2016 DUPLIN COUNTY
COMMUNITY HEALTH
ASSESSMENT
Acknowledgements

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- Chris Vernon……………………. Emergency Medical Services
- Mike Aldridge…………………… County Manager
- Dexter Edwards………………….. County Commissioner
- Sue Wells………………………… VDUP Coordinator of Outreach Services
- Melissa Roupe…………………… Vidant Health Senior Administrator, Com Hlth
- Jay Briley………………………… VDUP President
- Sue Taylor………………………. VDUP VP, Patient Care Services
- Tom Fife…………………………. VDUP Foundation Executive Director
- Christina Miller…………………. VDUP Dir. of Patient Care Services-Acute
- Matt Gitzinger ……………………. VDUP Director of Operations
- Laura Maready………………….. VDUP Director of Marketing & Development
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Executive Summary

The health status of a community plays a large role in social and economic prosperity, hence it is important that a community strives to continually improve and maintain its health. Successful health programming must also include input from community agencies and community members. The first step in improving the health status of any community is to complete a community health assessment and share the findings with the community. The Community Health Assessment (CHA) is a systematic collection and analysis of information about the health of the community. The assessment of Duplin County’s health is based upon multiple sources of data. The primary data was the community survey distributed under the joint leadership of the Duplin County Health Department (DCHD) and Vidant Duplin Hospital (Vidant Duplin). Secondary data was obtained primarily from the NC State Center for Health Statistics, U.S. Census, and Vidant Health Systems data. A total of 365 community members responded to the survey.

Methodology

Routinely collected mortality and morbidity surveillance data and behavior survey data can be used to describe the health status of Duplin County residents. This data, which are readily available in the public domain, typically use standardized definitions, thus allowing comparisons among county, state and national figures. There is, however, some error associated with each of these data sources. Surveillance systems for communicable diseases and cancer diagnoses, for instance, rely on reports submitted by health care facilities across the state and are likely to miss a number of cases, and mortality statistics are dependent on the primary cause of death listed on death certificates without consideration of co-occurring conditions. Comparing data on a year-by-year basis can yield very unstable trends due to the often small number of cases, events or deaths per year. For this reason data for multiple years is included in this report wherever possible. Included in the report is data on how the neighboring counties in the Vidant Health system and the state compare to Duplin County. The following counties comprise Vidant’s regional area: Beaufort, Bertie, Chowan, Dare, Duplin, Edgecombe, Greene, Hertford, Hyde and Pitt. The peer counties will be referred to as the region or regional data in the body of the document.

Demographics

The general population characteristics of Duplin County and its regional counties were based on 2014 US Census data population estimates. As outlined in the July 1, 2014 US Census data estimates, the population of Duplin County is estimated to be 59,882. The population of Duplin County is evenly divided between males and females, which is the typical pattern. The gender balance in the region is similar with an average of 48% males and 52% females. The overall life expectancy in Duplin County is 78.4. When compared to the Regional Mean (77.7) and the state (78.3), Duplin County had similar life expectancies in all categories (Male, Female, White, Black/African American). The overall median age in Duplin County was 38.9, approximately 2.8 years younger than the median age in the region, and 0.7 years older than the median age for NC as a whole.
The County has a significant Latino/Hispanic population, more than twice the NC county average. Whites composed 70.2% of the total population; the regional comparable figure was 60.9% and the statewide figure was 71.5%. Blacks/African Americans composed 26.0% of the total population; the regional comparable figure was 35.4% and the statewide figure was 22.1%. American Indians and Alaskan Natives composed 1.4% of the total population, Asians, Native Hawaiians and Other Pacific Islanders composed 1.0% of the total population. Hispanics/Latinos of any race composed 21.6% of the total population; the regional comparable figure was 8% and the statewide figure was 9%. Among the 3,215 households (15% of all households in Duplin County) that speak a language other than English, the most common language is Spanish (95%). Among the Spanish-speaking households, 55% would be considered “limited English speaking”.

Compared to NC as a whole, Duplin County has a higher proportion of residents under 15 and a lower proportion of residents aged 15 to 50. Persons 65 years and older comprise 15.9%, this segment is expected to grow quickly as the population ages. Because the proportion of the Duplin County population age 65 and older is larger than the proportion of that age group statewide, it merits closer examination. The population segment age 65 and older often requires more and different health and social services than the rest of the population, and understanding how that population will change in coming years will be an important consideration in planning to meet future health and human service needs.

**Socioeconomic**

Duplin County has the highest uninsured rate in the state with 26% of residents with no health care benefits, 33% of children live in poverty, 24% of the total population lives in poverty and 40% live in single parent households. The overall poverty rate in Duplin County was higher than the comparable state and Regional rate throughout the period cited. The poverty rate has increased overall since the 2012 CHA data. In Duplin County, the 2014 per capital personal income was $17,677 which was $7,931 below the state average. The 2014 Median household income was $34,787 which is below the state average by $11,906. These figures have only increased slightly since last assessment. The 2014 median family income was $43,000 which is $14,328 below the NC average. Community respondents that responded to the statement “There is plenty of economic opportunity in Duplin County”, 59% disagreed or strongly disagreed. The top response from the community survey to the question “What issues most effects the quality of life?” 59.3% indicated low income /poverty.

When comparing Duplin County to the NC average, the 2014-2015 4-year cohort high school graduation rate was lower in Duplin County Schools (83.4%) as compared to the Region (83.5%) and the state (85.6%). High school graduation rates were lowest among students with limited English proficiency (Duplin 28.6%, Region 47.6%, and NC 57.8%). According to the US Census Bureau and the NC Public Schools data, a comparison of state and county data reveals that Duplin County has a larger population whose highest attainment was a high school diploma (or equivalent) only (29.7% in 2014) as compared to the Region (31.9%) and the state (26.9%). Duplin County also has a lower population who had a bachelor’s degree or higher (10.4% in 2014) as compared to the Region (16.4%) and the state (27.8%).
Employment

Duplin County has a rural agrarian economy and depends on livestock, poultry and associated manufacturing industries for jobs and economic growth. Today, Duplin’s agricultural industries range from the family farm to corporate headquarters of agriculture related businesses. According to 2014 data, a calculated annual average of 1,661 individuals were unemployed in Duplin County, calculating to an unemployment rate of 6.3. The monthly average unemployment rate declined each month from 6.0 in January 2015 and then rose in May-August. By December 2015 the unemployment rate was 5.6 compared to the Region (7.3), the State (5.3), and the Nation (4.8).

Health Outcomes

Chronic diseases such as heart disease and cancer remain the leading causes of death in the county. Heart disease, cerebrovascular disease and cancer deaths did show an improving trend with the death rates decreasing over time. Chronic lower respiratory disease has moved up to number three from number four as compared to the 2012 CHA. Many risk factors for chronic respiratory diseases have been identified and can be modified by lifestyle changes. The most important modifiable risk factors are: tobacco use, second hand smoke exposure, other indoor/outdoor air pollutants, allergens, occupational exposure.

The development of the top ten chronic diseases can be impacted by making healthy lifestyle choices. Heart disease and diabetes are associated statistically with a higher Body Mass Index (BMI), elevated cholesterol and high blood pressure. Diabetes affects the blood vessels of the heart, eyes, and kidneys over time and creates secondary health problems. Duplin County continues to have adult obesity rates greater than the state but they are lower compared to the region. Duplin County has a lower number of active health care professional per 10,000 population than NC for all physicians, primary care practices, dentists and pharmacists. The deficiency in this resource impacts the population’s health across the life span. This gap in resources decreases access to health care for many segments of the population, increases costs for residents who will need to go out of county to seek care and contributes to residents not seeking care. This gap is difficult to impact and has not improved since the last assessment.

Women and Children

For children in the birth to 19 years of age group, the leading causes of death are conditions in the perinatal period. This has not changed from previous assessments. These deaths are closely linked to the health of the mother, before and during pregnancy.

Though there is a decrease in low birth weight births there continues to be a disparity between babies born to Black/ African American women and white women. The teen pregnancy rates have been declining since the 2012 assessment, but remains higher than the state and region. Teen pregnancy rates for minorities are higher than the state rates. Teenage parents usually fall at the low end of the poverty status as they usually have little support, are more likely to drop out of school and consequently have fewer job opportunities. The highest pregnancy rate for women age 15-44 occurs in Hispanic women.

Substance Abuse

Substance abuse and mental health issues were cited in the community survey as the top health behavior people need more information about. The results indicated that 32% of Duplin County Community Survey respondents reported having received a diagnosis of depression or
anxiety. NC like many states are in the midst of an overdose epidemic primarily driven by prescription opioids and increased use of heroin. The highest county in the U.S. experiencing this epidemic is New Hanover County, a neighbor of Duplin County. In 2014 the Vidant Duplin Hospital received a small grant from the Project Lazarus to address opioid overdose prevention. The Health Department monitors the poisoning and overdose indicator reports for Duplin County quarterly, distributes Naloxone to individuals who are concerned about a family member at–risk for overdose, provides community education and promotes awareness of this issue.

Communicable Disease
Sexually transmitted diseases such as chlamydia and gonorrhea are detected through routine screening as they are often asymptomatic in both males and females. The disease can cause serious complications in young women; therefore there are a number of screening programs in place for young women. Some of these include required screening during pregnancy, required screening for women 25 years of age and under seeking family planning services. There are no comparable screening programs for young men. Men may be screened as the contact partner to a person with a positive test. Minorities are disproportionately affected by these diseases. In 2015 there were 9 newly diagnosed cases of HIV up from 4 in 2014. When numbers are aggregated over three-year periods to stabilize them, the Duplin County rates are still lower compared to NC and the Region. The chlamydia infection rate in Duplin County has been relatively unchanged since last CHA and has been lower than the state. In 2014, there were 224 new cases of chlamydia in Duplin County, calculating to a rate of 374.1, compared to 501.9 statewide. Duplin 15-24 year olds who were tested for chlamydia in 2011, 9.1% tested positive, compared to 10.9% in NC. Gonorrhea has decreased as compared to the 2012 CHA, in 2014 there were 43 new cases which calculates to a rate of 71.8 which is approximately half the state’s rate.

Feedback from Community Members
 Survey respondent participants expressed concerns about economic opportunities within Duplin County.
 The economic issue identified by the majority of participants was low income/poverty.
 Services related to employment were ranked highest among services needing improvement.
 When questioned about health providers, the majority of participants identified the need for more pediatricians and geriatricians.
 When asked about health education, the health topic identified as needing more attention was substance abuse prevention.
 The most common diagnoses among male survey respondents:
   - High blood pressure (48.8%)
   - High cholesterol (42.9%)
   - Overweight/obesity (41.5%)
 The most common diagnoses among female survey respondents:
   - Overweight/obesity (49.2%)
Finalizing Priorities

Responses from the community health survey helped form the health priorities for county residents. Focus is directed toward the issues that most affect the quality of life in Duplin County, services that need most improvement, health behaviors about which residents need more information, and health behaviors about which children/young adults need more information. After examining the results of the community survey, the health data, and listening to input from community members and agencies the community CHA team chose four broad health priorities. These priorities will assist in the development of the community health actions plans. The action plans will move the county forward toward improving health and health outcomes for county residents.

Target Populations

Vulnerable populations must be at the forefront if there is to be any improvement in the overall county’s health outcomes. The following groups are at-risk or populations with health disparities:

- The uninsured and under-insured
- Persons living in poverty
- Limited literacy
- Minorities
- Children
- Males, who generally have poorer health outcomes than females
- Persons with poor access to transportation, because travel may be necessary to reach certain healthcare providers
- The elderly, because healthcare services may not be sufficient to accommodate their needs as the population grows
- Pregnant women since rates of early prenatal care continues to be an issue

Health Priorities

The broad goals below will be developed into community action plans in the coming months. The goals will include the assessment of current resources that will be needed to implement the goals and roles of the participating agencies.

- Access to Care
- Substance Abuse/ Mental Health
- Chronic Disease
- Prevention/ Healthy Lifestyles
Chapter 1- Background

Local public health agencies in North Carolina (NC) are required to conduct a comprehensive Community Health Assessment (CHA) at least once every four years. The CHA is required of public health departments in the consolidated agreement between the NC Division of Public Health (DPH) and the local public health agency. Furthermore, a CHA is required by the NC Local Health Department Accreditation Board (G.S. § 130A-34.1), as part of the US Affordable Care Act of 2011, non-profit hospitals are also now required to conduct a community health assessment at least every three years. Recognizing that duplicate assessment efforts are a poor use of community resources, LHDs and non-profit hospitals across the state are developing models for collaboratively conducting the community health assessment process. This document is the culmination of such a partnership between the Duplin County Health Department (DCHD), Vidant Duplin Hospital, and the Vidant Health system. The community health assessment, which is both a process and a document, investigates and describes the current health status of the community, what has changed since the last assessment, and what still needs to change to improve the health of the community. The process involves the collection and analysis of a large range of data, including demographic, socioeconomic and health statistics, environmental data, and professional and public opinion.

The document is a summary of all the available evidence and serves as a resource until the next assessment. The completed CHA serves as the basis for prioritizing the community’s health needs, and culminates in planning to meet those needs. The DCHD received permission from Branch Head, Phyllis Rocco, RN, BSN, MPH, of the Division of Public Health, Local Technical Assistance and Training Branch to use the Vidant System counties as the peer counties for this assessment. The following counties comprise Vidant’s regional area: Beaufort, Bertie, Chowan, Dare, Duplin, Edgecombe, Greene, Hertford, Hyde and Pitt. The peer counties will be referred to as the region or regional data in the body of the document.

As part of the community health assessment, a community survey was distributed to various segments of the population. The survey was printed on paper in English and Spanish, distributed electronically on the hospital web site and list serves. Duplin County Health Department, Vidant Duplin Hospital and other community agencies conducted an intercept type survey at area health fairs, civic groups, schools, and distributed surveys to local government offices, physician’s offices, libraries, faith community and to the general public. Partnering agencies also distributed surveys to the public and to clients they serve. The notice of the survey was shared with the community through the local newspaper, radio station, and listerv. The community survey was used to collect community input data from January 6, 2016 – January 29, 2016.

The Vidant Health system contracted with Sheila S. Pfaender, Public Health Consultant, to assist in conducting the 2016 Community Health Needs Assessments for Vidant Health’s primary service counties, including Duplin County. The assessment process incorporated the guidance provided by the Community Assessment Guidebook: North Carolina Community Health Assessment Process, published by the NC Department of Health and Human Services and NC Division of Public Health (June 2014). The assessment also adheres to the standards for community assessment stipulated by the NC Local Health Department Accreditation (NCLHDA) Program and The Internal Revenue Service (IRS) 2014 final ruling implementing requirements for tax-exempt hospitals under Section 501(r) of the Affordable Care Act (ACA).
The CHA coordinators from the DCHD, Vidant Duplin and Vidant Health worked with the Vidant Health consultant to develop a multi-phase plan for conducting the assessment. The CHA planning team met several times between August and September 2015. The phases included: (1) a research phase to identify, collect and review demographic, socioeconomic, health and environmental data; (2) a community input phase to receive input from community members utilizing a survey and small group discussions; (3) data synthesis and analysis phase; (3) a period of data reporting and discussion among community partners; and (4) a prioritization and decision-making phase. Upon completion of this work, the CHA partners and the community have the tools they need to develop plans and activities that will improve the health and well-being of the people living in Duplin County.
Chapter 2- County Description

Geography
Duplin County is located in the Coastal Plains of the Southeastern portion of North Carolina. The county claims 819 square miles, making it the 9th largest county for land mass in the state, with Kenansville as its county seat. It is situated approximately 75 miles from Raleigh and 60 miles from Wilmington and the Atlantic Ocean. The county experiences relatively mild weather, with long summers and short winters. Significant accumulations of ice and snow are unusual.

Land
In general, most Duplin County soils located outside the flood plains are suitable for agriculture and are capable of supporting structures. The major limiting factor is poor drainage. The soils of Duplin County, except Pamlico Muck, are derived from the Coastal Plains parent formations and are classified as mineral soils. Information on soil conditions for specific sites is available through the Duplin County Natural Resources Conservation Service.

Water
Abundant supplies of high quality ground water are available to Duplin County from two aquifers; the water table aquifer and the cretaceous aquifer. The water table aquifer is generally within 20 feet of the ground surface. The water quality varies from fair to good.

Highways
Interstate 40 is accessible via six exits across Duplin County and provides easy connections to I-95, I-85, I-77 and I-26. The County is also traversed by a well-maintained network of U.S. and state highways. Table 1 illustrates the typical drive times.
The nearest Interstate Highway is I-40, which dissects Duplin County.
Bordering Counties include: Wayne County to the north; Lenoir, Jones and Onslow Counties to the east; Pender County to the south and Sampson County to the west.
Population is approximately 87.4 persons per square mile.
The largest town in Duplin County is Wallace with a population of approximately 4,000.
16.5% of population is over 65 years of age.
24.5% of population is under 18 years of age.
The population percent change from April 1, 2010-July 1, 2015 was 1.1%.
Source: quickfacts.census.gov 2015

### History
Duplin County was first formed by the North Carolina General Assembly on April 7, 1750. The county was named after Sir Thomas Hays, Lord Dupplin, who served on the Board of Trade and Plantations for the Crown in the 1740s. During the 1700s the area’s rich farm lands attracted a wide variety of immigrants, including the Welsh, Germans, Swiss, Scotch-Irish, French and English. Sarecta, established on the east bank of the Northeast Cape Fear River, became Duplin's first incorporated town in 1787. Another settlement was established on the west side of the river, Goshen Swamp. A third settlement referred to as Golden Grove, later became the Town of Kenansville. These early settlers were primarily Presbyterians and they established the Goshen congregation in 1736. Later called the Grove congregation, it was the first Presbyterian Church in the state and is still active today.

### Government
The county is governed by the five members of the Duplin County Board of Commissioners. They are elected officials who serve for four-year terms. A professional county manager serves under the direction of the County Commissioners. Duplin County has operated under the County Manager form of government since 1979.
There are ten incorporated towns in Duplin County. The towns are Beulaville, Calypso, Faison, Greenevers, Kenansville, Magnolia, Rose Hill, Teachey, Wallace and Warsaw.

The Town of Warsaw has the distinction of holding the oldest continuous Veteran’s Day Celebration in the United States. The first celebration in Warsaw was in 1921.

The Town of Rose Hill is home to the World’s Largest Frying Pan.

The headquarters of Smithfield Farms the nation’s largest pork producer is in the town of Warsaw.

The Town of Wallace is home to River Landing, a nationally recognized private 36-hole championship golf course.

Source: Duplin County Economic Development Commission

Industry

Duplin County is a rural agrarian economy and depends on livestock, poultry and associated manufacturing industries for jobs and economic growth. Today, Duplin’s agriculture industries range from the family farm to corporate headquarters of agriculture related businesses. Duplin County has a strong agricultural heritage and it has been estimated that the agricultural output of Duplin County combined with neighboring Sampson County is equal to about 1/6 of the world’s food supply.
Demographics
The following general population characteristics of Duplin County and its comparator counties were based on 2014 US Census data population estimates presented in Table 2.

As outlined in the July 1, 2014 US Census data estimates, the population of Duplin County is estimated to be 59,882.
The population of Duplin County is evenly divided between males and females, which is the typical pattern. The gender balance in the region is similar with an average of 48% males and 52% females.
The overall median age in Duplin County was 38.9, approximately 2.8 years younger than the median age in the region, and 7 months older than the median age for NC as a whole.

<table>
<thead>
<tr>
<th>County</th>
<th>Total Population (2014 Estimate)</th>
<th>Under 18 Years</th>
<th>65 Years and Older</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Total</td>
<td>% Males</td>
<td># Under 18 Years</td>
</tr>
<tr>
<td>Duplin</td>
<td>59,882</td>
<td>49.2</td>
<td>14,886</td>
</tr>
<tr>
<td>Regional Total</td>
<td>458,613</td>
<td>48.3</td>
<td>100,240</td>
</tr>
<tr>
<td>State Total</td>
<td>9,943,964</td>
<td>50.8</td>
<td>2,287,549</td>
</tr>
<tr>
<td>State Average</td>
<td>99,440</td>
<td>n/a</td>
<td>22,875</td>
</tr>
</tbody>
</table>

Table 2. General Demographic Characteristics. (2010 US Census data and 2014 Population estimates)
Note: Percentages by gender are calculated. *Metric for Regional Total Median Age calculated as the arithmetic mean of county values

Minority Populations
The population of Duplin County has a similar proportion of white residents and a slightly higher proportion of African American residents compared to NC as a whole. The County has a significant Hispanic population, more than twice the NC county average. According to the U.S. Census Bureau 2014 Population Estimates, the non-white population, includes Blacks/ African American and other races, in Duplin County is approximately 29.8% of the overall population. In the region, the non-white population is approximately 39% of the population, compared to the state at 28.5%.

Whites composed 70.2% of the total population; the regional comparable figure was 60.9% and the statewide figure was 71.5%.
Blacks/African Americans composed 26.0% of the total population; the regional comparable figure was 35.4% and the statewide figure was 22.1%.
American Indians and Alaskan Natives composed 1.4% of the total population; the regional comparable figure was 0.8% and the statewide figure was 1.6%.
Asians, Native Hawaiians and Other Pacific Islanders composed 1.0% of the total population; the regional comparable figure was 1.3% and the statewide figure was 2.8%.
Hispanics/Latinos of any race composed 21.6% of the total population; the regional comparable figure was 8% and the statewide figure was 9%.

Birth Rate

Overall population growth is a function both of increase (via immigration and birth) and decrease (via emigration and death). Graph 1 illustrates that the birth rate is declining in Duplin County, the region, and the state. Even with the declining rate, the County birth rate was higher than the state and the Region for the entire period presented.

A closer examination by racial group reflects that birth rates in Duplin County have decreased overall among all racial groups in the period cited. A similar trend is seen across the Region and the state.

Graph 1. Birth Rate Trend, Live Births per 1,000 Total Population
(Nine 5-Year Aggregates, 2002-2006 through 2010-2014)

Graph 2. Live Birth Rate, By Race
Duplin County

Source - Selected Vital Statistics, NC State Center for Health Statistics (NC SCHS), and other years as noted http://www.schs.state.nc.us/data/vital.cfm
Among Duplin County women age 15-44 the highest pregnancy rates occur among the Hispanic population (Graph 2). The rate among Hispanic women is higher in Duplin County for 2010-2014 at 23.2% compared to the region at 19.3% (Graph 3). Duplin County has a higher Hispanic population than the region. The growth in this population is stable with little increase as compared to the previous CHA.

```
Live Birth Rate, By Race
Regional Average

<table>
<thead>
<tr>
<th>Year</th>
<th>White, Non-Hispanic</th>
<th>Af Am, Non-Hispanic</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2011</td>
<td>9.6</td>
<td>13.1</td>
<td>25.3</td>
</tr>
<tr>
<td>2008-2012</td>
<td>9.3</td>
<td>12.4</td>
<td>21.4</td>
</tr>
<tr>
<td>2009-2013</td>
<td>9.1</td>
<td>11.7</td>
<td>20.4</td>
</tr>
<tr>
<td>2010-2014</td>
<td>8.8</td>
<td>11.1</td>
<td>19.3</td>
</tr>
</tbody>
</table>
```

Graph 3. Source - Selected Vital Statistics, North Carolina State Center for Health Statistics (NC SCHS), and other years as noted [http://www.schs.state.nc.us/data/vital.cfm](http://www.schs.state.nc.us/data/vital.cfm)

### Population Growth

Duplin County’s population growth is expected to slow over the coming decades. The population in the region and state is also expected to grow at a slower rate during this same time. Between 2010 and 2020, the county population is expected to increase by 6.0% overall, while the Region increases by 2.8% and NC grows by 10.9%. (Table 3).

<table>
<thead>
<tr>
<th>Decade</th>
<th>Duplin County</th>
<th>Regional Average</th>
<th>State of NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2010</td>
<td>16.0</td>
<td>14.6</td>
<td>15.6</td>
</tr>
<tr>
<td>2010-2020</td>
<td>6.0</td>
<td>2.8</td>
<td>10.9</td>
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<tr>
<td>2020-2030</td>
<td>5.1</td>
<td>1.8</td>
<td>9.8</td>
</tr>
</tbody>
</table>

Age

The following information about the age and gender distribution of the Duplin County population was derived from the US Census Bureau 2014 Population Estimates. Compared to NC as a whole, Duplin County has a higher proportion of residents under 15 and a lower proportion of residents aged 15 to 50. Duplin County has similar proportions of those over the age of 50.

The largest segment of the population in both numbers (4,281) and percent (7.1%), was the 5-9 year old age group. This differs from NC as a whole, where the segment composing the largest number and percent (7.2%) of the state’s population was the 20-24 year old age group.

Persons 65 years of age or older composed 15.9% of the population in Duplin County, compared to 14.6% of the population of NC.

Persons 18 years of age and younger composed 27.2% of the population in Duplin County, compared to 25.8% of the population of NC.

Compared to the 2012 CHA the population age distribution has changed little. Graph 3 shows population distribution for 2014.

![Graph 3. Population Distribution by Age, Number and Percent. (US Census July 1, 2014 Estimates)](source)

**Graph 3. Population Distribution by Age, Number and Percent. (US Census July 1, 2014 Estimates)**


**Elderly Population**

Because the proportion of the Duplin County population age 65 and older is larger than the proportion of that age group statewide, it merits closer examination. The population segment age 65 and older often requires more and different health and social services than the rest of the population, and understanding how that population will change in coming years will be an important consideration in planning to meet future health and human service needs.

The following information regarding the elderly population in Duplin County was extracted from the 2000 and 2010 US Census figures and current projections for the years 2020 and 2030 from the NC Office of State Budget and Management.
The proportion of every major age group in Duplin County age 65 and older will increase through the year 2030. Though all segments of the elderly population will grow, the segment expected to grow by the largest percentage in the 20 years between 2010 and 2030 is the group aged 85 and older, which is predicted to grow by 108% over that period, from 1.5% to 2.7% of the total county population.

The segment of the population expected to grow by the second largest percentage between 2010 and 2030 is the group aged 75-84, which is predicted to grow by 73% over that period, from 4.6% to 7.6% of the total county population. In third position is the segment aged 65-74, which is predicted to grow by approximately 56%, from 8.0% to 11.1% of the total county population.

**Children and Families**

According to the U.S. Census Bureau figures for 2010-2014, there were 22,027 households in Duplin County. A household includes all the people who occupy a housing unit, which may be a single family, multiple families, one person living alone, or any other group of unrelated people who share a living space. A family household consists of a householder and one or more people living in the same household who are related by birth, marriage or adoption. When examining the households in Duplin County, 29% of the households were family households with children under 18 years of age. Sixty-two percent of the family households with children under 18 years were headed by a married couple as compared to 58% in the region, and 65% within the state. Twenty-seven percent were headed by a female householder (no husband present) compared to 34% in the region and 27% in the state. Twelve percent of these households were headed by a male householder (no wife present) compared to 8% in the region and 8% in the state. The head of household does have implications for the care of children as studies have shown that different genders approach health prevention and maintenance differently.

In addition to this data, a further examination of children and families revealed that 52% of the estimated 1,631 grandparents in Duplin County are living with their minor grandchildren and also are financially responsible for their care. Grandparents are considered responsible for grandchildren if they are financially responsible for food, shelter, clothing, day care, etc. for any/all grandchildren. This data also has implications for care as the elderly population has its own unique health challenges. Duplin County’s percentage of grandparents living with and financially responsible for their minor grandchildren is similar to the Region (52%) and the state (48%).

**Military Veterans**

A population group that sometimes needs special health services is military veterans. An analysis of the 2010-2014 population estimates demonstrated that veterans composed 9.2% of Duplin County’s overall adult population in the period cited, which was similar to the state at 9.6% and lower than the Regional percentage of 11.2%. Although it was not home to the largest contingent of veterans, Duplin County did have a higher proportion of veterans in the 35-54 and 65-74 age groups than most other regions presented. Veterans aged 65 and older comprise 42% of Duplin County’s veteran population which is consistent with the Region (42%) and the state (41%). This population was not addressed in the 2012 CHA.
Foreign-Born Population
The foreign-born population in a community is one that potentially does not speak English, and so is of concern to service providers. In NC, the greatest proportion of the increase in foreign-born persons is represented by immigrants of Hispanic origin; however, statewide there has also been an influx of foreign-born immigrants from Southeast Asia. According to single five-year US Census Bureau estimates (2010-2014), there were 7,475 foreign-born residents residing in Duplin County in 2014. Approximately 43% entered the US between 2000 and 2009, and approximately 34% entered between 1990 and 1999.

Linguistic Isolation
“Linguistic isolation”, reflected as an inability to communicate because of a lack of language skills, can be a barrier preventing foreign-born residents from accessing needed services. The US Census Bureau tracks linguistically isolated households according to the following definition:
A linguistically isolated household is one in which no member 14 years and over (1) speaks only English, or (2) speaks a non-English language and speaks English "very well". In other words, all members 14 years old and over have at least some difficulty with English. Among the 3,215 households (15% of all households in Duplin County) that speak a language other than English, the most common language is Spanish (95%). Among the Spanish-speaking households, 55% would be considered “limited English speaking”. Nine percent of Indo-European language speakers and 84% of Asian language speakers would be considered linguistically isolated in Duplin County.
Chapter 3-Health Data Collection

In order to learn about the specific factors affecting the health and quality of life for Duplin County residents, the consultant accessed numerous readily available secondary data sources, representing data from the local, state and national level. All secondary data sources are listed in Appendix A of this report. The author has made every effort to obtain the most current data available at the time the report was prepared.

It is instructive in any community health assessment to relate local county level data to similar data in other jurisdictions. In this assessment, Duplin County data is compared to “like” data describing the state of NC as a whole, as well as to data from ten counties that comprise the Vidant Health primary service area, referred to as the “Region.” Where Duplin County data is compared to this “Region,” the Regional data includes the compilation of data from Beaufort, Bertie, Chowan, Dare, Duplin, Edgecombe, Greene, Hertford, Hyde and Pitt Counties. In other cases, Duplin County data is compared to US-level data, or to Healthy People 2020 goals or other standardized measures. Where appropriate, trend data has been used to show changes in indicators over time, at least since the previous assessment three years ago, but in many cases, as far back as comparable data is available. A summary of the secondary data (Appendix A) and hospital utilization data indicators (Appendix B) is included in the report.

In addition to the secondary data collection, DCHD, Vidant Duplin, and Vidant Health also reached out to Duplin County residents to gain a better understanding of their health status including health issues/diagnoses, preventative health activities, identified health needs, and barriers to health within the county. Feedback was obtained through a survey process. The survey questions are included in Appendix C of this report.

Community Survey Methodology

Duplin County Health Department, Vidant Duplin Hospital and the Vidant Health system partnered to create a community survey designed to receive feedback from community members regarding health. The survey questions were adapted from the survey questionnaire provided by the Community Assessment Guidebook: North Carolina Community Health Assessment Process, published by the NC Division of Public Health, NC Department of Health and Human Services (June 2014).

The survey was implemented online and in paper copies and in English and Spanish. A total of 365 community members responded to the survey. The survey questions were designed to obtain feedback regarding health issues within the community, as well as to better understanding health behaviors and issues experienced by survey participants and their family members. The survey responses have been incorporated throughout this document.

Community Feedback Results

Key Feedback Received from Community Members:

- Participants expressed concerns about economic opportunities within Duplin County.
- The economic issue identified by the majority of participants was low income/poverty.
- Services related to employment were ranked highest among services needing improvement.
When questioned about health providers, the majority of participants identified the need for more pediatricians and geriatricians.

When asked about health education, the health topic identified as needing more attention was substance abuse prevention.

The most common diagnoses among male survey respondents:
- High blood pressure (48.8%)
- High cholesterol (42.9%)
- Overweight/obesity (41.5%)

The most common diagnoses among female survey respondents:
- Overweight/obesity (49.2%)
- High blood pressure (40.7%)
- High cholesterol (36.9%)
Chapter 4- Health Data Results

Overview

Routinely collected mortality and morbidity surveillance data and behavior survey data can be used to describe the health status of Duplin County residents. These data, which are readily available in the public domain, typically use standardized definitions, thus allowing comparisons among county, state and national figures. There is, however, some error associated with each of these data sources. Surveillance systems for communicable diseases and cancer diagnoses, for instance, rely on reports submitted by health care facilities across the state and are likely to miss a number of cases, and mortality statistics are dependent on the primary cause of death listed on death certificates without consideration of co-occurring conditions.

Data for multiple years is included in this report wherever possible. Since comparing data on a year-by-year basis can yield very unstable trends due to the often small number of cases, events or deaths per year. Year-to-year variance in small numbers of events can make dramatic differences in rates that can be misleading. For instance, an increase from two events one year to four the next could be statistically insignificant but result in a calculated rate increase of 100%. Aggregating annual counts over a five year period before calculating a rate is one method used to reduce the effect of small numbers.

Sometimes even aggregating data is not sufficient, so the NC State Center for Health Statistics recommends that all rates based on fewer than 20 events—whether covering an aggregate period or not—be considered “unstable”, and interpreted only with caution. In recent years, the NC SCHS has suppressed mortality rates based on fewer than 20 events in a five-year aggregate period. To be sure that unstable health data do not become the basis for local decision-making, this report will highlight and discuss primarily rates based on 20 or more events in a five-year aggregate period and on 10 or more events in a single year. Where exceptions occur, the narrative will highlight the potential instability of the rate being discussed.

Mortality

Mortality is calculated by dividing the number of deaths due to a specific disease in a given period by the population size in the same period. Mortality is a rate, usually presented as number of deaths per 100,000 residents. Mortality rates are captured by the underlying (or primary) cause of death that is routinely reported on death certificates. However, some error can be associated with cause-of-death classification, since it is sometimes difficult to choose a single underlying cause of death from potentially many co-occurring conditions.

Morbidity

Morbidity as used in this report refers generally to the presence of injury, sickness or disease (and sometimes the symptoms and/or disability resulting from those conditions) in the population. Morbidity data usually is presented as a prevalence percentage, or a count, but not a rate.

Leading Causes of Death

This section lists mortality rates for the top 15 leading causes of death, as well as mortality due to four major site-specific cancers. The list of topics and the accompanying data was retrieved from the NC SCHS County Health Data book. Unless otherwise noted, the numerical data are age-adjusted and represent five-year aggregate periods.
Table 4 compares the number of deaths and mortality rates for the 15 leading causes of death in Duplin County to the state. The causes of death are listed in descending order of rank in Duplin County. Differences between Duplin County and NC mortality rates are illustrated by the red or green percentages.

### Table 4. 2010-2014 Race-Specific and Sex-Specific Age-Adjusted Death Rates by County (CD21B). Source: North Carolina State Center for Health Statistics (NC SCHS), 2016 County Health Data Book website: http://www.schs.state.nc.us/data/databook/

<table>
<thead>
<tr>
<th>Age-Adjusted Rates (2010-2014)</th>
<th>Duplin County No. of Deaths</th>
<th>Duplin County Mortality Rate</th>
<th>Duplin Rate Difference from NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diseases of Heart</td>
<td>583</td>
<td>172.8</td>
<td>+4.2%</td>
</tr>
<tr>
<td>2. Cancer</td>
<td>566</td>
<td>161.6</td>
<td>-5.9%</td>
</tr>
<tr>
<td>3. Chronic Lower Respiratory Diseases</td>
<td>159</td>
<td>48.7</td>
<td>+1.5%</td>
</tr>
<tr>
<td>4. Cerebrovascular Disease</td>
<td>142</td>
<td>43.2</td>
<td>+0.5%</td>
</tr>
<tr>
<td>5. Diabetes Mellitus</td>
<td>92</td>
<td>26.6</td>
<td>+20.4%</td>
</tr>
<tr>
<td>6. All Other Unintentional Injuries</td>
<td>73</td>
<td>23.4</td>
<td>-20.9%</td>
</tr>
<tr>
<td>7. Unintentional Motor Vehicle Injuries</td>
<td>67</td>
<td>22.9</td>
<td>+69.6%</td>
</tr>
<tr>
<td>8. Nephritis, Nephrotic Syndrome, and Nephrosis</td>
<td>75</td>
<td>22.8</td>
<td>+34.1%</td>
</tr>
<tr>
<td>9. Pneumonia and Influenza</td>
<td>56</td>
<td>17.0</td>
<td>-3.4%</td>
</tr>
<tr>
<td>10. Septicemia</td>
<td>51</td>
<td>15.6</td>
<td>+20.0%</td>
</tr>
<tr>
<td>11. Alzheimer’s disease</td>
<td>46</td>
<td>14.7</td>
<td>-49.7%</td>
</tr>
<tr>
<td>12. Suicide</td>
<td>32</td>
<td>11.4</td>
<td>-8.1%</td>
</tr>
<tr>
<td>13. Chronic Liver Disease and Cirrhosis</td>
<td>34</td>
<td>9.9</td>
<td>+2.1%</td>
</tr>
<tr>
<td>14. Homicide</td>
<td>14</td>
<td>5.0</td>
<td>-12.3%</td>
</tr>
<tr>
<td>15. Acquired Immune Deficiency Syndrome</td>
<td>14</td>
<td>4.4</td>
<td>+69.2%</td>
</tr>
</tbody>
</table>

**Heart Disease**

Heart disease is the leading age-adjusted cause of death in Duplin County. The 2010 – 2014 data for Duplin County was above the state average in heart disease deaths. There were 583 deaths attributable to heart disease with a death rate of 172.8 per 100,000 compared to the North Carolina rate of 165.9 per 100,000. Compared to the data in the 2012 CHA there is a decrease in the number of deaths and the mortality rate. There is still a health disparity as African American males have a higher death rate than white males. The pattern of heart disease mortality by race and gender has not changed in since the last CHA.

**Cancer**

Cancer remains the second highest cause of death though there has been a decrease in the rates from the 2012 CHA. **Graph 4** shows the distribution of mortality rates by types of cancer for 2010 - 2014. The highest rate is for lung cancer 45.5, followed by prostate cancer (20.1), breast cancer at 19.8 and colorectal cancer at 13.6. Duplin County is lower than the state rate and the regional rate. The current cancer death rates are less than the 2012 CHA, though the top two lung and prostate cancer remain number one and two.
During the time period 2010-2014, Duplin County experienced a higher mortality rate than the state of NC for the following causes of death:

- Diseases of Heart
- Chronic Lower Respiratory Diseases
- Cerebrovascular Disease
- Diabetes Mellitus
- Unintentional Motor Vehicle Injuries
- Nephritis, Nephrotic Syndrome, and Nephrosis
- Septicemia
- Chronic Liver Disease and Cirrhosis
- Acquired Immune Deficiency Syndrome

It is important to note that many of the leading causes of death in Duplin County have decreased over time. A comparison of the mortality rates (Table 5) for leading causes of death from 2002-2006 to 2010-2014 shows the following causes of death remain higher than the state rates for:

- Heart disease
- Chronic Lower Respiratory Diseases
- Cerebrovascular disease
- Diabetes
- Unintentional Motor Vehicle Injuries
- Kidney Diseases
- Septicemia
- Liver Disease
Percent Change in Leading Causes of Death

<table>
<thead>
<tr>
<th>Duplin County Rank by Descending Overall Age-Adjusted Rate (2010-2014)</th>
<th>Rate in 2002-2006</th>
<th>Rate in 2010-2014</th>
<th>% Change 2002-2006 to 2010-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diseases of Heart</td>
<td>251.8</td>
<td>172.8</td>
<td>-31.4%</td>
</tr>
<tr>
<td>2. Cancer</td>
<td>212.3</td>
<td>161.6</td>
<td>-24.0%</td>
</tr>
<tr>
<td>3. Chronic Lower Respiratory Diseases</td>
<td>42.0</td>
<td>46.7</td>
<td>+11.2%</td>
</tr>
<tr>
<td>4. Cerebrovascular Disease</td>
<td>87.0</td>
<td>43.2</td>
<td>-50.3%</td>
</tr>
<tr>
<td>5. Diabetes Mellitus</td>
<td>34.0</td>
<td>26.6</td>
<td>-21.8%</td>
</tr>
<tr>
<td>6. All Other Unintentional Injuries</td>
<td>28.3</td>
<td>23.4</td>
<td>-17.3%</td>
</tr>
<tr>
<td>7. Unintentional Motor Vehicle Injuries</td>
<td>31.2</td>
<td>22.9</td>
<td>-26.6%</td>
</tr>
<tr>
<td>8. Nephritis, Nephrotic Syndrome, and Nephrosis</td>
<td>29.5</td>
<td>22.8</td>
<td>-22.7%</td>
</tr>
<tr>
<td>9. Pneumonia and Influenza</td>
<td>24.4</td>
<td>17.0</td>
<td>-30.3%</td>
</tr>
<tr>
<td>10. Septicemia</td>
<td>17.2</td>
<td>15.6</td>
<td>-9.3%</td>
</tr>
<tr>
<td>11. Alzheimer’s disease</td>
<td>26.3</td>
<td>14.7</td>
<td>-44.1%</td>
</tr>
<tr>
<td>12. Suicide</td>
<td>13.0</td>
<td>11.4</td>
<td>-12.3%</td>
</tr>
<tr>
<td>13. Chronic Liver Disease and Cirrhosis</td>
<td>8.0</td>
<td>9.9</td>
<td>+23.8%</td>
</tr>
<tr>
<td>14. Homicide</td>
<td>11.9</td>
<td>5.0</td>
<td>-58.0%</td>
</tr>
<tr>
<td>15. Acquired Immune Deficiency Syndrome</td>
<td>7.5</td>
<td>4.4</td>
<td>-41.3%</td>
</tr>
</tbody>
</table>

Table 5. 2010-2014 Ten Leading Causes of Death by County of Residence and Age Group: Ranking, Number of Deaths, and Unadjusted Death Rates per 100,000 Population. Source: North Carolina Center for Health Statistics (NC SCHS), 2016 County Health Data Book website: http://www.schs.state.nc.us/data/databook/

The 2012 CHA ranked only the top 10 causes of death. In comparing the 2012 CHA to the current CHA, the rank order of the top ten diseases has changed a little. Cerebrovascular has dropped down to the fourth cause of death from the third position in 2012 and continues to decline; chronic lower respiratory disease has increase to the number three spot. Diabetes has moved up to the #5 slot and nephritis has increased to #8.

Many risk factors for chronic respiratory diseases have been identified and can be prevented. The most important modifiable risk factors are tobacco use, second hand smoke exposure, other indoor/outdoor air pollutants, allergens, occupational exposure. People with chronic diseases such as heart disease, diabetes are also at risk as they may have high blood pressure, and be overweight.

As the County population ages there is an expected increase in the deaths from chronic disease which may be the cause of the shift in rank order of the causes of death. Chronic lower respiratory disease, nephritis, cerebrovascular, heart disease can be linked to diabetes, Alzheimer’s and septicemia occur more often in the elderly population.

Top Three Leading Causes of Death – Age Groups

In top three leading causes of death for each age group are listed in Table 6 below. The 2012 CHA data compared to the 2016 data shows the following changes in 2016;

- 0-19 year old age group, birth defects dropped out of the top three
- 20-39 year old age group, cancer dropped out of the top three
• 40-64 diabetes and other intension injuries are tied
• 65-84 and the 85+ age group remained the same

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Rank</th>
<th>Cause of Death in Duplin County (2010-2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>00-19</td>
<td>1</td>
<td>Conditions originating in the perinatal period</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Motor vehicle injuries</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Other Unintentional injuries</td>
</tr>
<tr>
<td>20-39</td>
<td>1</td>
<td>Motor vehicle injuries</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Suicide</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Other Unintentional injuries</td>
</tr>
<tr>
<td>40-64</td>
<td>1</td>
<td>Cancer - All Sites</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Diseases of the heart</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Diabetes mellitus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other Unintentional injuries</td>
</tr>
<tr>
<td>65-84</td>
<td>1</td>
<td>Cancer - All Sites</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Diseases of the heart</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Chronic lower respiratory diseases</td>
</tr>
<tr>
<td>85+</td>
<td>1</td>
<td>Diseases of the heart</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Cancer - All Sites</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Cerebrovascular disease</td>
</tr>
</tbody>
</table>

Table 6. 2010-2014 Race-Specific and Sex-Specific Age-Adjusted Death Rates by County (CD21B). Source: North Carolina State Center for Health Statistics (NC SCHS), 2016 County Health Data Book website: http://www.schs.state.nc.us/data/databook/

The leading causes of death for children age birth to 19 years are conditions in the perinatal period. The second and third are motor vehicle injuries and other unintentional injuries. The number one cause of death has a lot to do with the health of the mother before and during pregnancy. Treatment of chronic health conditions such as obesity, diabetes and high blood pressure all impact the health of the baby. The accessibility and affordability of health care prior to and during pregnancy has a huge impact on infant mortality.

**Morbidity**

Data from the NC State Center for Health Statistics has changed how they report communicable disease rates. Reports are summarized by the date of diagnosis. Please note that in HIV/STD Surveillance reports prior to 2013 and Quarterly reports prior to Q2 2016, cases are summarized by date of report, so there are slight differences in the case numbers when comparing this report with previous reports.

**Adult Diabetes**

Diabetes Mellitus is a major contributor to the development of heart disease, cerebrovascular disease and kidney disease and was the 5th leading cause of death in Duplin County during the 2010 – 2014 period. This disease moved up in ranking from the previous CHA data. The average prevalence of diabetes among Duplin County adults was higher than the state for the entire period reviewed (Graph 5). Approximately 14.6% of respondents to the Duplin County Community Health Survey reported having received a diagnosis of diabetes.
Sexually Transmitted Infections – Chlamydia

The chlamydia infection rate in Duplin County has been relatively unchanged since last CHA and has been lower than the state. **Graph 6** shows the change over time as compared to the region and state. In 2014, there were 224 new cases of chlamydia in Duplin County, calculating to a rate of 374.1, compared to 501.9 statewide. Duplin 15-24 year olds who were tested for chlamydia in 2011, 9.1% tested positive, compared to 10.9% in NC.

Determining whether the prevalence of chlamydia infections is changing is difficult because chlamydia reporting is dependent on screening practices. North Carolina State Laboratory of Public Health screening data from local health department clinic cases, provides better data on chlamydia rates. The trend data for chlamydia showed that the positivity rate among women attending family planning clinics (a stable population which receives regular screening) has remained steady over the past five years.
Sexually Transmitted Infections – Gonorrhea

The gonorrhea infection rate in Duplin County has decreased and was lower than both the state and the Region throughout the period reviewed. Graph 7 demonstrates the trends as compared to the region and state. In 2014, there were 43 new cases of gonorrhea in Duplin County, calculating to a rate of 71.8, which was approximately half the state rate of 150.4. The gonorrhea rate was highest among African Americans in 2006-2010 (the last year for which stratified data is available): 459.2 compared to 139.0 overall.


Sexually Transmitted Infections – HIV/AIDS/ Syphilis

HIV disease case reports represent persons who have a confirmed diagnosis with human immunodeficiency virus (HIV). Cases are counted by the date of diagnosis for the initial HIV diagnose. AIDS (acquired immunodeficiency syndrome) case reports by contrast represent only persons infected with HIV infection who have progressed to the more life threatening stage of the disease. Although the numbers are too low to yield stable rates, the rate of newly diagnosed HIV infections in Duplin County was 11.5 for 2013-2015 and the comparable state rate (13.4). In 2015 there were 9 newly diagnosed cases of HIV up from 4 in 2014. When numbers are aggregated over three-year periods to stabilize them, the Duplin County rates are still lower compared to NC and the Region (Graph 8). The principle risk factor for HIV indicated by the total cases was men who have sex with men followed by heterosexual transmission risk rate. At the end of 2015, 160 people in Duplin County were living with HIV, 165 living with AIDS.

Syphilis cases are reported by stage of infection, which is determined through a combination of laboratory testing and patient interviews. Primary and secondary syphilis have very specific symptoms; early latent syphilis is asymptomatic but can be staged with confirmation that the infection is less than a year old. Together these three stages that occur within the first year of infection are called “early syphilis”. The number of early syphilis (primary, secondary, and early latent) cases diagnosed in North Carolina in 2015 was 1,866, with a rate of 18.6 per 100,000 population. This number is an increase from 2014, when 1,137 early syphilis cases were diagnosed (11.5 per 100,000 population). The three year average rate for early syphilis diagnoses between the years 2013-2015 for Duplin County was 5.1 per 100,000
population. This is lower than the overall state rate of 12.3. The number of cases identified in Duplin County was 1 in 2013, 2 in 2014 and 6 in 2015. This dramatic increase in syphilis cases across North Carolina in 2015 is of concern and requires consistent screening of at–risk populations.


Obesity in Adults

North Carolina ranks 22nd highest out of 51 states in adult obesity with 30.1 % of adults classified as obese. The average prevalence of obesity in Duplin County was 31.3% in the period from 2004 through 2012, compared to 32.4 in the Region. The Duplin County percentage was lower than the Region for much of the period presented and increased overall. Approximately 45.8% of respondents to the Duplin County Community Health Survey reported having received a diagnosis of overweight or obesity. A higher proportion of females (49.2) were overweight/obese compared to males (41.5%). There is little data after 2012 (Graph 9) on obesity and it is difficult to compare the trends to the 2012 CHA.

Obesity in Children

There is limited local data on the prevalence of childhood obesity in Duplin County. The previous data reviewed in 2012 CHA was collected for three age groups (2-4, 5-11, 12-18) via NC-NPASS. This particular data has not been updated since 2010 and other local data is unavailable. The Youth Risk Behavioral Survey (YRBS) was completed in 2015 for North Carolina. The childhood obesity rate reported by high school on the YRBS was 16%. This rate continues to gradually increase. The Robert Wood Johnson Foundation publishes an annual report titled *State of Obesity*, in the 2015 report the obesity rate in WIC children age 2-4 within North Carolina in on the increase. In 2012 the rate was at 13.5% and currently the rate is 15%.

More than 15 million US children live in “food insecure” households. Having limited access to adequate food and nutrition due to cost, proximity and other factors. In Duplin County 29% of children experience food insecurity. Lower income children are at increased risk for both food insecurity and obesity. Low income families have limited access to affordable healthier food options by living in rural areas with fewer stores with healthy options and more access to less expensive food options, such as processed or fast foods that are of lower nutritional value, and are calorie dense. The Robert Wood Johnson Foundation’s research demonstrates some families have cycles of food deprivation and overindulgence, where they skip meals due to lack of funds which can contribute to increased risk of obesity. Stress, anxiety and less access to safe, convenient places for physical activity can contribute to increased risk for obesity.

Asthma

While asthma impacts all North Carolinians, African Americans, Native Americans, women, the elderly, and children are among the groups most affected by asthma. There are many issues surrounding the causes and diagnosis of asthma. Asthma can be hard to diagnosis especially under the age of five years. Many factors impact the disease; poverty, lack of health care, literacy levels and environmental triggers, all playing into the progression of the disease. The Duplin County rate of hospital discharges with a primary diagnosis of asthma was higher than the state rate (96.9 vs. 90.9 in 2014) following an increase over previous years (63.2 in 2013). Hospital discharges with a primary diagnosis of asthma among children saw a similar increase in 2014 from 63.9 in 2013 to 183.9 in 2014. The 2014 state rate was 144.6 among children 0-14. The total number of hospital discharges have increased since the last CHA. Approximately 15.7% of Duplin County Community Survey respondents reported that they had received a medical diagnosis of asthma.

Tuberculous

A communicable, potentially deadly disease that usually affects the lungs but can attack other parts of the body as well. TB is treatable and usually curable, it is vital that TB patients follow their treatment regimen and take all medications as directed, for as long as directed, or the disease can recur in a drug-resistant form. The number of cases in Duplin County remain small, but it is noted that changes in these small number can cause rates to appear drastically increased. The TB number of cases in Duplin County for 2012 was 2 with a rate of 3.3, in 2013, 5 cases with a rate of 8.3 and in 2014, 4 cases with a rate of 6.7. The disease rates have not changed as compared to the 2012 CHA.
Maternal and Infant Health

Pregnancy Rates

The NC State Center for Health Statistics data indicates the total pregnancy rates for Duplin County, the region and the state have decreased overall since last CHA assessment (Graph 10). The 2014 pregnancy rate was 80.4 in Duplin County, compared to 66.8 in the Region and 72.1 in NC.

Graph 10. 2006-2014 Pregnancy Rate Trend for Females 15-44. Source: North Carolina State Center for Health Statistics (NC SCHS), 2008 [and other years as noted] County Health Data Books: http://www.schs.state.nc.us/data/databook/

Teen pregnancy rates in Duplin County have fallen overall since CHA in 2012, but remain higher compared to NC (Graph 11). The 2015 teen pregnancy rate (15-19 year olds) was 44.8 in Duplin County, compared to 39.0 for the Region and 30.2 for the state. Duplin County teen pregnancy rates for minorities tend to be higher than the comparable state averages. The 2015 repeat teen pregnancy rate was 24.4 for Duplin and 22.7 for the state.

Pregnancy Risk Factors

Smoking during Pregnancy

The percentage of Duplin County women who smoked during pregnancy between the five year periods from 2011 to 2015 was lower than the state. Duplin County was at 9% as compared to the State at 10.2%. When compared to the region Duplin County had a lower percentage of women who smoked during pregnancy.

Inadequate Prenatal Care

The percentage of women receiving early prenatal care (within the first trimester) was lower in Duplin County, compared to the Region and the State. Among racial groups, a higher proportion of white women got prenatal care in the first trimester (75%) compared to African American women (61%) and Hispanic women (60%) in 2014. The limited number of prenatal providers may create barriers to early access to care. The number of people who are uninsured and not eligible for Medicaid or the Affordable Care Act is higher in Duplin County. Graph 12 illustrates the percent of births to others who received care in their first trimester and shows an increase in prenatal care as compared to the 2012 CHA.

[Graph 12: Prenatal Care]

Pre-Term, Low Weight and Very Low Weight Births

In Duplin County the data from the NCSCHS indicates that over the five year period 2011-2015, the percentage of pre-term births (babies born at less than 37 weeks) was 8.5% compared to the Region at 13.4% and the state at 10%. Low Weight Births (babies weighing less than or equal to 2500 grams or 5.5 pounds at birth) occurred in 8% of live births in Duplin County, compared to the Region (9.9%) and the state (9.0%). The rate of low weight births has declined in Duplin County since 2012 CHA and has remained lower than the state. The highest rate of low weight births is among African American mothers (12.7%).

Very Low Weight Births (babies weighing less than or equal to 1500 grams or 3.3 pounds at birth) occurred in 1.7% of live births in Duplin County, compared to the Region (2.3%) and the
state (1.7%). The highest rate of very low weight births, although unstable, is among African American mothers (2.1%).

**Infant Mortality**

The total infant mortality rate in Duplin County has decreased overall from 9.1 in 2008-2012 to 7.9 in 2011-2015 (Graph 13). The Duplin County infant mortality rate was higher than the state rate of 7.2 but lower than the Regional average (9.8 in 2010-2014). It should be noted that according to the CDC, the 2013 infant mortality rate in NC was the 10th highest in the nation.

When infant mortality data was examined by race, none of the stratified rates were stable and therefore, were suppressed after 2008-2012. Although NC SCHS changed the categories used for racial stratifications in 2006-2010, the infant mortality rate tends to be highest among African American women in Duplin County: 19.4 in 2008-2012 compared to the 9.1 total infant mortality rate.

![Graph 13 NC Infant Death Rates (per 1,000 live births) by PCR and County of Residence: 2005, 2006, and 2002-2006 [and other years as noted] North Carolina State Center for Health Statistics (NC SCHS).http://www.schs.state.nc.us/data/vital.cfm#vitalims](Graph 13 NC Infant Death Rates (per 1,000 live births) by PCR and County of Residence: 2005, 2006, and 2002-2006 [and other years as noted] North Carolina State Center for Health Statistics (NC SCHS).http://www.schs.state.nc.us/data/vital.cfm#vitalims)

**Mental Health**

Aside from an unusually busy 2011 (with 9,765 persons served), the number of Duplin County residents served by the Area Mental Health Program increased gradually between 2006 and 2014. In 2014, 3,056 Duplin County residents were served. Over the same 9-year period the number of Duplin County residents served by State Psychiatric Hospitals decreased by 85%. In 2014, 22 persons were served, compared to a high of 144 in 2007 and 2008. During the same 9-year period, a total of 213 Duplin County residents were served by NC State Alcohol and Drug Abuse Treatment Centers (ADATCs), with the number varying from year to year. Twenty-four individuals were served in 2014. In addition to this data, it is interesting to note that 32% of Duplin County Community Survey respondents reported having received a diagnosis of depression or anxiety.

The LME/MCO serving Duplin County is Eastpointe located in Beulaville. The Eastpointe catchment area is comprised of twelve counties including Bladen, Columbus, Duplin, Edgecombe, Greene, Lenoir, Nash, Robeson, Sampson, Scotland, Wayne, and Wilson Counties.
Eastpointe partners with agencies and licensed therapists in the Provider Network to offer services and supports to people in need in or near their own communities. They ensure the delivery of the right services, in the right amount, at the right time. Also working collaboratively with local non-profits, other governmental agencies, medical providers, and hospitals to create a holistic system of total patient care that recognizes all needs of an individual (http://www.eastpointe.net/) Duplin County does have one Advanced Access Agency that offers access points within the same or next day as well as walk-in appointments.

One of the most consistently replicated findings in the social sciences has been the negative relationship of socioeconomic status (SES) with mental illness and substance use: The lower the SES of an individual is, the higher is his or her risk of a behavioral health disorder and need for services. The Medicaid and uninsured target populations under the purview of the Eastpointe MCO have the highest risk of developing mental health and substance use disorders and needing intervention and care.

According to data from VIDANT Region hospitals seeing 30 or more Duplin County patients over three years ED discharges related to all Mental, Behavioral and Neurological Disorder diagnoses composed 3.7% of all ED discharges over the three-year period cited; IP discharges for mental health diagnoses composed 9.6% of all IP discharges. These diagnoses include psychotic and non-psychotic disorders, and conditions associated with alcohol and drug abuse. Because there is only one Facility-Based Crisis Center within its catchment area, and that is in Robeson County, consumers and residents in crisis are forced to rely upon the hospital and emergency department system in the event of a crisis.

**Health Insurance**

The percent of uninsured in all age groups in Duplin County changed little over the three years examined and remains 26% or greater (Graph 14). Compared to NC at 18%, Duplin County tends to demonstrate higher percentages of uninsured residents in all age groups, notably among adults aged 18-64. The age group 0-18 tends to have a lower percentage of uninsured than the 18-64 age group, due partly at least to NC Health Choice.

![Graph 14](image_url)

*Graph 14 Small Area Health Insurance Estimates, 2009 (and other years as noted). U.S. Census Bureau, Small Area Health Insurance Estimate (SAHIE) Interactive Data Tool website: www.census.gov/did/www/sahie/data/interactive*
Medicaid Eligibility

According to data obtained from the NC Division of Medical Assistance, 20% of Duplin County residents were eligible for Medicaid in 2013, compared to 16.5% in NC and 18.6% in the Region. The total number of people in Duplin County eligible for Medicaid increased annually from 2009 through 2013. The Medicaid programs with the largest proportion of eligible in 2013 were Infants & Children (53%), Disabled (16%), and Medicaid Aid to Families with Dependent Children (AFDC) (13%). In each month of 2013, an average of 1,099 aged individuals were eligible for both Medicaid and Medicare, compared to the NC County average of 1,185 and a Regional average of 828.

North Carolina as a state choose not expand the Medicaid coverage. Since the state hasn’t expanded Medicaid, residents with income below the federal poverty level, do not qualify for Medicaid under the state's current rules, and do not qualify for either health insurance savings program: Medicaid coverage or savings on a private health plan bought through the Marketplace.

Health Care Practitioners

In NC, there is data on the ratio of active health professionals per 10,000 population calculated at the county level. This data was examined for Duplin County, the Region, and the state of NC for five key categories of health care professionals: physicians, primary care physicians, registered nurses, dentists and pharmacists. The period covered is through 2012.

The health professional ratios in Duplin County for physicians and RNs were lower than the Region and the state ratios.

The Duplin County ratios for primary care physicians, dentists, and mental health providers was lower than comparable Region ratios in each category and was remained lower than the state ratios.

The ration of primary care providers per population has not improved since the last CHA report. Dental care is especially challenging for Medicaid enrollees and children as there are limited dental practices which accept Medicaid and/or NC Health Choice clients.

Vidant Duplin Hospital

Vidant Duplin Hospital is a 101-bed, not-for-profit hospital located in Kenansville, North Carolina. It is the only hospital in Duplin County. Vidant Duplin Hospital is a full-service hospital offering a wide range of inpatient and outpatient services, and is fully accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

Duplin County Health Department

Duplin County Health Department provides preventive health services and primary health care for the citizens of the county. The mission of the agency is to provide prevention, promotion and protective measures to ensure the health of the community. The Health Department is the only provider in the county that operates on a sliding fee scale with no co-pay required.

Services include: family planning, maternity care, child health, immunizations, and provides treatment and surveillance for communicable disease, sexually transmitted diseases. The Health Department manages the Women Infants and Children’s (WIC) nutrition program. The Department operates a pediatric healthy weight clinic twice a month, has a registered dietician on staff for medical nutrition therapy and diet counseling. DCHD staff provide targeted case management to high risk Medicaid children and pregnant women. The maternal health staff manages the 17P program which is used to prevent preterm labor for at risk women. The Health
Department participates in the Title X 340b program to provide eligible women and men low cost or free birth control methods. A staff member from Vidant Hospital’s Health Net program is housed at the department. This nurse assists the uninsured with the prescription assistance program provided by the drug manufactures.

**Goshen Medical Center**

Goshen Medical Center (GMC) is a Federally Qualified Rural Health Center (FQRHC) with its main office in Faison and five satellite sites within the county. The FQRHC operates clinics in Beulaville, Kenansville, Wallace, Warsaw, and Greenevers. This organization provides health care in the practice of Family Medicine, Internal Medicine, Obstetrics/GYN and Pediatrics. GMC manages the Breast and Cervical Cancer Program (BCCP) for eligible low income women. Provides services on a sliding fee based on income with co-pay. GMC provides dental care at the Faison location.

**Other Health Services**

**Dialysis**

There are 4 dialysis facilities in four different towns in Duplin County, with a total of 60 hemodialysis stations. No shifts are offered after 5pm.

**Health Facilities**

There is no licensed ambulatory surgical center, no cardiac rehabilitation facility, and no licensed nursing pools in the county.

**Mental Health Services**

There are 14 mental health facilities in a variety of locations offering a range of services: from psychosocial rehabilitation, to supervised living, substance abuse treatment, and vocational programs.

**Home Health/Hospice**

Duplin County has 8 facilities providing home care services. One accredited facility, in Kenansville, offers home care, home care with hospice.

**School Nurses**

The student to school nurse provider increased slightly between SY2011-12 (639:1) and SY2012-13 (665:1) but still lower than the recommended ratio of 750:1 and the state average of 1,177:1.

**Long-Term Care Facilities**

There are a total of 683 beds, or 1 bed for every 9 persons age 65 and older in Duplin County (9,472 persons ≥ 65 in 2014). Because of the predicted growth of the elderly population over the next 15-20 years, these services would be expected to grow in demand. The long-term care facilities in the county are located in a variety of towns across Duplin County. The number of beds in NC-licensed long-term care facilities in Duplin County are:

- Adult Care Homes/Homes for the Aged (6 facilities): 387 beds
- Family Care Homes (4 facilities): 24 beds
Hospital Utilization – Emergency Department

Vidant Health made available extensive utilization data, some of which will be examined in conjunction with health statistics in a later section of this report. Presented here are demographic summaries of the populations that were admitted to the emergency department in recent years. This data includes all individuals who received services within the Vidant Health system, who also had a home address located within Duplin County. This data does not include visitors to this area.

Hospital Utilization – Emergency Department - Gender and Age

Emergency Department utilization by gender demonstrated a slightly increased usage among females, based on the demographics of Duplin County. Females accounted for 57% of all ED discharges over the three year period reviewed (51% of Duplin County population) and males accounted for 43% all ED discharges over the same period (49% of Duplin County population). An analysis of Emergency Department utilization by age reflects that Adult (age 18-64) patients accounted for 61% of all ED visits. This figure is consistent with the proportion of persons in this age group in the overall Duplin County population, 59%. Pediatric (age 0-17) patients accounted for 22% of all ED visits. This figure is slightly lower than the proportion of persons in this age group in the overall Duplin County population, 25%. Senior (age 65+) patients accounted for 17% of all ED visits. This figure is consistent with the proportion of persons in this age group in the overall Duplin County population, 16%.

Hospital Utilization – Emergency Department - Racial and Ethnic Profile

An analysis of Emergency Department utilization by race and ethnic profile shows that African Americans accounted for 44% of all ED visits. This figure is higher than the proportion of persons in this racial group in the overall Duplin County population (26%). Whites accounted for 43% of all ED discharges, which is significantly lower than the proportion of persons in this racial group in the overall Duplin County population (70%). Hispanics accounted for 11% of all ED discharges over the same period, which is less than the overall proportion in Duplin County (22%). It is important to note that in US Census terms, persons of Hispanic/Latino ethnicity may also be of any race. The hospitals do tend to consider Hispanic ethnicity to be a separate racial category.

Hospital Utilization – Emergency Department - Payor Mix

The most common payor groups, in descending order, were:

- Medicaid (33.3%)
- Medicare (22.6%)
- Self Pay (21.1%)
- BCBS Managed Care (13.9%)

Hospital Utilization – Inpatient Admissions

Hospital inpatient admissions were also reviewed for those individuals who experienced an inpatient admission within the Vidant Health system, who also had a home address located within Duplin County.
Hospital Utilization – Inpatient Admissions - Gender and Age

Females accounted for 58% of all inpatient hospitalizations which is higher than the proportion of females within the total Duplin County population (51%). Males accounted for 42% of inpatient hospitalizations which is lower than the proportion of males within the total Duplin County population (49%). One reason for this significant difference may be attributed to age.

Upon closer examination of age as related to inpatient hospitalizations, it is noted that Adult patients (age 18-64 years) accounted for 52% of all inpatient hospitalizations. While this is the largest percentage group based on age, it is important to note that this percentage is lower than the population of 18-64 year old individuals within the total Duplin County population (59%). Pediatric patients (under the age of 18 years) accounted for 16% of inpatient hospitalizations which is lower than the overall population of children under the age of 18 years within Duplin County (25%). The senior population (age 65+) accounted for 32% of all inpatient hospitalizations over the three year period examined. This is an important finding as this utilization is more than 2 times the proportion of the total county population represented by this age group (16%).

Hospital Utilization – Inpatient Admissions - Racial and Ethnic Profile

Examining the inpatient hospitalization data based on race and ethnicity, Whites accounted for 50% of all inpatient hospitalizations which is significantly lower than the proportion of the total county population represented by this racial/ethnic group (70%). African Americans accounted for 32% of all inpatient hospitalizations, which is higher than the composition within the total county population (26%). Hispanics accounted for 16% of all inpatient hospitalizations which is lower than their representation within the overall Duplin County population (22%).

Hospital Utilization – Inpatient Admissions - Payer Mix

The most common payer groups, in descending order, were:

- Medicare (36.5%)
- Medicaid (32.4%)
- BCBS Managed Care (10.6%)
- Self-Pay (7.0%)

Determinates of Health

The NC Department of Commerce annually ranks the state’s 100 counties based on economic well-being and assigns a Tier Designation. The 40 most distressed counties are designated as Tier 1, the next 40 as Tier 2, and the 20 least distressed as Tier 3. The Tier system is incorporated into various state programs, including a system of tax credits (Article 3J Tax Credits) that encourage economic activity and business investment in less prosperous areas of NC. Duplin County has been assigned Tier 2 designation.

Educational Achievement

According to the US Census Bureau and the NC Public Schools data, a comparison of state and county data reveals that Duplin County has a higher population whose highest attainment was a high school diploma (or equivalent) only (29.7% in 2014) as compared to the Region (31.9%) and the state (26.9%). Duplin County also has a lower population who had a
bachelor’s degree or higher (10.4% in 2014) as compared to the Region (16.4%) and the state (27.8%). When comparing Duplin County to the NC average, the 2014-2015 4-year cohort high school graduation rate was lower in Duplin County Schools (83.4%) as compared to the Region (83.5%) and the state (85.6%). High school graduation rates were lowest among students with limited English proficiency (Duplin 28.6%, Region 47.6%, NC 57.8%). The high school graduation rate has improved from the 2012 CHA.

**Educational System**

The number of students enrolled in Duplin County schools has increased each year since last CHA. In 2014-15, 10,116 students were enrolled in Duplin County public schools. Statewide, the number of enrolled students has increased each year from 2009-10 to 2014-15. The high school drop-out rate has decreased overall since SY2009-10, from 4.14 to 2.20 in 2013-14, and was similar to the Region (1.93) and the state (2.28) in 2013-14 (Graph 15).

![High School Drop-Out Rate](image)


Duplin County has a lower population who had a bachelor’s degree or higher (Graph 16) as compared to the region and state. The high school reportable crime rate has increased each year since 2010-11 in Duplin County. In SY2013-14 the county rate of 17.76 was higher than the Regional average of 11.96 and the state rate of 12.37.
Crime and Safety

For the purposes of this assessment, data was examined by individual type and combined as an “index crime rate.” The “index crime rate” is the rate of the sum of violent crime and property crime. Examining trends over time and comparing those to the state and Region reveals the index crime rate in Duplin County was lower than the comparable NC average, as well as the Regional Average, in every year cited (Graph 17). In 2014 the Duplin County crime rate was the lowest it had been over the period examined with 2,326.5 crimes committed per 100,000 population. A closer examination of crimes by type reveals that the majority of crimes committed are property crimes. While property crimes are more common, the Duplin County property crime rate has decreased from a high of 3,513.1 in 2007 to 2,079.3 in 2014. The violent crime rate in Duplin County fluctuates but has demonstrated an overall decrease since the last CHA. In 2014 the violent crime rate was 247.2 in 2014 compared to the state (333.0) and the Region (315.5).
Juvenile Crime

In reviewing data from the NC Department of Public Safety with a specific focus on crimes committed by juveniles (ages 6-17), between 2011 and 2014, the number and rate of complaints of undisciplined youth (ages 6-17) in Duplin County increased though the numbers of these complaints are very small. Over the same period the number and rate of complaints of delinquent youth in the county decreased from a high of 175 and 20.98, respectively, in 2011 to 123 and 14.56 in 2014. During 2013, 27 Duplin County youths were sent to secure detention and in 2014 only 18. There are several programs funded by the Department of Public Safety and the Juvenile Crime Program that address this population: Teen Court, Restitution programs, Psychological services and 4-H.

Domestic Violence

Data from the NC Council for Women indicates the number of domestic violence clients seen by local agencies has increased overall in Duplin County, from a low of 32 in 2007-08 to a high of 372 in 2014-15. The number of services provided (advocacy, counseling, legal help, transportation, etc.) is variable. In 2014-15, 2,917 services were provided to domestic violence clients (not total of individual clients).

Child Maltreatment

Child welfare data from the NC Social Services Data Warehouse at UNC indicates the numbers of children subject to abuse, neglect, or abuse and neglect in Duplin County fluctuated over the period cited. Neglect-only cases composed the most common type of child maltreatment with over 80% of the cases being categorized as neglect-only throughout the period examined. In Duplin County in 2014-15, 73% of the substantiated cases of abuse, neglect, or dependency were white children compared to 57% across the state of NC. Fifty-two percent of the victims were male (NC 48%) and 48% were under the age of 5 (NC 52%). When compared to the 2012 CHA there were more reports for children under the age of 5 years.

Financial /Economic Factors

Income

While revenue indicators give us some idea of economic health from the community economic development standpoint, income measures tell us about the economic well-being of individuals in the community. Among the more useful income measures are personal income, family income, and household income. For comparison purposes, personal income is calculated on a per capita basis; family income and household income are viewed as a median value for a target population.

In Duplin County, the 2014 per capital personal income was $17,677 which was $7,931 below the state average. This figure has only increased slightly since 2010. The 2014 Median household income was $34,787 which is below the state average by $11,906. This figure has also increased slightly since 2010. The 2014 median family income was $43,000 which is $14,328 below the NC average. This figure has increased since the last CHA assessment. The federal poverty guidelines are published annually by the Department of Health and Humans Services and are used to determine eligibility for certain federal programs. The low threshold is 100% of the Federal Poverty Level (FPL) and would apply to a family of one making $11,880
per year. The chart would indicate the percent of sliding fee for individuals from 100-300% of the FPL. This is not a statement of a livable income but merely determines eligibility of individuals for discounted services based on family size. The Health Department and other public agencies use this number to apply a sliding fee to charges.

Employment by Sector

An examination of the various sectors of employment in Duplin County and its jurisdictional comparators for 2014 was completed. This analysis examined the number employed in each sector, the percentage of all employment that the number represents, and the average annual wage for people employed in each sector. It is important to note that many persons working in the Agriculture, Forestry, Fishing and Hunting sector are self-employed. This is a segment traditionally offering few benefits and seasonal income.

The top three employers are manufacturing and are related to the pork and poultry production, feed and processing; Butterball, Smithfield Foods, and House of Raeford.

- The industry in Duplin County that employed the largest percentage of the workforce (30.1%) was manufacturing. This sector earned an average of $618 per week.
- Agriculture, Forestry, Fishing, and Hunting accounted for the second largest percentage of the Duplin County workforce, at 12.6%, followed by Healthcare & Social Assistance, at 9.3%.
- In the Region, the sector employing the largest percentage of the workforce (16.55%) was Health Care and Social Assistance, followed by Retail Trade (12.73%), Manufacturing (11.95%) and Educational Services (11.77%).
- Statewide, the sector employing the largest percentage of the workforce was Health Care & Social Assistance (14.29%), followed by Retail Trade (11.79%) and Manufacturing (11.06%).

Unemployment

According to 2014 data, a calculated annual average of 1,661 individuals were unemployed in Duplin County, calculating to an unemployment rate of 6.3 (Graph 18). The monthly average unemployment rate declined each month from 6.0 in January 2015 and then rose in May-August. By December 2015 it was 5.6 compared to the Region (7.3), the State (5.3), and the Nation (4.8). It is important to note that the relatively low unemployment in Duplin County may be related to the high proportion of workers employed in the Agriculture, Forestry, Fishing & Hunting labor sector, which was perhaps less affected by the recent national recession than were other sectors. The table below illustrates the decline in the unemployment rate over time and shows a decrease since the last CHA in 2012.
Poverty

The poverty rate is the percent of the population (both individuals and families) whose money income (which includes job earnings, unemployment compensation, social security income, public assistance, pension/retirement, royalties, child support, etc.) is below a federally established threshold; this is the “100%-level” figure. The overall poverty rate in Duplin County was higher than the comparable state and Regional rate throughout the period cited. The poverty rate has increased overall since the 2012 CHA data as indicated in Table 7 below. The poverty rate for children remains higher in Duplin County (39.3% in 2010-2014) compared to NC (25.0%) and the Regional average (35.7%). In 2014, an estimated 15,758 individuals, or 27% of the population, were living below the poverty level in Duplin County.

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Table 7. Poverty Rate Trend (2006-2010 and 2007-2011 Five-Year Estimates)
a- Log Into North Carolina (LINC) Database, Topic Group Employment and Income (Data Item 6094); http://data.osbm.state.nc.us/pls/linc/dyn_linc_main.show.
b- US Census Bureau, American Fact Finder, American Community Survey, 2010 American Community Survey 5-Year Estimates, Data Profiles, County, North Carolina (Counties as listed); http://factfinder2.census.gov.
c- US Census Bureau, American Fact Finder, American Community Survey, 2011 American Community Survey 5-Year Estimates, Data Profiles, County, North Carolina (Counties as listed); http://factfinder2.census.gov.
Poverty & Race

The poverty rate among all racial groups in Duplin County except American Indians exceeded the comparable poverty rates in NC throughout most of the period cited. The poverty rate in Duplin County among African Americans and Hispanics increased in each period shown in Graph 19.


The poverty rate trends (Graph 20) comparing the region shows that Duplin has a higher rate in the white and Hispanic population. The region shows a higher percentage of Blacks in poverty.

Duplin County’s poverty rate is trending upward for all ages and is higher than the region and the state (Graph 21). Based on the community survey results the public indicated that the issues that most affect quality of life were low income and poverty. The survey respondents ranked higher paying employment and the availability of employment as the top two things that needed improvement in the community.

**Graph 21.** Poverty Status in the Past 12 Months, 2006-2010 [and other years as noted]  
American Community Survey 5-Year Estimates (S1701). U.S. Census Bureau American Fact Finder: [http://factfinder2.census.gov](http://factfinder2.census.gov)

**Children Receiving Free or Reduced-Price School Lunch**  
Other data corroborate the impression that children, especially the very young, bear a disproportionate burden of poverty, and that their burden is increasing. One measure of poverty among children is the number and/or percent of school-age children who are eligible for and receive free or reduced-price school lunch (Graph 22).

To be eligible for free lunch under the National School Lunch Act students must live in households earning at or below 130 percent of the Federal poverty guidelines. To be eligible for reduced-price lunch students must live in households earning at or below 185 percent of the Federal poverty guidelines.

In Duplin County, a higher percentage of students have been identified as “needy”, compared to the Region and the State. In SY2014-15, 77% of Duplin County students were “needy” compared to 53% in NC and 67% in the Region. This trend has not changed since the 2012 CHA.
Housing Costs

The estimated median monthly mortgage cost among Duplin County homeowners, which has risen since 2010, was $1,045 in 2014. This cost is $227 lower than the NC median. The estimated median gross monthly rent among Duplin County renters has risen since 2010 and was $626 in 2014. This figure is $164 lower than the NC median.

A closer examination of housing costs as related to percentage of monthly income reflects potential challenges individuals face with regard to balancing cost of housing with other expenditures. The percentage of Duplin County homeowners spending more than 30% of their monthly income on housing has decreased from 36% in 2010 to 32% in 2014 (compared to 31% in NC in 2014). The percentage of renters spending more than 30% of their income on housing has increased from 34% in 2010 to 42% in 2014 (compared to 46% in NC in 2014). A difficult trend to assess is homelessness, every January, the NC Coalition to End Homelessness conducts a point-in-time count of homeless individuals. In Duplin County, fewer than 10 individuals are included in any count between 2009 and 2015. Only 1 individual was counted in 2015.

Vehicular and Alcohol-Related Motor Vehicle Crashes

Unintentional motor vehicle deaths includes traffic and non-traffic accidents; on-or-off road involving motorcycles; cars; trucks; buses; ATVs; industrial; agricultural and construction vehicles and bikes and pedestrians when colliding with any of the vehicles mentioned. Individuals at highest risk of death form motor vehicle accidents usually are: teens and older adults; involving excessive speeds; not wearing seat belts; and are accidents with inexperienced drivers or impaired drivers. According to the NC Highway Safety Research Center, over the period from 2006 through 2013, an annual average of 5.4% of all traffic crashes in Duplin County were alcohol-related. Statewide the comparable figure was 5.2% and it was 6% across the Region.
Chapter 5- Prevention and Health Promotion

Responses from the community health survey help guide the priority setting for the county. Questions were asked regarding issues that most effect the quality of life in Duplin County, services that need improvement, health behaviors about which residents need more information and overall health. The community survey respondents listed low income and poverty as the primary issue that most affected the quality of life in Duplin County, substance use and environmental quality as second highest and lack of or inadequate health insurance as number three.

It is well documented in the report the need for more health care practices to serve the community but also it must be affordable. The Health Department and Federal Qualified Rural Health Centers predominately serve the low income population. The need for quality primary care and prenatal care cannot be underestimated. The Health Department, Goshen Medical Center and Vidant Duplin have primary care and prenatal programs. While some progress has been made to increase access to care, the need is still great and there is more work to be completed. The need to identify those at risk and provide affordable care is crucial.

For almost every health issue mentioned in this report the statistics for the minority population are higher than the white population. There are many socioeconomic factors that contribute to this disparity including a higher number of minorities living at or below poverty level, cultural factors and ability to access health care. A priority is to focus on prevention education and initiatives that address the top causes of death. Two-thirds of the amount of chronic disease and one-third of cancers can be prevented by lifestyle changes in the way people eat and move.

Screenings and education on the following issues have been a priority for both Vidant Duplin Hospital and Duplin County Health Department:

- **Cancer**: Promotion of colon-rectal cancer screening for people age 50 and over. Breast cancer awareness fairs and monthly breast cancer survivor group meetings at Vidant Hospital. Community presentations on breast cancer awareness, Pink Power and Relay for Life community events.

- **Diabetes**: Education for community through the DCHD’s monthly diabetic classes and initiative to provide A1c testing, monitors and strips to low income patients. One-on-one nutrition counseling by DCHD and Vidant Registered Dieticians.

- **Heart Disease/Stroke**: Blood pressure, cholesterol screenings and stroke awareness education provided monthly at various community locations and events.

- **Access to care**: Health Net is a program funded through Vidant and in collaboration with DCHD, to identify people with no insurance and limited resources to access available free prescription assistance, and specialist referrals.

- **Substance Use/ Mental Health**: Opioid overdose prevention and education programs and distribution of naloxone to those at risk for overdose. Community mental health kiosk available at the DCHD to provide access to information and the mental health crisis team if needed. Community focused mental health speaker lunch and learns provided monthly at Vidant.

- **Vidant has Breastfeeding Friendly designation**, DCHD has a breastfeeding room and support staff. DCHD provides case management for Medicaid and non-Medicaid high risk pregnant women and children, provides access to preterm labor intervention medications to women as referred by their OB provider.
Chapter 6- Community Concerns/ Priorities

In June of 2016, key stakeholders in Duplin County were convened. Assessment results were shared and a formal process was utilized to determine Duplin County’s community health priorities. Assessment data (primary and secondary) were shared with key stakeholders. Stakeholders reviewed the information, asked questions, and shared additional data from their respective organizations. Following a comprehensive review of all data provided, each participant was asked to identify key trends for further evaluation. A list was developed which included 15 potential priorities for further discussion and consideration.

Duplin County Populations At-Risk for Poor Health Outcomes

Primary and Secondary data gathered identifies the following groups as at-risk or populations with health disparities:

- The uninsured and under-insured
- Persons living in poverty
- Minorities
- Males, who generally have poorer health outcomes than females
- Persons with poor access to transportation, because travel may be necessary to reach certain healthcare providers
- The elderly, because healthcare services may not be sufficient to accommodate their needs as their population grows
- Pregnant women and the children they carry, since rates of early prenatal care are low

The following criteria were used to evaluate the potential health priorities:

1. **The Magnitude of the Problem** – How many persons does the problem affect?

2. **Seriousness of the Consequences** – What degree of disability or premature death occurs because of the problem? What are the potential burdens to the community such as social or economic burdens?

3. **Feasibility of Correcting the Problem** – Is the problem amenable to interventions? Is the problem preventable? Is the community concerned about the problem? Is the intervention feasible scientifically as well as acceptable to the community?

Prioritization Process

Following additional discussion, participants were then guided through a nominal group technique (NGT) where decision-making could be finalized. The nominal group technique was utilized to assure everyone’s feedback and opinions were considered (as opposed to traditional voting, where the majority rules). During this process, some priorities were combined as appropriate to finalize the top health priorities for Duplin County. As a result of this process, the committee agreed on the following four priorities.
Duplin County Health Priorities for 2016-2019

- Access to Care
- Substance Abuse / Mental Health
- Chronic Disease
- Prevention / Healthy Lifestyles

The Duplin County Health Department, Vidant Duplin and the Population Health Coalition will work to develop action plans addressing the top community health issues. The Population Health Coalition will participate in the development of actions plans in 2017.
Appendix A: Secondary Data Sources

Sheila S. Pfaender, Public Health Consultant, accessed data from the following sources to obtain and analyze secondary data:

- 2015 County Health Rankings & Roadmaps. County Health Rankings and Roadmaps website.
- America's Health Rankings: http://www.americashealthrankings.org/
- Authorized Medicaid and Health Choice Enrollment Reports
- Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System & National Diabetes Surveillance System
- Child Welfare, Reports of Abuse and Neglect section
- KIDS COUNT Data Center, a Project of the Annie E. Casey Foundation website: http://datacenter.kidscount.org/
- Highway Safety Research Center at the University of North Carolina at Chapel Hill
- National Center for Health Statistics
- North Carolina Administrative Office of the Courts (AOC)
- North Carolina Coalition to End Homelessness
- North Carolina Department of Administration, Council for Women
- North Carolina Department of Commerce
- North Carolina Department of Health and Human Services
- North Carolina Department of Justice, State Bureau of Investigation
- North Carolina Department of Public Instruction, Data and Statistics
- North Carolina Department of Public Safety, Juvenile Justice
- North Carolina Department of Revenue
- North Carolina Division of Motor Vehicles (DMV)
- North Carolina Electronic Disease Surveillance System (NC EDSS)
- North Carolina Employment Security Commission
- North Carolina Nutrition and Physical Activity Surveillance System (NC-NPASS)
- North Carolina Office of State Budget and Management
- North Carolina State Center for Health Statistics (NC SCHS)
- North Carolina Vital Statistics
- Public Schools of North Carolina
• Sheps Center for Health Services Research, North Carolina Health Professions Data System: [http://www.shepscenter.unc.edu/hp/publications.htm](http://www.shepscenter.unc.edu/hp/publications.htm)
• State Laboratory of Public Health (SLPH). The SLPH provides testing for the Infertility Prevention Project (IPP), which includes testing for chlamydia.
• U.S. Census Bureau, American Fact Finder
• Vidant Health Hospital Utilization Data
Appendix B: Hospital Utilization Data Fields

Hospital Code (to identify specific Vidant Hospital – ie. VMC, VEDG, etc)
Encounter # (to serve as unique identifier)
Admit FY
Discharge FY
LOS
Gender
Race/Ethnic Group
Age
Age Group (Pediatric, Adult, Geriatric)
County
City
Numerical Zip Code
Payor Category
DRG Code / DRG Description
ICD9 Diagnosis Code / ICD9 Diagnosis Description
ICD9 Procedure Code / ICD9 Procedure Description
Appendix C: Primary Data Survey Questions
Duplin County Community Health Survey

Do you live in Duplin County?

___ Yes - What town do you live in? _______________

___ No - We appreciate your time but need to ask that you do not complete the survey

PART 1: Quality of Life Statements

Please tell us whether you “strongly disagree”, “disagree”, “neutral”, “agree” or “strongly agree” with each of the next 6 statements.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Circle the number that best represents your opinion of each statement below.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How do you feel about this statement, “There is good healthcare in Duplin County”? Consider the cost and quality, number of options, and availability of healthcare in the county.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. How do you feel about this statement, “Duplin County is a good place to raise children”? Consider the quality and safety of schools and child care programs, after school programs, and places to play in this county.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. How do you feel about this statement, “Duplin County is a good place to grow old”? Consider the county’s elder-friendly housing, transportation to medical services, recreation, and services for the elderly.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. How do you feel about this statement, “There is plenty of economic opportunity in Duplin County”? Consider the number and quality of jobs, job training/higher education opportunities, and availability of affordable housing in the county.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5. How do you feel about this statement, “Duplin County is a safe place to live”? Consider how safe you feel at home, in the workplace, in schools, at playgrounds, parks, and shopping centers in the county.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
6. How do you feel about this statement, “There is plenty of help for people during times of need in Duplin County”?
Consider social support in this county: neighbors, support groups, faith community outreach, community organizations, and emergency monetary assistance.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**PART 2: Community Improvement**

The next set of questions will ask about community problems, issues, and services that are important to you. Remember your choices will not be linked to you in any way.

7. Please look at this list of community issues. **In your opinion, which one issue most affects the quality of life in Duplin County?** (Please choose only one.)

   a. ___ Pollution (air, water, land)  
   b. ___ Dropping out of school  
   c. ___ Low income/poverty  
   d. ___ Homelessness  
   e. ___ Lack of/ inadequate health insurance  
   f. ___ Hopelessness  
   g. ___ Discrimination/ racism  
   h. ___ Lack of community support  
   i. ___ Neglect and abuse (Specify type)  
   j. ___ Elder abuse  
   k. ___ Child abuse  
   l. ___ Domestic Violence  
   m. ___ Violent crime (murder, assault)  
   n. ___ Theft  
   o. ___ Rape/sexual assault  
   p. ___ Other: __________________  
   q. ___ None  

8. **In your opinion, which one of the following services needs the most improvement in your neighborhood or community?** (Please choose only one.)

   a. ___ Animal control  
   b. ___ Child care options  
   c. ___ Elder care options  
   d. ___ Services for disabled people  
   e. ___ More affordable health services  
   f. ___ More affordable/better housing  
   g. ___ Number of health care providers  
   h. ___ Number of health care providers  
   l. ___ Healthy family activities  
   m. ___ Positive teen activities  
   n. ___ Transportation options  
   o. ___ Availability of employment  
   p. ___ Higher paying employment  
   q. ___ Road maintenance  
   r. ___ Road safety  
   s. ___ Other: __________________  
   t. ___ None  
   u. ___ Culturally appropriate health services/Interpreters  
   v. ___ Counseling/ mental health/ support groups  
   w. ___ Better/ more recreational facilities (parks, trails, community centers)
PART 3: Health Information

9. In your opinion, which one health behavior do people in your own community need more information about? (Please choose only one.)

   a. ___ Eating well/ nutrition  
   b. ___ Exercising/ fitness  
   c. ___ Managing weight  
   d. ___ Going to a dentist for check-ups/ preventive care  
   e. ___ Going to the doctor for yearly check-ups and screenings  
   f. ___ Getting prenatal care during pregnancy  
   g. ___ Getting flu shots and other vaccines  
   h. ___ Preparing for an emergency/disaster  
   i. ___ Using child safety seats  
   j. ___ Using seat belts  
   k. ___ Driving safely  
   l. ___ Quitting smoking/ tobacco use prevention  
   m. ___ Child care/ parenting  
   n. ___ Elder care  
   o. ___ Caring for family members with special needs/ disabilities  
   p. ___ Preventing pregnancy and sexually transmitted disease (safe sex)  
   q. ___ Substance abuse prevention (ex: drugs and alcohol)  
   r. ___ Suicide prevention  
   s. ___ Stress management  
   t. ___ Anger management  
   u. ___ Domestic violence prevention  
   v. ___ Crime prevention  
   w. ___ Rape/ sexual abuse prevention  
   x. ___ Other: ___________________  
   y. ___ None

10. Where do you get most of your health-related information? (Please choose only one.)

   a. _____ Friends and family  
   b. _____ Doctor/nurse  
   c. _____ Pharmacist  
   d. _____ Church  
   e. _____ Internet  
   f. _____ My child’s school  
   g. _____ Hospital  
   h. _____ Health department  
   i. _____ Help lines  
   j. _____ Books/magazines  
   k. _____ Other _____

11. What health topic(s) / disease(s) would you like to learn more about?

12. Which of the following health topics do you think your child/children need(s) more information about? (Check all that apply.)

   a. ___ Dental hygiene  
   b. ___ Nutrition  
   c. ___ Eating Disorders  
   d. ___ Asthma management  
   e. ___ Diabetes management  
   f. ___ Tobacco  
   g. ___ STDs  
   h. ___ Sexual intercourse  
   i. ___ Alcohol  
   j. ___ Drug Abuse  
   k. ___ Reckless driving / speeding  
   l. ___ Mental health issues  
   m. ___ Suicide prevention  
   n. ___ Other: ___________________
13. Would you say that, in general, your health is…

____ Excellent
____ Very good
____ Good
____ Fair
____ Poor
____ Don’t know/Not sure

14. Have you ever been told by a doctor, nurse, or other health professional that you have any of the health conditions? (DK= Don’t know/ Not sure)

a. Asthma
   ____ Yes
   ____ No
   ____ DK
b. Depression or anxiety
   ____ Yes
   ____ No
   ____ DK
c. High blood pressure
   ____ Yes
   ____ No
   ____ DK
d. High cholesterol
   ____ Yes
   ____ No
   ____ DK
e. Diabetes (not during pregnancy)
   ____ Yes
   ____ No
   ____ DK
f. Osteoporosis
   ____ Yes
   ____ No
   ____ DK
g. Overweight/Obesity
   ____ Yes
   ____ No
   ____ DK
h. Angina/ heart disease
   ____ Yes
   ____ No
   ____ DK
i. Cancer
   ____ Yes
   ____ No
   ____ DK

15. Which of the following preventive procedures have you had in the past 12 months?

___ Mammogram (if woman) ___ Pap smear (if woman)
___ Prostate cancer screening (if man) ___ Flu shot
___ Colon/rectal exam ___ Blood pressure check
___ Blood sugar check ___ Skin cancer screening
___ Cholesterol screening ___ Vision screening
___ Hearing screening ___ Cardiovascular screening
___ Bone density test ___ Dental cleaning/X-rays
___ Physical exam ___ None of the above

16. In the past 30 days, have there been any days when feeling sad or worried kept you from going about your normal business?

____ Yes
____ No
____ Don’t know/ Not sure
17. During a normal week, other than in your regular job, do you engage in any physical activity or exercise that lasts at least a half an hour?

____ Yes  ____ No (skip to question #20)  ____ Don’t know/ Not sure

18. Since you said yes, how many times do you exercise or engage in physical activity during a normal week? _______ (Write number)

19. Where do you go to exercise or engage in physical activity? (Check all that apply.)

a.____ YMCA/Wellness Center  d.____ Private gym
b.____ Park  e.____ Home
c.____ Public Recreation Center  f.____ Other: _____________

20. Since you said “no”, what are the reasons you do not exercise for at least a half hour during a normal week? (Check all that apply.)

a.____ My job is physical or hard labor
b.____ Exercise is not important to me.
c.____ I don’t have access to a facility that has the things I need, like a pool, golf course, or a track
d.____ I don’t have enough time to exercise.
e.____ I would need child care and I don’t have it.
f.____ I don’t know how to find exercise partners.
g.____ I don’t like to exercise.
h.____ It costs too much to exercise
i.____ There is no safe place to exercise.
j.____ I’m too tired to exercise.
k.____ I’m physically disabled.
l.____ I don’t know
m.____ Other _____________

21. How many times each week do you eat a meal outside the home (restaurants, fast food, sporting event, etc.)?

_____ 2-3 times each day
_____ once each day
_____ 3-5 times per week
_____ 1-2 times per week
_____ 2-3 times per month
_____ rarely/never
22. In the previous 12 months, were you ever worried about whether your family’s food would run out before you got money to buy more?

____ Yes _____ No

23. Have you been exposed to secondhand smoke in the past year?

___ Yes _____ No (Skip to question #25)

___ Don’t know/ Not sure (Skip to question #25)

24. If yes, where do you think you are exposed to secondhand smoke most often? (Please choose only one)

   a.____ Home                   e.____ School
   b.____ Workplace              f.____ Other: ___________________________
   c.____ Hospitals              g.____ I am not exposed to secondhand smoke.
   d.____ Restaurants

25. Do you currently smoke? (Include regular smoking in social settings.)

____ Yes   ____ No (If no, skip to question #27)

26. If yes, where would you go for help if you wanted to quit?

   a.____ Quit Line NC
   b.____ Doctor
   c.____ Church
   d.____ Pharmacy
   e.____ Private counselor/therapist
   f.____ Health Department
   g.____ I don’t know
   h.____ Other: ___________________
   i.____ Not applicable; I don’t want to quit

27. Have you had a flu vaccine in the past year?

____ Yes   ____ No   ____ Don’t know/not sure
PART 5: Access to Care/Family Health

28. Where do you go most often when you are sick? (Please choose only one.)

   _____ Doctor's office          _____ Medical Clinic
   _____ Health department        _____ Urgent Care Center
   _____ Hospital                 _____ Other: ________________

29. Do you currently have any of the following forms of health insurance or health care coverage? (Check all that apply.)

   □ Health insurance my employer provides
   □ Health insurance my spouse's employer provides
   □ Health insurance my school provides
   □ Health insurance my parent or my parent's employer provides
   □ Health insurance I bought myself
   □ Health insurance through Health Insurance Marketplace
   □ Medicaid
   □ Medicare
   □ Veteran's Administration benefits
   □ Other (please specify) ________________
   □ No health insurance plan of any kind

30. In the past 12 months, did you have a problem getting the health care you needed for you personally or for a family member from any type of health care provider, dentist, pharmacy, or other facility?

   _____ Yes   _____ No (Skip to question #33)   _____ Don’t know/ Not sure

31. Since you said “yes,” what type of provider or facility did you or your family member have trouble getting health care from? (Check all that apply.)

   _____ Dentist
   _____ General practitioner
   _____ Eye care/ optometrist/ ophthalmologist
   _____ Pharmacy/ prescriptions
   _____ Pediatrician
   _____ OB/GYN
   _____ Health department
   _____ Hospital          _____ Specialist (What type?) ________________
   _____ Urgent Care Center   _____ Other _____________________________
   _____ Medical Clinic
32. Which of these problems prevented you or your family member from getting the necessary health care? (Check all that apply.)

a. ___ No health insurance.
b. ___ Insurance didn’t cover what I/we needed.
c. ___ My/our share of the cost (deductible/co-pay) was too high.
d. ___ Doctor would not take my/our insurance or Medicaid.
e. ___ Hospital would not take my/our insurance.
f. ___ Pharmacy would not take my/our insurance or Medicaid.
g. ___ Dentist would not take my/our insurance or Medicaid.
h. ___ No way to get there.
i. ___ Medical office not open when needed
j. ___ Didn’t know where to go.
k. ___ Couldn’t get an appointment.
l. ___ The wait was too long.
m. ___ Medical, Office not open when needed
n. ___ Other: ____________________

33. If a friend or family member needed counseling for a mental health or a drug/alcohol abuse problem, who is the first person you would tell them to talk to?

a. ___ Private counselor or therapist  e. ___ Doctor
b. ___ Support group (e.g., AA, Al-Anon)  f. ___ Minister/religious official
c. ___ School counselor    g. ___ Other: _____________________
d. ___ Don’t know

PART 6: Emergency Preparedness

34. Does your household have working smoke and carbon monoxide detectors? (Please choose only one.)

___ Yes, smoke detectors only  ___ Yes, carbon monoxide detectors only
___ Yes, both  ___ No
___ Don’t know/Not sure

35. Does your family have a basic emergency supply kit?
(These kits include water, non-perishable food, any necessary prescriptions, first aid supplies, flashlight and batteries, non-electric can opener, blanket, etc.)

___ Yes  ___ No (Skip to question 37)
___ Don’t know/Not sure (Skip to question 37)
36. If yes, how many days do you have supplies for? _______ (Write number of days)

37. What would be your main way of getting information from authorities in a large-scale disaster or emergency? (Please choose only one.)

___ Television
___ Internet
___ Social networking site
___ Text message (emergency alert system)
___ Other (describe)__________________
___ Don’t know/ Not sure

38. If public authorities announced a mandatory evacuation from your neighborhood or community due to a large-scale disaster or emergency, would you evacuate?

___ Yes (skip to question #40)
___ No (go to question #39)
___ Don’t know/ Not sure (go to question #39)

39. What would be the main reason you might not evacuate if asked to do so? (Please choose only one.)

___ Lack of transportation
___ Concern about leaving property behind
___ Concern about family safety
___ Concern about traffic jams and inability to get out
___ Health problems (could not be moved)
___ Other (describe)__________________
___ Don’t know/ Not sure
PART 7: Demographic Questions

40. How old are you? (Mark age category.)

_____ 15 - 19  _____ 35 - 39  _____ 55 - 59  _____ 75 - 79
_____ 20 - 24  _____ 40 - 44  _____ 60 - 64  _____ 80 - 84
_____ 25 - 29  _____ 45 - 49  _____ 65 - 69  _____ 85 or older
_____ 30 - 34  _____ 50 - 54  _____ 70 - 74

41. Are you Male or Female?

_____ Male  _____ Female

42. a) Are you of Hispanic, Latino, or Spanish origin?

_____ Yes  _____ No (If no, skip to #43)

42. b) If yes, are you:

_____ Mexican, Mexican American, or Chicano
_____ Puerto Rican
_____ Cuban
_____ Other Hispanic or Latino (please specify)__________

43. What is your race? (Check all that apply.) (If other, please write in the person’s race.)

_____ White
_____ Black or African American
_____ American Indian or Alaska Native (List tribe(s) including Lumbee)__________
_____ Asian Indian
_____ Other Asian including Japanese, Chinese, Korean, Vietnamese, and Filipino/a: (write
in race)_________________
_____ Pacific Islander including Native Hawaiian, Samoan, Guamanian/ Chamorro:
(write in race)_________________
_____ Other race not listed here: (write in race)_________________

44. a). Do you speak a language other than English at home? (If no, skip to #45.)

_____ Yes  _____ No

44. b). If yes, what language do you speak at home? __________________________

45. What is your marital status?

_____ Never Married/Single  _____ Divorced
_____ Married  _____ Widowed
_____ Unmarried partner  _____ Separated
_____ Other
46. **What is the highest level of school, college or vocational training that you have finished?**  
(Please choose only one.)

- _____ Less than 9th grade
- _____ 9-12th grade, no diploma
- _____ High school graduate (or GED/ equivalent)
- _____ Associate’s Degree or Vocational Training
- _____ Some college (no degree)
- _____ Bachelor’s degree
- _____ Graduate or professional degree
- _____ Other: ___________________________

47. **What was your total household income last year, before taxes? Let me know which category you fall into.**

- _____ Less than $10,000
- _____ $10,000 to $14,999
- _____ $15,000 to $24,999
- _____ $25,000 to $34,999
- _____ $35,000 to $49,999
- _____ $50,000 to $74,999
- _____ $75,000 to $99,999
- _____ $100,000 or more

48. **How many people does this income support? _________**

(Note: If you are paying child support but your child is not living with you, this still counts as someone living on your income.)

49. **What is your employment status?**

- a. _____ Employed full-time
- b. _____ Employed part-time
- c. _____ Retired
- d. _____ Armed forces
- e. _____ Unemployed for more than 1 year
- g. _____ Disabled
- h. _____ Student
- i. _____ Homemaker
- j. _____ Self-employed
- k. _____ Unemployed for 1 year or less

50. **Do you have access to the Internet?**

- _____ Yes
- _____ No
- _____ Don’t know/ Not sure
Appendix D: Population Health Coalition Members

Tristan Brunner, Duplin County Partnership for Children

Christy Cantrell, Vidant Duplin Hospital

Deniece Cole, Spiritual Destiny

Ila Davis, Duplin County Health Department

Sheila Grady, Vidant Home Health and Hospice

Matt Gitzinger, Vidant Duplin Hospital

Heather Griffin, Duplin County Preparedness Coordinator

Allyson Halso, James Sprunt Community College (JSCC), Vista volunteer

Meghan Lacks, Goshen Medical Center

Suzanne Lewis, Eastpointe, LME

Amber Martinez, JSCC, Single Stop

Shelisa Howard-Martinez, Care Share Health Alliance

Gloria McDuffie, public member

Karin McDuffie, public member

Jeralene Merritt, Duplin Christian Outreach Ministries

Christina Miller, Vidant

Arlin Montalvo, Goshen Medical Center

Nanette Outlaw, Duplin County DSS

Rosemarie Oats, Duplin County Transportation

Amanda Peterson, Vidant

Sue Proctor, SAFE, Domestic Violence Center

Beth Ricci, DCHD

Tonya Todd, Vidant

Angel Venecia, DSS

Sue Wells, Vidant
## Appendix E: Health Resources

### Mental Health/Dialysis

**VIDANT Hospitals CHNA - Demonstration Project - SECONDARY DATA WORKBOOK**

**Eastern NC County Comparisons**

### Other Licensed Health Care Facilities

**Duplin As of 03/2016**

**NC-Licensed Mental Health Facilities (G.S. 122C)**

<table>
<thead>
<tr>
<th>Name of Facility/Operator</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Ground - Rose Hill/New Dimension Group, LLC</td>
<td>Rose Hill</td>
</tr>
<tr>
<td>Connolly Counseling Inc. 1/Connolly Counseling, Inc.</td>
<td>Kenansville</td>
</tr>
<tr>
<td>Hargrove House/White OakHomes II, Inc.</td>
<td>Mt. Olive</td>
</tr>
<tr>
<td>Lighthouse PSR/Carolina Residential Services, Inc.</td>
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<td>Magnolia Group Home/Duplin Sampson Group Homes, Inc.</td>
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<td>Neuse Enterprises - Omega/Neuse Enterprises, Inc.</td>
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<tr>
<td>New Dimension Group/New Dimension Group, LLC</td>
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<td>SCI-Duplin House/Skill Creations, Inc.</td>
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<td>Southeast Day Program</td>
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<td>Ultimate Family Care - 5/Ultimate Family Care Home, Inc.</td>
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<td>Ultimate Family Care - 6</td>
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<td>Warsaw Group Home/Duplin Sampson Group Homes, Inc.</td>
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<td>White Oak Group Home I/White Oak Homes II, Inc.</td>
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### Dialysis Facilities

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<tr>
<td>Southeastern Dialysis Kenansville</td>
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<td>RAI Care Centers Warsaw</td>
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<td>Wallace Dialysis</td>
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<td>Mount Olive Dialysis</td>
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### Other NC-Licensed Healthcare Facilities

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<td>Licensed Ambulatory Surgical Facilities</td>
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<tr>
<td>Licensed Cardiac Rehabilitation Facilities</td>
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<tr>
<td>Licensed Nursing Pools</td>
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Sources:
- NC Department of Health and Human Services, Division of Health Services Regulation (DHSR), Licensed Facilities, Mental Health Facilities (G.S. 122C) (by County); [http://www.ncdhhs.gov/dhsr/reports.htm](http://www.ncdhhs.gov/dhsr/reports.htm)
## Licensed Home Care, Home Health and Hospice

<table>
<thead>
<tr>
<th>Facility Name</th>
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<tr>
<td>A Primary Choice Inc.</td>
<td>Kenansville</td>
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<tr>
<td>AssistedCare, Inc.</td>
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</tr>
<tr>
<td>Duplin County Services for the Aged</td>
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</tr>
<tr>
<td>Interim HealthCare</td>
<td>Wallace</td>
</tr>
<tr>
<td>Omega Home Care Agency</td>
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<td>ResCare Home Care</td>
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<td>Unified Nursing Care Services, LLC</td>
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<tr>
<td>Vidant Home Health and Hospice</td>
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Source - NC Department of Health and Human Services, Division of Health Services Regulation (DHSR), Licensed Facilities, Home Care Only, Home Care with Hospice, Home Health Only, and Home Health with Hospice Facilities (by County); http://www.ncdhhs.gov/dhsr/reports.htm
## NC-Licensed Adult Care Facilities

### Vidant Hospitals CHNA - Demonstration Project - Secondary Data Workbook

#### Eastern NC County Comparisons

### NC-Licensed Adult Care Facilities

#### As of March, 2016

<table>
<thead>
<tr>
<th>Duplin County</th>
<th>Facility Type/Name</th>
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<th>NC ACLS Star Rating (of 5)</th>
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<td>Nursing Homes/Homes for the Aged</td>
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<td>Warsaw Health &amp; Rehabilitation Center</td>
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<td>DaySpring of Wallace/DePaul Adult Care Communities Inc</td>
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<td>Golden Care/Five Star Investments, Inc.</td>
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<td>Rosemary Rest Home/Rosemary Rest Home, Inc.</td>
<td>Rose Hill</td>
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<td>Wallace Gardens/Wallace Gardens, Inc.</td>
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<td>Windham Hall/Windham Hall, Inc.</td>
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<td>Family Care Homes</td>
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<td>Parish Family Care Home/Parish Family Care Home LLC</td>
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1 - SFN (ACH) = Maximum number of nursing or adult care home beds for which the facility is licensed.

Source - NC Department of Health and Human Services, Division of Health Services Regulation (DHSR), Licensed Facilities, Adult Care Homes, Family Care Homes, Nursing Facilities (by County); http://www.ncdhhs.gov/dhsr/reports.htm
### Physicians Directory

<table>
<thead>
<tr>
<th>Physicians Directory</th>
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<tbody>
<tr>
<td>Beulaville Pediatrics</td>
<td>116 E. Main Street Beulaville, NC 28518</td>
<td>910-296-6550</td>
</tr>
<tr>
<td>Vidant Medical Group - Dr. Blair/Dr. Crawford</td>
<td>125 River Vine Parkway Wallace, NC 28466</td>
<td>910-285-2134</td>
</tr>
<tr>
<td>Carolina Coast Primary</td>
<td>275 N. 24 &amp; 50 Hwy. Kenansville, NC 28349</td>
<td>910-296-1087</td>
</tr>
<tr>
<td>Coastal Carolina Foot and Ankle</td>
<td>114 N. Norwood Street Wallace, NC 28466</td>
<td>910-285-3362</td>
</tr>
<tr>
<td>Dr. Corazon Ngo</td>
<td>214 Duplin Street Kenansville, NC 28349</td>
<td>910-296-1811</td>
</tr>
<tr>
<td>Dr. Elizabeth Blair Pediatrics</td>
<td>417 N. Main Street Kenansville, NC 28349</td>
<td>910-275-0060</td>
</tr>
<tr>
<td>Dr. Daniel Ricci</td>
<td>207 E. Murphy Street Wallace, NC 28466</td>
<td>910-285-4100</td>
</tr>
<tr>
<td>Dr. Kimberly Sessoms</td>
<td>102 SW Railroad Street Rose Hill, NC 28458</td>
<td>910-289-9248</td>
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<tr>
<td>Duplin County Health Department</td>
<td>340 Seminary Street Kenansville, NC 28349</td>
<td>910-296-2130</td>
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<tr>
<td>Duplin Foot Care</td>
<td>227 N. Norwood Street Wallace, NC 28466</td>
<td>910-285-5451</td>
</tr>
<tr>
<td>Duplin OB/GYN - Dr. Cooper</td>
<td>149 Limestone Rd #2 Kenansville, NC 28349</td>
<td>910-296-1666</td>
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<td>Eastern Carolina Physicians</td>
<td>159 Crossover Road Beulaville, NC 28518</td>
<td>910-298-4688</td>
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<td>Goshen Medical - Beulaville</td>
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<td>910-298-3125</td>
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<tr>
<td>Goshen Medical - Faison</td>
<td>444 SW Center Street Faison, NC 28341</td>
<td>910-267-0421</td>
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<tr>
<td>Goshen Medical - Wallace</td>
<td>102 Medical Village Drive Wallace, NC 28466</td>
<td>910-285-2111</td>
</tr>
<tr>
<td>Goshen OB/GYN - Dr. Draughn</td>
<td>603 E. College Street Warsaw, NC 28398</td>
<td>910-293-3900</td>
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<td>Service Description</td>
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<td>Hometown Primary Care</td>
<td>149 Limestone Road Kenansville, NC 28439</td>
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<td>910-298-6550</td>
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<td>Mt. Olive Family Medicine</td>
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<td>919-658-4954</td>
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<tr>
<td>Mt. Olive Pediatrics</td>
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<td>919-658-9123</td>
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<td>Pink Hill Medical Center</td>
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<td>252-568-4111</td>
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<td>Plainview Health Center</td>
<td>360 E. Charity Road Greenevers, NC 28458</td>
<td>910-289-3086</td>
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<tr>
<td>Rose Hill Medical Center</td>
<td>600 S. Sycamore Street Rose Hill, NC 28458</td>
<td>910-289-3027</td>
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<td>Vidant General Surgery</td>
<td>417 N. Main Street Kenansville, NC 28349</td>
<td>910-275-0027</td>
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<td>Vidant Cardiology</td>
<td>401 N. Main Street Kenansville, NC 28349</td>
<td>910-296-2903</td>
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<td>Vidant Women’s Care</td>
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<td>910-296-2815</td>
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<td>Vidant Orthopedics</td>
<td>211 Duplin Street Kenansville, NC 28349</td>
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<td>Wallace Urgent Care</td>
<td>112 Medical Village Dr. #6 Wallace, NC 28466</td>
<td>910-285-0333</td>
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<td><strong>Veterinarians</strong></td>
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<td>Animal Hospital of Beulaville</td>
<td>236 NC Highway 41 N Beulaville, NC 28518</td>
<td>910-298-8188</td>
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<tr>
<td>Wallace Animal Hospital</td>
<td>483 Stallings Road Wallace, NC 28466</td>
<td>910-285-5454</td>
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<tr>
<td>Warsaw Animal Hospital</td>
<td>1472 NC 24 and 50 Hwy Warsaw, NC 28398</td>
<td>910-293-3348</td>
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<td>Dr. Hunter, Dr. Butler, Dr. Martin, Dr. Holmes</td>
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<td>Waylin Animal Clinic</td>
<td>238 Smith Chapel Road Mt. Olive NC 28365</td>
<td>919-658-2005</td>
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<td>168 NC 55 Mt. Olive, NC 28365</td>
<td>919-658-6590</td>
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<td>Doctor’s Vision Center</td>
<td>104 W. Main Street Wallace, NC 28466</td>
<td>9110-285-5050</td>
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<td>Dr. Richard Fry</td>
<td>317 N. Norwood Street Wallace, NC 28466</td>
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<td>Dr. Bologna</td>
<td>117 N. Rockfish Street Wallace, NC 28466</td>
<td>910-285-5649</td>
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<td>Dr. Fell, DCHD</td>
<td>Mobile Dental Unit Rotates to the elementary &amp; middle schools</td>
<td>910-385-4676</td>
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<td>Dr. Gilliland</td>
<td>122 East Main Street Beulaville, NC 28518</td>
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<tr>
<td>Dr. Hunter Joh</td>
<td>123 Bryan Street Kenansville, NC 28349</td>
<td>910-275-1880</td>
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<td>Dr. Kennedy</td>
<td>522 S. Norwood Street Wallace, NC 28466</td>
<td>910-285-7800</td>
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<td>Dr. Larry Price</td>
<td>114 Marshall Street Rose Hill, NC 28458</td>
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<td>Dr. O’Brien</td>
<td>117 N. Rockfish Street Wallace, NC 28466</td>
<td>910-285-5649</td>
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<td>Dr. Stiles</td>
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<td>Faison Dental Services</td>
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<td>CVS Pharmacy</td>
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<td>CVS Pharmacy</td>
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<td>Faison Pharmacy</td>
<td>206 SW Center Street Faison, NC 28341</td>
<td>910-267-0080</td>
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<td>Pink Hill Pharmacy</td>
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<td>252-568-4131</td>
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<td>Realo Pharmacy</td>
<td>5655 NC 41 Hwy, Wallace, NC 28466</td>
<td>910-285-1120</td>
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<td>Rite Aid Pharmacy</td>
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<td>919-658-8660</td>
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<td>107 S. Pine Street Warsaw, NC 28398</td>
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<td>Wal-Mart Pharmacy</td>
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<td>Warsaw Drug</td>
<td>204 N. Front Street Warsaw, NC 28398</td>
<td>910-293-4521</td>
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<td>CNC/Access</td>
<td>510 Yancey Street Warsaw, NC 28398</td>
<td>910-293-4519</td>
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<td>East Cove Psychiatric Services</td>
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<td>910-275-0016</td>
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<td>Eastpointe</td>
<td>Local mental health authority</td>
<td>800-913-6109</td>
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<tr>
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<td>TTY: 1-888-819-5112</td>
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<tr>
<td>New Dimension Group</td>
<td>416 West Ridge Street Rose Hill, NC 28458</td>
<td>910-289-2610</td>
</tr>
<tr>
<td>Tar Heel Home Health and Human Services</td>
<td>N NC 41 Beulaville, NC 28518</td>
<td>910-298-6207</td>
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<tr>
<td>Vidant Duplin Hospital psychiatric program</td>
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<td>Carolina Rehabilitation Inc.</td>
<td>159 Crossover Road Beulaville, NC 28518</td>
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<td>Comprehensive Rehabilitation</td>
<td>615 E. Southerland Street Wallace, NC 28466</td>
<td>910-285-1799</td>
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<td>Graybar Chiropractic Center</td>
<td>116 Norwood Street Wallace, NC 28466</td>
<td>910-285-7222</td>
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<tr>
<td>Kelly Chiropractic</td>
<td>112 Medical Village Drive #A Wallace, NC 28466</td>
<td>910-285-9002</td>
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<td>Duplin County Chiropractic Center</td>
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<td>910-296-0019</td>
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<tr>
<td>Revive Therapy</td>
<td>112 Medical Center Drive, Wallace, NC 28466</td>
<td>910-295-7388</td>
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### Nursing Homes/Rest Homes/Assisted Living Facility

<table>
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<th>Phone</th>
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<tbody>
<tr>
<td>Autumn Village</td>
<td>235 N. NC Hwy 41 Beulaville, NC 28518</td>
<td>910-298-5877</td>
</tr>
<tr>
<td>Baker's Youth Enrichment</td>
<td>1060 US 117 Hwy S, Warsaw, NC 28398</td>
<td>910-293-9983</td>
</tr>
<tr>
<td>Brian Center Health and Rehabilitation Center</td>
<td>647 Southeast Railroad Street Wallace, NC 28466</td>
<td>910-285-9700</td>
</tr>
<tr>
<td>Daysprings Assisted Living</td>
<td>4026 S NC 11 Hwy Wallace, NC 28466</td>
<td>910-285-3246</td>
</tr>
<tr>
<td>Glencare</td>
<td>214 Lanefield Road Warsaw, NC 28398</td>
<td>910-293-3144</td>
</tr>
<tr>
<td>Golden Care</td>
<td>4002 S NC Hwy Wallace, NC 28466</td>
<td>910-285-5352</td>
</tr>
<tr>
<td>Kenansville Health and Rehabilitation Center</td>
<td>209 Beasley Street Kenansville, NC 28349</td>
<td>910-296-1561</td>
</tr>
<tr>
<td>Moore’s Family Care Home</td>
<td>181 East Charity Road Rose Hill, NC 28458</td>
<td>910-289-7183</td>
</tr>
<tr>
<td>Parrish Family Care Home</td>
<td>856 Claude Scott Toad Warsaw, NC 28398</td>
<td>910-293-4221</td>
</tr>
<tr>
<td>Pen-Du Rest Home</td>
<td>235 NC Hwy 50 Wallace, NC 28466</td>
<td>910-285-4469</td>
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<tr>
<td>Rosemary Rest Home</td>
<td>517 S Sycamore Street Rose Hill, NC 28458</td>
<td>910-289-2435</td>
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<tr>
<td>Wallace Gardens</td>
<td>1054 NE Railroad Street Wallace, NC 28466</td>
<td>910-285-7881</td>
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<tr>
<td>Windham Hall Home for Adults</td>
<td>329 Cooper Street Kenansville, NC 28349</td>
<td>910-296-0333</td>
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### Hospital

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<td>401 N. Main Street Kenansville, NC 28349</td>
<td>910-296-0401</td>
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Home Care and Hospice Services

Vidant Home Care and Hospice 401 N. Main Street Kenansville, NC 28349 910-296-0819
Good Health Services 302 N. Main Street Kenansville, NC 28349 910-296-0053
Interim Health Care 149 Limestone Road Kenansville, NC 28349 910-296-2085
Liberty Home Care and Hospice 115 E. Main Street Kenansville, NC 28466 910-285-4954
ResCare Home Care 312 E. College Street Warsaw, NC 28398 910-293-4080

Medical Supply Companies

Coastal Carolina Respiratory Services 106 S. Brown Road Beulaville, NC 28518 910-298-6007
Duplin Medical Supply 136 Liberty Square Shopping Center Kenansville, NC 28349 910-296-2085
Homebound Medical Supply 112 Medical Village Dr. # B Wallace, NC 28466 910-285-4410

Dialysis Center

Davita Dialysis 305 Beasley Street Kenansville, NC 28349 1-800-424-6589
Wallace 5650 S NC 41 Hwy Wallace, NC 28466 1-800-424-6589
RAI Care Center 213 w. College Street Warsaw, NC 28398 1-800-881-5101
Davita Mt. Olive Dialysis 105 Michael Martin Road Mt. Olive, NC 28365 1-800-424-6589

Human Services

Duplin County Partnership for Children 149 Limeston Road Kenansville, NC 28349 910-296-2000
Eastern Carolina Housing Authority 437 West Main Street Magnolia, NC 28453 910-289-2750
Eastern Carolina Human Services 208 SW Railroad Street Wallace, NC 28466 910-285-5331
<table>
<thead>
<tr>
<th>Organization</th>
<th>Address</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Department of Social Services</td>
<td>423 N. Main Street Kenansville, NC 28439</td>
<td>910-296-2200</td>
</tr>
<tr>
<td><strong>Church Outreach Ministries</strong></td>
<td></td>
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<tr>
<td>Wallace Presbyterian Church</td>
<td>205 West Main Street Wallace, NC 28466</td>
<td>910-285-2808</td>
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<tr>
<td>--- Food Pantry Services- Tuesday/ Thursday 9:00 a.m.- 11:00 a.m. &amp; 1:00 p.m.- 5:00 p.m.</td>
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<tr>
<td>Rose Hill United Methodist Church</td>
<td>314 East Church Street Rose Hill, NC 28458</td>
<td>910-289-2449</td>
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<tr>
<td>--- Food pantry open 1st/3rd Tuesday 1:00 p.m.- 3:00 p.m.</td>
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<tr>
<td>Eastern Baptist Association</td>
<td>109 N. Center Street Warsaw, NC 28398</td>
<td>910-293-7077</td>
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<tr>
<td>Wallace Church of God</td>
<td>212 West Main Street Wallace, NC 28466</td>
<td>910-285-7179</td>
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<tr>
<td>--- Tuesday/Thursday 9:00 a.m.-11:00 a.m.</td>
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<tr>
<td><strong>Clothing Ministry</strong></td>
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<tr>
<td>Blessings in Store</td>
<td>127 W. Main Street Wallace, NC 28466</td>
<td>910-285-5557</td>
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<tr>
<td><strong>Crisis Centers &amp; Substance Abuse</strong></td>
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<tr>
<td>Beulaville Crisis Center</td>
<td></td>
<td>910-298-4140</td>
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<tr>
<td>Department of Social Services</td>
<td>Child abuse services</td>
<td>910-296-2293</td>
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<tr>
<td>--- 423 N. Main Street Kenansville, NC 28340</td>
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<tr>
<td>Duplin Christian Outreach Ministries</td>
<td>514 S. Norwood Street Wallace, NC coordinates</td>
<td>910-285-6000</td>
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<tr>
<td>--- Clothing, Food Ministry and emergency aid through applications</td>
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<tr>
<td>SAFE Domestic Violence</td>
<td>208 Glenwood Ave. Kinston, NC 28501</td>
<td>252-532-5573</td>
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<tr>
<td>Sarah's Refuge Domestic Violence Center</td>
<td>222 W. Hill Street Warsaw, NC 28398</td>
<td>910-293-2550</td>
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<tr>
<td>James Sprunt Community College</td>
<td>Hwy 11 S. Kenansville, NC 28349</td>
<td>910-296-2400</td>
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<td>--- Single Stop</td>
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## Libraries

<table>
<thead>
<tr>
<th>Library Name</th>
<th>Address</th>
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<tbody>
<tr>
<td>Duplin County - Dorothy Wightman Library</td>
<td>107 Bowden Drive Kenansville, NC 28349</td>
<td>910-296-2117</td>
</tr>
<tr>
<td>Phillip-Leff Memorial Library</td>
<td>807 Broad Street Beulaville, NC 28518</td>
<td>910-298-4577</td>
</tr>
<tr>
<td>Emily S. Hill Library</td>
<td>106 Park Circle Faison, NC 28341</td>
<td>910-267-0601</td>
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<tr>
<td>Florence Gallier Library</td>
<td>104 Main Street Magnolia, NC 28453</td>
<td>910-289-7056</td>
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<tr>
<td>Thelma Dingus Library</td>
<td>409 Main Street Wallace, NC 28466</td>
<td>910-285-3796</td>
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<tr>
<td>Rose Hill Library</td>
<td>113 South Walnut Street Rose Hill, NC 28458</td>
<td>910-289-2490</td>
</tr>
<tr>
<td>Warsaw - Kornegay Library</td>
<td>117 East College Street Warsaw, NC 28398</td>
<td>910-293-4664</td>
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## Produce Stands/Farmer's Markets

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<tr>
<th>Produce Produce</th>
<th>Address</th>
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<tbody>
<tr>
<td>Rouse Brothers Produce</td>
<td>1526 W. Charity Road Rose Hill, NC 28458</td>
<td>910-376-0621</td>
</tr>
<tr>
<td>Cottle Tip Top Farms</td>
<td>1006 Fire Tower Road Rose Hill, NC 28458</td>
<td>910-289-5034</td>
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<tr>
<td>Chesnutt Farms</td>
<td>459 Hamilton Road Magnolia, NC 28453</td>
<td>910-296-7357</td>
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<tr>
<td>Harold Smith</td>
<td>677 NC Highway 11 E. Pink Hill, NC 28572</td>
<td>910-296-3008</td>
</tr>
<tr>
<td>Sean Cullen</td>
<td>Hwy 41 Beulaville, NC 28518</td>
<td>910-465-9623</td>
</tr>
<tr>
<td>Melvin Farland</td>
<td>Hwy 41 Beulaville, NC 28518</td>
<td>910-375-0525</td>
</tr>
<tr>
<td>Eastern Carolina Food Ventures JSCC</td>
<td>133 James Sprunt Drive Kenansville, NC 28349</td>
<td>910-296-2400</td>
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