History

The Guilford County Department of Public Health is proud to be the first county health department in the state and the second in the nation. On May 1, 1911, the first county health department in North Carolina was created in Guilford County. In 2011, the Guilford County Department of Public Health will celebrate 100 years of promoting our vision of healthy people living in a healthy community.

Mission

In partnership with the community we serve, the Guilford County Department of Public Health shall protect, promote and enhance the health and well-being of all people and the environment in our community.

Strategic planning process

The 2014-2016 Strategic Plan is a description of the plans and programs designed to achieve improvements to the most pressing public health problems and concerns facing the residents of Guilford County over the next three years. Priority health issues were identified through review of findings from the County Health Rankings, the 2012-2013 Guilford County Community Health Assessment, the Healthy North Carolina 2020 Objectives, and priorities established by the Guilford County Board of Commissioners. The Strategic Plan includes Department of Public Health goals, measurable objectives and evidence-based and best-practice strategies intended to address those goals and objectives.

Evidence-based programs or strategies are those that have been subjected to scientific review and evaluation and have been shown to produce positive outcomes. Evidence-based strategies were identified through the Centers for Disease Control and Prevention’s (CDC) Community Guide’ and the County Health Rankings and Roadmaps “What Works for Health” resource for evidence-based programs. For issues where strong evidence of program effectiveness was not available, best or promising practices were selected where there is some evidence that strategies are likely to be effective.

1 http://www.thecommunityguide.org/index.html
2 http://www.countyhealthrankings.org/roadmaps/what-works-for-health
County Health Rankings

Each year, the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute collaborate to publish the County Health Rankings for all counties in the United States. In 2012, the County Health Rankings ranked Guilford County as the 9th healthiest county in North Carolina, a rank that dropped to 13th healthiest in 2013.¹

The County Health Rankings facilitate an understanding of the influences on a community’s health and the health of its residents. These rankings recognize that health outcomes, such as how long people live and how healthy they feel, are influenced by our individual health behaviors, access to and clinical care and the quality of clinical care, social and economic factors and the physical environment in which people live, work and play. Local, state and federal policies and programs can also influence health outcomes through impact on health factors. This County Health Rankings’ research-based model of health provides an instructive way to frame an understanding of community health needs and a framework for organizing the assessment of health data. As a result, the County Health Rankings were integrated into the assessment process of the 2012-2013 Community Health Assessment.

The County Health Rankings uses a model of community health that represents health outcomes—morbidity and mortality—as functions of several health factors:

- The first health factor, health behaviors, consists of indicators of tobacco use, diet and exercise, alcohol use, and sexual activity. Health behaviors comprise 30% of variation in health outcomes.
- The second health factor, clinical care, includes indicators for access to care and quality of care. Clinical care makes up 20% of variation in health outcomes.
- The third health factor, social and economic factors, includes measures of education, employment, income, family and social support and community safety. Social and economic factors make up 40% of variation in health outcomes.
- The last health factor, physical environment, includes measures of environmental quality and the built environment, including air quality, access to exercise facilities and access to healthy food. Physical environment makes up 10% of variability in health outcomes.

The 2014-2016 Strategic Plan seeks to improve priority health outcomes by addressing the health factors that impact those outcomes.

¹ http://www.countyhealthrankings.org/app/home
2012-2013 Community Health Assessment

Every three years the Guilford County Department of Public Health (GCDPH) conducts a community health assessment with local partners. This effort gathers and assesses a wide range of data relating to local health needs and resources. These data then inform the identification of priority health issues and subsequent action plan development to address these priorities. The community health assessment (CHA) process and its findings also inform the Guilford County Department of Public Health’s strategic plan, fulfill local health department’s requirements of the North Carolina Division of Public Health consolidated agreement and ensure that specific benchmarks are met as a part of the state accreditation process for local health departments. With passage of the Patient Protection and Affordable Care Act, each non-profit (501 (c) (3)) hospital is also required by the IRS to conduct a community health needs assessment (CHNA) every 3 years.

In 2012 -2013, Guilford County Department of Public Health collaborated with the Cone Health System, the High Point Regional Health System, and the Cone Health Foundation to conduct a joint CHA and CHNA process. With technical assistance from UNC Greensboro’s Center for Social, Community and Health Research and Evaluation, partners used a participatory community-engaged approach to assess the health of Guilford County residents and the availability of resources to address priority health issues. The Community Health assessment process involved collection of data on health needs and assets within the county, prioritization of health issues, and recommendations for the development of action plans that address community health concerns.

2012-2013 Community Health Assessment Priority
Health Issues by Health Outcome and Health Factor

<table>
<thead>
<tr>
<th>Health Outcomes</th>
<th>Health Behaviors</th>
<th>Clinical Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic disease</td>
<td>Obesity (includes nutrition and physical activity)</td>
<td>Access to Clinical Care</td>
</tr>
<tr>
<td>Poor birth outcomes</td>
<td>Teen pregnancy</td>
<td></td>
</tr>
<tr>
<td>Sexually transmitted infections</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Strategic initiatives included in this Plan address the Health Outcomes of Chronic Disease, Poor Birth Outcomes, and Sexually Transmitted Infections. Strategies seek to improve health outcomes by addressing the health factors of obesity, teen pregnancy, clinical care, and access to healthy food.

Healthy North Carolina 2020 Objectives

Every 10 years since 1990, North Carolina has set decennial health objectives with the goal of making North Carolina a healthier state in a similar manner as the establishment of national health objectives through the Healthy People program (www.healthypeople.gov). One of the primary aims of this objective-setting process is to mobilize the state to achieve a common set of health objectives. For 2020 there are 40 health objectives within 13 specific
focus areas—Tobacco use, Physical Activity and Nutrition, Injury and Violence, Maternal and Infant Health, Sexually Transmitted Disease and unintended Pregnancy, Substance Abuse, Mental Health, Oral Health, Environmental Health, Infectious Disease and Foodborne Illness, Social Determinants of Health, Chronic Disease, and Cross-Cutting Objectives. Each Healthy NC 2020 objective includes a discrete target that provides a quantifiable way to measure success in achieving each Healthy NC 2020 objective, such as a 10% reduction in the percentage of people with diabetes. Thus, the Healthy NC 2020 objectives provide a common set of health indicators that we as a state can work to improve, while the targets assigned to each objective enable us to monitor our progress, or lack thereof, toward achieving these common health objectives. County health departments have an important role to play in meeting the statewide health objectives. Healthy NC 2020 objectives corresponding to 2012-2013 Community Health Assessment priorities were identified and selected for inclusion in the 2014-2016 Strategic Plan.

### Guilford County Commission Priorities

In addition to the County Health Rankings, Community Health Assessment priorities and Healthy NC 2020 Objectives, the Strategic Plan process included consideration of priorities for the county established by the Guilford County Board of Commissioners.

<table>
<thead>
<tr>
<th>Top Five Priorities for FY 2013-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commissioners’ January 2013 Ranking</td>
</tr>
<tr>
<td>High Quality K-12 Education</td>
</tr>
<tr>
<td>Crime Prevention, Courts &amp; Correction Services</td>
</tr>
<tr>
<td>Poverty &amp; Self Sufficiency</td>
</tr>
<tr>
<td>Prevention/Emergency Response</td>
</tr>
</tbody>
</table>

### Financial Condition

Descriptions of strategic initiatives in this Plan include the relevant NC 2020 Objective, characterization of the evidence base supporting the strategy, and the corresponding Guilford County Commission priority. Additionally, the financial condition of the strategy is included. Strategies for which funding streams are sufficient are characterized with a “thumbs up”, whereas strategies requiring additional funding include a “thumbs down”
Chronic Disease: Limited Access to Healthy Foods

The leading causes of death in Guilford County are chronic degenerative diseases such as heart disease, cancer, stroke and diabetes. One of the important risk factors for developing chronic disease is poor nutrition, but access to healthy food can be a challenge. According to the Economic Research Service of the US Department of Agriculture, Guilford County has 24 census tracts that are categorized as “food deserts,” tracts where at least 33% of residents live more than a mile from a full-service supermarket and more than 20% of residents live below the federal poverty level (http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx ). Supermarkets tend to have a wider variety of healthy food options than do the smaller grocery stores and convenience stores that are more prevalent in food desert areas. A Department of Public Health assessment of 73 convenience stores and small grocery stores in and near food desert census tracts found that about 85% of stores surveyed accept SNAP/EBT but only 15% carried fresh vegetables. Lack of access to fresh fruit and vegetables is a barrier to consumption and can have a detrimental impact on rates of obesity and chronic disease. Assessment of community health in low access, high poverty census tracts shows that residents have higher rates of obesity and higher rates of chronic disease such as diabetes.

County Health Rankings and County Comparisons:

<table>
<thead>
<tr>
<th>Topic/Objective</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
<th>National Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of population who are low-income and do not live close to a grocery store</td>
<td>7%</td>
<td>7%</td>
<td>11%</td>
<td>12%</td>
<td>6%</td>
<td>4%</td>
<td>7%</td>
<td>1%</td>
</tr>
</tbody>
</table>


Healthy NC 2020 Objective

Percentage of Adults Consuming Five or More Helpings of Fruit and Vegetables Per Day, 2009

<table>
<thead>
<tr>
<th>Topic/Objective</th>
<th>NC baseline (2009)</th>
<th>NC 2020 Target</th>
<th>Guilford</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the percentage of adults who report they consume fruits and vegetables five or more times per day.</td>
<td>20.6%</td>
<td>29.3%</td>
<td>20.5%</td>
<td>24.7%</td>
<td>21.8%</td>
<td>25.9%</td>
<td>21.7%</td>
</tr>
</tbody>
</table>


Other Relevant Data:

Percentage of Adults who are neither Overweight nor Obese, 2010
<table>
<thead>
<tr>
<th>Topic/Objective</th>
<th>NC baseline</th>
<th>NC 2020 Target</th>
<th>Guilford</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Percentage of Adults who are neither Overweight nor Obese, 2010</strong></td>
<td>34.6%</td>
<td>38.1%</td>
<td>38.7%</td>
<td>39.9</td>
<td>40.7</td>
<td>40.4</td>
<td>40.7</td>
</tr>
</tbody>
</table>

Source: Behavioral Risk Factor Surveillance System (BRFSS) Survey, 2010, NC State Center for Health Statistics

**Goal** – Improve access for all residents to sources of healthy food.

**Objective 1**: By June 30, 2016, support efforts to improve access to affordable sources of healthy foods in at least 10 Guilford County “food desert” census tracts.

**Strategy 1a**: Develop the Warnersville community garden into an urban farm and expand production to stock the Mobile Oasis Farmers Market with low-cost produce.

**Strategy 1b**: Establish the Mobile Oasis Mobile Farmers Market that will be initially piloted in the Warnersville community and then expanded to other food deserts in the county. This unit will deliver fresh produce to public housing communities, recreation centers and other low income neighborhoods in food desert areas. The mobile market program will be set up to accept SNAP/EBT benefits. This unit will also provide education to emphasize the importance of consuming fresh produce for health and will provide information on how to budget for, store, and prepare fresh produce. Once a distribution network is established, this unit or other vehicle will be able to make deliveries of fresh produce to participating convenience stores.

**Strategy 1c**: Increase utilization of WIC Farmers Market Nutrition Program (FMNP) vouchers at farmer’s markets located in county food desert areas.

**Objective 2**: By December 31, 2016, increase by two the number of corner/convenience stores in Guilford County’s food desert areas that offer healthy choices to their customers.

**Strategy 2a**: Conduct an assessment process and analysis of corner/convenience stores in Guilford County’s food deserts to identify which stores to begin working with.

**Strategy 2b**: Create educational materials that can be used as a starting point to approach corner/convenience store owners and suggest some changes that they could implement in their stores.

**Strategy 2c**: Once identified, make contact(s) with store owners to discuss how we can partner in the Guilford County Health Corner Store Initiative. This may entail drafting an informal or formal MOU with each store.

**Strategy 2d**: If store owner is in agreement – create and conduct individual survey of customers to gather data on what types of healthy foods like would like to be stocked (and that they would purchase) at a given store.

**Strategy 2e**: Purchase agreed –upon incentives such as shelving or signage for stores and facilitate installation/implementation as appropriate.
**Strategy 2f:** Provide technical assistance related to nutrition information and/or recipes that may be posted in a store and/or given to customers. We have table top cards with a code to access nutrition info online that can be used.

**Strategy 1g:** At a store – possibly conduct a Healthy Cooking DEMO or series of them with ingredients sold at the store and give out the recipe to customers.

**Strategy 1h:** Facilitate the creation of Healthy Guilford County Corner Store coalition where store owners can network and pool together resources for a common good to offer healthy products at more reasonable prices because they can be purchased in bulk. Initiate contact with state consultants who may also be able assist in procurement plans and/or education.

**Strategy 1i:** Introduce corner store owners to the local farmers and work to establish a distribution network of fresh produce to the corner stores.

**Strategy 1j:** Facilitate education of store owners in marketing healthy items and possibly GAP certification (produce handling and food safety).

### Evidence Base

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Describe the evidence of effectiveness (type of evaluation, outcomes)</th>
<th>Source</th>
</tr>
</thead>
</table>
Expand the availability of healthy food in food desert census tracts through support for farmer’s markets, farm stands and mobile farmer’s markets

Farmers markets are a recommended approach to increasing access to fresh fruits and vegetables in food desert areas (CDC). Several studies have documented benefits of farmers markets in increased consumption of fruits and vegetables. Kaiser Permanente surveyed customers at work-site farmer’s markets and found that almost 75% reported eating more fruits and vegetables because of the market and over 50% reported eating a wider variety of fruit and vegetables.

Two studies have evaluated the effects of WIC Farmers Market Nutrition Program (FMNP) coupons. (Anderson et al. (2001 and Kropf et al. 2008) Both studies found that women who used WIC FMNP coupons increased their consumption of fruits and vegetables, the second study finding this true at both supermarkets and farmers markets.

Corner Store initiative to support efforts to improve the quality of food sold by convenience stores in food desert areas of Guilford County.

The CDC recommends programs to “increase the availability of high-quality fruits and vegetables at retail stores in underserved communities” as strategies to improve access to healthy food in food deserts.

There is some evidence that increasing availability of healthier food options at convenience and other small food markets increases access to and purchasing of healthy foods in food deserts and low income neighborhoods. (Gettelsohn 2012)

Initiatives in New York City to improve fruit and vegetable offerings at tiendas and bodegas and to improve their quality, quantity, and display found that customers shopping at


**Board of Commissioners Priority Area Addressed:** Improving access to healthy food outlets is consistent with Poverty and Self-sufficiency, listed as priorities in the Commissioners’ 2013 list, the Citizen Academy ranking and the Succession Planning list. Food deserts are defined partly in terms of percent of the population in poverty, so addressing issues of healthy food access is also addressing issues of poverty and self-sufficiency. The strategies being pursued to address the food access issues are intended to create employment opportunities for residents in food desert tracts, so these strategies are also consistent with Economic Growth.

**Goal: Further Community Achievement**

**Priority: Poverty and Self Sufficiency**

**Financial Condition:**

The financial condition of this program in order to expand is a “thumbs down.” A United Way/Bryan Foundation grant paid for a trailer for the Mobile Oasis Farmers Market but funds are need for operational costs. Currently, there is extremely limited funding from Healthy Communities grant funding to target specific objectives that are related to these efforts, but additional funding is needed to expand these activities to High Point and other parts of the county.
Chronic Disease: Children hospitalized with asthma

Asthma is the most common chronic childhood disease that affects more than 6 million children nationwide and 1 out of every 10 children in North Carolina (www.asthma.ncdhhs.gov/docs/factsheet.2011asthmaInNorthCarolina.pdf). According to the CDC an estimated 6.5 million children are diagnosed with asthma nationwide. Emergency department visit for children in 2004 were 745,000 or 103 per 10,000 with the 0-4 age range having the highest at 168 per 10,000 (http://www.cdc.gov/nchs/data/hestat/asthma03-05/asthma03-05.htm). Nationally, the number of school days missed for children ages 5-17 is over 12 million. In North Carolina almost half of the children diagnosed with asthma missed at least one day of school, estimated to be over 190,000 school days (www.asthma.ncdhhs.gov). In addition to proper medical treatment, effective treatment of environmental triggers in the home can reduce the number and severity of asthma attacks in children. This may result in a reduction of missed school days, emergency department visit and hospitalizations, improving the child’s quality of life.

County Health Rankings and County Comparisons
--No County Health Rankings indicators pertain to Asthma.

Asthma Hospital Discharges (Total and Ages 0-14) per 100,000 Population, 2012

<table>
<thead>
<tr>
<th>Topic/Objective</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
<th>Forsyth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma Hospitalization Rate Ages 0-14</td>
<td>163.7</td>
<td>130.2</td>
<td>196.5</td>
<td>268.3</td>
<td>158.9</td>
<td>216.2</td>
<td>112.3</td>
</tr>
<tr>
<td>Asthma Hospitalization Rate All Ages</td>
<td>100.3</td>
<td>80.5</td>
<td>78.0</td>
<td>111.2</td>
<td>81.8</td>
<td>113.7</td>
<td>92.7</td>
</tr>
</tbody>
</table>

Source: NC State Center for Health Statistics; (http://www.schs.state.nc.us/schs/data/databook).

Healthy NC 2020 Objective: -No Healthy NC 2020 Objectives pertain to Asthma.

Other Relevant Data and Information: North Carolina Annual School Health Services Report provides more information on the number of children enrolled in public schools that have an Asthma Action Plan. One of every eight North Carolinian children attending public school have a chronic health condition with asthma being the major illness children face and the leading cause of school absenteeism nationwide. The chart below delineates the number of known asthmatic children in Guilford County Public Schools compared to North Carolina. Asthma is often under reported and students do not have a recorded action plan with a school nurse.

<table>
<thead>
<tr>
<th>Report Area</th>
<th>Total number students</th>
<th>Students w/ documented Asthma (%)</th>
<th>Elementary students w/ Asthma (%)</th>
<th>Middle School Student w/ Asthma (%)</th>
<th>High School Students w/ Asthma (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guilford County Public Schools</td>
<td>72,585</td>
<td>3,671 (5%)</td>
<td>7%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>2012-13 school yr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Carolina</td>
<td>1,409,895</td>
<td>101,599 (7%)</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>2010-11 school yr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Goal:** Reduce the number of times that school aged children who are part of the school health Asthma case management project and the Cone Elementary School Asthma project are hospitalized for asthma.

**Objective:** By December 31, 2016, contribute to the overall Guilford County goal of reducing child asthma hospitalizations from 130.2 hospitalizations per 100,000 in 2012 to 123.7 hospitalizations per 100,000 by; strengthening and ensuring collaboration with Cone Health Inpatient Pediatrics and the Cone Emergency Department who provide care to these children; by referring these students to Guilford County Environmental Health’s Asthma Reduction/Healthy Home Bucket Kits program; by ensuring SHN’s provide school health case management services to these students.

**Strategy 1:** Provide home visit for all children ages 0-14 referred to Environmental Health with medically diagnosed asthma. A home assessment would be preformed and educational materials would be distributed to reduce the environmental asthma triggers in the home.

**Strategy 2:** Provide Healthy Homes bucket kits. These kits would have cleaning supplies and other items that would reduce environmental asthma triggers.

**Strategy 3:** Partner with the Asthma Coalition to improve the documentation and implementation of asthma action plans in public schools.

**Strategy 4:** Participate in the “One Touch” program implemented by the Greensboro Housing Coalition and other community partners such as: DSS Child Services, City of GSO Housing and Community Development, and Community Housing Solutions. This program allows for continuity of services to citizens in Greensboro living in poor housing conditions.

**Strategy 5:** Network with agencies to receive referrals of asthmatic children. These agencies may include; medical providers, school nurses, Moses Cone Pediatric Respiratory Nurses and CC4C nurses (Community Care for Children). Establish connections with High Point Regional Hospital to receive referrals of asthmatic children.
### Evidence Based Strategies

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Describe the evidence of effectiveness (type of evaluation, outcomes)</th>
<th>Source</th>
</tr>
</thead>
</table>
| Provide home visit for children ages 0-14 with medically diagnosed asthma.    | Chronic exposure to indoor allergens (mold, pets, cockroaches, mice, rats and dust mites) has been associated with the development and exacerbation of asthma (2). Efforts to control indoor pollutants are a multi facet approach that requires constant application of the various methods. Studies of the effects of home interventions on reducing the morbidity of asthma are numerous. Two articles published in the Annals of Allergy Asthma and Immunology addressed reduction of indoor allergens in the inner city environment through home intervention and education. Both studies showed that minimizing environmental triggers yielded significant reductions in the exacerbation of asthma (3)(4). One study performed in Seattle Washington-King County yielded similar results when the interventions were performed by a trained community health worker (5). This study also emphasized behavior changes within the household to reduce allergens. Continued follow-up by a Health Educator with the participants created lasting modifications that had a positive outcome on the health and well being of all living in the home. | 1) Retrieved October 25, 2013 from website www.asthma.ncdhhs.gov/docs/factsheet.2011asthmaInNorthCarolina.pdf.  
| Provide Healthy Homes bucket kits. These kits would have cleaning supplies and  |                                                                                                                                                                                                                                                                                                                             |
| other items that would reduce environmental asthma triggers.                  |                                                                                                                                                                                                                                                                                                                             |
| Partner with the Asthma Coalition to improve the documentation and implementation of asthma action plans in public schools. |                                                                                                                                                                                                                                                                                                                             |

### Board of Commissioners Priority Area Addressed:

Reducing Asthma Hospitalization would positively impact three areas that Board of Commissioners have designated and priority.

1) Area of School Readiness and Youth Development. Asthma is the primary reason that children miss school. Children that are hospitalized are unable to attend school and may miss several days to recover from a major attack. Educating parents on environmental triggers for asthma; providing resources to minimize or prevent triggers would reduce the number of times a child has to seek treatment at the hospital.
This would increase the amount of time a child is in school improving their chances of passing the End of Grade (EOG) testing and possibly graduating from High School.

**Goal:** Further Community Achievement

**Priority:** School Readiness and Youth Development

2) Area of Poverty and Self Sufficiency. Knowledge is powerful and parents need to know how to reduce environmental asthma triggers. Learning how to manage your child’s asthma and having resources to make changes to your living environment maybe the first step towards putting that child on a path that can make them a productive and self sufficient member of our community.

**Goal:** Further Community Achievement

**Priority:** Poverty and Self-Sufficiency

3) Area of Prevention /Emergency Response. Preventing a child from having an asthma attack and being admitted into the hospital can be accomplished through addressing asthma triggers in the indoor environment. According to the EPA children spend about 90% of their time inside. This is especially true if the live in an area that is unsafe. Having a safe and healthy home environment holds the key to minimizing asthma attacks and possibly eliminating the development of asthma in young children.

**Goal:** Ensure Community Health and Safety

**Priority:** Physical and Environmental Health

**Financial Condition:**

![Thumbs Down]

The financial condition of this program is a “thumbs down” with recent budget cuts at the federal, state and local level.
Poor Birth Outcomes: Centering Pregnancy

Poor Birth Outcomes was identified as a Priority Health Issue in the 2012-2013 Guilford County Community Health Assessment. Birth outcomes describe health at birth and entail both maternal exposure to health risk and a child’s current and future morbidity, whether a child has a healthy start in life. Children born preterm and low birth weight are at risk for developmental problems, neurological impairments, higher risk of heart problems and respiratory problems later in life as well as educational and social impairments [1-5] Poor births outcomes are a significant problem for Guilford County, with rates of infant mortality and low birth weight considerably higher than national benchmarks and objectives. Preconception health and healthy lifestyle during pregnancy are important factors influencing birth outcomes. Major disparities exist for birth outcomes. African-Americans experience preterm birth, low and very low birth weight and infant mortality at substantially higher rates than whites. Low birth weight and preterm births as well as teen pregnancies occur at higher rates in areas of the county characterized by higher rates of poverty and unemployment, and low educational attainment.

County Health Rankings and County Comparisons:

<table>
<thead>
<tr>
<th>Topic/Objective</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
<th>*National Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Percent of Live Births</strong>&lt;br&gt;Low Birthweight (Less than 2,500 grams) 2008-2012</td>
<td>9.0%</td>
<td>9.5%</td>
<td>9.3%</td>
<td>10.4%</td>
<td>9.4%</td>
<td>8.1%</td>
<td>9.5%</td>
<td>6.0%</td>
</tr>
<tr>
<td><strong>Infant Deaths per 1,000 Live Births</strong>&lt;br&gt;(2008-2012)</td>
<td>7.5</td>
<td>9.0</td>
<td>7.3</td>
<td>10.0</td>
<td>6.9</td>
<td>6.7</td>
<td>5.9</td>
<td>6.0%**</td>
</tr>
<tr>
<td><strong>Percent of Live Births</strong>&lt;br&gt;Preterm (Less than 37 Weeks Gestation) 2012</td>
<td>11.5%</td>
<td>10.5%</td>
<td>12.6%</td>
<td>12.9%</td>
<td>12.0%</td>
<td>10.7%</td>
<td>11.5%</td>
<td>11.4%**</td>
</tr>
</tbody>
</table>

Source: NC State Center for Health Statistics, County Health Databook, 2008-2012
*National Benchmark represents the 90th percentile; only 10% of counties nationwide are doing better, from www.CountyHealthRankings.org

Healthy North Carolina 2020 Objectives:

<table>
<thead>
<tr>
<th>Objective</th>
<th>NC Baseline</th>
<th>NC 2020 Target</th>
<th>Guilford Baseline 2008-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the infant mortality racial disparity between whites and African-Americans</td>
<td>2.45 (2008) (Ratio of African-American to White infant mortality rate)</td>
<td>1.92 (Ratio of African-American to White infant mortality rate)</td>
<td>2.47 (Ratio of African-American to White infant mortality rate)</td>
</tr>
<tr>
<td>Reduce the infant mortality rate per 1,000 live births</td>
<td>8.2 (2008)</td>
<td>6.3</td>
<td>9.0</td>
</tr>
</tbody>
</table>
**Goal:** Improve birth outcomes including reducing preterm and low birthweight births and infant mortality rates.

**Objective 1:** Reduce rates of preterm births by 5%, from 11.0% (2011) to 10.5% or lower by Dec 31, 2016

- **Strategy 1a:** Implement a Centering Pregnancy model of prenatal care, enrolling 50 women in High Point and 150 in Greensboro in fiscal year 2013-2014 and increased enrollment in subsequent years.

- **Strategy 1b:** Increase Maternity patient enrollment at GC Dept. of Public Health by 5% for fiscal year ending June 30, 2014, and 2.5% FY14/15, through implementation of the Centering Pregnancy model of care.

- **Strategy 1c:** Support healthy pregnancy through initiative to increase utilization of WIC Farmers Market vouchers.

- **Strategy 1d:** Pregnancy care management to provide support and encourage early entry into prenatal care for Medicaid recipients.

**Objective 2:** By Dec. 31, 2014 increase % of expectant mothers accessing prenatal care services in their first trimester to 77.5% from 73.8% (2011), a 5% improvement.

- **Strategy 2a:** When women call the PNC clinic for an appointment, offer an earlier appointment date if they agree to participate in the Centering Pregnancy program.

- **Strategy 2b:** Marketing and communication outreach:
  - Develop and disseminate brochure at pharmacies, pregnancy testing clinics, medical providers and other community organizations that includes messages about getting into PNC early;
  - Include message on getting into PNC early in radio PSAs on Centering Pregnancy;
  - Include messages on department Facebook page on early entry into PNC

**Evidence Based Strategies**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Describe the evidence of effectiveness (type of evaluation, outcomes)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement a Centering Pregnancy model of prenatal care</td>
<td>A randomized controlled trial of 1,047 pregnant women ages 14-25 (80% African-American) compared standard individual prenatal care to group care. Women assigned to group care were less likely to have preterm births (9.8%) compared to standard care (13.8%). Group care participants were less likely to have sub-optimal prenatal care, had better prenatal knowledge, felt more prepared for labor and delivery, had greater satisfaction with care, and were more likely to breastfeed</td>
<td>Ickovics, JR, Kershaw, TS, Westdahl, C, Magriples, U, Massey, Z, Reynolds, H, and Rising, SS. Group prenatal care and perinatal outcomes: A randomized controlled trial. Obstet Gynecol. 2007 August; 110(2 Pt 1): 330-339.</td>
</tr>
</tbody>
</table>
An evaluation study of 13 groups of adolescents (N = 124) completing a Centering Pregnancy program found that the program encouraged health care compliance, satisfaction with prenatal care, and low rates of preterm birth and low birth weight infants.

An evaluation of a Centering Pregnancy program at the public health clinic serving primarily low-income African-American (N = 110) women found that compared to women in individual care, the group care women had more prenatal care visits, increased weight gain, increased breast feeding rates and greater overall satisfaction with prenatal care.

A smaller study comparing the experience of Hispanic women with Centering Pregnancy (N = 24) with traditional care (N = 25) did not find improved birth outcomes, but did find that Centering Pregnancy participants reported greater overall satisfaction with prenatal care.

Support healthy pregnancy through initiative to increase utilization of WIC Farmers Market vouchers.

Two studies have evaluated the effects of WIC Farmers Market Nutrition Program (FMNP) coupons. (Anderson et al. (2001 and Kropf et al. 2008) Both studies found that women who used WIC FMNP coupons increased their consumption of fruits and vegetables, the second study finding this true at both supermarkets and farmers markets.

Board of Commissioners Priority Area Addressed: The Centering Pregnancy approach to prenatal care does not directly correspond to the BOC Priority Areas, but indirectly poverty and self-sufficiency have an impact on healthy pregnancy.

Goal: Ensure Community Health and Safety
Priority: Physical and Environmental Health

Financial Condition:
Have received two small grants but will need to supplement this new initiative with the regular Maternity Budget until we can enroll more Medicaid clients. Since this is still maternal care, Centering Pregnancy is
another way to deliver care that has improved outcomes. Have begun to bill for childbirth classes from Medicaid which should assist with purchasing the $22 handbook for each participant.

References:

Poor Birth Outcomes: Teen Pregnancy Prevention

Sexually transmitted infections (STI's) and poor birth outcomes were identified as priority health issues in the Guilford County Community Health Assessment. Teen pregnancy involves behaviors that can impact the risk of either or both of these health concerns. Studies have shown, for example, that nearly one-third of pregnant teenagers were infected with one or more STI's, and because of unprotected sex during and after pregnancy are at risk for repeat pregnancies as well as additional STI's [1] Pregnant teens are more likely than older mothers to enter into prenatal care late or not at all, experience pregnancy related conditions such as hypertension and anemia and fail to gain adequate weight during pregnancy. [2] Pregnant teens are also more likely to deliver a low-birthweight baby preterm, increasing risk of child developmental issues and illness. [3] Additionally, being a teen parent can adversely impact subsequent educational attainment and decreased employment earnings. [4]

In 2012, 633 girls between the ages of 15 and 19 became pregnant in Guilford County; 14 girls under the age of 15 became pregnant. A significant racial disparity in teen pregnancy persists, but has been reduced from levels seen in the 1990's. Rates for Black/African American females are over 3 times as high as for White females but Hispanics have the highest rates of teen pregnancy. Geographic disparities in teen pregnancies are notable, with the highest numbers in zip codes in SE and East Greensboro and Central High Point. Guilford County’s five year (2008-2012) pregnancy rate for girls ages 15-17 is better than the state as a whole and better than peer counties with the exception of Wake County.

County Health Rankings and County Comparisons

<table>
<thead>
<tr>
<th>RWJF Topic/Objective</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Durham</th>
<th>Wake</th>
<th>Meck.</th>
<th>Forsyth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teen Birth Rate per 1,000 Females Ages 15-19 (2004-2010)</td>
<td>21</td>
<td>33</td>
<td>44</td>
<td>43</td>
<td>28</td>
<td>42</td>
<td>45</td>
</tr>
</tbody>
</table>


Pregnancy Rates per 1,000 Population for Girls 15-17, by Race/Ethnicity, 2008-2012

<table>
<thead>
<tr>
<th>County or State</th>
<th>Overall Pregnancy Rate</th>
<th>White, Non-Hispanic</th>
<th>Black, Non-Hispanic</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Carolina</td>
<td>26.0</td>
<td>16.0</td>
<td>38.3</td>
<td>51.1</td>
</tr>
<tr>
<td>Guilford County</td>
<td>24.2</td>
<td>10.4</td>
<td>37.5</td>
<td>44.9</td>
</tr>
<tr>
<td>Alamance County</td>
<td>28.1</td>
<td>19.2</td>
<td>35.0</td>
<td>53.1</td>
</tr>
<tr>
<td>Durham County</td>
<td>36.6</td>
<td>11.4</td>
<td>39.7</td>
<td>21.5</td>
</tr>
<tr>
<td>Forsyth County</td>
<td>29.5</td>
<td>12.9</td>
<td>41.5</td>
<td>62.1</td>
</tr>
<tr>
<td>Mecklenburg County</td>
<td>25.8</td>
<td>7.0</td>
<td>37.2</td>
<td>53.7</td>
</tr>
<tr>
<td>Wake County</td>
<td>17.8</td>
<td>6.2</td>
<td>31.7</td>
<td>48.2</td>
</tr>
</tbody>
</table>

Source: NC State Center for Health Statistics, County Health Databook, 2008-2012.
Healthy NC 2020 Objective or US Healthy People 2020 Objective

<table>
<thead>
<tr>
<th>Healthy People 2020 Objective</th>
<th>Baseline</th>
<th>2020 Target</th>
<th>Based On</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP-8.1. Reduce pregnancies among adolescent females 15-17</td>
<td>National Baseline: 40.2 pregnancies per 1,000 females aged 15 to 17 years occurred in 2005</td>
<td>Target: 36.2 pregnancies per 1,000</td>
<td>Target-Setting Method: 10 percent improvement</td>
<td>CDC/NCHS; National Vital Statistics System-Natality (NVSS-N), CDC/NCHS</td>
</tr>
</tbody>
</table>

Source: Healthy People 2020.

Other Relevant Data and Information

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Guilford County 2011</th>
<th>NC 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School – Ever had sexual intercourse</td>
<td>37.3%</td>
<td>49.3%</td>
</tr>
<tr>
<td>High School – Had sexual intercourse with 1 or more people during the past 3 months</td>
<td>24.2%</td>
<td>34.9%</td>
</tr>
<tr>
<td>High School – Among students who had sex in the past 3 months: those who used a condom last time they had sex</td>
<td>64.8%</td>
<td>53.7%</td>
</tr>
</tbody>
</table>

Source: Guilford Education Alliance. 2011-2012 Guilford County Youth Risk Behavior Survey.

Goal: Reduce the rate of teen pregnancies.

Objective 1: By December 31, 2016, continue to ensure that at least 850 middle and high school girls in higher need geographic areas receive Smart Girls Life Skills Training (SMLST) Part I and II programming each year.

Strategy 1a: Conduct SGLST Part I for 550 middle school girls and SGLST Part II for 300 high school girls.

Strategy 1b: Reach 300 girls and their mothers by holding two Girl’s Day Out (GDO) workshops

Strategy 1c: Engage 30 Smart Girls Leadership Academy (SGLA) participants, facilitate 10 SGLA educational workshops and provide 8 service/peer education opportunities for SGLA to support leadership development.

Strategy 1d: Maintain a minimum of 20 positive peer educators for SGLA activities.

Strategy 1e: Utilize up to 2 health education interns to assist with middle school programming.

Strategy 1f: Engage at least of 15 Smart Parents and facilitate 8 Smart Parents workshops.

Strategy 1g: Staff Education- SG Team will attend one conference annually for continuing education.

Objective 2: Increase the proportion of teen girls who delay sex and/or effectively use contraception through Part I and II programming, and through GDO, and SGLA activities.
Strategy 2a: Conduct SGLST Part I for 550 middle school girls and SGLST Part II for 300 high school girls.

Strategy 2b: Reach 300 girls and their mothers by holding two Girls’ Day Out workshops.

Strategy 2c: Engage 30 SGLA participants, facilitate 10 SGLA educational workshops and provide 8 service/peer education opportunities for SGLA to support leadership development.

Strategy 2d: Maintain a minimum of 20 positive peer educators for SGLA activities.

Strategy 2e: Utilize up to 2 health education interns to assist with middle school programming.

Strategy 2f: Engage at least of 15 Smart Parents and facilitate 8 Smart Parents workshops.

Strategy 2g: Staff Education- SG Team will attend one conference annually for continuing education.

Evidence Based Strategies

Smart Girls® Life Skills Training, developed by health educators with the Guilford County Department of Public Health, has been identified as a Promising Practice on the Recommended Best Practices for Pregnancy Prevention by North Carolina Teen Pregnancy Prevention Initiative (NCTPPI), 2008 – Present and has been identified by the Arizona Department of Education as a recommended curriculum.

The Smart Girls Team has utilized Doug Kirby and Associates’ *A Tool to Assess Characteristics of Effective Sex and STD/HIV Prevention Programs*, which provides a list of questions designed to help practitioners like us assess whether curriculum-based programs have these characteristics. This tool is based upon a research study conducted by ETR and the Healthy Youth Network to identify common characteristics of effective Sex and STD/HIV Prevention Programs. This led to the development of the Smart Girls Life Skills Training Curriculum. We incorporated this best practice methodology into the initial program development and 2010 revision, all its components and its implementation.

Board of Commissioners Priority Area Addressed:
Goal: Further Community Achievement
Priority: School Readiness and Community Development

Financial Condition:

The financial condition of this program presently is a “thumbs up” in that the Smart Girls Life Skills Training educators have received several request for trainings outside of Guilford County that is helping to create revenue for the county. Although the County funds the positions of the program, grant funding received from the Cone Health Foundation on a year to year basis is not guaranteed for the expansion areas of the program.

References:
Sexually Transmitted Infections (STI’s): Chlamydia Education and Outreach

Chlamydia is the most common bacterial STI in North America [1] and in Guilford County, and is one of the major causes of tubal infertility, ectopic pregnancy, pelvic inflammatory disease and chronic pelvic pain. [2] Sexually Transmitted Infections present significant issues for the health of residents of Guilford County. Rates of Chlamydia, gonorrhea, syphilis and HIV disease are consistently higher in Guilford County than in the state as a whole and the nation. Large racial disparities exist for STIs, with African Americans experiencing rates as much as ten times that among whites. The problem of STIs is concentrated among teens and young adults.

The Department’s STI outreach team will focus on making Guilford County residents who are infected with Chlamydia, and do not know it, aware of their chlamydia infection. In 2012, there were 3,919 cases of Chlamydia in Guilford County. In 2011, there were 5,010 cases of Chlamydia almost twice the amount observed in the previous year. By increasing the number of individuals identified as positive and receiving treatment it is hoped to further limit the impact of this bacteria on the community.

County Health Rankings and other County Comparisons

Sexually Transmitted Infections (Chlamydia) per 100,000 Population

<table>
<thead>
<tr>
<th>Indicator</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Durham</th>
<th>Forsyth</th>
<th>Mecklenburg</th>
<th>Wake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia case rates per 100,000 (2011)</td>
<td>441</td>
<td>1,011</td>
<td>453.4</td>
<td>703.4</td>
<td>757.3</td>
<td>789.5</td>
<td>711</td>
</tr>
<tr>
<td>Chlamydia case rates per 100,000 (2012)</td>
<td>564.8</td>
<td>791.1</td>
<td>473.0</td>
<td>851.5</td>
<td>761.5</td>
<td>510.7</td>
<td>501.9</td>
</tr>
</tbody>
</table>

Source: NC 2012 HIV/STD Surveillance Report, Communicable Disease Branch, NC Division of Public Health, NCDHHS.

Goal – Increase the number of at-risk persons screened for Chlamydia at non-traditional settings and ensure that those who test positive receive medical care.

Objective 1: By December 31, 2016 introduce a Chlamydia pilot testing program to test 360 individuals at specifically organized special events in conjunction with partner organizations.

Objective 2: Ensure that 100% of clients positive for Chlamydia receive medical treatment.

Objective 3: Ensure that clients identified as positive for Chlamydia as a part of non-traditional screening activities are referred to Public Health’s Disease Intervention Specialist to ensure that clients are entered into treatment at the health department clinic or at a health facility of the client’s choice.

Objective 4: Increase and maintain Chlamydia and STD awareness and educational services through social media, social marketing and traditional media.

Objective 5: Improve or maintain staff knowledge of Chlamydia and other STDs by supporting or participating in clinical updates and other staff education activities.
<table>
<thead>
<tr>
<th>Intervention/Strategy</th>
<th>Describe the evidence of effectiveness (type of evaluation, outcomes)</th>
<th>Source</th>
</tr>
</thead>
</table>
| Screening and testing for Chlamydia at Integrated Targeted Testing Sites (ITTS), fixed sites and community based screening events | Provide screening, counseling, and treatment of STDs as recommended by the US Preventive Services Task Force. Screen women younger than 25 years and other at risk for chlamydia.                                                                                                           | Recommendations from the NC Prevention Plan, Healthy North Carolina 2020: A better State of Healthy, NC Institute of Medicine, 2011; \  
US Preventive Services Task Force, US DHHS. US Preventive Services Recommendations for STI Screening. \  
http://www.uspreventiveservicestaskforce.org/uspstf08/methods/stinfections.htm#other |

**Board of Commissioners Priority Area Addressed:**

Goal: Ensure Community Health and Safety  
Priority: Physical and Environmental Health

**Financial Condition:** In general the program is in a relatively solid financial condition. There may be cuts to our program due to sequestration but we expect to continue to offer nontraditional testing opportunities to Guilford County residents for at least another two years.

**References:**


Sexually Transmitted Infections (STI’s): HIV Disease Screening

The ITTS Program has been grant funded by the NC HIV/STI Prevention and Care Section since 1995 due to high morbidity cases of HIV/AIDS in Guilford County. One out of five people in the U.S. is infected with HIV and unaware of their positive HIV status. The GCDPH collaborates with three local community-based organizations which allow HIV and STI screenings at testing sites outside of traditional clinic settings and times. Our collaborative efforts provide Counseling Testing and Referrals (CTR) and also linkage to care services for people living with HIV/AIDS. In 2009, 2010, and 2011 respectively, Guilford County experienced 209, 178, and 195 cases of HIV/AIDS. The GCDPH ITTS Program links 60% or better of its clients newly infected with HIV to care.

County Health Rankings: (No CHR for HIV Disease or HIV Disease Screening)

Healthy NC 2020 Objective and Other County Comparisons

<table>
<thead>
<tr>
<th>Healthy NC 2020 Objective</th>
<th>NC Baseline</th>
<th>NC 2020 Target</th>
<th>Guilford</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
</tr>
</thead>
</table>


Other Relevant Data

<table>
<thead>
<tr>
<th>Indicator</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Mecklenburg</th>
<th>Wake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of persons living with HIV Disease as of 12/31/12</td>
<td>27,068</td>
<td>2,020</td>
<td>343</td>
<td>1,353</td>
<td>1,515</td>
<td>4,992</td>
<td>2,825</td>
</tr>
</tbody>
</table>


Goal: Increase the number of at-risk persons screened for HIV at non-traditional settings and link them to care.

**Objective 1:** By December 31, 2016, ensure that 1% of all test results in the field are positive which is an increase from .62% in the 2013-2014 fiscal year.

**Strategy 1a:** By December 31, 2016 test 2,250 individuals for HIV in non-traditional settings in conjunction with partner organizations.

**Strategy 1b:** By December 31, 2016 test 2,700 individuals for HIV at specifically organized special events in conjunction with partner organizations.

**Objective 2:** Refer persons with new diagnoses to GCDPH social workers for an intake and linkage to care.

**Strategy 2a:** Ensure that clients identified as positive for HIV as a part of non-traditional screening activities are referred to Public Health’s Disease Intervention Specialist and Public Health social workers to ensure that clients are entered into treatment at the health department clinic or at a health facility of the client’s choice.

**Strategy 2b:** Link a minimum of 60% of persons living with HIV disease to care within 60 days not to exceed 90 days.
Strategy 2c: Refer persons living with HIV disease not linked to care to Carolina Central Health Network, bridge counselors who will continue to try and link them to care.

Objective 3: Educate the community about HIV and STD prevention.

Strategy 3a: Increase and maintain HIV and STD awareness and educational services through social media, social marketing and traditional media.

Strategy 3b: Improve or maintain staff knowledge of HIV and other STDs by supporting or participating in clinical updates and other staff education activities.

Evidence Based Strategies

<table>
<thead>
<tr>
<th>Intervention/Strategy</th>
<th>Describe the evidence of effectiveness (type of evaluation, outcomes)</th>
<th>Source</th>
</tr>
</thead>
</table>

Board of Commissioners Priority Area Addressed:

Goal: Ensure Community Health and Safety
Priority: Physical and Environmental Health

Financial Condition: 🍍 In general the program is in a relatively solid financial condition. There may be cuts to our program due to federal sequestration, but we expect to continue to offer nontraditional testing opportunities to Guilford County residents for at least another two years.
Sexually Transmitted Infections (STI’s): Syphilis Education and Outreach

The STI outreach team is focusing on finding undiagnosed cases of syphilis among Guilford County residents, and referring them for treatment. The more cases that are found, treated, and cured, the more the disease burden on the Guilford County population will be lessened. At the same time, since syphilis is a significant co-factor in facilitating HIV infection, decreasing the number of new syphilis infections will help reduce the number of new HIV infections as well.

In 2011, there were 115 new cases of syphilis reported in Guilford County, an increase from 75 cases reported in 2010. Preliminary data for 2012 shows that new syphilis cases in Guilford County declined somewhat last year, but still has a strong foothold in some marginalized and underserved communities. At the same time, health disparities for this type of infection is actually increasing; in 2009, African American men represented 57% of new infections, while in 2011, this group made up 63% of new infections.

County Health Rankings: (No County Health Rankings data for Syphilis)

Healthy NC 2020 Objective: (No Healthy NC 2020 Objective for Syphilis)

Other Relevant Data: Guilford County’s syphilis incidence rate is twice that of the state as a whole.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Mecklenburg</th>
<th>Wake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary and Secondary Syphilis Cases per 100,000</td>
<td>3.6</td>
<td>7.1</td>
<td>2.0</td>
<td>6.2</td>
<td>7.3</td>
<td>9.3</td>
<td>6.0</td>
</tr>
<tr>
<td>(2012)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary and Secondary and Early Latent Syphilis</td>
<td>6.2</td>
<td>13.3</td>
<td>3.9</td>
<td>12.1</td>
<td>9.5</td>
<td>14.2</td>
<td>9.0</td>
</tr>
<tr>
<td>Cases per 100,000 (2012)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Goal: Increase the number of at-risk persons screened for Syphilis at non-traditional settings and ensure that those who test positive receive medical care.

Objective 1: By December 31, 2016 test 2,250 individuals for Syphilis in non-traditional settings in conjunction with partner organizations.

Objective 2: By December 31, 2016 test 2,700 individuals for Syphilis at specifically organized special events in conjunction with partner organizations.

Objective 3: Ensure that 100% of clients positive for Syphilis receive medical treatment.

Objective 4: Ensure that clients identified as positive for Syphilis as a part of non-traditional screening activities are referred to Public Health’s Disease Intervention Specialist to ensure that clients are entered into treatment at the health department clinic or at a health facility of the client’s choice.
**Objective 5:** Increase and maintain Syphilis and STD awareness and educational services through social media, social marketing and traditional media.

**Objective 6:** Improve or maintain staff knowledge of Syphilis and other STDs by supporting or participating in clinical updates and other staff education activities.

### Evidence Based Strategies

<table>
<thead>
<tr>
<th>Intervention/Strategy</th>
<th>Describe the evidence of effectiveness (type of evaluation, outcomes)</th>
<th>Source</th>
</tr>
</thead>
</table>

**Board of Commissioners Priority Area Addressed:**

- **Goal:** Ensure Community Health and Safety
- **Priority:** Physical and Environmental Health

**Financial Condition:** This program garners a “thumbs down” since this grant was cut and the program has been eliminated. Additional funding is needed to keep up with syphilis morbidity since it tends to be cyclical in nature as past outbreaks in Guilford County have followed the pattern of syphilis receding temporarily and then reaching outbreak levels.
Clinical Care: Access to Dental Care

“Studies have shown direct links between oral infections and other conditions, such as diabetes, heart disease, stroke, and poor pregnancy outcomes. [1] Dental caries is the most common chronic infectious disease among children; if untreated, dental caries can result in problems with speaking, playing, learning, and receiving proper nutrition [1,2] 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.” [3] (From Healthy North Carolina 2020: A Better State of Health. North Carolina Institute of Medicine, 2011)

Untreated dental disease can lead to serious health effects, including pain, infection and tooth loss. Though lack of dental providers is not the only barrier to oral care access, shortage of providers is a problem. [4] The Health Resources and Services Administration (HRSA) designates all of Guilford County as a Dental Health Professionals Shortage Area (HPSA) for low income residents (http://hpsafind.hrsa.gov/HPSASeartch.aspx). According to the NC Division of Medical Services, only 54.5% of Guilford County residents under the age of 21 who are Medicaid-eligible are actually receiving dental services. On average, fewer than half of all North Carolinians ages 1-5 years enrolled in Medicaid receive any Dental care in a year (Center for Medicaid and Medicare Services (2010)).

County Health Rankings and County Comparisons:

<table>
<thead>
<tr>
<th>Ratio of population to Dentists¹</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
<th>Forsyth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio of population to Dentists¹</td>
<td>2,171:1</td>
<td>2,021:1</td>
<td>2,396:1</td>
<td>1,565:1</td>
<td>1,597:1</td>
<td>1,560:1</td>
<td>1,788:1</td>
</tr>
</tbody>
</table>

Source: [http://www.countyhealthrankings.org/](http://www.countyhealthrankings.org/)

Untreated Dental Decay among Children in Kindergarten

<table>
<thead>
<tr>
<th>Percentage of Kindergarten children with untreated dental decay² (2009-2010)</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
<th>Forsyth</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>14%</td>
<td>12%</td>
<td>11%</td>
<td>No data</td>
<td>9%</td>
<td>21%</td>
<td></td>
</tr>
</tbody>
</table>


Healthy North Carolina 2020 Objectives

<table>
<thead>
<tr>
<th>Decrease the average number of decayed, missing or filled teeth among kindergartners</th>
<th>NC Baseline</th>
<th>NC 2020 Objective</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Durham</th>
<th>Mecklenburg</th>
<th>Forsyth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 (2008-2009)</td>
<td>1.1</td>
<td>1.48</td>
<td>1.15</td>
<td>2.48</td>
<td>1.07</td>
<td>1.53</td>
<td></td>
</tr>
</tbody>
</table>

Goal: Increase the number of patients seen in the public health children’s dental clinics

Objective: By December 31, 2016 increase the number of patients seen in the dental clinics by 5%.

Strategy 1: Initiate a patient recall system, whereby records are reviewed and if the child has not been seen within the past 6 months, an attempt will be made to contact parent/guardian and schedule an appointment.

Strategy 2: Increase the number of children and pregnant women referrals from WIC to the dental clinic.

Strategy 3: Increase the number of pregnant women referrals from Maternity clinic to the dental clinic.

Evidence Based Strategies

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Describe the evidence of effectiveness (type of evaluation, outcomes)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate a patient recall system</td>
<td>Evidence has shown that the presence of a recall program allows the dental department to follow-up on all patients who enter the recall system and thereby insure the quality and longevity of the services that have been provided, and to maintain a state of dental health once it has been achieved. In addition, the presence of a recall system helps to reinforce the need for ongoing preventive care to preserve oral health.</td>
<td><a href="http://www.dentalclinicmanual.com/chapt4/6_7.html">http://www.dentalclinicmanual.com/chapt4/6_7.html</a></td>
</tr>
<tr>
<td>Increase the number of pregnant women referrals from Maternity clinic to the dental clinic.</td>
<td>Evidence suggests that most infants and young children acquire caries-causing bacteria from their mothers. Oral health during pregnancy carries positive outcomes for not only the mother, but also the child they carry. Providing oral health services and counseling to pregnant women may reduce poor oral health outcomes in children by reducing caries related bacteria transmission.</td>
<td><a href="http://www.mchoralhealth.org/materials/consensus_statement.html">http://www.mchoralhealth.org/materials/consensus_statement.html</a> Oral Health Care During Pregnancy: A National Consensus Statement</td>
</tr>
</tbody>
</table>
Board of Commissioners Priority Area Addressed: Prevention/Emergency Response. Oral health is an essential component of overall well-being. Dental disease is preventable, but once it sets in, it can affect one’s physical development and overall health. It affects attendance at school and work. Academic and work performance is impacted and has significant implications for social development and future success.

Goal: Ensure Community Health and Safety
Priority: Physical and Environmental Health

Financial Condition: Even though Medicaid reimbursement rates have steadily declined; for the first time in several years, the Guilford County Dental Clinics are staffed and are poised to be able to increase the patient caseload. A new dental electronic medical record system is slated to be installed in upcoming months. In addition, a state-of-the-art digital radiographic system has recently been installed. Both of these systems will improve clinic efficiencies; allowing more patients to be seen in a more timely and efficient manner.

References:

Clinical Care: Hospital Readmissions

According to a report based on data from the 2013 County Health Rankings, the unhealthiest counties in the nation have the highest rates of preventable hospital stays, smoking and adult obesity. The least-healthy counties experienced 82.8 preventable hospital stays per 1,000 Medicare enrollees, while in the healthiest counties the rate was 57.2 per 1,000. The rest of the nation's counties experienced 74 preventable hospital stays per 1,000 Medicare enrollees. Guilford County's rate was 53. [http://www.modernhealthcare.com/article/20130320/NEWS/303209959](http://www.modernhealthcare.com/article/20130320/NEWS/303209959)

In 2011 mortality due to Pneumonia/Flu was the 8th leading cause of death in Guilford County. Individuals over the age of 65 are at greatest risk for mortality due to Pneumonia/Flu. Persons over the age of 65, pregnant women and young children are at greater risk of developing complications such as pneumonia from influenza. [1] According to data from the NC State Center for Health Statistics the mortality rate for persons over the age of 65 was 127.5 deaths per 100,000 in 2008, compared to 9.0 deaths per 100,000 among persons ages 45-64 years of age and 1.2 deaths per 100,000 for those ages 20-44.

County Health Rankings and County Comparisons:

<table>
<thead>
<tr>
<th>Topic/Objective</th>
<th>NC</th>
<th>Guilford</th>
<th>Alamance</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventable hospital stays among adults with Medicare</td>
<td>63</td>
<td>53</td>
<td>56</td>
<td>60</td>
<td>49</td>
<td>50</td>
<td>47</td>
</tr>
</tbody>
</table>

Healthy NC 2020 Objective

<table>
<thead>
<tr>
<th>Objective</th>
<th>NC Baseline 2008</th>
<th>NC2020 Target</th>
<th>Guilford</th>
<th>Forsyth</th>
<th>Durham</th>
<th>Wake</th>
<th>Mecklenburg</th>
</tr>
</thead>
</table>

Source: NC State Center for Health Statistics, County Health Databook

Goal: Reduce preventable hospital stays or readmission rates within 30 days of discharge for Guilford County residents with pneumonia that are CAP/CHRP/CM Medicare beneficiaries.

Objective 1: By December 31, 2016, contribute to the reduction of the overall Guilford County pneumonia readmission rate from 28.65 readmissions per 1,000 beneficiaries to 27.22 readmissions per 1,000 by reducing the percentage of CAP/CHRP/CM Medicare beneficiaries that are readmitted for pneumonia to Cone Health or High Point Regional by 5%.

Objective 2: By December 31, 2016, contribute to the reduction of the overall Guilford County 5-year mortality rate per 100,000 due to Pneumonia/Flu by 5%, from a baseline of 16.4 deaths per 100,000 in 2008-12 to 15.6 for 2010-2014.
**Strategy 1:** Increase the number of residents and those in CAP/CHRP/CM programs who receive pneumonia vaccine by having staff to inquire of every single client.

**Strategy 2:** GCDPH to increase awareness of pneumonia through education via website and staff

**Strategy 3:** Management staff to continue on the Breakthrough Readmission Coalition and bring ideas and additional strategies back to Senior program areas for staff to implement

**Strategy 4:** Increase access to care through use of navigators

### Evidence Based Strategies

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Describe the evidence of effectiveness (type of evaluation, outcomes)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCDPH to increase awareness of pneumonia through education via website and staff</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Board of Commissioners Priority Area Addressed:** Reducing the pneumonia/flu mortality rate will involve vaccinations of those in high risk target groups, particularly the elderly. This fits with the priority area of Prevention and Physical and Environmental Health.

**Goal:** Ensure Community Health and Safety

**Priority:** Physical and Environmental Health

**Financial Condition:** The financial condition of this program is a “thumbs down” with recent budget cuts at the federal and state levels.

Environmental Health: Restaurant Inspections

According to the CDC 1 in 6 Americans (48 million people) get sick, 128,000 are hospitalized and 3,000 die of food borne diseases (www.cdc.gov/Features/dsFoodborneEstimates/). Research has shown that these numbers are low with many food borne illnesses not being reported or confirmed. Data from food borne outbreaks have revealed five major risk factors related to employee behaviors that contribute or cause the outbreak (US FDA 2009 Food Code, Preface pg 2). Environmental Health Food and Lodging Inspectors are now using the North Carolina Food Code (Food Code) manual that is adopted from the US FDA 2009 Food Code. These new regulations are designed to educate and enforce safe food handling practices through the control of risk factors that focus on the top pathogens that contribute to the most illnesses. These risk factors are documented as critical violations on the inspection form used for food handling establishments.

County Health Ranking and County Comparisons:

--There are no County Health Rankings indicators pertaining to restaurant inspection.
--At this time there is no county specific data on critical violations

Healthy NC 2020 Objective

<table>
<thead>
<tr>
<th>Objective</th>
<th>Baseline</th>
<th>2020 Target</th>
<th>Based On</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease the average number of critical violations per restaurant/food stand.</td>
<td>6.1% (2009)* NC baseline</td>
<td>5.5%</td>
<td>10% improvement in NC’s current number</td>
<td>NC DHHS, Division of Public Health, Env. Health Section</td>
</tr>
<tr>
<td>Guilford County ***</td>
<td>41% (2013)** Guilford County baseline</td>
<td>31%</td>
<td>10% improvement in CV deductions</td>
<td>Guilford County CDP database</td>
</tr>
</tbody>
</table>

Note: NC numbers based on NC Healthy People 2020 Objectives. Guilford county numbers are pulled internal from CDP
* Numbers based on previous version of NCAC 18A.2600 Rules Governing the Sanitation of Food Establishments. NC Food Code was adopted in Sept 2012.
** Numbers are based on NC Food Code critical violations Jan 2013-June 2013. Implementation of new rules allowed for educational/compliance period for some critical violations
*** The Guilford County data is based on the new Food Code regulations, the State “current” and “target” are not. The state will have to revisit their data set and may revise their information based on the current regulations.

Other Relevant Information

North Carolina and Guilford County promote tourism for economic growth. There are several key events in our community that bring people to our county from all over the world. Visitors assume that the places they eat at are handling food safely and properly to prevent illness. Ensuring proper food handling is an essential part of what EH provides to food establishments and the employees in those establishments. The education and enforcement of the regulations is the first line of defense in reducing the number of critical violations (CV’s). Reducing CV’s has shown to reduce the number of food borne illness outbreaks (Journal of Food Protection, 2012 Nov 75(11):2007-15).
Number of regulated food handling establishments

<table>
<thead>
<tr>
<th>Report Area</th>
<th>Total Population</th>
<th>Number of Food Handling Establishments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guilford County</td>
<td>488,406</td>
<td>1,713</td>
</tr>
<tr>
<td>North Carolina</td>
<td>9,535,483</td>
<td>31,145</td>
</tr>
</tbody>
</table>

Source: DHHS, EH Section internal email; http://quickfacts.census.gov

Goal: Decrease the average number of critical violations per restaurant/food stand

Objective: By December 31, 2016, decrease the average number of critical violations per restaurant/food stand 2%.

Strategy 1: Provide Serve Safe classes a minimum of 4 times a year. These classes are based on Food Code and provide the operators and their employee’s proper food handling techniques.

Strategy 2: Education on NC Food Code and critical violations will be provided during the EH inspection. This is an important first step in getting the operator/employees up to speed on all the changes the new regulations bring.

Strategy 3: Establishments that are cited with critical violations will have a specific time period to fix the violations. Documentation or a follow-up visit will be needed to ensure the proper corrective actions have been taken to remediate the violation.

Strategy 4: Plan review for new facilities or facilities that go through a change of ownership will need to take under advisement the new regulations and adjust or require equipment so that the facilities meet the new regulations.

Evidence Based Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Evidence</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1) Provide Serve Safe classes</td>
<td>Research has shown that food managers who have attended training/certification programs have improved food handling practices and sanitary conditions in restaurants that may reduce the spread of food borne illnesses.</td>
<td>Effect of a manager training program on sanitary conditions in restaurants. Public Health Reports. 1998 Jul-Aug; 1113(4):353-358. Certified kitchen managers: do they improve restaurant inspection outcomes? Journal of Food Protection. 2009 Feb; 72(2):384-91.</td>
</tr>
<tr>
<td>#2) Education on critical violations</td>
<td>There is research that supports documentation and follow-up of critical violations may minimize the likelihood of a food handling establishment causing a food borne illnesses. These critical violations key in on many important risk factors such as; employee hygiene, proper cooking and cooling temperatures; proper holding temperatures and food from unsafe sources.</td>
<td>NC Food Code Section 2 and 3 Health department inspection criteria more likely to be associated with outbreak restaurants in Minnesota. Journal of Food Protection. 2012 Nov;75(11):2007-15 Food borne norovirus outbreak: the role of an asymptomatic food handler. BioMed Central Infectious Diseases 2010; 10:269.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>#3) Follow-up visits for critical violations</td>
<td>(see #2)</td>
<td>(see #2)</td>
</tr>
<tr>
<td>#4) Plan review for new/transitional facilities</td>
<td>There is little research on the impact of plan review and the reduction on food borne illnesses. Most of the research is centered on cross contamination of potentially hazardous foods with non-hazardous foods. The argument could be made that a poorly designed commercial kitchen would greatly increase the potential for cross contamination and thus increase the likelihood for a food borne illnesses. Food handling establishments must meet the specifications outlined in the regulations.</td>
<td>NC Food Code NC General Statutes 15A NCAC 18A .2600 Rules Governing the Food Protection and Sanitation of Food Establishments</td>
</tr>
</tbody>
</table>

**Board of Commissioners Priority Area Addressed:**

*Decreasing the average number of critical violations per restaurant/food stand would positively impact three areas that Board of Commissioners have designated as a priority.*

1) Economic Growth. Most restaurant operators will tell you that a food borne outbreak that is associated with their establishment would have a huge impact on their business. The US Dept of
Agriculture Economic Research Service estimates that the cost of illness from the five major food borne pathogens ranges from $6.9 billion to as high as $152 billion dollars a year (www.ers.usda.gov). Our county has several high profile events every year ensuring the safety of the food our restaurants produce is all part of the experience visitors have when they come to Guilford County.

2) Prevention. A key component of the NC Food Code is to minimize the possibility of a food borne illness. Critical violations and the education of operators/employees on these key issues has shown to reduce the possibility of a food borne outbreak.

3) Workforce Preparedness & Personal Enrichment. We are the only county in our region to offer Serve Safe classes consistently 4 times a year. We have many operators/employees that come from the neighboring counties to take the class. Our Health Educators and Environmental Health inspectors teach the class so the students get the information from someone who knows the business and is in the enforcement capacity of the regulations.

Goal: Ensure Community Health and Safety
Priority: Physical and Environmental Health

Financial Condition:

Stable  The financial condition of the enforcement of this program is stable but additional personnel will be needed as the state and local program work towards standardization by FDA. If the standardization process becomes mandatory for Accreditation we will need additional personnel.

The educational portion of this program is a “thumbs down” due to grant funding for the Health Educator that organizes/teaches the Serve Safe classes being eliminated in February 2014.
Environmental Health: Guilford County Pet Responsibility Program

Responsible pet ownership has many benefits to pet owners and society. Teaching children to be responsible pet owners can have a direct and lasting effect on their social, emotional and physical well being (Poresky & Henfrix, 1990; AHA, 2002). Studies have shown that children who connect with their pet are more physically active and are less prone to developing abusive behaviors (Christian et al, 2013; Westgarth et al, 2013; AHA Quick Fact sheet www.americanhumane.org). One of those studies found that dog ownership contributed to 29 more minutes of walking and 142 more minutes of physical activity per week making pet ownership a way to combat childhood obesity (Christian et al, 2013).

The Guilford County Pet Responsibility Program is currently being taught in the 4th grade classes of three elementary schools. The class is one day per week lasting for 6 weeks and is mirrored after the Moore County program. Moore County has successfully incorporated the information into the school systems character education program and it is linked to the NC Standard Course of Study and National Common Core Curriculum (www.mcprc.org).

County Health Ranking and County Comparisons:

There are no County Health Rankings for this Issue/Program area

Other Relevant Information


<table>
<thead>
<tr>
<th>Area</th>
<th>Total Population</th>
<th>Number of Dogs *</th>
<th>Number of Cats *</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Carolina</td>
<td>9.5 million</td>
<td>2.2 million</td>
<td>2.4 million</td>
</tr>
<tr>
<td>Guilford</td>
<td>488,000</td>
<td>133,000</td>
<td>123,000</td>
</tr>
<tr>
<td>Alamance</td>
<td>151,000</td>
<td>33,000</td>
<td>37,000</td>
</tr>
<tr>
<td>Durham</td>
<td>267,000</td>
<td>60,000</td>
<td>65,000</td>
</tr>
<tr>
<td>Wake</td>
<td>900,000</td>
<td>214,000</td>
<td>234,000</td>
</tr>
<tr>
<td>Mecklenburg</td>
<td>919,000</td>
<td>218,000</td>
<td>238,000</td>
</tr>
<tr>
<td>Forsyth</td>
<td>350,000</td>
<td>80,000</td>
<td>88,000</td>
</tr>
</tbody>
</table>

* Calculated estimates from the AVMA website

<table>
<thead>
<tr>
<th>Objective</th>
<th>Current</th>
<th>2016 Target</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>By December 31, the Guilford County Pet Responsibility Program with participation from GC Animal Control will be taught in 10 schools.</td>
<td>4th grade classes of 3 schools (Joyner, Our Lady of Grace &amp; Guilford)</td>
<td>10 schools</td>
<td>Guilford County Animal Control</td>
</tr>
</tbody>
</table>
**Goal:** Increase the number of schools participating in the Guilford County Pet Responsibility program

**Objective:** By December 31, 2016, increase the number of schools participating in the Guilford County Pet Responsibility Program (with participation from GC Animal Control) to 10 schools

**Strategy 1:** Enlist volunteer teachers that are committed to the program utilizing various agencies such as; UNCG, Guilford County retired school personnel and the Retired Service Volunteer Program.

**Strategy 2:** Educate and engage the Guilford County School Administrator/Principal to the merits of the program citing the research and success that Moore County has had with the program.

**Strategy 3:** Establish the program as a County Commissioners appointed committee which would bring more credibility to the program.

**Strategy 4:** Create responsible pet owners for future generations. Providing the importance of proper pet care to children may influence proper pet care with their parents in addition to creating compassionate and responsible future pet owners.

**Strategy 5:** Provide information on the importance of spay and neuter programs through activities such as the Speuter (spay + neuter= speuter) Essay Contest.

**Evidence Based Strategies**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Evidence Base</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1) Recruit competent volunteers who are committed to the program.</td>
<td>There is no research on this topic. Engaging the GC Retires School Personnel and the Retired Service Volunteers to the program will provide a competent core of teachers for the viability of the program.</td>
<td>This strategy mirrors the efforts of Moore County and their program, which has been successful in increasing the number of volunteer for the Pet Responsibility program (<a href="http://www.mcprc.org">www.mcprc.org</a>).</td>
</tr>
<tr>
<td>#2) Engage GCS to “buy into” the importance of the program and support curriculum.</td>
<td>Research has shown that teaching responsible pet ownership develops compassion and empathy in children. The 4th grade age range is an important developmental path for social and emotional growth.</td>
<td>Differential effects of pet presence and pet bonding on young children, Psychological Reports. 1990,67:51-54 One more thing for teachers to do? Why and how educators should develop students empathy and humanity, Protecting Children, 1999 Volume 15, (2) (pulled from</td>
</tr>
</tbody>
</table>
#3) Create a County Commissioners appointed committee.
There is no research on this topic. Having a complete packaged program that is backed by the Committee should make the program more attractive to Administrators and Principals in public and private schools.

This strategy mirrors the efforts of Moore County and their program (www.mcprc.org).

#4) Educate children what is involved with being a responsible pet owner should not only influence their behavior but that of their parents.
Teaching children what is involved with taking care of a pet (proper feeding, grooming, walking, training, vaccinations/vet costs and liability) helps them to develop a sense of responsibility, patience, compassion and empathy. The added bonus is the physical activity that comes from taking care of pets.


#5) Reducing pet over population
The benefit of spaying/neutering pets is well documented. Pets are healthier, live longer and are less aggressive.


Board of Commissioners Priority Areas Addressed:

Creating the Guilford County Pet Responsibility Program would positively impact three areas that Board of Commissioners has designated as a priority.

1) High Quality K-12 Education. This program has been shown to improve social, emotional and physical wellbeing of children in Moore County. The research also supports that responsible pet ownership that is taught to young children translates to the home environment and to future generations of pet ownership. The program has been linked to the NC Standard Course of Study and National Common Core Curriculum.

2) School Readiness and Youth Development. Research has shown that children that are more socially adjusted in elementary school fair better when transferring to middle and high school (www.americanhumane.org Protecting our Children). Responsible pet ownerships is a tool that assist children in their social, emotional and physical developmental path.
3) Crime Prevention, Courts & Correction Services. There are multiple articles on the impact pet abuse has on youth violence and domestic abuse. Creating empathy in people acts as an inhibitor to aggression and violence (www.americanhumane.org Protecting our Children). Understanding the impact animal abuse has on children and the society at large should help reduce the escalation of violence and incarceration (American Humane Association Quick Fact Sheet www.americanhumane.org)

Goal: Ensure Community Health and Safety
Priority: Physical and Environmental Health

Financial Condition:

(stable)--- The financial condition of this program is stable but additional personnel may be needed to expand the program to all 70 elementary schools in Guilford County.