VIDANT DUPLIN HOSPITAL'S 2016 COMMUNITY HEALTH NEEDS ASSESSMENT

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Introduction

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 NC DPH) and the local public health agency. Furthermore, a CHA is required for local public health department accreditation through 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 (needs) 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 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 Office of Healthy Carolinians/Health Education and the NC State Center for Health Statistics (December 2011). The assessment also adheres to the 2012 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 consultant to develop a multi-phase plan for conducting the assessment. 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 will 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.

Assessment Methodology

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 and hospital utilization data indicators is included in Appendix B of this 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.

Chapter One: Demographic Data

General Population Characteristics

The following general population characteristics of Duplin County and its comparator counties were based on 2014 US Census data population estimates presented in Table 1.

- 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 0.7 years older than the median age for NC as a whole.

County	2014 Population Estimates											
	Total Population (2014 Estimate)						Under 18 Years				65 Years and Older	
	# Total	# Males	% Males	# Females	% Females	Median Age*	# Under 18 Years	% Under 18 Years	# 18-64 Years	% 18-64 Years	# Total	% Total
Duplin	59,882	29,443	49.2	30,439	50.8	38.9	14,886	24.9	35,524	59.3	9,472	15.8
Regional Total	458,613	221,596	48.3	237,017	51.7	41.7	100,240	21.9	287,278	n/a	71,095.0	15.5
State Total	9,943,964	4,844,593	50.8	5,099,371	53.5	38.2	2,287,549	23.0	6,193,053	62.3	1,463,362	14.7
State Average	99,440	48,446	n/a	50,994	n/a	n/a	22,875	23.0	61,931	n/a	14,634	n/a

Table 1. General Demographic Characteristics. (2010 US Census data and 2014 Population esti mates)
Note: Percentages by gender are calculated. *Metric for Regional Total Median Age calculated as the arithmetic mean of county values
Source: US Census Bureau, American Fact Finder, 2010 Census, Summary File DP-1, 2010 Demographic Profile Data, Profile of General Population and Housing Characteristics: 2010; 2014 Population Estimates: April 1, 2010 to July 1, 2014 (PEPAGESEX), http://factfinder2.census.gov.

Minority Populations

The population of Duplin County is 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 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%.

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 2000 and 2030, the county population is expected to increase by 32.9% overall, while the Region increases by 20% and NC grows by 44%. (Table 2).

Decade	Duplin County	Regional Average	State of NC
2000-2010	**16.0**	14.6	15.6
2010-2020	6.0	2.8	**10.9**
2020-2030	5.1	1.8	**9.8**

Table 2. Population Growth in Overall Population, by Decade, 2000 through 2030. Note: percentage change is calculated.
Source: Profile of General Demographic Characteristics: 2000 (DP-1), SF1.and Profile of General Population and Housing Characteristics: 2010 (DP-1). U.S. Census Bureau, American FactFinder: http://factfinder2.census.gov; Age, Race, and Sex Projections, Age Groups – Total, July 1, 2020 County Total Age Groups – Standard last updated October 7, 2015. North Carolina Office of State Budget and Management County/State Population Projections: https://www.osbm.nc.gov/demog/countytotals_standardagegroups

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. The highest birth rate occurred among the Hispanic population.
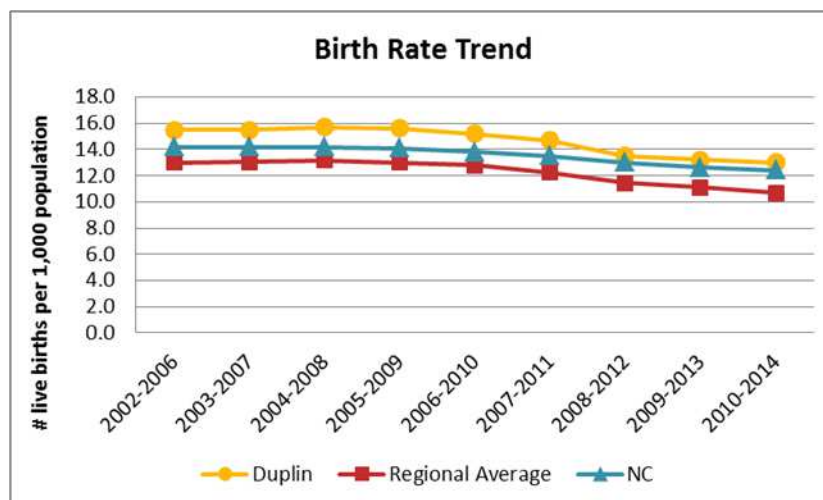

Graph 1. Birth Rate Trend, Live Births per 1,000 Total Population
(Nine 5-Year Aggregates, 2002-2006 through 2010-2014)
Source: NC State Center for Health Statistics, Health Data, County Level Data, County Health Databooks 2008, 2009, 2010, 2011, 2012, 2013; 2014; http://www.schs.state.nc.us/schs/data/databook/.

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.

- In terms of both numbers (4,281) and percent (7.1%), the largest segment of the population in Duplin County was the age group 5-9. This differed significantly from NC as a whole, where the segment composing the largest number and percent (7.2%) of the state's population was the age group, 20-24.
- 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.
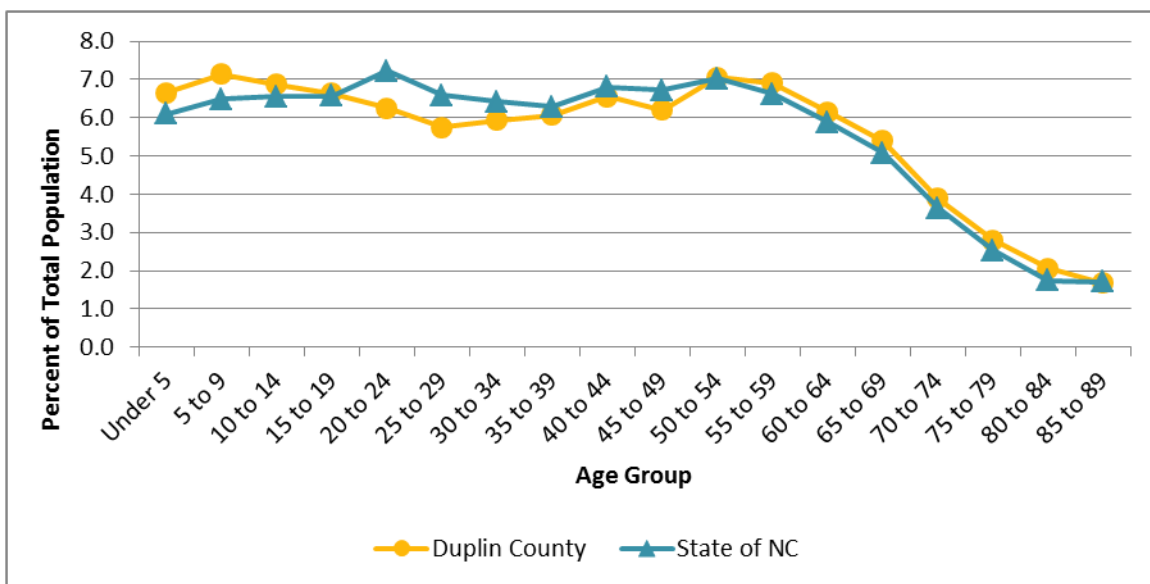
Graph 2. Population Distribution by Age and Gender, Number and Percent. (US Census July 1, 2014 Estimates)
Source: US Census Bureau, American FactFinder, 2010 Census, 2010 Demographic Profile Data, Summary File DP-1, Profile of General Population and Housing Characteristics: 2010; http://factfinder2.census.gov.

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) completed 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 civilian 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 jurisdictions 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%).

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, while approximately 34% entered between 1890 and 1899

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 Two: Socioeconomic Data

Tier Designation
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.

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. The following are definitions of each of the three income categories:

- *Per capita personal income* is the income earned per person 15 years of age or older in the reference population.
- *Median household income* pertains to the incomes of all the people 15 years of age or older living in the same household (i.e., occupying the same housing unit) regardless of relationship. For example, two roommates sharing an apartment would be a household, but not a family.
- *Median family income* pertains to the income of all the people 15 years of age or older living in the same household who are related either through marriage or bloodline. For example, in the case of a married couple who rent out a room in their house to a non-relative, the household would include all three people, but the family would be just the couple.

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 2010.

Employment
The following definitions will be useful in understanding the data in this section.

- *Labor force*: includes all persons over the age of 16 who, during the week, are employed, unemployed or in the armed services.
- *Unemployed*: civilians who are not currently employed but are available for work and have actively looked for a job within the four weeks prior to the date of analysis; also, laid-off civilians waiting to be called back to their jobs, as well as those who will be starting new jobs in the next 30 days.
- *Unemployment rate*: calculated by dividing the number of unemployed persons by the number of people in the civilian labor force.

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.

- 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%.
- 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.
- 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. 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.
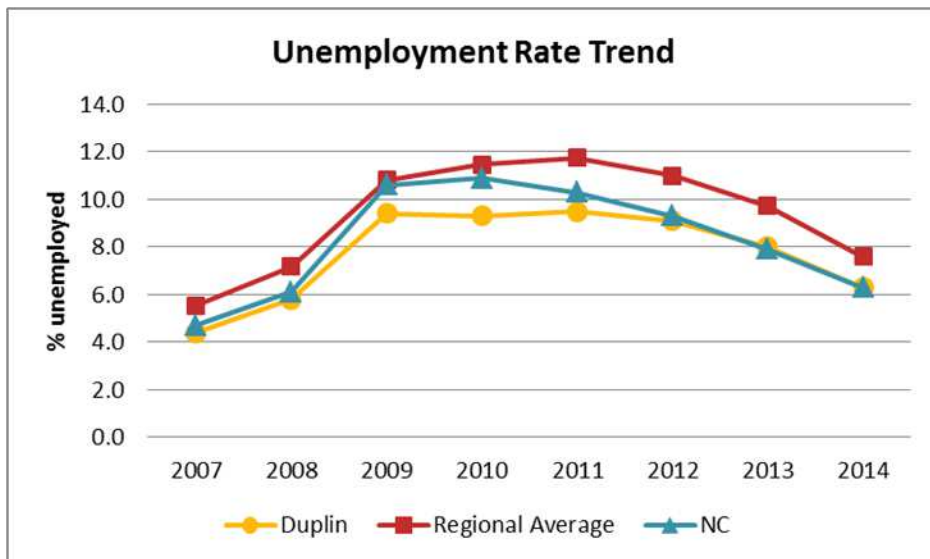
Graph 3. Annual Unemployment Rate Trend (2007-2014)
Source: NC Employment Security Commission, Labor Market Information, Workforce Information, Employed, Unemployed and Unemployment Rates, Labor Force Statistics, Single Areas for All Years; http://eslmi03.esc.state.nc.us/ThematicLAUS/clfasp/startCLFSAAY.asp.

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 for children under 18 has increased overall since 2010 and 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.

	2006-2010	2007-2011	2008-2012	2009-2013	2010-2014
Duplin	23.7	22.7	24.4	26.3	26.9
Regional Average	20.1	21.5	22.3	23.3	23.0
State of NC	15.5	16.1	16.8	17.5	17.6

Table 3. 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 among African Americans and among Hispanics rose in each period shown in Duplin County.
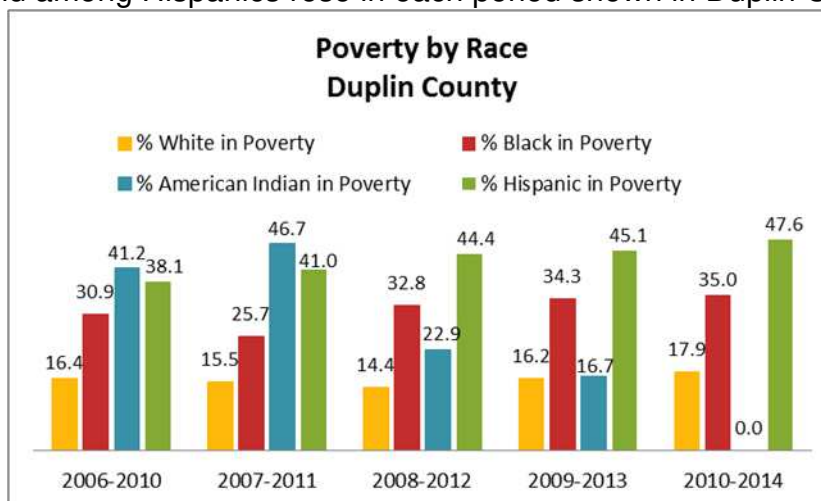
Graph 4. Persons in Poverty by Race (2000; 2006-2010 and 2007-2011 Five-Year Estimates)
Source: US Census Bureau, American Fact Finder, ACS 5-Year Estimates, 2010 through 2014, Table S1701 Poverty Status in the Past 12 Months.
http://factfinder.census.gov/

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.

Students have to be eligible to receive meals; not everyone who is eligible will choose to enroll in the program and receive meals. 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.
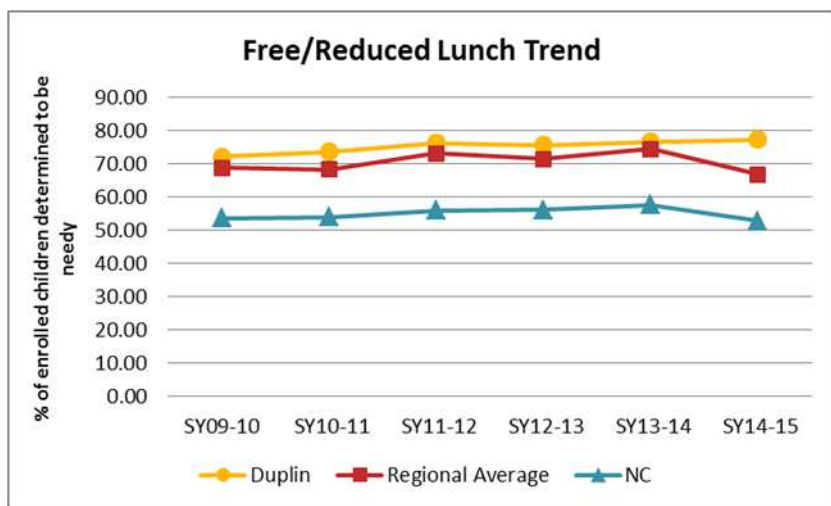
Graph 5. Percent of Students Enrolled for Free or Reduced-Price School Lunch (SY2009-2010 through SY2014-15)
Source: *Free and Reduced Student Data by Site, Public School Year-to-Date Data 2009-2010 [and other years as noted].* Public Schools of North Carolina, Public Schools of North Carolina, Financial and Business Services: http://www.ncpublicschools.org/fbs/resources/data/

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).

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.

While it is difficult to determine clear trends from limited point-in-time data that involves just a few people, homeless children may be a population of concern. Children represented a higher proportion of the total homeless in Duplin County than in other counties examined in the Region.

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%).

Educational System
The number of students enrolled in Duplin County schools has increased each year since SY2008-09. 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.

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
Two types of crime are generally examined to understand more about a county's crime and safety – violent and property crimes. Violent crimes include offenses of murder, rape, robbery, and aggravated assault. Property crime includes the offenses of burglary, larceny, and motor vehicle theft. 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. 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. Even with this decrease, Duplin County's property crime rate remains consistently higher than the Region (2,705.6 in 2014) and NC (2,954.1 in 2014).

The violent crime rate in Duplin County fluctuates but has demonstrated an overall decrease since 2010. 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), the crimes are reported as "Complaints." The term "Complaint" is defined as a formal allegation that a juvenile committed an offense, which will be reviewed by a counselor who decides whether to approve or not approve the complaint. If approved, it will be heard in juvenile court. Complaints are divided into two categories: "Undisciplined" and "Delinquent."

The term "Undisciplined" refers to disobedience beyond disciplinary control of parent/guardian (e.g., truancy, vagrancy, running away from home for more than 24 hours). Between 2011 and 2014, the number and rate of complaints of undisciplined youth (ages 6-17) in Duplin County increased from 3 and 0.3, respectively, in 2011 to 8 and 0.79 in 2014. The "rate" equals the number of events per 1,000 youth in the age group.

The term "Delinquency" refers to acts committed by youths that would be crimes if committed by an adult. 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 this time period, 27 Duplin County youths were sent to secure detention in 2013; 18 were sent in 2014.

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.

Child Maltreatment

The responsibility for identifying and reporting cases of child abuse, neglect and exploitation falls to the child protective services program within a county's department of social services. Generally speaking, such a unit will have sufficient staff to handle intake of all reports. However, an agency's ability to investigate and monitor reported cases may vary from year to year, depending on the number of properly trained staff available to it; hence, follow-up on reports may vary independently of the number of reports.

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%).

Chapter Three: Health Resources

Health Insurance
The percent of uninsured in all age groups in Duplin County changed little over the three years examined. Compared to NC, 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.

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 eligibles 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.

Health Care Practitioners
One way to judge the supply of health professionals in a jurisdiction is to calculate the ratio of the number of health care providers to the number of persons in the population of that jurisdiction. 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, the state of NC and the US 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 pharmacists exceeded the comparable Region ratios in each category but remained lower than the state ratios.
- These ratios do not take into consideration medical practitioners in neighboring counties accessible to Duplin County residents.

Although the health professional ratios for primary care physicians, dentists, and pharmacists in Duplin County appear be higher than the Regional ratios, accessing care may still be a problem. Dental care is especially challenging for Medicaid enrollees 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. The Health Department operates a mobile dental unit that travels to the county elementary and middle schools to provide dental care to eligible children. In partnership with Community Care of Eastern NC, DCHD nursing and social work staff provides 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 eligible women.

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.

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 facility, in Kenansville, offers home care, home care with hospice, home health with hospice, and hospice services. This provider was also accredited.

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
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
- Nursing Homes/Homes for the Aged (3 facilities): 272 beds

- The long-term care facilities in the county are located in a variety of towns across Duplin County.

There are a total of 683 beds, or 1 bed for every 9 persons age 65 and older in Duplin County (9,472 persons $\geq$ 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.

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 - Payor Mix

The most common payor groups, in descending order, were:
- Medicare (36.5%)
- Medicaid (32.4%)
- BCBS Managed Care (10.6%)
- Self-Pay (7.0%)

Chapter Four: Health Statistics

Methodology
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.

Understanding Health Statistics

Age-adjustment
Mortality rates, or death rates, are often used as measures of the health status of a community. Many factors can affect the risk of death, including race, gender, occupation, education and income. The most significant factor is age, because the risk of death inevitably increases with age; that is, as a population ages, its collective risk of death increases. Therefore, an older population will automatically have a higher overall death rate just because of its age distribution. At any one time some communities have higher proportions of "young" people, and others have a higher proportion of "old" people. In order to compare mortality data from one community with the same kind of data from another, it is necessary first to control for differences in the age composition of the communities being compared. This is accomplished by *age-adjusting* the data. Age-adjustment is a statistical manipulation usually performed by the professionals responsible for collecting and cataloging health data, such as the staff of the NC State Center for Health Statistics (NC SCHS). It is not necessary to understand the nuances of age-adjustment to use this report. Suffice it to know that age-adjusted data are preferred for comparing health data from one population or community to another and have been used in this report whenever available.

Aggregate Data
Another convention typically used in the presentation of health statistics is *aggregate data,* which combines annual data gathered over a multi-year period, usually three or five years. The practice of presenting data that are aggregated avoids the instability typically associated with using highly variable year-by-year data consisting of relatively few cases or deaths. It is particularly important to aggregate data for smaller jurisdictions like Duplin County. The calculation is performed by dividing the number of cases or deaths due to a particular disease over a period of years by the sum of the population size for each of the years in the same period.

Incidence
Incidence is the population-based rate at which new cases of a disease occur and are diagnosed. It is calculated by dividing the number of newly diagnosed cases of a disease or condition during a given period by the population size during that period. Typically, the resultant value is multiplied by 100,000 and is expressed as cases per 100,000; sometimes the multiplier is a smaller number, such as 10,000.

Incidence rate is calculated according to the following formula:

(number of new cases/population) x 100,000 = new cases per 100,000 people

The incidence rates for certain diseases, such as cancer, are simple to obtain, since data on newly discovered cases is routinely collected by the NC Central Cancer Registry. However, diagnoses of other conditions, such as diabetes or heart disease, are not normally reported to central data-collecting agencies, so accurate incidence data on these conditions is rare.

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. Like incidence, mortality is a rate, usually presented as number of deaths per 100,000 residents. Mortality rates are easier to obtain than incidence rates since the underlying (or primary) cause of death 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.

Mortality rate by cause is calculated according to the following formula:

(number of deaths due to a cause/population) X 100,000 = deaths per 100,000 people

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.

Prevalence

Prevalence, which describes the extent of a problem, refers to the number of existing cases of a disease or health condition in a population at a defined point in time or during a period. Prevalence expresses a proportion, not a rate. Prevalence is often estimated by consulting hospital records; for instance, hospital discharge records available from NC SCHS show the number of residents within a county who use hospital in-patient services for given diseases during a specific period. Typically, these data underestimate the true prevalence of the given disease in the population, since individuals who do not seek medical care or who are diagnosed outside of the hospital in-patient setting are not captured by the measure. Note also that decreasing hospital discharge rates do not necessarily indicate decreasing prevalence; rather they may be a result of a lack of access to hospital care.

Trends

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 (see below), the preferred method for reporting incidence and mortality data is long-term trends using the age-adjusted, multi-year aggregate format. Most trend data used in this report is of that type.

Small Numbers

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 ameliorate 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. Other state entities that report health statistics may use their own minimum reporting thresholds. 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.

Describing Difference and Change

In describing differences in data of the same type from two populations or locations, or changes over time in the same kind of data from one population or location—both of which appear frequently in this report—it is useful to apply the concept of percent difference or change. While it is always possible to describe difference or change by the simple subtraction of a smaller number from a larger number, the result often is inadequate for describing and understanding the scope or significance of the difference or change. Converting the amount of difference or change to a *percent* takes into account the relative size of the numbers that are changing in a way that simple subtraction does not, and makes it easier to grasp the meaning of the change.

For example, there may be a rate for a type of event (e.g., death) that is one number one year and another number five years later. Suppose the earlier figure is 12.0 and the latter figure is 18.0. The simple mathematical difference between these rates is 6.0. Suppose also there is another set of rates that are 212.0 in one year and 218.0 five years later. The simple mathematical difference between these rates also is 6.0. Although the same, these simple numerical differences are not of the same significance in both instances. In the first example, converting the 6 point difference to a percent yields a relative change factor of 50%; that is, the smaller number increased by half, a large fraction. In the second example, converting the 6 point difference to a percent yields a relative change factor of 2.8%; that is, the smaller number in the comparison increased by a relatively small fraction. In these examples the application of percent makes it very clear that the difference in the first example is of far greater degree than the difference in the second example. This document uses percentage almost exclusively to describe and highlight degrees of difference and change, both positive (e.g., increase, larger than, etc.) and negative (e.g., decrease, smaller than, etc.)

Final Health Data Caveat

Some data that is used in this report may have inherent limitations, due to sample size, or its age, for example, but is used nevertheless because there is no better alternative. Whenever this kind of data is used, it will be accompanied by a warning about its limitations.

Health Rankings

America's Health Rankings

Each year for more than 20 years, America's Health Rankings™, a project of United Health Foundation, has tracked the health of the nation and provided a comprehensive perspective on how the nation—and each state—measures up. America's Health Rankings is the longest running state-by-state analysis of health in the US.

America's Health Rankings are based on several kinds of measures, including *determinants* (socioeconomic and behavioral factors and standards of care that underlie health and well-being) and *outcomes* (measures of morbidity, mortality, and other health conditions). Together the determinants and outcomes help calculate an overall rank.

According to the 2015 America's Health Rankings, North Carolina ranked 31st overall out of 50 states where 1st is considered best.

County Health Rankings

Building on the work of *America's Health Rankings*, the Robert Wood Johnson Foundation, collaborating with the University of Wisconsin Population Health Institute, undertook a project to develop health rankings for the counties in all 50 states. In this project, each state's counties are ranked according to health outcomes and the multiple health factors that determine a county's health. Each county receives a summary rank for its health outcomes and health factors and also for the four different types of health factors: health behaviors, clinical care, social and economic factors, and the physical environment.

According to the 2015 County Health Rankings for NC, Duplin County was ranked:
- 42nd overall out of 100 (where 1 is best) for health outcomes
- 34th in length of life
- 58th for quality of life
- 85th overall out of 100 for health factors
- 58th for health behaviors
- 98th for clinical care
- 80th for social and economic factors
- 8th for physical environment

It should be noted that the County Health Rankings serve a limited purpose, since the data on which they are based in some cases is very old and different parameters are measured in different time periods.

Maternal and Infant Health

Pregnancy

The following definitions and statistical conventions will be helpful in understanding the data on pregnancy:
- Reproductive age = 15-44
- Total pregnancies = live births + induced abortions + fetal death at 20+ weeks gestation
- Pregnancy rate = number of pregnancies per 1,000 women of reproductive age
- Fertility rate = number of live births per 1,000 women of reproductive age
- Abortion rate = number of induced abortions per 1,000 women of reproductive age
- Birth rate = number of live births per 1,000 *population (Note that in the birth rate calculation the denominator includes the entire population, both men and women, not just women of reproductive age.)* Since the birth rate is a measure of population growth, it was presented among the demographic data in Chapter One of this report.

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 2007. The 2014 pregnancy rate was 80.4 in Duplin County, compared to 66.8 in the Region and 72.1 in NC.
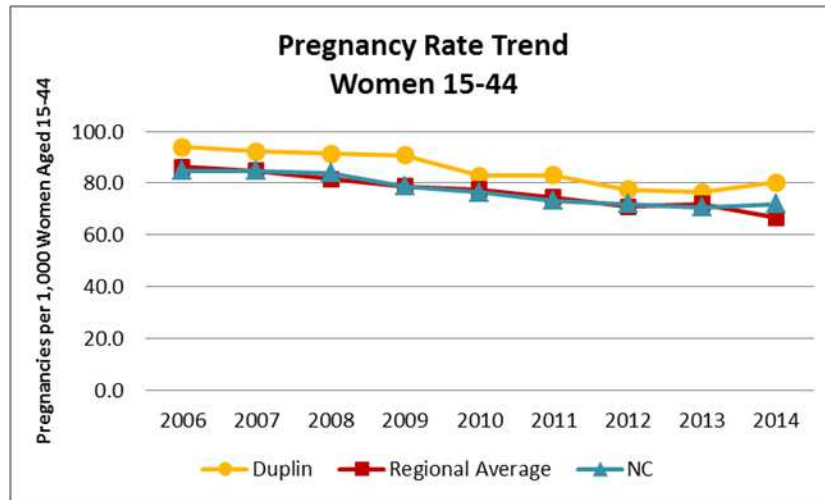
Graph 6. 2006-2014 Pregnancy Rate Trend for Females 15-44. Source: North Carolina State Center for Health Statistics (NC SCHS), 2008 [and other years as noted] County Health Data Books: http://www.schs.state.nc.us/data/databook/

Teen pregnancy rates in Duplin County have fallen overall since 2008, but remain higher compared to NC. The 2014 teen pregnancy rate was 42.2 in Duplin County, compared to 39.0 for the Region and 32.3 for the state.

Among Duplin County women age 15-44 the highest pregnancy rates appear to occur among Hispanics. The rate among Hispanic women is higher in Duplin County compared to NC. Among Duplin County teens, the rates over time appear quite variable. Duplin County teen pregnancy rates for minorities tend to be higher than the comparable state averages.

Pregnancy Risk Factors

Smoking During Pregnancy
The percentage of Duplin County women who smoked during pregnancy increased overall between 2011 and 2014. When compared to the state a lower percentage of women smoked in Duplin County for most of the period shown, but the county surpassed the state in 2014.

Inadequate Prenatal Care
The percentage of women receiving early prenatal care was lower in Duplin County, compared to the Region and the State for the entire period below and the proportion in the county has fallen overall in the time period cited. 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.

Pre-Term, Low Weight and Very Low Weight Births

In Duplin County from 2010-2014, the percentage of Pre-Term Births (babies born at less than 37 weeks) was 11.6%, compared to the Region at 13.4% and the state at 11.8%.
Low Weight Births (babies weighing less than or equal to 2500 grams or 5.5 pounds at birth) occurred in 7.8% 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 2002-2006 and has remained lower than the state. The highest rate of low weight births is among African American mothers (12%).

Very Low Weight Births (babies weighing less than or equal to 1500 grams or 3.3 pounds at birth) occurred in 1.4% of live births in Duplin County, compared to the Region (2.3%) and the state (1.7%). The rate has decreased overall since 2002-2006, but continues to remain higher than the state. 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 increased overall from a low of 6.9 in 2003-2007 to 7.3 in 2010-2014, but the most recent rate was an improvement from the high point of 9.6 in 2007-2011. The Duplin County infant mortality rate was higher than the state (7.1 in 2010-2014) for much of the period shown 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: 18.4 in 2008-2012 compared to the 9.1 total infant mortality rate.

Life Expectancy

Life expectancy is the average number of additional years that someone at a given age would be expected to live if he/she were to experience throughout life the age-specific death rates observed in a specified reference period. Life expectancies in terms of years of life remaining can be calculated for any age. Because life expectancy is an average, however, a particular person may well die many years before or many years after their "expected" survival, due to life experiences, environment, and personal genetic characteristics.

Life expectancy from birth is a frequently utilized and analyzed component of demographic data. It represents the average life span of a newborn and is considered an indicator of the overall health of a population or community.

Life expectancy rose rapidly in the twentieth century due to improvements in public health, nutrition and medicine, and continued progress in these areas can be expected to have further positive impact on life expectancy in the future. Decreases in life expectancy are also possible, influenced mostly by epidemic disease (e.g. plagues of history and AIDS in the modern era), and natural and man-made disasters. One of the most significant influences on life expectancy in populations is infant mortality, since life expectancy at birth is highly sensitive to the rate of death in the first few years of life.

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).

County	Overall	Sex		Race	
		Male	Female	White	African-American
Duplin	78.4	75.2	81.6	78.8	77.3
Regional Total	n/a	n/a	n/a	n/a	n/a
Regional Arithmetic Mean	77.7	75.0	80.3	78.4	76.5
State Total	78.3	75.8	80.7	78.9	75.9

Table 4. 2012-2014 State-Level Life Expectancies by Age, Sex, Race and Race by Sex. Source: North Carolina Center for Health Statistics, Life Expectancy - State & County Estimates: http://www.schs.state.nc.us/data/lifexpectancy/

Mortality

Leading Causes of Death

This section describes mortality for the 15 leading causes of death, as well as mortality due to five major site-specific cancers. The list of topics and the accompanying data was retrieved from the NC SCHS County Health Databook. Unless otherwise noted, the numerical data are age-adjusted and represent five-year aggregate periods.

Table 5 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 discussed below.

Age-Adjusted Rates (2010-2014)	Duplin County No. of Deaths	Duplin County Mortality Rate	Duplin Rate Difference from NC
1. Diseases of Heart	583	172.8	+4.2%
2. Cancer	566	161.6	-5.9%
3. Chronic Lower Respiratory Diseases	159	46.7	+1.5%
4. Cerebrovascular Disease	142	43.2	+0.5%
5. Diabetes Mellitus	92	26.6	+20.4%
6. All Other Unintentional Injuries	73	23.4	-20.9%
7. Unintentional Motor Vehicle Injuries	67	22.9	+69.6%
8. Nephritis, Nephrotic Syndrome, and Nephrosis	75	22.8	+34.1%
9. Pneumonia and Influenza	56	17.0	-3.4%
10. Septicemia	51	15.6	+20.0%
11. Alzheimer's disease	46	14.7	-49.7%
12. Suicide	32	11.4	-8.1%
13. Chronic Liver Disease and Cirrhosis	34	9.9	+2.1%
14. Homicide	14	5.0	-12.3%
15. Acquired Immune Deficiency Syndrome	14	4.4	+69.2%

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

In NC, the top three leading causes of death for each age group are:
- Age 0-18: Conditions originating in the perinatal period; Congenital anomalies; Motor vehicle injuries
- Age 20-39: Other unintentional injuries; Motor vehicle injuries; Suicide
- Age 40-64: Cancer (all sites); Diseases of the heart; Other unintentional injuries
- Age 65-84: Cancer (all sites); Diseases of the heart; Chronic lower respiratory diseases
- Age 85+: Diseases of the heart; Cancer (all sites); Alzheimer's disease

Further examination of the leading causes of death by age reveal the top 3 causes of death in Duplin County

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

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 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
- CLRD
- Cerebrovascular disease
- Diabetes
- Unintentional Motor Vehicle Injuries
- Kidney Diseases
- Septicemia
- Liver Disease
- AIDS

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

Table 7.
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/

Morbidity

Vehicular and Alcohol-Related Motor Vehicle Crashes
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.
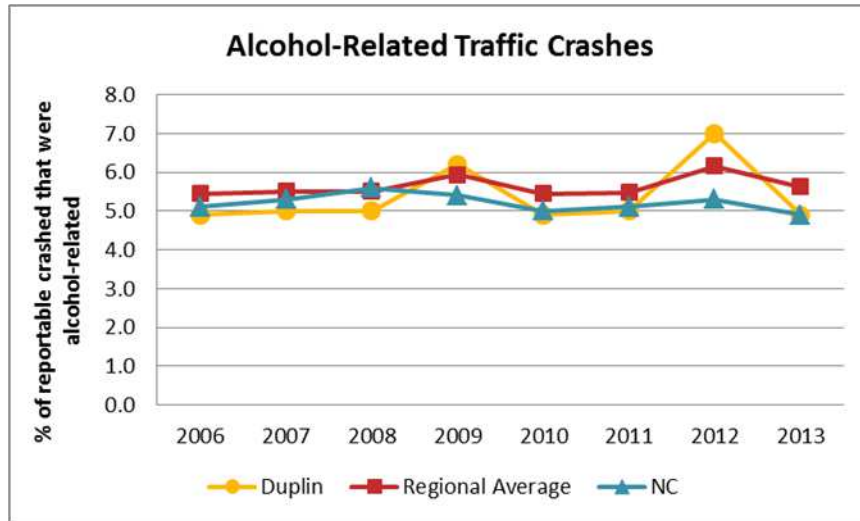
Graph 7. Alcohol Related Traffic Crashes 2006-2013. Source: North Carolina Alcohol Facts. Highway Safety Research Center at the University of North Carolina at Chapel Hill: http://www.hsrc.unc.edu/ncaf/crashes.cfm
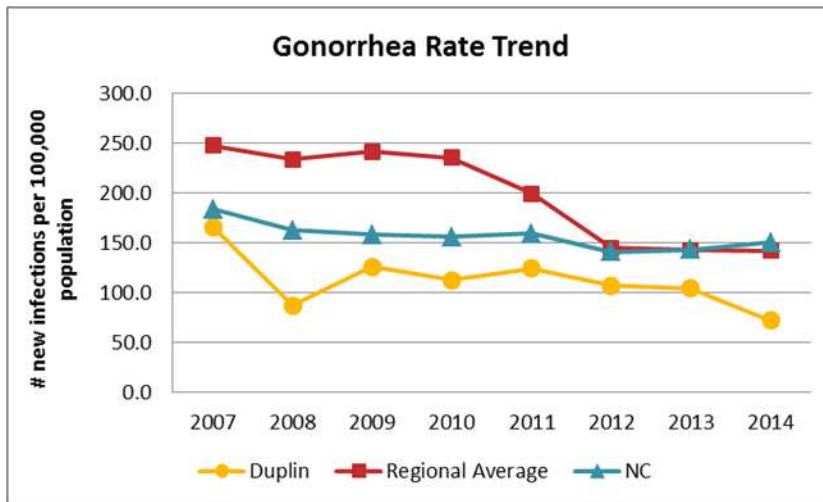
Sexually Transmitted Infections – Chlamydia

The chlamydia infection rate in Duplin County has decreased since 2008 and has been lower than the state since 2009. In 2014, there were 224 new cases of chlamydia in Duplin County, calculating to a rate of 374.1, compared to 501.9 statewide. Of the 15-24 year olds who were tested for chlamydia in 2011, 9.1% tested positive, compared to 10.9% in NC.
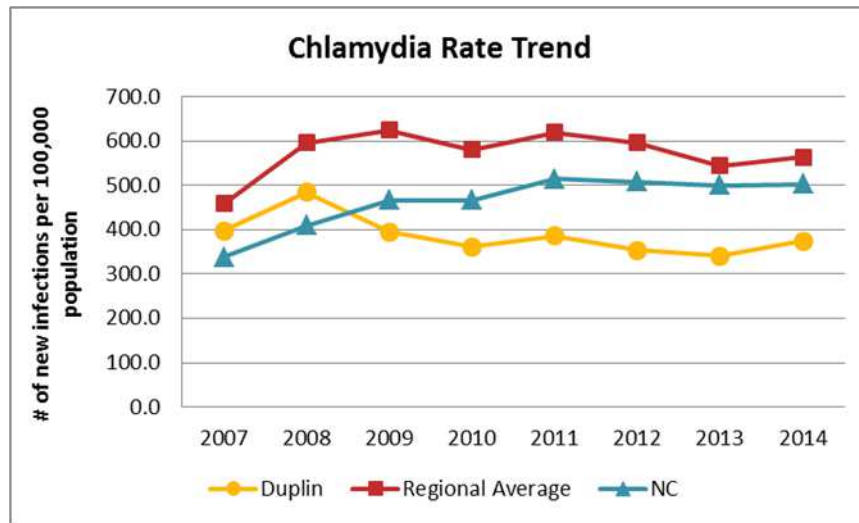
Graph 8. North Carolina Newly Diagnosed Chlamydia Rates by County of Diagnosis and Year of Diagnosis, 2010-2014 Source: 2014 North Carolina HIV/STD Surveillance Report.

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. 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.

Graph 9. N.C. Newly Diagnosed Gonorrhea Rates by County of Diagnosis and Year of Diagnosis 2010-2014. Source: 2014 HIV/STD Surveillance Report. Communicable Disease

Sexually Transmitted Infections – HIV/AIDs

Although the numbers are too low to yield stable rates, the rate of newly diagnosed HIV infections in Duplin County (an average of 8.9 between 2012-2014) was half the comparable state rate (13.4). When numbers are aggregated over three-year periods to stabilize them, the Duplin County rates are still consistently and significantly lower compared to NC and the Region. At the end of 2014, 169 people in Duplin County were living with HIV.
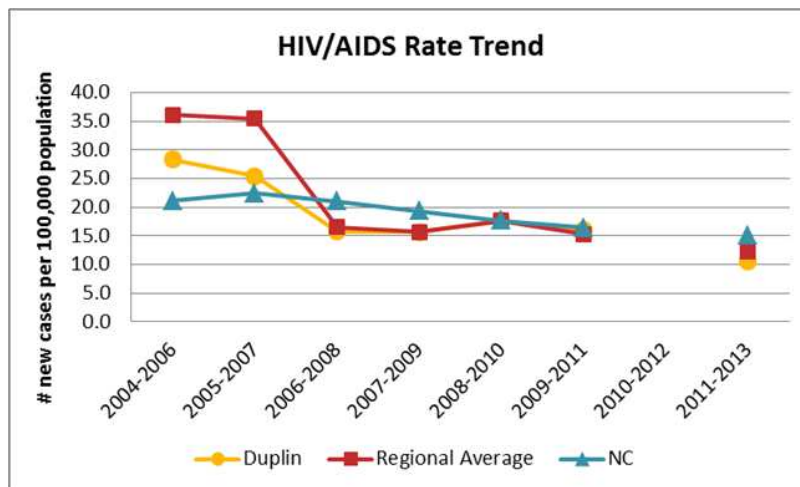
Graph 10. HIV Disease includes all newly reported HIV infected individuals by the date of first report (HIV or AIDS). Source: North Carolina Epidemiologic Profile for HIV/STD Prevention & Care Planning, Division of Public Health, NC Department of Health & Human Services, Communicable Disease Surveillance Unit, North Carolina Communicable Disease Branch: http://epi.publichealth.nc.gov/cd/stds/epiprofile.html

Adult Diabetes

The average prevalence of diabetes among Duplin County adults has increased overall since 2004 and was higher than the state for the entire period reviewed. Over the 9-year period presented, the Duplin County average was 10.9%, compared to 10.8% Region-wide and 9.1% across the state. Approximately 14.6% of respondents to the Duplin County Community Health Survey reported having received a diagnosis of diabetes.
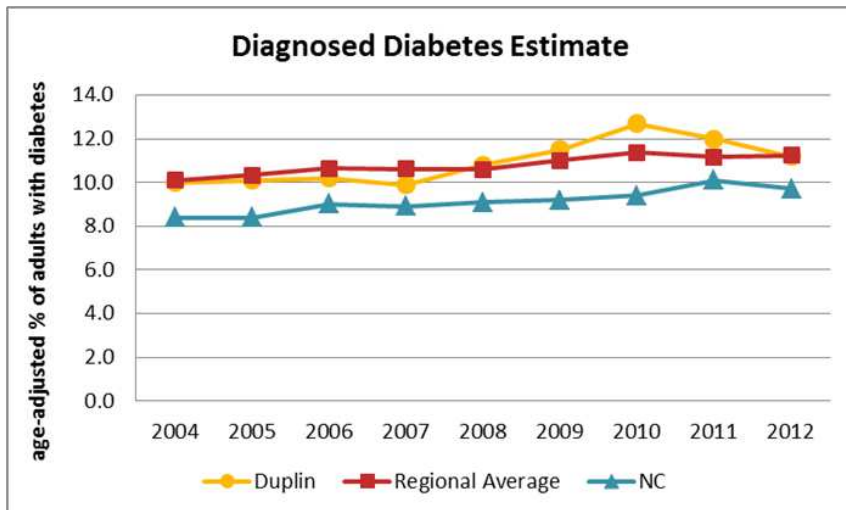
Graph 11. County-Level Data, Diagnosed Diabetes Prevalences, North Carolina, 2004 through 2012. Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System: http://www.cdc.gov/diabetes/data/index.html

Obesity in Adults

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 (State data is not available). 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%).
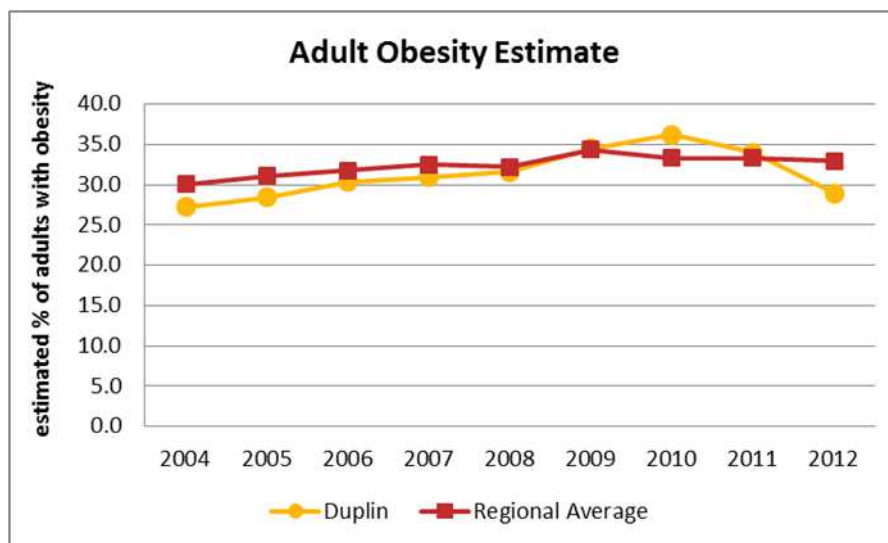
Graph 12. Obesity Prevalence 2004-2012. Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System: http://www.cdc.gov/diabetes/data/index.html

Obesity in Children (Ages 2-4)

There is limited data on the prevalence of childhood obesity in Duplin County. Data is collected for three age groups (2-4, 5-11, 12-18) via NC-NPASS. The most current data available is from

2010. The data available covers only children seen in health department WIC and child health clinics and certain other facilities and programs.

Among the 2-4 year olds in Duplin County, 14.7% of the participating children were deemed "overweight" and an additional 21.8% were deemed "obese" (total 36.5%). Statewide, 16.1% were overweight and 15.6% were obese (total 31.7%). Regionally, an average of 16% participating children were overweight and 16.8% were considered obese (total 32.8%. Among the 5-11 year olds, 15.0% were deemed overweight and an additional 22.5% were obese (total 37.5%). Statewide, 17.1% were overweight and 25.8% were obese (total 42.9%). Regionally, an average of 20.4% participating children were overweight and another 23.3% were obese (total 43.7%). Among the 12-18 year olds, 15.9% were deemed overweight and an additional 34.9% were obese (total 50.8%). Statewide, 18.1% were overweight and 28.0% were obese (total 46.1%). Regionally, an average of 16.5% were overweight and another 23.1% were obese (total = 39.6%).

Asthma
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. Approximately 15.7% of Duplin County Community Survey respondents reported that they had received a medical diagnosis of asthma.

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 Trillium Health Resources, located in Greenville (in Pitt County). Trillium also serves the following counties: Brunswick, Carteret, New Hanover, Onslow, Pender, Beaufort, Camden, Chowan, Craven, Currituck, Gates, Hertford, Hyde, Jones, Martin, Northampton, Pamlico, Pasquotank, Perquimans, Pitt, Tyrrell, Washington.

Trillium is a consolidation of East Carolina Behavioral Health and CoastalCare.
Trillium partners "with agencies and licensed therapists in our Provider Network to offer services and supports to people in need in or near their own communities. We ensure the delivery of the right services, in the right amount, at the right time. We also work 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.trilliumhealthresources.org/en/About-Us/).

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 (ICD-9 290-318xx) include psychotic and non-psychotic disorders, and conditions associated with alcohol and drug abuse.

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 prenatal care appear to be relatively low

Chapter Five: Community Watch List

After Secondary data was compiled, a watch list of noteworthy Health Problems was developed. The following items were identified as health problems in Duplin County:

- **Chronic Lower Respiratory Disease** – the current county mortality rate is only slightly higher than the NC rate, but is increasing overall, is high among males, and is increasing especially among females

- **Diabetes** – current county mortality rate is higher than NC rate and high among males and African Americans; mortality rate is increasing among males; prevalence in Duplin County exceeds NC average

- **Septicemia** – the county mortality rate is higher than the NC rate and has been increasing especially among males

- **Motor vehicle injuries** – current county mortality rate is significantly higher than NC rate

- **Kidney disease** – current county mortality rate exceeds NC rate; males and African Americans suffer significantly disproportionate mortality

- **Chronic liver disease and cirrhosis** – current county mortality rate is higher than NC rate; mortality rate is increasing, especially among males

- **Teen pregnancy rate** – currently is higher than the comparable NC rate and may be increasing among white teens

Chapter Six: Community Feedback

Community Survey Methodology

Duplin County Health Department (DCHD), 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 Office of Healthy Carolinians/Health Education and the NC State Center for Health Statistics (December 2011).

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 Seven: Issue Prioritization

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.

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 Duplin County Health Department and Vidant Duplin will work to develop action plans addressing the top community health issues.

Duplin County Health Priorities for 2016-2018

- **Access to Care**

- **Substance Abuse / Mental Health**

- **Chronic Disease**

- **Prevention / Healthy Lifestyles**

Appendices

Appendix A: Secondary Data Sources

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

- 2014 North Carolina HIV/STD Surveillance Report
- 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
- Dialysis Facility Compare, http://www.Medicare.gov/Dialysis/Include/DataSection/Questions
- Duncan, D.F., Kum, H.C., Flair, K.A., and Stewart, C.J. (2013). Management Assistance for Child Welfare, Work First, and Food & Nutrition Services in North Carolina. Special data request, March 2011. Also available online through the University of North Carolina at Chapel Hill Jordan Institute for Families website at http://ssw.unc.edu/ma/. Footnotes: Last updated September 2014.
- 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
- 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 FactFinder
- Vidant Health Hospital Utilization Data

Appendix B: Secondary Data and Hospital Utilization Data Indicators

2016 CHNA Process Secondary Data Indicators

TOPIC	NOTES
Demographic Data	
Population by Sex, Age	Counts and percentages
Population by Race, Ethnicity	Counts and percentages
Population Growth Trend	Percent growth by decade; projected to 2030
Birth Rate Trend	Birth rate over several years
Population by Age Group	Point-in-time profile of proportion of population by age group
Elderly Population Growth Trend	Population age 65 and older, by 10-year age groups
Family Composition	Grandparents responsible for grandchildren; single-parent families
Military Veterans	By age group
Household Language	Reveals proportion not facile in English
Foreign Born Population	Date of entry of foreign-born population, by decade
Voting Trend	Registered voters and voter turnout per election
Urban and Rural Population	Number and proportion in both groups over time
School Enrollment Trend	Number enrolled plotted over time
Educational Attainment	Proportion HS and College graduates; SAT scores; End of grade test results
Educational Investment	Federal, state and local investment, by school district
High School Drop Out Trend	By school district
High School Graduation Rate	By school district
High School Graduation Rate by Race	Stratification offered where valid
Socioeconomic Data	
Income	Per capita, median family and median household income
Poverty	100% level, overall and stratified by age group (i.e., adult and child) and race
Housing Cost	Median monthly cost for mortgage and for rent, multiple time periods
Housing Cost	Percent spending more than 30% of household income on housing
Homeless Population Trend	Point-in-time counts, by age group and military status
Free and Reduced Lunch Trend	Percent students eligible OR receiving F&R, by several school years
Sector Employment	Point-in-time proportional employment by sector; average weekly wage by sector

Unemployment Rate Trend	Annual unemployment rate, plotted for at least 10 years
County Tier Designation	From NC Department of Commerce
County Revenue Indicators	Receipts, gross and sales tax-related
Crime Trend (Homicide and Index)	Rate, over time for several years
Crime Trend (Violent)	Rate, over time for several years
Crime Trend (Property)	Rate, over time for several years
Juvenile Crime	Rates of undisciplined and delinquent youth
High School Reportable Crimes	Counts and rates
Sexual Assault	Number of complaints; types of perpetrators, by percent
Domestic Violence	Number of complaints
Child Abuse	Number of reports and substantiated cases
Adult Abuse	Number of reports and substantiated cases

Health Data

America's Health Rankings	Ranking of NC among 50 states
County Health Rankings	Ranking of target county among 100 NC counties
Pregnancy Trend (Ages 15-44)	Counts and rates reported over time
Pregnancy Rate by Race (Ages 15-44)	For most recently reported period only
Abortion Trend (Ages 15-44)	Counts and rates reported over time
Pregnancy Trend (Ages 15-18)	Counts and rates reported over time
Pregnancy by Race (Ages 15-18)	For most recently reported period only
Abortion Trend (Ages 15-18)	Counts and rates reported over time
Prenatal Smoking Trend	Proportion of births to mothers who smoked when pregnant; plotted over time
Prenatal Care Trend	Proportion of births to mothers who got prenatal care in first three months of pregnancy; plotted over time
Prenatal Care Trend by Race	Where stratification is valid
Low Birth Weight Trend	Proportion of births at less than 5.5 pounds
Very Low Birth Weight Trend	Proportion of births at less than 3.3 pounds
Infant Mortality Trend	Death rate among infants under the age of one year
Infant Mortality by Race	Where stratification is valid
Life Expectancy	Years of expected life for individual born in a defined period
Cause of Death	Tracks mortality rates for 15 Leading Causes of Death
Death by Age Group	Mortality rate for top three causes of death, by major age groups
Heart Disease Mortality Trend	
Heart Disease Mortality by Race	Where stratification is valid
Total Cancer Mortality Trend	
Total Cancer Mortality by Race	Where stratification is valid
Total Cancer Incidence Trend	New cases per defined time periods
Cancer Mortality by Site	For four major site-specific cancers: lung, breast, prostate and colorectal

Cancer Incidence by Site	New cases per defined time periods for four major site-specific cancers sited above
Lung Cancer Mortality Trend	
Lung Cancer Mortality by Race	Where stratification is valid
Lung Cancer Incidence Trend	New cases per defined time periods
Breast Cancer Mortality Trend	
Breast Cancer Mortality by Race	Where stratification is valid
Breast Cancer Incidence Trend	New cases per defined time periods
Prostate Cancer Mortality Trend	
Prostate Cancer Mortality by Race	Where stratification is valid
Prostate Cancer Incidence Trend	New cases per defined time periods
Colorectal Cancer Mortality Trend	
Colorectal Cancer Mortality by Race	Where stratification is valid
Colorectal Cancer Incidence Trend	New cases per defined time periods
CLRD Mortality Trend	
CLRD Mortality by Race	Where stratification is valid
Stroke Mortality Trend	
Stoke Mortality by Race	Where stratification is valid
Other Injury Mortality Trend	
Other Injury Mortality by Race	Where stratification is valid
Alzheimer's Mortality Trend	
Alzheimer's Mortality by Race	Where stratification is valid
Diabetes Mortality Trend	
Diabetes Mortality by Race	Where stratification is valid
Pneumonia and Influenza Mortality Trend	
Pneumonia and Influenza Mortality by Race	Where stratification is valid
Unintentional Motor Vehicle Injury (UMVI) Mortality Trend	
Unintentional Motor Vehicle Injury (UMVI) Mortality by Race	Where stratification is valid
Suicide Mortality Trend	
Suicide Mortality by Race	Where stratification is valid
Kidney Disease Mortality Trend	
Kidney Disease Mortality by Race	Where stratification is valid
Septicemia Mortality Trend	
Septicemia Mortality by Race	Where stratification is valid
Liver Disease Mortality Trend	
Liver Disease Mortality by Race	Where stratification is valid
Homicide Mortality Trend	
Homicide Mortality by Race	Where stratification is valid
AIDS Mortality Trend	
AIDS Mortality by Race	Where stratification is valid
Adult Diabetes Prevalence Trend	
Child Obesity Prevalence (2-4 years)	
Injury Mortality - Unintentional Falls	Number of unintentional fatal falls, by age group

Motor Vehicle (MV) Crashes, Alcohol, Trend	Number of percent of crashed related to alcohol, plotted over time
Motor Vehicle (MV) Crashes, Alcohol, Detail	Number and percent of crashes by type (e.g., fatal, non-fatal, property only) related to alcohol
Injury Mortality - Poisoning	Number of cases and rates
Chlamydia Infection Rate Trend	
Gonorrhea Infection Rate Trend	
HIV Incidence Trend	New cases identified annually, plotted over time
Communicable Disease	Counts by causative organism or disease; must be obtained from local health department
Inpatient Hospitalization Rate Trend	For state-defined list of health conditions
Dental Service Utilization by Medicaid Recipients	Stratified by age group (i.e., adults and children)
Area Mental Health Program Utilization Trend	Number using the service, plotted over several years
Alcohol and Drug Treatment Center Utilization Trend	Number using the service, plotted over several years
Psychiatric Hospital Utilization Trend	Number using the service, plotted over several years

Health Resource Data

Health Professional Ratios	Number of providers per 100,000 population for MDs, Primary Care MDs, RNs, Dentists, and Pharmacists
Health Professionals by Type	Number of active providers in major categories of health care specialties
Health Insurance Coverage Estimates Trend	Percent uninsured, by age group
Medicaid Eligibles Trend	By Department of Social Services Program Areas
Long-Term Care Facilities	Counts of beds, by type of facility (e.g., nursing homes, homes for the aged, family care homes, etc.)
Home Health Providers	Counts of providers, by category (e.g., home health, hospice, etc.)
School Nurses	Nurse to student ratio
Hospitals	List; counts of beds and loose description (list) of major services
Other Health Care Facilities	Census of dialysis centers, ambulatory surgery centers, urgent care centers, cardiac rehab centers, etc.

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

Welcome to My Survey

Thank you for participating in our survey. Your feedback is important.

* Do you live in Duplin County?

( ) Yes - What town do you live in? (please choose "Next")

( ) No - We appreciate your time but need to ask that you do not complete the survey (please choose "Next")

* If you answered "Yes," what town do you live

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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

* Q1. How do you feel about this statement, "There is good healthcare in Duplin
Consider the cost and quality, number of options, and availability of healthcare in the

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
( )	( )	( )	( )	( )

* Q2: How do you feel about this statement, "Duplin County is a good place to raise
Consider the quality and safety of schools and child care programs, after school programs, and places to play in this county.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* Q3. How do you feel about this statement, "Duplin County is a good place to grow
Consider the county's elder-friendly housing, transportation to medical services, recreation, and services for

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* Q4. How do you feel about this statement, "There is plenty of economic opportunity in Duplin
Consider the number and quality of jobs, job training/higher education opportunities, and availability of

Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

* Q5. How do you feel about this statement, "Duplin County is a safe place to
Consider how safe you feel at home, in the workplace, in schools, at playgrounds, parks, and shopping centers in the county.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

* Q6. How do you feel about this statement, "There is plenty of help for people during times of
in Duplin County"?   Consider social support in this county: neighbors, support groups, faith community

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

2016 Duplin County Community Health Survey (English)

Part 2: Community Improvement

Q7: 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.

* Please look at this list of community issues. <u>In your opinion, which one issue most affects the quality of life in your county?</u> (Please choose only one.)

- ◯ Pollution (air, water, land)
- ◯ Dropping out of school
- ◯ Low income/poverty
- ◯ Homelessness
- ◯ Lack of/inadequate health insurance
- ◯ Hopelessnes
- ◯ Discrimination/racisim
- ◯ Other (please specify)

- ◯ Lack of community support
- ◯ Elder abuse
- ◯ Child Abuse
- ◯ Domestic Violence
- ◯ Violent crime (murder, assault)
- ◯ Theft
- ◯ Rape/sexual assualt

[   ]

* Q8. a) In your opinion, which one of the following services needs the most improvement in neighborhood or community? (Please choose only one.)

- ◯ Animal control
- ◯ Child care options
- ◯ Elder care options
- ◯ Services for disabled people
- ◯ More affordable health services
- ◯ More affordable/better housing
- ◯ Number of health care providers (please provide what kind in
- ◯ Culturally appropriate health services/ interpreters
- ◯ Counseling/mental health/support groups
- ◯ Better/more recreational facilities (parks, trails, community

- ◯ Other (please specify)

- ◯ Healthy family activities
- ◯ Education / Schools
- ◯ Positive teen activities
- ◯ Transportation options
- ◯ Availability of employment
- ◯ Higher paying employment
- ◯ Road maintenance
- ◯ Road safety
- ◯ None

[   ]

Q8. b) If your answer to Q8. a) is "number of health care providers," what kind?

☐ Addictionology (alcohol and drug abuse)	☐ Endocrinology (glands)
☐ Rheumatologist (arthritis)	☐ Cardiac, Cardiovascular (heart and blood vessels)
☐ Urology (bladder, prostate, urinary)	☐ Hypertension (high blood pressure)
☐ Hematology (blood vessels)	☐ Maxillofacial (jaws, mouth and face)
☐ Orthopedic (bones, joints, muscles and spine)	☐ Nephrology (kidneys)
☐ Oncology (cancer and malignant diseases)	☐ Pulmonology (lungs / respiration)
☐ Thoracic (chest)	☐ Psychiatry (mental health)
☐ Obstetrics (childbirth / pregnancy)	☐ Neurology (nervous system)
☐ Pediatric (children)	☐ Neonatology (newborn / infants)
☐ Proctology (colon and rectal)	☐ Rinology (nose)
☐ Gastroenterologist (digestive system)	☐ Bariatric (obesity)
☐ Otology (ear)	☐ Dermatology (skin)
☐ Otolaryngology (ear, nose, throat)	☐ Laryngology (throat)
☐ Geriatrics (elders)	☐ Radiology (x-ray / imaging)
☐ Gynecology (female reproductive)	

Part 3: Health Information

* Q9. In your opinion, which one health behavior do people in your own community need more
about?   (Please suggest only one.)

○ Eating well/nutrition

○ Exercising/fitness

○ Managing weight

○ Going to a dentist for check-

○ Going to the doctor for yearly check-

○ Getting prenatal care during pregnancy

○ Getting flu shots and other vaccines

○ Preparing for an emergency disaster

○ Using child safety seats

○ Using seat belts

○ Driving safely

○ Quitting smoking/tobacco use

○ Child care/parenting

○ Elder care

○ Caring for family members with special

○ Preventing pregnancy and sexually

○ Substance abuse prevention (ex: drugs

○ Suicide prevention

○ Stress management

○ Anger management

○ Domestic violence prevention

○ None

○ Other (please specify)

```
[                                                    ]
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* Q10. Where do you get most of your health-related   (Please choose only one.)

○ Friends and family

○ Doctor/nurse

○ Pharmacist

○ Church

○ Internet

○ My child's school

○ Hospital

○ Health department

○ Help lines

○ Books/magazines

○ Other (please specify)

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[                                                    ]
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Q11. What health topic(s) / disease(s) would you like to learn more about?

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[                                                    ]
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* Q12. Which of the following health topics do you think your child/children need(s) more information
(Check all that apply.)

☐ Dental hygiene	☐ Reckless driving/speeding	☐ Alcohol
☐ Nutrition	☐ Eating Disorders	☐ Mental health issues
☐ Tobacco	☐ Asthma management	☐ Suicide prevention
☐ STDs	☐ Diabetes management	
☐ Drug Abuse	☐ Sexual intercourse	
☐ Other (please specify)		

Part 4: Personal Health

* Q13. Would you say that, in general, your health is…

○ Excellent	○ Good	○ Poor
○ Very good	○ Fair	○ Don't know/Not sure

* Q14. Have you ever been told by a doctor, nurse, or other health professional that you have any of
following health conditions? (DK= Don't know/ Not

	Yes	No	DK
Asthma	○	○	○
Depression or anxiety	○	○	○
High blood pressure	○	○	○
High cholesterol	○	○	○
Diabetes (not during	○	○	○
Osteoporosis	○	○	○
Overweight/Obesity	○	○	○
Angina/heart disease	○	○	○
Cancer	○	○	○

* Q15. Which of the following preventive procedures have you had in the past 12

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

* Q16. 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
○	○	○

Q17. 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
○	○	○

2016 Duplin County Community Health Survey (English)

Q18. Since you said yes, how many times do you exercise or engage in physical activity during a normal week? (Write number)

[   ]

Q19. Where do you go to exercise or engage in physical activity? Check all that apply.

☐ YMCA/Wellness Center	☐ Public Recreation Center	☐ Home
☐ Park	☐ Private gym	
☐ Other (please specify)		

[   ]

Q20. Since you said "no", what are the reasons you do not exercise for at least a half hour during a normal week? You can give as many of these reasons as you need to.

☐ My job is physical or hard labor

☐ Exercise is not important to me

☐ I don't have access to a facility that has the things I need, like

☐ I don't have enough time to exercise

☐ I would need child care and I don't have it

☐ I don't know how to find exercise partners

☐ Other (please specify)

☐ I don't like to exercise

☐ It costs too much to exercise

☐ There is no safe place to exercise

☐ I'm too tired to exercise

☐ I'm physically disabled

☐ I don't know

Q21. How many times each week do you eat a meal outside the home (restaurants, fast food, sporting event. etc.)?

○ 2-3 times each day   ○ 1-2 times per week   ○ 2-3 times per month

○ once each day   ○ 3-5 times per week   ○ rarely/never

* Q22. In the previous 12 months, were you ever worried about whether your family's food would run before you got money to buy

○ Yes   ○ No

* Q23. 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

2016 Duplin County Community Health Survey (English)

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* Q24. If yes, where do you think you are exposed to secondhand smoke most often? (Check only one place)

( ) Home   ( ) Hospitals   ( ) School

( ) Workplace   ( ) Restaurants   ( ) I am not exposed to second hand

( ) Other (please specify)

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[                                                            ]
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* Q25. Do you currently smoke? (Include regular smoking in social settings.)

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

* Q26. If yes, where would you go for help if you wanted to

( ) Quit Line NC   ( ) Pharmacy   ( ) I don't know

( ) Doctor   ( ) Private counselor/therapist   ( ) Not applicable; I don't want to quit

( ) Church   ( ) Health Department

( ) Other (please specify)

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[                                                            ]
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* Q27. Have you had a flu vaccine in the past year?

( ) Yes   ( ) No   ( ) Don't know/not sure

Part 5: Access to Care/Family Health

* Q28. Where do you go most often when you are sick? (Choose only one please.)

○ Doctor's office   ○ Hospital   ○ Urgent Care Center

○ Health department   ○ Medical Clinic

○ Other (please specify)

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* Q29. Do you currently have any of the following forms of health insurance or health care
   Please choose all that apply.

☐ Health insurance my employer   ☐ Health insurance through Health
                                            Insurance Marketplace
☐ Health insurance my spouse's employer
                                         ☐
☐ Health insurance my school
                                         ☐ Medicar
☐ Health insurance my parent or my parent's
   employer provides   ☐ Veteran's Administration

☐ Health insurance I bought   ☐ No health insurance plan of any

☐ Other (please specify)

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* Q30. In the past 12 months, did you have a problem getting the health care you needed for you
   or for a family member from any type of health care provider, dentist, pharmacy, or other

○ Yes   ○ No (Skip to question #33)   ○ Don't know/Not sure

2016 Duplin County Community Health Survey (English)

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Q31. a) Since you said "yes," what type of provider or facility did you or your family member have getting health care from? You can choose as many of these as you need to.

☐ Dentis   ☐ Health

☐ General   ☐ Hospita

☐ Eye care/ optometrist/   ☐ Urgent Care

☐ Pharmacy/   ☐ Medical

☐ Pediatricia   ☐ Specialist (What

☐ OB/GY

☐ Other (please specify)

[   ]

Q31. b) If your answered "Specialist" in Q31. a)   please provide what type of specialist(s)

☐ Addictionology (alcohol and drug abuse)   ☐ Endocrinology (glands)

☐ Rheumatologist (arthritis)   ☐ Cardiac, Cardiovascular (heart and blood vessels)

☐ Urology (bladder, prostate, urinary)   ☐ Hypertension (high blood pressure)

☐ Hematology (blood vessels)   ☐ Maxillofacial (jaws, mouth and face)

☐ Orthopedic (bones, joints, muscles and spine)   ☐ Nephrology (kidneys)

☐ Oncology (cancer and malignant diseases)   ☐ Pulmonology (lungs / respiration)

☐ Thoracic (chest)   ☐ Psychiatry (mental health)

☐ Obstetrics (childbirth / pregnancy)   ☐ Neurology (nervous system)

☐ Pediatric (children)   ☐ Neonatology (newborn / infants)

☐ Proctology (colon and rectal)   ☐ Rinology (nose)

☐ Gastroenterologist (digestive system)   ☐ Bariatric (obesity)

☐ Otology (ear)   ☐ Dermatology (skin)

☐ Otolaryngology (ear, nose, throat)   ☐ Laryngology (throat)

☐ Geriatrics (elders)   ☐ Radiology (x-ray / imaging)

☐ Gynecology (female reproductive

* Q32. Which of these problems prevented you or your family member from getting the necessary care? You can choose as many of these as you need to.

☐ No health

☐ Insurance didn't cover what I/we

☐ My/our share of the cost (deductible/co-pay) was too high.

☐

☐ Hospital would not take my/our

☐ Pharmacy would not take my/our insurance or Medicaid.

☐ Other (please specify)

☐ Dentist would not take my/our insurance or

☐ No way to get

☐ Medical office not open when

☐ Didn't know where to

☐ Couldn't get an

☐ The wait was too

[   ]

* Q33. If a friend or family member needed counseling for a mental health or a drug/alcohol abuse who is the first person you would tell them to talk

○ Private counselor or   ○ School   ○ Doctor

○ Support group (e.g., AA. Al-   ○ Don't   ○ Minister/religious

○ Other (please specify)

[   ]

2016 Duplin County Community Health Survey (English)

Part 6: Emergency Preparedness

* Q34. Does your household have working smoke and carbon monoxide detectors? (Mark only one.)

○ Yes, smoke detectors   ○ No   ○ Don't know/ Not

○ Yes,   ○ Yes, carbon monoxide detectors only

* Q35. 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   ○ Don't know/Not sure (Skip to question 37)

* Q36. If yes, how many days do you have supplies for? (Write number of days)

Q37. What would be your main way of getting information from authorities in a large-scale disaster or

○ Televisio

○ Internet

○ Social networking site

○ Other (please specify)

○ Text message (emergency alert

○ Radio

○ Print media (ex: (newspaper)

○ Neighbors

○ Don't know/Not sure

* Q38. If public authorities announced a mandatory evacuation from your neighborhood or community due 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

* Q39. What would be the main reason you might not evacuate if asked to do so? Check only one.)

○ Lack of

○ Concern about leaving property behind

○

○ Other (please describe)

○ Concern about traffic jams and inability to get out

○ Health problems (could not be moved)

○

○ Concern about personal

○ Concern about leaving

○ Don't know/ Not

Part 7: Demographic Questions

Q40. How old are you? (Mark age category.)

○ 15 - 19   ○ 40 - 44   ○ 65 - 69

○ 20 - 24   ○ 45 - 49   ○ 70 - 74

○ 25 - 29   ○ 50 - 54   ○ 75 - 79

○ 30 - 34   ○ 55 - 59   ○ 80 - 84

○ 35 - 39   ○ 60 - 64   ○ 85 or older

Q41. Are you Male or Female?

○ Male   ○ Female

Q42 .a) Are you Hispanic, Latino, or Spanish origin?

○ Yes   ○ No (If no, skip to #43)

Q42. b) If yes, are you?

○ Mexican, Mexican American, or   ○ Puerto Rican   ○ Cuban

Other Hispanic or Latino (please specify)

[   ]

Q43. What is your race? (Please check all that apply.)   (If other, please write in the person's race.)

◯ White

◯ Black or African

◯ American Indian or Alaska Native   (List tribe(s) including

◯ Asian

◯ Other Asian including Japanese, Chinese, Korean, Vietnamese, and

◯ Pacific Islander including Native Hawaiian, Samoan, Guamanian/

◯ Other race not listed above (please write in race)

[ ]

Q44. a) Do you speak a language other than English at home?

◯ Yes   ◯ No (If no, skip to #45)

Q44. b) If yes, what language do you speak at home?

[ ]

Q45. What is your marital status?

◯ Never Married/Single   ◯ Unmarried partner   ◯ Widowed

◯ Married   ◯ Divorced   ◯ Separated

Other (please specify)

[ ]

Q46. What is the highest level of school, college or vocational training that you have finished? (Mark only one.)

- ( ) Less than 9th grade
- ( ) 9 - 12th grade, no diploma
- ( ) High school graduate (or GED/ equivalent)
- ( ) Associate's Degree or Vocational
- ( ) Other (please specify)

- ( ) Some college (no degree)
- ( ) Bachelor's degree
- ( ) Graduate or professional degree

Q47. What was your total household income last year, before taxes? Please select which category you fall into.

- ( ) Less than
- ( ) $10,000 to
- ( ) $15,000 to

- ( ) $25,000 to
- ( ) $35,000 to
- ( ) $50,000 to

- ( ) $75,000 to
- ( ) $100,000 or

Q48. 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.)

Q49. What is your employment status? (please check all that apply)

- [ ] Employed full-time
- [ ] Employed part-time
- [ ] Retired
- [ ] Armed forces

- [ ] Unemployed for more than 1 year
- [ ] Disabled
- [ ] Student
- [ ] Homemaker

- [ ] Self-employed
- [ ] Unemployed for 1 year or less

Q50. Do you have access to the Internet?

- ( ) Yes
- ( ) No
- ( ) Don't know/Not sure

Appendix D: Evaluation of 2013 Vidant Duplin Hospital's Implementation Plan

2013 Implementation Plan Evaluation

Priority health need: Promote Healthy Weights through Healthy Living- Reducing Obesity

Goal: Decrease the rate of adult obesity and decrease the percentage of children age 2-4 years that are overweight or obese.

Strategies

1. **Collaborate with local agencies and industry to provide health screenings through Vidant Duplin Hospital's (VDUP) Community Health Services that may include at least one of the following screenings depending upon the event – blood pressure, blood sugar and body mass index. Provide educational information about nutrition and physical activity.** VDUP continues to collaborate with local agencies and industry to provide health screenings.
2. **Participate in and/or sponsor at least one community event that targets children's health and specifically promotes healthy eating and physical activity for children.** VDUP's foundation continues to award grants to various community organizations who facilitate healthy eating and physical activity for area children.
3. **Provide educational articles, written by Vidant Duplin Hospital's Community Health Services on topics related to healthy nutrition, physical activity, obesity, children's health and exercise. Provide resources in addition to the health information. Distribute through Community Health events, the local newspaper and social media.** VDUP continues to provide health topics for nutrition and physical activity to the local newspaper and social media.
4. **Host weekly "Taking Off Pounds Sensibly" meetings at the hospital for the general public and employees.** VDUP continues to host Taking Off Pounds Sensibly meetings at the hospital.
5. **Facilitate a hospital employee wellness program that targets weight loss and/or an increase in physical activity. In addition, invite the general public and neighbors (Duplin County Board of Education and Duplin County Employees) to participate in Vidant Duplin Hospital's employee wellness activities.** VDUP continues to facilitate a wellness program (Body-Mind-Wellness Team) for employees and the general public.
6. **Relocate and renovate the hospital employee workout facility.** Relocated and renovated VDUP employee workout facility and named it, "Fitness Factory," open 24/7.
7. **Promote healthy eating and educate employees and visitors on how to make healthy choices by providing all calorie information at the point of service in our hospital cafeteria and vending areas. We will continue to offer a discounted rate on the healthiest entrée served in our hospital cafeteria.** VDUP continues to offer 75 percent healthy choices and discounted healthy food.
8. **Promote healthy eating at all hospital-sponsored functions (internal and external) where food is served and offer healthy options.** VDUP continues to promote healthy eating at hospital-sponsored functions.
9. **Support local community events that focus on physical activity.** VDUP partners with community members to promote events that focus on physical activity such as our annual Stroke Awareness 5K.
10. **Participate in North Carolina Prevention Partners *Healthy NC Hospitals* healthy foods program.** VDUP continues to offer 75 percent healthy choices and discounted healthy food.
11. **Through the Duplin General Hospital Foundation's Community Benefit Grants Initiative, fund healthy living programs managed by Duplin County Cooperative Extension, Duplin County Health Department, North Duplin County Schools, Duplin Partners for Health, Faison Recreation and Wellness Center, Food Bank of Central and Eastern North Carolina,**

Duplin County Partnership for Children and other agencies as identified. VDUP's foundation continues to award grants to various community organizations who facilitate healthy eating and physical activity for area children.

Priority health need: Promote Prevention of Chronic Disease

Goal: Improve outcomes and quality of life for adults at risk for chronic disease, including diabetes and heart disease.

Strategies

1. **Collaborate with local agencies and local industry to conduct community-based health screenings and prevention education for heart disease, stroke, diabetes and cancer. In addition, provide health education and support groups to promote chronic disease prevention and management.** VDUP continues to collaborate with local agencies and local industry to conduct screenings, provide education and management tips for chronic diseases.
2. **Promote nationally recognized health events such as breast cancer awareness, women's heart health, stroke and prostate cancer.** VDUP continues to promote nationally recognized health event.
3. **In conjunction with other community partners, sponsor breast cancer awareness and prevention activities in October. Participate in Vidant Health's annual Pink Power initiative and collaborate with other organizations in the community on breast cancer awareness.** VDUP continues to sponsor and support breast cancer awareness activities throughout the community.
4. **Sponsor Women's Heart Truth event in February. Event will feature a luncheon with an informational and inspirational speaker, health screenings and women's heart health education.** VDUP continues to sponsor and support women's heart health activities throughout the community.
5. **Provide updates on chronic disease prevention and management through local conventional media and social media. Continue publishing Health Beat articles in the local newspaper with a continued focus on chronic disease such as diabetes, heart disease, cancer and stroke.** VDUP continues to provide updates on chronic disease prevention and management through local conventional media and social media.
6. **Continue existing and establish new disease focused support groups for individuals with chronic illness. Offer Diabetes Bus classes and stroke support group.** VDUP continues to facilitate and create chronic illness support groups such as our breast cancer group.
7. **Through collaboration with other healthcare agencies, provide telehealth program to qualified candidates in the community suffering from heart disease, high blood pressure, diabetes and other chronic illness.** Vidant Health continues to provide telehealth services in the community.
8. **Work with Vidant Medical Group to recruit more primary care providers to Duplin County.** VDUP continues to work with Vidant Medical Group to recruit more primary care providers to our community.
9. **Participate in North Carolina Prevention Partners *Healthy NC Hospitals* quit tobacco program.** VDUP continues to participate in Prevention Partners *Healthy NC Hospitals* quit tobacco program and received Prevention Partner's *Excellence Award* for our efforts.
10. **Through the Duplin General Hospital Foundation's Community Benefit Grants Initiative, fund healthy living programs managed by Duplin County Cooperative Extension, Duplin County Health Department, North Duplin County Schools, Duplin Partners for Health, Faison Recreation and Wellness Center, Food Bank of Central and Eastern North Carolina, Duplin County Partnership for Children and other agencies as identified.** VDUP's foundation

continues to award grants to various community organizations who facilitate healthy eating and physical activity for area children.

Priority Health Need: Connect Residents with a Primary Care Medical Home-Access to Care

Goal: Improve access to health care especially for the uninsured/underinsured patient population.

Strategies

1. **Provide quality healthcare to everyone who seeks Vidant Duplin Hospital's services.** VDUP continues to provide quality healthcare services.
2. **Provide financial counselors who can assist with determining if patients qualify for Medicaid and in applying for other government-assisted programs.** VDUP continues to provide financial counselors.
3. **Offer charity care to patients who are unable to pay due to financial hardships.** VDUP continues to offer charity care to patients who are unable to pay due to financial hardships.
4. **Collaborate with Duplin County Health Department to help residents access health care services in the community.** VDUP continues collaborate with the Duplin County Health Department to help residents access health care.
5. **Work with Vidant Medical Group to recruit additional primary care providers to the community.** VDUP continues to work with Vidant Medical Group to recruit more primary care providers to our community.
6. **Assist Vidant Medical Group and local primary care practices as they work towards implementing the patient-centered medical home model of care which will provide greater access to needed services, better quality of care, greater focus on prevention, as well as early identification and management of health problems.** VDUP assisted Vidant Family Medicine-Wallace as it established a patient-centered medical home model of care and continues to work with Vidant Medical Group to establish one for the yet-to-be-opened Vidant Family Medicine-Kenansville.
7. **In collaboration with other local agencies, establish and implement HealthNet services to provide a coordinated health care system for the uninsured.** VDUP partnered with the Duplin County Health Department to establish HealthNet services for the under- and uninsured.
8. **Offer local healthcare providers list at all Vidant Duplin Hospital Community Health Services events.** VDUP continues to offer a list of local healthcare providers at events.
9. **After community health screenings, conduct follow-up phone calls on patients who have abnormal screening results.** VDUP continues to offer follow-up phone call with patients who have abnormal screening results.
10. **Through the Duplin General Hospital Foundation's Community Benefit Grants Initiative, fund access to care programs managed by agencies as identified.** VDUP's foundation continues to award grants to various community organizations who facilitate access to care programs.

<u>Priority health need: Improve Women's Health During Childbearing Years</u>

Goal: Reduce teen pregnancy and decrease the disparity between black and white infant mortality rates.

Strategies:

1. **Work with Vidant Medical Group to recruit additional OB/GYN providers to the community.** VDUP continues to work with Vidant Medical Group to recruit more primary care providers to our community.
2. **Offer Healthy Living Guides at all Vidant Duplin Hospital Community Health Services events.** VDUP continues to offer healthy living education at events.

3.**Partner with Duplin County Health Department through Dr. Daniel Beck,** a Vidant Medical Group OB/GYN, to ensure the provision of proper pre-natal care. VDUP continues to partner with Vidant Medical Group.