COMMUNITY HEALTH ASSESSMENT AS A CORE FUNCTION OF PUBLIC HEALTH: HOW THE AFFORDABLE CARE ACT CHANGES THE ASSESSMENT PROCESS
A CASE STUDY ON COLLABORATIVE COMMUNITY HEALTH ASSESSMENT

by

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Abstract

Community health assessment in North Carolina has traditionally been carried out on the county level by local health departments. The Patient Protection and Affordable Care Act outlines new community benefit guidelines for non-profit hospitals requiring community health needs assessments every three years. The new requirements have the potential to change the landscape of community health assessment by formalizing clinical and public health processes into a collaborative effort. Collaborative community health assessments can leverage limited resources to produce higher quality, more broadly representative reports on the status on population health. This paper details the assessment process undertaken in Davidson County, North Carolina in 2012. The Davidson County Health Department, Wake Forest Baptist Health Lexington Medical Center and Novant Health Thomasville Medical Center, together with the North Carolina Institute for Public Health completed a collaborative community health assessment in July 2012. This first unified endeavor brought together key partners in the health of Davidson County residents, expanded the scope of analyzed data and introduced new perspectives to the planning process. Going forward it will be important to maintain the collaborative momentum to engage all partners in unified action planning, implementation and evaluation.
Historical Roots of Public Health and Defining Community Health Assessment

The Institute of Medicine (IOM) provided an updated, concise definition of public health in their 1988 *Future of Public Health* Report, identifying the mission of public health as, “fulfilling society’s interest in assuring conditions in which people can be healthy.”¹ The report additionally identified three core functions of public health: assessment, policy development and assurance. Within this report, the Committee for the Study of the Future of Public Health provided specific recommendations for the implementation of assessment across multiple levels of government. In order to assess the health of communities, public health agencies must, “regularly and systematically collect, assemble, analyze, and make available information on the health of the community, including statistics on health status, community health needs, and epidemiologic and other studies of health problems.”¹(p. 7) While the IOM acknowledges that not all agencies may be large enough to conduct assessments independently, assessment is a primary function of public health and all agencies are responsible to assure the process is completed.

Further refining of the mission and role of public came in 1994 with the Public Health in America Statement by the Core Public Health Functions Steering Committee. In addition to developing a vision still commonly referenced, “healthy people in healthy communities,” the statement identified 10 essential services within the core functions of public health.² Two essential services directly relate to assessment: monitor health status to identify community health problems, and diagnose and investigate health problems and health hazards in the community.³ The Centers for Disease Control and Prevention
(CDC) outlined specific elements of community health monitoring which are important parts of the community health assessment process:

- Identification of health risks
- Attention to vital statistics and disparities
- Identification of assets and resources
- Utilization of methods of technology (e.g., GIS) to interpret and communicate data

As the field of public health has evolved throughout history, monitoring of community health has remained a central undertaking. In alignment with the core functions and essential services of public health, community health assessment (CHA) is one of primary jobs of public health professionals. CHA is a “systematic collection, assembly, analysis, and dissemination of information about the health of the community.” This paper will explore how health monitoring has historically been executed in North Carolina and how new regulations for non-profit hospitals could change this process. Specifically, using a case study from Davidson County, North Carolina as an example, this paper will seek to answer the following questions: What are the implications of new requirements in the Patient Protection and Affordable Care Act (ACA) for the monitoring of community health? What are the benefits and drawbacks of a collaborative CHA and community health planning (CHP) model?

**Community Health Assessment in North Carolina**

In North Carolina, community has traditionally been defined at the county level and county health departments have driven the assessment process. What is today known as
the community health assessment has seen various names and strategies over the past several decades.\textsuperscript{5}

\textit{Planning and Budgeting System}

What was then frequently referred to as community diagnosis first started to become standardized in 1974 with a planning approach known as the Planning and Budgeting System. Health departments identified and prioritized needs to present to the legislature for funding. Also in 1974 were the first editions of county data books for all 100 counties to aid the assessment process. The State health department in 1976 again distributed updated, more detailed county books entitled, Population and Program Statistics for Public Health Needs Assessments.\textsuperscript{5}

\textit{Consolidated Planning Process}

As the standards that governed local health departments became more important, the community assessment process shifted to a new planning process in 1981. This consolidated planning method required local health departments to submit a county profile of health needs to the State health department.\textsuperscript{5}

\textit{Community Diagnosis}

In 1983 there was a growing recognition that results from the current planning process were falling short of the goals for community health assessment. In response the State health statistics agency released a new report: \textit{Guide for a Community Health Diagnosis} along with new data books for each county compiling all known and available county and state health data. While frequently used, the term community diagnosis was defined for the first time in the guide to be: “a means of examining aggregate health and social statistics, liberally spiced with the investigator's subjective knowledge of the local
situation, to determine the health needs of the community.”5(p. 199) Additionally, guidance was provided on the concepts, materials and methods of community diagnosis.

Workshops were held across the state to explain the new strategies and information in detail. Following the release in 1983, the data books have been updated annually and workshops are held biannually. A new Guide for Community Diagnosis with data analysis templates was released in 1989 in response to counties’ requests for more help in the structure of the analysis.5


While the worksheets and templates had been successful in assisting reporting, new state requirements and national initiatives demanded standardization. What followed was a new protocol with reporting definitions. Counties were asked to identify up to five prioritized health status problems (problems with measurable, known consequences) and up to five prioritized other health problems (situations or conditions that contribute to health status problems). Additionally, counties were asked to identify at least one intervention for each problem that they plan to implement within two years. In addition to workshops, state and regional leaders worked as consultants to help health departments with this new method.5

Transition to Community Health Assessment

In the late 1990s community diagnosis became known as community assessment, and in 2002 the Office of Healthy Carolinians began administering the state community assessment process in partnership with the State Center for Health Statistics. Collaborative CHA has increasingly been used since 2002 and county health departments are encouraged to broaden the process by including community partners. Among the
benefits of collaborative assessment are improved responsiveness to the needs of the community as a whole, reduced data collection and analysis and reduced duplicity. 

_New State Requirements for Community Health Assessment_

In accordance with North Carolina General Statute § 130A-34.1, all health departments are required to undergo the accreditation process, which began in 2006. Initial accreditation lasts four years, and health departments have until December 2014 to apply for accreditation. The goal of mandatory accreditation is to link existing requirements into a single accountability process based on the core functions and essential services of public health. Benchmark 1, of the 48 benchmarks required for accreditation, requires local health departments to conduct and disseminate results of regular community health assessments. Additional guidance for CHA requirements is provided in the FY2013 Consolidated Agreement from the North Carolina Division of Public Health. The Consolidated Agreement encourages collaboration and requires a comprehensive CHA every four years based on data from the indicators required in the accreditation self-assessment, and action planning shaped by Healthy North Carolina 2020 objectives.

Over the past four decades the structure and process of CHA has evolved to include more community involvement, become more standardized and routine, while adhering to the basic guidance from the core functions and essential services of public health. A requirement in the Patient Protection and Affordable Care Act (ACA), passed in 2010, provides a new opportunity for enhanced collaboration throughout the CHA process.

**Hospital Community Health Needs Assessments**

_Requirements_
Since the enactment of Medicare and Medicaid in 1965, nonprofit hospitals have been required to demonstrate community benefit in order to maintain federal 501(c)3 tax exempt status.\textsuperscript{11} Traditionally community benefit has taken the form of charity care, but wide variation in the definition and application of benefit to the wider community has been an ongoing problem. In an effort to provide standard requirements for community benefit, a section of the ACA establishes new guidelines for hospital maintenance of tax-exempt status.\textsuperscript{11} As part of requirements to enhance collaboration and promote public knowledge, Section 9007 requires all non-profit hospitals to conduct a community health needs assessment and adopt an implementation plan at least once every three taxable years, effective for taxable years beginning after March 23, 2012.\textsuperscript{12,13} The community health needs assessment must include input that is broadly representative of the community served. At minimum, input is required from the key constituencies listed in Table 1, and specific qualifications are still being defined. Results must be widely disseminated, and the penalty on hospitals that do not meet the assessment requirement is a $50,000 tax.\textsuperscript{13}

**Table 1: Required Community Representation**

<table>
<thead>
<tr>
<th>Group</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons with public health expertise</td>
<td>Academic experts, Local government officials, Community based organizations</td>
</tr>
<tr>
<td>Departments or agencies with data or information relevant to health needs</td>
<td>Local, Regional, State, Tribal or Federal Health Departments, healthcare providers,</td>
</tr>
<tr>
<td>Underserved Populations</td>
<td>Leaders or representatives of low-income populations, minority populations, individuals with chronic disease needs, healthcare consumer advocates</td>
</tr>
</tbody>
</table>
The new requirements for non-profit hospitals have the potential to change the landscape of the CHA process and they provide a prime opportunity for partnership between health departments, who traditionally lead the CHA process, and hospitals. Local health departments are a source of public health expertise, therefore fulfilling the first interest group requirement for input. Local health departments are experienced, 60% have completed a CHA within the past five years, skilled at reaching out to community stakeholders, and well-positioned to help hospitals garner participation from vulnerable populations. Hospitals are not the only ones who stand to benefit from a collaborative CHA. Conducting a collaborative assessment can increase the quality, reduce overall costs to each partner by leveraging limited resources, create shared accountability and develop trust among hospitals, community members and the health department. In response to the new requirements, the health department and non-profit hospitals in Davidson County, North Carolina undertook a collaborative CHA in 2012.

**Davidson County, North Carolina: A Case Study in Hospital-Health Department Collaborative CHA**

**Davidson County Background**

Davidson County is in West Central North Carolina, in the Piedmont region of the state. A medium sized county, it is comprised of 18 townships and municipalities, the largest being Lexington and Thomasville. The 2010 population was 162,872 and the closest metropolitan area is Winston-Salem, 20 miles north. Within Davidson County there are two hospitals, Wake Forest Baptist Health Lexington Medical Center (LMC) and Novant Health Thomasville Medical Center. To fulfill the IRS and North Carolina accreditation requirements for the respective agencies, the two hospitals worked with the
Davidson County Health Department and the North Carolina Institute for Public Health (NCIPH) to conduct a collaborative community health assessment. The partners followed the systematic eight-phase format of North Carolina CHAs.

The Community Health Assessment Process

The overarching goal of the assessment process is to identify factors that affect health while evaluating the availability of resources to adequately address the factors.\textsuperscript{6} Assessment is the first step in the larger community health planning process, which combined comprise a continuous 4-year cycle of planning the assessment, gathering data, completing the CHA report, developing an action plan, implementing action plans and evaluation. Four questions ideally guide the process:

- What are the strengths in our community?
- What health concerns do residents have?
- What are emerging health issues in the community?
- What other resources are needed to address these concerns?

The North Carolina CHA process has been divided into eight phases that meet requirements for accreditation and the consolidated agreement:

- Phase 1: Establish CHA Team
- Phase 2: Collect Primary Data
- Phase 3: Collect Secondary Data
- Phase 4: Analyze and Interpret County Health Data
- Phase 5: Determine Health Priorities
- Phase 6: Create CHA Document
- Phase 7: Disseminate CHA Document
Phase 8: Develop Community Action Plan

Davidson County’s Execution of the CHA Process

Phase 1

In February of 2012, the Davidson County Health Department, LMC, TMC and NCIPH, along with partner agencies and community representatives, formed the Davidson County Community Health Assessment Planning Team. The Planning Team worked closely with two existing coalitions: the Davidson County Healthy Communities Coalition and the Action Communities for Health, Innovation & Environmental Change grantees. Hospital officials and county policy makers were active members of these coalitions. The Planning team met once a month in person, interspersed with conference calls to review progress, and developed subcommittees to divide responsibilities from each phase.

Phase 2

Primary data were collected in five different ways: a door-to-door community health opinion survey, focus groups, a key stakeholder survey and community forums. This mix of quantitative and qualitative data provided an opportunity to reflect the needs and priorities of traditionally hard to reach populations. Additionally, the door-to-door survey provided an opportunity for community members to be involved in the assessment process. The community health opinion survey was conducted in early March 2012, the key stakeholder survey and focus groups occurred during April 2012, and the community health forums were held across the county in late May 2012. While the primary data are an invaluable source of information, for the purpose of this paper only the secondary health data will be discussed in detailed analysis.
Phase 3

The primary source of health data was the North Carolina State Center for Health Statistics (NC SCHS), including Health Stats for North Carolina, County Health Data Books, Behavioral Risk Factor Surveillance System, Vital Statistics, and the Cancer Registry. Other health data sources included: National Center for Health Statistics; Log Into North Carolina (LINC), North Carolina Department of Medical Assistance, Health Indicator Warehouse, North Carolina Action for Children, Kids Count Data Center, North Carolina Division of Health Service Regulation, and the UNC Cecil G. Sheps Center for Health Services Research. Additionally, clinical data were provided from each hospital.

Peer counties, i.e., counties that share similar characteristics and are useful for comparison, are calculated for every county in the state. For the purposes of this report, the team used peer counties grouped by SCHS, which utilized a formula based on population, poverty, and population percentage under age 18. SCHS used 2010 Census data to place Davidson County in a peer county group with Craven, Harnett, Johnston, and Randolph Counties. In these four counties, the populations range from 100,000 – 250,000 people; 16-18% of residents live in poverty; and 23-28% of the population is under age 18. For easy and lasting comparison, a peer county average was calculated for data.15

Phase 4

To assess Davidson County’s overall health, health data were analyzed within the framework of Health NC 2020, the latest version of North Carolina’s decennial health goals. This plan is a set of 40 objectives in 13 focus areas that guides the state’s efforts in
improving overall health. The following are health indicators for which secondary data were collected and analyzed:

- **Crosscutting Issues**
  - Life Expectancy
  - Perception of Health
  - Nonelderly Uninsured
  - Overweight and Obese

- **Leading Causes of Death**

- **Tobacco Use**
  - Adult Smoking
  - Secondhand Smoke Exposure

- **Physical Activity and Nutrition**
  - Physical Activity
  - Nutrition
  - Access to Healthy Foods

- **Injury and Poisoning**
  - Unintentional Poisoning
  - Unintentional Falls
  - Homicide
  - Traffic Accident Fatalities

- **Sexually Transmitted Disease**
  - Chlamydia
  - Gonorrhea
  - HIV/AIDS
  - Syphilis

- **Maternal and Child Health**
  - Infant Mortality Racial Disparity
  - Infant Mortality Rate
  - Pregnancy Smoking Rates
  - Adolescent Pregnancy
  - Other Indicators

- **Mental Health and Substance Abuse**
  - Alcohol-related Motor Vehicle Accidents
  - Suicide
  - Poor Mental Health Days

- **Infectious Disease**
  - Pneumonia/Influenza Mortality

- **Oral Health**
  - Pediatric Medicaid Providers
  - Decayed, Missing, or Filled Teeth in Children
  - Tooth Extraction in Adults

- **Chronic Disease**
  - Cardiovascular Disease Mortality
  - Diabetes
Additional economic, environmental and education data were collected and analyzed, but are not included in this paper. The full data analysis can be found in Appendix A.

Phase 5

Based on the compilation of primary and secondary data, the Planning Team identified ten health-related areas that appeared to have the largest affect on the health of residents in Davidson County. These ten areas are:

Heart Disease

The leading cause of death in Davidson County from 2006-2010 was diseases of the heart. The cardiovascular disease mortality rate in Davidson County is 63% higher than the Healthy NC 2020 target and is also higher than the peer counties and the state. High blood pressure, smoking, diet, stress, diabetes and excessive drug and alcohol use have all been linked to cardiovascular disease.

Obesity

Obesity is an increasing problem across the state. In Davidson County the rate of overweight and obese adults has increased in the last 5 years; 2/3 of adults are overweight or obese. An unhealthy body weight has numerous physical health consequences, including diabetes, stroke, and heart disease. Physical activity and nutrition can alleviate negative health effects and contribute to maintaining a healthy body weight.

Tobacco Use

Tobacco use is the single largest preventable cause of death and disability in the
United States and Davidson County sees significantly higher rates of smokers, secondhand smoke exposure and smoking during pregnancy than peer counties and the state. Correspondingly, the second and third leading causes of death are Cancer and Chronic Lower Respiratory Disease. Lung cancer and COPD disease rates are also significantly higher than peer counties and the state.

**Drug and Alcohol Abuse**

Residents consistently identified drug and alcohol abuse as a community wide unhealthy behavior. Drug and alcohol abuse is inclusive of accident and injury resulting from use, addiction, underage use, binge drinking, prescription misuse and other physical and mental health conditions.

**Mental Health/Suicide**

Mental health is a broad area that refers to overall well-being of an individual, and his or her ability to fulfill responsibilities and manage life stressors. Emotional, social, and psychological well-being is included in mental health. Poor mental health can impair functioning and includes mental illnesses such as mood, behavior, personality, anxiety and substance use disorders. Multiple factors including genetics and environmental stressors influence the onset of mental illness. With access to appropriate care, mental health illnesses can be managed. However, untreated mental health conditions can lead to numerous co-occurring morbidities, including suicide. Positive mental health is linked to improved health outcomes.

**Oral Health**

Oral health includes gum and tooth diseases. Poor oral health is related to other conditions; tobacco use contributes to oral disease and gum disease can lead to heart
disease.\textsuperscript{18} Availability and access to services, particularly among children, are primary contributors to poor oral health outcomes.

\textbf{Infant Mortality}

Infant mortality is the death of a live born infant within the first year of life. Low birthweight, prematurity, SIDS, congenital anomalies and birth defects are all contributors to infant mortality.\textsuperscript{18} Davidson County has a higher infant mortality rate than peer counties and the state. Of particular concern is the racial disparity present in infant mortality; in Davidson County the African American infant death rate is 2.6 times higher than the white infant death rate.\textsuperscript{17}

\textbf{Adolescent Pregnancy}

Adolescent pregnancy is pregnancy in girls ages 15-19. The majority of teen pregnancies are unplanned and health outcomes for adolescent pregnancies tend to be worse for both the mother and the infant.\textsuperscript{20,21} Adolescent pregnancy can be an indicator of lack of access to accurate sexual and reproductive health information and services. Additionally there are numerous social, educational and economic consequences resulting from adolescent pregnancies.\textsuperscript{20} The adolescent pregnancy rate in Davidson County is slightly higher than in North Carolina as a whole.\textsuperscript{22}

\textbf{Injury and Poisoning}

Injury and poisoning is a leading cause of death and disability for residents, particularly younger residents.\textsuperscript{18} This primarily focuses on traffic accidents, falls and drug overdose but is inclusive of homicide, violent crimes, domestic violence, burns, drowning and other accidents.

\textbf{Access to Healthcare Providers}
Davidson County is recognized as a Medically Underserved Area.\textsuperscript{23} A shortage of primary care, mental and dental health providers, combined with an aging workforce nearing retirement, limits the availability of services to residents. There are significantly fewer primary care physicians, dentists and psychologists in Davidson County as compared to the state and peer counties.\textsuperscript{24} This can result in increased emergency room usage and decreased preventative care and disease management.

Community forums provided a presentation of the research findings, which led into facilitated discussions. After the discussion, participants voted to prioritize the issues. The most important issue to participants was obesity, followed by access to healthcare providers, tobacco use, mental health and heart disease.\textsuperscript{15}

**Phase 6**

The CHA report was completed in July 2012 and distributed to members of the Planning Team.

**Phase 7**

The CHA report will be widely disseminated by the end of 2012.

**Phase 8**

To begin the community action planning process, corresponding evidence-based interventions were suggested for each chosen health priority. The five priority health areas chosen at the community forums were further narrowed to three priorities for action planning by the Davidson County Health Communities Coalition Steering Committee. The areas for ongoing efforts were chosen based on issue overlap, which issues were actionable at a local level and had community resources and buy-in to affect change. Issues were given priority if a strategy to address one health concern would be beneficial.
to other health concerns. The three priorities to focus on for the next three years are: increasing the number of residents who are physically active and maintain nutritious eating habits; improving access to care (particularly primary care, mental health, and dental services); and reducing tobacco use. Addressing these areas will consequently help alleviate the other priority health concerns: mental health and cardiovascular disease.

The next step of the CHA process for the Davidson County team is to assemble work groups to develop comprehensive community health improvement plans for the priority areas.

Lessons Learned from a Collaborative CHA in Davidson County

Davidson County has many strengths and unmet needs facing its residents, hospitals and public health system. This first attempt at conducting the CHA process collaboratively with hospital systems proved to be a productive, learning experience. At the most basic level, bringing together key players from the health department, hospital systems and community based organizations started a dialogue and created relationships that will facilitate future community health improvement. To have hospital CEOs and executive staff present at meetings and presentations was not only symbolic of the hospital commitment to Davidson County health but also mutually informative.

The merging of clinical health and public health helped this CHA be more comprehensive and broadly representative of the state of health in the county. In addition to the traditional markers of community health, this CHA was able to utilize emergency room and inpatient hospital data for both hospitals, which have not been included before. Using three-years of aggregated patient data provided detailed trend and usage information. This can help inform gaps in care and geographic areas within the
community to target interventions. Geographic admission data were also layered with socioeconomic, education and population data to identify overlapping areas of vulnerability.

New perspectives outside of the typical public health approach enriched the experience and challenged the team to think about the assessment in new and different ways. Specifically, the economic health perspective from the hospitals highlighted an angle that is useful in communicating with specific stakeholders but not typically considered within a CHA. During data presentation, hospital executives were particularly interested in modifiable risk factors within chronic disease prevention and the primary care provider shortage, both components that have a direct relationship to emergency room usage and hospitalization. The sharing of information helped develop a foundation for a more unified approach towards the health of Davidson County. A mix of email, phone and in person meetings created a productive environment with constant communication. As with any first endeavor, there were challenges and room for improvement in the future.

While it was invaluable to have hospital officials and staff as participating members of the Planning Team, much of the heavy lifting of the assessment was still conducted by the health department and NCIPH. Assessments are mandated but are accompanied with little to no additional funding. A CHA is a significant undertaking and is generally a task in addition to employees’ existing workloads. This makes accountable division of labor among partners vital. Including hospital specific data was an important component of the secondary data collection, but there were long waits and clearances to gain access to the data. Full hospital data were not received until June, leaving little time
for meaningful analysis. Obtaining a data use agreement from the university and the hospitals was the primary barrier delaying access. Knowing the data use requirements and process to obtain an agreement should significantly help improve the data access issues for future CHAs. Concern exists that collaboration may result in hospitals meeting the requirement without providing equal contributions, instead allowing the work to be completed by health departments. Assigning specific responsibilities and timelines to hospital staff, so they feel part of the process rather than data gatekeepers, could help integrate agency participation and ease data barriers. Like many processes, adding more partners to the team can sometimes result in slower progress. However, effective division of labor largely headed off this problem in Davidson County and the benefits outweigh the challenges. Partners came together after the completion of the CHA to debrief about the process. A formal evaluation of the process and comparison to previous efforts is an important component that should be considered.

A larger underlying concern is the potential consequences of allowing outside forces, such as IRS requirements, to regulate a previously public health focused process. Hospitals arguably have a substantially different focus than public health departments. The influence of hospitals and their resources could disproportionately shape the process resulting in a medicalized assessment of individual level health. This is a concern to be mindful of when approaching the collaborative assessment work. However, if monitored and properly executed, the new requirements stand to improve the process by providing a more comprehensive picture of community health reflective of the reality of health delivery systems. The required inclusion of under-served populations, local health departments and public health expertise keeps the focus grounded in public health
principles. The inclusion of clinical health data tells a more complete story that otherwise is not always reflected by population health measures. In the case of Davidson County this was most evident in oral and mental health data. The traditional indicators provided some information but did not demonstrate urgency for Davidson County. When these data indicators were cross-referenced with emergency room usage for dental and mental health problems and the patient-provider ratio, the severity of the problem in Davidson County became much more evident. Including a medical focus can serve as a check to evaluate the effectiveness of public health interventions and as a method to identify gaps in care.

Going forward it will be important to maintain collaborative momentum. The next significant task will be unifying the existing parallel planning processes to engage all partners in collaborative action planning, implementation, policy development, and evaluation. Several existing communities, including Health Matters in San Francisco, Healthier Together in Wisconsin, and Health Care Access Now in Cincinnati, have successfully navigated these challenges and it will be important to monitor these best practices and other emerging evidence throughout the project.

The new hospital requirements in the ACA are the latest factor to affect the ever-evolving community health assessment process. While staying true to the core functions and essential services of public health, the assessment process in North Carolina has changed greatly since the 1970s. Today, CHAs are more structured and thorough than they have ever been before. Including hospital partners in the assessment and planning process has the potential to unify parallel activities to create lasting collaborative change while advancing the health of all North Carolinians.
References:

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19 Mental Health Basics. Centers for Disease Control and Prevention Web site. 


Appendix A

Secondary Health Data and Analysis, Davidson County CHA

Healthy NC 2020 is the latest version of North Carolina’s decennial health goals. This plan is a set of 40 objectives in 13 focus areas that guides the state’s efforts in improving overall health. These areas served as a framework to assess Davidson County’s overall health in 2010. Peer counties, counties which share similar characteristics and are useful for comparison, are calculated for every county in the state. For the purposes of this report, peer counties determined by the State Center for Health Statistics were used. Peer County groupings resulted from a formula based on population, poverty and population percentage under age 18. Using 2010 Census data, Davidson County is in a peer county group with Craven, Harnett, Johnston and Randolph Counties. All four of these counties are in a population range of 100-250,000 people, have 16-18% of residents living in poverty and 23-28% of the population under age 18. For easy and lasting comparison, a peer county average was calculated for data. All objectives with data available at the county level will be addressed, with supplementary health data to follow. Unless otherwise noted, data are from 2010 and from HealthStats.

Crosscutting Issues

Crosscutting indicators paint an overall picture of health and are a reflection of a variety of other health, social, environmental and economic factors. In 2010, according to County Health Rankings, Davidson County was ranked 41 out of 100 counties in county health. This is lower than all peer counties.\(^1\) Four Healthy NC 2020 objectives highlight crosscutting health indicators.

*Healthy North Carolina 2020 Objective: Increase average life expectancy to 79.5 years*

\(^1\) County Health Rankings
From 2008-2010, the life expectancy at birth in Davidson County was 76.8, which is slightly lower than the peer counties and a little more than a year less than North Carolina. Life expectancy serves as a gauge of overall health of a community and reflects mortality trends. As life expectancy increases it can be expected that chronic diseases, which are more common among older adults, increase.

**Figure 3.1. Life Expectancy at Birth**

![Figure 3.1. Life Expectancy at Birth](image)

Source: HealthStats

**Healthy North Carolina 2020 Objective: Increase the percentage of adults reporting good, very good, or excellent health to 90.1%**

When asked for a self-reported measure of overall health, 83.8% of adults in Davidson County rated their health as good, very good or excellent. This is slightly higher than rankings from other participating peer counties and the state as a whole.
Healthy North Carolina 2020 Objective: Reduce the percentage of non-elderly uninsured individuals (aged less than 65 years) to 8%

Among individuals under the age of 65 in Davidson County, 18.4% are uninsured. This proportion is slightly lower than peer counties and the state, but is significantly higher than the Healthy NC 2020 target.
**Healthy North Carolina 2020 Objective: Increase the percentage of adults who are neither overweight nor obese to 38.1%**

Two-thirds of adults in Davidson County are overweight or obese. Davidson County is slightly better than peer counties and North Carolina as a whole, but has progress to make in order to meet the 2020 target.

![Bar Chart: Percentage of Adults neither Overweight nor Obese](image)

**Figure 3.4. Percentage of Adults neither Overweight nor Obese**

**Leading Causes of Death**

The top three leading causes of death in Davidson County from 2006-2010 were Diseases of the Heart, Cancer and Chronic Lower Respiratory Disease. In the state as a whole Cancer is the leading cause of death, following by Diseases of the Heart and Cerebrovascular diseases.

**Table 3.1. Leading Causes of Death, Davidson County**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease of the Heart</td>
<td>230.8</td>
</tr>
<tr>
<td>Cancer</td>
<td>212.9</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Disease</td>
<td>64.3</td>
</tr>
</tbody>
</table>

Source: County Health Data Book

**Tobacco**
Tobacco use is the single largest preventable cause of death and disability in the United States and Davidson County reports significantly higher rates of smokers, secondhand smoke exposure and smoking during pregnancy than peer counties and the state. Correspondingly, the second and third leading causes of death are Cancer and Chronic Lower Respiratory Disease. Lung cancer and Chronic Obstructive Pulmonary Disease (COPD) rates are also significantly higher than peer counties and the state. Two Healthy NC 2020 objectives have county level data related to tobacco use. Other tobacco-related health data are included after these objectives.

**Healthy North Carolina 2020 Objective: Decrease the percentage of adults who are smokers to 13%**

Significantly more adults in Davidson County, 29.6%, report being current smokers than adults in peer counties or North Carolina as a whole. Current smokers are noninstitutionalized individuals over the age of 18 who report smoking ‘every day’ or ‘most days’ and have smoked at least 100 cigarettes in their life. While the percentage of current smokers in North Carolina has generally been decreasing, there is no similar trend in Davidson County. The highest proportion of adult current smokers in Davidson County in the past seven years occurred in 2010. It is important to note that BRFSS data are survey data with large confidence intervals.

**Figure 3.5. Percentage of Adults Identified as Current Smokers**

![Bar chart showing percentage of adults identified as current smokers in Davidson County and North Carolina](http://example.com/bar_chart.png)
Healthy North Carolina 2020 Objective: No secondhand smoke exposure in the workplace

In Davidson County 13.8% of adults are exposed to secondhand smoke in the workplace, a significantly higher number than peer counties and North Carolina. This question was first asked in 2008, therefore limited trend data are available, but both North Carolina and Davidson County saw large decreases between 2008 and 2010. On January 2, 2010, all restaurants, bars and some lodging areas in North Carolina were required to become smoke free.
Figure 3.7. Percentage of Adults Exposed to Secondhand Smoke in the Workplace

![Bar chart showing percentage of adults exposed to secondhand smoke in the workplace for Davidson County 2010, Peer County Average, and North Carolina. Source: HealthStats]

Figure 3.8. Percentage of Adults Exposed to Secondhand Smoke in the Workplace: North Carolina and Davidson County Trends 2008-2010

![Line chart showing trends in the percentage of adults exposed to secondhand smoke in the workplace for Davidson County and North Carolina from 2008 to 2010. Source: BRFSS]
**Chronic obstructive pulmonary disease (COPD).** COPD is a disease that makes it hard to breathe as it gets progressively worse over time. The leading cause of COPD is cigarette smoking, but it can also be caused by long-term exposure to air pollution or dust. COPD is a major cause of death and disability, making everyday tasks difficult to complete. There is no known cure for COPD, but treatments can slow the progression and improve individual well-being.²

Among the Medicaid population, the hospital admission rate in Davidson County for individuals with COPD is significantly higher than peer counties, the state and the 2005 rate. Since COPD can be managed with treatment, this rate is seen as an indicator of avoidable hospitalizations due to inadequate primary care. The large increase likely represents both a real increase in COPD hospital admissions, as well as a decrease in primary care accessibility.

**Figure 3.9. COPD Admission Rate for Medicaid Population per 100,000**

![Graph showing COPD admission rates]

Source: Department of Medical Assistance via Agency for Healthcare Research Quality

² National Heart Lung Blood Institute/National Institutes of Health
Lung cancer. Another disease caused primarily by cigarette smoking is lung cancer. Exposure to dust, chemicals, pollution and secondhand smoke can also cause lung cancer, but risk increases with the number of cigarettes smoked and the duration of smoking. Lung cancer is the deadliest form of cancer for men and women. The lung/bronchus cancer rate in Davidson County from 2005-2009 was significantly higher than North Carolina and peer counties.

Figure 3.10. Lung/Bronchus Cancer Rate per 100,000

![Graph showing lung/bronchus cancer rates](image)

Source: County Health Data Book

Physical Activity and Nutrition

Physical activity and nutrition can alleviate negative health effects and contribute to maintaining a healthy body weight. Two Healthy NC 2020 Objectives relate to physical activity and nutrition in Davidson County. One additional indicator is included at the end of the section.

Physical Activity

Healthy North Carolina 2020 Objective: Increase the percentage of adults getting the recommended amount of physical activity to 60.6%

Among adults, 45.5% report getting the recommended 30 minutes of moderate physical activity five or more days per week, or 20 minutes of vigorous physical activity three or more

3 National Heart Lung Blood Institute/National Institutes of Health
days per week. While this is significantly lower than the objective, and less than peer counties and the state, between 2005 and 2009 Davidson County closed the gap between county and state proportions. In the four-year period, 35% more adults reported meeting physical activity recommendations.

Figure 3.11. Percentage of Adults Getting Recommended Physical Activity

![Figure 3.11](image)

Figure 3.12. Percentage of Adults Getting Recommended Physical Activity: North Carolina and Davidson County Trends 2005-2009

![Figure 3.12](image)

Source: BRFSS
Nutrition

Healthy North Carolina 2020 Objective: 29.3% of adults consume 5+ servings of fruit and vegetables

Less than 1 out of 5 adults in Davidson County currently eats the recommended 5+ servings of fruit and vegetables per day. This is consistent with peer counties and slightly lower than North Carolina as a whole. There is no consistent four-year trend, though the difference between Davidson County and North Carolina has decreased since 2005.

Figure 3.13. Percentage of Adults Getting 5+ Servings of Fruits and Vegetables
Access to healthy foods. One barrier to optimal nutrition is access to healthy foods and fresh produce. Larger grocery stores have been shown to have a larger quantity of fresh, healthy food at a more affordable price than convenient stores or other neighborhood grocers. A healthy food outlet is defined as a grocery store with more than four employees or farmer’s market/produce stand. Based on this definition, less than half of the zip codes in Davidson County have a healthy food outlet.
Injury and Poisoning

Injury and poisoning are leading causes of death and disability for residents, particularly younger residents. This primarily focuses on traffic accidents, falls and drug overdose but is inclusive of homicide, violent crimes, domestic violence, burns, drowning and other accidents. Three objectives from Healthy NC 2020 are included, followed by one additional injury indicator.

Unintentional Poisoning

Healthy North Carolina 2020 Objective: Reduce unintentional poisoning mortality rate to 9.9 per 100,000

Poisoning was classified when the primary cause of death was coded as unintentional poisoning. The majority of unintentional poisoning deaths occur as a result of misuse of prescription narcotics. The unintentional poisoning mortality rate of 14.7 per 100,000 people in Davidson County from 2006-2010 is significantly higher than peer counties and North Carolina.

![Figure 3.16. Unintentional Poisoning Mortality Rate per 100,000](source: HealthStats)

Unintentional Falls
Healthy North Carolina 2020 Objective: Reduce unintentional falls mortality rate to 5.3 per 100,000

The current mortality rate due to unintentional falls in Davidson County, 3.7 per 100,000 people, is significantly lower than peer counties, North Carolina and exceeds the Healthy North Carolina 2020 target. All deaths where unintentional falls were coded as the primary cause of death were included in these numbers. Deaths where a fall may have been involved but was not coded as the underlying cause are not included. Over 75% of unintentional falls occur in adults over the age of 65; therefore as the population ages it is expected that this number could increase. Since Davidson County has an older population, progress on this indicator should be monitored.

Figure 3.17. Unintentional Falls Mortality Rate per 100,000

Source: HealthStats

Homicide

Healthy North Carolina 2020 Objective: Reduce homicide rate to 6.7 per 100,000

From 2006-2010 the homicide rate in Davidson County was 4.4 per 100,000. This rate is significantly lower than the peer county rate, North Carolina rate and the 2020 target.
Traffic Accident Fatalities. More traffic accidents are fatal in Davidson County than in North Carolina as a whole or peer counties. This rate of 9.8 fatalities per 1,000 traffic accidents is similar to the rate in 2005.

Sexually Transmitted Diseases

Sexually transmitted diseases (STDs) are infections spread through sexual contact. There are more than 20 types of sexually transmitted diseases, and many do not show symptoms,
particularly in women. STDs can cause infertility, health problems for babies and increase risk for contracting HIV. Bacterial STDs, such as Chlamydia and Gonorrhea, can be treated with antibiotics, but there is no cure for viral STDs, such as HIV and Herpes. STDs are disproportionately found in adolescents and young adults.\(^4\)

**Chlamydia**

*Healthy North Carolina 2020 Objective: Reduce the percentage of positive results among individuals aged 15 to 24 tested for Chlamydia to 8.7%*

In 2010, 9% of individuals aged 15-24 in Davidson County who were tested for Chlamydia had positive results. This percentage is lower than peer county and state percentages and close to meeting the 2020 target.

**Figure 3.20. Percentage of Positive Results Among 15-24 Year Olds Tested for Chlamydia**

![Bar Graph showing percentage of positive results for Chlamydia](source: HealthStats)

**Gonorrhea**

The gonorrhea rate in Davidson County from 2006-2010 is significantly lower than the rate in North Carolina and peer counties. However, there is a notable disparity in the overall gonorrhea rate and the gonorrhea rate among African Americans. The rate of gonorrhea among African Americans in Davidson County is five times greater than the general population rate.

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\(^4\) U.S. National Library of Medicine/National Institutes of Health
**HIV/AIDS**

Significantly fewer individuals are living with HIV/AIDS in Davidson County as compared to peer counties and the state. The HIV prevalence rate per 100,000 is 154.5 compared to a rate of 299 at the state level. Data are not available for new HIV cases for Davidson County in 2010 because less than 10 cases were reported.

The HIV rate is significantly lower in Davidson County. However, fewer individuals report ever having been tested for HIV/AIDS than in peer counties and the state.
Syphilis

Similar to other sexually transmitted disease trends, the rate of syphilis in Davidson County is significantly lower than peer counties and the state. From 2006-2010 the rate of primary and secondary syphilis per 100,000 was 0.9.

Maternal and Infant Health
Maternal and Infant Health is generally concerned with the health of women and infants from pregnancy through the first year of life. Infant mortality is the death of a live born infant within the first year of life. Low birthweight, prematurity, Sudden Infant Death Syndrome (SIDS), congenital anomalies and birth defects are all contributors to infant mortality. Of particular concern is the racial disparity present in infant mortality. Healthy NC 2020 has three maternal and infant health indicators. Additional indicators about women and infants during this period have been included.

Racial Disparity

Healthy North Carolina 2020 Objective: Reduce the infant mortality racial disparity between Whites and African Americans to 1.92

The death rate of African American infants in the first year of life is 2.6 times that of white infants in Davidson County. This ratio is greater than North Carolina as a whole and the 2020 target, but lower than the peer county average.

Figure 3.25. Infant Mortality Ratio, White to African American

Source: HealthStats

Infant Mortality Rate
**Healthy North Carolina 2020 Objective: Reduce the infant mortality rate to 6.3 per 1,000 live births**

An infant death is counted as any live born infant that dies within the first year. In Davidson County, 8.9 infants per 1,000 live births died within the first year. This rate is significantly higher than the North Carolina rate and higher than peer counties and the Healthy NC 2020 Objective.

**Figure 3.26. Infant Mortality Rate per 1,000 Live Births**

The infant mortality rate among women who had Medicaid for their births is lower than the overall infant mortality rate in Davidson County at 7.7 deaths per 1,000 live births. This rate also significantly decreased from 2005. It is lower than the peer county and North Carolina Medicaid infant mortality rate.
Figure 3.27. Infant Mortality Rate per 1,000 Medicaid Live Births

Source: North Carolina Division of Medical Assistance

Percentage of Women Who Smoke

Healthy North Carolina 2020 Objective: Reduce the percentage of women who smoke during pregnancy to 6.8%

Significantly more women who were pregnant in 2009 in Davidson County smoked than in peer counties and North Carolina as a whole. With 16.4% of women reporting smoking during the prenatal period, Davidson County is significantly above the Healthy NC 2020 objective of 6.8%. Birth outcomes are worse for women who smoke during pregnancy; they are more likely to have a preterm birth, a low-birthweight baby or an infant death from SIDS.

Figure 3.28. Percentage of Women who Smoke During Pregnancy

Source: HealthStats
Other Maternal and Infant Health Indicators

Adolescent pregnancy. Adolescent pregnancy is pregnancy in girls ages 15-19. The majority of teen pregnancies are unplanned and health outcomes for adolescent pregnancies tend to be worse for both the mom and the infant. Adolescent pregnancy can be an indicator of access to accurate sexual and reproductive health information and services. Additionally there are numerous social, educational and economic consequences resulting from adolescent pregnancies. The adolescent pregnancy rate in Davidson County is slightly higher than in North Carolina as a whole.

Figure 3.29. Teen Pregnancy Rate per 1,000 Females 15-19

Adequate prenatal care. Babies of mothers without prenatal care have worse outcomes than those of mothers receiving prenatal care. Prenatal care is an opportunity for screenings and maternal education. Very late prenatal care is defined as starting prenatal care during the third trimester. About 2% of births in Davidson County had very late or no prenatal care.
Low birthweight. Low-birthweight babies are defined as weighing less than 5 lbs. 8 oz. (2500 grams) at birth. Babies who meet this classification are at increased risk for health complications. Some causes of low birthweight include: young age at birth, poor nutrition, hypertension, substance use and smoking during pregnancy. Davidson County has a significantly higher low-birthweight rate than peer counties and North Carolina.

Figure 3.31. Low Birthweight Rate per 1,000 Live Births
**Short birth intervals.** A short birth interval is defined as less than six months between last delivery and conception. Short birth intervals have been associated with worse birth outcomes. A higher percentage of women in Davidson County have short birth intervals than peer counties and North Carolina.

**Figure 3.32. Percentage of Short Birth Intervals with Less than 6-month Interval between Last Delivery and Conception**

![Graph showing percentage of short birth intervals](image)

Source: County Health Data Book

**Substance Abuse and Mental Health**

**Substance Abuse**

Residents consistently identified drug and alcohol abuse as a community wide unhealthy behavior. Drug and alcohol abuse is inclusive of accident and injury resulting from use, addiction, underage use, binge drinking, prescription misuse and other physical and mental health conditions. Substance abuse is inclusive of drugs and alcohol and there is one Healthy NC 2020 objective at the county level related to substance abuse.

*Healthy North Carolina 2020 Objective: Reduce traffic crashes that are alcohol related to 4.7%*
About 1 out of 17 traffic accidents in Davidson County in 2010 was reported to be alcohol related. This figure is similar to the peer county percentage, but higher than the state as a whole where 1 out of 20 accidents is reported to be alcohol related. Alcohol-related crashes are more likely to be fatal. In 2008, 1 out of 3 alcohol-related traffic accidents in North Carolina was fatal.

**Figure 3.33. Percentage of Alcohol-Related Traffic Crashes 2010**

![Bar chart showing the percentage of alcohol-related traffic crashes in 2010 for Davidson County, peer county average, and North Carolina.]

Source: HealthStats

**Mental Health**

Mental health is a broad area that refers to overall well-being of an individual, and his or her ability to fulfill responsibilities and manage life stressors. Emotional, social and psychological aspects of well-being are all included in mental health. Poor mental health can impair functioning and includes mental illnesses such as mood, behavior, personality, anxiety and substance use disorders. Multiple factors including genetics and environmental stressors influence the onset of mental illness. With access to appropriate care, mental health illnesses can be managed. However, untreated mental health conditions can lead to numerous co-occurring morbidities, including suicide. Positive mental health is linked to improved health outcomes. Two Healthy NC 2020 Objectives relate to mental health in Davidson County. Additional
indicators include availability of mental health providers (see access to healthcare providers) and persons served in mental health programs.

**Healthy North Carolina 2020 Objective: Reduce suicide rate to 8.3 per 100,000**

From 2006-2010 in Davidson County, the suicide rate was 13 suicide deaths for every 100,000 people. A suicide death was counted if suicide was coded as the primary cause of death. The rate in Davidson County is slightly higher than peer counties and North Carolina and significantly higher than the Healthy NC 2020 objective. Since depression is a leading cause of suicide, high suicide rates are often used as an indicator of adequate mental health services.

![Figure 3.34. Suicide Rate per 100,000](image)

Source: HealthStats

**Healthy People 2020 Objective: Decrease average number of poor mental health days to 2.8 in past 30 days**

When asked via a phone survey, "Now thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 days was your mental health not good?,” Davidson County residents on average reported 5.1 days, more than 1 poor mental health day per week. This is almost a day more than peer counties and a day-and-a-half more than the North Carolina average. To meet the 2020 objective, Davidson County residents need to perceive just over 2 days a month of poor mental health.
Poor mental health outcomes may be associated with lack of access to mental health services. Significantly fewer people are served in mental health programs in Davidson County than in peer counties and the state. Additionally, less people per 1,000 were being served in 2010 than in 2005.
Healthy North Carolina 2020 Objective: Reduce the pneumonia and influenza mortality rate to 13.5 per 100,000

Individuals over the age of 65, with co-occurring health conditions, pregnant women and children are all at increased risk of dying from pneumonia and the flu. From 2006-2010 24.9 people died from pneumonia or influenza for every 100,000 people in Davidson County. This rate is significantly higher than the peer county average, North Carolina and the Healthy NC 2020 objective.

Figure 3.37. Pneumonia and Influenza Mortality Rate per 100,000

Oral Health

Oral health includes gum and tooth diseases. Poor oral health is related to other conditions; tobacco use contributes to oral disease and gum disease can lead to heart disease. Availability and access to services, particularly among children, are primary contributors to poor oral health outcomes. There are three Healthy NC 2020 objectives for oral health.

Healthy North Carolina 2020 Objective: Increase the percentage of children aged 1-5 enrolled in Medicaid who received any dental service during the previous 12 months to 56.4%
In the past year, just over half of Medicaid enrolled children aged 1-5 in Davidson County have received some dental service. This is below the target and percentages for peer counties, and similar to the rate in North Carolina.

**Figure 3.38. Percentage of Children Aged 1-5 Enrolled in Medicaid Receiving Any Dental Service in Past 12 Months**

![Graph showing percentage of children receiving dental services](image)

Source: HealthStats

**Healthy North Carolina 2020 Objective: Decrease the average number of decayed, missing, or filled teeth among kindergartners to 1.1**

When entering kindergarten in Davidson County, children have on average almost 2 teeth that are decayed, missing or have been filled. This indicator of dental decay is worse than the peer counties, the state and the 2020 target.
Figure 3.39. Average Number of Decayed, Missing, or Filled Teeth Among Kindergartners

![Bar chart showing average number of decayed, missing, or filled teeth among kindergartners.](chart1)

Source: HealthStats

*Healthy North Carolina 2020 Objective: Decrease the percentage of adults who have had permanent teeth removed due to tooth decay or gum disease to 38.4%*

Almost half of adults in Davidson County report having had at least 1 tooth removed as a direct result of tooth decay or gum disease. This is not significantly higher than peer counties or the adults in the state as a whole, but represents a large need for oral health services to meet the Healthy NC 2020 objective.

Figure 3.40. Percentage of Adults with Permanent Teeth Removed Due to Tooth Decay or Gum Disease

![Bar chart showing percentage of adults with permanent teeth removed due to tooth decay or gum disease.](chart2)

Source: HealthStats
**Chronic Disease**

Chronic diseases are diseases that are long lasting, more commonly found in older populations and rarely cured. Chronic diseases are preventable, yet cause the majority of death and illness in the US. Examples of chronic disease include: heart disease, stroke, diabetes, arthritis, and cancer. Nearly 1 in 2 Americans is living with a chronic disease. Three Healthy NC 2020 objectives relate to chronic disease.

**Cardiovascular Disease**

*Healthy North Carolina 2020 Objective: Reduce the cardiovascular disease mortality rate to 161.5 per 100,000*

Diseases of the heart were the leading cause of death in Davidson County from 2006-2010. Correspondingly, the cardiovascular disease mortality rate was 263.9 per 100,000 people in 2010. This is higher than the cardiovascular disease death rate in peer counties and the state as a whole, and significantly higher than the 2020 target of 161.5 cardiovascular disease deaths per 100,000 people.

**Figure 3.41. Cardiovascular Disease Mortality Rate per 100,000**

![Cardiovascular Disease Mortality Rate per 100,000](image)

Source: HealthStats

**Diabetes**

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5 Centers for Disease Control and Prevention (CDC)
**Healthy North Carolina 2020 Objective:** Decrease the percentage of adults with diabetes to 8.6%

With 8.5% of adults reporting that a doctor has told them they have diabetes, Davidson County has met the Healthy NC 2020 target. A smaller proportion of adults in Davidson County have diabetes than in peer counties or North Carolina overall. As obesity and age are two important contributors to adult diabetes, other indicators should be monitored to ensure this is an accurate representation of adult diabetes while not overlooking cases undiagnosed by a physician.

**Figure 3.41. Percentage of Adults with Diabetes**

It is important to note, that while the overall diabetes rate is on target in Davidson County, those individuals with diabetes have a significantly higher hospitalization rate for complications than the state average. The hospitalization rate for short-term and long-term diabetes complications among Medicaid patients has increased since 2005 and the short-term hospitalization admission rate is significantly higher than both peer counties and the state. Hospitalization may indicate inadequate disease management and primary care.

**Figure 3.42. Diabetes Complications Hospital Admission Rate Among Medicaid Patients**
Asthma

Among the population as a whole and the pediatric population, asthma hospitalizations are less frequent in Davidson County than peer counties and North Carolina. This could reflect overall lower asthma rates as well as adequate disease management through primary care and treatment.

**Figure 3.44. Asthma Discharge Rate per 100,000**
Cancer

Cancer rates. From 2005-2009 there were 4,330 cancer cases diagnosed in Davidson County. The rates of common cancers are found in Table 3.2. Davidson County has an overall lower cancer rate than the state (494 versus 500) and lower prostate and female breast cancer rates than the state. Colorectal and lung cancer rates are higher than the state averages.

Table 3.2. Davidson County Cancer Rates 2005-2009

<table>
<thead>
<tr>
<th>Type</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon/Rectum</td>
<td>49.7</td>
</tr>
<tr>
<td>Lung/Bronchus</td>
<td>89.8</td>
</tr>
<tr>
<td>Female Breast</td>
<td>140.9</td>
</tr>
<tr>
<td>Prostate</td>
<td>127.7</td>
</tr>
<tr>
<td>All Cancers</td>
<td>494</td>
</tr>
</tbody>
</table>

Source: County Health Data Book

Colorectal cancer

Healthy North Carolina 2020 Objective: Reduce the colorectal cancer mortality rate to 10.1 per 100,000

The colorectal cancer mortality rate in Davidson County is comparable with that in peer counties and higher than the rate in North Carolina and the 2020 target. Colorectal cancer is a leading cause of cancer death in men and women but is very treatable if found early. Higher mortality rates from colorectal cancer could be associated with lower screening rates; about 1 in 3 North Carolinians over the age of 50 reports never being screened.

Figure 3.45. Colorectal Cancer Mortality Rate per 100,000 (Source: HealthStats)
**Breast cancer.** The breast cancer rate from 2005-2009 in Davidson County was not significantly different than the peer counties or North Carolina. The rate is virtually the same as the peer county average and slightly lower than the overall state rate.

**Figure 3.46. Female Breast Cancer Rate per 100,000**

![Bar chart showing breast cancer rate per 100,000 population for Davidson County, peer county average, and North Carolina.]

Source: County Health Data Book

Early detection is an important part of increasing survival and treatment outcomes. Women over the age of 40 are advised to have a mammogram every year. In 2010, 77.4% of women over 40 in Davidson County had a mammogram in the past 2 years. This rate is very similar to the peer county average and North Carolina percentage.

**Figure 3.47. Percentage of Women Age 40+ with Mammogram in Past 2 Years**

![Bar chart showing percentage of women age 40+ with mammogram in the past 2 years for Davidson County, peer county average, and North Carolina.]

Source: BRFSS
Prostate cancer. The prostate cancer rate in Davidson County is lower than the peer county average and North Carolina as a whole. It is important to note that on both state and national levels, a significant disparity exists between African American and White prostate cancer rates. African Americans have higher rates of prostate cancer and are more likely to die from prostate cancer.

Like breast cancer, early detection can help improve outcomes for prostate cancer. Less than half of men over the age of 40 in Davidson County have had a prostate screening exam in the past 2 years. This is lower than the peer county average and North Carolina percentage.
Figure 3.49. Percentage of Men Age 40+ with Prostate Screening in Past 2 Years

Source: BRFSS

For information concerning lung cancer, see the “Leading Causes of Death Section: in Chapter Three (p. 65).

Hospital Specific Data

Emergency room data from the two hospitals in Davidson County, Thomasville Medical Center and Lexington Medical Center, were reviewed to supplement county level health data. Three years of data from both facilities were aggregated to identify trends in emergency room (ER) usage and areas of the county with the highest admission rates. This data can help inform target geographical areas for intervention and recognize gaps in care. The following data is additional data looking specifically at several key diagnoses.

Overall Trends

Emergency room usage increased 10% between 2009 and the end of 2011. The increasing use of the emergency room corresponds with the decreasing availability of primary care in the county.
The most common diagnoses were respiratory diseases, injury, and dental disorders. COPD and allied diseases (identified as ICD-9 codes 490-496) saw a 16% increase from 2009-2011 and dental related disorders (identified as ICD-9 codes 520-529) increased 13%. A large proportion of other diagnoses related to ill-defined symptoms or conditions, which include many primary care ailments (abdominal pain, headache, fever, headache, cough). Additionally, the emergency room was increasingly used as a point of treatment for mental health disorders. There was a 12% increase in mental health diagnoses from 2009-2011.
Figure 3.51. Emergency Room Trends for Select Diagnoses

![Graph showing trends for select diagnoses over 2009 and 2011]

Source: Wake Forest Baptist Health, Novant Health

Select Diagnoses by Zip Code

**Mental health.** The highest rates of emergency room visits for mental health reasons were among individuals living in the 27299 zip code where there were 173 mental health ER visits per 10,000 people in 2011. High rates were also present for the 27360 and 27292 zip codes.
Figure 3.52. Rate of Mental Health-Related ER Admissions by Zip Code

Source: Wake Forest Baptist Health, Novant Health
Oral health. Similar to mental health, the highest rates of emergency room usage for dental related disorders came from three zip codes: 27299, 27292 and 27360, which ranged from 175-211 diagnoses per 10,000 people in the zip code.

Figure 3.53. Rate of Dental-Related ER Admissions by Zip Code

Source: Wake Forest Baptist Health, Novant Health
COPD and allied conditions. The highest rate of ER admissions in Davidson County for COPD and related conditions was in the Thomasville area, in the 27360 zip code with a rate of 225 admissions per 10,000 residents. Progressively lower rates were seen in 27292, 27299 and 27239, respectively.

Figure 3.54. Rate of COPD and Allied Conditions ER Admissions by Zip Code

Source: Wake Forest Baptist Health, Novant Health
Diseases of the heart. Compared to mental health, dental and COPD diagnoses, the rate of diagnosis for diseases of the heart was more evenly distributed among the zip codes. Rates ranged from 55-85 diagnoses per 10,000 residents in the following zip codes: 27295, 27239, 27360, 27299 and 27292.

Figure 3.54. Rate of Heart Disease ER Admissions by Zip Code

Source: Wake Forest Baptist Health, Novant Health
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