In partnership with the Onslow County Health Department and Onslow Memorial Hospital

2016 Onslow County Community Health Needs Assessment

ONSLOW COUNTY NORTH CAROLINA 1734

Onslow MEMORIAL HOSPITAL Where People Care

Serve ONSLOW

CONTENTS

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Chamber of Commerce

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Jacksonville Police Department

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Onslow Memorial Hospital

Onslow Women's Shelter

Realo Drug

Sandy Run Board of Directors

Second Wind ECO Tours

Shape NC

Town of North Topsail Beach

Trillium Health Resources

United Way of Onslow

University of North Carolina Wilmington

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EXECUTIVE SUMMARY

The North Carolina Department of Health and Human Services requires that all local health departments complete a Community Health Assessment (CHA) every four years. The newly adapted Affordable Care Act requires that all tax-exempt hospitals conduct a community health needs assessment (CHNA) every three years. This new federal requirement is very similar to the traditional Community Health Assessment (CHA) required of local health departments in North Carolina. The ultimate goal of the entire CHA/CHNA process is to improve the overall health of the community's residents.

For the first time in the history the Onslow County Community Health Needs Assessment, Onslow Memorial Hospital (OMH) and the Onslow County Health Department (OCHD) partnered to conduct the survey together and develop comprehensive action plans. This pairing of a hospital and health department for the assessment process is unique and has not been widely utilized in North Carolina. However, it demonstrates the strong collaboration that exits between the agencies and their partners and the commitment to a coordinated effort to make the most impact in the community by combining resources.

This report explains the results of the survey and the priority health issues that developed from the comparison of community input to secondary data. This information will be used to complete action plans that OMH, OCHD, and their partners will implement to improve the health of the community.

One of the driving factors for OCHD and OMH combining to complete this CHNA/CHA was that there was much overlap in the priority health issues, health disparities, and action plans for both agencies during the last report cycle. Collaboration on a new community survey was a logical step toward a partnership for a healthier community.

The entire assessment process is driven by the input of Onslow County residents and combined with the priorities of numerous health and human service organizations that work to address the county's health needs. This assessment was accomplished by gathering opinions from citizens (through a survey) and collecting data from local, state, and national resources. The residents' survey was available electronically and in hard copy. Between September 2015 and January 2016, 633 surveys were collected.

Onslow County is home to 194,607 people and has seen a 24.8% population growth since 2000. One of the unique characteristics of Onslow County is its youthful population. While many communities across the United States are aging, Onslow County retains a young population due in large part to the constant influx of new military personnel and their families.

Racial distribution is moderately different in Onslow County compared to North Carolina overall. Onslow County has a higher percentage of white residents, a lower percentage of African American residents, and a higher percentage of Hispanic or Latino residents than the state. Almost seven in 10 residents of Onslow County are affiliated with the military.

While the survey respondents closely matched county demographics for geography and race/ethnicity, more women than men and more middle age than younger people completed the survey, which does match county demographics. Special efforts highlighted in this report sought to survey the younger, male population.

Comparison with peer counties is a requirement from the North Carolina Division of Public Health (NC DPH), unless a regional approach is involved. Onslow County is among five counties in Peer County Group B with Cabarrus, Catawba, Henderson, Iredell, and Union counties. Throughout the report, peer county data is highlighted.

A team from the University of North Carolina Wilmington analyzed the primary data, pulled secondary data sources, and wrote some of the Community Health Assessment. This was the first time Onslow County had partnered with the university to complete a CHA/CHNA.

The top five health challenges identified by residents were

- **Joint Pain or Back Pain**
- **Overweight/Obesity**
- **High Blood Pressure**
- **Dental Care**
- **Diabetes**

These correspond to the health issues that residents feel they need to know more about--nutrition, exercise/physical activity, and blood pressure. Community members also stated that healthier food, recreation facilities, and wellness services were most needed to improve their health. Higher paying jobs, better/more recreational facilities, and healthy food choices were selected as the top needs to improve the community. The health screenings and services most needed by residents are blood pressure, routine well checks, and exercise/physical activity. Similar answers to several survey questions show a pattern of needs that community members identified as health challenges.

Hospital data was used as an important secondary data source in choosing priority health issues. Data provided by the NC Center for Health Statistics indicates that among the provided reasons for a hospital admission, the top reasons in Onslow County include: 1) pregnancy and child birth; 2) cardiovascular and circulatory disease; 3) digestive system disease; 4) respiratory disease; other diagnoses (including mental illness); and 5) injuries and poisoning.

In comparing the results of the survey with secondary data **the priority health issues selected for Onslow County are**

- **Blood Pressure**
- **Diabetes**
- **Obesity**
- **Suicide**
- **Substance Abuse**
- **Healthy Eating/Nutrition/Access to Healthy Food**

The action plans that are eventually developed based on this report will focus on at least three of these priority areas although all will be addressed through the collective effort of the community in some capacity. The CHA Team selected Substance Abuse, Obesity, and Healthy Eating as the specific areas of focus for action plans.

Community Perceptions and Potential Disparities that were identified through the survey and secondary data are highlighted in the report. This information figures heavily into the development of action plans for the community. Explanations for how priority health issues were chosen as well as current work on both the health challenges identified in the survey and the health priorities are detailed in the report. The overall goal of the report and the action plans is to improve the health of Onslow County residents.

1 WHO LIVES IN ONSLOW COUNTY AND WHAT IS THE COMMUNITY LIKE?

Settled in 1713 by European and English settlers, Onslow County was officially formed in 1734 and is one of North Carolina's oldest counties. It is named for the Honorable Arthur Onslow, who was Speaker of the British House of Commons for more than 30 years. When a disastrous hurricane struck in 1752, the county courthouse was relocated from Town Pointe to Wantland's Ferry, which was eventually incorporated in 1842 and re-named Jacksonville after President Andrew Jackson.

The county changed dramatically in the early 1940s when the Army's Camp Davis (now closed) was established near Holly Ridge, and the decision was made to locate Camp Lejeune in the county on December 15, 1940. Prior to that time, the county was largely a collection of sparsely populated agrarian and maritime communities.

Within a few days of the establishment of the bases, the population of the county doubled from 800, and hundreds more workers came to the area to work on defense projects as part of the war effort. Property values escalated according to how close land was to the bases. The Riverview hotel, located where the USO now sits, was taken over by the Navy as construction headquarters. The Register of Deeds office stayed open late into the night to accommodate the recording of the deeds of all the property being sold.

Today, Onslow County includes 767 miles of flat, gently rolling terrain. Its location in the southeastern coastal plain of North Carolina is approximately 120 miles east of Raleigh and 50 miles north of Wilmington. The City of Jacksonville remains the county seat, and the areas surrounding the city constitute the major population centers and growth areas in the county. The county is bordered by Jones County, Pender County, Carteret County, Duplin County, and the Atlantic Ocean.

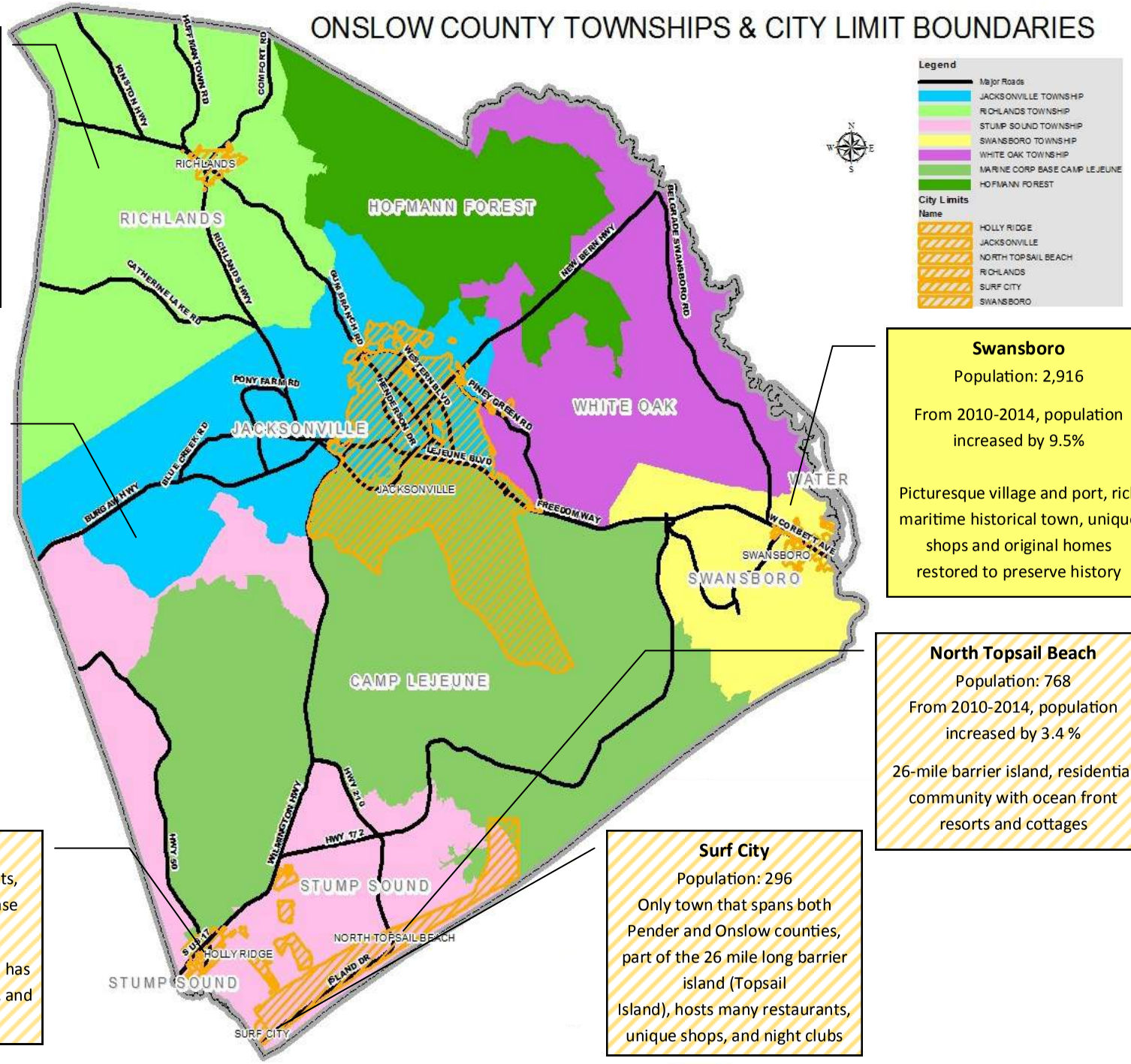
The county is home to several beach- and ocean-access communities and includes the incorporated towns of Holly Ridge, Richlands, Swansboro, North Topsail Beach, and part of Surf City as well as the unincorporated Sneads Ferry. Just over 26% of the population lives in rural areas.

Topsail Beach Image from www.joednc.com Tourism & Sports

Topsail Island was voted "Best Little Beach Town in the USA" on Trip Advisor 8.15.2016. It was also featured on HGTV's "Beach front Bargain Hunt" and the Internet-based "docutainment" series "Fireball Run Adventurally."

Those outside the county often know it as the home to several military bases, including Marine Corps Base Camp Lejeune and Marine Corps Air Station New River.

ONSLOW COUNTY TOWNSHIPS & CITY LIMIT BOUNDARIES



Richlands

Population: 1,656

From 2010-2014 population has grown by 136 residents

Has emerged as an agricultural center. Site of first graded school, first library of county, and home to Onslow County Museum

Jacksonville

Population: 76,576

From 2010-2014, population increased by 6,431

Business, retail, banking, medical, and social hub of Onslow County

Home to Marine Corps Base Camp Lejeune and Marine Corps Air Station New River

Holly Ridge

Population: over 1,493 residents, with a 17.8% population increase from 2010-2014

Was home to Camp Davis , town has an elected Mayor, Town Council, and Town Manager

Swansboro

Population: 2,916

From 2010-2014, population increased by 9.5%

Picturesque village and port, rich maritime historical town, unique shops and original homes restored to preserve history

North Topsail Beach

Population: 768

From 2010-2014, population increased by 3.4 %

26-mile barrier island, residential community with ocean front resorts and cottages

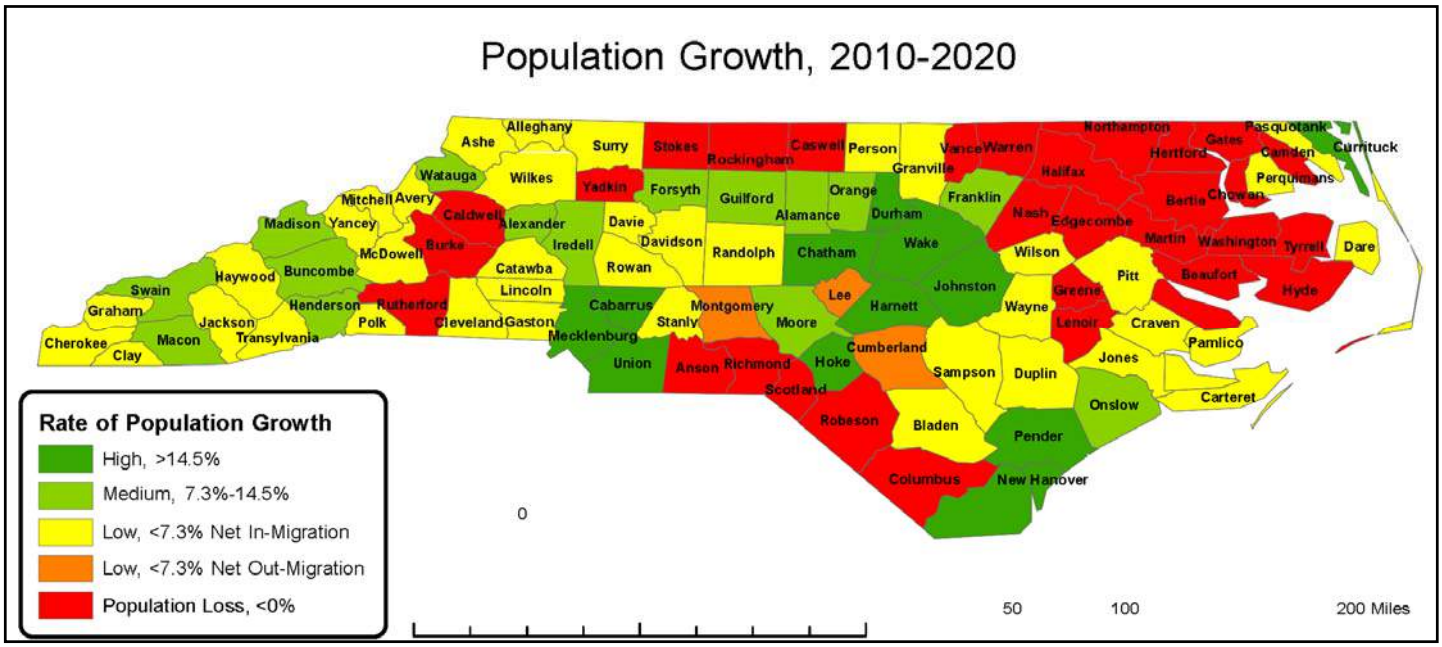
Surf City

Population: 296

Only town that spans both Pender and Onslow counties, part of the 26 mile long barrier island (Topsail Island), hosts many restaurants, unique shops, and night clubs

County Population Growth

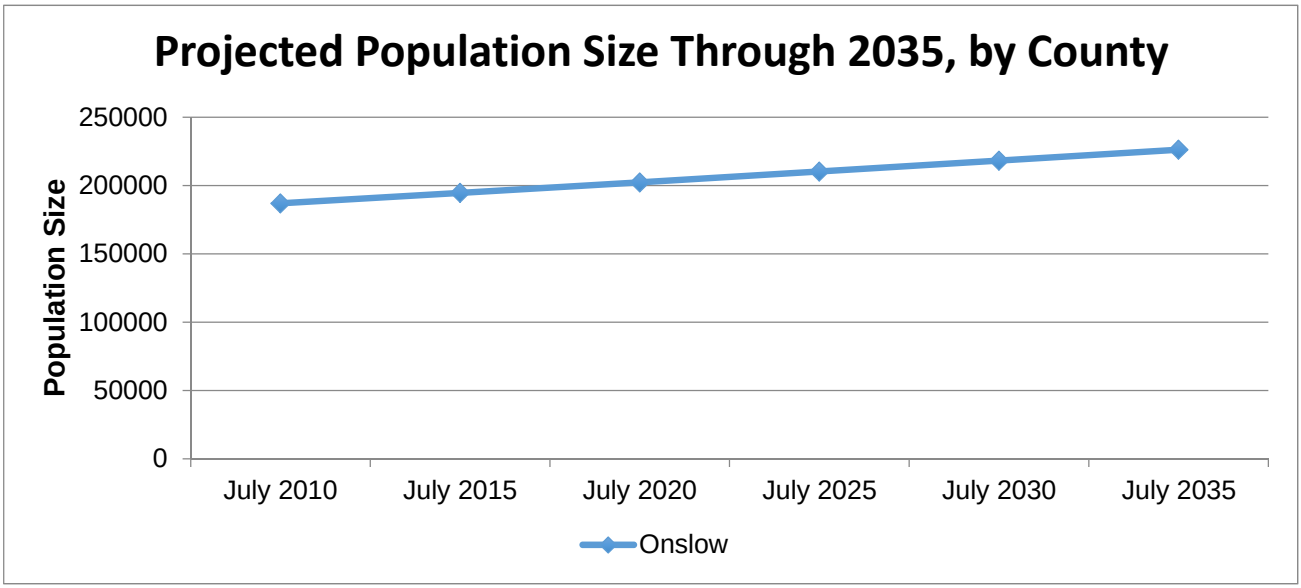
According to the North Carolina Budget & Management office Onslow County is home to 194,607 people and is expected to experience a 13.8% population growth between 2010 and 2020.



Source: NC State. Budget and Management. Municipal Estimates. [http://www.osbm.nc.gov/demog/municipal-estimates]

The State Demographics branch of the Office of State Budget Management is responsible for producing population estimates and projections. Projections indicate that the population of Onslow County will grow by 13.8% by July 2020 with a total population of 202,230. This is a growth of 24,458 from the April 2010 population estimate of 177,772.

State data can vary from federal data on population estimates as military members, especially those in transition to or from the community, are not always represented in national, state, and local census data.

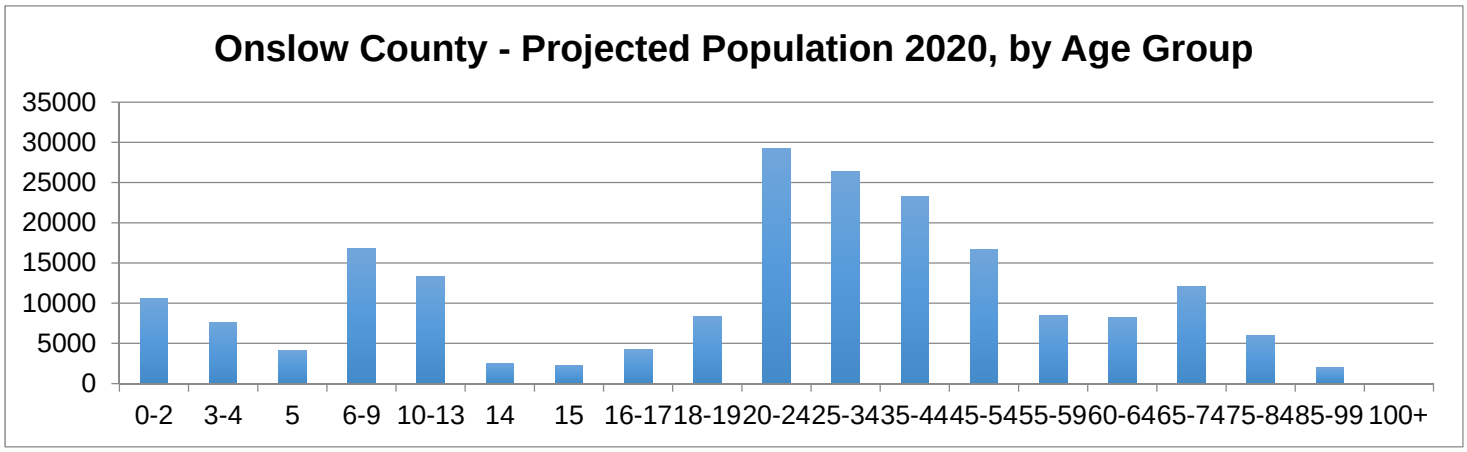


Source: NC State. Budget and Management. Municipal Estimates. [http://www.osbm.nc.gov/demog/municipal-estimates]

Onslow County Age Distribution

One of the unique characteristics of Onslow County is its youthful population. While many communities across the United States are aging, Onslow County retains a young population due in large part to the constant influx of new military personnel and their families. The average age of Onslow County residents is generally lower than the state average; while only 8.9% are age 65 and older (nearly half the state-wide proportion of 15.1%).

The projected population in 2020 by age group is shown below:



Source: NC State. Budget and Management. Municipal Estimates.
[https://ncosbm.s3.amazonaws.com/s3fs-public/demog/countytotals_agegroup_2020.html]

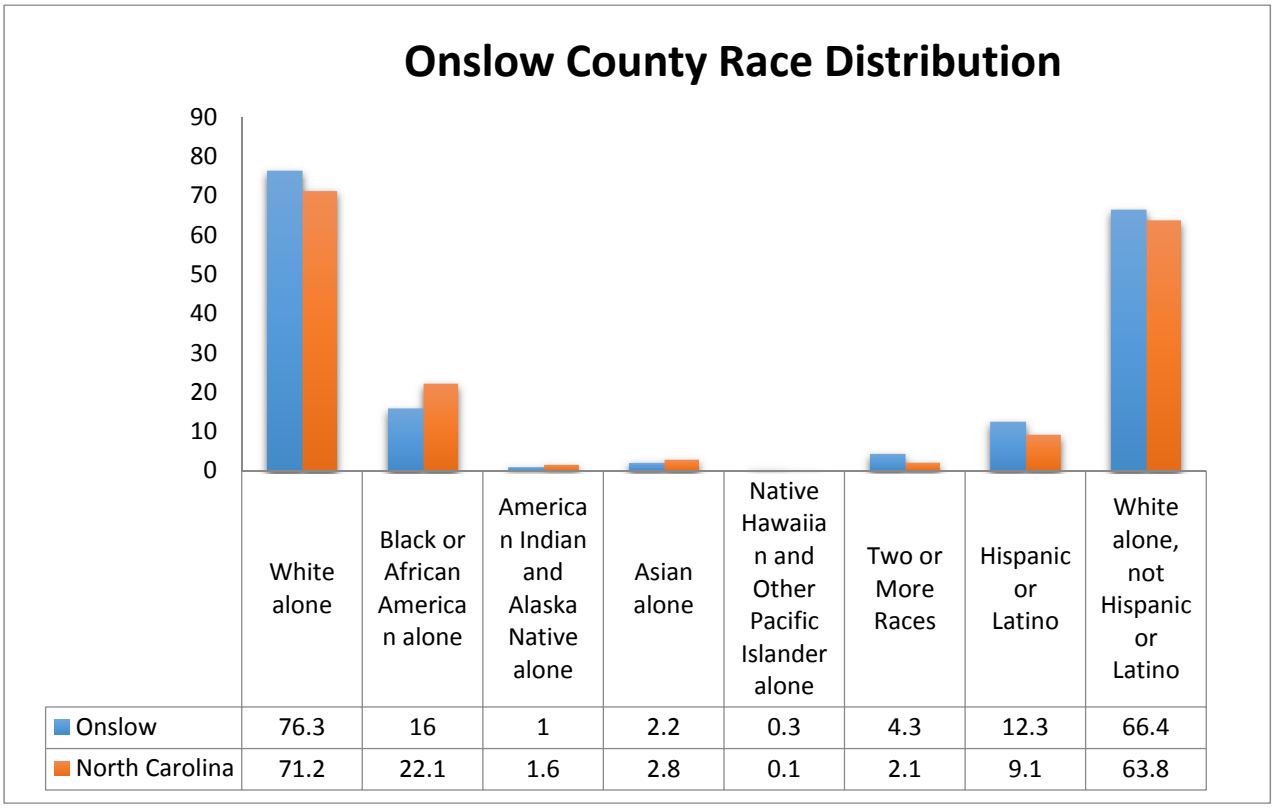
In July 2015 the highest percentage age group of the population was 25.4% for population under 18 years. This age group is also North Carolina's highest percentage of population at 22.8%.

	Onslow	North Carolina
Population under 5 years, percent, July 1, 2015	9.8%	6.0%
Population under 18 years, percent, July 1, 2015	25.4%	22.8%
Population 65 years and over, percent, July 1, 2015	8.9%	15.1%

Source: US Census Bureau. Quick Facts.
https://www.census.gov/quickfacts/table/PST045215/37179,37097,37089,37035,37025,37133

Onslow County Race Distribution

Racial distribution is moderately different in Onslow County compared to North Carolina overall. Onslow County has a higher percentage of white residents, a lower percentage of African American residents, and a higher percentage of Hispanic or Latino residents than the state.



	White alone	Black or African American alone	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Two or More Races	Hispanic or Latino	White alone, not Hispanic or Latino
Onslow	76.3	16	1	2.2	0.3	4.3	12.3	66.4
North Carolina	71.2	22.1	1.6	2.8	0.1	2.1	9.1	63.8

*Data is reflected by percent, July 1, 2015
Source: US Census Bureau. Quick Facts. https://www.census.gov/quickfacts

Military

Marine Corps Base (MCB) Camp Lejeune, NC is home to over 35,000 Marines and Navy sailors. The base, including its satellite facilities as well as Marine Corps Air Stations (MCAS) New River and Cherry Point (Craven County), comprises the largest concentration of Marines and sailors in the world. Camp Lejeune, named for the 13th Commandant of the Marine Corps, encompasses an estimated 150,000 acres, including the onshore, near shore, and surf areas in and adjacent to the Atlantic Ocean and the New River. The installation includes 14 miles of coastline, 246 square miles of land area with over 101,000 acres of usable training area and 200 square miles of special use airspace. MCAS New River, located adjacent to the main base, is home to flight operations that support ground combat forces located at MCB Camp Lejeune.

The base generates almost $3 billion in commerce each year. About 66% of the Onslow County population is affiliated with either MCB Camp Lejeune or MCAS New River.

Almost seven in 10 residents of Onslow County are affiliated with the military

Military Demographic	Population
Active Duty	35,792
Family Members of Active Duty	40,547
Retirees	11,723
Family Members of Retirees	19,222
Reserve/Guard	5,904
Family Members of Reserve/Guard	6,970
Civilians Employed by MCB	5,810
Total Military-Affiliated Population	**125,968**

Source: U.S. Marine Corps Photo by MCI-East Combat Camera/Released; MCB Camp Lejeune

Onslow Memorial Hospital (OMH)

With more than 1,200 employees and over 230 medical providers on staff, Onslow Memorial Hospital is a 161-bed acute care hospital located in Jacksonville, NC and serves Onslow and surrounding counties. The hospital is accredited by The Joint Commission and the American College of Surgeons Commission on Cancer. The hospital has also received the Joint Commission's advanced certification designation for a primary stroke center. The medical staff is credentialed in more than 25 specialty areas, including but not limited to, radiation oncology, joint center, wound care, women's imaging, rehabilitative services and sports medicine center, oncology, cardiology, orthopedics, urology, obstetrics, gynecology, otolaryngology, cardiac rehabilitation, gastroenterology, pulmonology, neonatal intensive care, and more.

Onslow County Health Department (OCHD)

The Onslow County Health Department serves all residents and visitors of Onslow County with the mission of providing education and services to the community in order to protect health, prevent disease, and promote wellness. In 2013, the Onslow County Board of Commissioners consolidated the Health Department, Department of Social Services, and Senior Services into the Consolidated Human Services Agency, with the Commissioners serving as the Board of Health. The Commissioners also approved construction of a new facility, slated to open in 2017, to house the Health Department and Social Services, which will provide convenience and integrated services for residents. In 2014, the department was accredited by the North Carolina Local Health Department Accreditation Board. A staff of around 110 provide services in the areas of food and water safety, child and women's health, nutrition, immunizations, STD diagnosis and treatment, TB control, communicable disease surveillance, and community outreach. The department implemented a new Electronic Medical Record system in fiscal year 2015-2016, which modernized its medical records, allows for more thorough data collection, and helps provide more accurate patient care.

2 WHY DOES ONSLOW COUNTY DO A COMMUNITY HEALTH ASSESSMENT?

Onslow County is an evolving community with a diverse population, growing citizenry, and strong military presence. Since communities naturally change and because a large portion of the population rotates every year due to military transfers, it is necessary to periodically assess the health concerns and needs of the county. From this assessment, action plans are developed that will positively impact the health of the entire community.

The Assessment Partnership

For the first time in the history the Onslow County Community Health Needs Assessment, Onslow Memorial Hospital (OMH) and the Onslow County Health Department (OCHD) partnered to conduct the survey together and develop comprehensive action plans. This pairing of a hospital and health department for the assessment process is unique and has not been widely utilized in North Carolina. However, it demonstrates the strong collaboration that exits between the agencies and their partners and the commitment to a coordinated effort to make the most impact in the community by combining resources.

Onslow Memorial Hospital and the Onslow County Health Department partnered for the first time to conduct the survey together and develop comprehensive community action plans.

Community Health Assessment—Health Department Requirement

The North Carolina Department of Health and Human Services requires that all local health departments complete a Community Health Assessment (CHA) every four years. In addition, a State of the County Health Report is completed annually to review key health indicators and report progress on health action plans. Such regular assessments allow public health practitioners and officials to monitor health trends in the community, effectively set goals, and plan for ways to continue to meet the changing needs of the community and target populations.

Community Health Needs Assessment—Hospital Requirement

The newly adapted Affordable Care Act requires that all tax-exempt hospitals conduct a community health needs assessment (CHNA) every three years. This new federal requirement is very similar to the traditional Community Health Assessment (CHA) required of local health departments in North Carolina. Much like the long-time CHA, the CHNA involves a systematic process to identify and analyze community health needs and assets, prioritize those needs, and develop improvement strategies, or action plans (HRET, 2016). Onslow Memorial Hospital, governed by the Onslow County Hospital Authority, is required to conduct a CHNA to maintain its tax-exempt status. Because many of the community health needs identified by Onslow Memorial Hospital's previous assessment aligned with those identified by assessments conducted by the Onslow County Health Department, collaboration on a new community survey was a logical step toward a partnership for a healthier community.

In 2014, Health Research and Educational Trust (HRET) examined a sample of 300 CHNAs in the United States to determine the most commonly identified community health needs. The most frequently prioritized driver of community health needs was lack of access to care (67%), which includes transportation issues and provider shortages. Other commonly identified drivers include limited preventive and screening services (36%), inadequate chronic condition management (32%), socioeconomic factors (27%) and lack of insurance coverage (27%). For community needs related to health conditions, obesity (70%) and behavioral health (64%) were prioritized by about two-thirds of hospitals. Other commonly prioritized health concerns included substance abuse (44%) and diabetes (36%). Hospitals and community organizations interviewed by HRET identified the same priorities as those in the 2014 sample, with many organizations focusing on increasing access to care by providing free health services, increasing provider capacity, or providing care in unique ways, such as by telehealth or in homeless shelters. Additionally, most hospitals and their partners focus on better preventing and managing chronic conditions and addressing socioeconomic insecurities.

The Assessment Process

The ultimate goal of the entire CHA/CHNA process is to improve the overall health of the community's residents.

Beginning steps in the Community Health Assessment process are to develop the survey tool, publish the survey, and gather responses from residents. Hospital and health department staff developed the initial survey, which was then reviewed by OMH's Patient Family Advisory Council and OCHD's Community Health Assessment Team (CHAT). The entire assessment process is driven by the input of Onslow County residents and combined with the priorities of numerous health and human service organizations that work to address the county's health needs. This assessment was accomplished by gathering opinions from citizens and collecting data from local, state, and national resources. The ultimate goal of the entire CHA/CHNA process is to improve the overall health of the community's residents.

Onslow Memorial Hospital's community for the Community Health Needs Assessment is Onslow County. Historically, Onslow County residents have accounted for 85 to 90 percent of OMH's patients, with no other county representing more than four percent of patients. In addition, the majority of Onslow County residents needing inpatient acute hospital care are treated at OMH.

The following table reflects the total number of inpatients treated at Onslow Memorial Hospital during the 2015 fiscal year. The information is categorized by DRG, which is the diagnosis that Medicare uses for payment.

Number of Inpatients Treated at Onslow Memorial Hospital by Diagnosis 10/01/2014-9/30/2015			
Diagnosis	**Number of Patients**	**Diagnosis**	**Number of Patients**
Alcohol and Drug Abuse	133	Normal Newborns	1,421
Cardiology/Vascular Surgery	678	Obstetrics Del	2,232
Cardiovascular Diseases	1,378	Obstetrics ND	208
Ear, Nose, and Throat	84	Oncology	291
General Medicine	3,013	Ophthalmology	9
General Surgery	1,094	Orthopedics	1,371
Gynecology	100	Psychiatry	633
Neonatology	996	Pulmonary Medical	1,243
Nephrology/Urology	603	Rehabilitation	164
Neuro Sciences	766		
	Total	16,417	

Source: State Inpatient Pivot Table Report – Market Share for Selected Hospital by DRG PL Database: Inpatient NC (MS-DRG)

Onslow County Health Department built the Community Health Assessment Team (CHAT) during the 2012 CHA process and the team has continued to meet almost quarterly since that time. The team consisted of organizations and individuals who had assisted with the 2008 CHA as well as other organizations needed to cover the breath of public health in the community, including educational institutions, law enforcement, citizens, and the business community. The CHA involves all aspects of public health: safety, health, education, employment, economic conditions, environment, public knowledge, etc. The diversity of this team strengthens the knowledge of public health in the community and has led to better communication and partnerships on a range of projects that benefit the community.

During the process, a smaller core team, comprised of health department staff, hospital staff, and partners, were involved in a variety of projects including development of survey questions, selection of the survey format, formal review of the survey, and development and implementation of action plans. Key duties of the larger CHA Team included reviewing survey questions for applicability, identification of relevant health indicators (e.g. blood pressure, obesity,

etc.), providing secondary data, and examination of data in terms of trends, areas of concern, and strengths. Additional duties consisted of reviewing the CHA report, assisting in the development of action plans, and assisting in the implementation of action plans. Finally, the smaller core team focused on completing research and writing so that the larger group could focus on the results and needs of the community. The purpose of this structure was to maximize time.

3 HOW IS THE COMMUNITY HEALTH ASSESSMENT CONDUCTED?

In North Carolina, county health officials are required to evaluate both primary and secondary data for the community health assessment. The purpose of this evaluation is to assess health outcomes and determinants, reflect community perspectives, and identify community assets (Myers & Stoto, 2006, CDC, 2013).

Primary Data Collection

OMH and OCHD chose to complete the assessment using a survey. The survey was available electronically and in hard copy. Between September 2015 and January 2016, 633 surveys were collected.

Community Health Opinion Survey- Methods

A sample of the Onslow County population was surveyed for opinions about the health status, resources, and needs in the community. The survey was available in hardcopy and online via surveymonkey.com. The initial goal was to collect 500 completed surveys by December 31, 2015; however, the survey was offered through mid-January 2016 and 633 responses were received.

Over 630 residents completed the health survey!

The survey was promoted to Onslow County residents in several ways. Onslow County Health Department, Onslow Memorial Hospital, and other partners advertised and placed a link to the survey on social media and agency websites. Television, radio, and print media covered the survey and discussed its purpose. Presentations were given to community groups and partners. Internal presentations were given to staff to encourage them to take the survey and advertise it to clients, friends, family, and other organizations through word of mouth. The Patient Family Advisory Council and CHAT members promoted the survey to faith and service groups. OMH and OCHD administered the survey at community events, such as the Senior Expo and National Night Out.

To ensure that the survey respondents mirrored the Onslow County population, special efforts were undertaken to include responses from the county's younger and male populations. For example, several Onslow County Health Department and Onslow Memorial Hospital interns collected survey responses in person at Coastal Carolina Community College and the survey was made available on the military installations.

Secondary Data Collection

Primary data (collected by surveying residents) is then compared to secondary health data (from local, state, and federal sources) to understand the scope of health issues, the reasons for the issues, health trends, disparities, and how Onslow County compares to other jurisdictions. Using secondary data also insures that significant health issues that may be unknown to many residents are not overlooked in this report to the community as well as in the development of action plans for the county.

Statistics from secondary data provide valuable insights into specific factors in the community that influence both health and well-being. Secondary data is available from local, state, and national organizations and government agencies, including those focused on health, education, economics, environment, and social and behavioral factors. Much of the secondary data used in this report is provided by the North Carolina State Center for Health Statistics (SCHS), the United

States Census Bureau, 2015 County Health Rankings (University of Wisconsin's County Health Rankings), the Centers for Disease Control and Prevention (CDC), Onslow County Health Department, and Onslow Memorial Hospital.

Peer Counties

For comparison purposes, secondary data statistics from Onslow County are also compared with the state of North Carolina and North Carolina peer counties. Comparison with peer counties is a requirement from the North Carolina Division of Public Health (NC DPH), unless a regional approach is involved. Onslow County is among five counties in Peer County Group B with Cabarrus, Catawba, Henderson, Iredell, and Union counties. Peer groups are based on several socio-demographic and population parameters, including population size, individuals living below poverty level, population under 18 years, population 65 and older, and population density (people per square mile).

NC Peer Counties, Group B: Cabarrus, Catawba, Henderson, Iredell, Onslow, & Union

Population size	**106,740 - 201,292**
Individuals living below poverty level	9.2% - 15.8%
Population under 18 years	21% - 30%
Population 65 years and over	7% - 22%
Population density (people per square mile)	233 - 492

NC DPH. CHA Guidebook [http://publichealth.nc.gov/lhd/cha/docs/guidebook/CHA-DataList-01042013.pdf]

Partnership with University of North Carolina Wilmington (UNCW)

A team from the University of North Carolina Wilmington analyzed the primary data, pulled secondary data sources, and wrote some of the Community Health Assessment. This was the first time Onslow County had partnered with the university to complete a CHA/CHNA.

4 WHAT ARE THE COMMUNITY'S TOP HEALTH CONCERNS AND PRIORITIES?

While those who completed the community health assessment survey closely matched the geographic spread of Onslow County's population as well as the race/ethnicity demographics, the survey respondents did not match the gender and age distribution of county residents. For example, a little over half of the population is male; however, around 60% of respondents were female. The average age in Onslow County is around 26; however, only 19% of respondents were under 30 years old.

CHA Results

The top five health challenges identified by residents were

- **Joint Pain or Back Pain**
- **Overweight/Obesity**
- **High Blood Pressure**
- **Dental Care**
- **Diabetes**

These correspond to the health issues that residents feel they need to know more about--nutrition, exercise/physical activity, and blood pressure. Community members also stated that healthier food, recreation facilities, and wellness services were most needed to improve their health. Higher paying jobs, better/more recreational facilities, and healthy food choices were selected as the top needs to improve the community. The health screenings and services most needed by residents are blood pressure, routine well checks, and exercise/physical activity. Similar answers to several survey questions show a pattern of needs that community members identified as health challenges.

Based on community opinion, respondents said the main reason for not getting adequate medical treatment is lack of health insurance (9.8%) or inability to pay (14.7%); not accessing care impacts health negatively. However, a majority of respondents (64.3%) indicated that they had no issues preventing them from accessing care. To improve health, survey respondents indicated that healthier food (53.7%) followed by additional recreational facilities (27.6%) and wellness services (21.6%) would be beneficial. When asked about which screenings or educational information services were needed in the community, "blood pressure" was the most frequent response (44.4%) followed by "Routine Well Checkups" (41.1%) and "Exercise/Physical Activity" (40.6%). In addition, 38.1% indicated that "Dental Screenings" were needed.

Key Secondary Data

There are three hospitals in Onslow County: Onslow Memorial Hospital, Naval Hospital and Brynn Marr Hospital. Onslow Memorial Hospital is the public hospital serving Onslow County citizens since 1944. The Naval Hospital is aboard Camp Lejeune and primarily serves active duty, military dependents, and retirees. Brynn Marr Hospital is a privately owned psychiatric hospital serving adults and adolescents. Data provided by the NC Center for Health Statistics indicates that among the provided reasons for a hospital admission, the top reasons in Onslow County include: 1) pregnancy and child birth; 2) cardiovascular and circulatory disease; 3) digestive system disease; 4) respiratory disease; other diagnoses (including mental illness); and 5) injuries and poisoning. The table below includes information regarding the hospital admissions in Onslow County including the total cases, discharge rate, average days stay, days stay rate, and total charges:

2014 Onslow County Hospital Admissions

	Total Cases	Discharge Rate (Per 1,000 pop)	Average Days Stay (Per 1,000 pop)	Days Stay Rate (Per 1,000 pop)	Total Charges
Pregnancy and Child Birth	2,488	13.3	2.7	35.5	$25,715,491
Cardiovascular and Circulatory Disease	2,027	10.8	4.6	49.3	$86,316,505
Digestive Systems Disease	1,141	6.1	4.5	27.3	$30,275,394
Respiratory Disease	1,131	6.0	5.8	35.2	$33,400,827
Other Diagnoses Including Mental Illness	1,033	5.5	9.9	54.7	$23,232,173
Injuries and Poisoning	1,020	5.4	6.4	34.9	$49,407,736

Source: NC Center f Residence.[http://www.schs.state.nc.us/data/databook/]or Health Statistics, 2014 ; Inpatient Hospital Utilization and Charges by Principal Diagnosis, and County of

The Emergency Department at Onslow Memorial Hospital continues to mirror the growing health challenges in our community. In just two years, the number of patients presenting to the Emergency Department with a primary mental health or drug/alcohol use/dependency diagnosis grew from 117 in 2013 to 396 in 2015. Furthermore, the hospital emergency department reported a 44% increase in the number of sexual assault nurse exams being offered in the last three years. In 2013, there were 43 offered, 2014, 39 offered and in 2015, 62 offered.

Analysis of secondary data revealed that Onslow County was worse than all or most peer counties, in the following areas:

- Child and infant mortality
- Quality of life; severe housing problems; food insecurity/limited access to healthy foods
- Clinical care; number of residents per primary care physicians
- Percent of physically and mentally unhealthy days; physical distress; percent ranked poor or fair health; insufficient sleep
- Rate of lung/bronchus cancer
- Sexually transmitted infections (chlamydia); teen pregnancy
- Adult smoking and excessive drinking
- Suicide; suicide by poisoning (Onslow County was the only county with suicide in the top 5 leading causes of death)

An Example of How the Primary and Secondary Data Intersect to Create a Health Picture of the Community

Onslow County was evaluated as part of the Southeastern North Carolina Regional Health Collaborative (SENCRHC), an initiative between UNC Wilmington's College of Health and Human Services and the health directors of the following 5 counties: Brunswick, Columbus, New Hanover, Onslow, and Pender. In January 2015, the 5-county report was completed and published. (Planning for Public Health: A Regional Assessment for Creating Healthy Communities, available at http://uncw.edu/sencrhc/ CountyHealthAssessments.html).

Through the SENCRHC assessment, health priority areas were developed through an analysis of health indicators (characteristics of a population that can be used to describe the health of that population) created as part of the planning process combined in a weighted overlay analysis based on 2010 Census data, built environment amenities, and proximity to facilities that support healthy lifestyles. Each of these health indicators were weighted by the Health & Wellness Advisory Committee based on the indicators' impact on health outcomes. Socioeconomic Status (SES) was ranked as the most significant factor in determining health outcomes throughout the region. A Health and Wellness Priority Areas Map was created for each county in the SENCRHC region (Appendix 2, Data Book 2). For Onslow County, the three areas of Batchelor/Nine Mile Rd area, SW Maysville area, and SE Piney Green area were identified priority communities due primarily to low socioeconomic status and lack of access to several health and wellness organizations. The findings of this assessment overlap well with the findings observed in the primary data analysis (the CHA survey results). For instance, Maysville was one area identified by the primary data from which 20% of respondents ranked their health as fair or poor, 64% of respondents reported being obese, 64% of respondents desired access to healthier food, and 55% desired better recreational facilities.

Priority Health Issues

Based on the results of the survey of community members and the study of secondary health data, the following issues were identified as **priority health issues for Onslow County:**

- **Blood Pressure**
- **Diabetes**
- **Obesity**
- **Suicide**
- **Substance Abuse**
- **Healthy Eating/Nutrition/Access to Healthy Food**

Although joint/back pain was identified as the top health issue by Onslow County residents who completed the survey, it is not listed as a priority for several reasons. The majority of those indicating joint/back pain reported that they are obese, so by addressing obesity, we will also address pain. Around half of those with joint/back pain were affiliated with the military, which means that the pain may be due to occupational exposure, a factor that may not be able to be impacted through the hospital and health department's direct efforts. Many of those indicating alcohol/drug use also declared joint/back pain, and substance abuse is prioritized as an issue.

Dental care was also chosen as a health issue by the community but is not listed as a priority health issue. Access to routine dental care is an issue nationwide, and Onslow County is no exception. In researching secondary data, however, and in considering the resources of the hospital and health department and their partners, dental care is not listed independently as a priority health issue. Since dental concerns are also associated with diabetes and healthy eating, it is hoped that addressing these areas will also lead to improvement in the dental health of the community. Finally, plans to increase access to dental care are currently underway. The Caring Community Clinic is putting the infrastructure in place to open a dental clinic for clients without insurance, and several partners are in the planning stages to bring a mobile dental unit to Onslow County in November of 2016.

The action plans that are eventually developed based on this report will focus on at least three of these priority areas although all will be addressed through the collective effort of the community in some capacity. The CHA Team selected Substance Abuse, Obesity, and Healthy Eating as the specific areas of focus for action plans. OMH and OCHD are already targeting blood pressure and diabetes through current programs. Realizing that suicide has been a priority health issue, the county formed the Crisis Prevention Coalition several years ago. The Coalition brings together leaders from base and community agencies to implement community-wide education, awareness, and prevention programs.

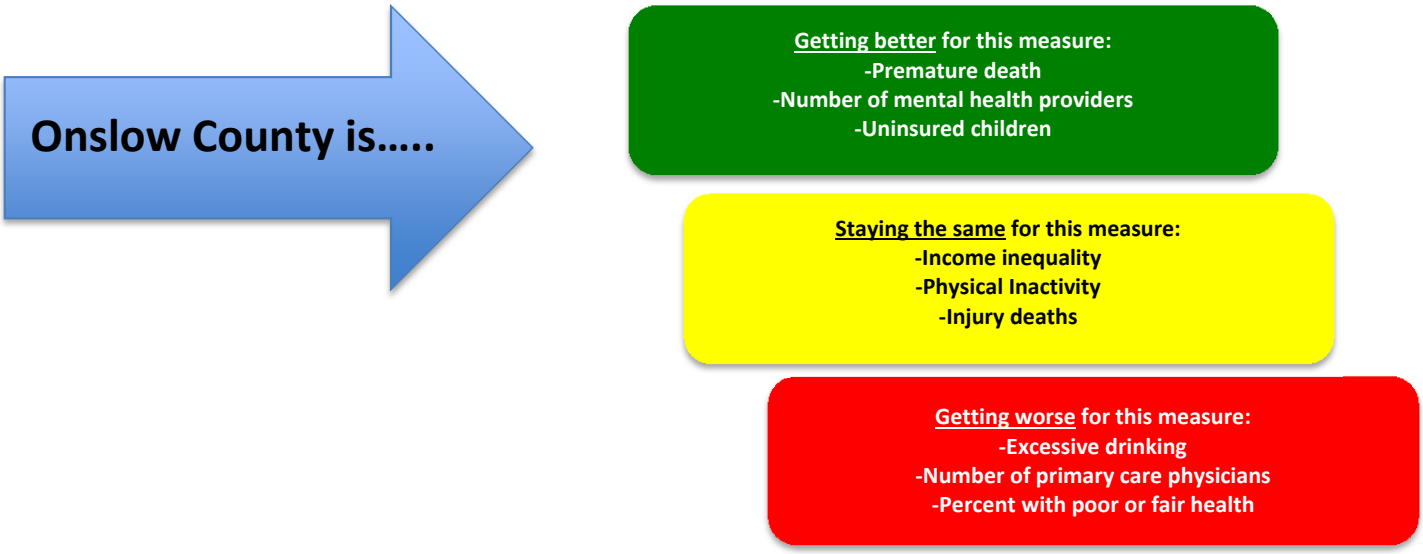
5 WHAT DOES THE COMMUNITY HEALTH ASSESSMENT AND SECONDARY DATA TELL US ABOUT THE HEALTH OF ONSLOW COUNTY RESIDENTS?

Primary data was collected from community members through the Community Health Assessment survey. Secondary data includes information about the population, environment, and health and comes from local, state, and national sources. Detailed results from the primary and secondary data analyses can be found in the data books available in Appendix 2 (Data Book 1) and 3 (Data Book 2). This section of the report highlights key findings from the primary and secondary data and what the findings say about the health of Onslow County residents.

5.1 County Snapshot from 2016 County Health Rankings

The 2016 County Health Rankings for North Carolina provide county and state-level rankings of various Health Outcomes and Health Factors. Using a variety of measures from state and national data sources, the *Health Rankings* are standardized and combined using scientifically informed weights.

According to the 2016 County Health Rankings, Onslow County ranked 25th out of the 100 NC counties (suggesting that 24 counties are healthier and 75 counties are less healthy). Although Onslow County remains in the top quarter of healthiest counties in North Carolina, its rank dropped from 22nd in 2015. Peer counties ranked as follows: Cabarrus was 13th; Catawba was 34th; Henderson was 12th; Iredell was 22nd; and Union was 3rd.



5.2 Life Expectancy

Leading Causes of Death

Cancer was the leading cause of death among Onslow County residents in 2014, followed by diseases of the heart. These two leading causes account for 43.6% of all deaths in Onslow County in 2014. Across the peer counties, the top 4 leading causes of death were the same with the first and second varying between cancer and diseases of the heart and the third and fourth varying between chronic lower respiratory diseases and cerebrovascular diseases. Compared to the peer counties, Onslow was the only county with intentional self-harm (suicide) within its top 5 causes of death. The top 4 leading causes of death for North Carolina overall were ranked identically to Onslow County.

Leading Causes of Death in Onslow, 2014

Rank	Cause	Number	%
1	Cancer	239	23.2
2	Diseases of heart	208	20.3
3	Chronic lower respiratory diseases	63	6.2
4	Cerebrovascular diseases	49	4.8
5	**Intentional self-harm (suicide)**	36	3.5
6	All other unintentional injuries	31	3.0
6	Diabetes mellitus	31	3.0
8	Septicemia	28	2.7
9	Nephritis, nephritic syndrome and nephrosis	25	2.4
10	Alzheimer's disease	23	2.2
10	Motor vehicle injuries	23	2.2
	All other causes (residual)	268	26.4
	Total Deaths—All Causes	1024	100

Leading Causes of Death in North Carolina – All Counties, 2014

Rank	Cause	Number	%
1	Cancer	19,301	22.7
2	Diseases of heart	17,547	20.6
3	Chronic lower respiratory diseases	5,020	5.9
4	Cerebrovascular diseases	4,691	5.5
5	Alzheimer's disease	3,240	3.8
6	All other unintentional injuries	3,152	3.7
7	Diabetes mellitus	2,685	3.2
8	Influenza and pneumonia	1,869	2.2
9	Nephritis, nephritic syndrome and nephrosis	1,790	2.1
10	Motor vehicle injuries	1,386	1.6
	All other causes (residual)	24,531	28.7
	Total Deaths—All Causes	85,212	100

Source: State Center for Health Statistics, North Carolina

Although cancer accounts for leading cause of death in both the county and the state and has been a priority area in prior Community Health Needs Assessments, it is not listed as priority issue at this time for several reasons:

- Progress has been made in the community concerning cancer and rates are trending down for some cancers. For example, while lung cancer remains Onslow's most prevalent and exceeds the rate of both the state and peer counties, new cases declined by 9.3 per 100,000 population from 2005 to 2013.
- Ongoing initiatives are already being facilitated in the community by Onslow Memorial Hospital and Onslow County Health Department as well as partner agencies to promote cancer prevention and education:
  - OMH—free prostate exams and skin cancer screening events available to the public.
  - Caring Community Clinic—clinical breast exams for uninsured patients.
  - OCHD—information sharing about the importance of colorectal cancer screenings provided to the public at health fairs.
  - OMH and OCHD—tobacco and e-cigarette information campaigns.

Premature Death

Premature death, dying before the age of 75, has worsened for Onslow County. However, it is not exceptionally higher or lower in comparison to state and peer county rates.

Premature Death, 2011-2013, age adjusted, per 100,000 population

	Onslow	Cabarrus	Catawba	Henderson	Iredell	Union	North Carolina
Years of potential life lost before age 75	**7077**	6242	7660	7078	7215	5193	7200
Deaths among residents under age 75	**373**	345	392	338	379	284	362

Source: County Health Rankings, 2016

5.3 Maternal and Child Health

Infant Mortality

The infant mortality rate is often used as an indicator of a population's health and well-being. Factors affecting the health of the population overall are reflected in the death rate of the youngest segment of the population. The national infant mortality rate for 2013 was 5.96 per 1,000 live births. Nationally, marked differences are seen between African Americans and whites. The infant mortality rate among African Americans (11.11) is more than twice that of whites (5.06). This discrepancy has decreased since 2015, but work must continue to eliminate it. The 2013 rates among Hispanics were 5.0; American Indian/Alaska Native 7.61; and Asian/Pacific Islander 4.07 (Mathews et al, 2015).

Annual Infant Mortality Rates (IMR), Onslow County, 2012–2014 (per 1,000 live births)

Year	Infant deaths (total)	Annual IMR Overall	Annual IMR	
			African Americans	Whites
2012	34	7.7	16.7 (9 deaths)	5.3 (17 deaths)
2013	29	6.7	22.2 (12 deaths)	4.9 (15 deaths)
2014	30	6.9	15.1 (9 deaths)	5.0 (15 deaths)

Source: Infant Mortality Statistics for North Carolina 2012-2014

Annual infant mortality rates have seen a slight decrease over time in Onslow County. Generally, infant mortality rates are lower than for North Carolina state averages and most peer counties, except for post neonatal deaths and total infant deaths.

Comparison of Infant Mortality Measures (unadjusted), 2010–2014 (rates per 1,000)

Indicator	Onslow	Cabarrus	Catawba	Henderson	Iredell	Union	North Carolina
Fetal deaths	**5.5**	6	6	6.3	7.2	5.4	6.7
Neonatal deaths (before age 28 days)	**4**	2.9	4.4	-	4.4	4.5	4.9
Postneonatal deaths (deaths between ages 28 days and 1 year)	**2.5**	1.7	-	-	2.8	-	2.2
All infant deaths	**6.6**	4.7	6	5.1	7.3	5.5	7.1

Source: NC County Health Databook

In Onslow County, from 2010 - 2014, there were a total of 143 infant deaths resulting in an *infant mortality rate* of 6.6 overall; however, the rate for African Americans was **13.6**, and for whites it was 5.1. The 2010-2014 estimate of 6.6 is just above the Healthy NC 2020 goal of **6.3**.

The 2010-2014 disparity ratio is **2.67**, and this is the lowest ratio across peer counties with available data (5.74 - 5.81); however, the ratio for Onslow County is higher than NC overall (2.39). This ratio is well above the Healthy NC 2020 goal of **1.92.**

Infant Mortality: Racial Disparities between Non-Hispanic Whites and African-Americans, 2010-2014

Residence	Infant Deaths		Births		Infant Mortality Rate*		Disparity Ratio (African American rate compared to white rate)
	White	African Amer.	White	African Amer.	White	African Amer.	
Onslow	79	37	15,558	2,725	5.1	13.6	**2.67**
Cabarrus	33	13	7,162	1,964	4.6	-	-
Catawba	29	16	5,934	907	4.9	-	-
Henderson	21	1	4,028	207	5.2	-	-
Iredell	26	31	6,188	1,287	4.2	24.1	5.74
Union	21	27	7,682	1,716	2.7	15.7	5.81
NC	1,811	1,858	336,619	143,596	5.4	12.9	2.39

*Rate per 1,000 live births; annual rates for race & ethnicity are not included due to small numbers in each category.
Source: NC County Health Databook

Births

In 2014, there were 4,367 live infants born as Onslow County residents. Of these, race was reported as 69.36% white, 13.65% African American, and 13.30% Hispanic.

Onslow County Births, 2014

Race/ Ethnicity	All Births		Teen Births (13-19 yrs.)		Births from Unmarried Women	
	No. of Births	% of All Births (n=4,367)	No. of Births	Percent, by Race/ Ethnicity	No. of Births	Percent, by Race/ Ethnicity
White, NH	3,029	69.36%	192	68.57%	416	52.80%
African American, NH	596	13.65%	46	16.43%	252	31.98%
Hispanic	581	13.30%	37	13.21%	95	12.06%
Not Reported	161	3.69%	5	1.79%	25	3.16%
All Births	4,367	100%	280	100%	788	100%

NH = Non-Hispanic *Source: 2014 North Carolina Vital Statistics*

Teen Births

The overall percentage of teen births (women age 13-19) in Onslow County in 2014 was 6.4%. Teen births were highest among white (68.57%) women.

Low Birth Weight

From 2010-2014, the percentage of Onslow County's live births that were below 5.5 pounds at birth was 7%, lower than the statewide estimate of 9% and consistent with peer counties (which ranged from 6.7 to 8.9%). Among all Onslow County infants born in 2014, 316 (7.2%) had low birth weight.

Prenatal Care and Pregnancy Risk Factors

Of the 280 teen births in Onslow County in 2014:
1 was age 13
1 was age 14
5 were age 15
5 were age 16
23 were age 17
68 were age 18
177 were age 19

Source: NC SCHC Babybook, 2014

The American Congress of Obstetricians and Gynecologists (ACOG) Guidelines for Perinatal Care recommends that the prenatal care office visit begin no later than 8-10 weeks of pregnancy. In Onslow County in 2014, 75.61% (3,302) of pregnant women received prenatal care in the first 12 weeks (corresponding to the first trimester). Seventy-three percent (424/581) of Hispanic women and 69.63% (415/596) of African American women received prenatal care in the first trimester.

Risk factors among pregnant women ending in live born infants, Onslow County, 2014

Reported Risk Factors	All Women		White		African American		Hispanic	
	No.	% of All Births (n=4367)	No.	Percent, by Race/ Ethnicity	No.	Percent, by Race/ Ethnicity	No.	Percent, by Race/ Ethnicity
No risk factors reported	3495	80%	2432	80%	442	74%	493	85%
Pre-pregnancy diabetes	30	0.7%	15	0.5%	8	1.8%	6	1%
Gestational diabetes	231	5.3%	162	5.3%	31	7%	23	4%
Pre-pregnancy hypertension	59	1.4%	38	1.3%	17	2.9%	2	0.3%
Gestational hypertension	190	4.4%	135	4.6%	32	5.4%	17	2.9%
Eclampsia	24	0.6%	20	0.7%	2	0.3%	2	0.3%
Previous preterm	75	1.7%	50	1.6%	18	3%	7	1.2%
Other previous poor pregnancy outcome	31	0.7%	23	0.8%	4	0.7%	3	0.5%
Pregnancy resulted from infertility treatment	27	0.6%	25	0.8%	1	0.2%	0	0%
Previous C-section	381	8.7%	252	8.3%	73	12.2%	46	8%

Source: NC SCHC Babybook, 2014

Smoking during Pregnancy

Compared to peer counties and the state average, Onslow County had the lowest percentage of mothers smoking during pregnancy. The percentage of pregnant women who smoked during pregnancy (during 2011-2014) was **7.6%.**

In 2014, the overall rate of smoking during pregnancy was **6.9%** (300/4367), slightly above the Healthy NC 2020 Goal of **6.8%**. An evaluation of the 2014 rates by race/ethnicity indicates that smoking during pregnancy is highest among white women (7.8%) followed by African American women (6.7%) and Hispanic women (2.4%).

NC Residents where Mother Smoked During Pregnancy, 2011-2014

County	No.	Percent
Onslow	1321	7.6%
Cabarrus	943	10.2%
Catawba	1121	15.8%
Henderson	449	10.5%
Iredell	862	12.3%
Union	725	7.7%
NC	50,024	10.4%

http://www.schs.state.nc.us/data/databook/CD7C%20Smoking.html

NC DHHS SCHS; Key Health Indicators

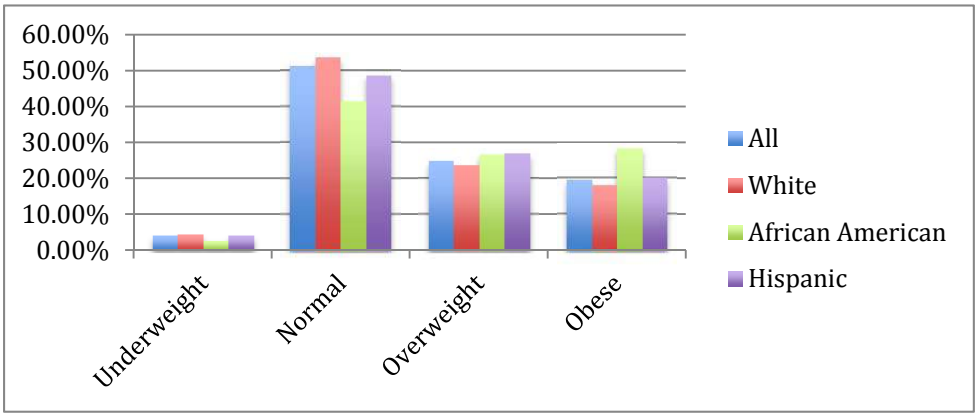
Healthy NC 2020 Goals

1. Reduce the infant mortality racial disparity between Whites and African Americans to **1.92**.
2. Reduce the infant mortality rate (per 1,000 live births) to **6.3**.
3. Reduce the percentage of women who smoke during pregnancy to **6.8%**.

Obesity and Overweight during Pregnancy

In Onslow County, 19.5% of women were considered "obese" just prior to pregnancy (pre-pregnancy weight) in 2014, and 24.8% were "overweight," as measured by body mass index (BMI). BMI is a measurement used to estimate body fat based on height and weight. Thus, slightly less than one-half were either overweight or obese.

Maternal Pre-Pregnancy Weight (BMI*) for 2014 Pregnancies, Onslow County



**Underweight (BMI <18.5); Normal (BMI 18.5-24.9); Overweight (BMI 25-29.9); Obese (BMI 30+)*
Source: NC SCHC Babybook, 2014

Why is pre-pregnancy weight important?
Recent studies have shown that the heavier a woman is before she becomes pregnant, the greater her risk of pregnancy complications. Obesity during pregnancy is associated with increased use of health care services and longer hospital stays for delivery. Overweight and obese women who lose weight before pregnancy are likely to have healthier pregnancies (CDC, 2015).

5.4 Cancer

Cancer death rates (also referred to as mortality rates) and incidence rates are provided in the following two tables for Onslow County and its peer counties. Cancer death rates reflect the number of deaths from cancer during that time period. Onslow County's death rates are not markedly different from peer counties with the exception of "lung/bronchial" cancer. ***Cancer incidence*** describes the number of new cases during the specified time period.

Age-Adjusted Cancer Mortality Rates For Selected Sites Per 100,000 Population, 2010-2014

	Colon/ Rectum		Lung/ Bronchus		Female Breast		Prostate		All Cancers	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Onslow	64	**11.1**	352	**59.6**	67	20.1	39	19.1	1071	**181.2**
Cabarrus	131	14.4	453	50.6	117	22.9	67	20.3	1546	172.3
Catawba	151	16.5	482	51.4	122	22.6	58	16.9	1,615	174.4
Henderson	115	12.4	410	43.4	74	15.2	63	15.5	1,413	152.4
Iredell	134	15.1	462	51.0	109	21.9	60	19.1	1,568	176.9
Union	116	13.2	425	46.7	98	18.7	67	21.8	1,436	158.8
NC	7,529	14.1	27,581	50.6	6,491	21.6	4,338	21.5	92,542	171.1

Source: NC SCHS Statistics and Reports

Age-Adjusted Cancer Incidence Rates For Selected Sites Per 100,000 Population, 2009-2013

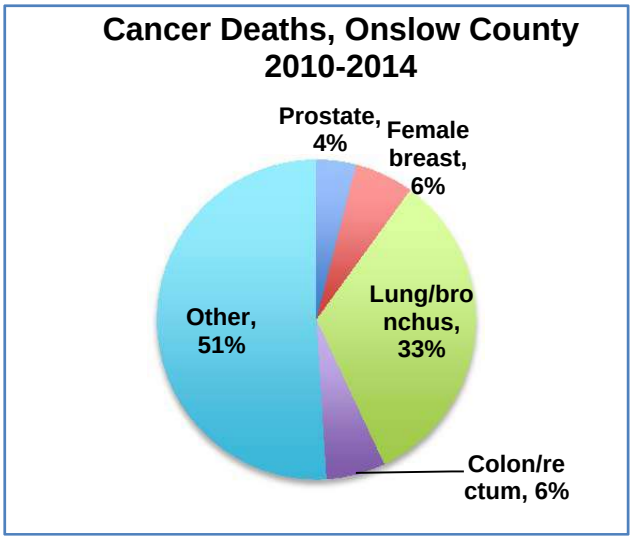
	Colon/ Rectum		Lung/ Bronchus		Female Breast		Prostate		All Cancers	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Onslow	231	38.9	507	87.2	491	151.6	320	115.6	3,155	510.6
Cabarrus	350	38.7	677	77.5	806	162.7	571	133.6	4,670	515.7
Catawba	358	39.3	632	68.2	758	154.4	507	110.7	4,277	466.2
Henderson	364	42.6	548	60.2	694	162.9	522	126.2	4,101	486.9
Iredell	359	40.0	656	73.9	794	164.7	595	138.8	4,389	492.6
Union	319	34.6	565	63.1	875	164.9	520	115.9	4,384	463.3
NC	20,240	38.5	37,831	70.9	45,146	157.9	33,115	130.6	256,989	483.4

Source: NC SCHS Statistics and Reports

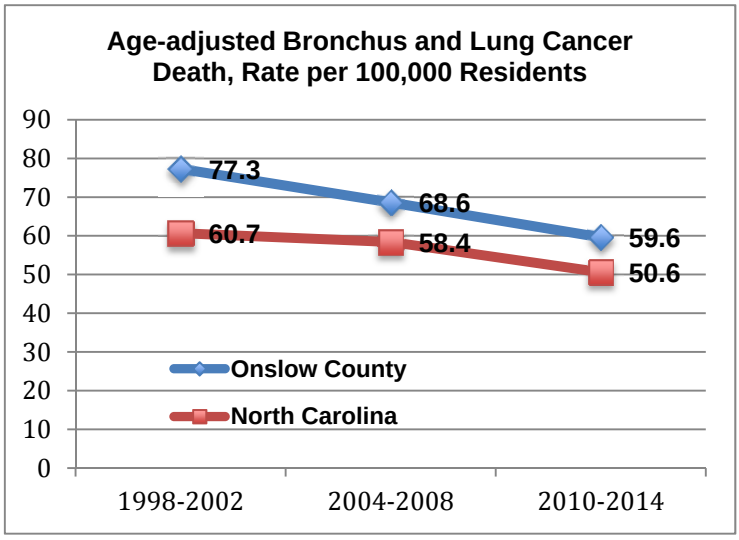
The Onslow County statistics for cancer incidence show encouraging trends. Onslow County has the lowest mortality rate for colon/rectum cancer and the lowest incidence rate for female breast cancer, compared to the peer counties and NC overall. However, Onslow County has the highest lung cancer rates when considering both mortality (deaths) and incidence. Of all 1,071 cancer deaths reported in Onslow County from 2009 through 2013, 33% (352/1071) were cancer of the lung/bronchus. Among all new cases of cancer in Onslow County 2009-2013, lung/bronchus cancer represents only 16% (507/3155) compared to 33% of lung/bronchus cancer deaths. This trend may suggest that lung/bronchus cancer rate is decreasing overall and/or that people with lung cancer are living longer.

Lung Cancer

The death rate for lung cancer (trachea, bronchus, and lung cancer) has declined over the years, yet remains above the rate for NC overall. Lung cancer incidence rates (new cases) declined from 96.5 per 100,000 (2005-2009) to 87.2 per 100,000 (2009-2013).



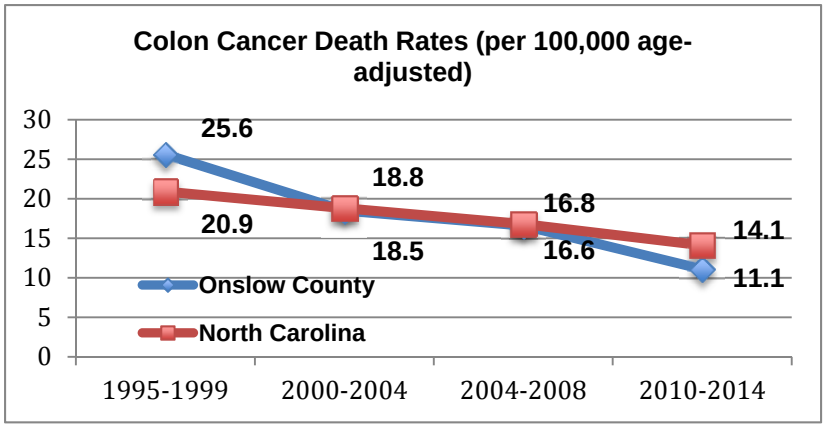
Source: County Health Data Book, 2016



Source: NC SCHS. Trends in Key Health Indicators. North Carolina Statewide and County http://www.schs.state.nc.us/data/keyindicators/

Colon Cancer

Progress is seen in the death rates for colon cancer (cancer of the rectum and anus) in Onslow County. The most current rate (2010-2014) is less than one-half the rate from 1995-1999, decreasing from 25.6 to 11.1 per 100,000. Compared to peer counties and NC overall, the 2010-2014 rate for mortality for colon cancer in Onslow County is the lowest. One of OCHD's Healthy Communities action plans is to increase awareness of the need for colorectal cancer screenings.



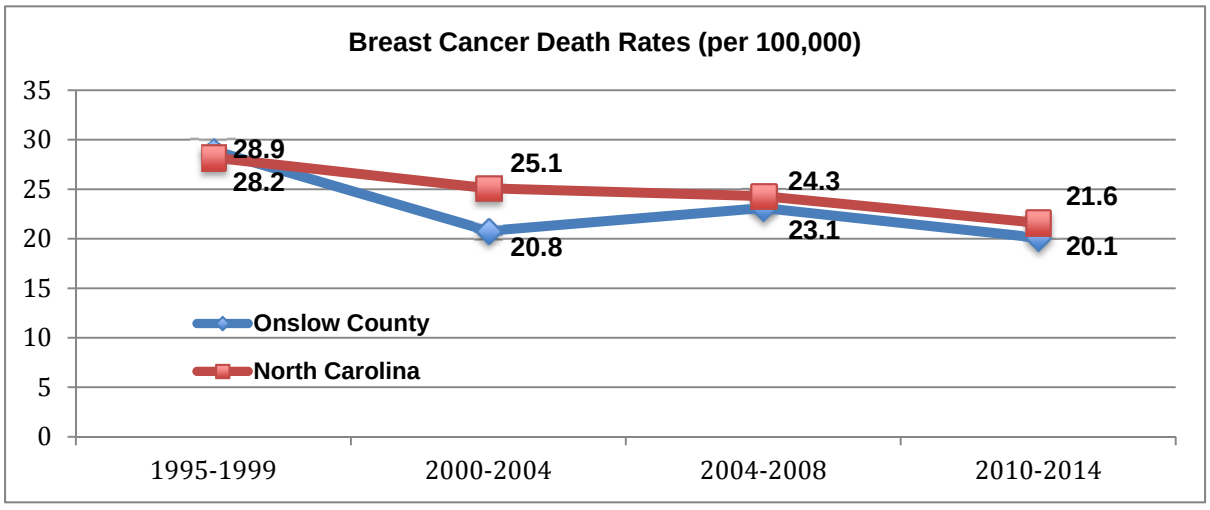
Healthy NC 2020 Goal
Reduce the colorectal cancer mortality rate (per 100,000 population) to **10.1.**

Source: NC SCHS. Trends in Key Health Indicators. North Carolina Statewide and County http://www.schs.state.nc.us/data/keyindicators/

Breast Cancer

Onslow County's breast cancer death rate (20.1 per 100,000) is among in the lowest among peer counties (range: 15.2 - 22.9) and lower than the state overall (21.6). Onslow County's breast cancer death rates have decreased over time: 28.9 per 100,000 (1995-1999) to 20.1 per 100,000 (2010-2014).

Onslow County has the lowest breast cancer incidence rate (151.6 per 100,000) among peer counties (range: 151.6 – 164.9) and the state overall (157.9). (See cancer incidence table at the beginning of the cancer section.)



Source: NC SCHS. Trends in Key Health Indicators. North Carolina Statewide and County http://www.schs.state.nc.us/data/keyindicators/

Breast cancer screening. Based on the County Health Rankings (2016), only around 65% of females aged 67 to 69 years received mammography screening. This percentage is lower than all peer county rates (65% - 69%) and the rate for NC overall (68%).

5.5 Chronic Diseases (other than Cancer)

Cardiovascular Disease, Heart Disease, and Stroke

In the U.S., approximately 1 in 4 deaths each year are due to heart disease. Individuals at higher risk for heart disease include those with diabetes, high blood pressure, and poor diet (CDC.gov).

The death rates for cardiovascular disease, heart disease, and cerebrovascular disease (stroke) have all declined in Onslow County since 1999.

The death rates for cardiovascular disease and heart disease closely mirror the statewide rates. The most current death rate for cardiovascular disease (210.8 per 100,000) is well above the Healthy NC 2020 goal of 161.5.

Cardiovascular Disease Death Rates per 100,000 (age-adjusted)

	Onslow County	North Carolina
1999-2003	349.3	342.6
2004-2008	281.5	273.5
2009-2013	210.8	229.6

Source: NC SCHS Vital Statistics, Leading Causes of Death

Healthy NC 2020 Goals
Reduce the cardiovascular disease mortality rate (per 100,000 population) to **161.5.**

Heart Disease Death Rates per 100,000 (age-adjusted)

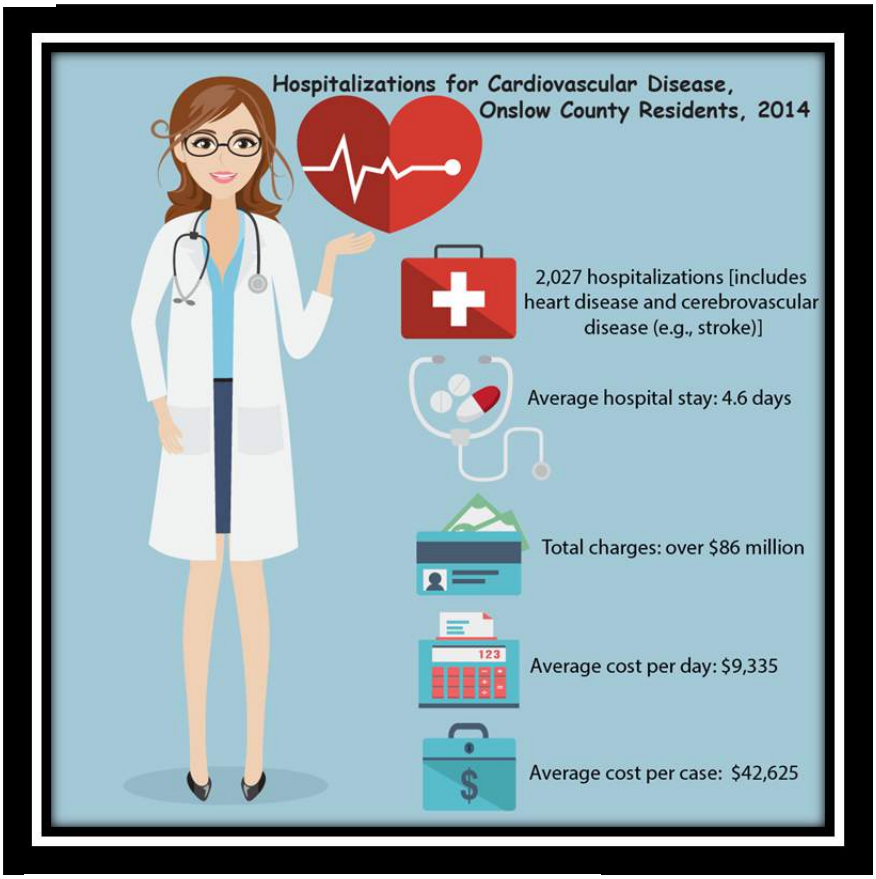
	Onslow County	North Carolina
1999-2003	260.5	247.1
2004-2008	198.7	200.3
2009-2013	166.1	170.2

Source: NC SCHS Vital Statistics, Leading Causes of Death

Stroke Death Rates per 100,000 (age-adjusted)

	Onslow County	North Carolina
1999-2003	63.9	72.2
2004-2008	59	54
2009-2013	31.5	43.7

Source: NC SCHS Vital Statistics, Leading Causes of Death



http://www.schs.state.nc.us/data/databook/

Community Perception and Potential Disparities

When asked, in the Community Health Opinion Survey, "*What types of health screenings and/or services are needed to keep you and your family healthy?*" 44.4% responded with "Blood Pressure." In addition, 37% of respondents indicated that "High Blood Pressure" was among their top five health challenges. However, high blood pressure appears to be of greater concern to men (42.40% of male survey respondents) as compared to women (33.60% of female survey respondents). Furthermore, compared to other racial/ethnic groups, high blood pressure appears to present a larger challenge for Native Hawaiians and other Pacific Islanders (67% of survey respondents within this demographic) as well as African Americans (46.8% of survey respondents within this demographic).

Diabetes

In 2012, there were an estimated 13,131 adults (aged 20 and older) with diabetes, representing **7%** of the county's adult population, below the Healthy NC 2020 goal of 8.6% and lower than peer counties (which ranged from 9% to 11%). Onslow County ranks lower than peer counties in the area of diabetic screening with only 85% of those 65-75 and enrolled in Medicare receiving monitoring.

Community Perception:

When asked, in the Community Health Opinion Survey, "*What types of health screenings and/or services are needed to keep you and your family healthy?*" 23.5% responded with "Diabetes."

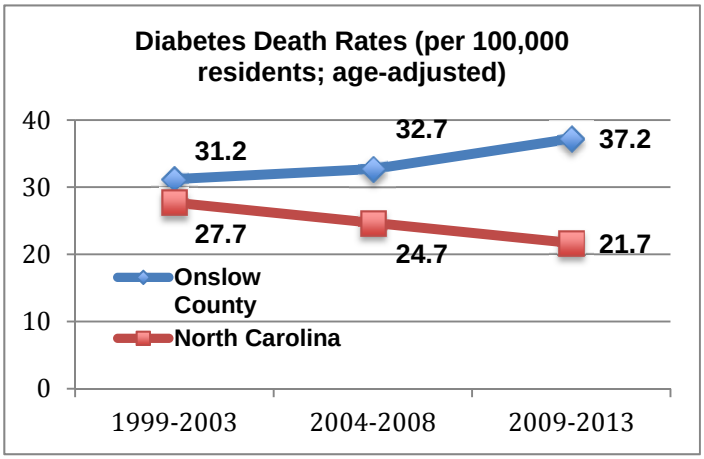
	Onslow	Cabarrus	Catawba	Henderson	Iredell	Union	NC
Diabetes, 2012 % adults aged 20+ with diagnosed diabetes	**7%**	9%	10%	11%	10%	9%	11%
Diabetic monitoring 2013 % diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring	**85%**	89%	92%	87%	90%	92%	89%

Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. 2016 County Health Rankings [http://www.countyhealthrankings.org/]

Healthy NC 2020
Decrease the percentage of adults with diabetes to **8.6%**

Source: 2016 County Health Data Book, "Inpatient Hospital Utilization and Charges by Principal Diagnosis, and County of Residence," NC 2014, http://www.schs.state.nc.us/data/databook/

Diabetes deaths. For 2010 through 2014, there were 195 deaths from diabetes in Onslow County. The county's diabetes death rate was **34.3** per 100,000, considerably higher than that of the peer counties (which ranged from 12.2 to 22.2) and the statewide rate of 22.1. Furthermore, since the time period of 1999 through 2003, diabetes deaths have increased from 31.2 to 37.2 per 100,000 during the years 2009 through 2013. Diabetes is currently tied, with "all other unintentional injuries," as the county's 6th leading cause of death (7th leading cause of death in North Carolina overall).



Source: NC SCHS. County Health Data Book 2016.

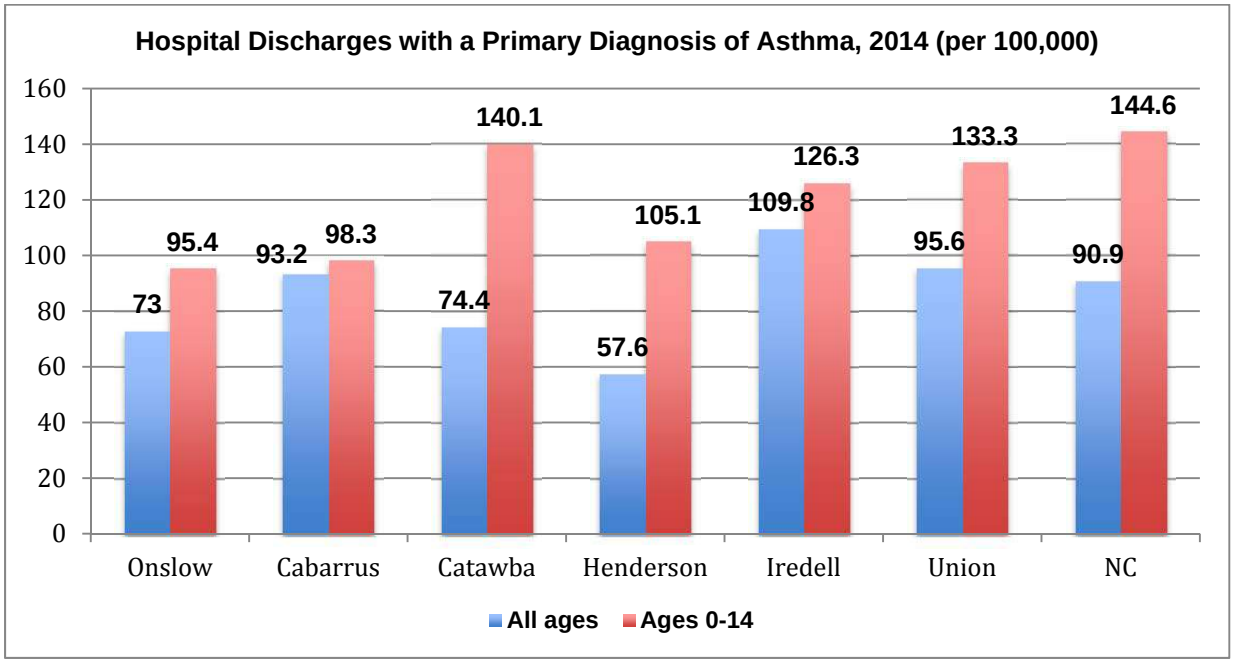
Diabetes 2010-2014	Number of Deaths	Age-Adjusted Death Rate
Onslow	195	34.3
Cabarrus	196	21.4
Catawba	202	22.2
Henderson	106	12.2
Iredell	191	21.1
Union	133	14.4
NC	11,798	22.1

Source: NC SCHS. Trends in Key Health Indicators. North Carolina

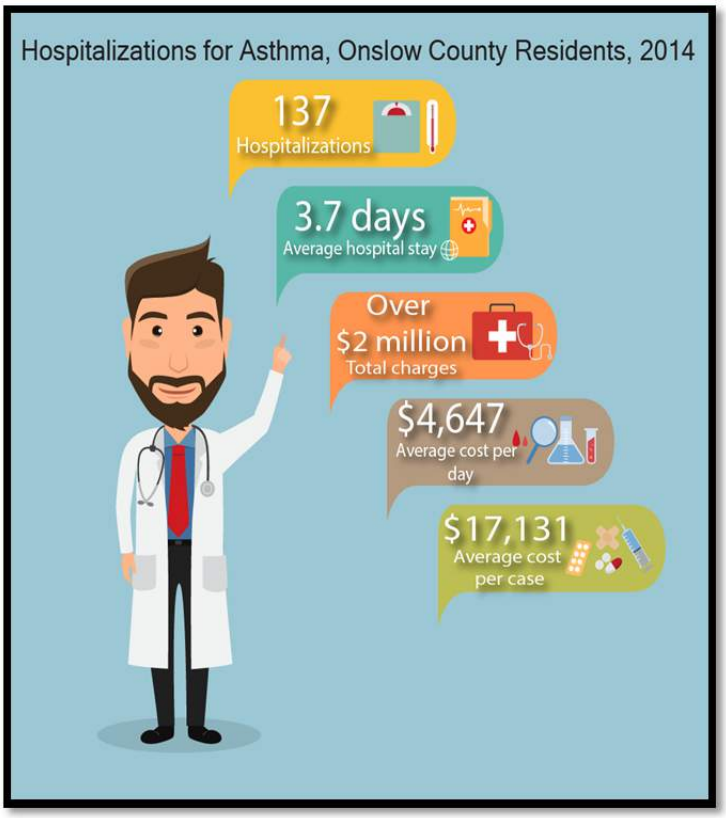
Asthma

Rates for asthma-related hospitalization are similar to the statewide rates for 2014. For all ages, the Onslow County rate is 73 per 100,000 (137 individuals) and 95.4 (40 individuals) for children 0 to 14 years of age.

Asthma hospitalizations have decreased steadily for "all ages" and for children ages 0-14. In both cases, the rate was lower than the statewide rate.



Source: NC SCHS. County Health Data Book 2016.



Hospitalizations for Asthma, Onslow County Residents, 2014

Onslow County providers have effectively managed patients with asthma as demonstrated in the steady decline of inpatient hospitalization rates for asthma for adults and children since 1999. Inpatient hospitalization rates per 100,000 residents of all ages decreased from 149.9 in 1999-2003 to 90.3 in 2009-2013. For those under 14, the decrease in the same time period for Asthma as primary diagnosis was 236.8 to 132 (NC SCHS "Trends").

Source: 2016 County Health Data Book, "Inpatient Hospital Utilization and Charges by Principal Diagnosis, and County of Residence," NC 2014, http://www.schs.state.nc.us/data/databook/

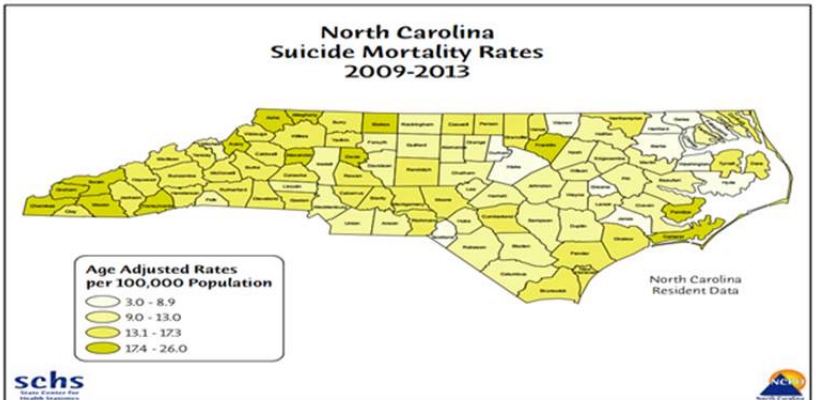
5.6 Mental Health

Studies have shown that mental illness, particularly depressive disorders, is strongly linked to the occurrence, successful treatment, and course of many chronic diseases, including diabetes, cancer, cardiovascular disease, asthma, and obesity (Chapman et al, 2005, CDC 2015). Many risk behaviors for chronic disease, such as physical inactivity, smoking, excessive drinking, and insufficient sleep, are also influenced by mental illness (Chapman et al, 2005, CDC 2015).

Nationwide, only 17% of US adults are considered in a state of "optimal" mental health. Depression is the leading mental health illness and affects more than 26% of the adult population. Suicide is the second leading cause of death among individuals 15-34, the fourth leading cause of death among individuals 35-54, the eighth leading cause among individuals 55-64, and the seventeenth among individuals 65 and older (CDC.gov).

Suicide

Suicide was the 5th leading cause of death in Onslow County in 2014. Thirty-six suicide deaths were reported, representing 3.5% of all Onslow County deaths in 2014. Onslow County's age-adjusted suicide rate was **17.5** per 100,000 population, which is more than double the Healthy NC 2020 goal of 8.32. Suicide rates in Onslow County were higher than most of the peer counties (ranged from 10.7 to 18.1) and the statewide rate (12.4) for 2010-2014. From 2010-2014, 152 suicide deaths occurred in Onslow County.



Source: North Carolina State Center for Health Statistics. Vital Statistics. [http://www.schs.state.nc.us/data/hsa/vital.html]

Suicide in the Region. When examining the southeastern NC region on the map below, it appears that all of the adjoining coastal counties of Brunswick, New Hanover, Pender, and Onslow have a higher suicide rate than the adjoining inland counties. These counties fall into the 3rd

category on the legend, representing the range: 13.1 - 17.3 per 100,000.

Suicide Mortality Rates, 2010-2014 (age adjusted)			
	Number of Deaths 2014	Number of Deaths 2010-2014	Age-Adjusted Death Rate* 2010-2014
Onslow	**36**	**152**	17.5
Cabarrus	25	127	13.8
Catawba	25	128	15.8
Henderson	27	109	18.1
Iredell	12	104	12.4
Union	20	108	10.7
NC	1,347	6,256	12.4

Per 100,000 population* Source: ***NC SCHS.*
http://www.schs.state.nc.us/data/vital/lcd/2014/suicide.html

Healthy NC 2020 Goals
Mental Health
1. Reduce the suicide rate (per 100,000 population) to **8.32**.
2. Decrease the average number of poor mental health days among adults in the past 30 days to **2.8.**
3. Reduce the rate of mental health-related visits to emergency departments (per 10,000 population) to **82.8.**

Poor Mental Health Days

The average number of "poor mental health days" for Onslow County in 2014 was **3.8 days**, and this was slightly higher than peer counties (range: 3.5 – 3.6 days) and NC overall (3.7 days). The Healthy NC 2020 goal is 2.8 days. "Poor mental health days" is a health-related quality of life measurement obtained through the Behavioral Risk Factor Surveillance System survey, a national survey. The metric is based on the survey question: *"Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?"*

Community Perception and Potential Disparities:
Although only 15% of survey respondents for the Community Health Opinion Survey indicated that "Mental Health Issues" were among their top five health challenges, this particular challenge appears to be of great concern to women(16.9% of female survey respondents) compared to men (11.8% of male survey respondents). Furthermore, mental health issues appear to present a greater challenge for those who selected the "Other" racial/ethnic category (e.g., multi-racial respondents; 33% indicated a problem with mental health issues) compared to other racial/ethnic groups (9% to 17% who indicated such a problem).

Mental Health Providers Access

The measurement, "Mental Health Providers," is a ratio of the county population to the number of mental health providers, including psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, and advanced practice nurses specializing in mental health care (County Health Rankings). In 2014, there were an estimated 508 residents for every mental health provider in Onslow County. This (508:1) is within the ratios for peer counties (401:1 – 871:1) and is higher than the statewide ratio of 444:1.

5.7 Substance Abuse

Healthy NC 2020 Goal
Reduce the percentage of traffic crashes that are alcohol-related to **4.7%**

Alcohol

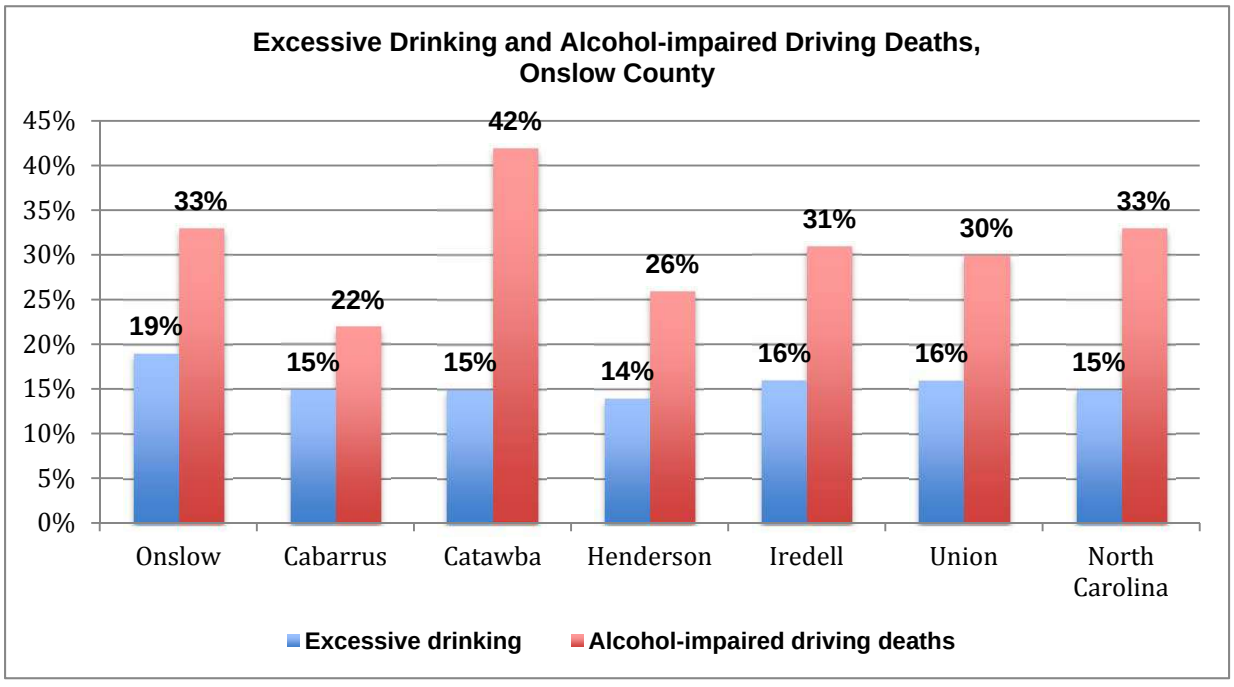
Traffic Crashes Involving Alcohol. During the 5 years from 2010 through 2014), 1295 traffic crashes occurred in Onslow County involving alcohol.

This represents 6.6% of the 19,547 traffic crashes during that time period. Since 2010, traffic crashes involving alcohol have remained fairly consistent in Onslow County from 6.2% in 2010 to 6.4% in 2014. These rates are higher than the statewide rate of 5% (2010-2014). Annual rates for NC ranged from 4.9% to 5.3%.

Driving Deaths Involving Alcohol. The percentage of alcohol-related driving deaths in Onslow County from 2010-2014 was 33%, which is comparable to the rates in peer counties (which ranged from 22% to 42%) and in NC overall (33%).

Excessive Drinking. Nineteen percent of adults in Onslow County reported binge or heavy drinking in 2014. This is higher than the rates in the peer counties and NC overall (see below).

Year	Total Patients with *EDIVC Admit Source and Primary Diagnosis of Alcohol/Drug Use/Dependency	Total Patients with *EDIVC Admit Source and Any Diagnosis of Alcohol/Drug Use/Dependency
2012	1	6
2013	12	117
2014	40	302
2015	63	396
2016	85	254
*Emergency Department Involuntary Commitment; *Source: OMH*		



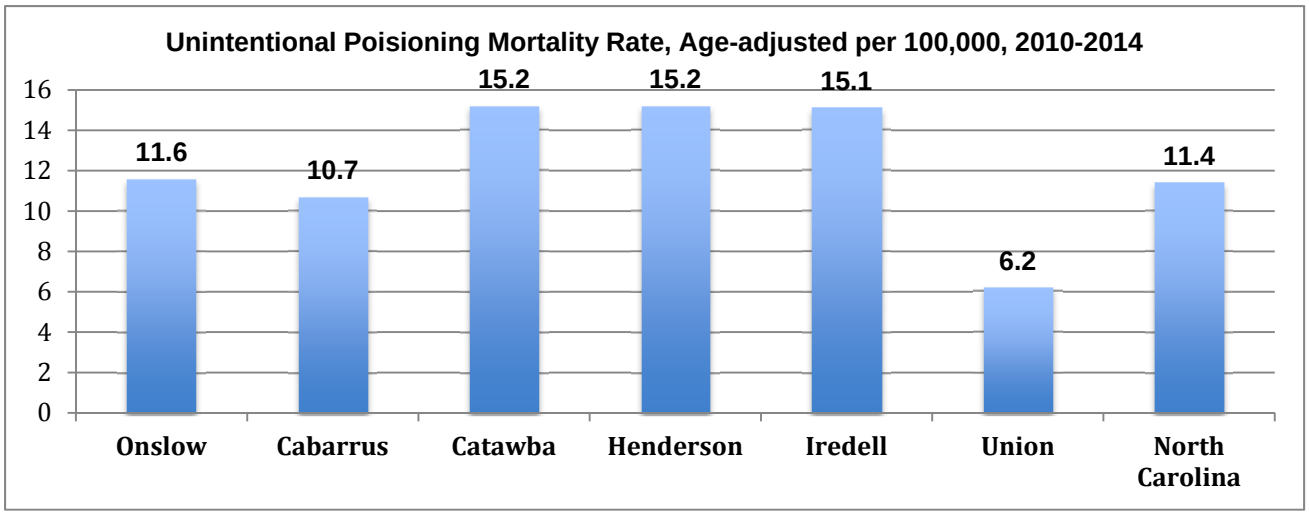
Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. 2016 County Health Rankings [http://www.countyhealthrankings.org/]

Drug Abuse

Unintentional Poisoning. Unintentional poisoning, commonly referred to as "overdose," is a poisoning in which the individual exposed to the substance is not attempting to cause harm to him/herself or others (CDC WISCARS, 2010). In NC, 90% of all unintentional poisonings involve abuse or misuse of medications (prescription or over-the-counter) or illicit drugs (such as heroin). The remaining 10% involves other toxins or chemicals, such as exhaust fumes and gases,

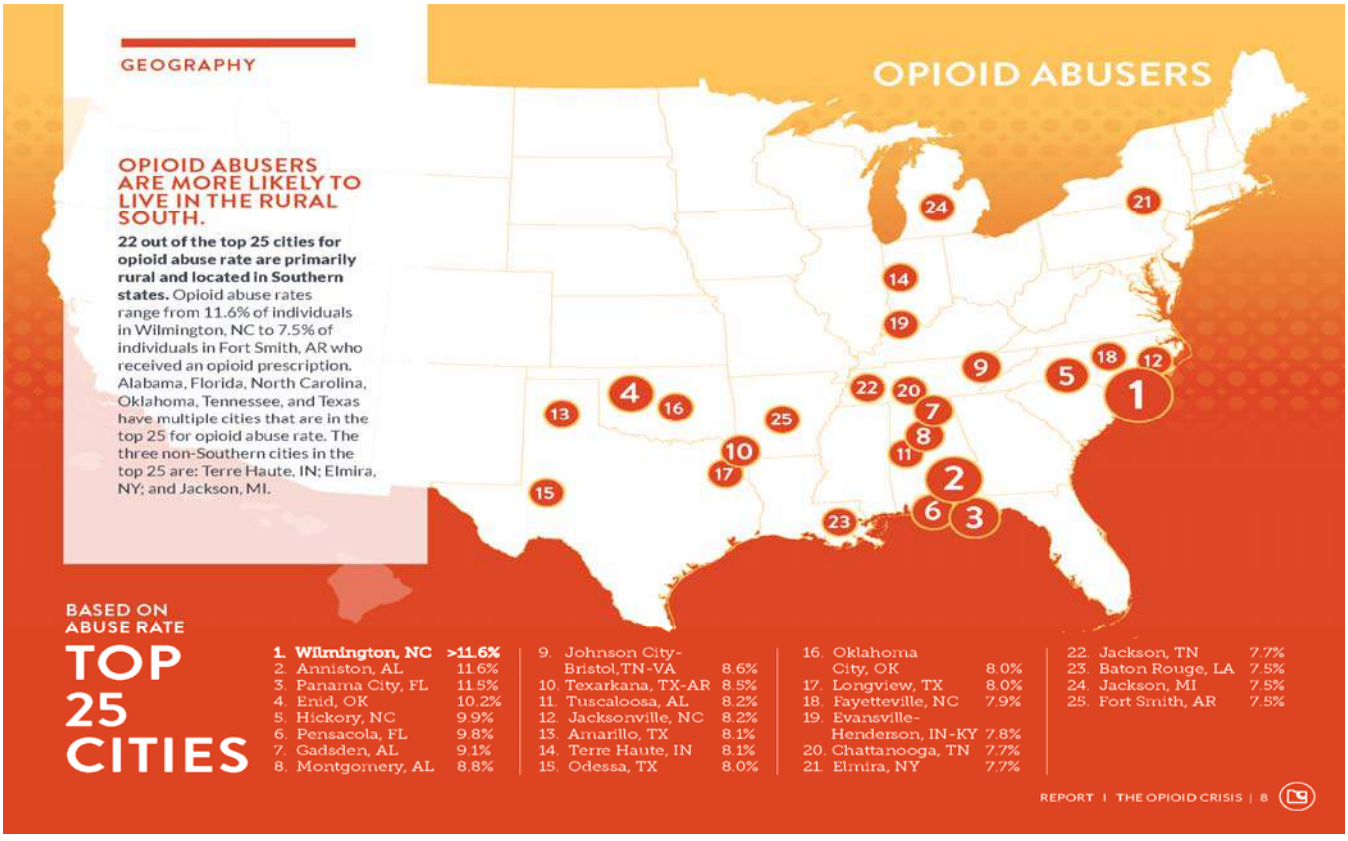
pesticides, acids, organic solvents, and petroleum products (CDC WISCARS, 2010; Austin and Finkbeiner, 2013). Opioid analgesic deaths involving medications, such as methadone, oxycodone, and hydrocodone, have increased significantly in North Carolina (Austin and Finkbeiner, 2013).

In Onslow County, the rate of unintentional poisoning deaths from 2010 through 2014 was 11.6 (92 deaths), which is comparable to the rates of peer counties and NC overall (see below).



Source: North Carolina State Center for Health Statistics. Vital Statistics. [http://www.schs.state.nc.us/data/hsa/vital.htm]

A recent Castlight Health report, "The opioid crisis in America's workforce," ranked Jacksonville as the 12th top city for opioid abuse rate in the U.S, with 8.2% of people in the community who receive and abuse an opioid prescription. Wilmington, NC, whic h is in close proximity to Jacksonville, is ranked 1st.



Source: http://www.castlighthealth.com/pdf/Castlight-Report-Opioid-Crisis-In-Workforce-web.pdf

Drug Overdose Deaths. According to the 2016 County Health Rankings, the rate of drug poisoning deaths from 2012 through 2014 was 12 per 100,000; this rate is comparable to the rate of all peer counties (ranging from 8 to 18) and in NC overall (13 per 100,000). Across NC, this rate ranges from 6 to 34 per 100,000.

5.8 Injury Deaths

Nationally, injuries are one of the leading causes of death; unintentional injuries were the 5th leading cause and intentional injuries were the 10th leading cause of death in 2010 (CDC, 2013a). Intentional injuries include suicide firearm, homicide firearm, and suicide suffocation. Unintentional injuries deaths were primarily motor vehicle traffic, poisoning, and falls. Unintentional injuries are a substantial contributor to premature deaths. Deaths from unintentional injury are more likely to occur in young people (CDC, 2013b). Unintentional injury was *the leading cause of death* in the following age groups nationally (in years) 1-4, 5-9, 10-14, 15-24, 25-34, and 35-44.

Injury Deaths per 100,000 population, 2009-2013

	Number of Deaths 2009-2013	Age-Adjusted Death Rate* 2009-2013
Onslow	486	54
Cabarrus	572	63
Catawba	589	76
Henderson	470	87
Iredell	528	65
Union	432	42
NC	30,490	63

**Per 100,000 population Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. 2016 County Health Rankings* [http://www.countyhealthrankings.org/]

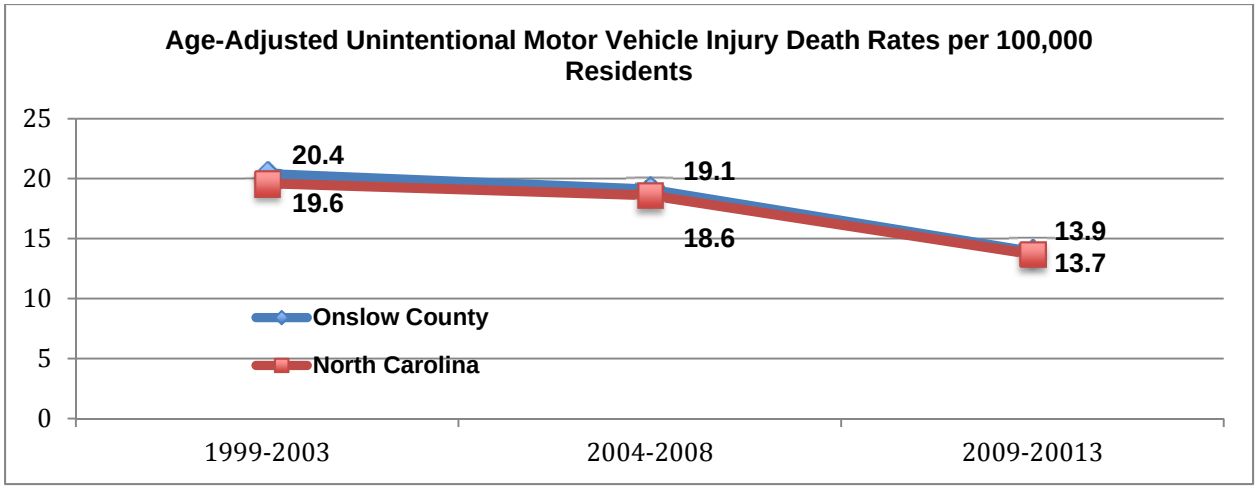
The injury death rate includes deaths from intentional and unintentional injuries and is expressed per 100, 000 residents. The Onslow County injury death rate was 54 per 100,000 during the period from 2009 to 2013; this rate is comparable to the rates in peer counties and in NC overall. The range across the state is 36 to 119 per 100,000.

Deaths due to Injury from Motor Vehicle Accidents. Deaths due to motor vehicle accidents (MVA) was the 10th leading cause of death in Onslow County in 2014 (tied with Alzheimer's and "all other causes"). However, the death rate from MVA has declined over time. Further, the MVA death rate has remained consistent with the rates of peer counties and the state overall.

Deaths from MVA Injury, Age-adjusted per 100,000 residents, 2007-2013

Indicator	Onslow	Cabarrus	Catawba	Henderson	Iredell	Union	North Carolina
Number of Deaths	178	143	174	83	177	172	9773
Mortality Rate	14	11	16	11	16	12	15

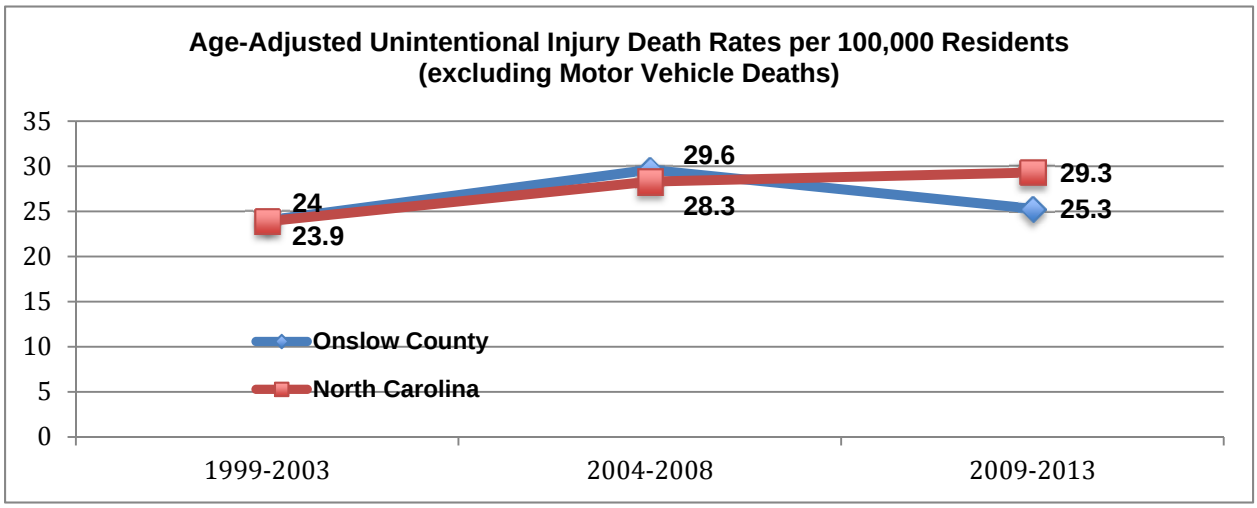
Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. 2016 County Health Rankings [http://www.countyhealthrankings.org/]



Source: NC SCHS. Trends in Key Health Indicators. North Carolina Statewide and County http://www.schs.state.nc.us/data/keyindicators/

All Other Injuries

Unintentional Injury (excluding MVA Deaths). Deaths from "all other unintentional injuries" (excluding motor vehicle accidents) was the 6th leading cause of death in Onslow County in 2014 (tied with Diabetes), representing 3% of all deaths and 31 people. This is the 6th leading cause of death statewide. The Onslow County rate has remained fairly stable over time, though it is currently lower than the rate of NC overall.

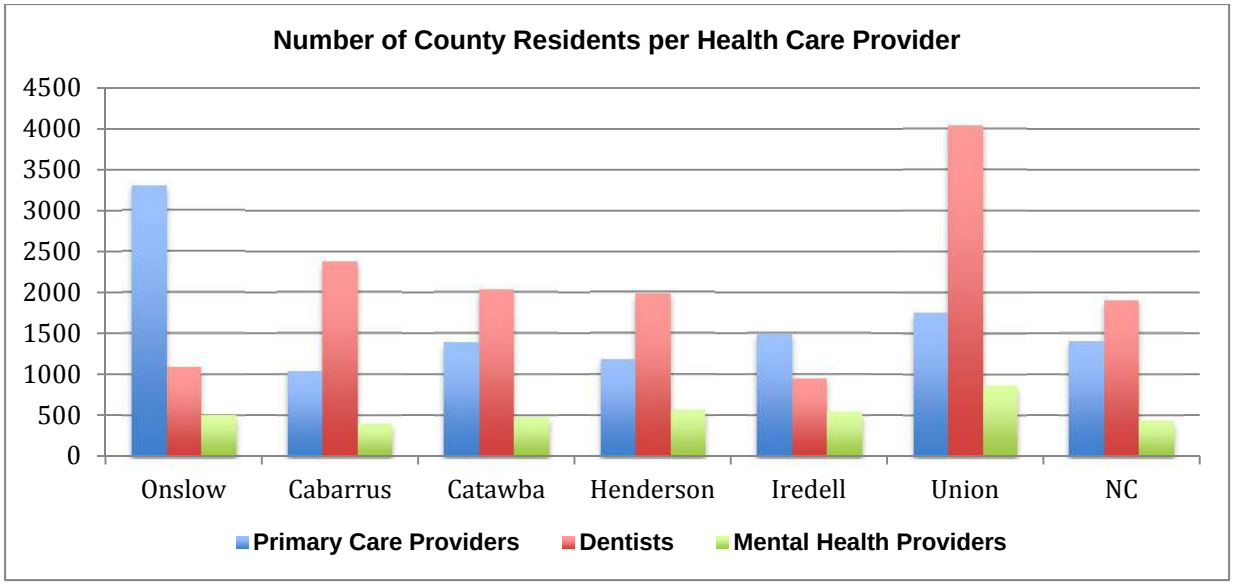


Source: NC SCHS. Trends in Key Health Indicators. North Carolina Statewide and County http://www.schs.state.nc.us/data/keyindicators/

5.9 Access to Health Care

Onslow County is federally designated as a Medically Underserved Area, defined as an area having too few primary care providers, high infant mortality, high poverty, or a high elderly population (HRSA, 2014). Onslow County's index of medical underservice is 53.7 on a scale of 0 to 100, where 0 has the most shortages. Onslow County is also designated as a Health Professional Shortage Area (HPSA) due to shortages in health care providers in primary medical care, dental, and mental health/behaviors providers or facilities (HRSA 2014).

Compared to peer counties and NC overall, Onslow County has the most severe shortage in primary care physicians. Furthermore, approximately 20% of all Onslow County residents are uninsured. This percentage is similar to peer counties (range: 20% - 25%) and the state overall (22%).



Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. 2016 County Health Rankings [http://www.countyhealthrankings.org/]

However, it must be noted that some state and federal databases do not track military-affiliated medical staff and facilities, so on-base providers may not be reflected in the chart above.

Community Perception and Potential Disparities:

In the Community Health Opinion Survey, participants were asked,

1. *"Are there any issues that prevent you from accessing care?"* The 2nd and 3rd most frequent responses were: Unable to pay copay/deductibles (14.7%, 93 participants) and No insurance and unable to pay for care (9.8%, 62 participants). These issues were of particular concern for women (18% of female survey respondents reported being unable to pay copays and 11% reported having no insurance) compared to men (10% and 8%, respectively).

2. "*What are the top three areas needed to improve your health?"* The 5th most frequent response was: Free or affordable health screenings (16%, 101 participants).

3. "Which five issues most affect the quality of life in your community?" The two most frequent responses were: Low income / poverty (42.7%, 270), followed by Cost / Coverage of health insurance (38.1%, 241). Of respondents who reported living in a low-income community, 46% indicated problems with obesity.

Eight point one percent of survey respondents reported that they did not currently have health insurance. This is of particular concern as respondents who reported having no health insurance were more likely to report "not receiving routine health care" compared to respondents with some type of health insurance coverage (24% versus 3%-4%, respectively). Furthermore, compared to peer counties and NC overall, Onslow County had the lowest percentage of its population who received diabetic and mammography screenings.

Health Screening, 2013

	Onslow	Cabarrus	Catawba	Henderson	Iredell	Union	NC
Diabetic monitoring 2013 % diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring	**85%**	89%	92%	87%	90%	92%	89%
Mammography screening Percentage of female Medicare enrollees ages 67-69 that receive mammography screening	**65%**	68%	68%	69%	67%	65%	68%

Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. 2016 County Health Rankings [http://www.countyhealthrankings.org/]

5.10 Overall Health Status

Onslow County's health status measure for "poor physical health days" was within the range of the peer counties and the state overall. The percentage of adults reporting "poor or fair health" and "poor mental health days" was higher than all peer counties.

Self-reported Health Status

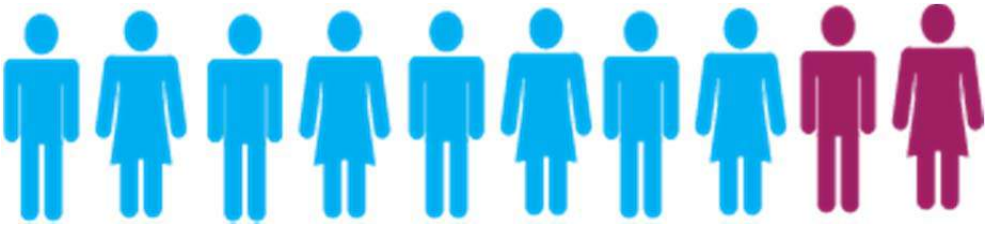
	Onslow	*Cabarrus*	*Catawba*	*Henderson*	*Iredell*	*Union*	*North Carolina*
Poor or fair health Percentage of adults reporting fair or poor health (age-adjusted), 2014	**18%**	16%	16%	15%	15%	15%	19%
Poor physical health days Average number of physically unhealthy days reported in past 30 days (age-adjusted), 2014	3.9	3.6	3.5	3.5	3.5	3.3	3.9
Poor mental health days Average number of mentally unhealthy days reported in past 30 days (age-adjusted), 2014	**3.8**	3.6	3.6	3.6	3.6	3.5	3.7

Source: 2016 County Health Rankings

Community Perception:

In the Community Health Opinion Survey, participants were asked to rate their own health. Of the survey participants, 509 (80%) ranked their health status as good, very good, or excellent. About 17% ranked their health as fair or poor. The remaining 3% did not rank their health.

8 out of 10 Onslow County residents rate their health as good, very good, or excellent.



5.11 Health Behaviors

Smoking

During 2014, approximately **20%** of adult Onslow County residents were current smokers. Overall in North Carolina, about 19% of adults were current smokers, and this ranged across the state from 15% to 29%. Onslow County had the highest percent of current adult smokers among peer counties (range: 16-19%).

Community Perception:

Among respondents in the Community Health Opinion Survey who indicated that they were currently smokers, 59.40% indicated that they wanted more smoking cessation services and 61.8% indicated that they wanted to learn more about smoking cessation.

Obesity, Nutrition, and Physical Activity

Nationally, more than 1/3 of Americans are considered obese. In the state of North Carolina, 25-30% of residents are classified as obese (CDC.gov).

During 2012, an estimated 26% of Onslow County adults were obese (BMI 30 or more). This percentage is lower than peer counties (range: 27-31%) and the overall statewide percentage (29%, statewide range: 20%-39%). Despite having a lower percentage of obese residents, Onslow County has (compared to peer counties) high food insecurity (17%), a low value on the food environment index (6.3), and limited access to healthy foods (11%).

Adult Obesity

	Onslow	*Cabarrus*	*Catawba*	*Henderson*	*Iredell*	*Union*	*North Carolina*
Adult obesity % adults reporting BMI of 30 or more, 2012	26%	28%	31%	29%	28%	27%	29%
Food environment index Index of factors contributing to healthy food environment, 0 (worst) - 10 (best), 2012-2013	6.3	7.3	6.6	24	7.3	8.2	6.7
Physical inactivity % adults aged 20 and over reporting no leisure-time physical activity, 2012	23%	24%	30%	28%	23%	19%	25%
Access to exercise opportunities % population with adequate access to locations for physical activity, 2014	61%	80%	62%	14%	73%	68%	75%
Food insecurity % population who lack adequate access to food, 2013	17%	15%	16%	13%	15%	12%	18%
Limited access to healthy foods % population who are low-income & do not live near a grocery store, 2010	11%	6%	10%	5%	5%	4%	7%

Source: 2016 County Health Rankings

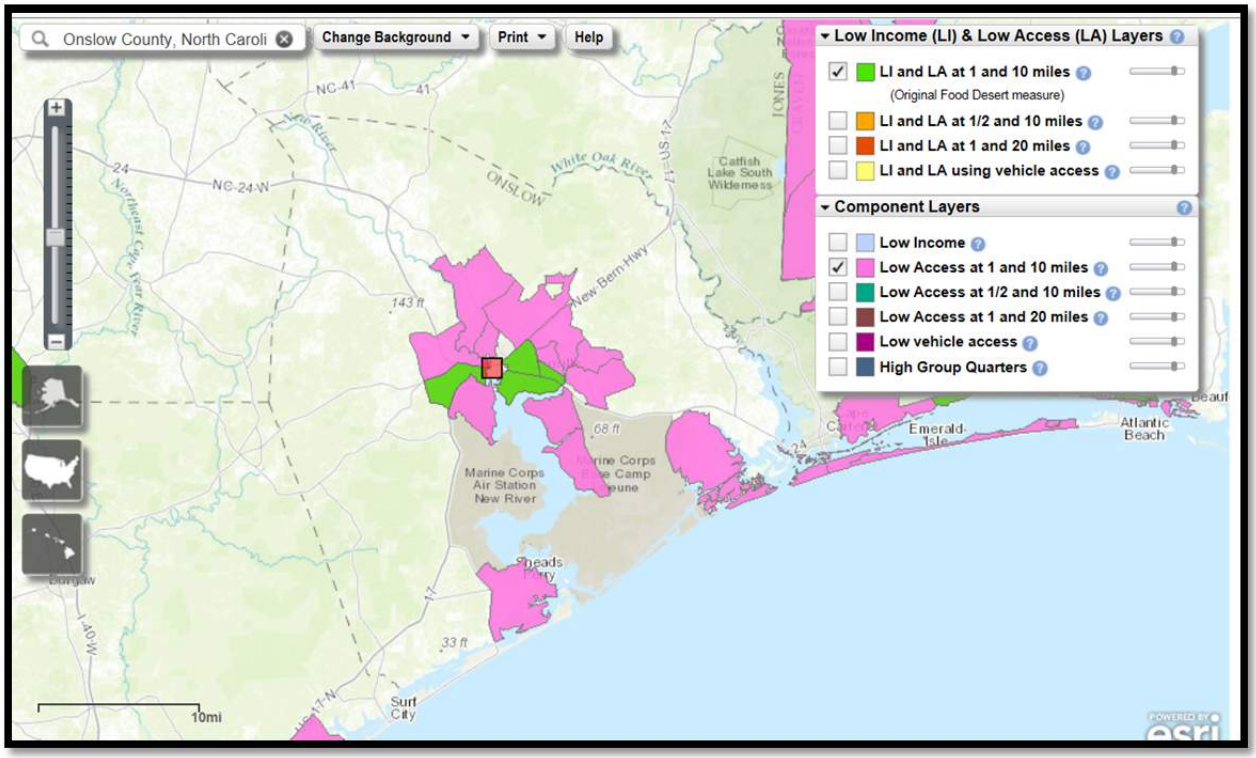
Community Perception and Potential Disparities:

In the Community Health Opinion Survey, participants were asked,

1. *"Please check the top five health challenges you face:"* The 2nd most frequent response was **Overweight / Obesity** (38.5%, 244 participants). In general, this appeared to be a greater challenge for women (43.5% of female survey respondents) than men (31.1% of male survey respondents). It is also a significant challenge for low-income respondents (46% indicating problems with obesity). Obesity easily leads to other significant health problems. For instance, 59.80% of obese respondents indicated that Joint/Back Pain was among their top five health challenges, in addition to obesity.
2. *"What are the top three areas needed to improve your health?"* The most frequent response was **healthier food** (53.7%, 340 participants). This appears to be a significant barrier for low-income respondents (58.9% of low-income respondents indicated a need for healthier foods).
3. "*What are the top five needs for improvement in your neighborhood or community?"* The 3rd most frequent response was **healthy food choices** (32.7%, 207 participants).

Food Deserts

The United States Department of Agriculture defines a food desert as a low-income census tract where either a substantial number or share of residents has low access to a supermarket or large grocery store. "Low income" tracts are defined as those where at least 20 percent of the people have income at or below the federal poverty levels for family size, or where median family income for the tract is at or below 80 percent of the surrounding area's median family income. Tracts qualify as "low access" tracts if at least 500 persons or 33 percent of their population live more than a mile from a supermarket or large grocery store (for rural census tracts, the distance is more than 10 miles). The green areas on the map below identify census tracts that are identified as both low income and having low access. The pink areas are areas that are identified as low access only.



Source: Food Access Research Atlas. United States Department of Agriculture. June 2014. http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx

Sexually Transmitted Infections

Approximately 20 million new sexually transmitted infections occur in the US each year and those aged 15-24 account for half of the reported infections. Specifically, in 2014, there was an increase in the number of cases of chlamydia, syphilis and gonorrhea (CDC.gov).

Onslow County's rates of newly diagnosed chlamydia, syphilis, and gonorrhea are considerably higher than all peer counties and the state overall. These trends have been consistently higher for up to four years, as shown in the following tables.

The statewide range for newly diagnosed chlamydia cases (2013) is 41 to 1,114 per 100,000 residents.

Newly diagnosed chlamydia cases per 100,000 population, 2013

Onslow	**808**
Cabarrus	361
Catawba	351
Henderson	194
Iredell	286
Union	220
NC	496.5

2016 County Health Rankings

Newly Diagnosed Chlamydia and Gonorrhea Rates, 2010-2014

	2010 Cases	2010 Rate	2011 Cases	2011 Rate	2012 Cases	2012 Rate	2013 Cases	2013 Rate	2014 Cases	2014 Rate
Newly Diagnosed Gonorrhea Rates (per 100,000 population)										
Onslow	298	**166**	265	**149**	257	**139.8**	285	**153.5**	239	**127.4**
Cabarrus	162	90.7	137	75.6	137	74.3	150	79.9	165	85.9
Catawba	193	125	200	129.7	128	82.8	136	87.9	105	67.9
Henderson	55	51.4	71	66	69	63.8	68	62.1	45	40.5
Iredell	213	133.3	163	101.2	104	63.9	118	71.7	113	67.8
Union	145	71.7	145	70.7	172	82.5	109	51.2	119	54.4
Newly Diagnosed Chlamydia Rates (per 100,000 population)										
Onslow	1207	**672.5**	1091	**613.3**	1598	**869.0**	1363	**734.1**	1244	**663.2**
Cabarrus	638	357.3	670	369.5	696	377.3	699	372.5	769	400.3
Catawba	600	388.7	556	360.6	503	325.5	560	361.9	516	333.9
Henderson	197	184.2	194	180.5	217	200.7	246	224.6	224	201.5
Iredell	465	291.1	539	334.6	528	324.5	487	295.7	492	295.2
Union	479	236.9	470	229.1	492	236.1	466	219.1	635	290.5

**Rate is expressed per 100,000 population; Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of June 23, 2016). http://epi.publichealth.nc.gov/cd/stds/figures/std14rpt.pdf*

Newly Diagnosed Early Syphilis per 100,000 Population (Primary, Secondary, Early Latent), 2012-2014

	2012 Cases	2013 Cases	2014 Cases	2012-2014 Average Rate
Onslow	1	8	10	**3.4**
Cabarrus	1	2	8	1.9
Catawba	2	3	7	2.6
Henderson	1	2	4	2.1
Iredell	7	6	0	2.6
Union	3	5	7	2.3

Source: NC EDSS (data as of June 23, 2016)

HIV

In 2012, the number of diagnosed cases of HIV in Onslow County was 160 people per 100,000 residents. This rate is consistent with peer counties (range: 85 - 168). In 2014, there were 2,418 people tested for HIV in Onslow County. Of these, 7 tested positive and were diagnosed with HIV (0.3%). This measure is consistent with the rates observed in peer counties (range: 0.2% - 0.6%).

Newly Diagnosed AIDS Average Rates by County of Residence at Diagnosis, 2012-2014

	2012 Cases	2013 Cases	2014 Cases	2012-2014 Average Rate
Onslow	8	8	7	**4.1**
Cabarrus	7	10	10	4.8
Catawba	10	1	6	3.7
Henderson	1	1	0	0.6
Iredell	8	4	4	3.3
Union	7	14	8	4.6
North Carolina	782	862	706	8.0

*Rate is expressed per 100,000 population. *Source: (NC EDSS) (data as of June 23, 2016).*

5.12 Zip Code / Regional Assessment Data

Through analysis of the primary data, several locations within Onslow County were identified as potential priority areas. For instance, when asked, "how would you rate your health overall?" 20% of respondents from 28555 Maysville reported a rating of "fair" or "poor." Further, 64% of respondents from 28555 Maysville also reported being obese, 64% of respondents desired access to healthier food, and 55% desired better recreational facilities. Similarly, 67% of respondents from 28543 Tarawa Terrace reported being obese; 67% of respondents from this area also desired access

to healthier food; and 33% desired better recreational facilities. However, 100% of these respondents indicated that their health was "good." Nearly 20% of respondents from 28574 Richlands indicated that their health was "fair" or "poor." Furthermore, 47% of respondents from this zip code reported being obese; 57% reported desiring access to healthier food; and about 22% desired better recreational facilities.

Interestingly, the findings of this analysis overlap well with findings from a regional health assessment conducted by The Southeastern North Carolina Regional Health Collaborative (SENCRHC; a collaborative effort between UNCW College of Health and Human Services and the health directors of the following five counties: Brunswick, Columbus, New Hanover, Onslow, and Pender). Socioeconomic Status (SES) was ranked as the most significant factor in determining health outcomes throughout the region (SENCRHC, 2015).

Three specific areas of concern in Onslow County were identified as priority areas: Batchelor/Nine Mile Rd Area, SW Maysville Area, and SE Piney Green Area. Of particular concern is the rural, unincorporated portion of the county that borders Pender County. Residents within the Batchelor/Nine Mile Road area face long commute times and lack access to healthcare providers, full-service grocery stories, and physical activity facilities. The SW Maysville area also lacks access to healthcare providers and physical activity facilities. Issues identified by the analysis for the Piney Green community (just southeast of the City of Jacksonville) include the need to increase physical activity and non-motorized transportation opportunities in addition to providing fixed-route transit options.

5.13 Other Factors that Influence Health

Maintaining well-being is not just about exposure to disease or eating healthy foods. Health is also impacted by education level, employment, community safety, and physical activity opportunities among many other factors. This section explores where Onslow County residents live, work, play, and study.

Employment

The unemployment rate for Onslow County (2016) was 5.9%, which is comparable to its peer counties. Further, unemployment has decreased from 7.6% in 2015.

Poverty Level

Over fourteen percent (14.3%) of Onslow County residents were defined as living in poverty during the period from 2010 through 2014, compared to 17.2% in North Carolina overall. Furthermore, Onslow County's rate of poverty among children (20%) was comparable to all of its peer counties (range: 15%-23%) and NC overall (24%).

Public Safety

From July 2014 to June 2015, the Onslow County Sheriff's Office received 37,154 calls for service, made 2.906 arrests, and recovered $89,512 in stolen property (Onslow County NC Proposed Annual Budget Fiscal Year Ending Jun 30, 2017).

In 2015, Onslow county E911 recorded 27,893 EMS calls, 4,088 fire calls, and 69,076 law enforcement calls (Onslow County Data Center).

Education

Onslow County Schools graduation rate has been increasing over the past six years and exceeds the state's overall graduation rate. Specifically, 87.2% of students graduated from high school in the 2012-2013 school year and 89.2 graduated in the 2013-3014 academic year. The North Carolina state rate was 83.8% (Onslow County Schools).

Physical Activity

Onslow County offers a variety of physical activity opportunities, especially being a coastal community with interior waterways as well. The county and cities have also updated and expanded public recreation facilities through Story

Walk, Kids In Parks, inclusive playgrounds, and exercise equipment in public parks. The Health Department publishes a physical activity asset map that is available on its website or for distribution at its location.

Onslow Pines Park

5.14 Previous Community Health Assessments

OMH--The 2013 CHNA, completed by OMH, determined several key findings in the categories of demographics, socioeconomic factors, access to care, health data, health utilization and community feedback. Through the prioritization process, the following four focus areas were determined: Cancer Care, Cardiovascular Care, Access to Care and Behavioral Health. As a result of these findings, OMH increased its community outreach efforts in cancer education and prevention, which included free screenings for prostate cancer and skin cancer and clinical breast exams, in the years 2014-2016. In addition, the OMH Stroke Nurse Coordinator has reached hundreds of Onslow County citizens each year since 2013 to address their risk for cardiac related disease. The hospital also developed a successful and growing partnership with the Caring Community Clinic to increase access to primary care for the uninsured and underinsured. This partnership has proven successful with a 424% increase in the Caring Community Clinic patient population in just the first year of the partnership thereby dramatically impacting access to primary care in our community. OMH continues to advocate for the patients and families impacted by mental health through community partnership and serving as the voice for this population at the state and national level.

OCHD--Prior to 2012, community health assessments of Onslow County residents revealed that many people were most concerned about chronic health conditions. The 2012 CHA showed a change in the community's perception to behavioral health issues being identified as priority health areas. The top health issues for the 2012 CHA were tobacco use, post traumatic stress disorder, driving under the influence, adult alcohol abuse, and adult overweight/obesity. Onslow County Health Department chose to create action plans to reduce tobacco use and adult overweight/obesity.

As a result of OCHD's work on adult overweight/obesity, the agency applied for and received a grant from the NC Office of Minority Health and Health Disparities to create a program providing case management and education to minority adult diabetics. The Lifestyle Education Assistance Program (LEAP) Diabetes improved the health outcomes of 79 clients and their families and provided for community education throughout the county. LEAP was another collaboration between OMH and OCHD, with OMH providing the majority of the referrals into the program. What LEAP staff discovered in caring for clients was that the barriers for Onslow County diabetics are the lack of a local full-time

endocrinologist, lower income families not having enough food resources, food banks only having options that are not appropriate for diabetics, and residents without insurance having limited medical treatment options.

One of the driving factors for OCHD and OMH combining to complete this CHNA/CHA was that there was much overlap in the priority health issues, health disparities, and action plans for both agencies during the last report cycle. We are hopeful that since we often collaborate on initiatives, partnering for the CHNA/CHA will allow for the best use of resources to make the biggest positive impact on health in the community.

6 WHAT RESOURCES ARE AVAILABLE IN ONSLOW COUNTY TO PREVENT ILLNESS AND PROMOTE HEALTH?

Community Resources Available for Priority Health Issues

2-1-1 (telephone number): 2-1-1 is a number that connects people with important community services to meet every day needs and immediate needs of people in crisis. For example, 2-1-1 can offer access to affordable high quality child care/after-school care, counseling and support groups, health services, food, clothing, and housing, services for seniors and the disabled. 2-1-1 is free, confidential, available 24 hours a day—every day, multilingual and staffed by agents ready to help individuals find connections needed.

Onslow County Health Department Resource Guide: A regularly updated guide to health promotion/prevention services available to Onslow County residents. Available at: http://www.onslowcountync.gov/Health/ (under "Resource List").

EngageSENC Website: A website with a Community & Health Resources page that compiles health resources from counties in southeastern North Carolina, including Brunswick, Columbus, Duplin, New Hanover, Onslow, and Pender counties.

ONSLOW MEMORIAL HOSPITAL

Onslow Memorial Hospital offers a broad range of services:

- Surgical Services (including General, Orthopaedic, da Vinci®, Colorectal and Oral Surgeries)
- Sports Medicine
- Internal Medicine
- Rehabilitation (including Physical, Occupational, Speech and Cardiac Rehabilitation)
- Joint Replacement
- Orthopaedics (including a new hand/upper extremities specialist)
- Stroke Care
- Urology
- Wound Care
- Women's Services
- Cancer Care
- Maternity
- Allergy/Asthma
- Cardiology
- Dermatology
- Diabetes/Endocrinology
- Ear, Nose & Throat
- Emergency Services
- Family Medicine
- Gastroenterology
- Geriatrics
- Hospitalists Program
- Laboratory Services
- Nephrology
- Neurology
- Ophthalmology
- Pain Management

- Pathology
- Pediatrics
- Plastic Surgery
- Podiatry
- Psychiatry
- Pulmonology
- Radiology
- Rheumatology
- Sleep Disorders
- Nutrition

OMH has added, updated and renovated many treatment and support areas so that doctors and staff can treat patients using the latest in medical science. Some facilities and improvements of note include:

- Surgical Pavilion
- Endoscopy and Colonoscopy Unit
- Emergency Department
- Newly expanded Telemetery Unit
- Cystoscopy Room
- Women's Imaging Center
- Renovated Nursery
- Transfusion/Infusion Center
- Joint Replacement Center
- Rehabilitation Center with Sports Medicine
- Diagnostic Center
- New PatientSafe communication system
- New hospital-wide filtration system
- Expanded inpatient dialysis services

The hospital has been taking steps to improve safety. The result is several national recognitions and accolades, including but not limited to:

- Fully accredited by the Joint Commission and Gold Seal of Approval™ for our Advanced Primary Stroke Center
- Designation as a Blue Distinction Center Plus, the highest designation given by the Blue Cross Blue Shield Association for quality and expertise in Maternity Care
- Commission on Cancer Accreditation for our cancer center

Onslow Memorial Hospital is dedicated to offering community health outreach to promote health and wellness. Each year, OMH offers the following programs free to the public:

- Cancer screenings
- Stroke screenings
- Blood pressure checks
- Lighten Up Onslow, which promotes healthy eating and exercise
- Cholesterol checks
- Glucose checks
- Hands-only CPR

ONSLOW COUNTY HEALTH DEPARTMENT

Onslow County Health Department strives to eliminate barriers that prevent people from receiving the care that they need by providing free or low-cost care, free interpreter assistance, information on available resources, and transportation assistance. The fees for many services are based on a sliding fee scale so that people with low incomes pay less or nothing for services. No one is denied essential services, such as communicable disease testing, family planning, prenatal or child health, because he or she cannot pay. Even if money is owed to the Health Department, people are not turned away or required to pay up-front for essential services.

Clinical Services

Child Health: Well baby/child checkups, including childcare and kindergarten physicals, screening for lead poisoning, home visits to newborns and mothers.

Immunizations: Childhood shots and required vaccines for child-care, school, and college; adult shots for work and communicable disease prevention.

Family Planning: Physical exams, lab testing, and education for low-income and/or uninsured pregnant women; childbirth (Lamaze) classes.

Communicable Disease Control: Screening and treatment for sexually transmitted infections and tuberculosis, testing and counseling for communicable diseases, such as whooping cough and hepatitis.

Nutrition Services

Medical Nutrition Therapy: Medical and nutrition care to persons with or at risk for chronic diseases, such as diabetes, heart disease, and cancer, nutritional counseling for weight loss or special diet concerns.

Women, Infant, and Children (WIC): Supplemental nutrition for pregnant, breast-feeding, and postpartum women, infants, and children up to five years.

American Diabetes Association Certified: Diabetes Self-Management Education courses offered every month; Diabetes Prevention Program classes start several times a year.

Education Services

Health Education: Individual and group education on health-related topics that are designed to improve the health of the community and prevent disease.

Care Management Services

Care Coordination for Children (CC4C): Comprehensive care management services for children, ages birth to five years; information on medical care, child development, parenting, and community referrals.

Pregnancy Care Management (PCM): Care management services for Medicaid-eligible pregnant women with identified risk factors; identification of needs and appropriate referrals as well as collaboration with medical providers.

Environmental Health Services

Food, Lodging, & Institution Facility Sanitation: Operational permits for new food, lodging, and institution establishments, inspections of food, lodging, institution, and child care facilities to ensure high level of cleanliness.

On-site Water Protection: Permits for new septic systems and drinking water well installations, operation and maintenance inspections, and repair permits to help the sanitary condition of existing septic systems and new drinking water wells.

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