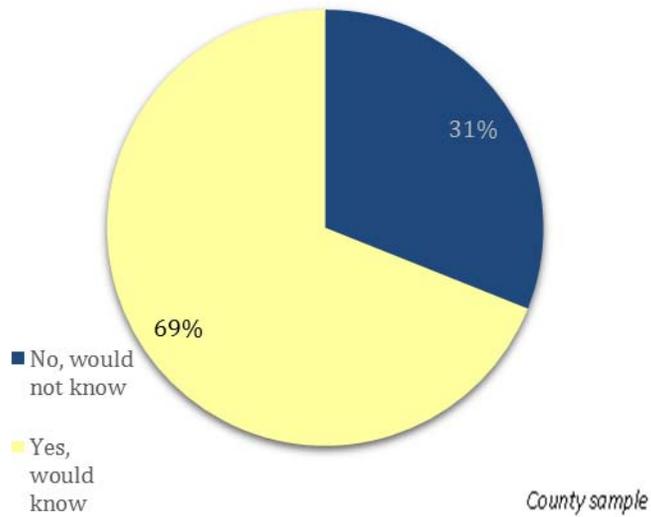
**39. Do you feel like you know what City or County agencies to approach if you have problems with your house or household services (for example, your sewer, building code, or personal rights)?**



County sample

(n = 178)

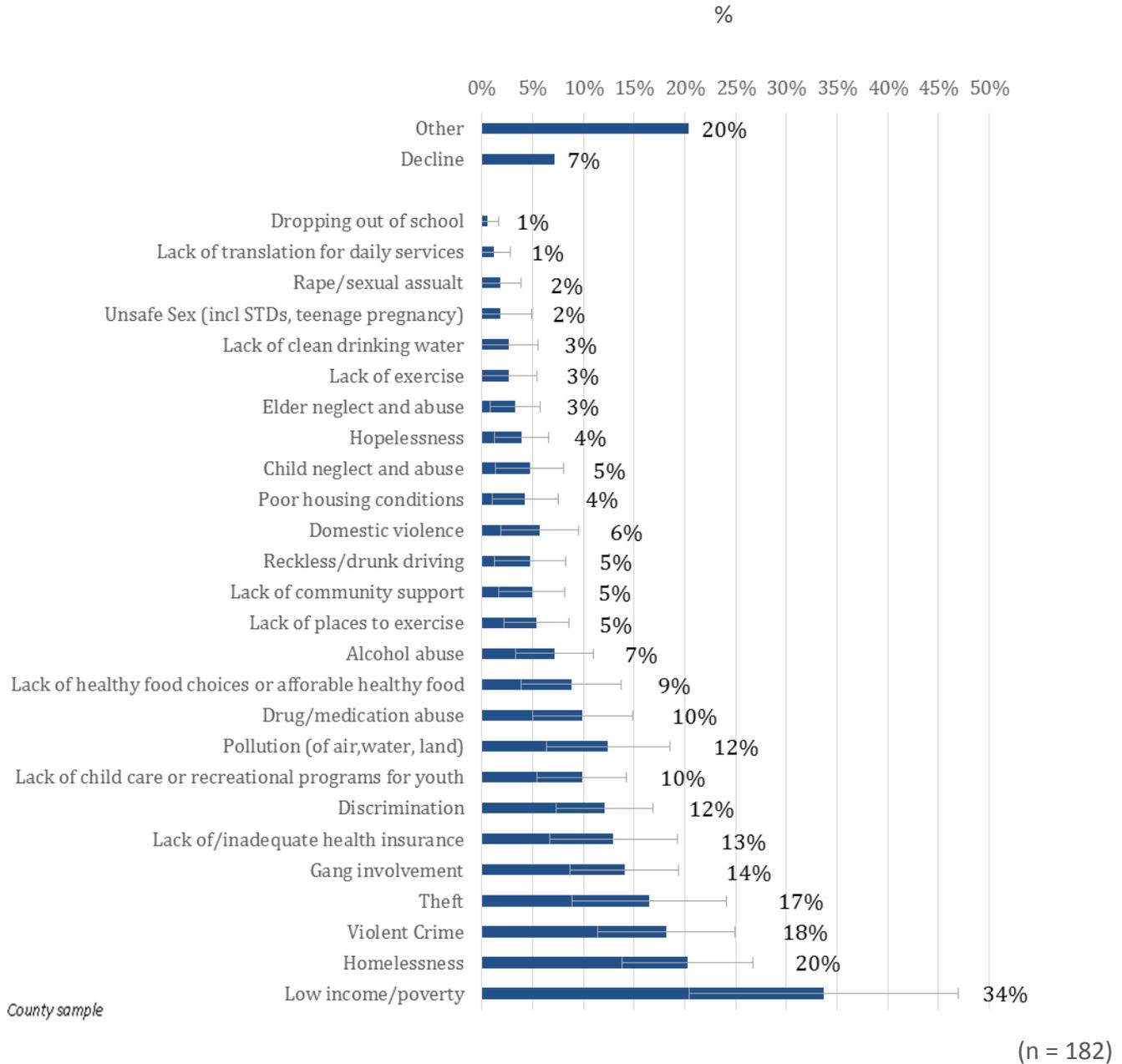
40. Do you feel like you know what City or County agencies to approach if you have problems in your neighborhood (for example, with your sidewalk, roads, or neighborhood disputes).



(n = 177)

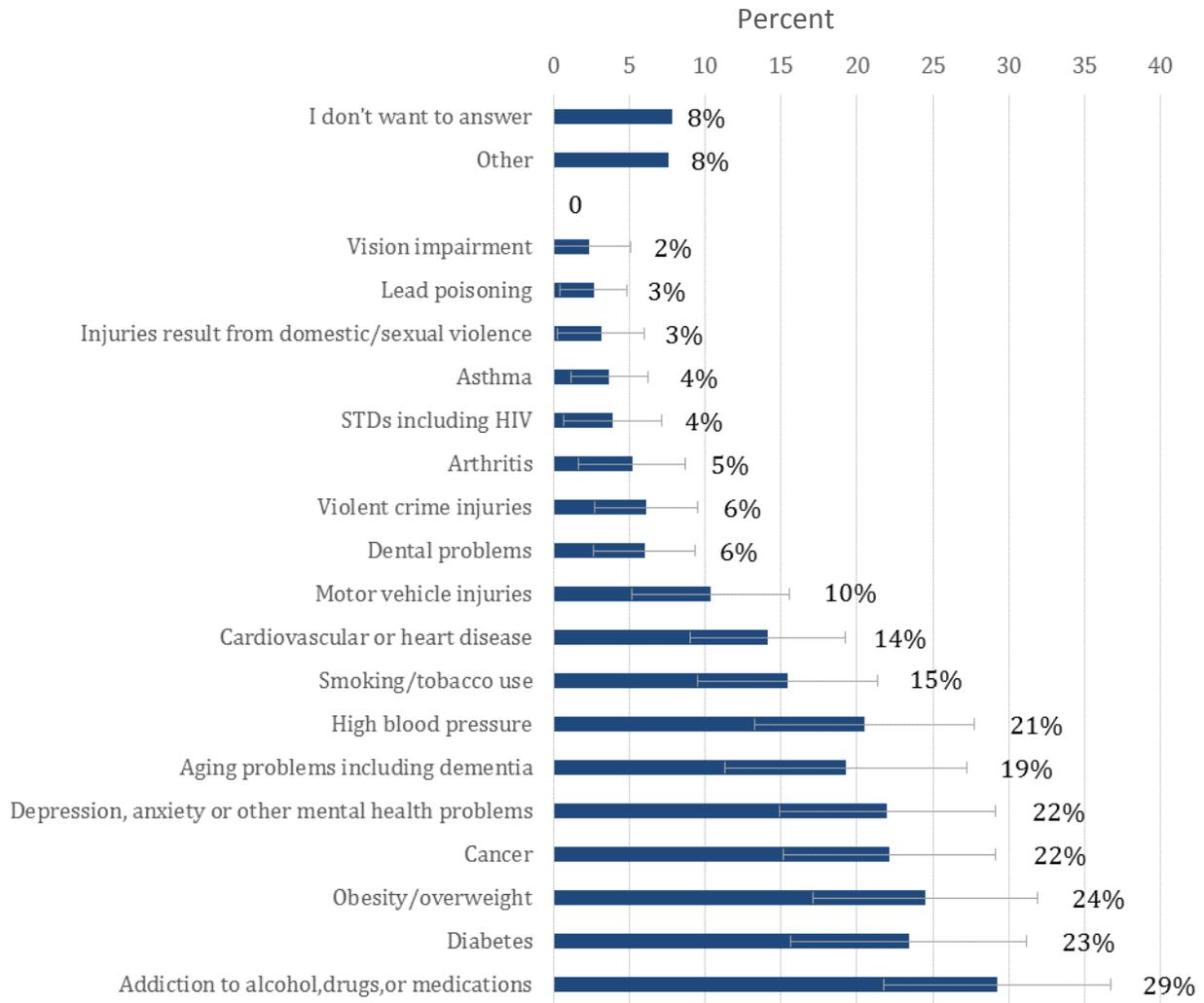
**PART 4: Community Improvement**

**41. 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. Remember this is your opinion and your choices will not be linked to you in any way.**



Other includes: Can't identify a problem (9%), lack of expectations for youth, animal control, awareness of biking, guns, lack of facilities for exercise, uncontrolled traffic, public schools, selling drugs, taxes, potential for crime, safety, parks connected to city housing, dog attacks (one response each).

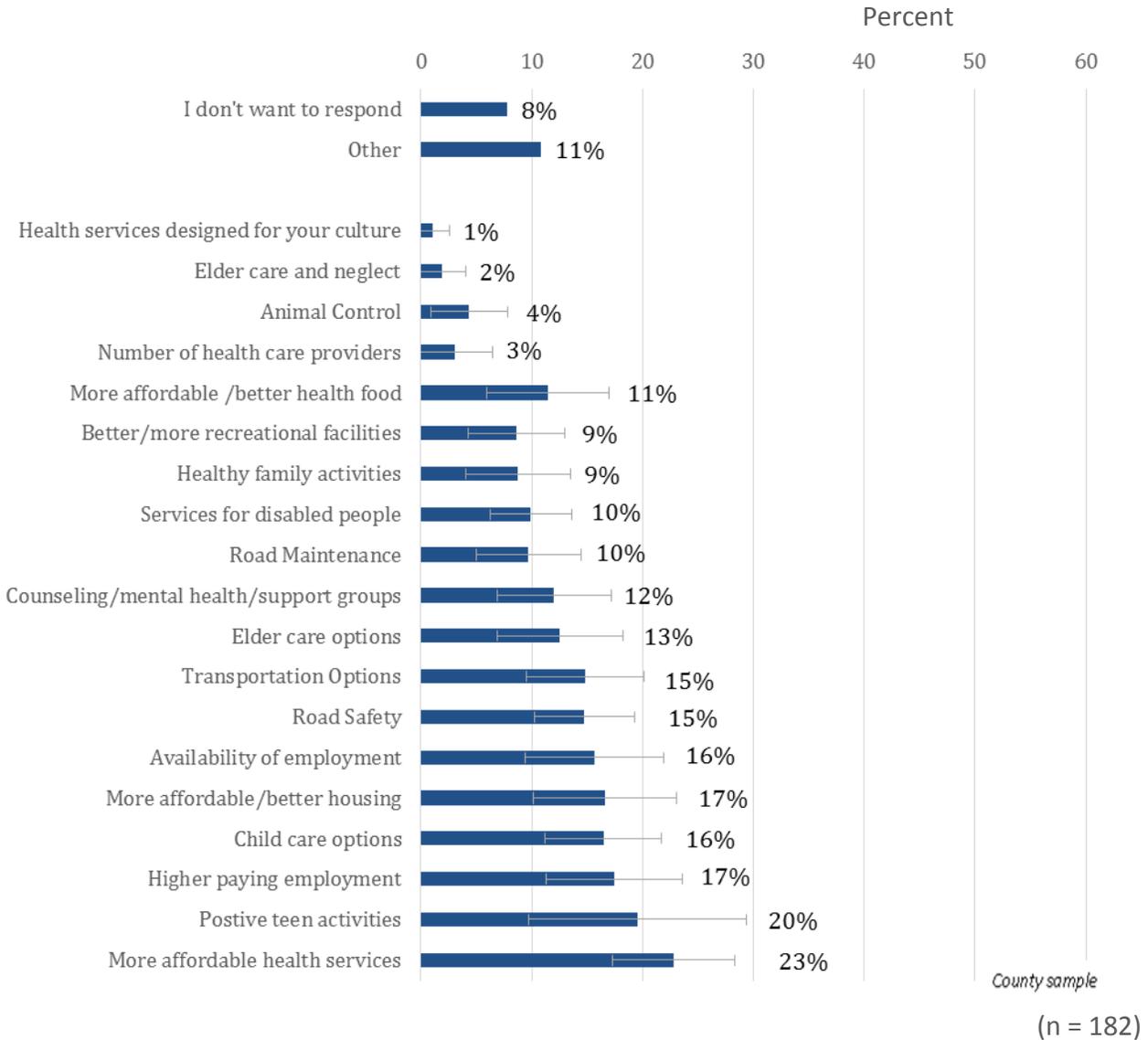
**42. Keeping in mind yourself and the people in your neighborhood, I would like for you to name the most important health problems (that is, diseases or conditions). You can choose up to 3.**



(n = 182)

Other includes: Don't know (5%), doctor giving prescriptions with contraindications, driving distractions, health problems arising from pollution, metabolic syndrome, people selling drugs, old age (one response each).

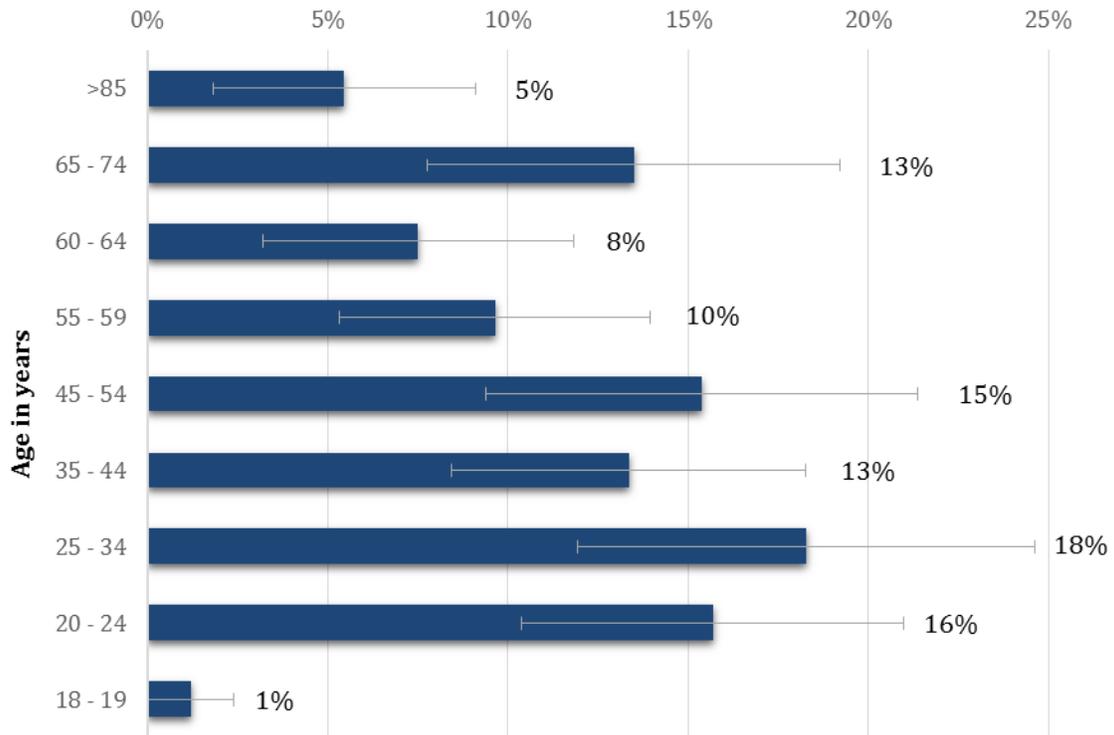
**43. In your opinion, which one of the following services needs the most improvement in your neighborhood or community? (Please choose up to three.) If there is a service that you think needs improvement that is not on this list, please let me know and I will write it in.**



Other includes: None (3%), wildlife control, trail safety, parents being more responsible for their own children, more wild areas where people live, domestic violence, crime control, community involvement, adult education, addiction services (one response each).

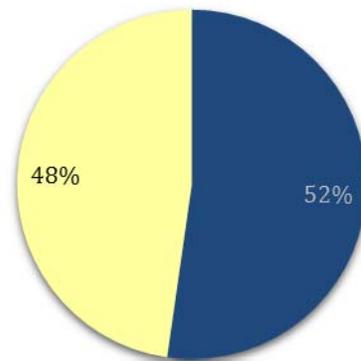
**Part 5. Demographic Questions**

**44. Age of survey respondent**



(n= 174)

**45. What is your gender?**

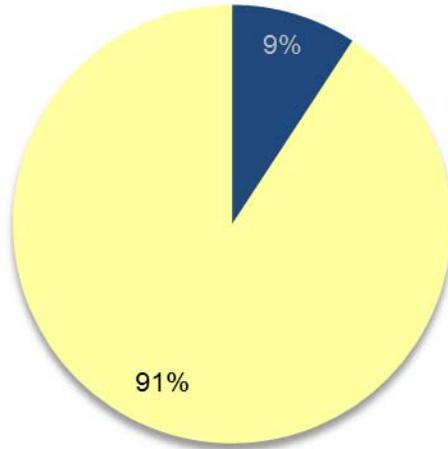


■ Women ■ Men

County sample

(n=180)

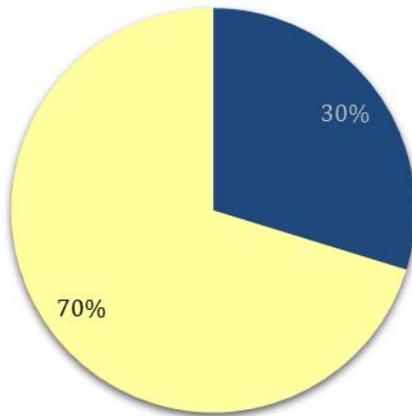
**Are you of Hispanic, Latino, or Spanish origin?**



■ Hispanic ■ Not Hispanic

County sample (n=175)

**46. If yes, are you: (Check all that apply)**



■ Mexican ■ Other hispanic origin

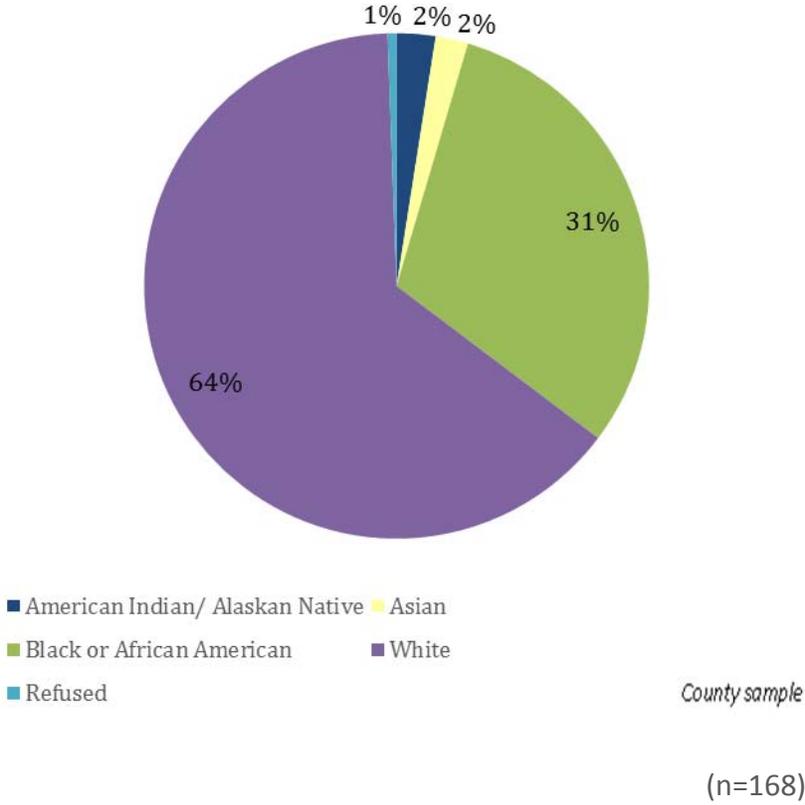
County sample

(n= 16)

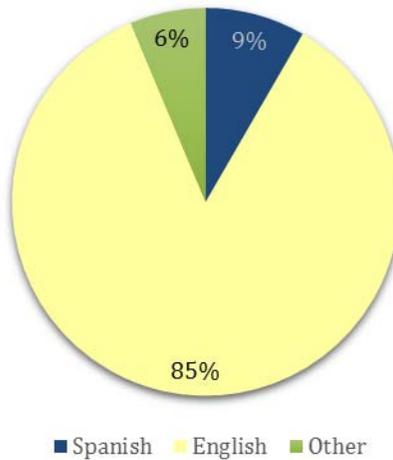
“Other Hispanic Origin” included two people from Honduras, 2 from El Salvador, and one each from Brazil, Guatemala, and “the Caribbean”.

**47. What is your race? Please choose all that apply.**

County residents identifying themselves as “Hispanic or Latino” also gave “Latino” or their country of origin as their race, so these residents are excluded from this analysis.

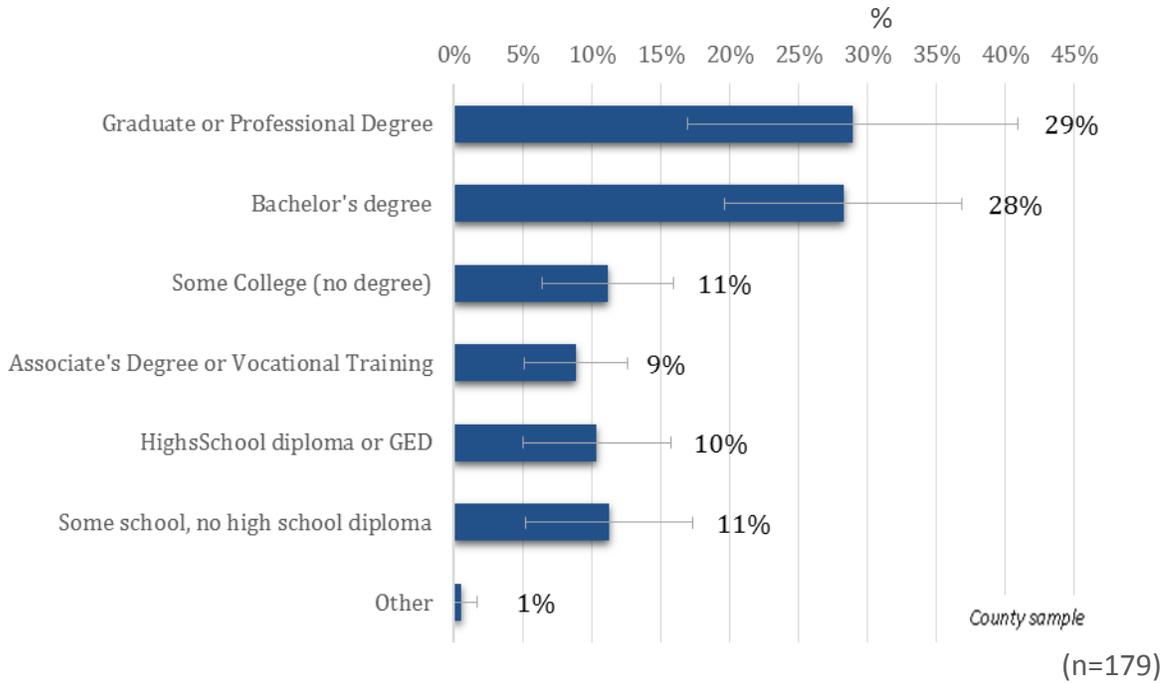


**48. What languages do you speak at home? (Check all that apply)**

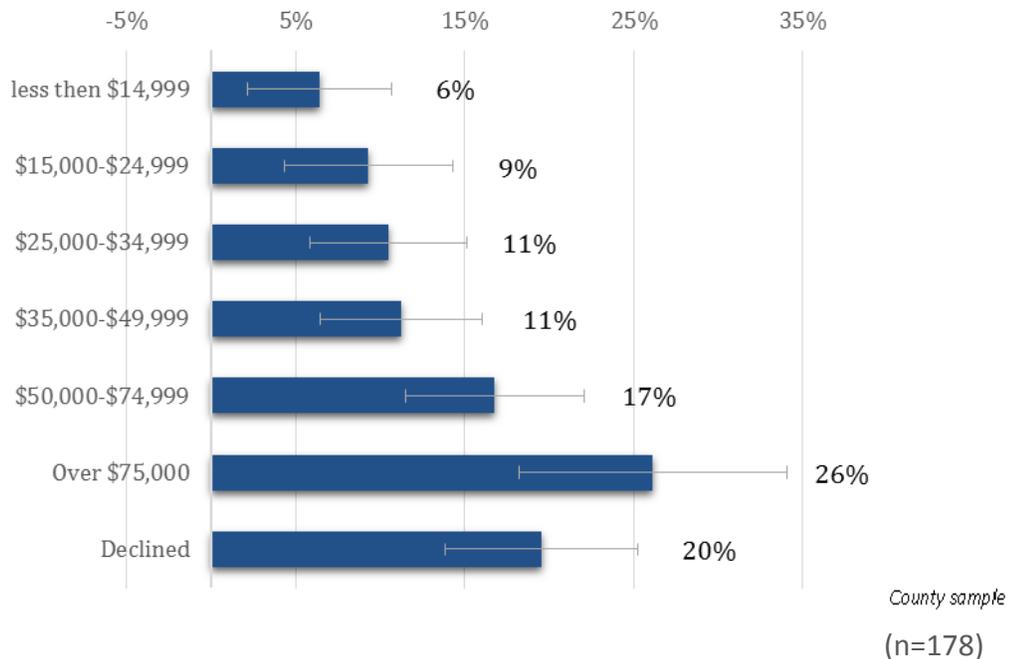


County sample  
(n=180)

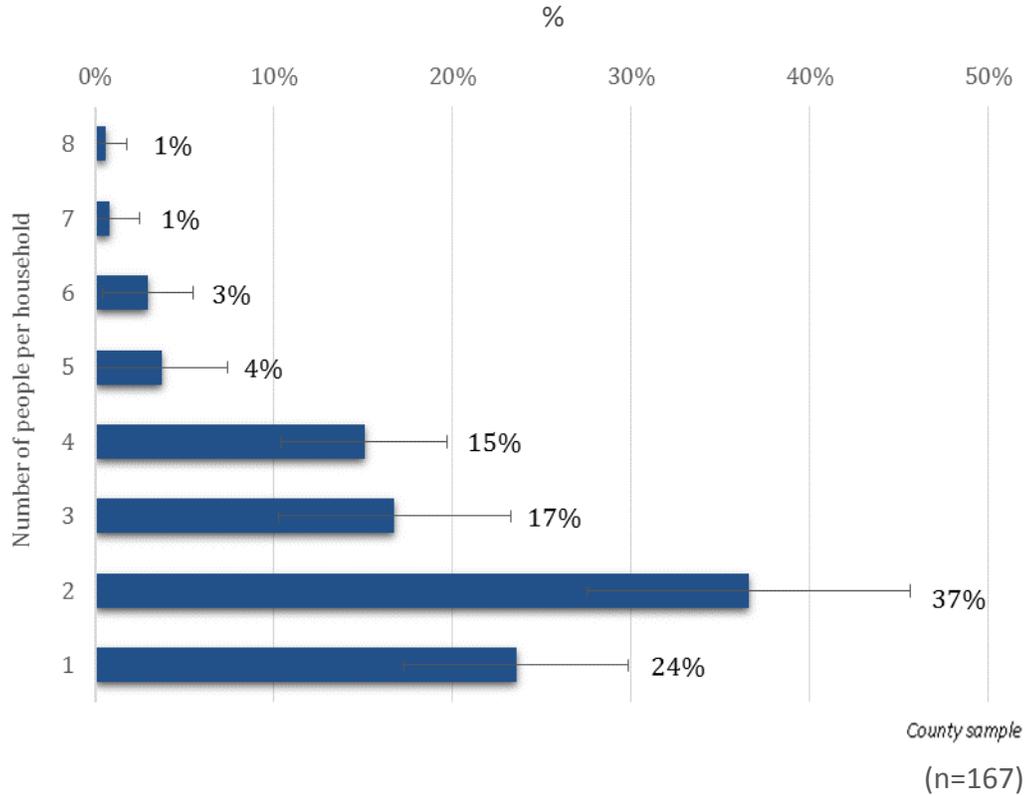
49. What is the highest level of school, college or vocational training that you have finished? (Choose one.)



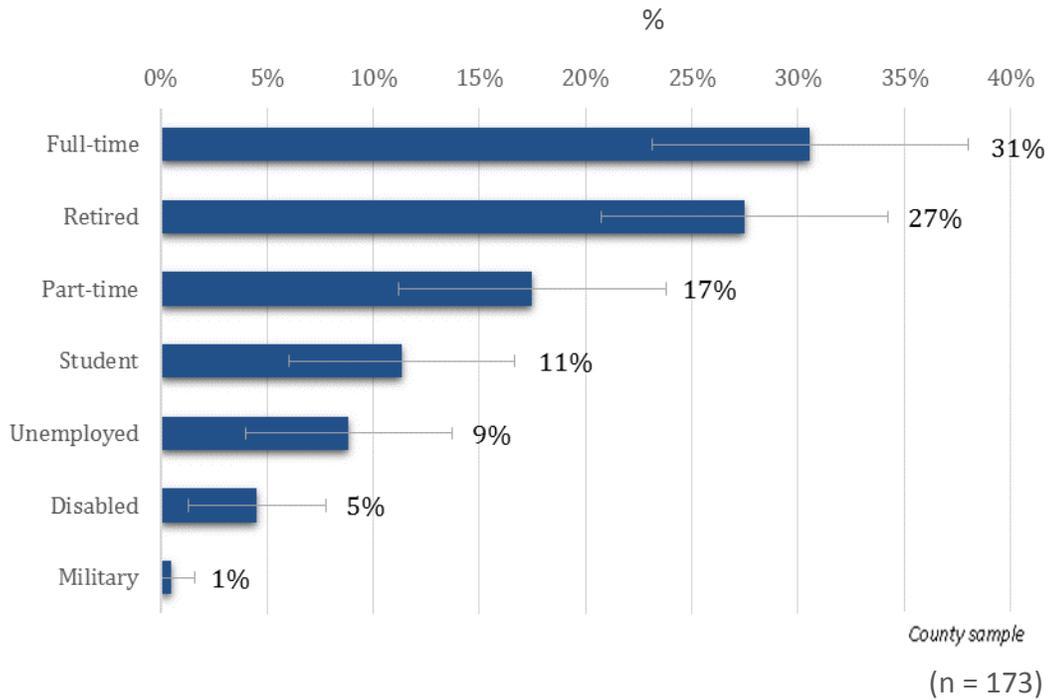
50. What was your total household income last year, before taxes? I will read out categories. Let me know which you fall into. (Choose one.)



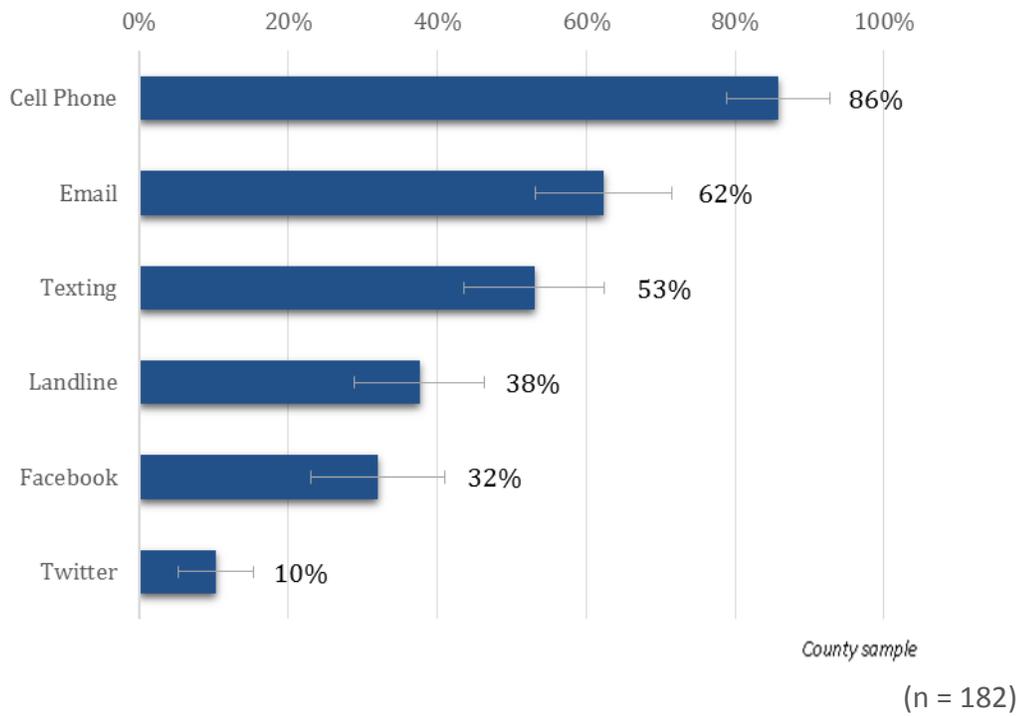
**51. How many people does your total household income support?**



**52. What is your employment status? I will read a list of choices. Let me know which ones apply to you.**  
(Check all that apply.)



**53. Which form of communication do you regularly use? (Check all that apply.)**



## Durham County 2013 Community Health Assessment Survey Results Random Sample of High-Proportion Latino Census Blocks

**Contact: Erika Samoff MPH PhD 919-560-7833 [esamoff@dconc.gov](mailto:esamoff@dconc.gov)**

Authors: Kathryn Peebles MPH, Patricia Casbas Hernandez MPH, Matt Simon MA of the Institute for Public Health, Gillings Global School of Public Health, University of North Carolina-Chapel Hill; Erika Samoff, Durham County Department of Public Health and Partnership for a Healthy Durham.

We gratefully acknowledge the City of Durham Neighborhood Improvement Services Department and the United Way of the Greater Triangle for supporting this survey.

### **Introduction and Methods**

The Durham County Community Health Assessment survey was conducted over six interview days between September 27<sup>th</sup> and October 25<sup>th</sup>, 2013. Administration of the community health survey was performed in collaboration with the North Carolina Institute for Public Health (NCIPH). A two-stage cluster sampling method developed by the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) was employed, using population-based sampling weights from each census block. This sampling method involves randomly selecting 30 census blocks and seven random interview sites in each block to generate a geographic random sample of households. In the first stage of sampling, 30 census blocks were randomly selected with a probability proportionate to the population size (so that the most populated census blocks were more likely to be selected). In the second stage of sampling, seven random interview locations were selected in each census block.

### ***Latino community random sample***

In an effort to survey the Latino community, this sample was drawn from 2010 census blocks where more than 50% of the population identified themselves as Hispanic or Latino, defined by the 2010 census as “a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race”.

The random sample of 30 census blocks resulted in 19 unique census blocks from the 134 blocks that met this criterion. Two census blocks were selected twice, three census blocks were selected three times, and one was selected four times. The selected census blocks throughout Durham County are shown in Figure 2.

Fourteen locations were selected in each of the census blocks that were selected twice (clusters 1 & 16), 21 locations were selected in each of the census blocks that were selected three times (clusters 8 & 18), and 28 locations were selected in the block that was selected four times. This sample allows for generalizability of the collected data to the Hispanic and Latino population of Durham County residing in areas of more than 50% Hispanic or Latino origin, roughly 30% of the Hispanic and Latino community (10,674 of the 36,077).

### ***Survey administration***

Interviewers were recruited from Durham County health organizations and the community in general and trained in survey interview methods. Interviewers worked in teams of two; 90% of the teams had at least one interviewer with prior survey experience. Teams obtained oral consent in English or Spanish before interviewing potential survey participants. Eligible participants were at least 18 years of age and a resident of the selected households. Responses were recorded at the time of interview using EpiInfo on a Google Nexus tablet.

### ***Data analysis***

During the analysis, results were weighted to account for the sampling method, such that the final results are generalizable to the population sampled.

Data were analyzed in SAS 9.3 (Cary, NC), and results for each question in the survey are reported as weighted proportions with their 95% confidence intervals (CI). Survey weights were calculated using methods described in the CDC CASPER toolkit, which 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. These weights were used to calculate the standard error for each proportion, from which 95% CIs were derived. These confidence intervals should be interpreted as the interval that contains the true value in 95% of repeated samples. Qualitative data were summarized into categorical variables where appropriate. Each data chart is labeled with the number of respondents that answered the particular question, in the format “n=number”.

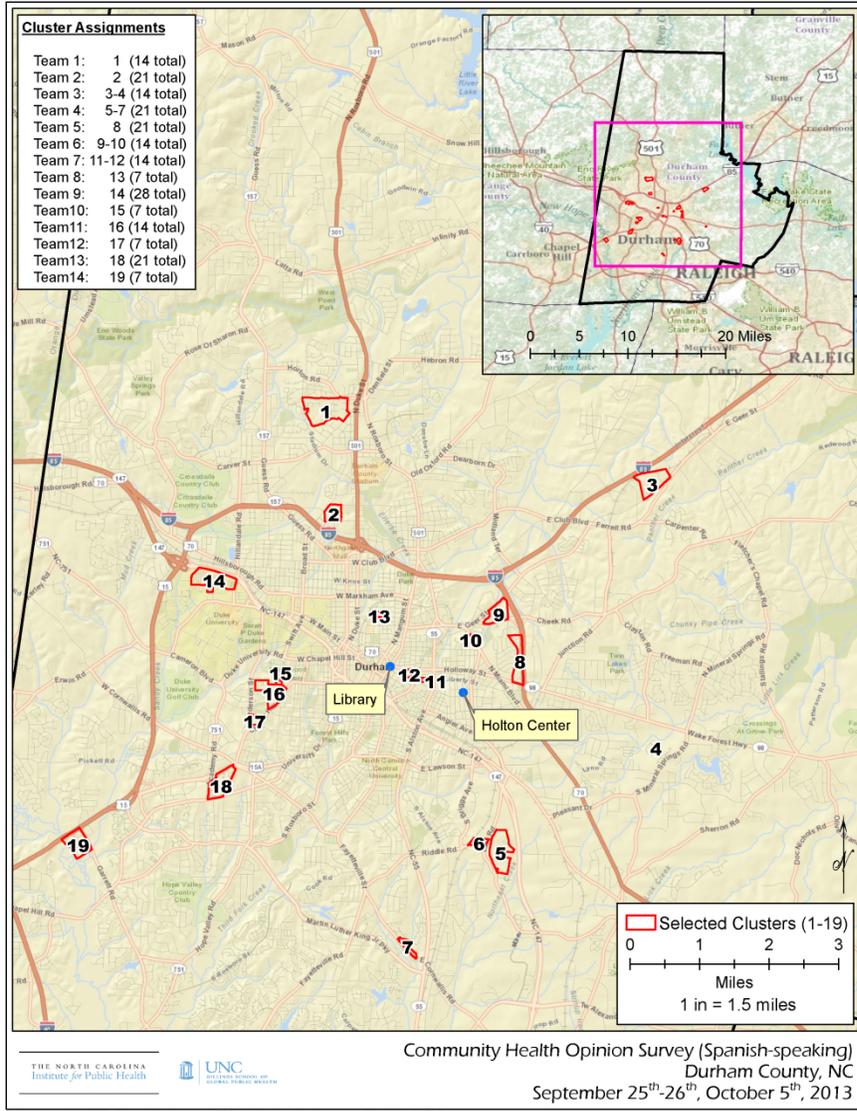


Figure 1. Selected census blocks (n = 19) for high proportion Latino neighborhood random sample

## Results

A total of 172 interviews were conducted, from the planned set of 210 (7 interviews from 30 census blocks) for a response rate of 81.9%.

Compared to 2010 Census data, demographic information from survey respondents from this sample indicate that our sample population differs from the Latino population of Durham as a whole in several ways. Latinos in our sampling population have lower educational attainment, with 25.8% (95% CI: 17.8%, 33.7%) of the Latinos in our sampling population having a high school diploma or equivalency as their highest educational attainment with only 0.4% (95% CI: 0.0%, 1.1%) going on to attain a bachelor's degree. In Durham County as a whole, 22.6% of Latinos have a high school diploma or equivalency as their highest educational attainment and 9.1% earn a bachelor's degree. Latinos in our sampling population also have lower income than Latinos in Durham County generally, with 35.3% (95% CI: 22.5%, 48.0%) of Latinos in our sampling population earning less than \$14,999 annually compared to only 12.7% of Latinos in Durham County generally who earn less than \$14,999. Therefore, respondents in this sample were poorer and less educated than the Latino community of Durham County, and these findings should be interpreted to represent conditions and opinions among this poorer, less educated community. To identify this community and reflect the sampling frame, we are titling this the "high proportion Latino neighborhood random sample". These results should not be taken to reflect the entire Latino community of Durham County.

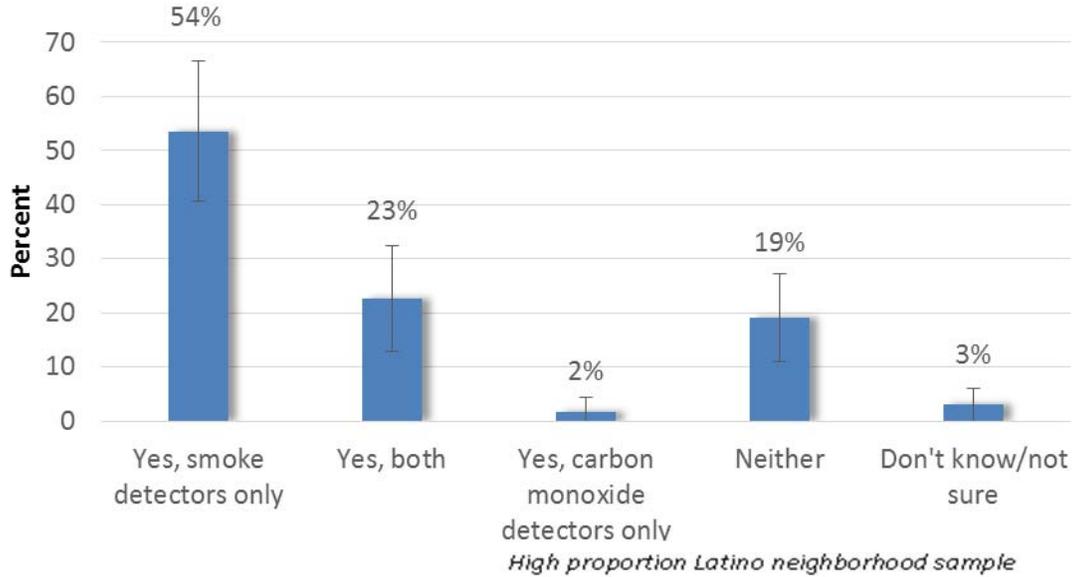
The median age of survey respondents was 37 years (range, 18-61). The majority of survey respondents were female (65.1%; 95% CI: 54.9%, 75.2%) (Table 2). The majority of respondents were Mexican (66.9%; 95% CI: 55.0%, 78.9%), while the remaining respondents were Dominican, Salvadoran, Guatemalan, Honduran, or Puerto Rican (Table 1). Almost three quarters of respondents spoke exclusively Spanish in the home (74.1%; 95% CI: 61.3%, 86.9%), and about one quarter spoke both Spanish and English (24.0%; 95% CI: 10.8%, 37.1%) (Table 1). Other languages spoken in the home included Chatino and Otomi, languages originating in Central Mexico.

Table 2. Demographic characteristics of survey respondents (n=159)

	<b>Percent (95% CI)</b>
<b>Gender (n = 171)</b>	
Male	34.2% (23.9%, 44.5%)
Female	65.1% (54.9%, 75.2%)
<b>Hispanic Origin (n = 159)</b>	
Mexico	66.9% (55.0%, 78.9%)
Honduras	16.6% (8.5%, 24.6%)
El Salvador	10.1% (4.5%, 15.8%)
Guatemala	3.4% (0.0%, 7.5%)
Puerto Rico	1.6% (0.0%, 4.9%)
Dominican Republic	0.3% (0.0%, 0.9%)
<b>Language Spoken in the Home (n = 172)</b>	
Spanish	74.1% (61.3, 86.9%)
English	0.3% (0.0%, 0.9%)
Both Spanish and English	24.0% (10.8%, 37.1%)
Other	1.7% (0.0%, 4.2%)

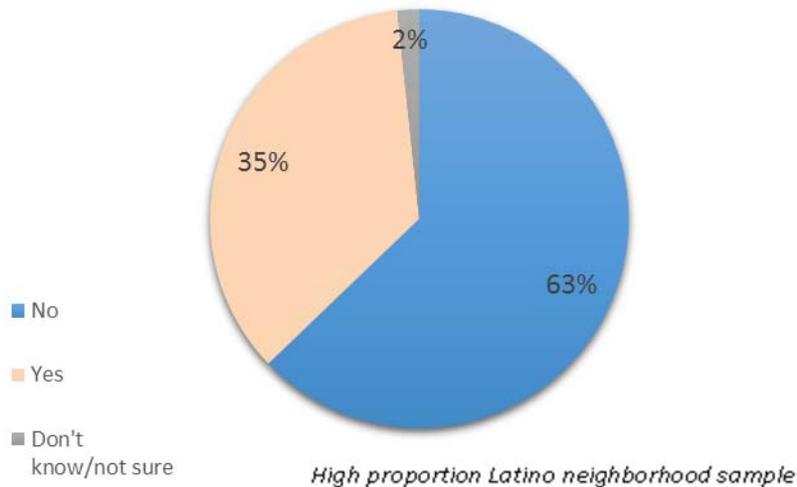
**Part 1. Emergency Preparedness**

**1. Does your household have working smoke and carbon monoxide detectors?**  
(Choose one.)



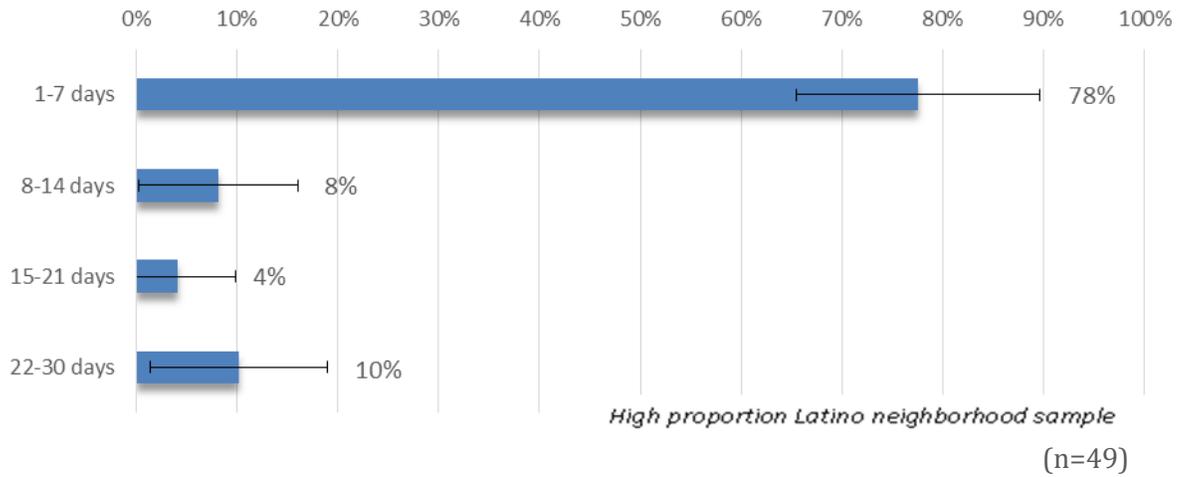
(n=172)

**2. Does your family have a basic emergency supply kit and plan?** (These kits include water, non-perishable food, any necessary prescriptions, first aid supplies, flashlight and batteries, non-electric can opener, blanket, etc.)

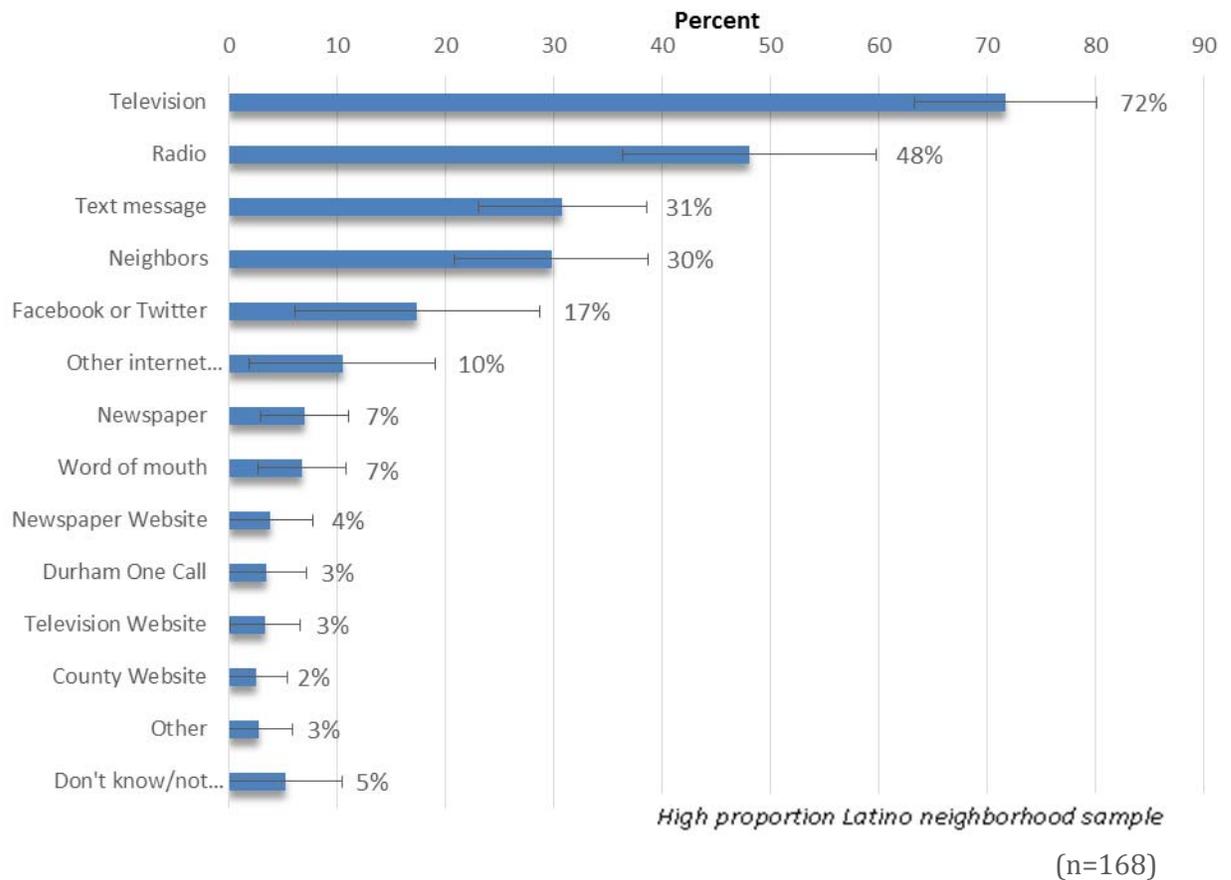


(n=172)

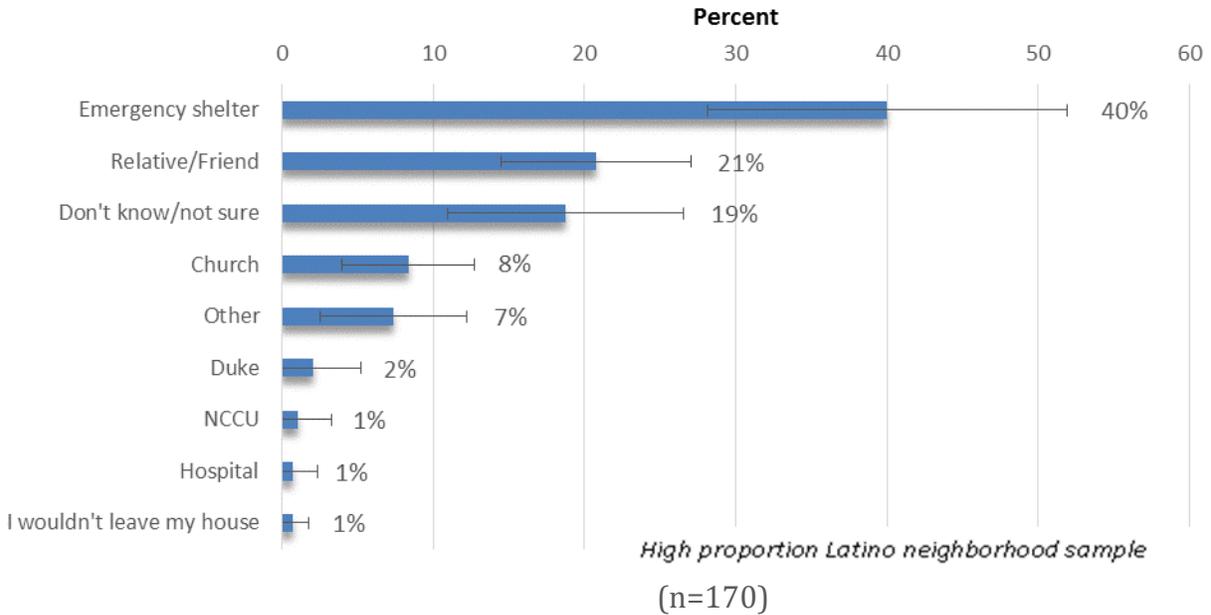
**3. If yes, how many days do you have supplies for? (Write # of days)**



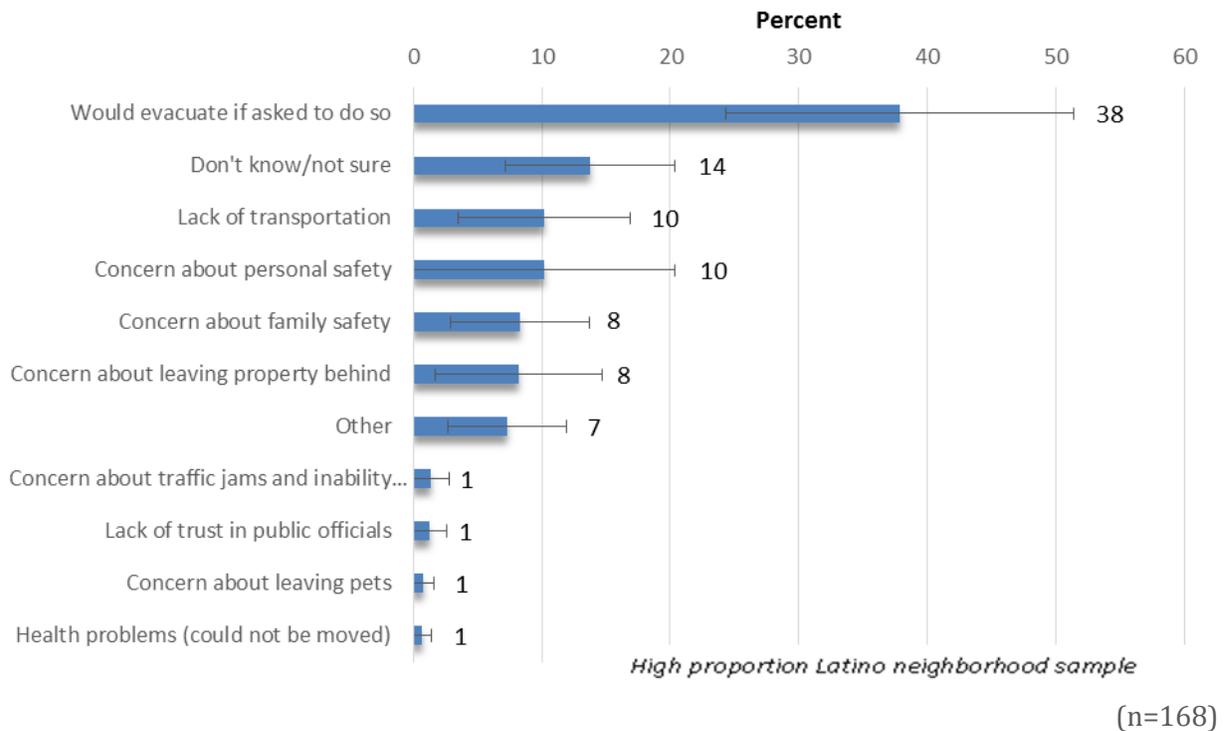
**4. What would be your three top sources of information in a large-scale disaster or emergency? (Check all that apply)**



**5. If you couldn't remain in your house, where would you go in a community-wide emergency? Choose one**

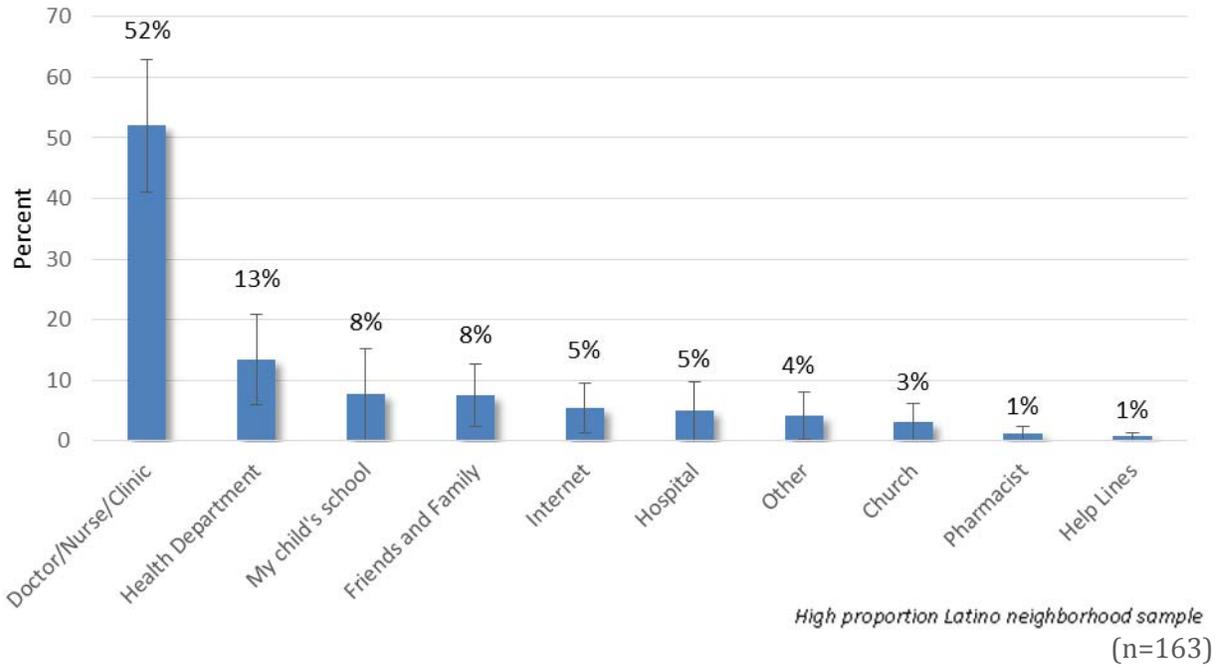


**6. What would be the main reason you might not evacuate if asked to do so? (Choose one.)**

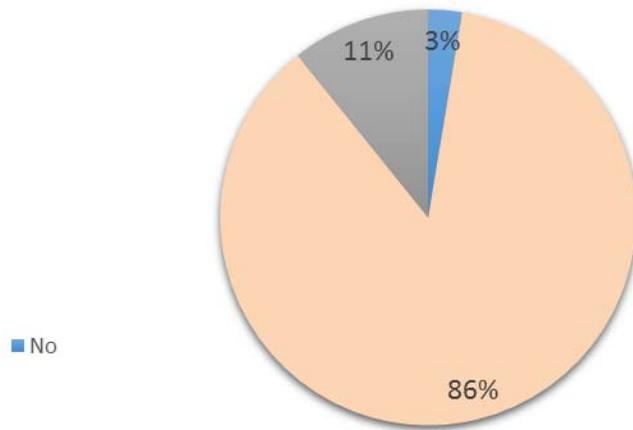


**Part 2 Health Information**

**7. Where do you get most of your health-related information? Please choose only one.**



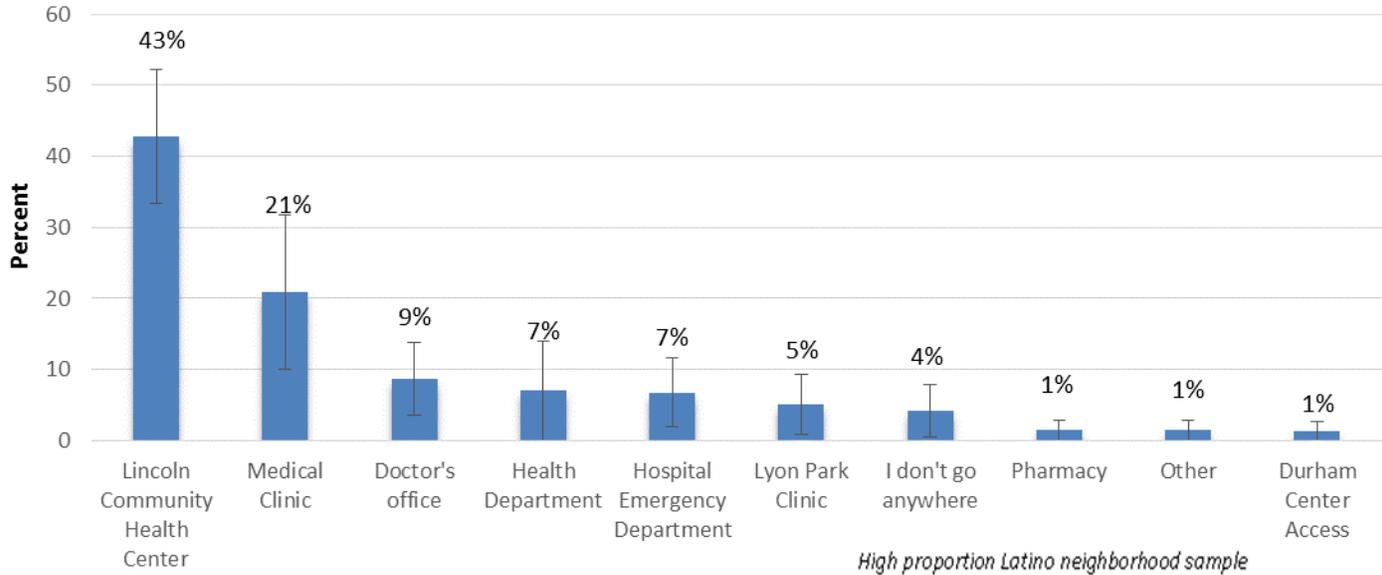
**8. Do you think that the Durham County Department of Public Health is a credible source of health information?**



*High proportion Latino neighborhood sample (n=169)*

**PART 3: Personal Health**

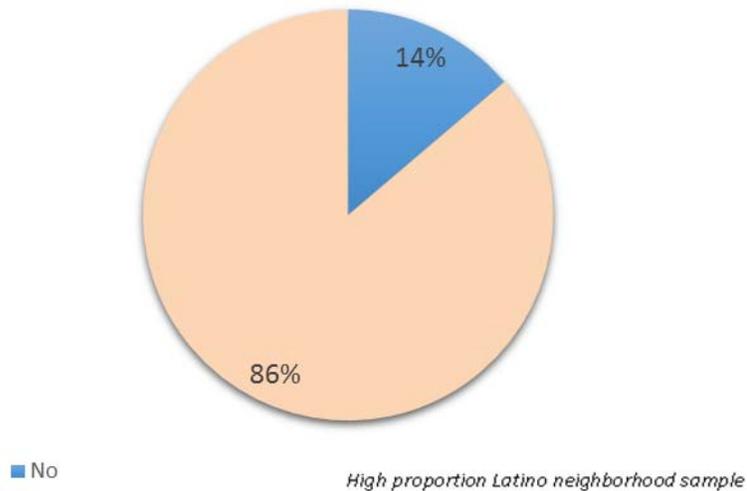
**9. Where do you go most often when you are sick or want to talk to someone about your health? Check all apply.**



(n=170)

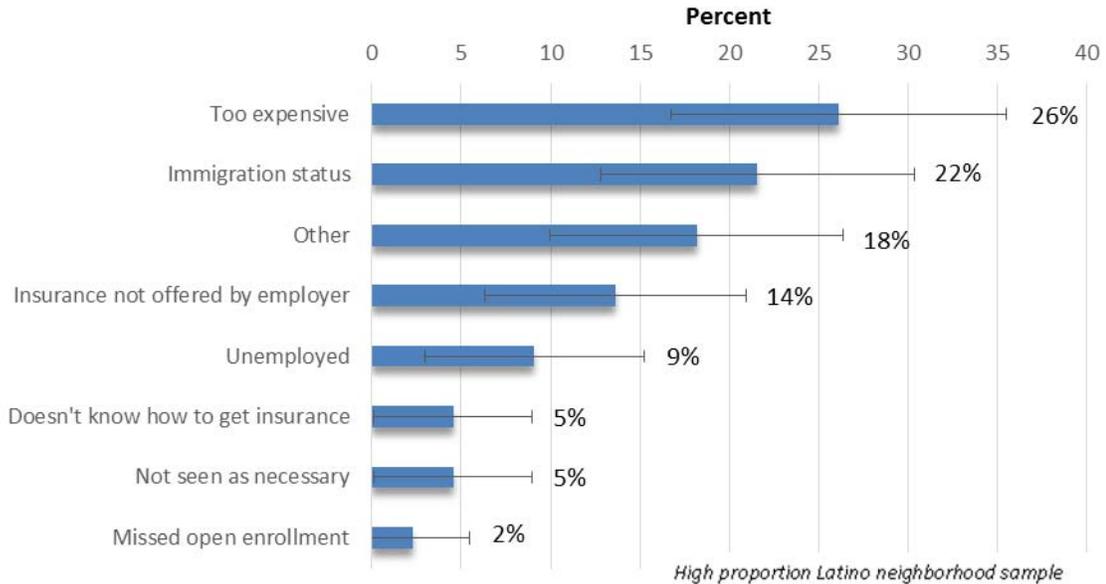
**Access to Healthcare:**

**10. During the past 12 months, was there any time that you did not have any health insurance or coverage?**



(n=171)

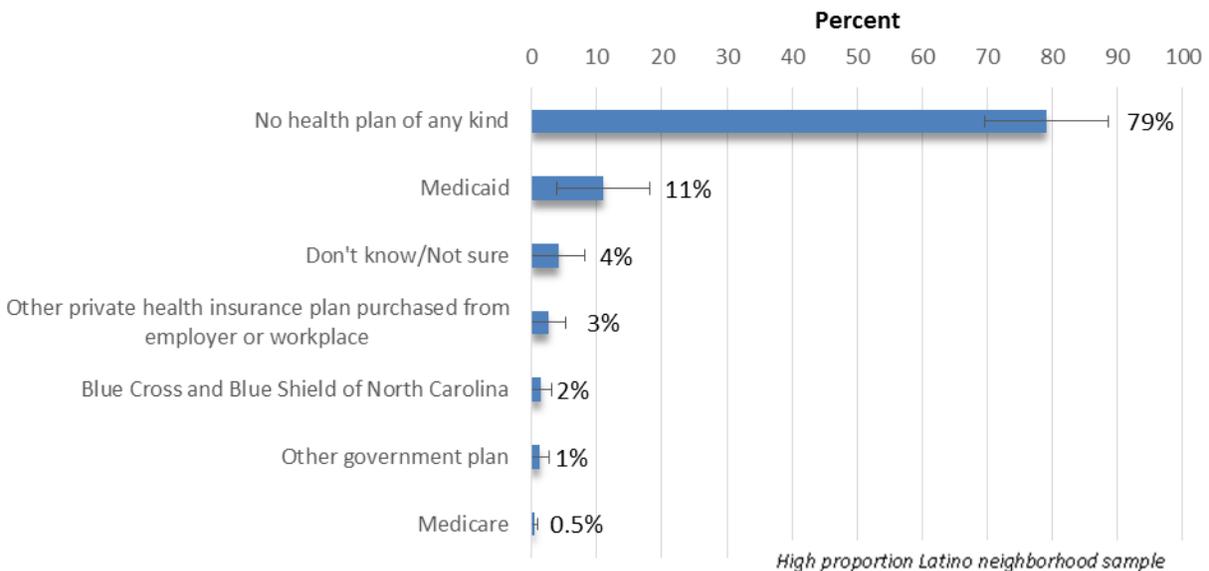
**11. If yes, why did you not have health insurance or coverage?**



(n=88)

Other for this category includes: "I let it lapse", "I just don't have it", "I haven't thought about it".

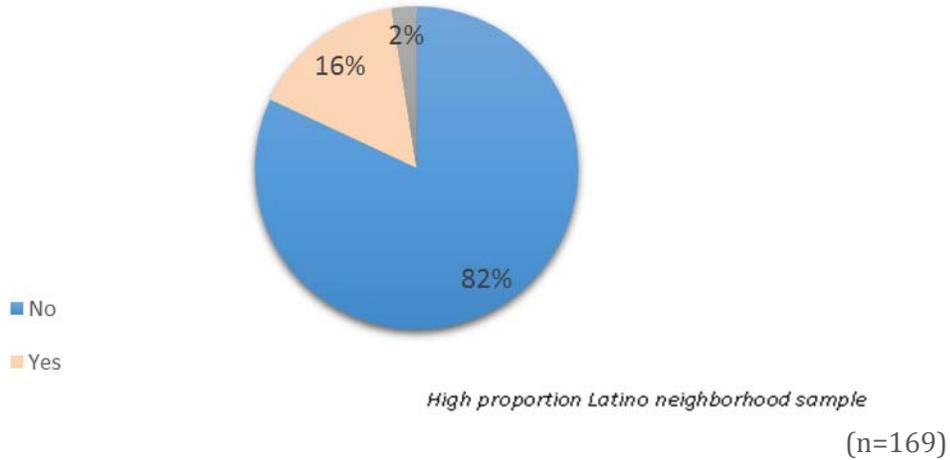
**12. What is your current primary health insurance plan? This is the plan which pays the medical bills first or pays most of the medical bills? (Please choose only one.)**



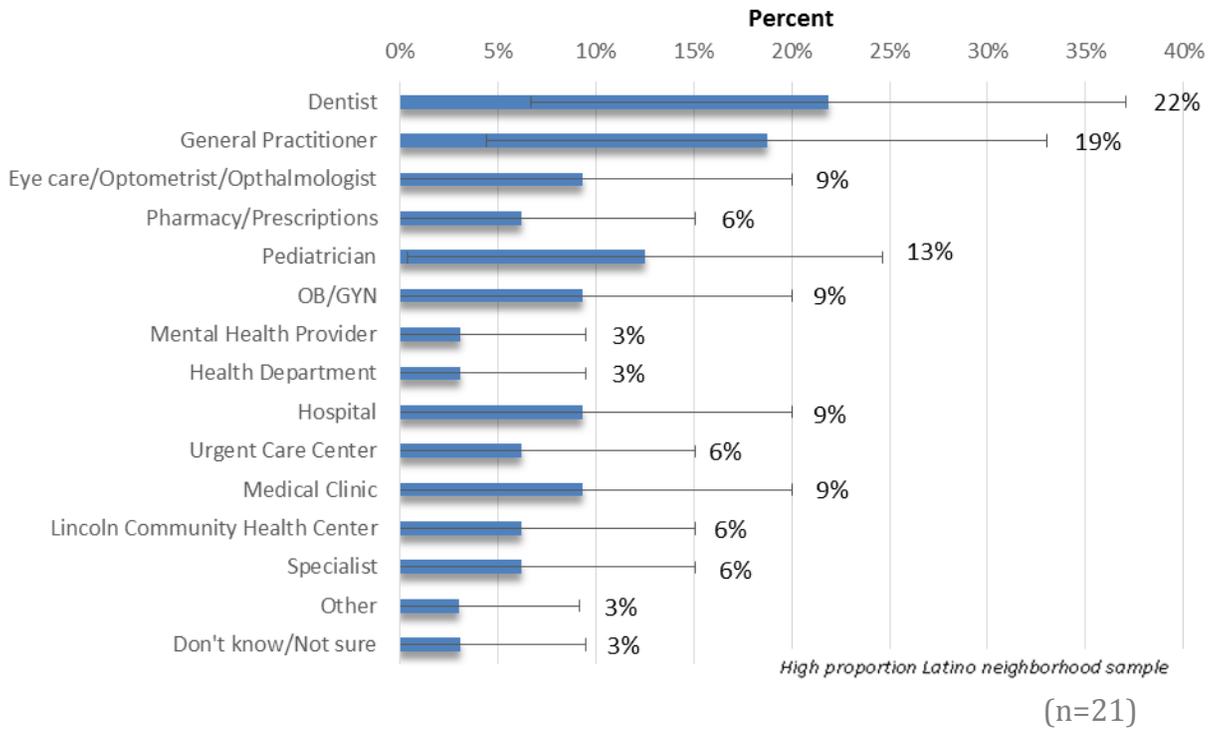
(n=142)

**13. 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, dentist, pharmacy, or other facility?**

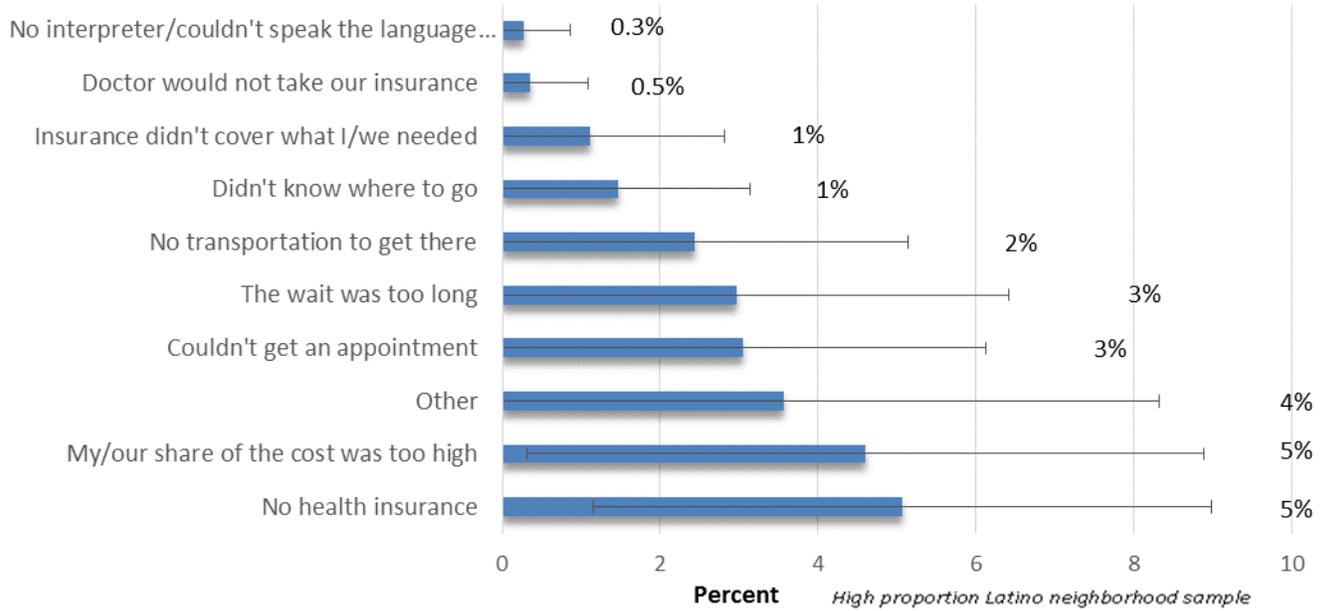
Interviewers reported that many respondents said something like “I don’t really have health problems” or “I just use home remedies”.



**14. Since you said “yes,” what type of care (provider or facility) did you or people in your household have trouble getting health care from? I will read a list and you can choose as many of these as you need to. (Read Providers.)**

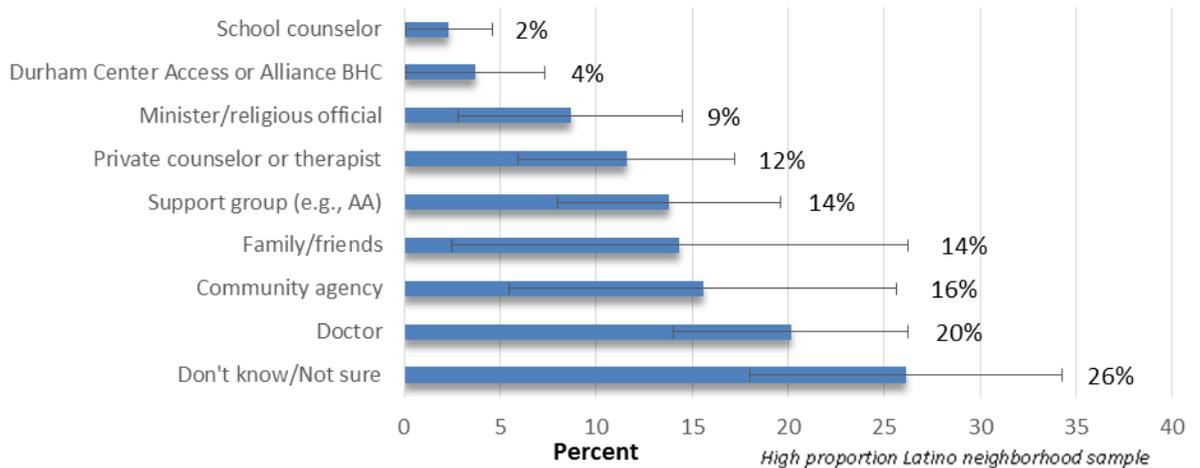


**15. What was the problem that prevented you or people in your household from getting the necessary health care? I will read a list and you can choose as many of these as you need to. If you had a problem that we do not have written here, please tell me and I will write it in.**



(n=21)

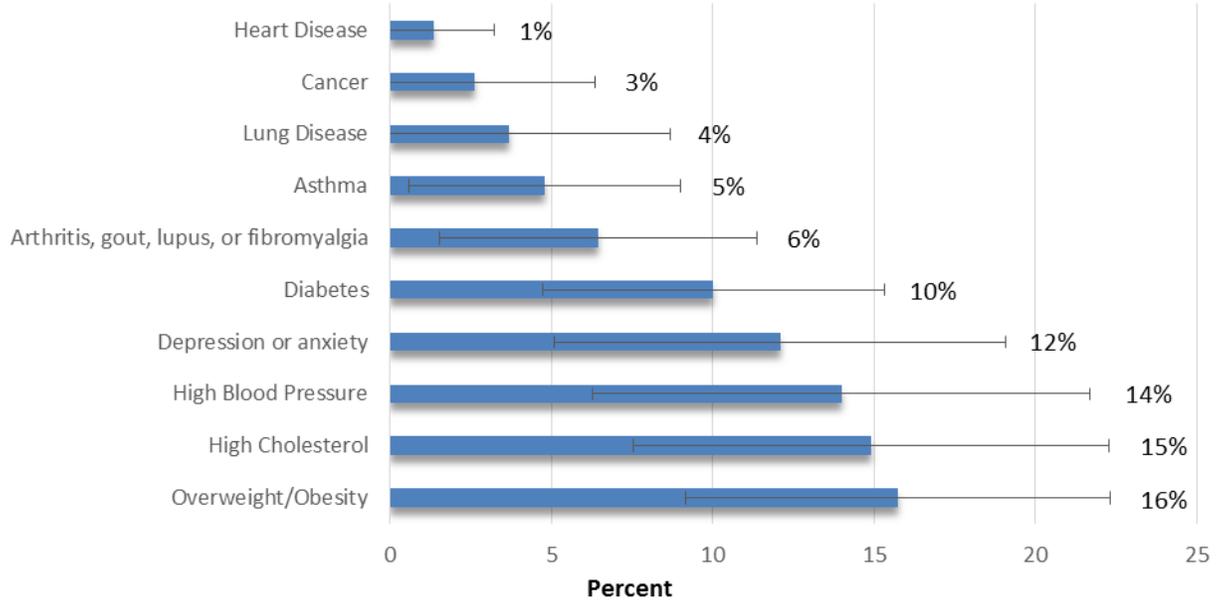
**16. If you or a friend or family member needed counseling for a mental health or a drug/alcohol abuse problem, who would you tell them to call or talk to? You can choose as many as you want. Read responses. Which do you think you would choose?**



(n=172)

**17. Have you ever been told by a doctor, nurse, or other health professional that you have any of the health conditions I am going to read?**

Note that this question is based on a clinician’s diagnosis. In this population with less access to formal health care, the respondent may be less likely to have received a diagnosis of any health condition.

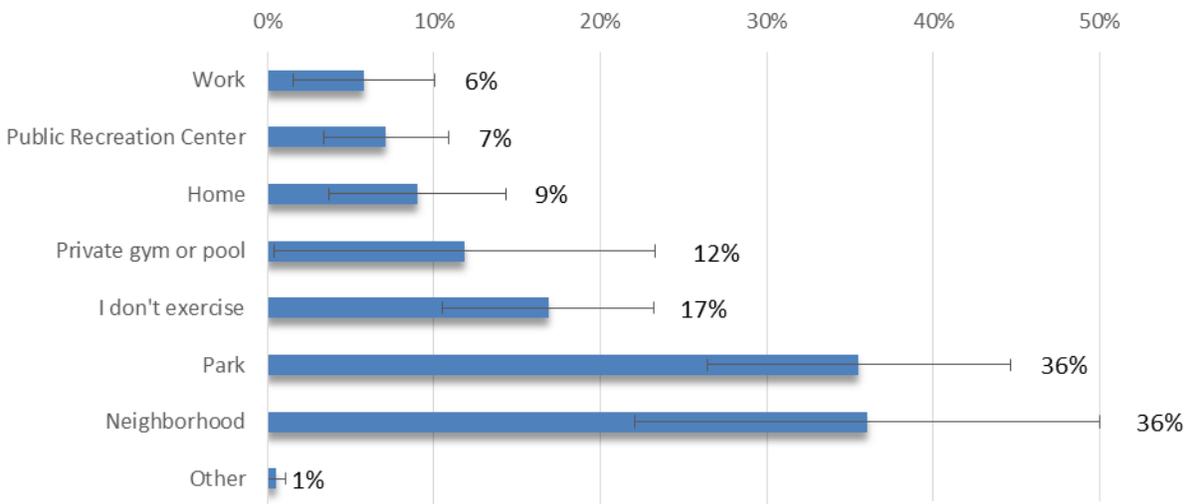


High proportion Latino neighborhood sample

(n=168)

**Exercise:**

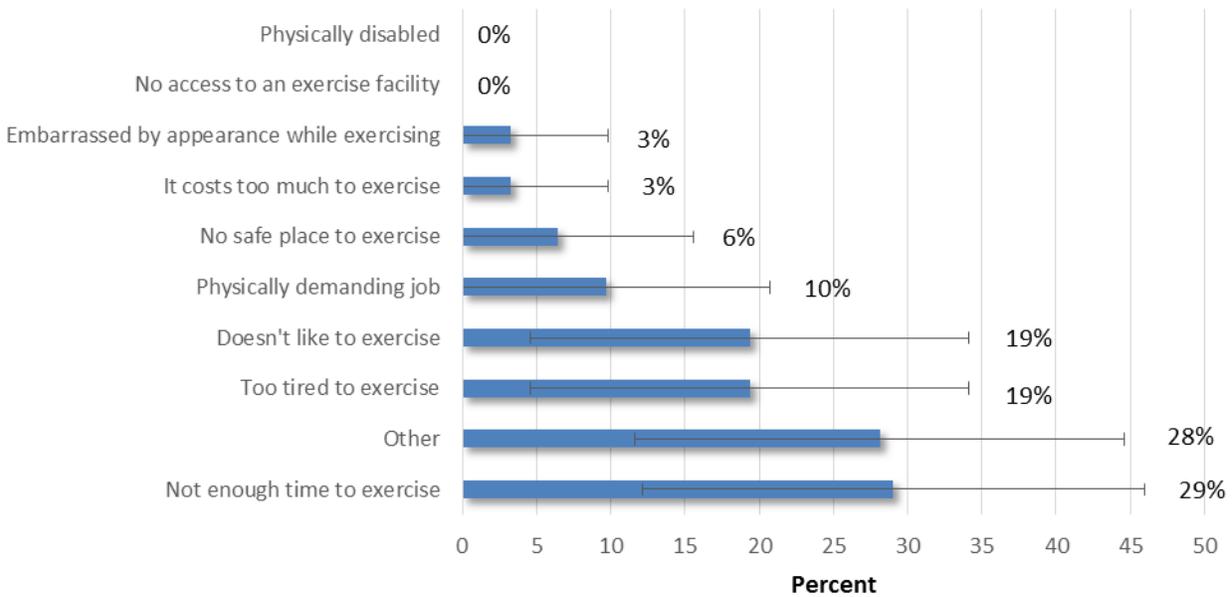
**18. Where do you go to exercise or engage in physical activity? Check all that apply.**



High proportion Latino neighborhood sample

(n=172)

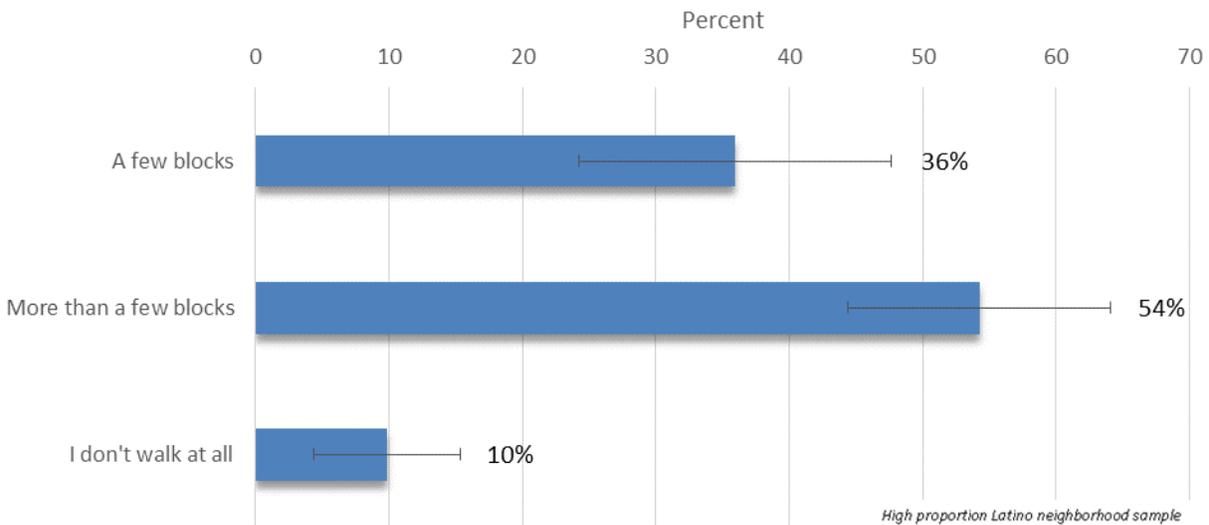
**19. If you said “I don’t exercise”, what are the reasons you don’t exercise during a normal week? You can give as many of these reasons as you need to.**



High proportion Latino neighborhood sample

(n=31)

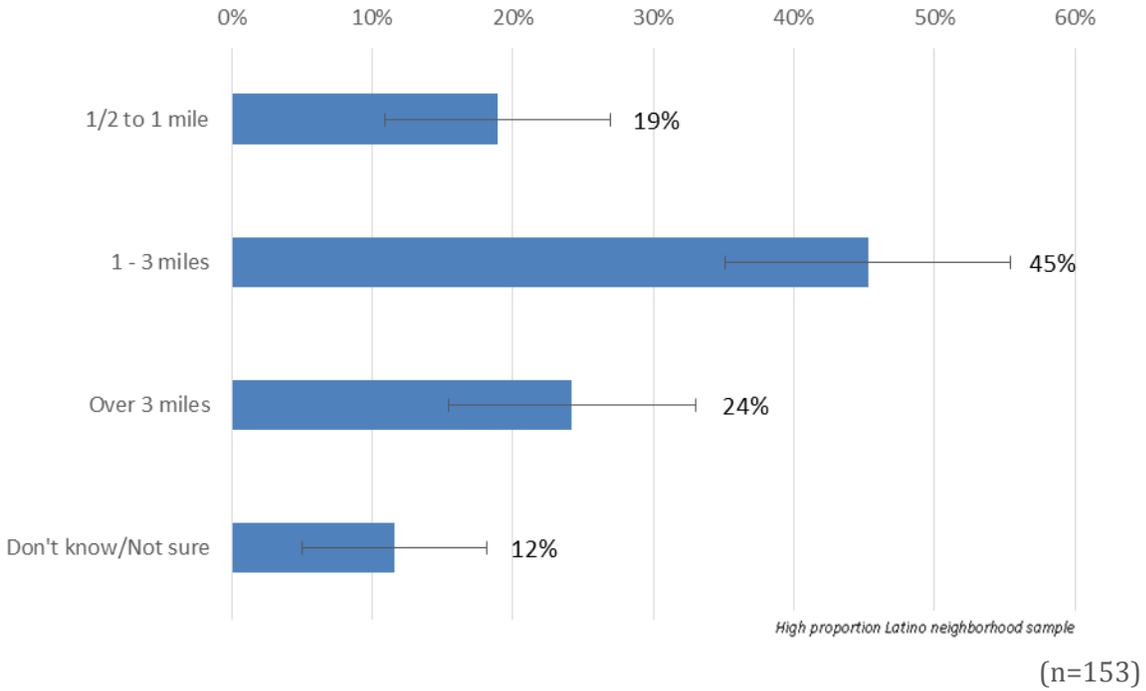
**20. There are many different ways to exercise or get physical activity. For the next set of questions, we are only interested in walking and biking. On a typical day, how much do you walk?**



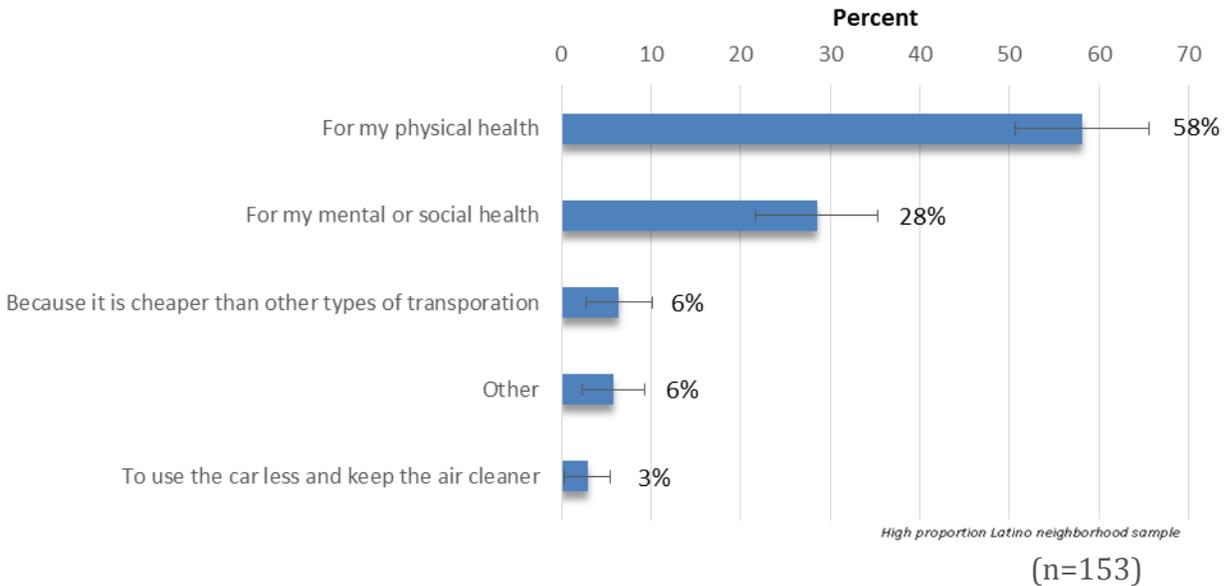
High proportion Latino neighborhood sample

(n=169)

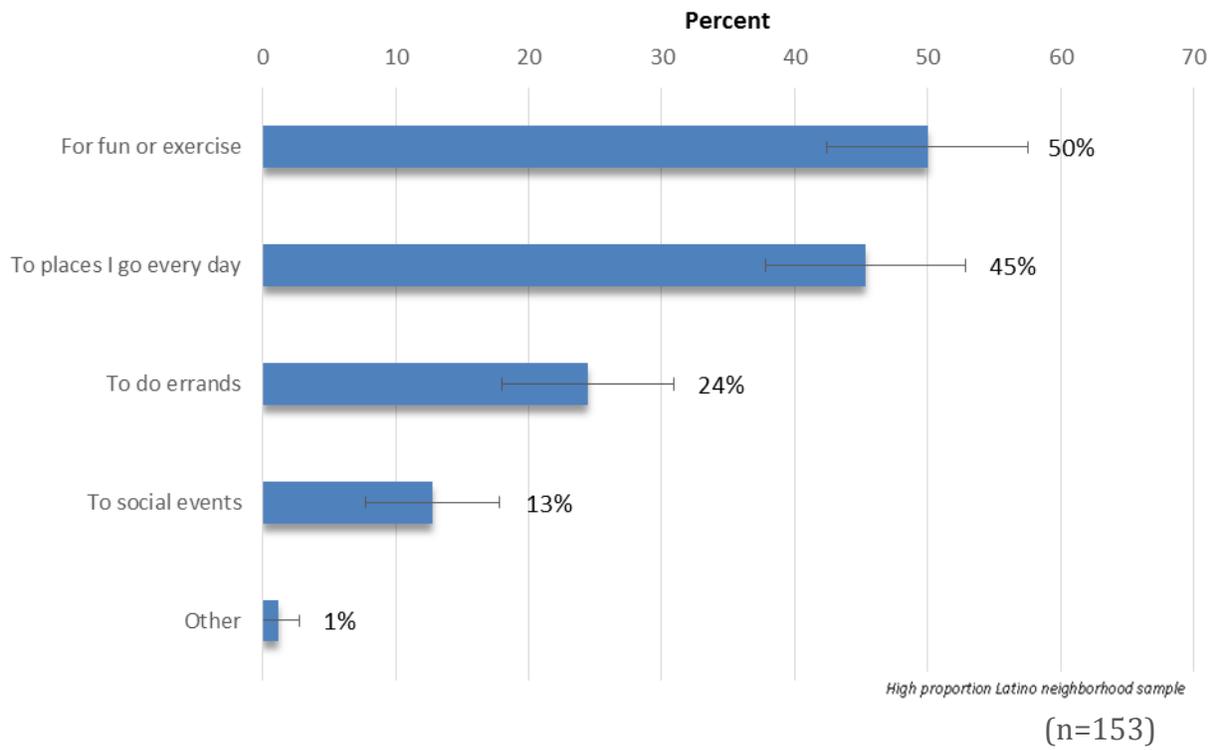
**21. Among those who walk more than a few blocks: How far do you walk each day in miles?**



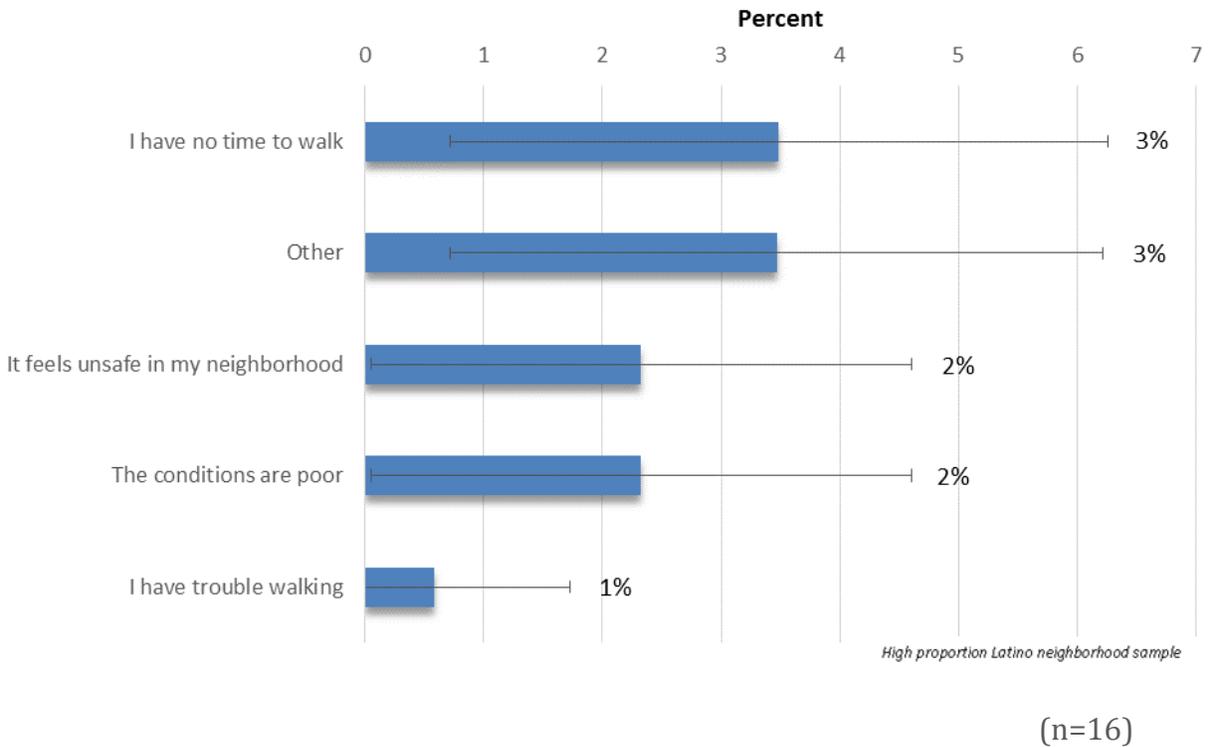
**22. Why do you walk? (Read responses and check all that apply)**



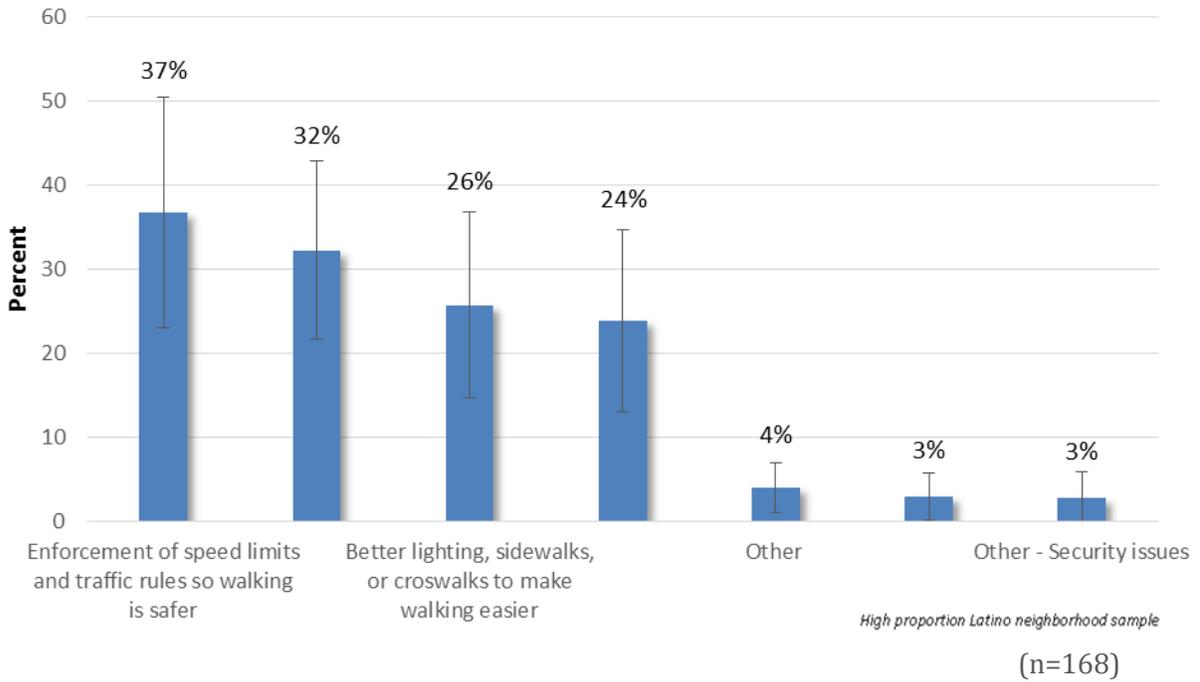
**23. Where do you walk? (Read responses and check all that apply)**



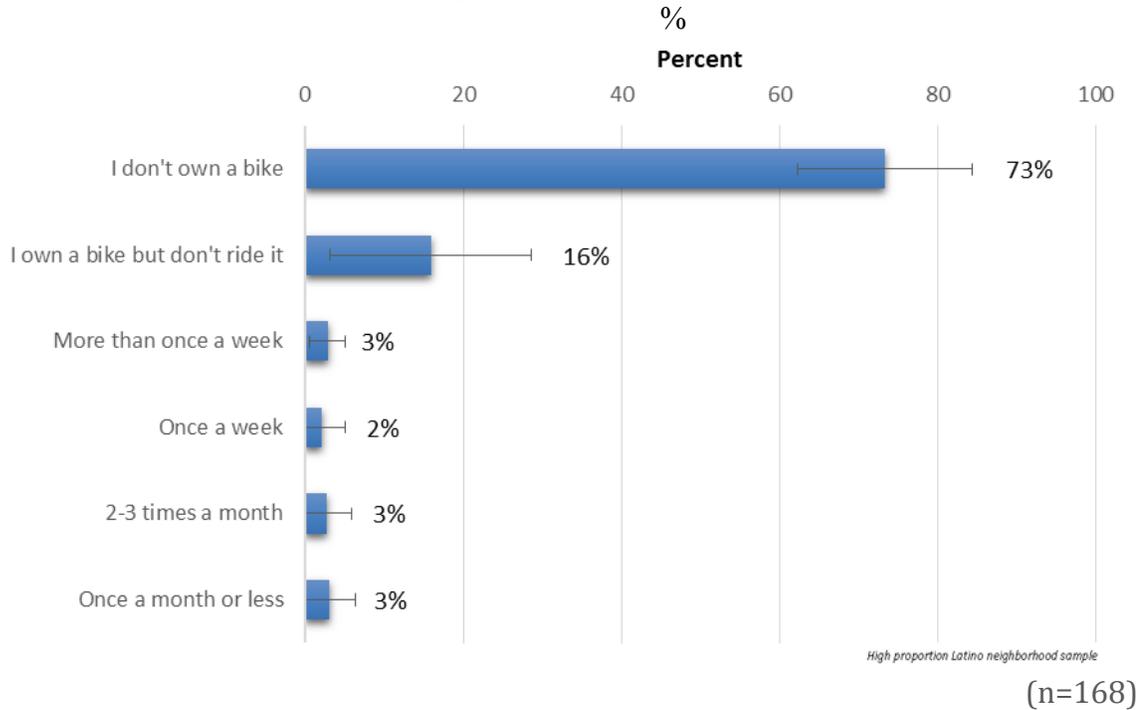
**24. If you do not walk very much currently, why not? (check all that apply)**



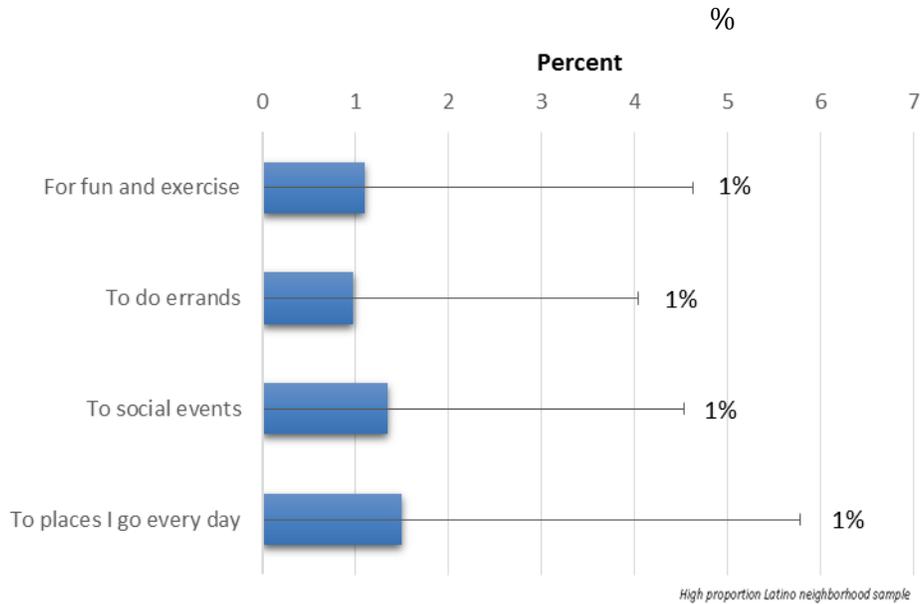
**25. Whether you currently walk or not, what would make you want to walk more?**  
*(check all that apply)*



**26. Do you ride a bike (not including an exercise bike)? If so, how often?**



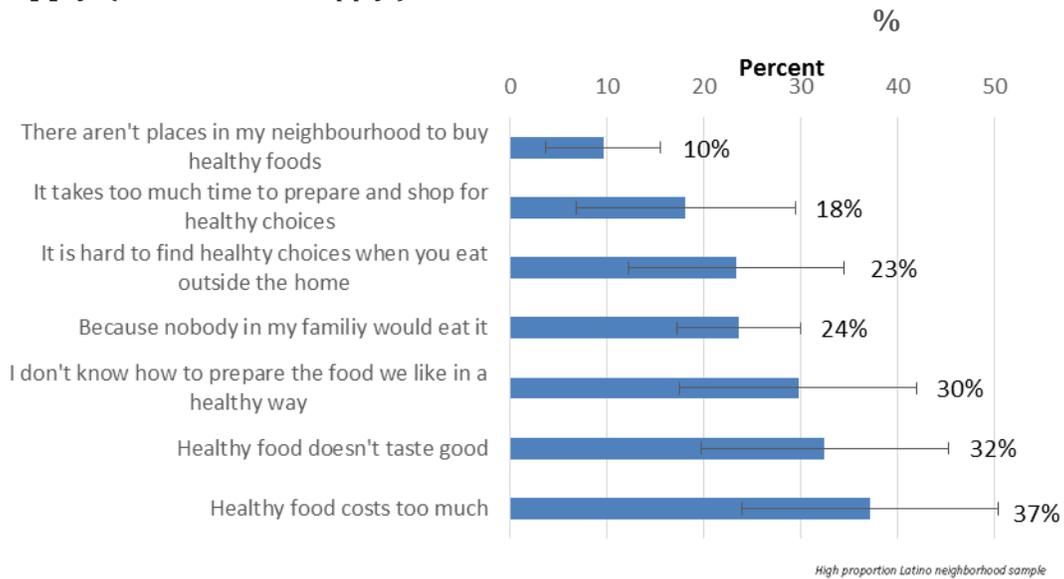
**27. When you do ride your bike, where do you go? (Check and answer all that apply)**



(n=19)

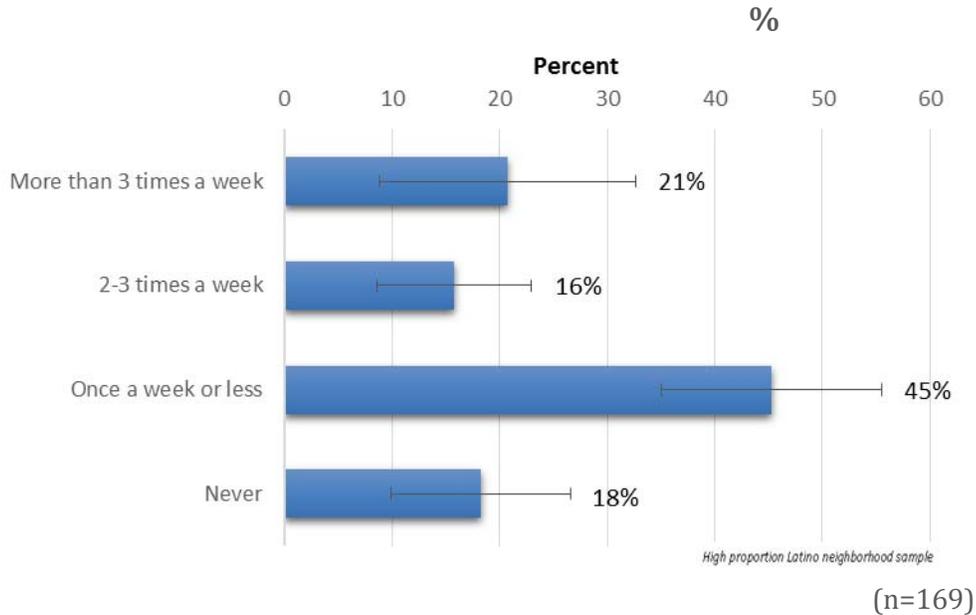
**Diet:**

**28. 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? Tell me all that apply. (choose all that apply.)**

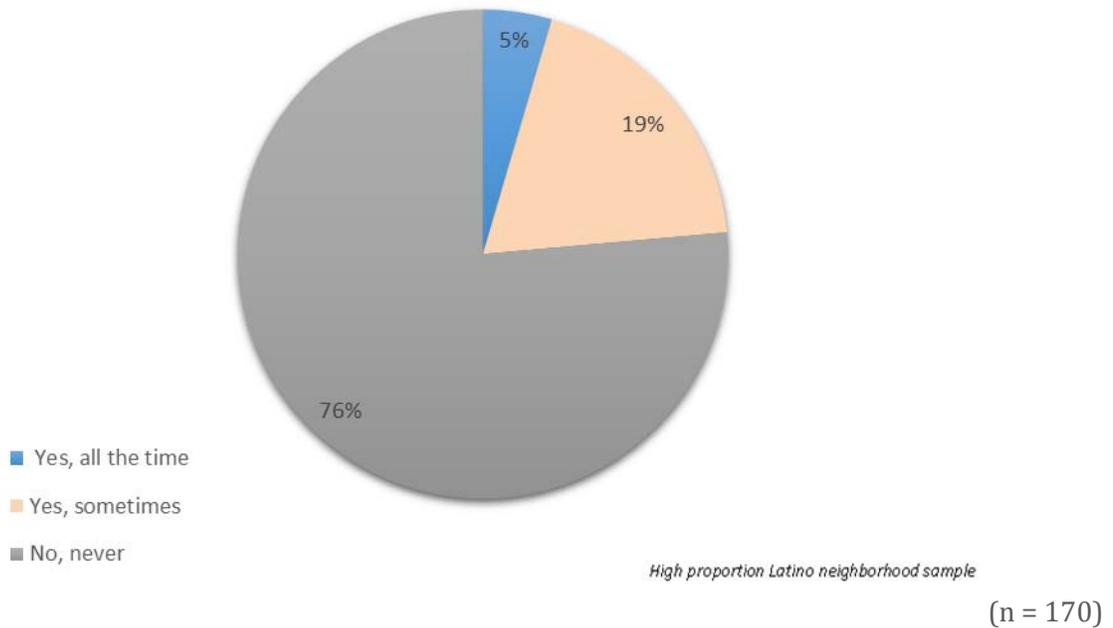


(n=168)

**29. Thinking about breakfast, lunch, and dinner, how many times in a typical week do you eat meals that were not prepared at home, like from restaurants, cafeterias, or fast food?**

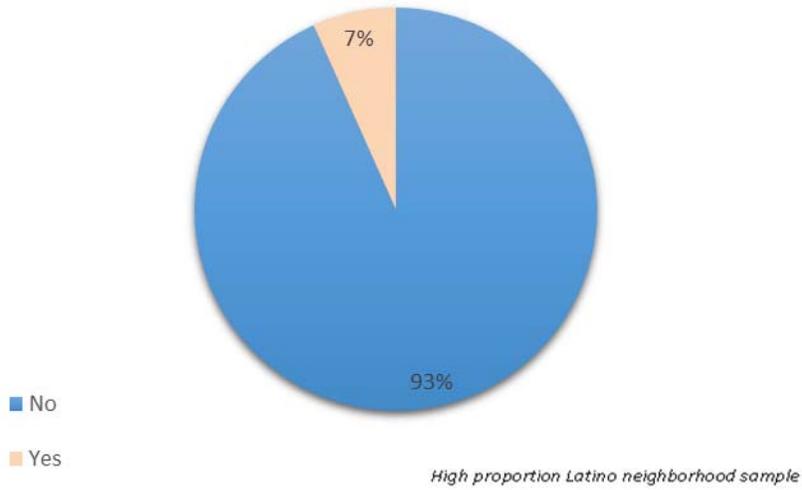


**30. In the last 12 months, did you ever cut the size of your meals or skip meals because there wasn't enough money for food? (Read answer choices.)**



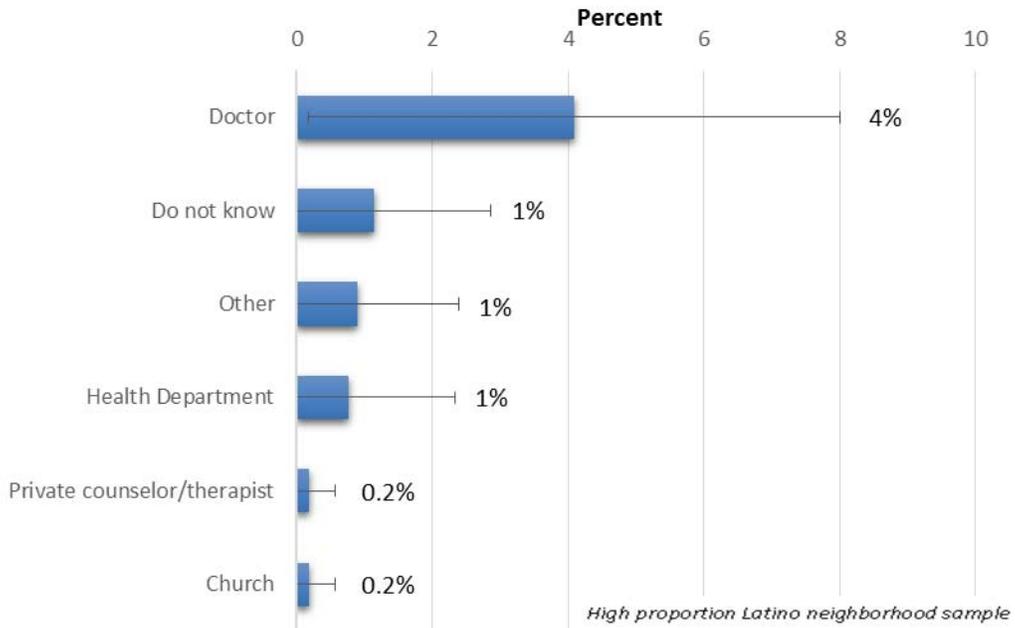
**Smoking:**

**31. Do you currently smoke?**



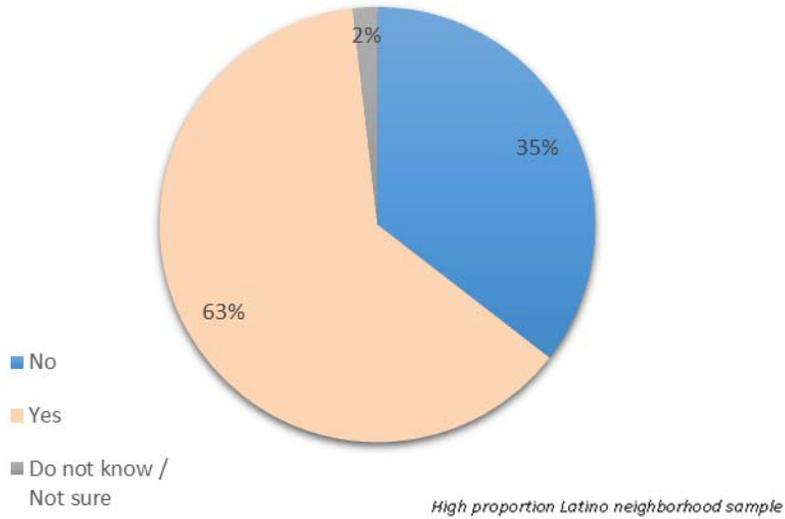
(n = 171)

**32. If yes, where would you go for help if you wanted to quit? (Check all that apply.)**



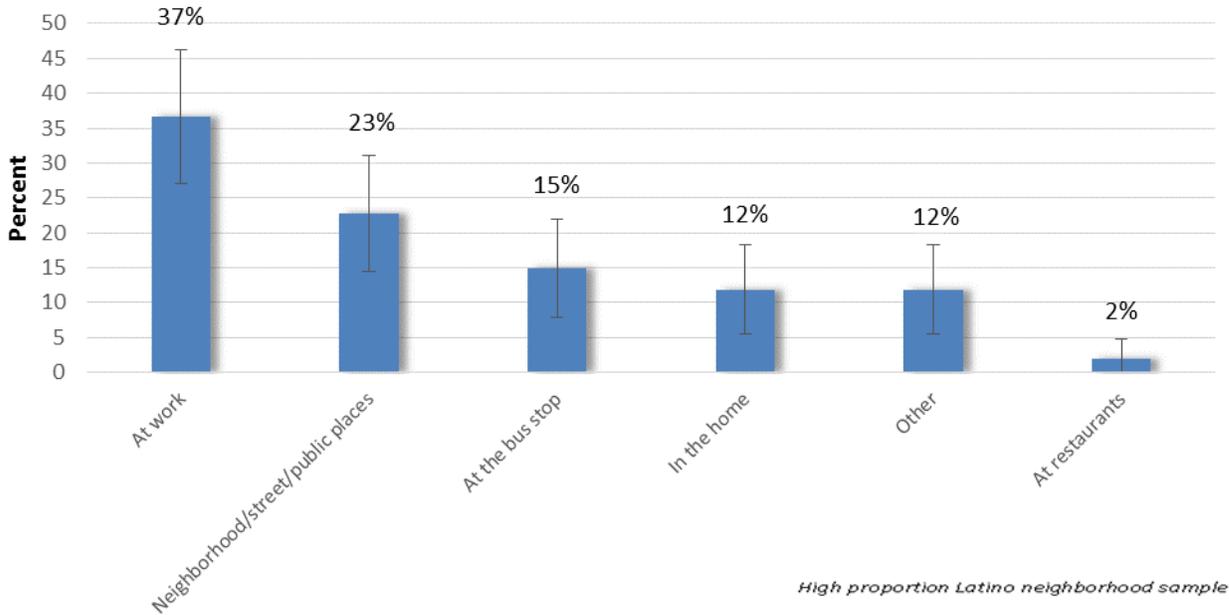
(n=14)

**33. Have you been exposed to secondhand smoke in Durham County in the past year?**



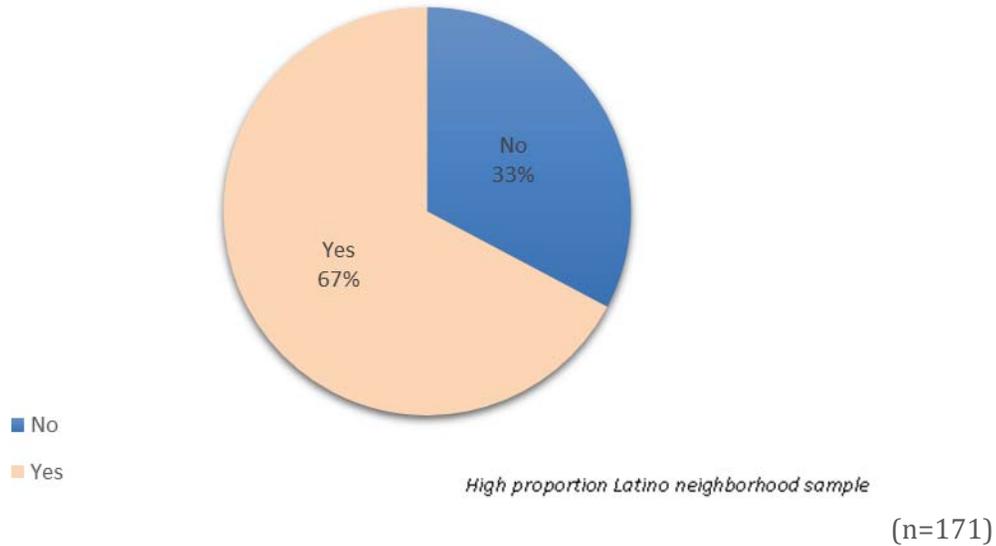
(n=169)

**34. If yes, where do you think you are exposed to secondhand smoke most often?**  
(Choose one)



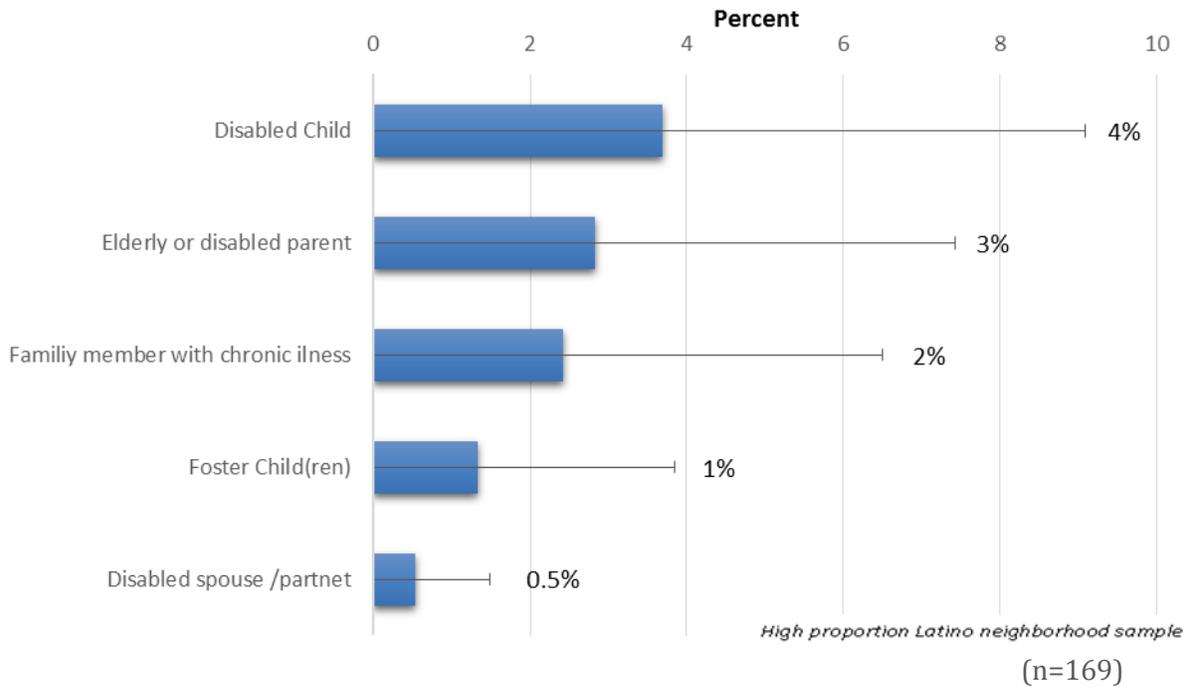
(n=101)

**35. Are you aware that Durham has a Smoking Rule that does not allow smoking in outdoor public spaces such as parks, county government properties, certain sidewalks and bus stops?**

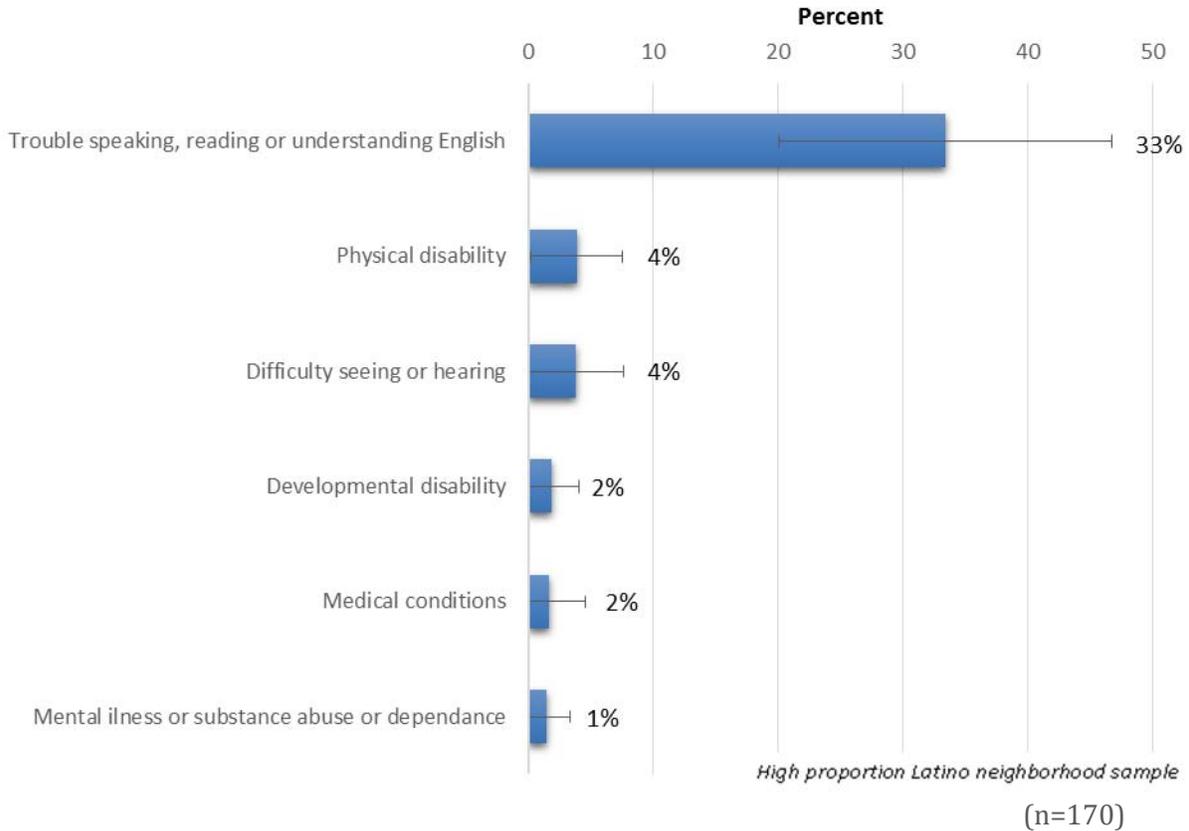


**Household:**

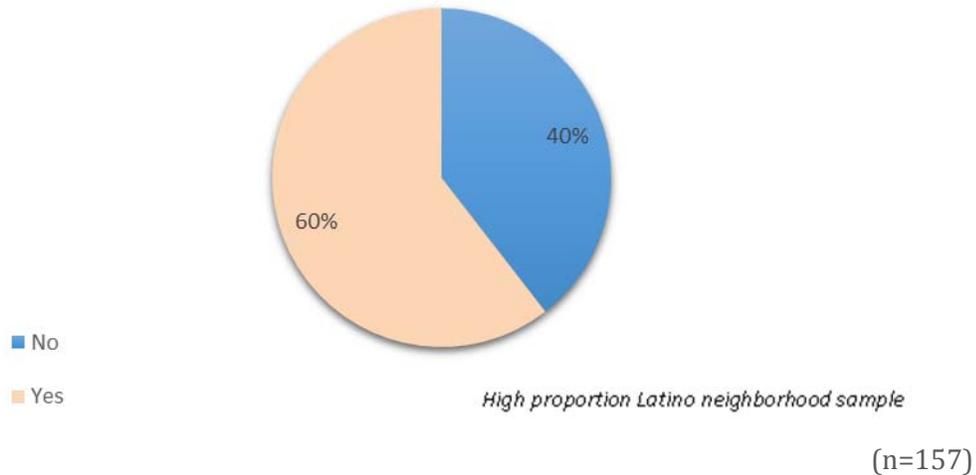
**36. Are you currently caring for: (check all that apply)**



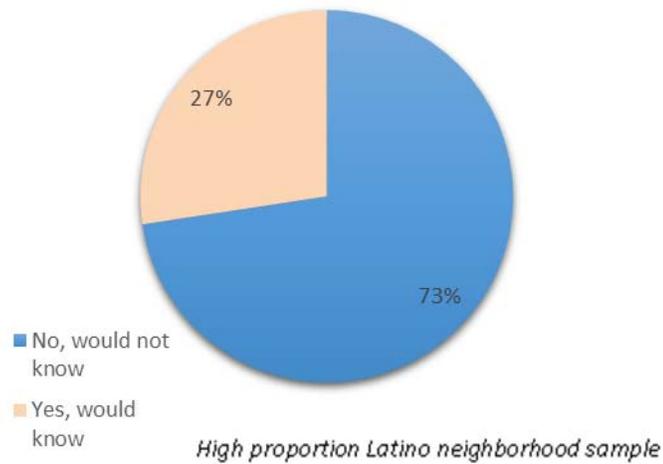
**37. Does anyone in your household, including yourself, need support to be independent in daily activities because of a: (check all that apply)**  
%



**38. Do you have access to the Internet?**

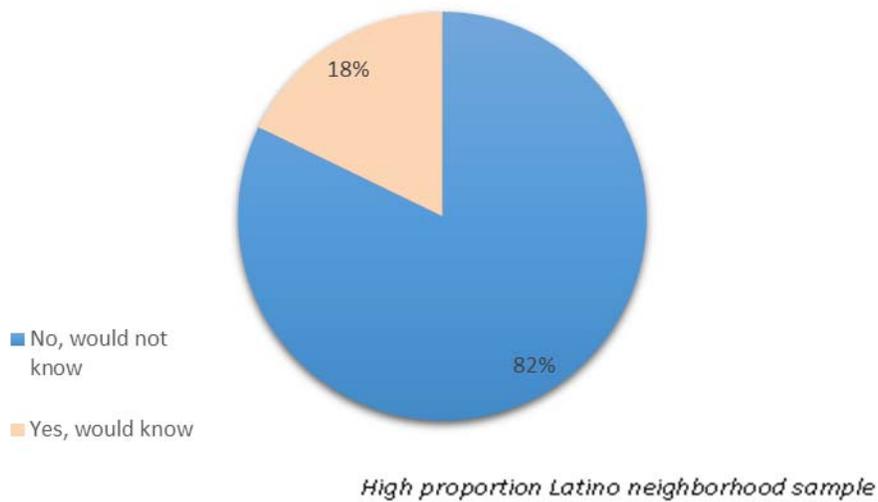


**39. Do you feel like you know what City or County agencies to approach if you have problems with your house or household services (for example, your sewer, building code, or personal rights)?**



(n = 171)

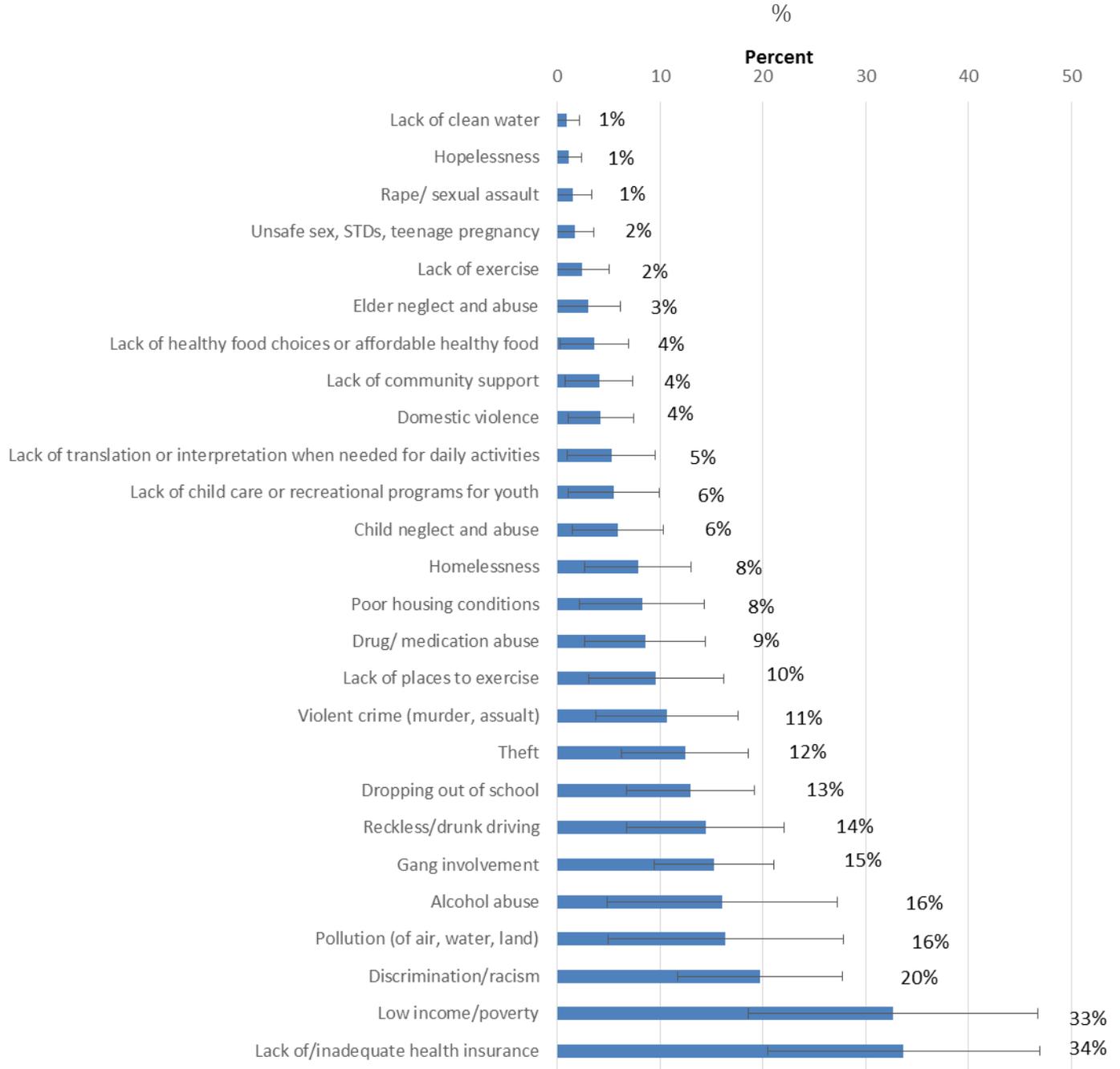
**40. Do you feel like you know what City or County agencies to approach if you have problems in your neighborhood (for example, with your sidewalk, roads, or neighborhood disputes).**



(n = 171)

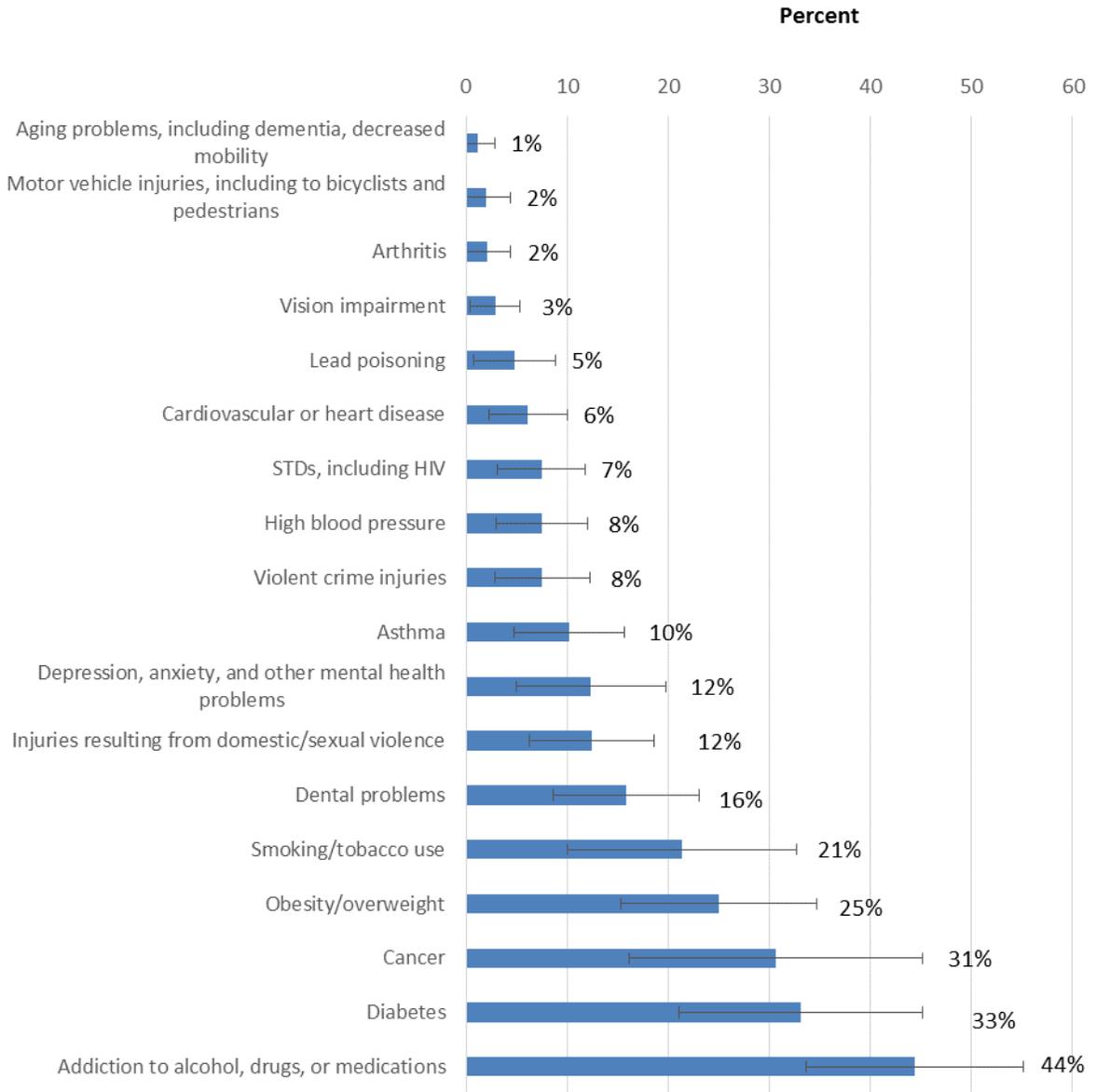
**PART 4: Community Improvement**

**41. 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. Remember this is your opinion and your choices will not be linked to you in any way.**



(n = 171)

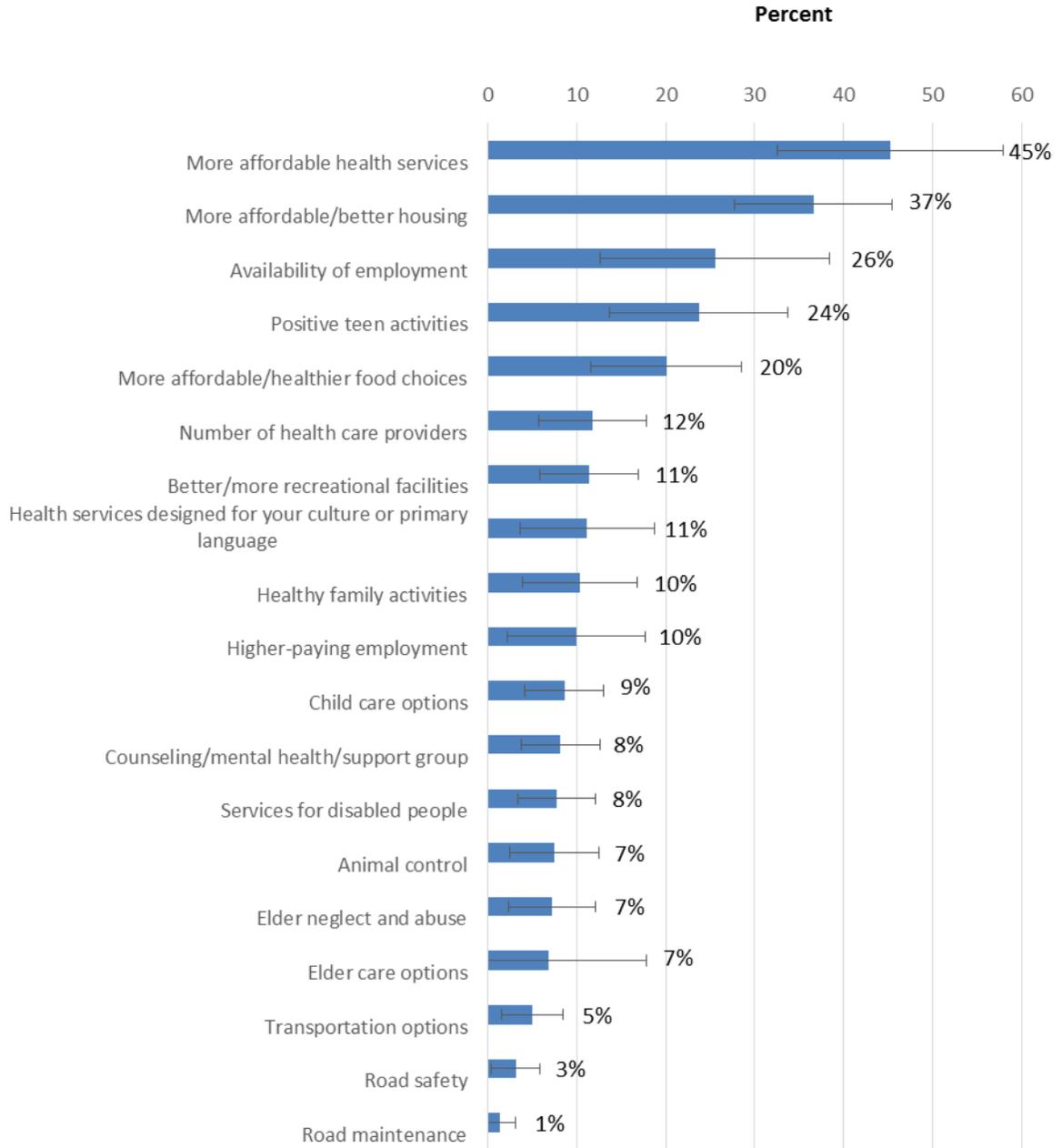
**42. Keeping in mind yourself and the people in your neighborhood, I would like for you to name the most important health problems (that is, diseases or conditions). You can choose up to 3.**



*High proportion Latino neighborhood sample*

(n = 170)

**43. In your opinion, which one of the following services needs the most improvement in your neighborhood or community? (Please choose up to three.) If there is a service that you think needs improvement that is not on this list, please let me know and I will write it in**

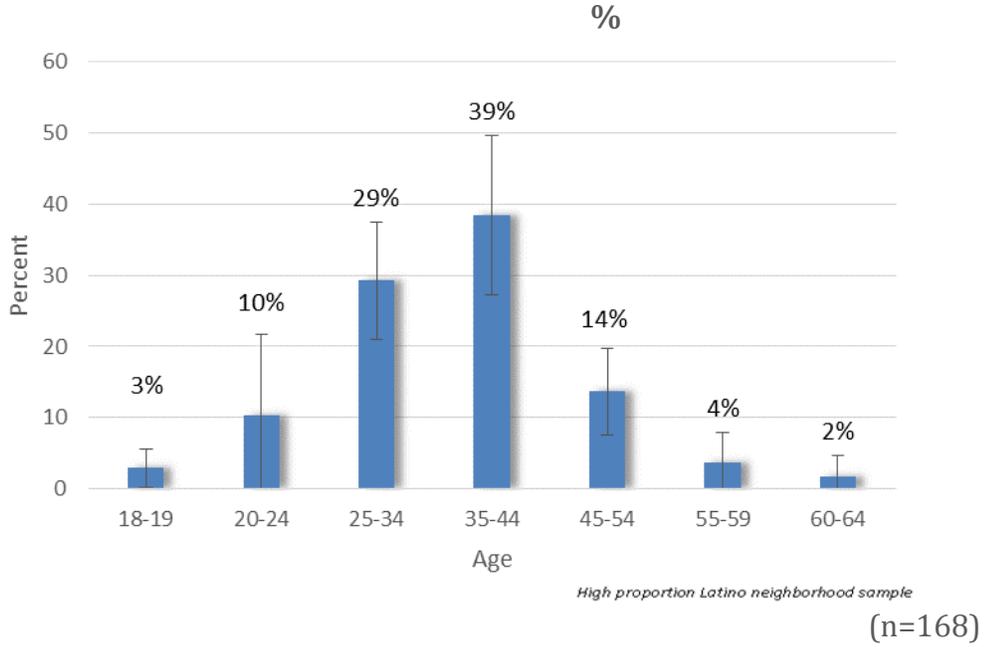


High proportion Latino neighborhood sample

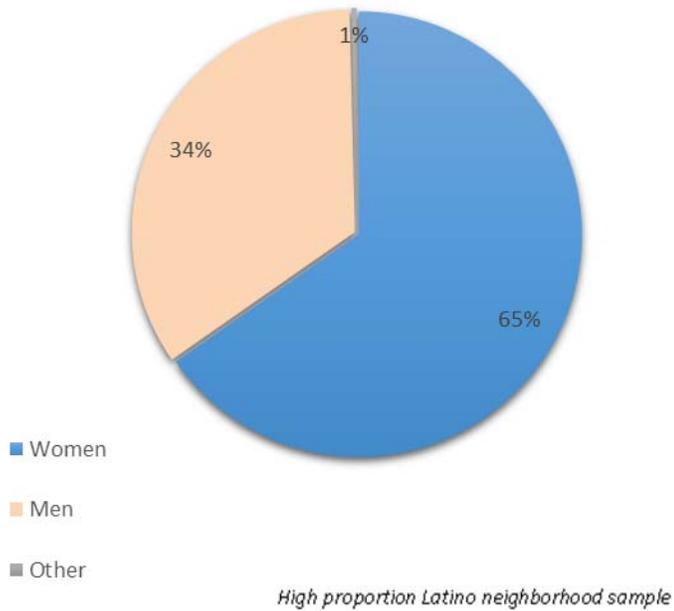
(n = 169)

**Part 5. Demographic Questions**

**44. What year were you born? (analyzed as 10 year age groups)**



**45. What is your gender?**

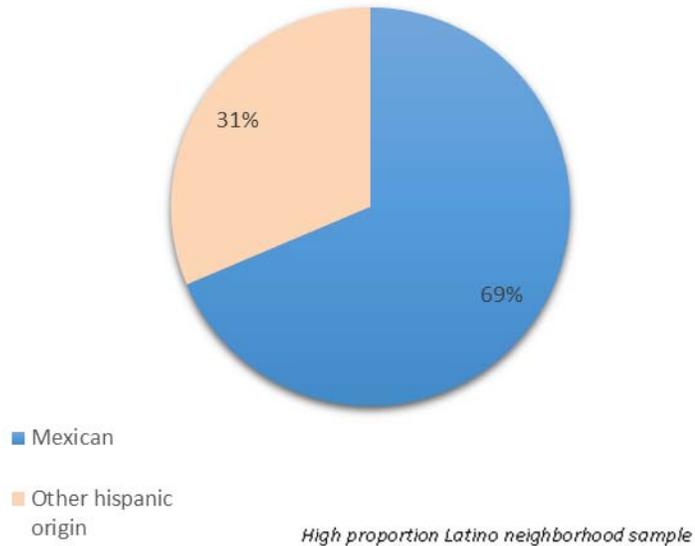


(N=171)

**46. Are you of Hispanic, Latino, or Spanish origin?**

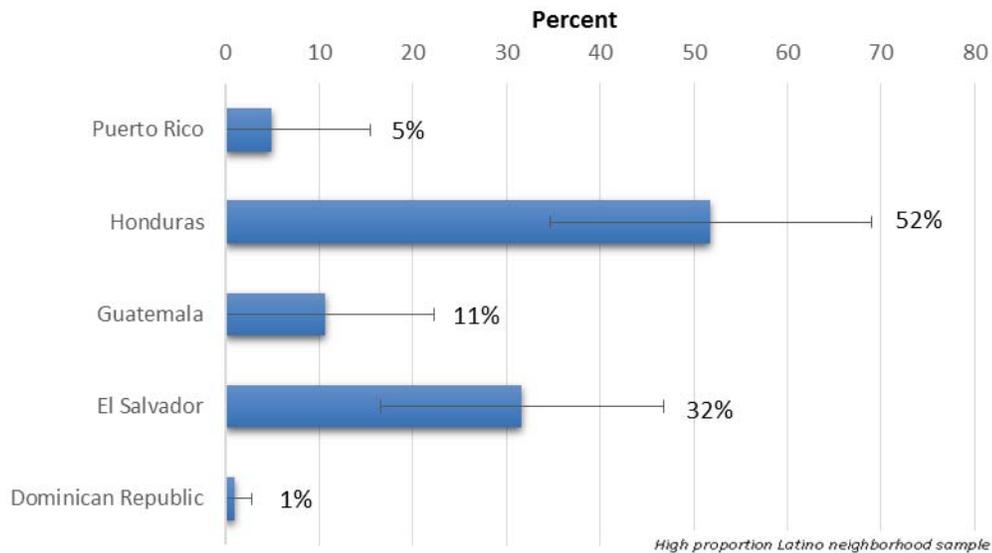
As being of Hispanic, Latino, or Spanish origin was a prerequisite for participation in this arm of the survey, no analysis was performed on this question.

**47. If yes, are you: (Check all that apply)**



(n= 159)

Of the people that responded 'Other Hispanic origin', these were their countries of origin:

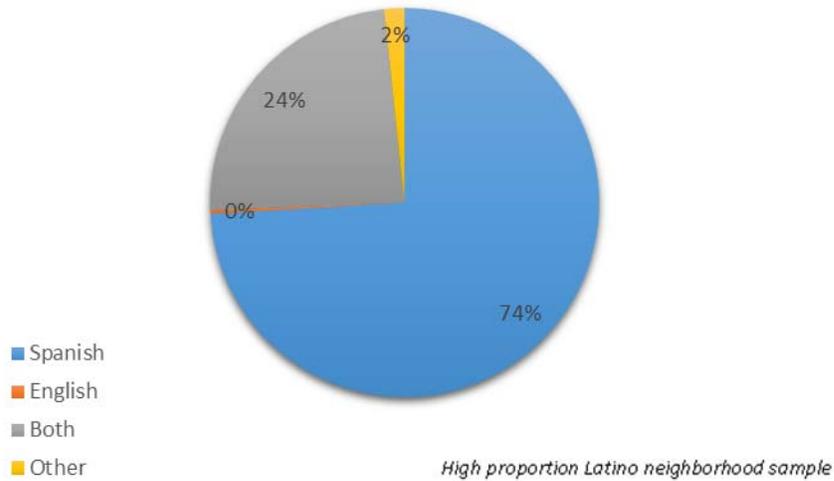


(n=68)

**48. What is your race? Please choose all that apply.**

County residents identifying themselves as “Hispanic or Latino” also gave “Latino” or their country of origin as their race, so race was not analyzed for this sample.

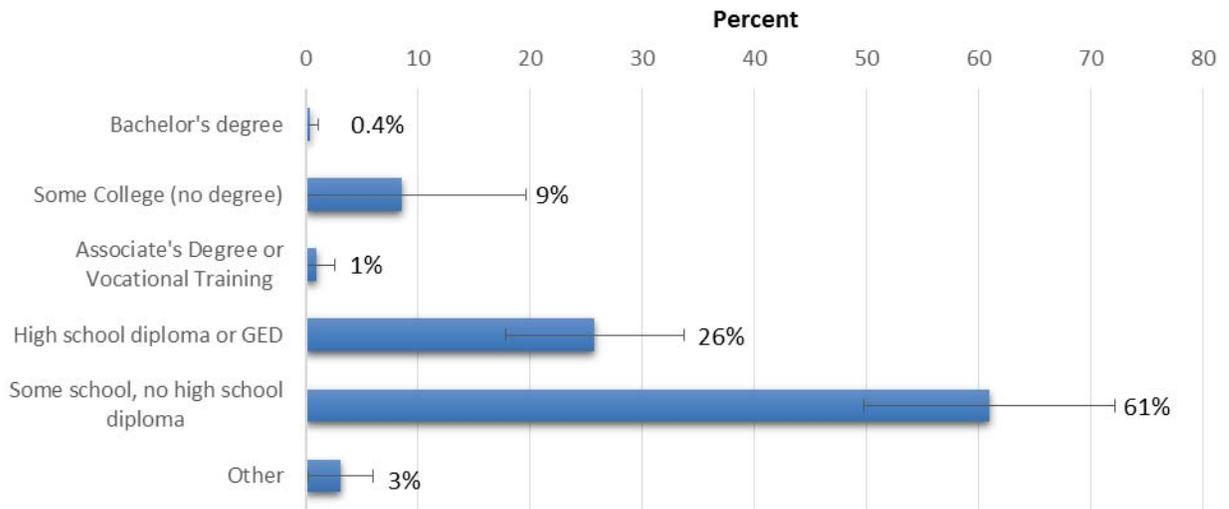
**49. What languages do you speak at home? (Check all that apply)**



(n=172)

Other languages spoken in the home included Chatino and Otomi, languages originating in Central Mexico.

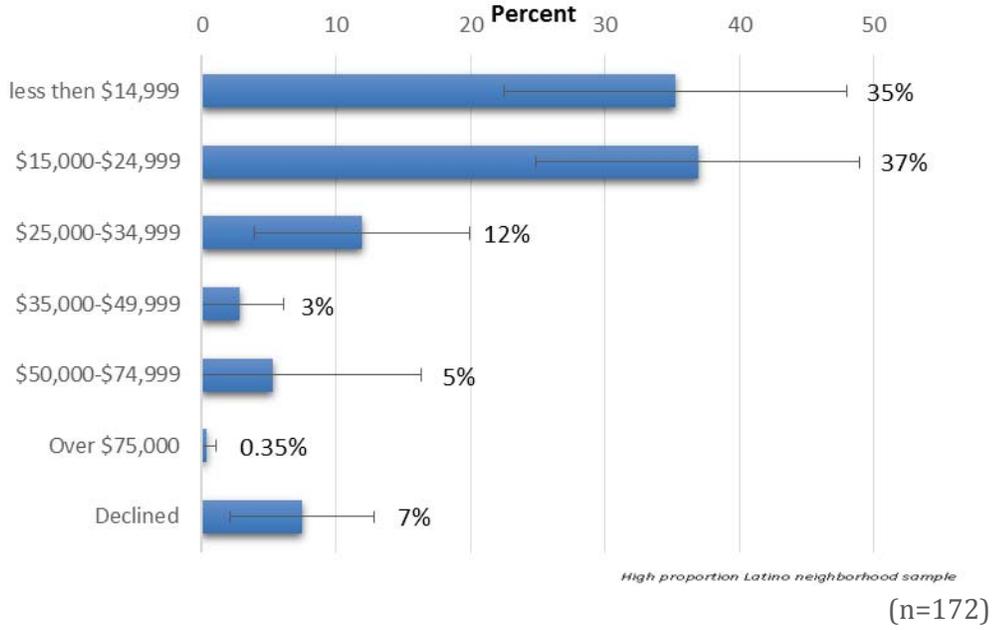
**50. What is the highest level of school, college or vocational training that you have finished? (Choose one.)**



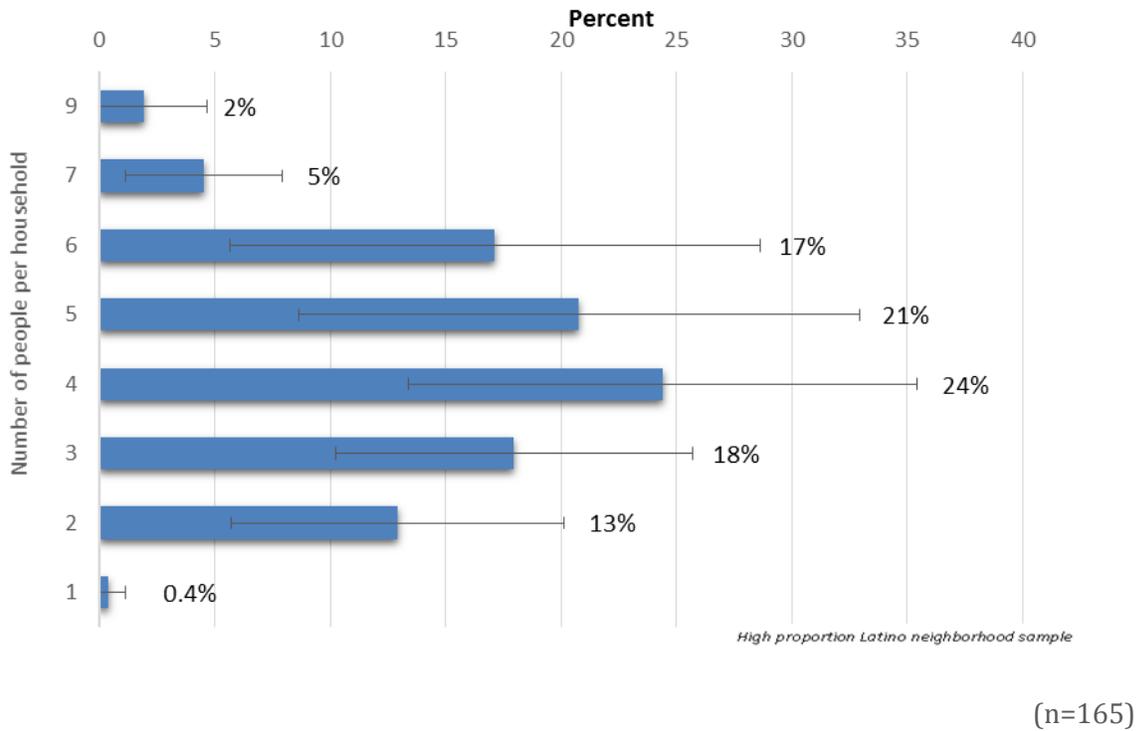
High proportion Latino neighborhood sample

(n=169)

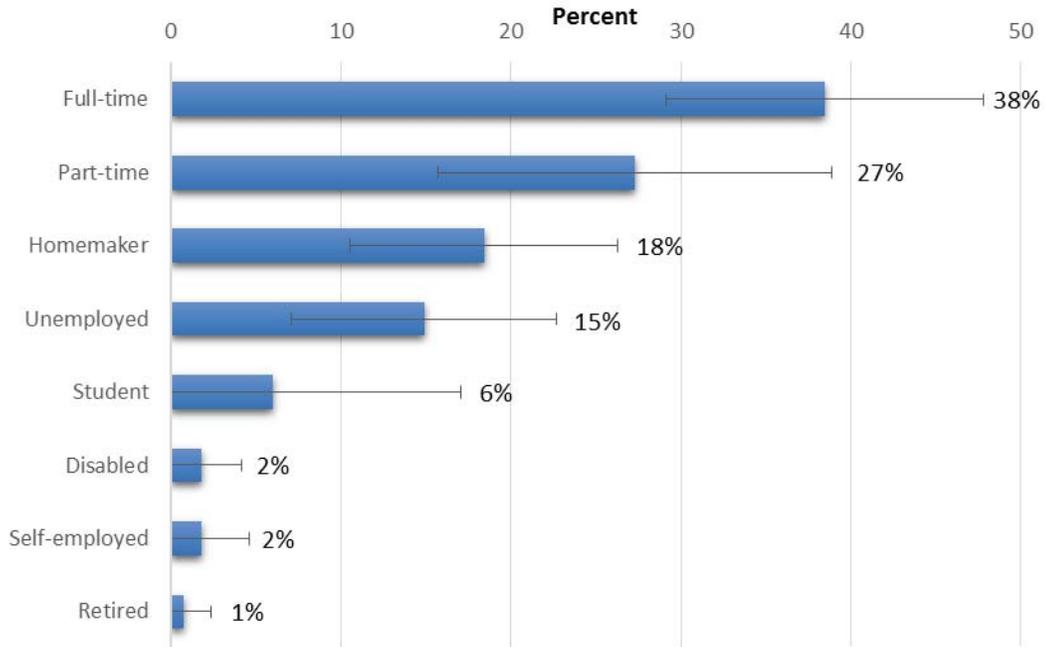
**51. What was your total household income last year, before taxes? I will read out categories. Let me know which you fall into. (Choose one.)**



**52. How many people does your total household income support?**



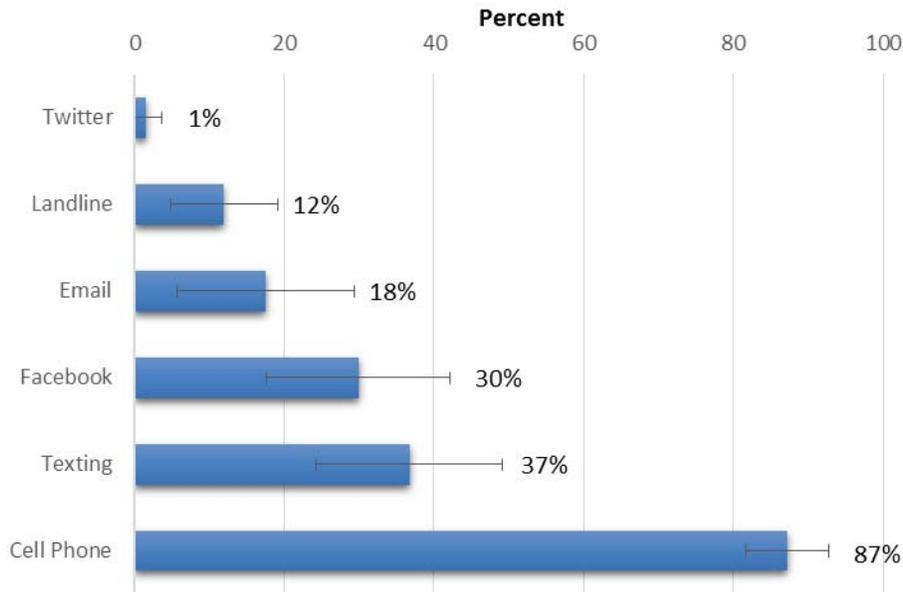
**53. What is your employment status? I will read a list of choices. Let me know which ones apply to you. (Check all that apply.)**



High proportion Latino neighborhood sample

(n = 162)

**54. Which form of communication do you regularly use? (Check all that apply.)**



High proportion Latino neighborhood sample

(n = 162)

## **Access to Healthcare Listening Session Results**

Thursday, October 2, 2014

Durham County Human Services Building

8 attendees

### **Overview**

The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

- Brief presentation that included:
  - o Background on community health assessment
  - o Data trends and survey results related to that health priority
  - o Overview of how the Partnership for a Healthy Durham addressed that priority over the last three years
- Attendees worked in small groups to write down their ideas and focus areas to address the health priority area over the next three years
- Each group presented their ideas
- Attendees received three stickers and used those to vote for their three favorite ideas or focus areas

**Facilitator:** Mel Downey-Piper

Idea	# of votes
Primary care at DCoDPH: <ul style="list-style-type: none"> <li>• Who will be served (e.g. age, insurance)</li> <li>• Reference process</li> <li>• Coordinate w/ other clinics – get input from clinicians</li> </ul>	1
Expand Medicaid → Advocacy	4
Sharing/coord/learning about LCHC services	0
Linkage of care for formerly incarcerated ind. (PADC?)	1
More same-day services (EG. STI) <ul style="list-style-type: none"> <li>• Know the level of care needed</li> </ul>	0
Community nurse triage line (like BCBCNC)	6
Expand dental care for adults <ul style="list-style-type: none"> <li>• Give out packets for recruitment</li> <li>• Work w/ dental residents</li> </ul>	2
Hospital to Home for the homeless	2
“Closet” for used medical equipment	0
“Memphis Model” link Congregation – hospital	0
Assess pts. Who cannot afford LCHC co-pays → are they going to ED’s? <ul style="list-style-type: none"> <li>• How are co-pays being communicated to LCHC pts?</li> </ul>	0
Educate Latinos about importance of health insurance	1
Educational sessions for public at DPH	2
More outreach in Latino churches/ soccer fields more DCoDPH Spanish materials	3
More paid media	

**Access to Healthcare Listening Session Results**

Wednesday, October 8, 2014

20 attendees

**Overview**

The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

- Brief presentation that included:
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  - o Data trends and survey results related to that health priority
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- Attendees worked in small groups to write down their ideas and focus areas to address the health priority area over the next three years
- Each group presented their ideas
- Attendees received three stickers and used those to vote for their three favorite ideas or focus areas

**Facilitator:** Lloyd Schmidler

1. If you have the power to make a difference in Durham for seniors and people with disabilities – what would you do?

<b>Ideas</b>	<b># Votes</b>
Community nurse triage line (like BCBSNC – but for people without that insurance)	6
Sharing, coordinating, learning about LCHC services	4
More outreach in Latino churches / soccer fields / more DCoDPH Spanish materials	3
Expand Medicaid – advocacy	3

Hospital to Home for the homeless	2
Educational sessions for public at DCoDPH	2
Linkage for care for formerly incarcerated individuals	1
Expand dental care (give out packets for recruitment, work with dental residents)	1
Educate Latinos about importance of health insurance	1
Answer questions about primary care at DCoDPH (who will be served – age, insurance; referral process; coord with other clinics – get input from clinicians)	1
More same-day services (eg. STI) – know the level of care needed	0

**HIV and Other STIs Focus Group Results**

Wednesday, September 24, 2014

Durham County Human Services Building

33 attendees

The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

- Brief presentation that included:
  - o Background on community health assessment
  - o Data trends and survey results related to that health priority
  - o Overview of how the Partnership for a Healthy Durham addressed that priority over the last three years
- Attendees worked in small groups to write down their ideas and focus areas to address the health priority area over the next three years
- Each group presented their ideas
- Attendees received three stickers and used those to vote for their three favorite ideas or focus areas

**Facilitator:** Mel Downey-Piper and Paul Weaver

1. What are strategies to address HIV/STIs?

Ideas	Ideas	# Votes	Barriers
<b>World AIDS Day</b>	<ul style="list-style-type: none"> <li>• Candlelight Vigil</li> <li>• Walk/Run</li> <li>• Bake Sale</li> <li>• Aids Day Celebration (speakers, award, food)</li> <li>• Sports day/ AIDS Day events</li> <li>• Testing at Soccer fields (Latino Comm.)</li> <li>• Location, location, location</li> <li>• Lack of Simplicity (combine Fragmented events)</li> <li>• Theme Based Celebrations</li> <li>• Hashtags</li> </ul>	<ul style="list-style-type: none"> <li>• 2</li> <li>• 2</li> <li>• 0</li> <li>• 0</li> <li>• 1</li> <li>• 2</li> <li>• 0</li> <li>• 6</li> <li>• 1</li> <li>• 3</li> </ul>	<ul style="list-style-type: none"> <li>• Funding (previously from pharmaceutical co.)</li> <li>• Apathy</li> <li>• Knowing who/where to contact</li> <li>• Attendance</li> <li>• Publicity/ Marketing</li> <li>• Proper Venue (lack of)</li> <li>• Authentic community collaborations</li> <li>• What day is Dec 1?</li> <li>• Location</li> <li>• Transportation</li> </ul>



	<p>bars)</p> <ul style="list-style-type: none"> <li>• Creative names and set up for testing (Turn up Tuesday, Thirsty Thursday) (Fresh Start” Campaign</li> <li>• Revisiting anonymous testing</li> <li>• Mobile testing (comfy music, inviting)</li> <li>• Comprehensive testing (blood pressure, HIV/STD, Chol., blood sugar)</li> <li>• More incentives / giveaways (Restaurants (free appetizer)</li> <li>• Rapid testing</li> </ul>	<ul style="list-style-type: none"> <li>• 7</li> <li>• 4</li> <li>• 0</li> <li>• 13</li> <li>• 0</li> <li>• 0</li> </ul>	<ul style="list-style-type: none"> <li>• Funding</li> <li>• Training 4 Health Care Professionals &amp; be comfortable talking about all Health Topics</li> <li>• Comm. Education</li> <li>• Stigma (1 vote)</li> <li>• Fear</li> <li>• High risk sexual practices</li> <li>• Need referral process ( high blood, sugar, alcohol, blood pressure)</li> <li>• Rapid testing</li> <li>• Follow up w/ provider for results &amp; treatment</li> <li>• Mental assessment</li> <li>• Confidentiality w/ testing in public setting/ areas</li> </ul>
<p><b>New Ideas</b></p>	<ul style="list-style-type: none"> <li>• “Know your status” campaign (Bronx)</li> <li>• Update refresh resource lists regularly</li> <li>• Peer groups for HIV+ individuals</li> <li>• More communications, media</li> <li>• Social media (apps, ads) challenge</li> <li>• Nationally recognized program that others can pilot</li> <li>• Division publication</li> <li>• Know status – copy “BRONX Knows” campaign- enlist public figures &amp; ministers to get tested &amp; wear button tie into event like world AIDS Day</li> <li>• Shopping centers- talk to people</li> <li>• Website – Instagram- ad site to target population</li> <li>• Ask clinics to have focus on testing during certain times</li> <li>• Building relationships w/ application designers</li> <li>• Gaining access to (dating apps)</li> <li>• Vine</li> </ul>	<ul style="list-style-type: none"> <li>• 7</li> <li>• 2</li> <li>• 3</li> <li>• 0</li> <li>• 6</li> <li>• 0</li> </ul>	

	<ul style="list-style-type: none"> <li>• Memo's</li> <li>• Social media challenge</li> <li>• Bus ads (transportation, billboards) "KNOW YOUR STATUS" (sporting events) (4 votes)</li> <li>• Simplify CHA – DUKE, NCCU, Durham Bulls, DTCC, DPAC events, Churches, Universities, Holton</li> <li>• Bring back communications &amp; public relations team, public libraries, Spanish speaking media, address other nationalities</li> <li>• Peer groups- 4 HIV+ individuals (job training)</li> <li>• Barber shops, hair salons, restaurants, parks &amp; rec centers (YMCA), Fitness center</li> <li>• Clinics (Duke, Lincoln, Holton) CBO's</li> <li>• Identify and build on, or re-create prior successes</li> <li>• Update/refresh resources</li> </ul>	<ul style="list-style-type: none"> <li>• 0</li> <li>• 0</li> <li>• 4</li> <li>• 0</li> </ul>	
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**Mental Health/Substance Abuse Listening Session Results**

Thursday, October 23, 2014

Durham Public Schools Staff Development Center

35 attendees

**Overview**

The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

- Brief presentation that included:
  - o Background on community health assessment
  - o Data trends and survey results related to that health priority
  - o Overview of how the Partnership for a Healthy Durham addressed that priority over the last three years
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- Each group presented their ideas
- Attendees received three stickers and used those to vote for their three favorite ideas or focus areas

The Mental Health and Substance Abuse focus group was held concurrently. The same ideas may appear under both the substance abuse and mental health topics.

**Facilitator:** Marissa Mortiboy and Jen Meade

**Mental Health**

Idea	# of votes
Substance Abuse and Mental Health training offered to DPS Reduce suicide among youth	0
Provide/offer Mental Health 101 in the community	0
Peer support group where youth who have been bullied can have a safe place for support /counseling	1
Create/organize rallies against bullying undiagnosed mental health and substance abuse	2

Line streets with fruit trees	1
School-based support expansion	0
Cross-agency for parents → training (PM and or Weekends)	6
Youth Mental Health First Aid (USA)	0
Research social /emotional learning products for teacher in the gen. education setting (casel.prg) → evidence based	1
Efforts to reduce STIGMA <ul style="list-style-type: none"> <li>– Adults</li> <li>– Kids</li> <li>– Even consumers</li> </ul>	4
Spread information on who to call (Alliance) for help	0
Increase /Streamline <u>diversion</u> (jail) programs: <ul style="list-style-type: none"> <li>– Examples: “Majors”, CJRC efforts,</li> <li>– STARS program, other programs to promote health/wellness</li> <li>– Re-entry services &amp; supports</li> <li>– Other In-jail programs: parenting (PPP?), etc.</li> </ul>	5
More Therapists in Primary Care , more school-based MH services	0
More support groups for those in need (families, etc.) <ul style="list-style-type: none"> <li>– Ask for more groups by NAMI</li> <li>– Church groups: space, volunteers to hold meetings</li> </ul>	0
Increase Media on suicide prevention efforts, bullying, etc. <ul style="list-style-type: none"> <li>– Reduce cyberbullying</li> <li>– Support for LGBTQ youth, other</li> <li>– Groups (boys) – promote tolerance!</li> </ul>	7
Increase in domestic violence even B.E. & G.F>	1
No support group for kids	0

More peer support	1
Recovery training for agencies	1
WRAP for teens facilitated by teen peers	1
Screen for S.I. in schools	0
Computer program to be completed by parent & child beginning of school year	0
Streamline process for access to training →Who offers it?	0
Remove illogical stumbling blocks like access to mental health care via Medicaid	0
Increase awareness of Alliance's crisis helpline	0
Increase training for all school staff	0
Co-location in Primary Care	0
School staff training in MH/SA crisis	2
School staff training in MH/SA intervention	2
Alternative to suspension programs Day treatment in the schools	3
More housing resources	1
More response to intervention program (RTI)	0
Connecting / Communication → lack of case management	0
Lack of sex offender / behavior screenings/ assessments	0
Engage private business who provide anti-bully programs	2

**Substance Abuse**

<b>Idea</b>	<b># of votes</b>
Hold recovery celebration Reduce injury & death linked to opioid dependence	0
Increase collaboration & outreach Have health information Include chronic health conditions?	0
Increase PCP training Lower dosage – fewer days	0
Increase access to NaCax one Alliance website not user friendly	0
Database for Dr.'s/pharmacist	0
Increase availability of pain maintenance	0
Increase awareness of sub of one	0
Better Primary care ed. Around certain anxiety meds/pain meds	0
↓ Anxiety med/scripts by a % pain meds	0
Pharmacy integration in SOC	2
Partner “Above the Influence” program	2
Increase/coordinate substance abuse prevention education in schools	5
Specified intervention groups in MS & HS Example: Opioid Addiction group	2
PSA's to increase Heroin use awareness	0

Efforts to reduce STIGMA Adults Kids Consumers	3
Spread information on who to call for help (Alliance)	0
Partnership with G.R.E.A.T & D.A.R.E. programs and Governor's institute on SA	0
Cross – agency training on SA for community	0
7 Challenges: Decision making model	2
T.R.Y. coalition – Wanda Boone	1
Increase # locations of drop boxes	4
Increase the size of the box to allow more narcotics to be protected	0
Increase Naloxone “Narcan” Awareness, trainings for those who distribute / receive Ex: Community events, Health fairs, Workshops	1
Increase Provider/Physician education/awareness about Naloxone	0
Substance Abuse trainings in the community (target youth)	0

## Obesity and Chronic Illness Listening Session Results

Monday, October 13, 2014  
 Durham County Main Library  
 34 attendees

### Overview

The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

- Brief presentation that included:
  - o Background on community health assessment
  - o Data trends and survey results related to that health priority
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- Attendees worked in small groups to write down their ideas and focus areas to address the health priority area over the next three years
- Each group presented their ideas
- Attendees received three stickers and used those to vote for their three favorite ideas or focus areas

**Facilitator:** Mel Downey-Piper and Debbie Royster

Nutrition, physical activity and chronic disease were addressed at this listening session.

### Nutrition

Current Options	# of votes
Veggie Van <ul style="list-style-type: none"> <li>• Expand promotion &amp; funding</li> <li>• Others like it</li> </ul>	1 4
Corner stores	1
Healthy Aisles	2

New Ideas	# of votes
Healthy cooking classes <ul style="list-style-type: none"> <li>• Healthy soul food &amp; alternatives (note: Healing with CAARE, Lyon Park has a kitchen we could use)</li> <li>• Reach out to different partners (e.g. DINE, Coop Ext, DDC, IFFS, Famers' Market) and coordinate</li> </ul>	8
School lunch program / Offering free breakfast	3
Food Discounts (coupons / gift cards/ prescriptions) <ul style="list-style-type: none"> <li>• Associated with nutrition classes</li> </ul>	3
Promote physical activity and nutrition through more clinical means (i.e. doctors suggesting or “prescribing”)	
Food policy council – food and farming network	
Provide examples (taste test) of healthy & economical meals	2
Promote more community gardens / linking to cooking classes	2
Encourage affordable grocery stores to open in food deserts	1
Promote /more places that accept SNAP/EBT i.e. Restaurants	1
Expand double bucks program	1
Provide healthier options	1
Childhood education	0
Continued nutrition education classes in big chain stores	0
Removing vending machines	0
Encourage use of sliding scale \$	0
Variety of foods from pantries	0
Encouraging transportation lines that support access to healthy foods	0

**Physical Activity**

<b>Current Options</b>	<b># of votes</b>
Bull City Play Streets (Main St. 1 mile)	
Ahealthierdurham.com <ul style="list-style-type: none"> <li>• mobile app</li> <li>• more customization related to type of activity</li> </ul> Healthy Mile Trails	

<b>New Ideas</b>	<b># of votes</b>
Add sidewalks (10 votes) <ul style="list-style-type: none"> <li>• Bike lanes</li> </ul>	10
Signs (walk your city) / add distance to signs downtown/ work with Downtown Durham Inc. (3 votes)	3
DPR Play More cards (1 vote)	1
Cement link between trails and open spaces with healthy activities	0
Outreach to medium-sized businesses downtown for what? To support physical activity for employees?	0
Enhancing physical activity opportunities – bike lanes, sidewalks, policy particularly for underserved areas	0
Water fountains	0
School fields – dual use agreement	0
Group instruction on physical activity – orientations and education	0
Better lighting & safety	0
Encourage the use of indoor facilities (tracks)	0
Pursue pilot city challenge & engage all ages	0

Public bike racks	0
Bike share program (e.g. support existing programs – DOST, Duke)	0

**Chronic Disease**

<b>Current Options</b>	<b># of votes</b>
Board of Health smoking rule	0
Smoking cessation classes	0
Diabetes and chronic disease	5
<ul style="list-style-type: none"> <li>• Self-management classes</li> </ul>	2

<b>New Ideas</b>	<b># of votes</b>
<ul style="list-style-type: none"> <li>• More volunteers to get the word out -radio, TV</li> </ul>	5
<ul style="list-style-type: none"> <li>• Have educational material at the appropriate health literacy level &amp; languages</li> </ul>	4
<ul style="list-style-type: none"> <li>• Education about programs currently in Durham County Government</li> </ul>	3
<ul style="list-style-type: none"> <li>• Give out free nicotine patches, gum</li> </ul>	1
<ul style="list-style-type: none"> <li>• Treat high blood pressure like a chronic illness</li> </ul>	0
<ul style="list-style-type: none"> <li>• Enforce minimum age to purchase cigarettes</li> </ul>	0
<ul style="list-style-type: none"> <li>• Provide free b.p. screening in local grocery stores</li> </ul>	0
<ul style="list-style-type: none"> <li>• Personal monitors</li> </ul>	0
<ul style="list-style-type: none"> <li>• Too busy trying to survive that it's a luxury to access services</li> </ul>	0

**Poverty Listening Session Results**

Monday, October 13, 2014

Durham County Main Library

34 attendees

**Overview**

The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

- Brief presentation that included:
  - o Background on community health assessment
  - o Data trends and survey results related to that health priority
  - o Overview of how the Partnership for a Healthy Durham addressed that priority over the last three years
- Attendees worked in small groups to write down their ideas and focus areas to address the health priority area over the next three years
- Each group presented their ideas
- Attendees received three stickers and used those to vote for their three favorite ideas or focus areas

**Facilitator:** Mel Downey-Piper and Reverend Mel Williams

Idea	# of votes
City wide minimum wage	11
Early childhood development & school readiness	8
Affordable housing <ul style="list-style-type: none"> <li>- Continue &amp; expand homeless →hospital → housing discharge</li> <li>- City of Durham Community Development &amp; funding for affordable housing</li> </ul>	8
Locally –based job skills training <ul style="list-style-type: none"> <li>- i.e. catering, environment services</li> </ul>	7
Worker owned co-ops – up and coming industry	6
Make internships focused on future and with businesses (young people and future jobs)	6

Youth programming for Latinos	5
Circulator bus (e.g. in apt complex – has regular stops to various places in community); Vans/carpools to certain stores “Buyers club” for Durham	4
Getting people who have money to give back (share knowledge & wealth). Give to programs.	3
Replicate “Student –U” approach	3
Expand veggie van – to neighborhoods – How to cook what’s local	2
Literacy skills – Not tutoring , phonics	2
Training for entry level IT, etc. (more HCRC)	2
Farm land back to black farmers	2
Congregational health Network	2
Co-pay contributions	2
Resources for baseline prevention	2
Foreclosed properties – donate- take off taxes →gardens	1
Line streets with fruit trees	1
Expand YO Durham	1
Racial equity training	1
Getting EITC returned (advocacy)	1
Create a revamped community volunteer program to address poverty	1
Job creation for those with criminal backgrounds	1
Addressing food safety	1
More community gardens (e.g. churches); Cooperative raised bed farming e.g., solar Use of vacant lots	0
Bike share program	0
Attention to indoor environmental concerns (lead-based paint and air quality)	0
Transportation matched food options	0
Wal-Mart, Target and Home Depot cutting benefits	0

More information about what people are being trained for (work force training)	0
Education on loans for college – Refinance loans	0
Medicaid expansion	0
Mayor involvement	0
Continuum of Services that are catered to family needs	0

**Seniors and Access to Healthcare Listening Session Results**

Wednesday, September 17, 2014

Durham Center for Senior Life

18 attendees

**Overview**

The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

- Brief presentation that included:
  - o Background on community health assessment
  - o Data trends and survey results related to that health priority
  - o Overview of how the Partnership for a Healthy Durham addressed that priority over the last three years
- Attendees worked in small groups to write down their ideas and focus areas to address the health priority area over the next three years
- Each group presented their ideas
- Attendees received three stickers and used those to vote for their three favorite ideas or focus areas

**Facilitator:** Gina Upchurch

1. If you have the power to make a difference in Durham for seniors and people with disabilities – what would you do?

<b>Topic Area</b>	<b>Ideas</b>	<b># Votes</b>
<b>Dental access for older adults</b>	<ul style="list-style-type: none"> <li>• Dentures</li> <li>• Root canals</li> <li>• How to save your teeth, not just pull them</li> <li>• Free clinics or discounted services</li> <li>• Beyond “basic coverage” cleaning, fillings, and x-rays</li> </ul>	22
<b>More affordable housing &amp; house repair</b>	<ul style="list-style-type: none"> <li>• Homeowners insurance that might help with house repairs</li> <li>• Home repairs need to be more affordable to seniors</li> <li>• Not enough people know or understand property tax discounts which</li> </ul>	7

	<p>are based on income and age.</p> <ul style="list-style-type: none"> <li>• Rent control for seniors – on a fixed income, but the rent continues to go up every year</li> <li>• Section 8 – some don’t know eligibility, etc.</li> <li>• No money to repair a home, but the home is the only asset.</li> <li>• Middle Income – just a little bit over and they cut you off to any assistance → no sliding scale</li> </ul>	
<b>Political representation</b>	<ul style="list-style-type: none"> <li>• Senior citizen advocate at the political level – need someone who can create action</li> <li>• AARP, etc. need to be able to talk to someone in power who hears our concerns</li> </ul>	6
<b>Access to medications</b>	<ul style="list-style-type: none"> <li>• All medications, they cost too much.</li> <li>• People who can’t afford them – need help with co-payments</li> <li>• Have to split up the medications – one month they will get half, other half they’ll get the other half. If they don’t get all of their medication, they will not be able take it every day</li> </ul>	5
<b>Food</b>	<ul style="list-style-type: none"> <li>• SNAP– Food stamps, only get \$16/month</li> <li>• Need more help – food is going up, but the SNAP benefits are not going up or is a very small benefit</li> <li>• Lack of access to fresh food that is affordable</li> <li>• Don’t get any help is just over income</li> <li>• Food bank – the food that is given to them is often not wanted by others → food is old or stale, lot of starches that they can’t eat – why they have so many overweight individuals. Can’t afford to eat healthy.</li> </ul>	4
<b>Transportation:</b>	<ul style="list-style-type: none"> <li>• To and from the Food Bank/Pantries and to pick up medicine</li> <li>• Access is helpful but not sufficient</li> </ul>	4
<b>Changes in medical insurance</b>	<ul style="list-style-type: none"> <li>• Issues are often not apparent until there is a problem</li> <li>• Individuals need more information about what those changes are and how they affect the care they receive.</li> </ul>	4
<b>Can’t sell house because it needs repairs but can afford repairs</b>	<ul style="list-style-type: none"> <li>• Individuals know about reverse mortgages but not all qualify and not all are good ideas b/c of high interest rates</li> </ul>	2

<b>Caregiving</b>	<ul style="list-style-type: none"> <li>• Older adults are taking care of their grandkids, but aren't getting financial help to do it.</li> <li>• Will pay foster care parents, but not grandparents.</li> <li>• Need to enjoy ourselves and not be just a caregiver.</li> </ul>	1
<b>Medicare doesn't cover an annual physical</b>	<ul style="list-style-type: none"> <li>• One complete physical "Welcome to Medicare" physical when they first enroll. After that only have a "wellness visit"</li> <li>• Sometimes you don't know something is wrong until it is checked</li> <li>• Desire for annual physical to be covered Medicare</li> </ul>	0
<b>Adult Care Homes</b>	<ul style="list-style-type: none"> <li>• Resident only receive \$62/month from their social security check for personal needs after the check pays for the adult care home, which is not enough.</li> </ul>	0

2. If you need something – need to ask for help/assistance/information about available services and programs – do you know where to go? Who would you call or go see?
  - Social Services
  - Human Services Building
  - Legal Aid
  - Affordable Housing Coalition
  - House needs repairs
3. If you don't qualify for these programs – they don't refer you to someone who can help you!
  - Stay in their home – SNF will take individuals who have Medicaid, but those who want to go into Assisted Living are private pay.

**Spanish Language Obesity/Chronic Illness and Mental Health/Substance Abuse Listening Session Results**

Saturday, October 25, 2014

Holton Career and Resource Center (Held during annual El Centro Health Fair)

26 attendees

**Overview**

The purpose of the input sessions was to gather ideas and prioritize the specific focus within each health priority. Each session focused on one of the health priorities and followed this format:

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**Facilitator:** Humberto Rodriguez and Alyse Lopez-Salm

**Obesity and Chronic Illness**

Concerns/Issues/Comments	# of votes
Fear of police; lack of proper ID or driver license prevents people from going to the doctor - 6	6
More safe parks to take our children outside for activities	0
Information on how the community can plant vegetables	0
Lack of work, and money (poverty) makes it difficult to buy health foods	0

Discrimination: “Sometimes we can’t get service if we can’t speak English” “I heard at the Health Department they turn Latin women away”	0
“I have to eat tortillas at work even though I have diabetes because when I don’t I am not full and my work is very hard”	0
More information about classes that control diabetes and other chronic disease	3
What to do to treat obesity and how to help ourselves and those that needs it.	0
Money to visit the doctor and pay for medications because they are more expensive now (at Lincoln)	3
Working a lot – there is not time to go to the doctor	3
Continuum of Services that are catered to family needs	0

### Mental Health

Concerns/Issues/Comments	# of votes
How to get help and where to go for treatment? - 3	3
Learning more about mental health	0
Transportation to pick us up and take us back home	0
Support for women with depression	5
Fear of driving without a license	4
Economy...lack of income	3
Train a group of mothers in our neighborhoods on mental health	0
Attention to low-cost healthcare -	2
More help for domestic violence	0
More people in Durham need a U-visa (type of immigration relief for victims of violent crime who cooperate with police investigations)	7

**Drug and Alcohol Abuse**

<b>Concerns/Issues/Comments</b>	<b># of votes</b>
Programs for people who don't admit that they have problems	0
Technical courses to help people so that they can then help people	7
Work with people to form more groups for alcoholics and a larger role on the part of doctors in this	0
More awareness among people who have problem this about what resources exist	2