



## Community Health Needs Assessment

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# Person Memorial Hospital

Paper copies of this document may be obtained at Person Memorial Hospital 615 Ridge Road, Roxboro, NC 27573 or by phone 336.599.2121. This document is also available electronically via the hospital website: [PersonHospital.com](http://PersonHospital.com)

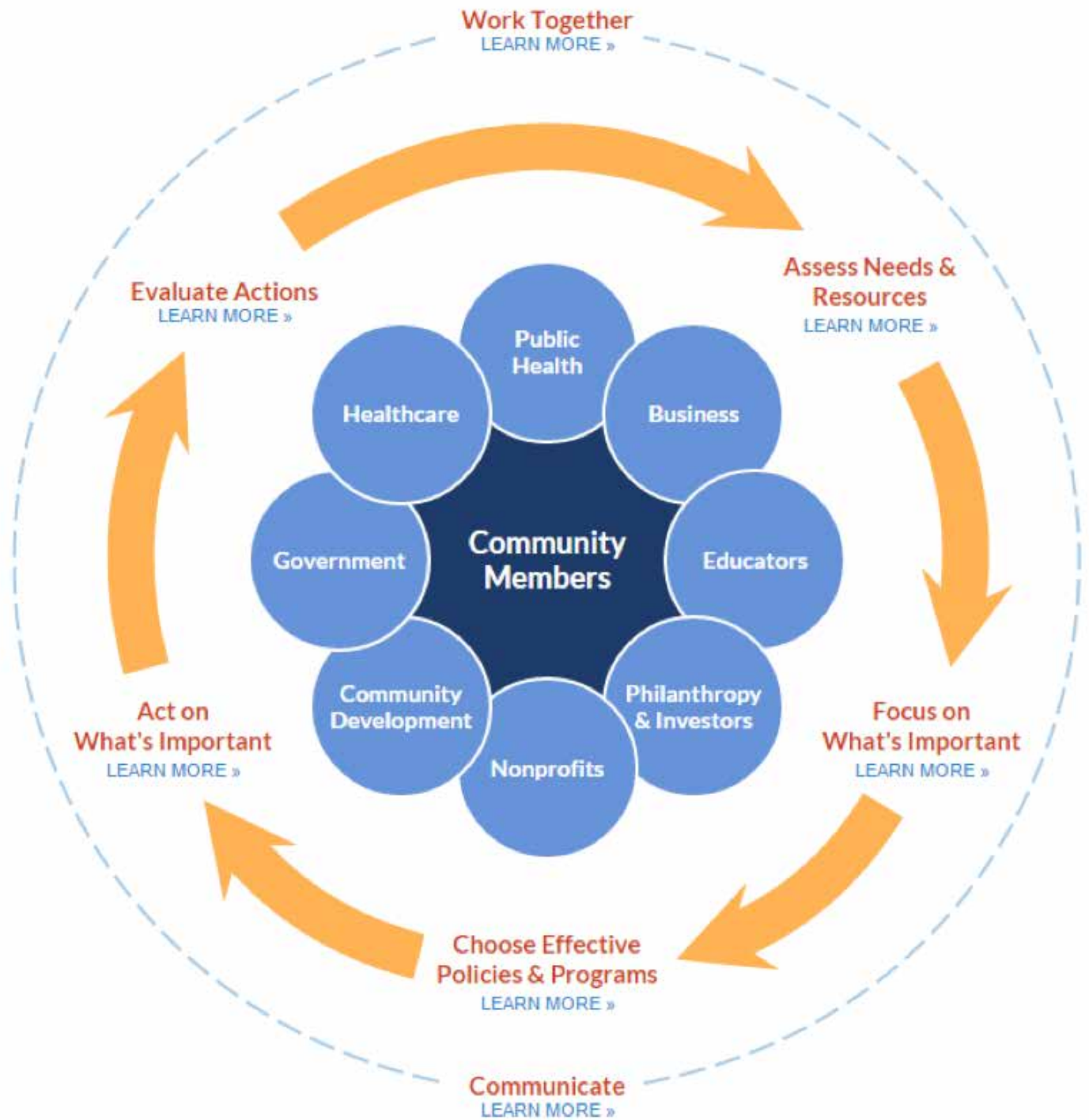
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A Duke LifePoint Hospital

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# Process

*Creating a Culture of Health in the Community*

This Community Health Needs Assessment (CHNA) defines priorities for health improvement, creates a collaborative community environment to engage stakeholders, and an open and transparent process to listen and truly understand the health needs of the community served by Person Memorial Hospital (PMH) in Person County, North Carolina.

## **2019 Community Health Needs Assessment**

This document is a hospital facility-specific Community Health Needs Assessment (CHNA) for Person Memorial Hospital. Person County Health Department and Person Memorial Hospital previously conducted a community health needs assessment in 2016. The 2019 assessment builds on the 2016 CHNA, identifying and prioritizing the current significant health needs of the community while considering the impact of actions taken to address the significant health needs identified in the 2016 CHNA. PMH, as a contributor to this assessment through their participation in the 2018 Person County Community Health Assessment Team, which was a collaborative partnership of many community stakeholders.

After the introduction and IRS required CHNA elements, the content in this report is taken directly from the 2018 Person County Community Health Assessment written by the Person County Health Department and Healthy Personians in total.

- PMH's board of directors approved and adopted this CHNA on November 26th, 2019.
- Starting on December 1st, 2019, this report is made widely available to the community via PMH's website, [www.personhospital.com](http://www.personhospital.com), and paper copies are available free of charge at the PMH hospital at 615 Ridge Road, Roxboro, NC 27573 or by phone (336) 599-2121.

## **Community Input and Collaboration**

### **Participants**

Community, health care organizations and individuals collaborated to create a CHNA focused on identifying and defining significant health needs, issues, and concerns of the Person County.

Including input from the community is a critical element of the community health assessment process. The CHA Team included community input and engagement in a number of ways:

- Partnership on conducting the health assessment process
- Through primary data collection efforts (survey)
- By reviewing and making sense of the data to better understand the story behind the numbers
- In the identification and prioritization of health issues

## Data Collection and Timeline

In March 2018, PMH began working with the Person County Community Health Assessment Team and the Person County Health Department to conduct a Community Health Needs Assessment for Person County. The team sought input from persons who represent the broad interests of the community using several methods:

- Information gathering, using secondary public health sources, occurred in February through June of 2018 by Sheila S. Pfaender and Annika Pfaender-Purvis, Public Health Consultants.
- 1,018 community online and paper surveys were completed from March to May, 2018 by the Community Health Assessment Team to supplement the secondary dataset. The CHA Team conducted the survey primarily via Survey Monkey TM . The Health Department’s Foreign Language interpreter conducted the survey via interview with non-English speaking clients, and 335 surveys were completed.
- Data was presented to the CHA Team in September 2018.
- Meetings using criteria and a modified Hanlon method to rate priorities resulted in the top two priority health issues in October in November, 2018.
- The implementation plan was developed between September and October, 2019
- The Person Memorial Hospital board approved the Community Health Needs Assessment, priorities and implementation plan on November 26th, 2019.

## Participation in the Community Health Assessment Team included:

Organization	Population Represented
Roxboro Housing Authority	Low income, uninsured, minorities, Medicaid
Person County Health Department	Low income, minorities, all, home health, hospice
Roots and Wings	Children and families, victims of abuse and neglect
Person Memorial Hospital	All
Emergency Medical Services	All
Freedom House Recovery Center	Substance abuse and mental health
Community Volunteer	All
Person County Schools	Children, teens, educators
NC Cooperative Extension	Older adults, low income, etc
Person Family Medical & Dental Centers, Inc.	Low income, uninsured, underinsured, mental health
Piedmont Community College	Students, teens young adults, educators
Medical Reserve Corps Volunteer, Department of Social Services	Low income, uninsured, minorities, Medicaid, minorities, seniors
Roxboro Presbyterian Church	All

## **Input of Public Health Officials**

Person County Health Department was integral in the team leadership, translation, funding, and coordination of the process.

## **Input of Medically Underserved, Low-Income and Minority Populations**

The previous identifies each organization that was involved in the CHNA and what groups they represented. Many of the organizations involved represent the medically underserved, low income and minority populations. Input was received during meetings.

## **Community Selected for Assessment**

Community is defined as “county” for the purposes of the North Carolina Community Health Assessment Process. Person County is included in Person Memorial Hospital’s community for the purposes of community health improvement.

88% of PMH’s inpatients come from Person County. Therefore, it is reasonable to select Person County as the primary focus of the CHNA.

The community identified by PMH includes medically underserved, low-income or minority populations who live in the geographic areas from which PMH draws its patients. All patients were used to determine the service area without regard to insurance coverage or eligibility for financial assistance under PMH’s Financial Assistance Policy.

## **Key Findings of the Community Health Assessment**

### **Results**

Based on the primary and secondary data, the following needs were prioritized by CHNA Leadership Team.

- Chronic Disease: Diabetes, Heart Disease, and Cancer
- Overweight/Obesity

### **Information Gaps and Limitations**

The survey was collected via convenience sampling, some groups were over- or under- represented. For example, the survey sample was overwhelming female, more highly-educated, and wealthier than the general Person County population. Black residents were under-represented, and Hispanic residents were adequately represented.

### **Processes and Methods**

The set of data reviewed for the community health assessment process is comprehensive, though not all of it is presented in this document. The comprehensive report is available in PDF format on the Person County Health Department website (<http://health.personcountync.gov>) via the Health Data and Community Resources link.

## 2016 Implementation Plan Impact

Person Memorial Hospital adopted an implementation plan in 2016. The results are below.

### Diabetes prevention and management

- In 2014 54.0% of respondents listed Diabetes as a major community health concern with the rate reducing to 49.2% in 2018
- According to the CDC, the prevalence of diagnosed adult diabetes in Person County in 2013 was approximately 11%. On the 2018 Community Health Survey, 13% of respondents reported having been diagnosed with diabetes and another 22% reported receiving a pre-diabetes/borderline diabetes diagnosis. Survey respondents identified diabetes as the sixth most important health problem in the community.
- The percentage of adults with diabetes, according to the 2018 Community Health Survey, was reported to have risen from 10.6% in 2013 to 11.3% in 2016.
- From 2012-2016 mortality from Diabetes Mellitus in Person County was 39% higher than the state average.

### Early identification of heart disease

- In 2014, Heart Disease and Heart Attacks were considered a major health concern to 59.2% (ranked 3rd) of respondents with the level decreasing to 55.2% in 2018 (ranked 4th).
- As discussed previously, heart disease was the second leading cause of death in Person County in 2012-2016. While the heart disease mortality rate has decreased 30% since 2005- 2009, it remained 3.5% higher than the NC rate in 2012-2016.
- Among respondents to the 2018 Person County Community Health Survey, 7% had been diagnosed with angina or heart disease. High blood pressure and high cholesterol, both considered risk factors for heart disease, were much more common among respondents, with 40% reporting a diagnosis of high blood pressure and 35% reporting a high cholesterol diagnosis.
- From 2012-2016 mortality from diseases of the heart in Person County was 4% higher than the state average.

### Early identification of cancer

- From 2012-2016 mortality from all cancers in Person County was 18% higher than the state average.
- Between 2001-2005 and 2012-2016, cancer mortality rates in Person County decreased for prostate, colorectal, and pancreas cancers, but increased for breast cancer and lung cancer. Between 1996-2000 and 2012-2016 incidence rates increased for lung, breast, and colorectal cancer.
- While the total cancer mortality rate has decreased 10% since 2005-2009, it increased 3% between 2011-2015 and 2012-2016.
- Cancer was the most commonly selected health concern among 2018 Person County Community Health Survey respondents, with 76% of participants choosing it. Nine percent of respondents reported a diagnosis of cancer. Two-thirds of the female respondents reported conducting monthly breast self-exams; 54% of female respondents reported having had a mammogram in the past year. Fewer than half of male respondents reported conducting monthly self-testicular exams. Approximately half of all respondents reported conducting monthly skin-checks (61). The total cancer incidence rate trend has been relatively flat since 2001-2005, and in 2012-2016 was quite similar (482.2) to the NC rate (481.9).

# 2018 Person County Community Health Needs Assessment





# Introduction

## Acknowledgements

This document would not have been possible without the cooperation of the Person County Community Health Assessment Team. This team assisted with the development, distribution, and collection of the community health survey. They also assisted with the collection of additional local data. Team members served as liaisons to other community partners. Their input and expertise were also provided throughout other phases of the community health assessment process. Members of the 2018 Person County Community Health Assessment Team included:

<b>Froncello Bumpass</b> Deputy Director Roxboro Housing Authority	<b>Janet Clayton *</b> Health Director Person County Health Department
<b>LeighAnn Creson *</b> Quality Assurance Specialist/Health Educator, Community Health Assessment Coordinator Person County Health Department	<b>Jarrold Dennis</b> Assistant Superintendent Person County Schools
<b>Ronnie Dunevant</b> Director Roots and Wings	<b>Jennifer Grable *</b> Family and Consumer Science Agent NC Cooperative Extension
<b>Keith Herl *</b> Director of Marketing, Physician Relations and Industry Person Memorial Hospital	<b>Glenn Martin</b> CEO Person Family Medical & Dental Centers, Inc.
<b>Bobby Millner</b> Shift Supervisor Emergency Medical Services	<b>Beverly Murphy *</b> Controller Piedmont Community College
<b>Martha Pickett *</b> Administrative Director Freedom House Recovery Center	<b>Antoinetta Royster</b> Social Work Program Manager Medical Reserve Corps Volunteer Department of Social Services
<b>Paola Stone *</b> Foreign Language Interpreter Person County Health Department	<b>Reverend Evan Walker</b> Pastor Roxboro Presbyterian Church
<b>Dorothy Wagstaff</b> Community Volunteer	<b>*Indicates Healthy Personians Affiliation</b>

We would like to thank anyone else who helped us throughout this process. Thank you to our community for completing the survey or contributing information in other ways.

We are especially grateful for the assistance and expertise in data collection, analysis and reporting for the source document provided by Sheila S. Pfaender and Annika Pfaender-Purvis, Consultants.

The community health assessment process, source document, and final report were made possible by financial contributions from the Person County Health Department.

## Executive Summary

### Introduction

The North Carolina Division of Public Health requires local public health agencies in North Carolina (NC) to conduct a Comprehensive Community Health Assessment (CHA) at least once every three or four years. Furthermore, a CHA is required for local public health department accreditation through the NC Local Health Department Accreditation Board (G.S. § 130A-34.1).

In Person County, the partnership responsible for the CHA was led by staff of the Person County Health Department. In Person County, the local Healthy Carolinians coalition, Healthy Personians, was an active part of the CHA team. The Health Department contracted with a private consultant for assistance in developing the 2018 CHA.

The community health assessment, which is both a process and a document, investigates, and describes the current health status of the community, what has changed since the last assessment, and what still needs to change to improve the health of the community. The process involves the collection and analysis of a large range of data, including demographic, socioeconomic and health statistics, environmental data, and professional and public opinion. The document is a summary of all the available evidence and is a useful data resource until the next assessment. The completed CHA serves as the basis for prioritizing the community's health needs and culminates in planning to meet those needs. The team's work culminated in a comprehensive CHA report that was excerpted to create this report. The comprehensive report is available in PDF format on the Person County Health Department website (<http://health.personcountync.gov>) via the Health Data and Community Resources link.

### Vision Statement

To assess where we are, to know where we need to be, to meet the needs of our community.

### Key Partnerships

Collaboration between Person County Health Department, the Public Health Consultant, and local partners made this assessment possible. Many partners spent numerous hours attending team meetings, collecting local data, promoting and distributing both the initial community health survey and then later the priority setting survey, and assisting the

Project Facilitator in various ways. A collective list of the key partners in the 2018 CHA process in Person County includes:

Partnerships	Number of Partners
Public Health Agency	3
Hospital	1
EMS Provider	2
Educational Institution (community college)	1
Public Housing Authority	1
Public School System	1
Public Members	2
Community Organization (advocacy, senior center, etc.)	2
Rural Health Center	2
Mental Health/Behavioral Health Care Provider	1
Social Services	1
Faith Organization	1
NC Cooperative Extension	1
Public Library	1
Roxboro Area Chamber of Commerce	1



# Key Findings

## Person County and Its People

Person County is a land-locked county located in the Piedmont Region of north-central NC and is part of the Durham-Chapel Hill Metropolitan Statistical Area. As part of the metropolitan area, it is home to workers who often commute to lucrative jobs in Durham, Orange, and Wake counties. It was home to an estimated 39,196 people in 2016 and is diverse in proportions similar to the state as a whole: 69% white, 27% black/African American, and 4% Hispanic.

A particularly noteworthy aspect of the Person County population is its age. The median age in the county is 42.8 years, four and a half years “older” than the population for NC as a whole. The population of citizens over the age of 65 is projected to grow by 67% by 2030. It will be critical for the community to monitor the growth of this population to address its needs, since this segment of the population tends to consume health and human services at high rates.

The present-day economy of Person County is dominated by electrical, textile, administrative, manufacturing, aerodynamics, viticulture, brokering, food processing, automotive, aluminum, and paper products. Although a variety of jobs are available in the county, 18% of the county’s workers are employed in retail trade, traditionally a low-paying sector with many part-time employees and limited benefits.

Despite an economy that is improving nationally and locally, poverty remains significant in Person County, especially among African Americans and children. The overall 100% poverty rate in Person County in 2012-2016 was 18.5%, higher than in NC as a whole. However, the poverty rate among African Americans in the county in the same period was 29.3%, nearly twice the rate among whites. Among children in the county under the age of 5, the poverty rate for the same period was 30.8%.

Poverty can diminish all aspects of quality of life including health. The population in poverty is even more at risk for poor health outcomes if its members do not have health insurance. In 2016, an estimated 12.5% of the Person County population between ages 0-64 lacked health insurance of any kind. Children ages 0-18 fared considerably better, with only 5.0% uninsured, due largely to increasing numbers of individuals enrolling in Medicaid and NC Health Choice.

## Health in Person County

Life expectancy in Person County has improved for most groups: for a person born in 2014-2016, the overall life expectancy was 76.8 years, compared to 75.5 years for a person born in 1990-1992. There was significant improvement in the male community, for whom life expectancy improved from 70.6 years in 1990-1992 to 74.5 years in 2014-2016. Unfortunately, life expectancy for females decreased from 80.4 years in 1990-1992 to 78.9 years in 2014-2016.

Comparison of Person County CHA health data over the past several cycles has identified significant improvement in certain health parameters, such as the leading causes of death. Since 2001-2005, mortality rates in the county have declined overall for 11 leading causes of death. However, mortality rates rose for total cancer, diabetes, Alzheimer's disease, and suicide. Among these causes of death, diabetes is disproportionately fatal in the Person County African American community, where the most recent mortality rate was 70% higher than the mortality rate for whites. According to the CDC, the prevalence of diagnosed adult diabetes in Person County in 2013 was approximately 11%. On the 2018 Community Health Survey, 13% of respondents reported having been diagnosed with diabetes and another 22% reported receiving a pre-diabetes/ borderline diabetes diagnosis. Survey respondents identified diabetes as the sixth most important health problem in the community.

Among the lifestyle factors contributing to diabetes prevalence and mortality, overweight and obesity are perhaps the most important. According to the CDC, the prevalence of diagnosed adult obesity in Person County in 2013 was 33%. The average prevalence of adult obesity in the county from 2006 through 2013 was 33%. This prevalence of adult overweight/obesity was corroborated by local data. In results from the 2018 Person County Community Health Survey, 48% of respondents self-reported having received a medical diagnosis of overweight/obesity. On that same survey, respondents identified obesity/overweight as the third most important community health problem after cancer and substance abuse. They also recognized lack of exercise and poor eating habits as third and fourth most important unhealthy behaviors in the Person County community.

Between 2001-2005 and 2012-2016, cancer mortality rates in Person County decreased for prostate, colorectal, and pancreas cancers, but increased for breast cancer and lung cancer. Between 1996-2000 and 2012-2016 incidence rates increased for lung, breast, and colorectal cancer. Among respondents to the 2018 Community Health Survey, 9% had been diagnosed with cancer; it ranked first on the list of leading health concerns, with more than two-thirds of respondents selecting cancer from a list of 20 issues.

While some measures of maternal and infant health in Person County have improved over time, disparities remain an issue, and the county tends to fare poorly compared with North Carolina. While the pregnancy rate for teens (girls ages 15 through 19) fell by over 16% between 2014 and 2016, the rate remains higher compared to the state average, and the pregnancy rate among African American girls was nearly double the overall rate in 2016. The frequency of high parity and short-interval births in the county exceeded the state averages in 2012-2016, and utilization of early prenatal care in Person County (62.3%) remains lower than the state average (69.0%) and has not improved significantly over time. Just over 13% of births in 2016 were to mothers who smoked during pregnancy, 48% higher than the state average of 9%. The overall infant mortality rate in Person County increased from 6.5 deaths per 1,000 live births in 2008-2012 to 7.4 deaths in 2012-2016; the infant mortality rate among African Americans in the county was more than twice the rate among whites in the most recent period.



# Community Priorities

After receiving primary and secondary data reports from the consultant, the CHA team was involved in a series of meetings to work towards establishing priorities. The group determined that a Survey Monkey survey tool would be distributed to a broad range of community members, including the public, stakeholders, elected and county officials, and partners, with concerted efforts made to reach different age groups as well as minorities. The Health Department's Foreign Language Interpreter conducted the survey via interview with non-English speaking clients. Over a two-and-a-half-week period, 335 surveys were completed.

As the prioritization survey was being conducted, the CHA team met several times to review existing data, using an adaptation of the "Hanlon Method" to correlate the data. An initial list of health problems was rated by the team with respect to the magnitude of the problem, the seriousness of consequences of the problem, and the feasibility of correcting the problem. Other factors taken into consideration by the team included how the issues aligned with Healthy NC 2020 objectives, themes that recurred over time, and the county's capacity to address issues.

Once the priority setting survey closed, the team reviewed the results and factored them into the ratings. The same issues continued to surface among survey respondents, affirming the direction that the team was heading in terms of establishing priorities. Eventually, the following were established as Person County's health priorities for the next four years (2019-2022):

- Chronic Disease: Diabetes, Heart Disease, and Cancer
- Overweight/Obesity





# Community Priorities

Within six months of the completion of Person County's CHA, a workgroup consisting of community leaders, providers, and partners will collaborate to develop a Community Health Improvement Plan (CHIP) for each of the two selected health priorities. CHIPs will focus on meeting the unmet needs of at-risk groups and will be aligned with Healthy North Carolina 2020 focus areas, the CDC's 6/18 Initiative, and/or HI-5 Interventions as well as standards set forth by NC Local Health Department Accreditation and the Department of Health and Human Services/Division of Public Health Consolidated Agreement. They will include evidence-based multilevel interventions targeting health behavior, the physical environment, social and economic factors, and/or clinical care and be both short-term and long-term in nature.



# Introduction

## Background

Local public health agencies in North Carolina (NC) are required to conduct a Comprehensive Community Health Assessment (CHA) at least once every three or four years. The CHA is required of public health departments in the consolidated agreement between the NC Division of Public Health (NCDPH) and the local public health agency. Furthermore, a CHA is required for local public health department accreditation through the NC Local Health Department Accreditation Board (G.S. § 130A-34.1).

In communities where there is an active Healthy Carolinians coalition, the CHA partnership also usually includes that entity. Healthy Carolinians is “a network of public-private partnerships across North Carolina that shares the common goal of helping all North Carolinians to be healthy.” The members of local coalitions are representatives of the agencies and organizations that serve the health and human service needs of the local population, as well as representatives from businesses, communities of faith, schools and civic groups. In Person County, the local Healthy Carolinians coalition is Healthy Personians (HP).

The community health assessment, which is both a process and a document, investigates and describes the current health status of the community, what has changed since the last assessment, and what still needs to change to improve the health of the community. The process involves the collection and analysis of a large range of data, including demographic, socioeconomic and health statistics, environmental data, and professional and public opinion. The document is a summary of all the available evidence and is a useful data resource until the next assessment. The completed CHA serves as the basis for prioritizing the community’s health needs and culminates in planning to meet those needs.

The CHA coordinator from PCHD contracted with an independent consultant for assistance in conducting the 2018 assessment. The multi-phase plan for conducting the assessment included: (1) a secondary data research phase to identify, collect and analyze secondary demographic, socioeconomic, health, hospital, and environmental data; (2) a primary data research phase to collect and analyze data collected via a community survey; (3) a data synthesis and analysis phase; (4) a period of data reporting and discussion among the project partners; and (5) a prioritization and decision-making phase. Upon completion of this work, the CHA partners and the community will have the tools they need to develop plans and activities that will improve the health and well-being of the people living in Person County. The consultant provided direct technical assistance for phases 1, 2, 3 and 4. To assure project compliance with NCDPH guidelines and requirements, the CHA coordinator and the consultant utilized supporting tools available on the website, <https://publichealth.nc.gov/lhd/>.

The consultant’s comprehensive CHA report that was excerpted to create this report is available on the Person County Health Department website at: <http://health.personcountync.gov> via the Health Data and Community Resources link.

## Process

In larger counties where community partners are more plentiful and not as frequently exhausted by service on multiple committees it may be more feasible to establish both an advisory group and work group for the Community Health Assessment (CHA) process. However, this is not reality for most small, rural counties such as Person County. Therefore, one CHA team was formed that served simultaneously in advisory and working capacities. Efforts of the CHA team were coordinated by a Project Facilitator, who was the Person County Health Department's Quality Assurance Specialist. Factors taken into consideration when assembling partners included: (1) diversity and having a representation of county demographics, (2) previous involvement in the CHA process, (3) a vested interest in public health, (4) expertise in various fields that can impact health, (5) representation from community members, (6) involvement in the Healthy Personians Partnership, (7) partner reputation and reliability, and (8) partner connections within the community. A list of 2018 CHA team members is attached as Appendix 1.

## Data Collection

Most data referred to in the present document were derived, unless otherwise specifically noted, from the consultant's final report, 2018 Person County Community Health Assessment: Comprehensive Secondary Data and Community Health Survey Report which is available on the Person County Health Department website. The consultant's condensed presentation of those data is appended to this report (Appendix 2).

The consultant's comprehensive report represents a topical synthesis of all the secondary data researched in connection with the 2018 Person County CHA project, as well as data collected via the 2018 Person County Community Health Survey. Her report was intended from the outset to serve as the master data resource for guiding community deliberations about the most important health issues in Person County. The consultant's PowerPoint presentation summarizing the secondary data and community survey results is appended to this document. Four Data Workbooks used to support the comprehensive report as well as the discussion in this document are being submitted separately to accompany this report.

The consultant's primary tasks were to identify, collect and analyze secondary data, and to analyze the results of primary data collection activities conducted by the Person CHA partners.

In order to learn about the specific factors affecting the health and quality of life of Person County residents, numerous readily available secondary data sources were utilized. Demographic, economic and social characteristics sources included: the US Census Bureau, especially its American Community Survey (ACS); Log Into North Carolina (LINC); NC Office of State Budget and Management; NC Department of Commerce; Employment Security Commission of NC; NC Department of Public Instruction; NC Department of Justice; NC Department of Administration; NC Department of Transportation; NC Division of Medical Assistance; NC Division of Health Services Regulation; the Cecil B. Sheps Center for Health Services Research.

The main source of secondary health data for the consultant's comprehensive 2018 Person County Community Health Assessment report was the NC State Center for Health Statistics, including its County Health Data Books, Vital Statistics, and Cancer Registry. Other health data sources included: US Centers for Disease Control and Prevention; NCDPH Epidemiology Section; NC Division of Mental Health, Developmental Disabilities and Substance Abuse Services; Healthy People 2020, among other public domain sources. Other important local health data sources included Person County Health Department (which provided service utilization data) and Person Memorial Hospital, a Duke LifePoint Hospital (which provided de-identified emergency department and in-patient hospitalization discharge data). Secondary environmental data were gathered from public domain sources including: US Environmental Protection Agency, NC Department of Environmental Quality Divisions of Air Quality and Waste Management, and the Section of Environmental Health in NCDPH.

Because in any community health assessment it is instructive to relate local data to similar data in other jurisdictions, Person County data is compared to like data describing the state of NC as a whole, as well as data from Bladen County, NC, which was selected, with approval from NCDPH, as a more appropriate comparator for Person County than other counties on the state-approved "peer county" list. In some cases, Person County data is compared to US-level data or other standardized measures. Where appropriate, trend data was used to show changes in indicators over time, at least since the previous Person County CHA four years ago, but sometimes further back than that. Throughout the data collection process particular attention was given to identifying at-risk and vulnerable populations when the data was stratifiable according to age, gender or race/ethnicity.

Person Memorial Hospital (PMH), a Duke LifePoint Hospital, provided de-identified data detailing demographic characteristics and ICD- and DRG-coded diagnoses of the patient population discharged in 2015, 2016 and 2017 from the emergency department and from inpatient hospitalization. The consultant worked with the hospital to assure that the data provided preserved the confidentiality of individual patients. Limited hospital data is summarized in this report; most hospital data appears in detail in the comprehensive 2018 Person County CHA Report.

While the consultant made every effort to obtain the most current data available at the time, it should be noted that as is typical in all time-limited activities such as community health assessment, all secondary data were mined at points in time in the recent past and may not represent present conditions. Numbers, entity names, program titles, etc. that appear in the consultant's report may no longer be current.

The Person CHA Team conducted the community health survey primarily via Survey Monkey™, but this was supplemented by paper surveys distributed to some population groups that could not easily access the Internet. A total of 1018 surveys were analyzed. Since the survey was collected via convenience sampling, some groups were over- or under-represented. For example, the survey sample was overwhelming female, more highly-educated, and wealthier than the general Person County population. Black residents were under-represented, and Hispanic residents were adequately represented. Survey results are interspersed throughout this report, and several sections are covered in some detail in the chapter, Community Concerns. The survey instrument appears in this report as Appendix 3. A full discussion of the 2018 Person County Community Health Survey is available in the consultant's comprehensive report, available on the Person County Health Department website.



# Demographic, Economic, and Sociodemographic Data Findings

## County Description and History

Person County is a land-locked county located in the Piedmont Region of north-central NC. It is bordered to the west by Caswell County, NC, to the east by Granville County, NC, to the south-southeast by Durham County, NC, and to the south-southwest by Orange County, NC. Virginia (specifically Halifax County, VA) lies along the county's northern border.

Person County encompasses a land area of approximately 392 square miles and a water area of 12 square miles. Most of the county is rolling hills divided by farmland and forest. The county is divided geopolitically into nine township districts: Allensville, Bushy Fork, Cunningham, Flat River, Holloway, Mount Tirzah, Olive Grove, Roxboro, and Woodsdale Townships. The City of Roxboro is the county seat and is the only incorporated municipality in the county. Hyco Lake and Mayo Reservoir, both located in the northern part of the county, are used to support commercial electricity generation as well as for recreation. Lake Roxboro, located near the county's western border with Caswell County, serves as a source of community drinking water.

Person County's primary ground transportation routes are two US Highways (501 and 158) and three NC Highways (157, 57, and 49). No Interstate highways traverse the county, but I-85 is located approximately 30 miles to the east. Rail service consists primarily of switching services for the Norfolk Southern Railroad along its Roxboro-South Boston (VA) route. No passenger air services are available in the county; two regional airports (Raleigh/Durham International Airport, 45 miles to the southeast) and Piedmont/Triad International Airport in Greensboro, 60 miles to the southwest) meet most residents' air travel needs. Business and general aviation needs are met locally at the Person County Executive Airport, which has a 6,500-foot paved and lighted runway. The county has no regularly-scheduled long-distance passenger bus service. The nearest commercial bus stations are Greyhound Terminals in Durham, NC and Danville, VA.

Residential growth in the county today is located primarily in the lakes region in the north, and in the southern portion of the county (where growth is at least partly due to proximity to the employment mecca of the Research Triangle Park in Durham and Wake Counties). The present-day economy of Person County is dominated by electrical, textile, administrative, manufacturing, aerodynamics, viticulture, brokering, food processing, automotive, aluminum and paper products. Diversification from traditional flue cured tobacco to include burley tobacco and other modes of agriculture is underway (1).

## Demographics

According to the 2016 estimates, the population of Person County was 39,196. Racial and ethnic diversity in Person County is like that of NC as a whole: 69% white, 27% African American, and 4% Hispanic/Latino (the comparable percentages for NC are 69% white, 22% African American, and 9% Hispanic/Latino (2).

Perhaps the most noteworthy aspect of the Person County population is its age. The median age in the county is 42.8 years, four and a half years "older" than the population for NC as a whole. Furthermore, the graph of population distributions for Person County and NC shown below demonstrates how the Person County population has higher percentages of "older" residents, and lower percentages of "younger" residents, especially the 20-39-year-old age group, than NC (3).



The “gap” in the number of persons of younger working age might indicate that employment opportunities in Person County are not sufficient to attract and keep young workers, since much of the “missing” age group is beyond college age. Its larger-than-NC average proportions of older residents should be of concern to the county, since this is a population group that tends to utilize health and human services at higher rates than younger age groups.

Exacerbating current concern about older segments of the population is projected growth in the population over the age of 65. According to NC Office of State Budget and Management figures, the overall population of Person County is expected to grow by approximately 2% between 2010 and 2030. Apparently much of this growth will occur among older population groups. The population of persons age 65 and older in Person County is projected to grow by 67%, to 10,007 in 2030. More specifically, between 2010 and 2030 the Person County population age 65-74 is projected to grow by 58%, the population age 75-84 by 86%, and the population over age 85 by 57% (4).

One concern in meeting the future needs, and perhaps even the current needs, of its elderly population is the relative dearth of beds in long-term care facilities in Person County. As of the May 2018 listing of NC-licensed long-term beds by the NC Division of Health Services Regulation, there were 214 beds in Adult Care Homes/ Homes for the Aged, 29 beds in Family Care Homes, and 140 beds in Nursing Homes and Homes for the Aged that can provide skilled nursing, for a subtotal of 383 beds (5). In addition, Duke LifePoint Person Memorial Hospital can provide 60 additional long-term beds in its skilled nursing facility, bringing the current total of long-term beds in the county to 443 (6). If the current number of long-term beds does not change, the ratio of beds to population over the age of 65 will decrease from the current 1:15 to 1:23 by 2030.

An alternative to institutional care preferred by many disabled and senior citizens is to remain at home and use community in-home health and/or home aide services. As of May 2018, there were four NC-licensed home care, home health and hospice services in Person County (7). While formerly a function of the Person County Health Department, home health and hospice services are now provided by a commercial group: Medi Home Health and Hospice (8). The fact of the growing elderly population in Person County points to closer investigation of the adequacy of current resources for this population group, and of new facilities and services that might be necessary to meet future needs.

## Economics

The NC Department of Commerce annually ranks the state’s 100 counties based on economic well-being and assigns a Tier Designation, where the 40 most distressed counties are Tier 1, the next 40 are Tier 2, and the 20 least distressed are Tier 3. In 2019, Person County was assigned Tier 2 Designation (9). With this Tier Designation, Person County is not eligible to offer the same economic incentives to prospective businesses as its Tier 1 neighbors.

## Income

Regardless of income category designation and despite increasing since 2011, income measures in Person County remain below comparable state figures in 2016. Estimated per capita personal income in Person County was \$4,730 lower than the comparable state average, and the estimated median household income in the county was \$4,088 lower than the comparable state average. Estimated 2016 median family income in Person County was \$6,983 lower than the comparable state average (10). These differences are due partly to the proportion of low-wage earning persons in Person County.

## Employment

In 2016, the employment sector in Person County that employed the largest percentage of the workforce (18%) was Retail Trade, with an average weekly wage of \$441. This percentage includes many part-time workers, and many whose employers do not provide health benefits. For comparison, this sector statewide employs approximately 12% of all workers, at an average weekly wage of \$524. In 2016, for all employment sectors the average weekly wage per worker in Person County was \$751, \$283 less than the average weekly wage per worker statewide (\$1034) (11).

As elsewhere in NC, the unemployment rate in Person County (calculated by dividing the number of unemployed persons in the county by the number of people in the county's civilian labor force) accelerated abruptly between 2008 and 2009, with the onset of the nation-wide economic recession. Beginning between 2010 and 2011 unemployment in both NC and Person County began to decrease and by the end of 2017 their unemployment rates were almost the same, at 4.7% and 4.6% respectively. In Bladen County, Person County's peer for the purposes of this CHA, the unemployment rate was higher throughout the period discussed and continued to increase past 2009 (12).

## Poverty

The annual poverty rate (100% level) in Person County has not improved as one might have expected based on the county's unemployment figures. In Person County, the overall annual poverty rate (100% level) climbed to 19.9% in 2010-2014 and 2011-2015 and fell slightly to 18.5% in 2012-2016. Meanwhile, statewide rates fell from 17.6% in 2010-2014 to 16.8% in 2012-2016. In Bladen County, where unemployment was higher, poverty rates were also higher (13).

As demonstrated in the chart on the left below, African Americans tend to endure poverty at much higher rates than their white counterparts. Throughout the three most recent periods available, the poverty rate among blacks in Person County was more than twice than the comparable rate for whites (14).

Another group that suffers disproportionately from poverty is children, as apparent from the graph on the right above. Youth under the age of 18, and especially those under the age of 5, have higher poverty rates than the overall population in all three comparator jurisdictions. In the 2012-2016 period in Person County, the poverty rate among related children under 18 was 45% higher than the overall poverty rate and the 100% poverty rate among children under 5 was 66% higher (15).

Poverty can diminish all aspects of quality of life including health. The population in poverty is even more at risk for poor health outcomes if its members do not have health insurance. The uninsured population in Person County will be discussed more fully in the Health Resources section of this report.

## Sociodemographics

### Housing

Housing is often the largest expense for a household. A benchmark sometimes used to compare housing expense among communities is to cite the proportion of household units spending 30% or more of total household income on housing. In 2012-2016, despite average rental and mortgage costs being lower than the NC median, 56% of rental units and 34% of mortgaged units in Person County were paying 30% or more on housing, compared to figures of 49% and 28%, respectively, statewide (16). According to other US Census housing data, 23% of housing units in Person County in 2012-2016 were mobile homes, compared to 13% in NC (17).

### Education

#### Higher Education

There is one college-level educational institution in Person County: Piedmont Community College. Piedmont Community College (PCC) is a public two-year college and a member of the 58-institution NC Community College System, providing educational opportunities to approximately 55,000 residents in rural Person and Caswell counties. The college's curriculum leads to Associate degrees, diplomas, or certificates in over 35 programs of study. Beyond its academic programs, PCC is the primary provider of adult education, training and retraining for the local workforce (18).

#### Primary and Secondary Education

There are 13 public schools in the Person County school district and two charter schools (19). There are also two religiously-affiliated private schools in the county (20). According to NC Department of Public Instruction figures, enrollment in Person County non-charter public schools decreased annually between School Year (SY)2014-15 and SY2016-17. Regarding the county's charter schools, enrollment at Roxboro Community School increased slightly each year and enrollment at Bethel Hill Charter School remained steady (21).

#### Educational Attainment

As of 2012-2016 ACS estimates, Person County had lower percentages of both high school graduates (85%) and residents with a bachelor's degree or higher (15%) than NC as a whole (86% and 29%, respectively). According to SY2016-17 End of Grade (EOG) Test results, Person County third and eighth graders demonstrated grade-appropriate proficiency in reading and math at lower percentages than students statewide. Students enrolled in the county's two charter schools performed at proficiency rates higher than the state average (22). In SY2016-17, the average total SAT score for students in the Person County public schools (1008) was below the average total SAT score for students statewide (1074). Average SAT scores for students at Roxboro Community School (1093) were higher than the state average (23).

## High School Drop-out Rate

According to the NC Department of Public Instruction, a “drop-out” is any student who leaves school for any reason before graduation or completion of a program of studies without transferring to another elementary or secondary school. Specific to high school students in regular (non-charter) public schools in Person County, the drop-out rate tends to fluctuate from year to year, with rates decreasing each year after SY2014-15. In SY2016-17, the Person County drop-out rate (2.76) was slightly higher compared to the NC rate (2.45) (24).

Some educators prefer to use graduation rate rather than drop-rate when discussing the proportion of students who finish/do not finish school, since it emphasizes success rather than failure. Compared to the state average, the graduation rates for 9th graders in Person County entering public high school in SY2013-14 and graduating in SY2016-17 were lower for all categories: overall, females, males, and the economically disadvantaged (25).

## Crime and Safety

### Crime Rates

The NC Department of Justice catalogs data on index crime. Index crime is composed of violent crime and property crime. Violent crime includes murder, forcible rape, robbery, and aggravated assault; property crime includes burglary, larceny, arson, and motor vehicle theft. The overall index crime rate in Person County fell 50% overall between 2007 and 2016 and was lower than the comparable state rate in each of the years cited. The largest component of Person County index crime was property crime, rates for which also were consistently lower than the comparable rates for the state (26).

Violent crime can be subdivided further into the following categories: murder, rape, robbery (larceny by the threat of violence); and aggravated assault (a physical attack on another person which results in serious bodily harm and/or is made with a deadly or dangerous weapon such as a gun, knife, sword, ax or blunt instrument). Property crime can be subdivided into burglary

(unlawful breaking and entering into the premises of another with the intent to commit a felony); larceny (the theft of property without use of force); and motor vehicle theft (the theft or attempted theft of a motor vehicle). In Person County, the predominant violent crime reported in every year cited was aggravated assault, and the predominant property crime reported in every year cited was larceny (27).

Besides index crime, a series of other criminal activities occurs in Person County. For example, as of May 11, 2018 there were 99 registered sex offenders in Person County (28). According to the analysis of GangNET data by the State Highway Patrol, there were between one and five gangs reported in Person County in 2017 (29). And finally, according to the NC State Bureau of Investigation, there were no methamphetamine drug lab busts in Person County during the period from 2005 through 2017 (30).

## Juvenile Crime

The following definitions will be useful in understanding the subsequent data and discussion.

**Complaint:** A formal allegation that a juvenile committed an offense, which will be reviewed by a counselor who decides whether to approve or not approve the complaint. If approved, it will be heard in juvenile court.

**Undisciplined:** Describes a juvenile between the ages of six and 16, who is unlawfully absent from school, or regularly disobedient and beyond disciplinary control of parent/guardian or is regularly found where it is unlawful for juveniles to be or has run away from home for more than 24 hours. It also includes 16-17-year olds who have done any of the above except being absent from school.

**Delinquent:** Describes a juvenile between the ages of six and not yet 16 who commits an offense that would be a crime under state or local law if committed by an adult.

The number of complaints for undisciplined youth in Person County fell from 64 in 2010 to 26 in 2016 a 59% decrease. Over the same period the number of complaints of delinquent youth in Person County decreased 15% from 148 in 2010 to 126 in 2017 (31). It is unclear whether this pattern reflects a real improvement in the behavior among youth or a change in the reaction of complainants regarding what behaviors they think they are seeing.

## Sexual Assault and Domestic Violence

According to data from the Domestic Violence Commission of the NC Council for Women, the number of individuals who filed complaints of domestic violence increased from 178 in FY2011-12 to 697 in FY2014-15 but dropped sharply to 76 in FY2015-16. In FY2016-17, there were 115 domestic violence clients in the county, and the domestic violence shelter serving Person County was full on 137 days (32).

The same state source catalogues data on complaints of sexual assault, but unfortunately only two recent years of data are available for Person County, and so sexual assault will not be discussed here.

## Child Maltreatment

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

Between FY2004-05 and FY2016-17, the total number of findings of child abuse, neglect or dependency in Person County fluctuated without a clear pattern. Over the period cited, the highest numbers of substantiated cases were 63 in 2014-15 and 62 in 2015-16. The average annual number of findings of child abuse, neglect, or dependency over the period cited was 42. In FY2016-17, 39 cases were substantiated (almost all were "neglect" findings): 39% of these 39 victims white, 45% were African American, and 24% were of another race. Almost 77% of the 39 substantiated reports involved children under the age of 5, and 53% were males. A "substantiated" report of child abuse, neglect or exploitation indicates that the investigation supports a conclusion that the subject child(ren) was/were abused, neglected, or exploited (33).

## Adult Maltreatment

Adults who are elderly, frail, or mentally challenged are also subject to abuse, neglect, and exploitation. County DSS Adult Protective Services units screen, investigate, and evaluate reports of what may broadly be referred to as adult maltreatment.

According to data from Person County Department of Social Services annual reports for FY2014-15, FY2015-16, and FY2016-17, an average of 108 reports were received each year, with 53% of reports meeting the legal standard for investigation. Among the reports investigated, service needs were identified in an average of 46%, and adults had to be removed from their living situations in 5% of the cases (34).



# Environmental Data Findings

## Toxic Chemical Releases

Person County is among the NC counties with the largest volumes of toxic releases. The US Toxic Releases Inventory (TRI) program is the tool the Environmental Protection Agency (EPA) uses to track industrial releases of toxic chemicals to land, air and water. Approximately 20,000 industrial facilities are required to report estimates of their environmental releases and waste generation annually to the TRI program office. Note that these reports do not cover all toxic chemicals, and they omit pollution from motor vehicles and small businesses (35).

In 2017, more than 3.8 million pounds of TRI chemicals were released in Person County, the fourth highest total volume of releases in the state (36). TRI releases in Person County in 2017 represented 7% of all TRIs released in NC in 2017. CPI USA, North Carolina LLC, located in Roxboro, was one of the primary polluters in the county, as are the two power generating facilities—the Mayo Electric Generating Plant and the Roxboro Steam Plant—both operated by Duke Energy (37).

Although TRI releases in Person County remain among the highest in the state, the releasing industries have reduced the amount of TRI chemicals they released over time, especially since 2000 (38).

## Coal Ash

Because of recent newsworthy “accidents” in Kingston, TN and Eden, NC resulting in the release of coal ash from holding ponds associated with power plants, and because Person County is home to two power plants which use ponds to retain effluent containing coal ash, the topic is of interest and importance in Person County. The facilities in question are the Duke Energy Mayo Power Station in Roxboro, which has one ash pond, and the Duke Energy Roxboro Power Station in Semora, which has three ash ponds.

Coal ash, also referred to as coal combustion residuals or CCRs, is produced primarily from the burning of coal in coal-fired power plants. Some power plants may dispose of it in surface impoundments or in landfills; others may discharge it into a nearby waterway under the plant’s water discharge permit. Coal ash may also be recycled into products like concrete or wallboard. Coal ash contains contaminants like mercury, cadmium and arsenic. Without proper management, these contaminants can pollute waterways, ground water, drinking water, and the air (39).

Water testing has been conducted on private wells in the vicinity of the coal ash ponds in Person County, and, in accordance with requirements of NC G.S. 130A-309.211(c1), Duke Energy developed plans to provide Permanent Alternate Water Supply to 22 eligible households affected by coal ash seepage near the Mayo Steam Station and 84 households near the Roxboro Steam Station. The corrective plan for the Mayo Steam Station proposed offered eligible households a water treatment system (40); the plan for those affected in the vicinity of the Roxboro Steam Station involved providing municipal water to the eligible households (41).

In January 2019 the NC Department of Environmental Quality (DEQ) held a series of public information sessions near six coal ash facilities in NC to learn about options for closing coal ash impoundments. Two of these meetings focused on the Mayo and Roxboro Steam Plants. By law, the owner/operator of these power generating facilities—Duke Energy—is required to submit a final plan for closing each of the ash impoundments sometime in 2019 (42).



## Water Quality

### Drinking Water Systems

The EPA's Safe Drinking Water Information System (SDWIS) contains information about public water systems and their violations of EPA's drinking water regulations, as reported to EPA by the states. These regulations establish maximum contaminant levels, treatment techniques, and monitoring and reporting requirements to ensure that water systems provide safe water to their customers.

As of September 2018, SDWIS listed 49 active water systems in Person County. Three were community water systems that served 15,057 people. A community water system is one with at least 15 service connections used by year-round residents or regularly serves 25 year-round residents. This category includes municipalities, subdivisions, and mobile home parks. In addition to the three community water systems in Person County, there were also five non-transient, non-community water systems (N-T/N-C) serving 1,264 people; and 41 transient, non-community (T/N-C) water systems serving 3,215 people. Water systems in the N-T/N-C category regularly supply water to at least 25 of the same people at least six months per year, but not year-round. Some examples are schools, factories, office buildings, and hospitals which have their own water systems. Water systems in the T/N-C category do not consistently serve the same people, and include rest stops, campgrounds, and gas stations (43).

According to the data from SDWIS, active community water systems in Person County serve approximately 38% of the population. The remaining 62%, a significant segment of the county population, get their water from private wells or other sources and are at greatest risk for environmental contamination of their water source (44).

### Solid Waste Disposal

The solid waste disposal trend in Person County is moving in the wrong direction. In FY2016-17, Person County managed 51,903 tons of municipal solid waste (MSW) for a rate of 1.31 tons per capita, an increase of 63% from the per capita rate for FY1991-92 (the period customarily used for the base rate). During the same 2016-17 period, the overall state per capita solid waste management rate was 1.11, 3% more than the FY1991-92 base per capita rate (45).

Some of the solid waste generated within Person County is transferred or transported directly to landfills outside the county, but the vast majority (96%) is landfilled within its boundaries, at the Upper Piedmont Regional Landfill located in in Rougemont (46). This landfill currently has capacity projected to last for another 39 years (47).



# Health Data Findings

## Using Health Data

Routinely collected surveillance data can be used to describe—and compare—the health status of communities. These data, which are readily available in the public domain, typically use standardized definitions. Some of the important terms used in this section of the report are defined or explained below, excerpted from the consultant’s comprehensive CHA report:

- **Mortality rate:** The mortality rate, or the rate of death, is calculated by dividing the number of deaths in a target population in a given time period due to a specific cause by the total number of persons in the target population in the same period. Mortality rate typically is described as number of deaths per 100,000 persons.
- **Age-adjustment:** Many factors can affect the risk of death, including race, gender, occupation, education and income. The most significant factor is age, because as a population ages, its collective risk of death increases. At any one time some communities have higher proportions of “younger” people, and others have a higher proportion of “older” people. In order to compare mortality data from one community with the same kind of data from another, it is necessary first to control for differences in the age composition of the communities being compared. This is accomplished by age-adjusting the data, a statistical manipulation usually performed by the professionals responsible for collecting and cataloging health data.
- **Aggregate data:** Aggregation of data combines annual data gathered over a multi-year period, usually three or five years. The practice of presenting data that are aggregated avoids the instability typically associated with using highly variable year-by-year data consisting of relatively few cases or deaths. It is particularly important to aggregate data for smaller jurisdictions like Person County. Aggregating annual counts over a five-year period before calculating a rate is a method commonly used by the NC State Center for Health Statistics (NCSCHS). Sometimes even aggregating data is not enough, so the NCSCHS recommends that all rates based on fewer than 20 events—whether covering an aggregate period or not—be considered “unstable” and interpreted only with caution.
- **Morbidity:** Morbidity as used in this report refers generally to the presence of injury, sickness or disease (and sometimes the symptoms and/or disability resulting from those conditions) among the living population. Morbidity data usually is presented as a percentage or a count, but not a rate.
- **Prevalence:** Prevalence refers to the number of existing cases of a disease or health condition in a population at a defined point in time – the pregnancy rate is the number of pregnancies per 1,000 women of target reproductive age. In this report, the target ages are “all women of reproductive age” (15-44 years) and “teen women” (15-19 years).

## Maternal and Infant Health

### Pregnancy Rates

#### Overall Pregnancy Rate

As is true for NC as a whole, the overall pregnancy rate for women of childbearing age (15-44) in Person County has been falling, decreasing by 12% between 2008 and 2016. Statewide, over the same period, the overall pregnancy rate fell by 14%. In 2016, the overall pregnancy rate in Person County was 72.2 pregnancies per 1,000 women, the same as the state rate. When stratified by race, it is apparent that between 2013 and 2016 overall pregnancy rates in Person County fell among white (by 10%) and Hispanic women (by 2%) while it rose among African American non-Hispanic women (by 21%). In Person County in 2016, the

pregnancy rate was highest among Hispanic women (94.9), compared to African American non-Hispanic women (87.7) and white non-Hispanic women (62.6) (48).

### Teen Pregnancy Rate

Pregnancy rates among Person County teens (ages 15-19) also fell between 2008 and 2016, as they did statewide. In Person County, the decrease over that period was 39%; statewide the decrease was 52%. In 2016, the teen pregnancy rate in Person County was 42.9 pregnancies per 1,000 teen females, 53% higher than the state rate of 28.1. When stratified by race, it is apparent that between 2010 and 2015 teen pregnancy rates in Person County fell among both white (by 14%) and African American (by 42%) non-Hispanic teens. (Pregnancy rates in other racial groups are unstable in 2016 and not discussed here.) However, by 2016, the overall pregnancy rate for African American non-Hispanic teens in Person County had risen to 80.2 and was approximately double than the comparable rate (38.0) among African American non-Hispanic teens across the state (49).

In terms of numbers rather than rates, teen pregnancies in Person County fell from a high of 93 in 2008 to 49 in 2016 (50).

### Pregnancy Risk Factors

#### High Parity and Short-Interval Births

According to NCSCHS, a birth is high parity if the mother is younger than 18 when she has had one or more births, or aged 18 or 19 and has had two or more births, or is 20-24 and has had four or more births, etc. A short-interval birth involves a conception occurring less than six months since the last birth. High-parity and short-interval pregnancies can be a physical strain on the mother and sometimes contribute to complicated pregnancies and/or poor birth outcomes.

The frequency of high parity births among Person County women under the age of 30 (15.8%) AND among women over 30 (23.8%) were higher compared to state rates in 2012-2016 (14.2% and 22.0%, respectively) (51). The frequency of short-interval births in Person County (12.8%) was slightly higher than the comparable state rate (12.2%) in 2012-2016 (52).

#### Lack of Early Prenatal Care

Good pre-conception health and early prenatal care can help assure women the healthiest pregnancies possible. The percent of pregnant women in Person County who received early prenatal care (i.e., prenatal care in the first three months) was lower than the comparable state rate in every period from 2011 to 2016; it was also lower than the comparable Bladen County rate in 2011 to 2014. In 2016, 62% of Person County pregnant women received prenatal care in the first trimester, compared to 69% statewide and 60% in Bladen County (53).

#### Smoking During Pregnancy

Smoking during pregnancy is an unhealthy behavior that may have negative effects on both the mother and the fetus. Smoking can lead to fetal and newborn death and contribute to low birth weight and pre-term delivery. The percent of births to mothers who smoked during pregnancy decreased in Person County each year since 2012, though proportions continue to exceed comparable state rates: 13.2% of Person County births in 2016 were to

women who smoked during pregnancy, a figure 48% higher than the state rate of 8.9% (54).

## Birth Outcomes

### Low and Very Low Birth Weight Births

Low birth weight can result in serious health problems in newborns (e.g., respiratory distress, bleeding in the brain, and heart, intestinal and eye problems), and cause lasting disabilities (mental retardation, cerebral palsy, and vision and hearing loss) or even death (55).

The overall frequency of low birth weight ( $\leq 5.5$  lbs.) births in Person County decreased 11% between 2006-2010 and 2012-2016, and the overall frequency of very low birth weight ( $\leq 3.3$  lbs.) births decreased 5% over the same period. When stratified by race, a clear disparity in these birth outcomes emerges. In 2012-2016, the frequency of low birth weight births among white non-Hispanic women in Person County was 5.6%, while among African American non-Hispanic women the comparable figure was 15.5%. The frequency of very low birth weight births among white non-Hispanic women in Person County was 0.8%, while among African American non-Hispanic women the comparable figure was 5.2%. In 2012-2016, the frequencies of low and very low birth weight births among African American non-Hispanic women exceeded the comparable state figures (56).

### Infant Mortality

The infant mortality rate is the number of deaths of infants under one year of age per 1,000 live births. The infant mortality rate in Person County decreased 8% between 2006-2010 and 2012-2016. For 2012-2016, the overall infant mortality rate in Person County was 7.4 infant deaths per 1,000 live births, similar to the state average of 7.2 (57). It bears noting that the infant mortality rate in NC was among the 10 worst of the 50 states throughout the period covered by the statistic.

When stratified by race, it is apparent that the infant mortality rate is much higher among African American non-Hispanic women regardless of jurisdiction. In Person County in 2012-2016 the numbers of infant deaths among all racial groups were too few to yield a stable rate. However, in Person County 80% of the infant deaths (12 of 15) occurred among African American non-Hispanic babies, yielding an infant mortality rate of 20.0, nearly three times the overall rate in the county (7.4). Statewide the infant mortality rate among African American non-Hispanic babies was 13.0 in 2012-2016, almost twice the overall rate (58).

## Life Expectancy and Leading Causes of Death

### Life Expectancy

According to data shown in the table below, life expectancies for persons born in 2014-2016 in Person County were lower in all categories than the comparable state averages. Note, however, that life expectancies in Person County improved in all categories except females between 1990-1992 and 2014-2016.

## Life Expectancy at Birth, by Gender and Race

Location	Life Expectancy from Birth, in Years									
	Person Born in 1990-1992					Person Born in 2014-2016				
	Overall	Male	Female	White	African-American	Overall	Male	Female	White	African-American
Person County	75.5	70.6	80.4	76.7	72.8	76.8	74.5	78.9	77.7	74.5
Bladen County	72.4	67.8	76.9	74.1	69.4	74.2	71.5	76.9	75.8	72.3
State of NC	74.9	71.0	78.7	76.4	69.8	77.4	74.8	79.9	78.3	74.9

Source: NC State Center for Health Statistics, County-level Data, Life Expectancy, State and County Estimates, Life Expectancy: North Carolina 1990-1992 and 2010-2012, State and County; <https://schs.dph.ncdhs.gov/data/lifeexpectancy/>

## Leading Causes of Death

The following four tables summarize information on the leading causes of death in Person County. The source for these tables is a PowerPoint presentation summarizing CHA data that was prepared by the CHA consultant and is appended to this report.

According to the table below, 2012-2016 mortality rates in Person County exceeded the comparable rates statewide for 8 of the 15 leading causes of death.

### Leading Causes of Death in Person County, 2012-2016

Age-Adjusted Rates (2012-2016)	Person Co. No. of Deaths	Person Co. Mortality Rate	Rate Difference from NC
1. Total Cancer	515	195.8	+18%
2. Diseases of the Heart	424	166.9	+3%
3. Cerebrovascular Disease	119	48.0	+11%
4. Chronic Lower Respiratory Disease	106	40.6	-11%
5. Diabetes Mellitus	84	31.9	+39%
6. All Other Unintentional Injuries	59	25.8	-19%
7. Alzheimer's Disease	57	23.1	-28%
8. Unintentional Motor Vehicle Injury	40	21.9	+55%
9. Pneumonia and Influenza	54	21.2	+19%
10. Septicemia	40	15.7	+20%
11. Suicide	33	14.8	+15%
12. Nephritis, Nephrotic Syndrome, Nephrosis	37	14.4	-12%
13. Chronic Liver Disease and Cirrhosis	27	10.3	0
14. Homicide	8	4.8	n/a
15. AIDS	5	2.6	n/a

The table below shows how mortality rates for the leading causes of death in Person County shifted in the short-term, between 2008-2012 (the data used for the 2014 Person County CHA) and 2012-2016. Considering only stable rates, this comparison shows that mortality rates for nine causes of death improved over the interval cited, but rates worsened for four: total cancer, diabetes, unintentional motor vehicle injuries, and pneumonia/influenza. Mortality rates for homicide and AIDS were unstable both years and are not compared in this analysis.

## Leading Causes of Death in Person County 2012-2016 and Change from 2008-2012

Person County Rank by Descending Overall Age-Adjusted Rate (2012-2016)	Rate in 2008-2012	Rate in 2012-2016	% Rate Change 2008-2012 to 2012-2016
1. Total Cancer	195.4	195.8	+0.2
2. Diseases of the Heart	182.8	166.9	-9
3. Cerebrovascular Disease	74.7	48.0	-36
4. Chronic Lower Respiratory Disease	52.8	40.6	-23
5. Diabetes Mellitus	28.5	31.9	+12
6. All Other Unintentional Injuries	26.9	25.8	-11
7. Alzheimer's Disease	24.8	23.1	-7
8. Unintentional Motor Vehicle Injury	18.0	21.9	+17
9. Pneumonia and Influenza	20.3	21.2	+4
10. Septicemia	17.8	15.7	-12
11. Suicide	14.9	14.8	-0.7
12. Nephritis, Nephrotic Syndrome, Nephrosis	16.0	14.4	-10
13. Chronic Liver Disease and Cirrhosis	13.2	10.3	-22
14. Homicide	6.5	4.8	-26
15. AIDS	2.0	2.6	+30

Although analysis of the data in the next table is hampered by numerous suppressed or unstable rates, it does appear that males disproportionately suffer mortality from several causes of death: total cancer, heart disease, chronic lower respiratory disease, and diabetes.

## Leading Causes of Death in Person County 2012-2016, by Gender

Person County Rank by Descending Overall Age-Adjusted Rate (2012-2016)	Rank Among Males	Rank Among Females	% Male Rate Difference from Females
1. Total Cancer	1	1	+36%
2. Diseases of the Heart	2	2	+71%
3. Cerebrovascular Disease	6	3	-28%
4. Chronic Lower Respiratory Disease	3	4	+56%
5. Diabetes Mellitus	4	6	+66%
6. All Other Unintentional Injuries	5	n/a	n/a
7. Alzheimer's Disease	n/a	5	n/a
8. Unintentional Motor Vehicle Injury	9	n/a	n/a
9. Pneumonia and Influenza	7	n/a	n/a
10. Septicemia	n/a	7	n/a
11. Suicide	8	n/a	n/a
12. Nephritis, Nephrotic Syndrome, Nephrosis	n/a	8	n/a
13. Chronic Liver Disease and Cirrhosis	n/a	n/a	n/a
14. Homicide	n/a	n/a	n/a
15. AIDS	n/a	n/a	n/a

African Americans in Person County also suffer disproportionate mortality for several of the leading causes of death: total cancer, heart disease, and especially diabetes, with the mortality rate for African American non-Hispanics one and a half times the rate for white non-Hispanics. Note that racially stratified data is not available for many leading causes of death due to below-threshold numbers of deaths and suppressed unstable rates.

Each age group tends to have its own leading causes of death. Note that for this purpose, it is important to use non-age adjusted death rates. In the period 2012-2016, the leading cause(s) of death in each of the age groups in Person County were as follows (59):

- Age Group 00-19: Conditions originating in the perinatal period
- Age Group 20-39: Motor vehicle injuries
- Age Group 40-64: Cancer – all sites
- Age Group 65-84: Cancer – all sites
- Age Group 85+: Diseases of the heart

The next table, also from the consultant’s PowerPoint presentation, summarizes long-term mortality rate trends in Person County for the 15 leading causes of death. The summary arrow describes the direction of slope of a regression line calculated using twelve rolling five-year aggregate mortality rates in the period from 2001-2005 through 2012-2016. A downward arrow indicates a falling slope/rate; an upward arrow indicates a rising slope/rate. Two upward arrows indicate a rising rate that has doubled (or more) since the initial period of the data. It is apparent from this data that over the period cited mortality rates in Person County improved overall for 11 of the 15 leading causes of death. Unfortunately, rates increased overall for four causes of death: total cancer, diabetes, Alzheimer’s disease (by several orders of magnitude), and suicide.

**Leading Causes of Death in Person County 2012-2016, by Race**

Person County Rank by Descending Overall Age-Adjusted Rate (2012-2016)	Rank Among White Non-Hispanic	Rank Among Black non-Hispanic	% Blacks Rate Difference from Whites
1. Total Cancer	1	1	+13%
2. Diseases of the Heart	2	2	+18%
3. Cerebrovascular Disease	3	4	-20%
4. Chronic Lower Respiratory Disease	4	n/a	n/a
5. Diabetes Mellitus	6	3	1.7X
6. All Other Unintentional Injuries	5	n/a	n/a
7. Alzheimer’s Disease	9	n/a	n/a
8. Unintentional Motor Vehicle Injury	7	n/a	n/a
9. Pneumonia and Influenza	8	n/a	n/a
10. Septicemia	12	n/a	n/a
11. Suicide	10	n/a	n/a
12. Nephritis, Nephrotic Syndrome, Nephrosis	11	n/a	n/a
13. Chronic Liver Disease and Cirrhosis	13	n/a	n/a
14. Homicide	n/a	n/a	n/a
15. AIDS	n/a	n/a	n/a

**Trends of Change in the Leading Causes of Death in Person County 2001-2005 through 2012-2016**

Leading Cause of Death in Person County, 2012-2016	Overall Trend Direction
1. Total Cancer	▲
2. Diseases of the Heart	▼
3. Cerebrovascular Disease	▼
4. Chronic Lower Respiratory Disease	▼
5. Diabetes Mellitus	▲
6. All Other Unintentional Injuries	▼
7. Alzheimer’s Disease	▲▲1/2
8. Unintentional Motor Vehicle Injury	▼
9. Pneumonia and Influenza	▼
10. Septicemia	▼
11. Suicide	▲
12. Nephritis, Nephrotic Syndrome, Nephrosis	▼▼
13. Chronic Liver Disease and Cirrhosis	▼
14. Homicide	▼
15. AIDS	▼

Total cancer was the leading cause of death in Person County in 2012-2016, so examining incidence and mortality rate trends for site-specific cancers is helpful in understanding more about the problem of cancer in the community. The following table from the consultant’s PowerPoint presentation summarizes trends in the incidence and mortality rates for five site-specific cancers: lung cancer, prostate cancer, breast cancer, colorectal cancer, and pancreas cancer. The incidence data covers the period from 1996-2000 through 2012-2016 and the mortality rate data covers the period from 2001-2005 through 2012-2016. The symbol protocol

is the same as that used in the table above. A “double down” arrow indicates a rate that has halved since the beginning of the period covered.



### Trends of Change in Cancer Incidence and Mortality in Person County

Cancer Site	Parameter	Overall Trend Direction
Lung Cancer	Incidence Mortality	▲ ▲
Prostate Cancer	Incidence Mortality	▼ ▼▼1/2
Breast Cancer	Incidence Mortality	▼ ▲
Colorectal Cancer	Incidence Mortality	▲ ▼
Pancreas Cancer	Incidence Mortality	n/a ▼

It is difficult to fully interpret incidence data without information about cancer screening activities, since screenings sometimes raise incidence rates by discovering cancer cases that might otherwise go unnoticed for some period of time. A rise in incidence connected to screening is not necessarily a bad thing, since the resulting figure may include numerous cases that were caught early and treated. The data

above indicate that incidence has risen for lung and colorectal cancers. While screenings for colorectal cancer are common, there is no routine lung cancer screening mechanism.

The table above also shows that mortality has decreased over time for prostate, colorectal and pancreas cancers; unfortunately, the mortality rate trend for lung cancer and breast cancer increased over the time period cited.

The rise in lung cancer incidence and mortality is not surprising, since one major cause of lung cancer, smoking, remains a problem in Person County. As illustrated in the data on smoking during pregnancy, pregnant women in Person County smoke at a higher rate than the state average. In Person County, men have had a higher lung cancer mortality rate than women for the past twelve aggregate periods, but the mortality rate gap between men and women has closed somewhat as lung cancer mortality has increased for women and decreased for men (60).

Twelve percent of respondents to the 2018 Person County Community Health Survey reported current tobacco use; an additional 23% of respondents used to smoke but have quit. Four percent reported using electronic cigarettes. Thirteen percent of 2018's respondents reported being told by a health professional that they had a lung disease (the description included: asthma, emphysema, COPD, chronic bronchitis). Lung disease ranked eight on the list of community health problems identified by survey respondents with 22% selecting it, an increase in frequency over three previous survey cycles. Smoking and tobacco use ranked fifth among the important unhealthy behaviors in Person county, with 47% of respondents selecting it, a lower proportion compared to previous survey samples (61).

## Morbidity and Chronic Disease

### Diabetes

As noted previously, diabetes was the fifth leading cause of death overall in Person County in 2012-2016, with rising mortality rates. It was the third leading cause of death among African American non-Hispanics in the county, with a mortality rate more than double the comparable rate among white non-Hispanics.

Because of the racial disparity in diabetes mortality rates between white non-Hispanics and African American non-Hispanics it may be illustrative to examine hospital discharges stratified by those racial groups. African Americans accounted for 57% of all diabetes-related emergency department (ED) discharges and 47% of all diabetes-related inpatient (IP) discharges in the period cited even though this group accounts for approximately only 20% of the Person County population. It is unclear whether this disproportional use of hospital services by African Americans points to more and/or more serious diabetes in this minority population or some other factor, such as limited access to medical homes and “regular” medical care.

**Hospital Discharges Associated with a Diagnosis of Diabetes Mellitus, by Race  
Person Memorial Hospital, 2015-2017**

Number of Discharges	Emergency Department				Inpatient			
	2015	2016	2017	Total	2015	2016	2017	Total
Total Diagnosis-Specific	159	145	133	437	24	31	30	85
African American	94	73	80	247	14	13	13	40
African American % Diagnosis-Specific	59.1	50.3	60.2	56.5	58.3	41.9	43.3	47.1
White	61	69	51	181	10	18	16	44
White % Diagnosis-Specific	38.4	47.6	38.3	41.4	41.7	58.1	53.3	51.8

Although not racially stratified and rather dated, data available from the Centers for Disease Control and Prevention (CDC) describes the estimated prevalence of diagnosed diabetes among adults age 18 and older at the county level. According to this data (derived from the BRFSS) the prevalence of adult diabetes in Person County increased 16% overall between 2006 and 2013; the comparable figures for Bladen County and NC were 21% and 19%, respectively. The average prevalence of diagnosed adult diabetes in Person County over that period was 10.5%; the comparable figures for Bladen County and NC were 11.7% and 9.4%, respectively (62).

Thirteen percent of respondents to the 2018 Community Health Survey indicated that they had been diagnosed with diabetes; another 22% said they had been diagnosed with pre-diabetes/borderline diabetes. Diabetes was selected by 49% of respondents as an important community health problem in Person County, ranking it sixth on the list (61).

## Overweight and Obesity

Overweight and obesity are well-recognized as precursors to many health problems, including diabetes. As with diabetes, the CDC describes the estimated prevalence of diagnosed obesity in adults age 18 and older at the county level. According to this data (also derived from the BRFSS), the prevalence of diagnosed obesity in Person County changed little between 2006 and 2013. (Similar state-level data is not available from the source.) The average 8-year prevalence of diagnosed obesity among adults in Person County over that period was 32.3%; the comparable figure for Bladen County was 34.4% (63).

According to results from the 2018 Person County Community Health Survey, 48% of the adult respondents reported that they had been diagnosed by a doctor, nurse or other health professional as either overweight or obese. When examined by racially stratified groups, 47% of white respondents had been diagnosed with overweight/obesity, compared to 55% of African American respondents and 32% of Hispanic respondents. When stratified by gender, females (48%) were more likely than males (43%) to report an overweight/obesity diagnosis (61).

Survey respondents ranked overweight/obesity third among the important health problems in the community, with 58% of participants choosing it from a list of 20 issues. The community seems to recognize the link between unhealthy behaviors and obesity, with 52% of respondents selecting “lack of exercise/poor physical fitness” and 47% identifying “poor eating habits” among the most important unhealthy behaviors. An increasing proportion of participants (29% in 2018) selected “availability of healthy food choices in restaurants/grocery stores” as an important community concern (61).

While data on childhood obesity is as sparser than data on adult obesity, the existing data appears to indicate that overweight and obesity are as pervasive among toddlers as among adults. According to 2015 data from NC PedNESS (North Carolina Pediatric Nutrition and Epidemiology Surveillance System), 19.3% of 2-4-year olds in the NPASS program in Person County were overweight, and 15.2% were obese; in Bladen County 15.5% of 2-4-year old participants were overweight, and 16.5% were obese. Statewide, 15% were overweight and 14% were obese (64).

Complications from overweight and obesity include not only diabetes but also heart disease, high cholesterol, and high blood pressure. Each of these conditions is prevalent in the Person County community, as indicated by results of the Person County Community Health Survey. In the 2018 survey: 7% of the respondents reported they had been diagnosed with angina or heart disease, 35% reported a diagnosis of high cholesterol, and 40% of respondents reported a diagnosis of high blood pressure (61).

## Communicable Disease

Sexually transmitted infections (STIs) are the most common communicable diseases in Person County. Among STIs, chlamydia is the most prevalent, followed by gonorrhea. According to state data, Person County incidence rates for chlamydia and gonorrhea have risen steadily since 2012. In 2016 the chlamydia incidence rate was 532.0 cases per 100,000 population, compared to a state rate of 572.4. The gonorrhea incidence rate rose from a low of 89.4 in 2012 to 201.1 in 2016, higher than the state rate of 194.4 (65). The highest rates of gonorrhea have been found in African Americans, people 20 to 24 years of age, and women, respectively (66).

The Person County Health Department, Communicable Disease Section is responsible by law for tracking cases of all communicable diseases. According to health department records for 2015, 2016 and 2017:

- There were nine or ten foodborne illnesses reported annually over the period cited; of the total of 28 cases reported between 2015 and 2017, nine (36%) were *Campylobacter* infections and 15 (54%) were cases of salmonellosis.
- There were 885 total cases of sexually transmitted infections over the period cited, 665 (75%) of which were chlamydia infections.
- Rocky Mountain spotted fever was the non-STI, non-foodborne communicable disease most frequently reported, totaling nine cases in the period cited (67).

Access to and utilization of healthcare is affected by a range of variables including the availability of health insurance coverage, availability of medical and dental professionals, transportation, cultural expectations and other factors.

## Health Insurance

In most communities, citizens' utilization of health care services is related to their ability to pay for those services, either directly or through private or government health insurance plans and programs. People without health insurance are often the segment of the population least likely to seek and/or to be able to access necessary health care.

The table below summarizes the population (by age group) without health insurance of any kind for three years. Prior to the advent of the Affordable Care Act, the health insurance system in the US was built largely on employer-based insurance coverage, and any significant increase in the number of unemployed people usually led to an increase in the number of uninsured. With the possibility of changes being made to the Affordable Care Act, this data should be closely tracked in the future.

**Percent of Population Without Health Insurance, by Age Group**

Location	2014			2015			2016		
	0-18	19-64	0-64	0-18	19-64	0-64	0-18	19-64	0-64
Person County	5.6	17.5	14.6	4.6	14.4	11.7	5.0	15.3	12.5
Bladen County	6.7	23.0	18.6	6.0	20.4	16.6	6.7	20.2	16.6
State of NC	5.5	18.9	15.2	4.6	16.2	13.0	4.7	15.1	12.2

U.S. Census Bureau, Small Area Health Insurance Estimate (SAHIE) Interactive Data Tool.  
Geographies and age groups as noted. <https://www.census.gov/data-tools/demo/sahie/sahie.html>.

Person County saw a decrease in the percent of uninsured people between 2014 and 2015, but 2016 estimates indicate that the situation worsened among all three age groups presented.

The 2018 Person County Community Health Survey asked participants whether they had health insurance at the time of the survey and whether they had prescription coverage. Among the 946 respondents who answered the question, 102 (10.8%) did not have health coverage; 9.7% (n=91) did not have prescription drug coverage. African American respondents were more likely to be uninsured (13%) compared to white respondents (8%); male respondents (13%) were more likely to be uninsured compared to female respondents (10%) (61).

In the opposite case from poverty, which is worse among children, the percent of children who are uninsured is lower than the percent of adults. The table above contains data showing that the percent of children age 0-18 without health insurance is much lower than the comparable percent for the 19-64 age group. This may be attributed perhaps to the fact that, as shown in the following table, enrollment in NC Health Choice (the Children's Health Insurance Program, or CHIP) in NC that provides insurance to children in low-income families who earn too much to qualify for Medicaid) has increased steadily over time in Person County.

## Enrollment in Medicaid and Health Choice Programs

Person County	Aged	Disabled	TANF (AFDC) Under 21	TANF (AFDC) 21 and over	Pregnant Women	Family Planning	Infants and Children	County Total	CHIP
Annual Unduplicated 2017	866	1,495	2,650	1,180	145	974	1,522	10,037	479
Annual Unduplicated 2016	845	1,501	2,565	1,242	140	610	1,565	9,723	463
Annual Unduplicated 2015	854	1,486	1,879	1,258	181	403	2,214	9,467	438

Source: NC Division of Medical Assistance, Reports, Enrollment Reports. State Fiscal Year Medicaid/Health Choice State and County [years as noted]. <https://dma.ncdhhs.gov/documents/reports/enrollment-reports/medicaid-and-health-choice-enrollment-reports>.

## Health Care Providers

The Cecil B. Sheps Center for Health Services Research at UNC Chapel Hill computes ratios of providers to population for major groups of health care professionals. In Person County, the ratios of providers to population were lower compared to the state average for all six of the categories of health care professionals presented below (68). This data would seem to indicate substandard health care access in Person County. The aging of the healthcare workforce may be a growing concern in Person County, particularly when it comes to accessing dental care. In 2017, 50% of the (already limited) licensed dentists in Person County were over 65 and 17% of the physicians were over 65. As providers age, they often choose to work on limited days or during shortened hours, further complicating the healthcare access issue in Person County.

### Active Health Professional Ratios (Professional per 10,000 Population)

	2017					2016
	Registered Nurses	Dentists	Physicians	Physician Assistants	Nurse Practitioners	Pharmacists
<b>Person County</b>	46.40	2.01	9.03	3.26	6.27	8.13
<b>Bladen County</b>	53.21	2.04	7.27	2.04	3.49	5.68
<b>North Carolina</b>	100.88	4.98	23.78	5.87	6.47	11.44

Source: Cecil B Sheps Center for Health Services Research. NC Health Professionals Data System. <https://nchealthworkforce.sirs.unc.edu/>

When describing the overall accessibility of health care to the Person County population, it is important to note that Person County is adjacent to Durham County, home to a major medical center, a large community hospital, specialty hospitals, and numerous private practices; it is also near Chapel Hill (Orange County) and Raleigh (Wake County) which boast similar resources. It is a fact that many Person County residents go outside of the county to access medical care; presumably some of their outreach is deliberate. Approximately 25% of respondents to the 2018 Person County Community Health Survey reported that they go outside of Person County for care when they are sick, a higher proportion than reported so in 2014 (16%).

When asked whether they had difficulty accessing needed medical care, roughly 21% of respondents to the 2018 Person County Community Health Surveys answered “yes”. Among those who had access problems, 45% cited “I had health insurance, but my share of the cost was too high” as the main barrier. The same proportion (21%) of respondents reported having trouble accessing necessary dental care in the past year, and 18% of 2018 respondents reported difficulty accessing a medically necessary prescription (61).

## Health Care Facilities

### Hospital

Person County is home to Person Memorial Hospital (PMH), a self-described “full-service”, accredited hospital which is part of the Duke LifePoint system of hospitals. The facility is licensed for 98 beds (38 general beds and 60 nursing home beds) (69). The hospital provides both inpatient and outpatient services, including an emergency department.

### PMH Emergency Department Utilization

According to de-identified data provided by Person Memorial Hospital, which is excerpted below from the consultant’s summary report (see Appendix 2), a total of 44,935 patients were discharged from the emergency department (ED) in 2015 through 2017, with the total number of individuals decreasing each year. Over the three years, approximately 60% of ED discharges were female, while females comprised 51.5% of the Person County population in 2016. Males utilized the ED in lower proportion compared to the overall population: males comprised 40% of ED discharges and 48.5% of the 2016 total county population.

When stratified by age, Person County residents utilized the ED in 2015-2017 in similar proportions to the overall population. Pediatric patients (under 18) comprised 18% of ED discharges and 21% of the county was under the age of 18 in 2016. Adults (age 18-64) comprised 60% of ED discharges and 64% of the county population. Seniors accounted for 18% of ED discharges in 2015-2017 and for 19% of the Person County population in 2016.

#### Person Memorial Hospital Emergency Department Discharges, by Gender and Age Group

Year	No. ED Discharges by Gender and Age Group					Total No. Annual Discharges
	No. by Gender		No. by Age Group			
	Females	Males	< 18	18-64	≥ 65	
2015	9,525	6,335	3,190	9,823	2,853	15,866
2016	8,997	6,258	2,691	9,885	2,680	15,256
2017	8,222	5,586	2,288	8,813	2,712	13,813
<b>Total</b>	<b>26,744</b>	<b>18,179</b>	<b>8,169</b>	<b>28,521</b>	<b>8,245</b>	<b>44,935</b>

When emergency department discharges are stratified by race, it appears that Blacks/African Americans utilized the ED in greater proportions: they comprised 27% of the county population in 2016 and 48% of the ED discharges in 2015 through 2017. Caucasian/White residents comprised 48% of the ED discharges and 69% of the county population. Note that hospital data did not include indication of Hispanic/Latino ethnicity, though they are likely captured in the “Other” category.

## Person Memorial Hospital Emergency Department Discharges, by Race/Ethnicity

No. ED Discharges by Racial Group							
Year	Am. Indian/Alaskan	Asian	Black/African American	Caucasian/White	Other	Unknown	Total No. Discharges
2015	40	7	7,583	7,780	448	8	15,866
2016	50	3	7,305	7,458	417	23	15,256
2017	47	11	6,768	6,576	409	2	13,813
<b>Total</b>	<b>137</b>	<b>21</b>	<b>21,656</b>	<b>21,814</b>	<b>1,274</b>	<b>33</b>	<b>44,935</b>

## PMH Inpatient Hospitalization Utilization

As displayed in the table below, Person Memorial Hospital sees many fewer inpatient (IP) hospitalizations compared to ED discharges: in 2015 through 2017, a total of 2,791 people were discharged from inpatient care. While not as pronounced a disparity as with ED utilization, males also comprised a lower proportion of IP discharges compared to the composition of the total population of Person County in 2016. Just over 41% of IP discharges were male, compared to 48.5% of the county. Females comprised a higher proportion of IP discharges: 59% of discharges and 51.5% of the 2016 county population.

## Person Memorial Hospital Inpatient Discharges, by Gender and Age Group

No. IP Discharges by Gender and Age Group						
Year	No. by Gender		No. by Age Group			Total No. Annual Discharges
	Females	Males	< 18	18-64	≥ 65	
2015	608	409	4	385	628	1,017
2016	553	387	5	357	580	942
2017	474	355	2	327	503	832
<b>Total</b>	<b>1,635</b>	<b>1,151</b>	<b>11</b>	<b>1,069</b>	<b>1,711</b>	<b>2,791</b>

When stratified by age, 2015-2017 IP hospitalizations look starkly different compared to the total 2016 Person County population. While 21% of the population was under 18 in 2016, less than 1% of IP hospitalizations were pediatric (minors). Nearly 60% of the population was an adult (18-64), while 38% of IP discharges occurred among this age group. More than 61% of IP discharges were 65 or older, though seniors comprised 19% of the county population in 2016.

Racially stratified 2015-2017 IP data tracked more closely to the composition of the county population in 2016. Black/African American residents accounted for 27% of the county population and 31% of IP discharges. Caucasian/white patients accounted for 68% of IP discharges and 69% of the county population.

## Person Memorial Hospital Inpatient Discharges, by Race/Ethnicity

No. IP Discharges by Racial Group							
Year	Am. Indian/Alaskan	Asian	Black/African American	Caucasian/White	Other	Unknown	Total No. Discharges
2015	1	0	319	687	10	0	1,017
2016	2	0	271	664	5	0	942
2017	5	1	265	553	8	0	832
<b>Total</b>	<b>8</b>	<b>1</b>	<b>855</b>	<b>1,904</b>	<b>23</b>	<b>0</b>	<b>2,791</b>



## Health Department

The Person County Health Department, located in Roxboro, cares for men, women and children by providing comprehensive services focused on wellness, education and prevention. Agency programs include disease prevention and control, preparedness and response to emergent diseases and events, environmental health, WIC, and personal health programs, such as OB/GYN services (70).

## Federally-Qualified Health Center

Currently there is one FQHC in Person County: Person Family Medical and Dental Centers, Inc. (71). The center has two facilities: a medical and dental practice in Roxboro, and a dental-only facility in Yanceyville. Medical staff offer primary health care and facilitate access to secondary health care support with special attention to the needs of underserved populations. Both facilities accept Medicaid/NC Health Choice, Medicare, any major insurance plan, and self-pay on a sliding scale based on the patient's income and family size (72).

## Emergency Medical Services

Person County EMS, operated by the county government, responds to a variety of calls, including medical conditions but also crimes, fires, false alarms, etc. In FY15-16 to FY17-18, Person County EMS handled a total of 15,036 medically-related calls, with the most common reasons for calls being "sick person" (15%), falls (14%) and breathing problems (12%) (73).

## School Health

The local educational authority (LEA) in Person County, Person County Schools, employs all school health nursing staff in the LEA's non-charter schools. Roxboro Community School employs its own school nurse. Student's needs range from first aid for cuts, acute illness nursing, and hygiene counseling to chronic disease management, grief counseling, and suicide prevention. The most recent (SY2017-18) ratio of school nurses to students in Person County schools was 1:624. The recommended ratio is 1:750 (74).

## Long-Term Care Facilities

As of May 2018, there were five state-licensed family care homes, three adult care homes/homes for the aged, and one nursing home in Person County, together offering 383 beds (75). Person Memorial Hospital also maintains 60 extended care beds, bringing the county total to 443. As was discussed previously, this number of beds may not be adequate for a county whose population over the age of 65 is projected to grow by over 60% in the next 15 years.

## Home Care, Home Health and Hospice Services

An alternative to institutional care preferred by many disabled and senior citizens is to remain at home and use community in-home health and/or home aide services. This report prefers to cite only those in-home health and/or home aide services that are licensed by the state of NC. Note that there may be additional providers in Person County that refer to themselves as "home health service (or care) providers" that are not licensed by the state and are not named in this report.

As of May 2018, there were four licensed home care, home health or hospice providers in Person County, all of them with home offices in Roxboro (76). Given the projected growth of the county, it would be prudent to more fully assess the adequacy of these alternatives to institutional care of the elderly and disabled as the county grows.

### Mental Health Services Providers and Service Facilities

At the time this report was prepared, the local management entity/managed mental health care organization (LME/MCO) for Person County was Cardinal Innovations Healthcare Solutions, which is headquartered in Charlotte, NC but serves a total of 20 counties in NC (77).

During FY2017-18 there was a total of 748 contracted providers throughout the Cardinal Innovations provider network; however, only nine of these providers were physically located in Person County (78). According to annual utilization data from Cardinal Innovations, the number of clients served decreased each year between FY2015-16 and FY17-18. Each year, approximately 81% of the clients were diagnosed with mental health issues, 18% with substance abuse issues, and 12% with developmental disability issues (79).

It is unclear whether the public knows about the local LME or how to access it. When respondents to the 2018 Person County Community Health Survey were asked to where they might refer a friend or family member with a mental health or drug/alcohol problem, 20% said they didn't know. Most recommended a doctor (43%) or private counselor/therapist (35%). Knowledge about mental health services should be important to Person County citizens, since 35% of respondents in 2018 report they have been diagnosed with depression (61).

There is evidence that some Person County residents who might be best served by accessing the services of the local LME/MCO utilize instead the emergency department of Person Memorial Hospital for their mental health needs.

For mental, behavioral and neurodevelopmental conditions, the associated ICD-9 codes (applicable in 2015) are 290-319; the associated ICD-10 codes (applicable to part of 2015 and all of 2016 and 2017) are F00-F99.

- Over the three-year period cited, 1.9% of all ED discharges were associated with a diagnosis of a mental, behavioral or neurodevelopmental disorder (this includes substance use-related diagnoses).
- In CY2017, the total number of hospital ED discharges associated with these diagnoses (223) was equal to 16.3% of the total number of Person County patients served by the LME/MCO in SFY2016-2017 (1,371) (80).

#### ED Discharges Associated with a Diagnosis of Mental, Behavioral and Neurodevelopmental Disorders Person Memorial Hospital, 2015-2017

Number of Discharges	Emergency Department			
	2015	2016	2017	Total
Total Diagnosis-Specific	328	321	223	872
Total All Discharges	15,868	15,256	13,813	44,935
Diagnosis Specific as % of Total Discharges	2.1	2.1	1.6	1.9

As of May 2018, there were a total of 29 state-licensed facilities in Person County offering supervised living, day services, psychosocial rehabilitation, and vocational programs and sheltered workshops for developmentally disabled adults. There were also two licensed substance abuse programs, neither of which specifically served children or youth (81).

### **Other Healthcare Resources**

As of May 2018, there were no independent, free-standing ambulatory surgical facilities in Person County, but Person Memorial Hospital offered same-day surgery services (66). There was one licensed cardiac rehabilitation facility (operated by Person Memorial Hospital) (82). The one Medicare-approved dialysis facility in the county, located in Roxboro, has 24 stations; it offers no shifts after 5pm (83). Since diabetes is one of the county's leading health problems and high blood pressure is prevalent according to the 2018 Person County Community Health Survey (58), complications from these conditions, including kidney failure, might be expected to become more prevalent as well. The community should investigate the need for kidney dialysis now and in the future and determine if this one dialysis facility is adequate.

Health resources in Person County that can be tapped to help address the health priorities selected for 2019-2021 are described in the Community Priorities section of this report.



# Community Concerns Summary

The 2018 Person County Community Health Survey solicited respondents' concerns about community health problems, unhealthy behaviors, and non-health related issues (see Appendix 3). The survey was conducted primarily electronically, using Survey Monkey, but paper copies also were made available in both English and Spanish. A stratified convenience sample approach was used; the survey was distributed through email distribution lists and various contacts as well as through Facebook, websites, e-newsletters, etc. Hard copy surveys were made available at various meetings, churches, worksites, community events, public sites, etc. Concerted efforts were made to get responses from a demographic representation of the county. Demographic data was reviewed about half-way through the survey process. This guided the team in further efforts to more specifically target underrepresented groups. Information was placed in the local newspaper to invite the public to access the survey at the Health Department or on the department's website.

By May 2018, 1,018 citizens of the county had been surveyed. The 2018 survey respondent pool can be generally characterized as predominately white, female, middle aged, more affluent, and more highly educated than the general population. Black residents were under-represented and Hispanic residents were adequately represented.

Because the 2018 survey was supported by the same consultant involved in three previous surveys, it was possible to compare the results of the 2018 Community Survey with like data from the 2007, 2011, and 2014 surveys. Although year-to-year differences in response rates for questions on convenience-sample surveys such as these are not strictly comparable due to methodology and respondent differences, it is still instructive to note the broad similarities (or differences) in community responses over time. The tables below are from the consultant's summary report, available in Appendix 2.

**Unhealthy Behaviors, Person County Community Health Surveys**

Unhealthy Behaviors	2007	2011	2014	2018
	%	%	%	%
Drug Abuse	81.1	75.2	83.5	87.9
Alcohol Abuse	74.2	67.1	62.6	66.3
Lack of exercise/poor physical fitness	34.4	51.3	57.8	52.4
Poor Eating Habits	46.1	51.3	54.6	47.5
Smoking/Tobacco Use	56.0	50.3	50.1	47.3
Lack of parenting skills	n/a	34.2	42.7	45.0
Not going to the doctor for preventive check-ups/screenings	40.1	31.7	35.0	36.0
Violent, angry behavior	22.1	22.0	18.5	24.7
Reckless/drunken driving	28.2	24.0	23.6	22.8
Having unsafe sex	36.6	24.0	26.6	21.6
Not going to a dentist for preventive checkups and cleaning	18.9	13.0	9.6	14.4
Suicide	8.0	9.6	9.8	10.2
Poor preparation for disasters and emergencies	n/a	5.7	7.2	6.4
Not getting immunizations to prevent disease	6.6	5.4	3.9	5.2
Not using seatbelts	15.5	8.6	4.7	4.5
Not using child safety seats	11.9	5.3	5.6	4.1
Not getting prenatal care	11.4	5.9	4.3	3.7

Since 2007, cancer consistently has been the most commonly identified health concern. Substance abuse was the second most commonly selected health concern and was identified by a higher proportion of respondents in 2018 compared to 2014.

Obesity/overweight ranked third in 2018; it is historically high on the list of health concerns, with more than half of respondents selecting it in all four survey cycles presented.

Heart Disease/Heart Attacks ranked fourth among 2018 survey respondents; while more than half of respondents identified it in all four survey cycles, it has slipped down the list as other issues have climbed in the rankings.

Mental Health ranked fifth in 2018, and a larger proportion of survey respondents selected it in 2018 compared to any previous sample.

**Unhealthy Behaviors, Person County Community Health Surveys**

Unhealthy Behaviors	2007	2011	2014	2018
	%	%	%	%
Drug Abuse	81.1	75.2	83.5	87.9
Alcohol Abuse	74.2	67.1	62.6	66.3
Lack of exercise/poor physical fitness	34.4	51.3	57.8	52.4
Poor Eating Habits	46.1	51.3	54.6	47.5
Smoking/Tobacco Use	56.0	50.3	50.1	47.3
Lack of parenting skills	n/a	34.2	42.7	45.0
Not going to the doctor for preventive check-ups/screenings	40.1	31.7	35.0	36.0
Violent, angry behavior	22.1	22.0	18.5	24.7
Reckless/drunken driving	28.2	24.0	23.6	22.8
Having unsafe sex	36.6	24.0	26.6	21.6
Not going to a dentist for preventive checkups and cleaning	18.9	13.0	9.6	14.4
Suicide	8.0	9.6	9.8	10.2
Poor preparation for disasters and emergencies	n/a	5.7	7.2	6.4
Not getting immunizations to prevent disease	6.6	5.4	3.9	5.2
Not using seatbelts	15.5	8.6	4.7	4.5
Not using child safety seats	11.9	5.3	5.6	4.1
Not getting prenatal care	11.4	5.9	4.3	3.7

The survey also sought community input on the most important unhealthy behaviors in the community. These responses have remained remarkably similar over the four survey samples.

Drug abuse was the most commonly selected unhealthy behavior in all four of the survey cycles presented; in 2018 it was identified by 88% of respondents.

The second most commonly identified unhealthy behavior since 2007 has been alcohol abuse, though the percentage of respondents selecting it has decreased slightly from 74% in 2007 to 66% in 2018.

Lack of exercise was recognized as an impactful unhealthy behavior by more than 50% of respondents in 2011, 2014 and 2018.

Poor eating habits and smoking/tobacco use are the next most commonly identified unhealthy behaviors, selected by approximately 47% of respondents in 2018.

Economic issues remain high on the list, though unemployment/underemployment does not appear to be as much of a concern as in previous cycles.

Healthcare related concerns continue to make the list: 40% selected availability of health services and 30% chose lack of/inadequate health insurance. Another 12% identified lack of healthcare providers.

The lack of counseling/mental health services/support groups ranked second on the list and was selected by an increasing proportion of respondents since it was added to the list in 2011.



# Person County Progress Toward Healthy NC 2020 Goals

Parameter	Person County	Current NC	2020 Target
<b>Tobacco Use</b>			
% Adults Current Smokers	12% of 2018 survey respondents	17.9% (2016)	13.00%
% HS Students Using Any Tobacco Products	not available at the county-level	28.8% (2017)	15.00%
% of People Exposed to 2nd-Hand Smoke in Workplace in Past 7 Days	not available at the county-level	7.7% (2016)	0.00%
<b>Physical Activity and Nutrition</b>			
% of HS Students Not Overweight or Obese	not available at the county-level	69.1% (2017)	79.20%
% Adults Getting Recommended Physical Activity	not available at the county-level	48.1% (2015)	60.60%
% Adults Consuming 5 Servings Fruits/Vegetables Daily	not available at the county-level	56.7% (2015)	29.30%
<b>Injury and Violence</b>			
Unintentional Poisoning Mortality Rate/100,000 Population	13.2 (2011-2015)	18.5 (2016)	9.9
Unintentional Falls Mortality Rate/100,000 Population	not available	10.8 (2016)	5.3
Homicide Rate/100,000 Population	4.8 (2012-2016)	7.5 (2016)	6.7
<b>Maternal and Infant Health</b>			
White/African American Disparity in Infant Mortality	no stable minority rates available	2.68 (2016)	1.92
Infant Mortality Rate/1,000 Live Births	7.4 (2012-2016)	7.2 (2016)	6.3
% Women Who Smoke During Pregnancy	15.7% (2016)	8.9% (2016)	6.80%
<b>Sexually Transmitted Disease and Unintended Pregnancy</b>			
% Unintended Pregnancies	no county numbers only statewide	32.2% (2016)	30.90%
% Positive Chlamydia Tests Ages 15-24	no county-level data available in recent years	11.1% (2016)	8.70%
Rate of New HIV Infection Diagnoses/100,000 Population	14.9 (2016)	13.9 (2016)	22.2
<b>Substance Abuse</b>			
% HS Students Consuming Alcohol on 1 or More of Past 30 Days	not available at the county-level	26.5% (2017)	26.40%
% Alcohol-Related Traffic Crashes	7.8% (2017)	4.2% (2016)	4.70%
% ≥ Age 12 Reporting Illicit Drug Use in Past 30 Days	not available at the county-level	9.9% (2015-16)	6.60%
<b>Mental Health</b>			
Suicide Rate/100,000 Population	14.8 (2012-2016)	13.0 (2016)	8.3
Average Number Poor Mental Health Days Among Adults in Past 30 Days	not available at the county-level	3.8 (2016)	2.8
Rate Mental Health-Related ED Visits/10,000 Population	not available	103.3 (2014)	62.8
<b>Oral Health</b>			
% Children Aged 1-5 Enrolled in Medicaid Receiving Dental Services in Past 12 Months	not available	60.4% (2016)	56.40%
Average Number Decayed, Missing or Filled Teeth among Kindergartners	no longer available at the county level	1.6 (2015-16)	1.1
% Adults With Permanent Teeth Removed Due to Tooth Decay/Gum Disease	not available	47.6% (2016)	38.40%
<b>Environmental Health</b>			
% Air Monitoring Sites Meeting Current Ozone Standard (0.075 ppm)	not available	100% (2014-16)	100.00%
% Population Served by Community Water Systems with No Contaminant Violations	unclear from the data available	96.3% (2016)	95.00%
Work-Related Injuries Mortality Rate/100,000 Equivalent Full-Time Workers	not available	3.7 (2016)	3.5
<b>Infectious Disease and Food-Borne Illness</b>			
% Children Age 19-35 Months Receiving Recommended Vaccines	not available at the county-level	77.8% (2016)	91.30%
Pneumonia/Influenza Mortality Rate/100,000 Population	21.2 (2012-2016)	16.5 (2016)	13.5
Average Number of Critical Violations per Restaurant/Food Stand	not available	3.0 (2017)	5.5
<b>Social Determinants of Health</b>			
% People Living in Poverty	18.5 (2012-2016)	15.4% (2016)	12.50%
Four-Year HS Graduation Rate	78.8% (graduating 16-17)	86.5% (2016-17)	94.60%
% People Spending >30% Income on Rental Housing	56.2% (2012-2016)	46.9% (2016)	36.10%
<b>Chronic Disease</b>			
Cardiovascular Disease Mortality Rate/100,000 Population	229.4 (2012-2016)	214.1 (2016)	161.5
% Adults with Diabetes	10.6% (2013)	11.3% (2016)	8.60%
Colorectal Cancer Mortality Rate/100,000 Population	21.6 (2012-2016)	13.2 (2016)	10.1
<b>Cross-Cutting</b>			
Average Life Expectancy (Years)	76.8 (2014-2016)	78.0 (2016)	79.5
% Adults Reporting Good, Very Good, or Excellent Health	not available	81.7% (2016)	90.10%
% Non-Elderly (<65) Uninsured People	not available	12.5% (2016)	8.00%
% Adults Not Overweight or Obese	52.5% of 2018 survey respondents	33.1% (2016)	38.10%

Source: Annual Report to the NC Medical Society, October 2018





# Community Priorities

## Priority Selection Process

After receiving primary and secondary data reports from the CHA Public Health Consultant, the team was involved in a series of meetings to work towards establishing priorities. The importance of broad community involvement from the public, stakeholders, partners, and diverse populations was emphasized. It was concluded that the most feasible way to achieve this was to use a priority setting survey (see Appendix 4). The intent was that the survey would serve a dual purpose. It would be used to reveal some of the CHA data as well as to gather further input that could be used towards determining priorities. Survey Monkey was the tool used to create the survey, collect data, and analyze the responses. The survey was made available electronically and via hard copy through various websites, Facebook pages, email distribution lists, newsletters, in person classes, and community events, etc. Hard copies were placed at several public sites. The survey was conducted via interview style with non-English speaking Hispanic/Latino/Spanish clients at the Health Department. Information was published in the local newspaper about where readers could access a hard copy of the survey or the survey link.

In anticipation of which populations would be underrepresented in the survey, the team made targeted efforts to reach those groups. The goal was for the demographics of the survey to mirror that of the county, as closely as possible. Team efforts paid off as 21.26% of survey respondents were Black/African American, 70.98% were White, and 4% were of Hispanic/Latino/Spanish origin. Person County's population is about 26.9% Black/African American, 68.7% White, and 4.1% of Hispanic/Latino/Spanish origin. Despite of efforts to recruit more male participation in the survey, they were still under-represented, as were Personians under 30 and over 64 years of age. The survey generated responses from both elected and appointed county officials. There were 350 surveys completed, which was a slight increase from responses collected in 2014.

During the weeks that the survey was being conducted, the CHA team met to review existing data. That which was reviewed and discussed at length included:

- County mortality and morbidity data and how it compared to a peer county (Bladen County) and the state.
- County rates compared to that of itself from the previous assessment for certain areas and any trends.
- Community health survey data from earlier in 2018 and how it compared to the survey data from 2014.

An adaptation of the “Hanlon Method” was the methodology used by the team to correlate the data. An initial list of about 18 issues/problems was established by the group from which to work, which was then narrowed down to 10. A Problem Importance Worksheet (see Appendix 5) was useful in helping the group rate each issue/problem based on the following criteria:

1. Magnitude: How many persons does the issue/problem affect, either actual or potential?
2. Seriousness of Consequences: What degree of disability or premature death occurs because of the issue/problem? What are the potential burdens to the community if the issue/problem is not addressed?
3. Feasibility of Correcting: Is the issue/problem amendable to interventions? What resources of equipment, expertise, personnel, partnerships, funding, community support, etc. are necessary to address the issue/problem? Are those resources available or can they reasonably be acquired?

Other factors taken into consideration by the team when rating problems included:

- Does the issue/problem fall in line with the Healthy North Carolina 2020 objectives, the Centers for Disease Control 6/18 Initiative, and/or HI-5 (Healthy Impact in 5 Years) Interventions?
- What keeps recurring in the primary and secondary data?
- What evidence-based strategies, programs, or initiatives might address the issue/problem?
- What is the county's capacity to address the issue/problem?
  - Availability of personnel (professional or volunteer)
  - Availability of expertise
  - Commitment of partners
  - Availability of time
  - Availability of technology, equipment, or supplies
  - Availability of funding (direct or in-kind)
  - Community support

Once the priority setting survey closed, the team reviewed the results and factored them into the ratings with everything else. After additional discussion and careful consideration, it was evident to the team that the priorities for the next four years, should remain the same and continued work needed to be done to address Chronic Disease (more specifically diabetes, heart disease, and cancer) and Overweight/Obesity in Person County.

## **Chronic Disease: Diabetes, Heart Disease, Cancer**

### **Health Indicators: Diabetes**

Also as noted previously, diabetes, was the fifth leading cause of death overall in Person County in 2012-2016, at which time the county diabetes mortality rate exceeded the state rate by 39% and had increased by 12% since 2008-2012 and had increased by 16% since 2005-2009. The diabetes mortality rate in 2012-2016 was 66% higher among males (39.9) compared to females (24.1); the mortality rate among black non-Hispanics (46.1) was 70% higher than the rate among white non-Hispanics (27.1). Diabetes is the third leading cause of death among the 40-64 age group in Person County, calculating to a crude death rate of 50.1. Statewide, diabetes is the fifth leading cause of death among the same age group, with a crude death rate of 24.1.

As previously cited, CDC data estimated the prevalence of diagnosed diabetes among adults age 18 and older in Person County at 10.6% in 2013, with an average prevalence of 11.0% over the period from 2006 through 2013.

Among respondents to the 2018 Community Health Survey, 13% had been diagnosed, by a doctor or other health professional, with diabetes and 22% had been diagnosed with pre-diabetes/borderline diabetes. Diabetes ranked sixth on the list of health concerns faced by Person County residents, with 49% of respondents selecting it in 2018 (61).

According to data made available to the CHA consultant by Person Memorial Hospital, there were 437 emergency department (ED) discharges associated with a primary diagnosis of diabetes<sup>1</sup> in 2015 through 2017, representing 1.0% of all ED admissions in that three-year period. Inpatient (IP) hospitalizations attributable to a primary diagnosis of diabetes accounted for 2,791 discharges, or 3.0% of all IP hospitalization discharges over the same period. Compared to males, females comprised a higher proportion of both ED discharges (54%) and IP hospitalizations (52%) related to diabetes over the three-year period. Compared to white patients, African Americans comprised a higher proportion of ED discharges (57%) but a lower proportion of IP hospitalizations (47%).

### **Health Indicators: Heart Disease**

As discussed previously, heart disease was the second leading cause of death in Person County in 2012-2016. While the heart disease mortality rate has decreased 30% since 2005-2009, it remained 3.5% higher than the NC rate in 2012-2016. The mortality rate was 71% higher among males compared to females and was 18% higher among African American non-Hispanics compared to white non-Hispanics in 2012-2016. Heart disease was the third leading cause of death among the 20-39 age group in Person County in 2012-2016, with a crude death rate of 16.3; statewide, heart disease was the sixth leading cause of death among the same age group, with a crude death rate of 9.2.

Among respondents to the 2018 Person County Community Health Survey, 7% had been diagnosed with angina or heart disease. High blood pressure and high cholesterol, both considered risk factors for heart disease, were much more common among respondents, with 40% reporting a diagnosis of high blood pressure and 35% reporting a high cholesterol diagnosis. High cholesterol and high blood pressure were both more commonly reported to males compared to female respondents. Heart disease/heart attacks ranked fourth on the list of important health concerns in Person County, as selected by 55% of respondents (61).

According to hospital discharge data provided by Person Memorial Hospital, 2.2% (982) of all ED discharges in 2015-2017 were for heart disease-related diagnoses<sup>2</sup> and 11.3% (315) of IP hospitalizations were heart disease-related.

### **Health Indicators: Cancer**

Cancer was the leading cause of death in Person County in 2012-2016, when the mortality rate was 18% higher than the comparable state rate. While the total cancer mortality rate has decreased 10% since 2005-2009, it increased 3% between 2011-2015 and 2012-2016. The total cancer mortality rate was 36% higher among males compared to females in 2012-2016 and it was 13% higher among African American non-Hispanics compared to white non-Hispanics over the same period. The total cancer incidence rate trend has been relatively flat since 2001-2005, and in 2012-2016 was quite similar (482.2) to the NC rate (481.9).

Lung cancer is the most common site-specific cancer in Person County, with a mortality rate that has been consistently higher than the comparable state rate since 2003-2007. In 2012-2016, the lung cancer mortality was 20% higher than the state rate. In 2012-2016 the mortality rate was 59% higher among males compared to females. The lung cancer incidence rate has decreased 26% from a high point in 2006-2010, though it remains higher than the state rate.

<sup>1</sup> ICD-9 code 250, ICD10 code E10-E14

<sup>2</sup> ICD-9 codes are 390-398, 402, 404, 410-429; ICD-10 codes are I00-I09, I11, I13, I20-I51

The colorectal cancer mortality rate in Person County has been higher than the comparable state rate since 2002-2006, and the last few periods have seen an increase in the mortality rate. In 2012-2016, the colorectal cancer mortality rate was 54% higher compared to NC. Male and female mortality rate did not present significant disparities, but the rate among African American non-Hispanics was double the rate among white non-Hispanics in 2012-2016. The colorectal cancer incidence rate has decreased 18% from a high point in 2007-2011 and remained higher compared to NC in 2012-2016.

The Person County breast cancer mortality rate has increased 18% since 2005-2009 and has been similar to comparable state rates since 2008-2012. Racially stratified data is not available, due to low numbers. The incidence rate has increased steadily since 2005-2009 and by 2012-2016 the county rate (156.9) was close to the state rate (157.5).

The prostate cancer mortality rate has decreased steadily since 2006-2010 in Person County and was lower than the comparable state rate in the most recent three periods; in 2012-2016 the county mortality rate was 17% lower than the NC rate. Racially stratified data is not available, due to low numbers. The incidence rate has decreased 52% from a high point in 2001-2005 and was 14% lower than the comparable state rate in 2012-2016.

According to discharge data from Person Memorial Hospital, a small proportion of ED discharges (0.09%) and IP hospitalizations (0.8%) were related to any type of cancer diagnosis.<sup>3</sup> The hospital does not list cancer services among the kinds of patient care they provide (65); presumably, cancer patients seek care in neighboring Durham or Orange counties, where several hospitals have comprehensive cancer centers.

Cancer was the most commonly selected health concern among 2018 Person County Community Health Survey respondents, with 76% of participants choosing it. Nine percent of respondents reported a diagnosis of cancer. Two-thirds of the female respondents reported conducting monthly breast self-exams; 54% of female respondents reported having had a mammogram in the past year. Fewer than half of male respondents reported conducting monthly self-testicular exams. Approximately half of all respondents reported conducting monthly skin-checks (61).

### Specific Populations at Risk

**The poor and uninsured.** The economically disadvantaged often do not have same access to healthy food, active lifestyles, and quality healthcare as wealthier persons. In 2012-2016, 18.5% of Person County was living below the poverty level. As chronic diseases tend to require ongoing medical attention and medication, treatment can be both expensive and difficult to access, even for those with health insurance coverage. Members of the community who lack health insurance are always at-risk for poor health outcomes, and 12% percent (nearly 4,000 people) of the Person County population under age 65 was without health insurance in 2016.

**Minorities.** In 2012-2016 the diabetes mortality rate was 70% higher among African American non-Hispanics in Person County compared to the comparable rate among white non-Hispanics. Cancer mortality was 13% higher and heart disease mortality was 18% higher among African Americans compared to white non-Hispanics. While racially stratified health insurance estimates are not available, a significantly higher proportion of Person County African Americans are living below the poverty level compared to white residents.

<sup>3</sup> ICD-9 codes 140-208; ICD-10 codes C00-C97.

Males. As cited elsewhere in this report, mortality rates in Person County for most chronic diseases are higher for males than for females. Diabetes and heart disease mortality rates for Person County males exceed comparable mortality rates for females by approximately 68%. Total cancer mortality rates are 36% higher among males compared to females. Compared to their proportion in the overall county population males under-utilized both the emergency department and inpatient services at Person Memorial in 2015-2017. Male respondents to the 2018 Person County Community Health Survey were less likely than females to have had a routine physical in the past year.

## Obesity and Overweight

### Health Indicators

There is a dearth of empirical data specific to the problem of obesity and overweight in Person County. BRFSS data is regional at best, and no extensive recent assessments of the problem in either adults or children in Person County have been conducted. There is some limited data on BMI measurements among certain Person County adults, but that data is proprietary and could not be released to the Person County CHA team or consultants. Nevertheless, the problem has been of interest to the respondents to recent Person County Community Health Surveys, 50% of more of whom have chosen obesity and overweight as among the most important health problems in the county in the last four survey cycles (61).

It is widely accepted that obesity and overweight are precursors to a number of chronic diseases, many of which are prevalent in Person County where they result in high mortality rates and numerous hospital admissions.

As cited previously in this report, according to CDC data the prevalence of diagnosed obesity in Person County adults was 32.5% in 2013; and averaged 32.3% over the period from 2006 through 2013. In 2015, 34.5% of Person County children aged 2-4 assessed through the NC-PedNESS program were classified as overweight or obese, 19% higher than the NC total of 29.0%.

According to BRFSS results for Local Health Director Region 5 (which includes Person County among 8 other counties), an increasing proportion of residents have a calculated BMI in the overweight or obese category: in 2014, 62% of respondents were overweight or obese, in 2015 64% were overweight or obese, and by 2016, 66% were categorized as overweight or obese (84).

Results from the 2018 Person County Community Health Survey showed that almost 48% of respondents reported that they had been diagnosed as either overweight or obese (61)

Obesity/overweight ranked third among 2018 survey respondents' top health concerns; respondents also recognized the negative impact the lack of exercise/poor physical fitness, poor eating habits, and the availability of healthy food choices in restaurants and grocery stores had on the health of the community (61).

## Specific Populations at Risk

**The poor and uninsured.** Obesity is sometimes—but not exclusively—associated with poverty, as the economically disadvantaged often do not have same access to healthy food and lifestyle choices as wealthier persons. As with chronic diseases, members of the community who lack health insurance are always at-risk for poor health outcomes.

**Children.** As a behavior-related health outcome, obesity affects all cross-sections of society, but we do know that habits—good and bad--learned and practiced at a young age can make a difference, which would point to children as perhaps the population most vulnerable to obesity and its life-long effects. In 2016, Person County 2-4-year olds had higher rates of overweight and obesity compared to the state average.

**Adults.** As noted above, as many as two-thirds of all Person County adults are overweight or obese, and according to answers to the 2018 Community Health Survey, the respondents know it. Survey respondents chose obesity/overweight as the third most important health problem in the county. Many of the respondents themselves—48%--admitted to being diagnosed as overweight or obese. The public's awareness of the seriousness of the problem may also mean that the public may be receptive to intervention efforts.



# Health Resources

*Available in Person County to Address Priorities*



The following is a list of some of the prevention and health promotion resources in Person County. It is by no means an exhaustive list of everything available. These resources are primarily those with which public health has been involved. Since many of the same resources play a role in addressing both of the county's health priorities, the list is not broken down by priority.

### Person County Health Department

PCHD collaborates with various community and regional partners to offer evidence-based interventions addressing chronic disease in general and more specifically diabetes and prediabetes. The department delivers both the Living Healthy and Living Healthy with Diabetes Self-Management Programs. In 2017, a Diabetes Prevention Program, focusing on preventing or delaying the onset of diabetes through weight loss and physical activity, was implemented. PCHD continues to take advantage of resources as they become available to partner with other organizations to offer education and outreach around health priorities. Additionally, priorities are addressed through the Healthy Communities Program and several personal health programs.

### NC Cooperative Extension – Person County Center

Family and Consumer Science programs offer many educational opportunities to Person County around healthy eating, physical activity, heart disease, cancer, diabetes, prediabetes, weight loss, etc. The Family and Consumer Science Agent co-facilitates the Living Healthy, Living Healthy with Diabetes, and Diabetes Prevention Programs with the Health Department.

### Healthy Personians Partnership

Healthy Personians is a community-based partnership that strives to assist the residents of Person County with establishing and maintaining healthy lifestyles. This partnership is committed to being a resource for Person County and helping to link Personians to programs and services that will help them to be productive citizens and live long, healthy lives. Healthy Personians' Chronic Disease Action Team provides community education and outreach to bring awareness about county health priorities.

### Person County Senior Center

PCSC offers a wide variety of health/wellness programs and resources to the community. Numerous fitness classes are offered daily along with a fully equipped fitness facility. They also recruit assistance from healthcare facilities to offer health screenings periodically. The Senior Center partners with other agencies to offer educational series around healthy eating and chronic disease prevention and management.

### Person County Recreation, Arts and Parks

This county department provides opportunities for Personians of all ages and capabilities to be physically active. They offer group fitness classes, yoga, Zumba, a Couch to 5K Program, Tai Chi, athletic programs and Special Olympics, just to name a few. Recreation facilities are available all around the county and include paved walking tracks, playgrounds, gymnasiums, ball fields, etc.

### Local Farmers Markets

There are two farmers markets in the county. Both are centrally located in the city limits of Roxboro.

## Person Memorial Hospital

PMH provides inpatient and outpatient services. Some of the services they offer as related to Person County's health priorities include: cardiology and cardiac rehabilitation services; nutrition therapy; radiology services; surgical services; etc. The county is fortunate to have local mammography and colorectal cancer screening services. PMH offers community education and outreach about chronic disease. Additionally, they offer a diabetes education support group to the community.

## Person Family Medical and Dental Centers, Inc.

PFMDC is a Federally Qualified Health Center that offers affordable and high-quality health services including primary care, dental services, nutrition counseling, diabetes education, behavioral health, and community outreach.

## Private Medical Practices

There are several private medical practices in Person County that collaborate with the Health Department to help promote public health services and programs. Local providers participate in community outreach events and serve as guest speakers for educational programs.

## Person County Resource Guide

The Health Department makes available a comprehensive resource guide of many services and programs in the county. A plethora of health and human services resources for all ages are listed in the guide. It is available via hard copy at the Health Department and is posted on the department's website.

## Person County Medical Reserve Corps

PCMRC engages both medical and non-medical volunteers in times of emergency as well as everyday public health activities. Volunteers are involved in the community health assessment process as well as clinic and community-based health promotion activities such as immunization clinics, worksite screenings, community outreach, etc.

## Health Resources Needed in Person County to Address Priorities

There is a continuous need for funding to support some of the aforementioned programs and resources. Grant funds are not as available and plentiful as they have been in the past. Person County agencies do a tremendous job of pooling resources to make things happen but sometimes this is just not enough.

In previous assessments, it has been reported that there is a need for community-based nutrition and dietitian services. Unfortunately, this has not changed. Existing services are more clinic and in-house based. As heart disease, type 2 diabetes, and prediabetes continue to be issues for many Personians, the need for dietary and nutrition consultation is imperative.

For its size, Person County has a substantial number of recreational facilities. However, there is no indoor recreational facility in the county. This has been an ongoing need for many years. A facility of this nature would make provisions for more fitness classes, an aquatics program, etc. An aquatics program would be an asset to the community especially as Person County has an aging population. Alternative fitness programs offering non-weight bearing activities will allow residents with physical limitations to be more active. More recreational programs will not only foster better physical health but mental health also.



# Next Steps

Within six months of the completion of Person County's Community Health Assessment, a workgroup, consisting of community leaders, providers, and partners, will collaborate to develop a Community Health Improvement Plan (CHIP) for each of the two selected health priorities. CHIPs will focus on meeting the unmet needs of at-risk groups. CHIPs will be aligned with Healthy North Carolina 2020 focus areas, the Centers for Disease Control 6/18 Initiative, and/or HI-5 Interventions as well as standards set forth by NC Local Health Department Accreditation and the Department of Health and Human Services/Division of Public Health Consolidated Agreement. They will include evidence-based multilevel interventions targeting health behavior, the physical environment, social and economic factors, and/or clinical care and be both short-term and long-term in nature.



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# Appendices

*Appendix 1*

*Person County CHA Team Members*

*Appendix 2*

*Consultant's Summary Report*

*Appendix 3*

*2018 Person County Community  
Health Survey Instrument*

*Appendix 4*

*Prioritization Summary*

*Appendix 5*

*Problem Importance and  
Prioritization Worksheet*

## Appendix 1: Person County CHA Team Members

### 2018 Community Health Assessment Team (1/24/2018)

*\*Indicates Healthy Personians affiliation (advisory board member, sub-committee member, etc.)*

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# **2018 Person County Community Health Assessment**

*Summary of Secondary Data and  
Community Health Survey Results*

October 9, 2018

 Sheila S. Pfaender, Public Health Consultant

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## ***Purpose of the Community Health Assessment***

- Describe the health status of the community.
- Create a report that will serve as a resource for the Person County Health Department, Healthy Personians, LifePoint Person Memorial Hospital, and other community organizations.
- Provide direction for the planning of disease prevention and health promotion services and activities.

 Sheila S. Pfaender, Public Health Consultant

## ***Contributing Viewpoints***

<b>Secondary Data</b>	<b>Hospital Data</b>	<b>Citizen Opinion</b>
-Demographic -Socioeconomic -Health -Environmental	-Emergency Department discharges -Inpatient discharges	-Community Health Survey

*Sheila S. Pfaender, Public Health Consultant*

## ***We Take Special Notice When...***

- Person County statistics deviate from North Carolina or peer county (Bladen County) statistics, or some other “norm”.
- Trend data show significant changes over time.
- There are significant age, gender, or racial disparities.

*Sheila S. Pfaender, Public Health Consultant*

## *Definitions and Symbols*

- **Arrows**
  - Arrow up (▲) indicates an increase.
  - Arrow down (▼) indicates a decrease.
- **Color**
  - **Red** indicates a “worse than” or negative difference
  - **Green** indicates a “better than” or positive difference
  - **Blue** indicates a likely unstable rate or difference based on a small number of events; figures in blue should be used with great caution.
- **Bold Type**
  - Indicates the higher value of a pair, or the highest value among several.

Sheila S. Pfaender, Public Health Consultant

## *Data Caveats*

- Data sources are not presented among these slides, but are thoroughly cited in the narrative report.
- Most secondary data originated from authoritative sources in the public domain (e.g., US Census Bureau, US EPA, NC State Center for Health Statistics). The consultants vouch for those sources.
- All secondary data were mined at a point in time in the recent past, and may not represent present conditions. Numbers, entity names, program titles, etc. that appear in the data may no longer be current.
- These slides represent only a portion of all topics researched by the consultants for the 2018 Person County Community Health Assessment.

Sheila S. Pfaender, Public Health Consultant

# Demographic Data

Sheila S. Pfaender, Public Health Consultant

## General Population Characteristics

- Person County population has more females than males.
- Median age of Person County females is 1.9 years older than comparable median age for males.
- Median age of the Person County population is 4.5 years older than NC average

2016 Population Characteristics

Location	2016 ACS Estimates							
	Total Population	Number Males	% Population Male	Median Age Males	Number Females	% Population Female	Median Age Females	Overall Median Age
Person County	39,196	19,019	48.5	42.0	20,177	51.5	43.9	42.8
Bladen County	34,454	16,361	47.5	41.6	18,093	52.5	44.3	42.9
State of NC	9,940,828	4,834,592	48.6	36.8	5,106,236	51.4	39.7	38.3

Sheila S. Pfaender, Public Health Consultant



## ***Population Growth***

- The recent double-digit rate of growth in Person County is expected to slow dramatically in the short-term future.

Percent Population Growth		
Decade	Person County	State of NC
1980-1990	3.5	12.8
1990-2000	18.0	21.3
2000-2010	10.8	18.5
2010-2020	2.0	11.4
2020-2030	2.4	10.7

*Sheila S. Pfaender, Public Health Consultant*

## ***Minority Populations***

- Person County has a 25% higher proportion of African Americans and about half the proportion of Hispanics compared to NC as a whole.

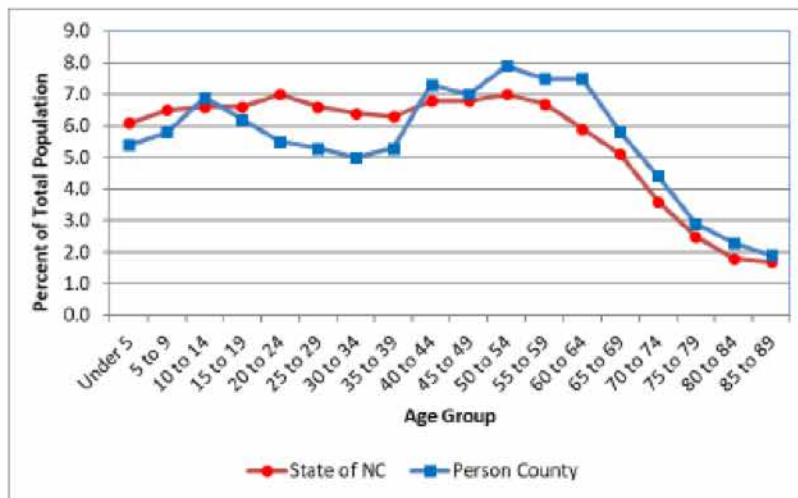
**Population Distribution by Race/Ethnicity  
2016 ACS Estimates**

Location	Percent of Overall Population						
	White	Black	AI/AN	Asian	Other	Multiple Races	Hispanic
Person County	68.7	26.9	0.9	0.4	1.3	1.8	4.1
Bladen County	57.6	35.1	2.4	0.1	3.7	1.2	7.5
State of NC	69.2	21.5	1.2	2.7	3.0	2.4	8.9

*Sheila S. Pfaender, Public Health Consultant*

## Population Age Distribution

- In 2016, compared to NC, Person County has lower proportions of people younger than age 44, and higher proportions of people in all categories older than age 44.



Sheila S. Pfaender, Public Health Consultant

## Growth of the Elderly Population

- The population in every major age group age 65 and older in Person County is projected to increase between 2010 and 2030.
  - Age 65-74: by 58% (to 5,362 )
  - Age 75-84: by 86% (to 3,498 )
  - Age 85+: by 57% (to 1,147)
  - Overall Age 65+: by 67% (to 10,007 )

Sheila S. Pfaender, Public Health Consultant

# ***Socioeconomic Data***

*Sheila S. Pfaender, Public Health Consultant*

## ***Income***

### **In Person County:**

- 2016 Per Capita Personal Income = \$22,049
  - ▲\$1,556 since 2012
  - \$4,730 **below** NC average
- 2016 Median Household Income = \$43,297
  - ▲\$3,469 since 2012
  - \$4,088 **below** NC average
- 2016 Median Family Income = \$52,684
  - ▲\$194 since 2011
  - \$6,983 **below** NC average

*Sheila S. Pfaender, Public Health Consultant*

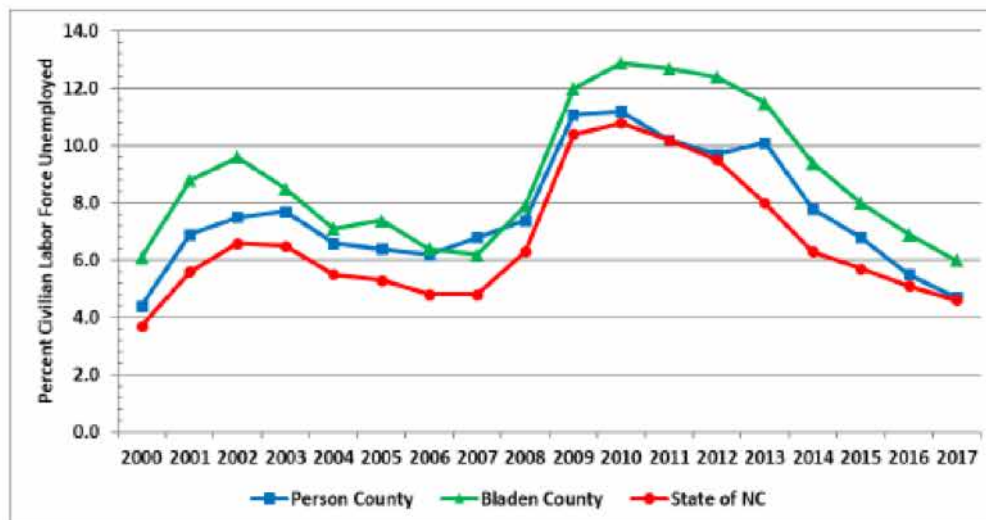
## Employment

- As of the end of 2016, the three employment sectors in Person County with the largest proportions of workers (and average weekly wage):
  - Retail Trade: 18.20% of workforce (\$441)
  - Manufacturing: 18.18% of workforce (\$960)
  - Health Care and Social Assistance: 14.45% of workforce (\$707)

*In 2016 the average weekly wage for the 20 major employment sectors in NC was \$1,034, compared to \$751 in Person County (i.e., \$283 less per week).*

Sheila S. Pfaender, Public Health Consultant

## Annual Unemployment Rate



Sheila S. Pfaender, Public Health Consultant

## Poverty / Poverty and Race

- The total poverty rate in Person County increased 13% between 2008-2012 and 2012-2016, while the total poverty rate in NC was essentially unchanged.
- Over the same period, the poverty rate among whites in Person County increased 23%; the poverty rate among blacks in the county increased 2%
- In 2012-2016 the poverty rate among blacks in Person County was approximately twice the rate among whites.

**Percent in Poverty (100% Level)**

Location	2008-2012				2012-2016			
	Total No. in Poverty	Total % in Poverty	%White in Poverty	%Black in Poverty	Total No. in Poverty	Total % in Poverty	%White in Poverty	%Black in Poverty
Person County	6,380	16.4	11.5	28.8	7,127	18.5	14.1	29.3
Bladen County	8,355	24.4	15.9	35.4	9,549	28.1	18.9	39.9
State of NC	1,536,464	16.8	12.5	26.8	1,631,704	16.8	13.0	26.1

Sheila S. Pfaender, Public Health Consultant

## Poverty and Age

- In Person County, as elsewhere, children suffer disproportionately from poverty.
- In 2012-2016 in Person County the estimated poverty rate among children under age 18 was 45% higher than, and the rate among children under 5 was 66% higher than, the overall poverty rate.

**Percent in Poverty**

Location	2008-2012				2012-2016			
	Total % in Poverty	%Related Children Under 5 in Poverty	%Related Children Under 18 in Poverty	%Adults 65 or Older in Poverty	Total % in Poverty	%Related Children Under 5 in Poverty	%Related Children Under 18 in Poverty	%Adults 65 or Older in Poverty
Person County	16.4	26.8	19.9	12.3	18.5	30.8	26.9	11.1
Bladen County	24.4	41.7	34.8	18.0	28.1	35.8	43.0	20.4
State of NC	16.8	28.0	23.5	10.2	16.8	27.3	23.9	9.7

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## Housing Costs

- For 2012-2016, the estimated median monthly mortgage cost among Person County homeowners = \$1,075 (▼\$52 since 2012).

**\$168 less than the NC median**

- For 2012-2016, the estimated median monthly rent among Person County renters = \$630 (▼\$19 since 2012).

**\$186 less than the NC median**

*In Person County for 2012-2016, approximately 56% of renters and 34% of mortgage-holders lived in a household paying > 30% of household income for housing. The comparable NC figures were 49% and 28%.*

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## Households

- Person County statistics on household size are similar to statistics for NC as a whole except that there is a 21% higher percentage of one-person households in the 65-and-older age group in Person County than in the state.

Location	Total No. Households	Average Persons per Household	% Households One-person	% One-person Households ≥Age 65
Person County	15,474	2.5	28.9	12.5
Bladen County	14,110	2.4	32.1	14.0
State of NC	3,815,392	2.5	28.2	10.3

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## Single-Parent Families

- Of the 3,473 households with minor children in Person County in 2016:
  - 56% were married couple family households (NC=66%)
  - 35% were female householder family households (NC=26%)
  - 9% were male householder family households (NC=8%)

Location	Total Households	Married Couple Family Households		Male Householder (no wife present) Family Households		Female Householder (no husband present) Family Households	
		Total Households	with own children <18	Total Households	with own children <18	Total Households	with own children <18
		Number	Number	Number	Number	Number	Number
Person County	15,474	6,988	1,945	784	302	3,830	1,226
Bladen County	14,110	5,909	3,517	631	320	2,850	1,458
State of NC	2,815,392	1,833,772	706,208	169,547	85,557	512,019	284,537

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## Grandparents Financially Responsible for Grandchildren

- More than 60% of grandparents living with minor grandchildren in Person County are also financially responsible for them.
  - Half of these responsible grandparents live below the poverty level.
  - The parent(s) are absent in more than half of the cases.
  - The proportion of black grandparents financially responsible for minor grandchildren is 70% higher than their proportion in the county population.

Location	# Grandparents Living with Own Grandchildren (<18 Years)	Grandparent Responsible for Grandchildren (under 18 years)*										
		#	%	White	Black/ or African-American	Hispanic/ Latino	Male	Female	In Labor Force	With any Disability	Below the Poverty Level	No Parent of Grandchildren Present
Person County	1,053	653	62.0	53.6	45.1	0.0	46.7	53.3	66.0	18.2	50.2	54.4
Bladen County	1,020	579	56.8	52.2	46.8	0.0	27.5	72.5	55.8	18.1	25.4	26.9
State of NC	210,039	96,671	46.0	58	34.4	6.2	36.0	64.0	57.7	28.2	23.9	39.1

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## ***Educational Achievement***

- Among residents age 25 or older, in 2016, compared to the NC average, Person County had:
  - **21% higher** percentage with less than a 9<sup>th</sup> grade education
  - **42% higher** percentage with a terminal high school (or equivalency) diploma
  - **49% lower** percentage with bachelor's degree or higher

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## ***Educational Proficiency and Investment***

- In SY2016-2017, compared to the NC average, non-charter Person County Schools had:
  - **lower** proficiency among 3<sup>rd</sup> and 8<sup>th</sup> graders on EOG reading and math tests
  - **13% higher** HS drop-out rate
  - **9% lower** cohort graduation rate
  - **5% higher** total average per pupil expenditure

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## ***School Enrollment***

- Enrollment in Person County non-charter schools has decreased over the period cited.
- Enrollment in Person County charter schools increased over the same period.
- Total enrollment in all Person County schools decreased 4% overall in the period cited.

Location	Number of Students						
	SY2010-11	SY2011-12	SY2012-13	SY2013-14	SY2014-15	SY2015-16	SY2016-17
Person County Schools	5,094	4,936	4,819	4,783	4,791	4,742	4,692
Roxboro Community School	587	617	654	694	705	712	733
Bethel Hill Charter School	375	382	378	395	399	400	400
Bladen County Schools	5,389	5,323	5,189	5,043	4,935	4,823	4,688
State of NC	1,450,435	1,458,572	1,467,297	1,493,980	1,498,654	1,493,809	1,486,448

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## ***Crime and Safety***

- The index crime rate in Person County was lower than the comparable NC average in every year cited.
- The index crime rate in Person County decreased over the period cited.
- In 2016 the index crime rate in Person County was the lowest in five years.

### **Index Crime Rate Trend**

Location	Crimes per 100,000 Population				
	2012	2013	2014	2015	2016
Person County	2778.3	2675.5	2219.8	2325.2	1902.8
Bladen County	4700.1	2852.5	3388.3	n/a	n/a
State of NC	3767.2	3506.2	3285.5	3174.3	3154.5

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## *Crime and Safety*

- Types of Crimes Reported in Person County (2012-2016)

Type of Crime	Number of Crimes				
	2012	2013	2014	2015	2016
<b>Violent Crime</b>					
<i>Murder</i>	0	6	1	3	8
<i>Rape</i>	14	11	9	7	4
<i>Robbery</i>	15	24	5	14	14
<i>Aggravated Assault</i>	79	87	58	83	78
<b>Property Crime</b>					
<i>Burglary</i>	375	301	285	245	218
<i>Larceny</i>	587	597	504	534	417
<i>Motor Vehicle Theft</i>	33	28	28	27	18
<b>Total Index Crimes</b>	1,103	1,054	870	913	753

- The most common crimes in Person County are:
  - *Aggravated assault* (the purposeful use of force, often involving a weapon, to inflict bodily harm)
  - *Larceny* (theft of property without the use of force)

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## *Crime and Safety*

- Of 15,522 **registered sex offenders** in NC in May 2018, **99** lived in Person County.
- **No clandestine methamphetamine lab** busts took place in Person County over the period 2005-2013. More recent data is unavailable from the usual state source.
- As of February, 2017 the state reported **between one and five gangs** in Person County.

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## *Juvenile Crime*

- Between 2012 and 2017 the *number* of complaints of **undisciplined** youth (ages 6-17) in Person County ▼ 33%, and the *rate* ▼ 30%.

*Undisciplined* refers to disobedience beyond disciplinary control of parent/guardian (e.g., truancy, vagrancy, running away from home for more than 24 hours).

- Over the same period the *number* of complaints of **delinquent** youth in the county ▼ 34%, and the *rate* ▼ 31%.

*Delinquency* refers to acts committed by youths that would be crimes if committed by an adult.

- 16 Person County youths were sent to secure detention in 2012; 11 were sent in 2017.

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## *Domestic Violence*

- The number of individuals filing domestic violence claims fluctuated dramatically over the period cited.

Location	No. of Individuals Filing Complaints ("Clients")					
	FY2011-12	FY2012-13	FY2013-14	FY2014-15	FY2015-16	FY2016-17
Person County	178	285	407	697	76	115
Bladen County	442	310	257	451	472	357
State of NC	51,563	57,345	55,274	56,664	48,601	51,074

- The domestic violence shelter serving Person County was full on 137 days in FY2016-2017.

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## Sexual Assault

- Person County data was unavailable for most of the period cited.
  - Of the eight complaints of sexual assault filed in FY2016-2017, four were for child sexual assault.
  - Of the eight complaints, seven were perpetrated by a relative of the victim.

Location	No. of Individuals Filing Complaints ("Clients")					
	FY2011-12	FY2012-13	FY2013-14	FY2014-15	FY2015-16	FY2016-17
Person County	n/a	n/a	n/a	n/a	4	8
Bladen County	34	98	101	451	112	118
State of NC	13,214	12,971	13,736	13,655	10,981	9,453

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## Child Maltreatment

- The numbers of children subject to abuse, neglect, or abuse and neglect in Person County have fluctuated significantly over time. Neglect only cases are the most common type.

Category	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Total No. of Findings of Abuse, Neglect, Dependency	39	32	40	63	62	39
No. Substantiated <sup>1</sup> Findings of Abuse and Neglect	1	2	5	3	0	0
No. Substantiated Findings of Abuse	2	1	1	0	0	0
No. Substantiated Findings of Neglect	33	28	33	60	60	38
No. Substantiated Findings of Dependency	3	1	1	0	2	1
Services Needed	12	1	5	12	3	10
Services Provided, No Longer Needed	12	15	7	21	5	22
Services Recommended	6	5	11	16	18	29
No. Unsubstantiated Findings	64	86	109	87	124	127
Services Not Recommended	26	48	81	58	58	75

<sup>1</sup> A "substantiated" report of child abuse, neglect or exploitation indicates that the investigation supports a conclusion that the subject child(ren) was/were abused, neglected, or exploited.

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# Health Resources

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## Health Insurance

- The percent uninsured in Person County decreased in all age groups between 2014 and 2015 but increased in all age groups between 2015 and 2016. Statewide, the percent uninsured decreased or remained the same in all groups every year.

Percent of Population Without Health Insurance, by Age Group

Location	2014			2015			2016		
	0-18	19-64	0-64	0-18	19-64	0-64	0-18	19-64	0-64
Person County	5.6	17.5	14.6	4.6	14.4	11.7	5.0	15.3	12.5
Bladen County	6.7	23.0	18.6	6.0	20.4	16.6	6.7	20.2	16.6
State of NC	5.5	18.9	15.2	4.6	16.2	13.0	4.7	15.1	12.2

- The age group 0-18 tends to have a lower percentage of uninsured than the 19-64 age group, due partly at least to NC Health Choice.

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## Medicaid Eligibility

- The total number of people in Person County eligible for Medicaid increased annually from 2015 through 2017.
- The programs with the largest numbers of eligibles were TANF (AFDC), Infants & Children, and Disabled.

Person County Medicaid-Eligibles by Program Area

Person County	Aged	Disabled	TANF (AFDC) Under 21	TANF (AFDC) 21 and over	Pregnant Women	Family Planning	Infants and Children	MCHIP	County Total
Annual Unduplicated 2017	866	1,495	2,650	1,180	145	974	1,522	557	10,037
Annual Unduplicated 2016	845	1,501	2,565	1,242	140	610	1,565	583	9,723
Annual Unduplicated 2015	854	1,486	1,879	1,258	181	403	2,214	564	9,467

Note that smaller programs are not listed in the table.

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## Health Care Practitioners

- 2017 ratios of active health professionals per 10,000 population were **lower** in Person County than NC for:
  - MDs: **9.03** (NC=**23.78**)
  - Dentists: **2.01** (NC=**4.98**)
  - Registered Nurses: **46.40** (NC=**100.68**)
  - Pharmacists (2016): **8.13** (NC=**11.44**)
- Of particular concern is the age of the active practitioners: in Person County, 17% of the physicians, and 50% of the dentists are over the age of 65.

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## ***Long-Term Care Facilities***

Number of beds in NC-licensed long-term care facilities in Person County (May, 2018):

- Adult Care Homes/Homes for the Aged (3): 214 beds
- Family Care Homes (5): 29 beds)
- Nursing Homes/Homes for the Aged (1): 140 beds
- In addition, Person Memorial Hospital operates 60 extended care/skilled nursing beds
- Total: 443 beds

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## ***Hospital Utilization:***

### ***Person Memorial Hospital Emergency Department Discharges by Gender and Age Group***

- Females: Hospital – 59.5%; County – 51.5%
- Males: Hospital – 40.4%; County – 48.5%
- Under age 18: Hospital – 18.2%; County – 21.3%
- Age 18-64: Hospital – 63.5%; County – 59.6%
- Age 65 and older: Hospital 18.3%; County – 19.1%

<b>No. ED Discharges by Gender and Age Group</b>						
<b>Year</b>	<b>No. by Gender</b>		<b>No. by Age Group</b>			<b>Total No. Annual Discharges</b>
	<b>Females</b>	<b>Males</b>	<b>&lt; 18</b>	<b>18-64</b>	<b>≥ 65</b>	
<b>2015</b>	9,525	6,335	3,190	9,823	2,853	15,866
<b>2016</b>	8,997	6,258	2,691	9,885	2,680	15,256
<b>2017</b>	8,222	5,586	2,288	8,813	2,712	13,813
<b>Total</b>	26,744	18,179	8,169	28,521	8,245	44,935

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## **Hospital Utilization:**

### **Person Memorial Hospital Emergency Department Discharges by Race**

- American Indian: Hospital – 0.3%; County – 0.9%
- Black/African American: Hospital – 48.2%; County – 26.9%
- Caucasian/White: Hospital – 48.5%; County – 68.7%
- *Note that hospital data did not include indication of Hispanic/Latino ethnicity.*

No. ED Discharges by Racial Group							
Year	Am. Indian/ Alaskan	Asian	Black/ African American	Caucasian/ White	Other	Unknown	Total No. Discharges
2015	40	7	7,583	7,780	448	8	15,866
2016	50	3	7,305	7,458	417	23	15,256
2017	47	11	6,768	6,576	409	2	13,813
<b>Total</b>	<b>137</b>	<b>21</b>	<b>21,656</b>	<b>21,814</b>	<b>1,274</b>	<b>33</b>	<b>44,935</b>

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## **Hospital Utilization:**

### **Person Memorial Hospital Inpatient Hospitalization Discharges by Gender and Age Group**

- Females: Hospital – 58.6%; County – 51.5%
- Males: Hospital – 41.2%; County – 48.5%
- Under age 18: Hospital – 0.4%; County – 21.3%
- Age 18-64: Hospital – 38.3%; County – 59.6%
- Age 65 and older: Hospital 61.3%; County – 19.1%

No. IP Discharges by Gender and Age Group						
Year	No. by Gender		No. by Age Group			Total No. Annual Discharges
	Females	Males	< 18	18-64	≥ 65	
2015	608	409	4	385	628	1,017
2016	553	387	5	357	580	942
2017	474	355	2	327	503	832
<b>Total</b>	<b>1,635</b>	<b>1,151</b>	<b>11</b>	<b>1,069</b>	<b>1,711</b>	<b>2,791</b>

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## **Hospital Utilization:**

### ***Person Memorial Hospital Inpatient Hospitalization Discharges by Race***

- American Indian: Hospital – 0.3%; County – 0.9%
- Black/African American: Hospital – 30.6%; County – 26.9%
- Caucasian/White: Hospital – 68.2%; County – 68.7%
- *Note that hospital data did not include indication of Hispanic/Latino ethnicity.*

No. IP Discharges by Racial Group							
Year	Am. Indian/ Alaskan	Asian	Black/ African American	Caucasian/ White	Other	Unknown	Total No. Discharges
2015	1	0	319	687	10	0	1,017
2016	2	0	271	664	5	0	942
2017	5	1	265	553	8	0	832
Total	8	1	855	1,904	23	0	2,791

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## **Health Statistics**

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## ***Health Rankings***

- According to *America's Health Rankings* (2017)
  - NC ranked 33<sup>rd</sup> overall out of 50 (where 1 is “best”)
- According to *County Health Rankings* (2018) for NC, Person County was ranked:
  - 52<sup>nd</sup> overall out of 100 (where 1 is best) for ***health outcomes***
    - 64<sup>th</sup> in length of life
    - 38<sup>th</sup> for quality of life
  - 59<sup>th</sup> overall out of 100 for ***health factors***
    - 63<sup>rd</sup> for health behaviors
    - 47<sup>th</sup> for clinical care
    - 56<sup>th</sup> for social and economic factors
    - 64<sup>th</sup> for physical environment

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## ***Maternal and Infant Health***

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# Pregnancy Rate

## Women Age 15-44

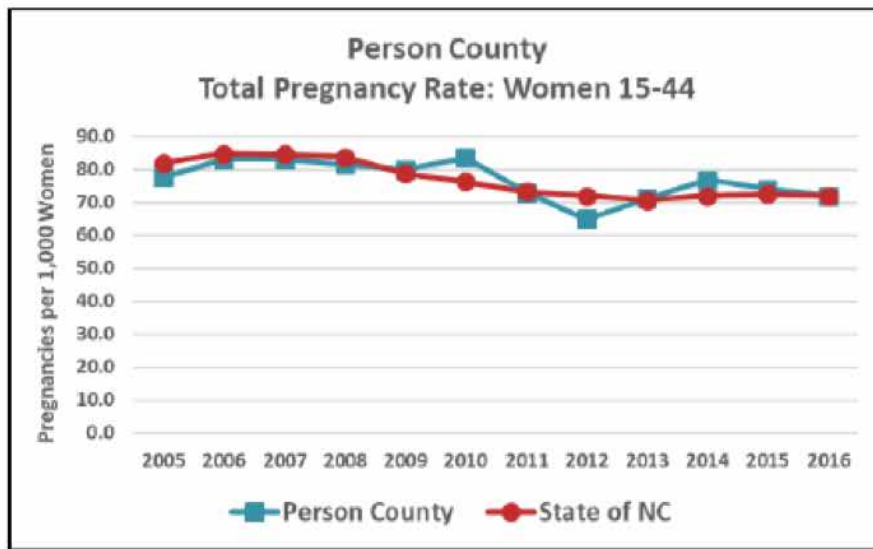
### Pregnancies per 1,000 women (2016)

- **Person County:**

- Total = **72.2** (NC = **72.2**)
- White non-Hispanic = 62.6 (NC = **63.0**)
- African American non-Hispanic = **87.7** (NC = 76.4)
- Hispanic = 94.9 (NC = **100.0**)

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## Overall Pregnancy Rate Trend



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## Pregnancy Rate

Women Age 15-19

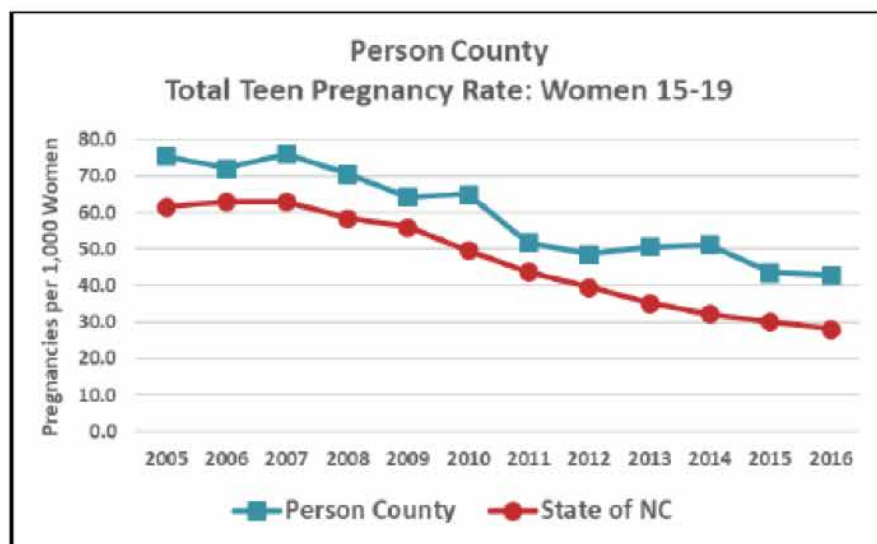
Pregnancies per 1,000 women (2016)

- **Person County:**

- Total = **42.9** (NC = 28.1)
- White non-Hispanic = **n/a** (NC = 19.4)
- African American non-Hispanic = **80.2** (NC = 38.0)
- Hispanic = **n/a** (NC = 46.9)

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## Teen Pregnancy Rate Trend



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## Pregnancy Risk Factors

### In Person County:

- **High Parity Births (2012-2016) and change since 2008-2012**
  - Mothers age <30 = **15.8%** (NC = 14.2%) ▼12%
  - Mothers age ≥30 = **23.8%** (NC = 22.0%) ▼4%
- **Short Interval Births (2012-2016) and change since 2008-2012**
  - Overall = **12.8%** (NC = 12.2%) ▼10%
- **Percent of Births to Moms Who Received Prenatal Care in the First Trimester (2016) and change since 2012**
  - Overall = **62.3%** (NC = 69.0%) ▲5%
- **Percent of Births to Moms Who Smoked During Pregnancy (2016) and change since 2012**
  - Overall = **13.2%** (NC = 8.9%) ▼34%

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## Pregnancy Outcomes

### In Person County for 2012-2016:

- **Low Birth Weight Births (<5.5 pounds)**
  - Overall = **8.6%** (NC = **9.0%**) (▼12% since 2008-2012)
  - White non-Hispanic = **5.6%** (NC = **7.5%**)
  - African American non-Hispanic = **15.5%** (NC = 13.9%)
  - Hispanic = **6.7%** (NC = **6.9%**)
- **Very Low Birth Weight (<3.3 pounds)**
  - Overall = **2.1%** (NC = 1.7%) (▲5% since 2008-2012)
  - White non-Hispanic = **0.8%** (NC = **1.2%**)
  - African American non-Hispanic = **5.2%** (NC = 3.2%)
  - Hispanic = **0.7%** (NC = **1.2%**)

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## ***Pregnancy Outcomes***

### **In Person County for 2012-2016:**

- **Cesarean Section Deliveries**
  - Overall = 28.5% (NC = **29.0%**)
- **Infant Mortality Rate** (per 1,000 live births)
  - Overall = **7.4** (NC = 7.2) (**▲14%** since 2008-2012)
  - White non-Hispanic = **2.3** (NC = **5.4**)
  - African American non-Hispanic = **20.0** (NC = 13.0)
  - Hispanic = **0.0** (NC = **5.1**)
  - *Note that in 2016 NC ranked 41<sup>st</sup> of the 50 states in infant mortality (#1 ranking = lowest rate, #50 ranking = highest rate)*

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## ***Mortality***

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## Life Expectancy

- Life Expectancy for persons born in Person County in 2014-2016:
  - Overall: 76.8 years (NC=78.2)
  - Male: 74.5 years (NC=74.8)
  - Female: 78.9 years (NC=79.9)
  - White: 77.7 years (NC=78.3)
  - African American: 74.5 years (NC=74.9)
- Life expectancies have *decreased* in Person County and NC since 2010-2012.

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## Leading Causes of Death: Overall

Age-Adjusted Rates (2012-2016)	Person Co. No. of Deaths	Person Co. Mortality Rate	Rate Difference from NC
1. Total Cancer	515	195.8	+18%
2. Diseases of the Heart	424	166.9	+3%
3. Cerebrovascular Disease	119	48.0	+11%
4. Chronic Lower Respiratory Disease	106	40.6	-11%
5. Diabetes Mellitus	84	31.9	+39%
6. All Other Unintentional Injuries	59	25.8	-19%
7. Alzheimer's Disease	57	23.1	-28%
8. Unintentional Motor Vehicle Injury	40	21.9	+55%
9. Pneumonia and Influenza	54	21.2	+19%
10. Septicemia	40	15.7	+20%
11. Suicide	33	14.8	+15%
12. Nephritis, Nephrotic Syndrome, Nephrosis	37	14.4	-12%
13. Chronic Liver Disease and Cirrhosis	27	10.3	0
14. Homicide	8	4.8	n/a
15. AIDS	5	2.6	n/a

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## Leading Causes of Death: Gender Comparison

Person County Rank by Descending Overall Age-Adjusted Rate (2012-2016)	Rank Among Males	Rank Among Females	% Male Rate Difference from Females
1. Total Cancer	1	1	+36%
2. Diseases of the Heart	2	2	+71%
3. Cerebrovascular Disease	6	3	-28%
4. Chronic Lower Respiratory Disease	3	4	+56%
5. Diabetes Mellitus	4	6	+66%
6. All Other Unintentional Injuries	5	n/a	n/a
7. Alzheimer's Disease	n/a	5	n/a
8. Unintentional Motor Vehicle Injury	9	n/a	n/a
9. Pneumonia and Influenza	7	n/a	n/a
10. Septicemia	n/a	7	n/a
11. Suicide	8	n/a	n/a
12. Nephritis, Nephrotic Syndrome, Nephrosis	n/a	8	n/a
13. Chronic Liver Disease and Cirrhosis	n/a	n/a	n/a
14. Homicide	n/a	n/a	n/a
15. AIDS	n/a	n/a	n/a

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## Leading Causes of Death: Race Comparison

Person County Rank by Descending Overall Age-Adjusted Rate (2012-2016)	Rank Among White Non- Hispanic	Rank Among Black non- Hispanic	% Blacks Rate Difference from Whites
1. Total Cancer	1	1	+13%
2. Diseases of the Heart	2	2	+18%
3. Cerebrovascular Disease	3	4	-20%
4. Chronic Lower Respiratory Disease	4	n/a	n/a
5. Diabetes Mellitus	6	3	+70%
6. All Other Unintentional Injuries	5	n/a	n/a
7. Alzheimer's Disease	9	n/a	n/a
8. Unintentional Motor Vehicle Injury	7	n/a	n/a
9. Pneumonia and Influenza	8	n/a	n/a
10. Septicemia	12	n/a	n/a
11. Suicide	10	n/a	n/a
12. Nephritis, Nephrotic Syndrome, Nephrosis	11	n/a	n/a
13. Chronic Liver Disease and Cirrhosis	13	n/a	n/a
14. Homicide	n/a	n/a	n/a
15. AIDS	n/a	n/a	n/a

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## Leading Causes of Death: Hospital Utilization

Person County Rank by Descending Overall Age-Adjusted Rate (2012-2016)	Person County No. of Deaths 2012-2016	PMH ED Discharges 2015-2017 Total = 14,978	PMH IP Discharges 2015-2017 Total = 930
1. Total Cancer	515	40	22
2. Diseases of the Heart	424	982	315
3. Cerebrovascular Disease	119	119	13
4. Chronic Lower Respiratory Disease	106	1,381	129
5. Diabetes Mellitus	84	437	85
6. All Other Unintentional Injuries	59	n/a	n/a
7. Alzheimer's Disease	57	8	0
8. Unintentional Motor Vehicle Injury	40	n/a	n/a
9. Pneumonia and Influenza	54	747	134
10. Sepsicemia	40	475	441
11. Suicide	33	n/a	n/a
12. Nephritis, Nephrotic Syndrome, Nephrosis	37	107	68
13. Chronic Liver Disease and Cirrhosis	27	13	5
14. Homicide	8	n/a	n/a
15. AIDS	5	0	0

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## Leading Causes of Death – By Age

Age Group	Rank	Cause of Death in Person County (2012-2016)
00-19	1	Conditions originating in the perinatal period
	2	Motor vehicle injuries
	3	Congenital anomalies (birth defects)
20-39	1	Motor vehicle injuries
	2	All other unintentional injuries
	3	Diseases of the heart
40-64	1	Cancer (all sites)
	2	Diseases of the heart
	3	Diabetes Mellitus
65-84	1	Cancer (all sites)
	2	Diseases of the heart
	3	Chronic lower respiratory disease
85+	1	Diseases of the heart
	2	Cancer (all sites)
	3	Cerebrovascular disease

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## Short-Term Mortality Rate Change 2008-2012 Compared to 2012-2016

Person County Rank by Descending Overall Age-Adjusted Rate (2012-2016)	Rate in 2008-2012	Rate in 2012-2016	% Rate Change 2008-2012 to 2012-2016
1. Total Cancer	195.4	195.8	+0.2
2. Diseases of the Heart	182.8	166.9	-9
3. Cerebrovascular Disease	74.7	48.0	-36
4. Chronic Lower Respiratory Disease	52.8	40.6	-23
5. Diabetes Mellitus	28.5	31.9	+12
6. All Other Unintentional Injuries	28.9	25.8	-11
7. Alzheimer's Disease	24.8	23.1	-7
8. Unintentional Motor Vehicle Injury	18.0	21.9	+17
9. Pneumonia and Influenza	20.3	21.2	+4
10. Septicemia	17.8	15.7	-12
11. Suicide	14.9	14.8	-0.7
12. Nephritis, Nephrotic Syndrome, Nephrosis	16.0	14.4	-10
13. Chronic Liver Disease and Cirrhosis	13.2	10.3	-22
14. Homicide	6.5	4.8	-26
15. AIDS	2.0	2.6	+30

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## Long-Term Mortality Rate Trends 2001-2005 to 2012-2016

Leading Cause of Death in Person County, 2012-2016	Overall Trend Direction
1. Total Cancer	▲
2. Diseases of the Heart	▼
3. Cerebrovascular Disease	▼
4. Chronic Lower Respiratory Disease	▼
5. Diabetes Mellitus	▲
6. All Other Unintentional Injuries	▼
7. Alzheimer's Disease	▲▲1/2
8. Unintentional Motor Vehicle Injury	▼
9. Pneumonia and Influenza	▼
10. Septicemia	▼
11. Suicide	▲
12. Nephritis, Nephrotic Syndrome, Nephrosis	▼▼
13. Chronic Liver Disease and Cirrhosis	▼
14. Homicide	▼
15. AIDS	▼

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## **Site-Specific Cancer Trends Person County**

**Incidence: 1996-2000 to 2012-2016**

**Mortality: 2001-2005 to 2012-2016**

Cancer Site	Parameter	Overall Trend Direction
Lung Cancer	Incidence	▲
	Mortality	▲
Prostate Cancer	Incidence	▼
	Mortality	▼▼1/2
Breast Cancer	Incidence	▲
	Mortality	▲
Colorectal Cancer	Incidence	▲
	Mortality	▼
Pancreas Cancer	Incidence	n/a
	Mortality	▼

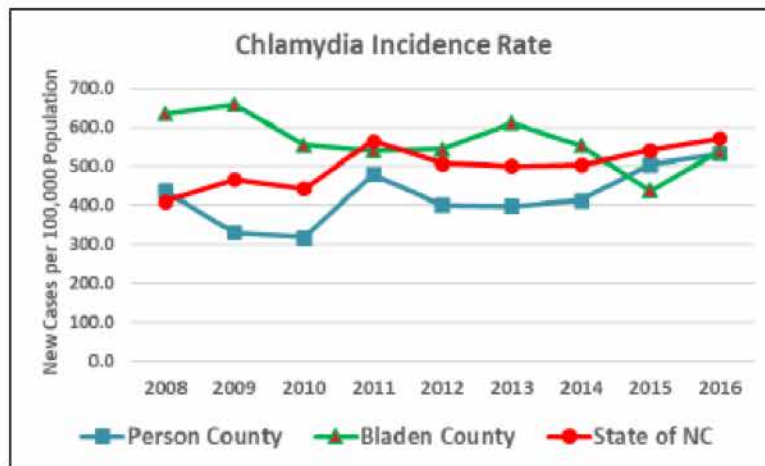
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## **Morbidity**

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## Sexually Transmitted Infections

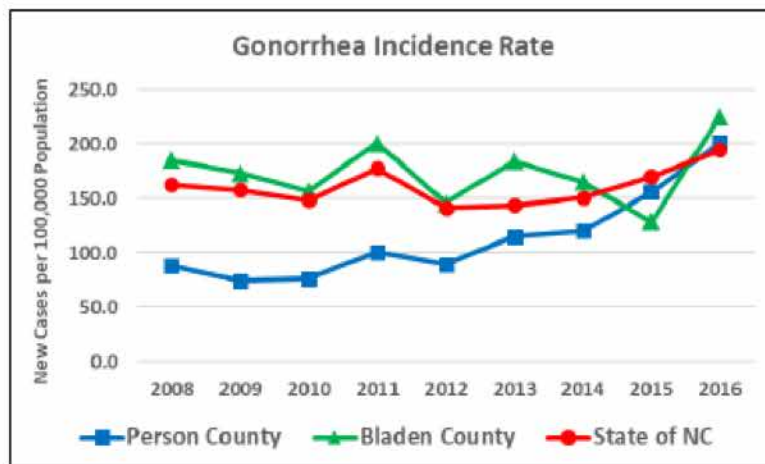
- Total Chlamydia Incidence Rate
  - 2016 Rate in Person County = 532.0/100,000



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## Sexually Transmitted Infections

- Total Gonorrhea Incidence Rate
  - 2016 Rate in Person County = 201.1/100,000



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## ***Adult Diabetes***

- Most recent (2013) prevalence of diagnosed diabetes among adults (age 18 or older) according to the CDC (via BRFSS):
  - Person County: 10.6%
  - Bladen County: 12.2%
  - State of NC: 10.5%
- Average 5-year prevalence of diagnosed diabetes among adults (2009 through 2013):
  - Person County: 11.0%
  - Bladen County: 12.5%
  - State of NC: 9.6%

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## ***Adult Obesity***

- Most recent (2013) prevalence of diagnosed obesity among adults (age 18 or older) according to the CDC (via BRFSS):
  - Person County: 32.5%
  - Bladen County: 38.2%
- Average 5-year prevalence of diagnosed obesity among adults (2009 through 2013) :
  - Person County: 32.8%
  - Bladen County: 36.4%

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## *Childhood Obesity*

- **Overweight and Obesity, 2-4 Year-Old NC NCPedNESS Participants (2015)**

- **Overweight**

- Person County – 19.3%
- Bladen County – 15.5%
- State of NC – 15.0%

- **Obese**

- Person County – 15.2%
  - Obesity trend 2007 through 2012: No change
- Bladen County – 16.5%
- State of NC – 14.0%

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## *Mental Health*

- Between 2013 and 2017, the number of Person County residents served by the **Area Mental Health Program** *decreased* by 35%. In 2017, **1,371** persons were served.
- Over the same 5-year period the number of Person County residents served by **State Psychiatric Hospitals** *decreased* by 57%. In 2017, **9** persons were served.
- During the four-year period from 2013 through 2016, a total of **85** Person County residents were served by **NC State Alcohol and Drug Abuse Treatment Centers (ADATCs)**, with the number varying annually from 14 to 28.

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## **Hospital Utilization:**

### ***Person Memorial Hospital Emergency Department Discharges for Mental, Behavioral and Neurodevelopmental Disorders***

- Diagnosis Codes
  - ICD-9: 290-319 (2015)
  - ICD-10: F00-F99 (2016-2017)
- Over the three-year period cited, 1.9% of all ED discharges were associated with a diagnosis of Mental, Behavioral or Neurodevelopmental disorders.
- In the 12 months of SFY2016-2017, the LME/MCO serving Person County (Cardinal Innovations) served a total of 1,371 patients from the county.

Year	No. ED Discharges	Total No. Annual Discharges
2015	328	15,866
2016	321	15,256
2017	223	13,813
Total	872	44,935

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## **Hospital Utilization:**

### ***Person Memorial Hospital Emergency Department Discharges for Diseases of the Oral Cavity, Salivary Glands and Jaws***

- Diagnosis Codes
  - ICD-9: 520-529 (2015)
  - ICD-10: K00-K14 (2016-2017)
- Over the three-year period cited, 2.1% of all ED discharges were associated with a diagnosis of Disease of the Oral Cavity, Salivary Glands or Jaws.

Year	No. ED Discharges	Total No. Annual Discharges
2015	374	15,866
2016	332	15,256
2017	254	13,813
Total	960	44,935

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# ***Environment***

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## ***Air Quality***

- **Air Quality Index (AQI) Summary, 2017**
  - **AQI Measurements (361 days)**
    - 338 days with “good” air quality
    - 22 days with “moderate” air quality
    - 1 day “unhealthy for sensitive groups”
    - Ozone was present at the level of “pollutant” on 238 days
    - Sulfur dioxide was present at the level of “pollutant” on 123 days

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## Air Quality

- **Toxic Release Inventory (TRI), 2016**

- **TRI Releases**

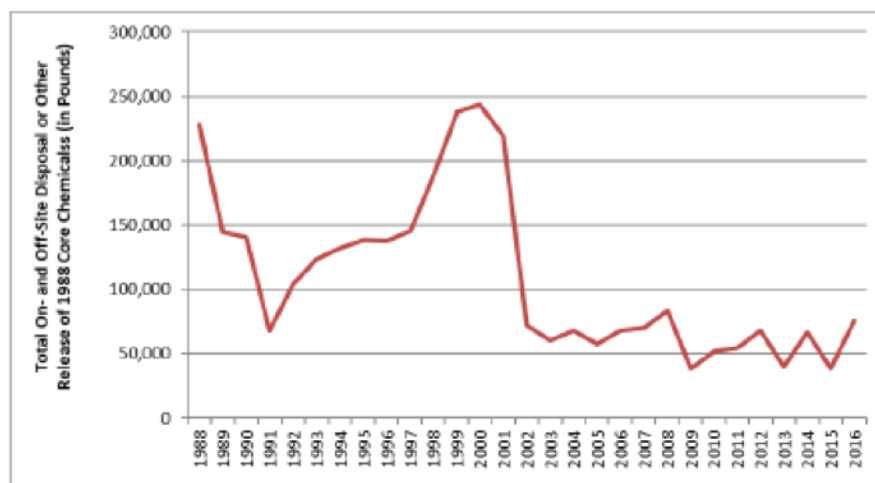
- Person County ranks 4<sup>th</sup> among the NC counties with the highest levels of TRI releases
- 4.1 million pounds of TRI releases were reported for Person County (New Hanover County had the highest level of releases in the state: almost 5.8 million pounds). TRI releases in Person County totaled 3.7 million pounds in 2012.
- TRI releases in Person County accounted for 7% of total NC releases (the same proportion as in 2012).
- Two power generating facilities were responsible for the largest volumes of nine of the ten TRI chemicals/chemical compounds released in the highest amounts in Person County in 2016.

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## Air Quality

- **Toxic Release Inventory (TRI) Trend, Person County**

- Although TRI releases in Person County remain among the highest in the state, the releasing industries have greatly reduced releases since 2000.



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## ***Water Quality***

- **Person County Drinking Water Systems, 2018**
  - **Community Water Systems (3)**
    - Include municipalities, subdivisions and mobile home parks
    - Serve an estimated 15,057 people, or 38% of the county population (62% of population depend on wells or other private sources of water). The proportion of the population served by community water systems in 2012 was 32%.
  - **Non-Transient/Non-Community Water Systems (5)**
    - Includes schools, factories, office buildings and hospitals that have their own water systems
    - Serve an estimated 1,264 people
  - **Transient/Non-Community Water Systems (41)**
    - Includes churches, rest stops, campgrounds and gas stations
    - Serve an estimated 3,215 people

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## ***Solid Waste***

- **Solid Waste Disposal Rates**
  - 2016-17 Per-Capita Disposal Rate
    - Person County = 1.31 tons (up from 1.00 in 2012-13)
    - NC = 1.11 tons
- **Solid Waste Disposal Patterns in Person County**
  - 96% of Person County's municipal solid waste (~49,981 tons) is landfilled within the county at Upper Piedmont Regional Environmental Landfill in Rougemont.
  - As of FY2016-17, the Upper Piedmont Regional Environmental Landfill had capacity projected to last another 39 years.

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# Community Health Survey

Total of 1018 respondents

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## Survey / Population Comparison

Demographic Parameter	%, 2018 Survey (n=~950)	%, Person County 2016 US Census, etc.
<b>GENDER</b>		
Male	15.6	48.5
Female	84.2	51.5
<b>RACE</b>		
White/Caucasian	78.8	68.7
Black/African American	13.8	26.9
Native American	1.0	0.9
Hispanic	3.9	4.1
<b>AGE</b>		
18-29	6.2	10.8
30-64	77.4	47.5
65 and Older	16.5	17.3
<b>EDUCATION</b>		
Less than HS Diploma or GED	2.9	15.3
Bachelor's Degree or Higher	43.6	14.9
<b>UNEMPLOYED</b>	3.0	4.7
<b>HOUSEHOLD INCOME &lt; \$20,000</b>	7.7	n/a

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## ***Survey Demographics Summary***

- **Compared to Census and other authoritative statistics for the overall Person County population, the 2018 survey sample:**
  - Was predominately female
  - Over-represented whites and under-represented blacks
  - Adequately represented Hispanics
  - Over-represented 30-64 year olds
  - Under-represented the unemployed and lowest income persons
  - Under-represented less well educated and over-represented college (or higher) educated persons

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## ***Insurance Coverage***

- **Health Care Coverage**
  - 89% had medical insurance, 11% did not
    - 13% of African American respondents were uninsured
    - 62% of Hispanic respondents were uninsured
    - 13% of male respondents were uninsured
- **Prescription Drug Coverage**
  - 90% had prescription drug coverage, 10% did not
    - 9% of African American respondents did not have prescription drug coverage
    - 65% of Hispanic respondents did not have drug coverage
    - 12% of males did not have prescription drug coverage

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## ***Health Information Access***

- **Where respondents get most of their health-related information**
  - Doctor or nurse: 67% (has increased each cycle)
  - Internet: 16.5% (has increased each cycle)
  - Friends or family: 7% (has decreased each cycle)
  - Health department: 5% (variable)
  - Newspapers, magazines or TV: 1% (has decreased each cycle)

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## ***Medical Care Access***

- **77% had a checkup in the past year** (higher than any other cycle since 2003)
- **Problem accessing medical care:**
  - **79% had *not* had a problem recently** (85% in 2014)
  - **21% *did* have a problem** (increase from 15% in 2014)
    - Personal share of cost too high: 45% (42%)
    - Lack of health insurance: 34% (45%)
    - Took too long to get an appointment: 20% (12%)
    - Insurance didn't cover needed service: 13% (17%)
    - Doctor wasn't taking new patients: 9% (6%)
    - Doctor wouldn't take insurance or Medicaid: 8% (5%)
    - Didn't have transportation: 5% (6%)
    - Didn't know where to go: 3% (3%)

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## ***Prescription Drug Access***

- **Problem getting R<sub>x</sub> filled**
  - **82% had *not* had a problem recently** (87% in 2014)
  - **18% *did* have a problem** (13%)
    - Personal share of cost too high: 51% (40%)
    - Didn't have health insurance: 32% (43%)
    - Insurance didn't cover needed Rx: 28% (32%)
    - Didn't know where to go: <1% (5%)
    - Had a problem with Medicare Part D: <1% (7%)
    - Pharmacy wouldn't take insurance or Medicaid: 0% (3%)
    - Didn't have transportation: <1% (3%)

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## ***Dental Care Access***

- **69% had a routine checkup within the past year** (72% in 2014)
- **Problem accessing dental care**
  - **79% had *not* had a problem recently** (82% in 2014)
  - **21% *did* have a problem** (18%)
    - Lack of dental insurance: 59% (59%)
    - Personal share of cost too high: 24% (23%)
    - Insurance didn't cover needed service: 12% (17%)
    - Took too long to get an appointment: 8% (7%)
    - Didn't know where to go: 6% (4%)
    - Dentist wouldn't take insurance or Medicaid: 6% (4%)
    - Dentist wasn't taking new patients: 5% (2%)
    - Didn't have transportation: 2% (2%)

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## ***Mental Health***

- **Where to refer someone with a MH/DD/SA problem (and 2014 figure)**
  - Doctor: 43% (37%)
  - Private counselor or therapist: 35% (34%)
  - Minister or religious official: 28% (32%)
  - Freedom House Recovery Center: 27%
  - Support group (e.g., AA, Al-Anon): 22% (22%)
  - School counselor: 20% (17%)
  - Don't know: 20% (15%)
  - Other: 7% (5%)
  - Person Memorial Hospital: 5% (4%)

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## ***Personal Health Behaviors***

- **Alcohol consumption (and 2014 figure)**
  - Number of occasions > 5 drinks in a day
    - None: 84% (82%)
    - 1 or 2: 10% (12%)
    - 3 or 4: 3% (3%)
    - 5 or more: 2% (3%)

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## ***Personal Health Behaviors***

- **E-Cigarette Use**
  - 4% in both 2014 and 2018
- **Tobacco use (and 2014 figures)**
  - Never smoked: 65% (65%)
  - Used to smoke but have quit: 23% (26%)
  - Smoke 1 pack or less/day: 9% (8%)
  - Smoke more than 1 pack/day: 3% (2%)

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## ***Personal Health Diagnoses***

- **Personal Health Diagnoses (and 2014 figures)**
  - Angina/heart disease: 7% (5%)
  - Cancer: 9% (7%)
  - Depression or anxiety: 35% (27%)
  - Diabetes: 13% (16%)
  - Pre-diabetes/borderline diabetes: 22% (n/a)
  - High blood pressure: 40% (37%)
  - High cholesterol: 35% (32%)
  - Obesity/overweight: 48% (43%)
  - Lung disease: 13% (10%)

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## ***Personal Health Diagnoses***

- **Demographics of Personal Health Diagnoses (with 2014 figures)**
  - **Most common diagnoses among males**
    - High blood pressure: 50% (43%)
    - High cholesterol: 44% (35%)
    - Overweight/obesity: 43% (31%)
  - **Most common diagnoses among females**
    - Overweight/obesity: 48% (43%)
    - High blood pressure: 37% (31%)
    - Depression or anxiety: 37% (28%)

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## ***Personal Health Diagnoses***

- **Demographics of Personal Health Diagnoses (and 2014 figures)**
  - **Most common diagnoses among whites**
    - Overweight/obesity: 47% (39%)
    - High blood pressure: 37% (31%)
    - Depression or anxiety: 39% (28%)
  - **Most common diagnoses among African Americans**
    - High blood pressure: 61% (53%)
    - Overweight/obesity: 55% (45%)
    - High cholesterol: 44% (46%)
  - **Most common diagnoses among Hispanics**
    - Overweight/obesity: 32% (33%)
    - High blood pressure: 16% (13%)
    - Depression or anxiety: 16% (10%)

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## **Health Screening Behaviors (in the past year)**

- Had a routine physical or check-up: 83%
- Been to the dentist/dental hygienist: 73%
- Had blood pressure checked: 93%
- Had cholesterol checked: 77%
- Had a mammogram: 46%
- Had a colonoscopy: 17%
- Conducts monthly breast self-exams: 57%
- Conducts monthly testicular self-exams: 8%
- Conducts monthly skin-checks: 49%

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## **Community Health Problems**

Health Concern	2007	2011	2014	2018
	%	%	%	%
Cancer	62.8	69.2	80.1	76.3
Substance abuse	n/a	n/a	56.3	65.4
Obesity/Overweight	52.4	63.5	61.6	58.4
Heart Disease/Heart Attacks	57.6	59.3	59.2	55.2
Mental Health	36.4	36.5	33.1	50.6
Diabetes	48.9	52.8	54.9	49.2
Alzheimer's disease <sup>1</sup>	n/a	n/a	25.8	23.2
Lung Disease	16.6	15.2	21.7	22.0
Infectious/Contagious Diseases	8.7	9.4	7.7	14.2
Teenage Pregnancy	38.6	32.0	26.3	13.7
Stroke	18.1	21.3	15.6	11.2
Dental Health	9.9	10.3	7.1	9.6
Motor Vehicle Injuries <sup>2</sup>	16.2	12.7	12.4	9.4
Sexually Transmitted Diseases	18.3	13.4	10.3	9.3
Accidental injuries NOT involving vehicles <sup>3</sup>	6.7	13.4	9.3	8.6
Kidney Disease	9.5	9.4	8.5	7.1
Other	2.1	1.9	1.9	2.8
HIV/AIDS	13.3	5.9	4.8	2.3
Infant Death	5.5	0.9	1.1	1.9
Liver Disease	3.2	1.4	2.2	1.5
Aging Problems	47.7	48.6	n/a	n/a

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## Community Unhealthy Behaviors

Unhealthy Behaviors	2007	2011	2014	2018
	%	%	%	%
Drug Abuse	81.1	75.2	83.5	87.9
Alcohol Abuse	74.2	67.1	62.6	66.3
Lack of exercise/poor physical fitness	34.4	51.3	57.8	52.4
Poor Eating Habits	46.1	51.3	54.6	47.5
Smoking/Tobacco Use	56.0	50.3	50.1	47.3
Lack of parenting skills	n/a	34.2	42.7	45.0
Not going to the doctor for preventive check-ups/screenings	40.1	31.7	35.0	36.0
Violent, angry behavior	22.1	22.0	18.5	24.7
Reckless/drunken driving	28.2	24.0	23.6	22.8
Having unsafe sex	36.6	24.0	26.6	21.6
Not going to a dentist for preventive checkups and cleaning	18.9	13.0	9.6	14.4
Suicide	8.0	9.6	9.8	10.2
Poor preparation for disasters and emergencies	n/a	5.7	7.2	6.4
Not getting immunizations to prevent disease	6.6	5.4	3.9	5.2
Not using seatbelts	15.5	8.6	4.7	4.5
Not using child safety seats	11.9	5.3	5.6	4.1
Not getting prenatal care	11.4	5.9	4.3	3.7

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## Community Issues

Community Concerns	2007	2011	2014	2018
	%	%	%	%
Low income/poverty	38.4	35.2	50.7	52.7
Lack of counseling/mental health services/support groups	n/a	17.6	27.8	40.1
Affordability of health services	42.4	40.1	33.2	39.5
Unemployment/underemployment	51.4	62.0	55.1	37.7
Crime <sup>1</sup>	13.0	39.5	33.2	31.6
Gang activity	44.0	45.2	38.5	30.7
Lack of/inadequate health insurance	32.2	26.7	22.2	30.1
Availability of healthy food choices in restaurants/grocery stores	21.9	20.8	26.8	28.7
Affordability of housing <sup>2</sup>	19.8	16.7	18.6	23.9
Lack of recreational facilities	23.4	20.8	29.4	22.3
Racism/discrimination	16.2	13.0	18.1	19.1
Neglect and abuse	29.8	24.3	22.6	18.5
Availability of child care	21.5	10.4	12.8	17.4
Transportation options	20.3	9.5	14.9	16.9
Dropping out of school	36.0	26.5	27.8	16.3
Unsafe schools	n/a	15.3	10.9	14.8
Lack of healthcare providers	13.8	8.6	9.1	12.1
Homelessness	11.5	6.3	6.6	10.0
Unsafe/unmaintained roads	n/a	7.6	9.1	9.5
Pollution (air, water, land)	13.2	9.6	12.2	8.9
Lack of culturally appropriate services for minorities	11.8	5.9	8.3	7.1
Animal control issues/rabies	10.3	7.1	5.1	6.2
Disaster preparedness	14.7	6.9	6.7	6.1

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## Appendix 3: 2018 Person County Community Health Survey Instrument

### Person County Community Health Survey

The purpose of this survey is to learn more about the health and quality of life in Person County. Various local health agencies will use the results of this survey to help them develop plans for addressing the major health issues. *Your answers will not be linked to you in any way.* Thank you for taking the time to complete this Community Health Survey.

#### **PLEASE READ THIS IMPORTANT MESSAGE**

**DO NOT** complete the survey if (1) you are not at least 18 years old, or (2) if you have already completed this survey, or (3) you live outside of Person County and do not work in Person County.

---

### **PART 1: Community Problems and Issues**

The next three questions ask your opinion about the most important health, behavioral and social problems and issues in Person County.

#### **1. Health Problems**

Using the following list please put a check mark next to the five (5) most important health problems in Person County. (Problems that you think have the greatest overall effect on health in the community.)

**Remember to check only FIVE (5):**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Accidental injuries NOT involving vehicles (e.g., falls, choking, drowning, poisoning, gun accidents, etc.) | <input type="checkbox"/> Infectious/contagious diseases (e.g., tuberculosis, flu, pneumonia, food poisoning, etc.) | <input type="checkbox"/> Obesity/overweight  |
| <input type="checkbox"/> Alzheimer's disease   | <input type="checkbox"/> Kidney disease  | <input type="checkbox"/> Pre-diabetes/Borderline Diabetes  |
| <input type="checkbox"/> Cancer  | <input type="checkbox"/> Liver Disease   | <input type="checkbox"/> Sexually transmitted infections (e.g., chlamydia, gonorrhea)                      |
| <input type="checkbox"/> Dental health   | <input type="checkbox"/> Lung disease (asthma, emphysema, COPD, chronic bronchitis)                                | <input type="checkbox"/> Stroke  |
| <input type="checkbox"/> Diabetes  | <input type="checkbox"/> Mental health (depression, schizophrenia, etc.)   | <input type="checkbox"/> Substance abuse (incl. alcohol, prescription drugs, illegal drugs, tobacco, etc.) |
| <input type="checkbox"/> Heart disease/heart attack  | <input type="checkbox"/> Motor vehicle accident injuries   | <input type="checkbox"/> Teenage pregnancy   |
| <input type="checkbox"/> HIV/AIDS  |  | <input type="checkbox"/> Other   |
| <input type="checkbox"/> Infant death  |  |  |

## 2. Unhealthy Behaviors

Using the following list please put a check mark next to the five (5) most important unhealthy behaviors in Person County. (Unhealthy behaviors that you think have the greatest overall effect on health and safety in the community.)

Remember to check only **FIVE (5)**:

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Alcohol abuse   | <input type="checkbox"/> Not using child safety seats                                    | <input type="checkbox"/> Poor eating habits                             |
| <input type="checkbox"/> Drug abuse (incl. prescription drugs and illegal drugs) | <input type="checkbox"/> Not using seatbelts   | <input type="checkbox"/> Poor preparation for disasters and emergencies |
| <input type="checkbox"/> Having unsafe sex                                       | <input type="checkbox"/> Not going to a dentist for preventive checkups and cleanings    | <input type="checkbox"/> Reckless/drunk driving                         |
| <input type="checkbox"/> Lack of exercise/poor physical fitness                  | <input type="checkbox"/> Not going to the doctor for preventive check-ups and screenings | <input type="checkbox"/> Smoking/tobacco use                            |
| <input type="checkbox"/> Lack of parenting skills                                | <input type="checkbox"/> Not getting prenatal (pregnancy) care                           | <input type="checkbox"/> Suicide  |
| <input type="checkbox"/> Not getting immunizations ("shots") to prevent disease  |  | <input type="checkbox"/> Violent, angry behavior                        |

## 3. Community Issues

Using the following list please put a check mark next to the five (5) most important community-wide issues in Person County. (Social issues that you think have the greatest overall effect on the quality of life in the community.)

Remember to check only **FIVE (5)**:

- |   |   |
|---|---|
| <input type="checkbox"/> Animal control issues/rabies   | <input type="checkbox"/> Lack of counseling/mental health services/support groups                       |
| <input type="checkbox"/> Availability of child care   | <input type="checkbox"/> Lack of healthcare providers   |
| <input type="checkbox"/> Affordability of health services   | <input type="checkbox"/> Lack of recreational facilities (e.g., parks, trails, community centers, etc.) |
| <input type="checkbox"/> Affordability of housing   | <input type="checkbox"/> Low income/poverty   |
| <input type="checkbox"/> Availability of healthy food choices in restaurants and grocery stores               | <input type="checkbox"/> Neglect and abuse  |
| <input type="checkbox"/> Crime (e.g., theft, murder, assault, etc.)   | <input type="checkbox"/> Pollution (air, water, land)   |
| <input type="checkbox"/> Disaster preparedness (plans for natural disaster, bioterrorism, pandemic flu, etc.) | <input type="checkbox"/> Racism/discrimination  |
| <input type="checkbox"/> Dropping out of school   | <input type="checkbox"/> Transportation options   |
| <input type="checkbox"/> Gang activity  | <input type="checkbox"/> Unemployment/underemployment   |
| <input type="checkbox"/> Homelessness   | <input type="checkbox"/> Unsafe/unmaintained roads  |
| <input type="checkbox"/> Lack of/inadequate health insurance  | <input type="checkbox"/> Unsafe schools (e.g., in/at-school crime, violence, bullying, etc.)            |
| <input type="checkbox"/> Lack of culturally appropriate services for minorities                               |   |

## PART 2: Health Care Access

The following questions ask about how you access health care. Remember, this survey will not be linked to you in any way.

4. Where do you get **most** of your health-related information or advice? Choose **only one (1)** answer.

<input type="checkbox"/> Friends and family	<input type="checkbox"/> Help lines	<input type="checkbox"/> Church
<input type="checkbox"/> Doctor/nurse	<input type="checkbox"/> Newspaper/magazine/TV	<input type="checkbox"/> Internet
<input type="checkbox"/> Health Department	<input type="checkbox"/> Pharmacist	<input type="checkbox"/> Other
<input type="checkbox"/> Hospital	<input type="checkbox"/> School	

5. Where do you go most often when you are sick? Choose **only one (1)** answer.

<input type="checkbox"/> Doctor's office	<input type="checkbox"/> Person Family Medical and Dental Centers, Inc.
<input type="checkbox"/> Health Department	<input type="checkbox"/> Other
<input type="checkbox"/> Hospital emergency department	<input type="checkbox"/> I don't usually get care when I'm sick
<input type="checkbox"/> Urgent Care Center	

6. Is the place you go to when you are sick in Person County?  Yes  No

7. About how long has it been since you last visited a doctor for a **routine** checkup? (Do NOT include any times you visited the doctor because you were sick or pregnant.) Choose **only one (1)** answer.

<input type="checkbox"/> Within the past year	<input type="checkbox"/> 5 or more years ago
<input type="checkbox"/> 1-2 years ago	<input type="checkbox"/> I have never had a routine checkup.
<input type="checkbox"/> 3-5 years ago	

8. About how long has it been since you last visited a dentist for a **routine** checkup? (Do NOT include times you visited the dentist because of an emergency.) Choose **only one (1)** answer.

<input type="checkbox"/> Within the past year	<input type="checkbox"/> 5 or more years ago
<input type="checkbox"/> 1-2 years ago	<input type="checkbox"/> I have never been to a dentist for a routine checkup.
<input type="checkbox"/> 3-5 years ago	

9. Was there a time in the past 12 months when you needed **medical care** but could not get it? Choose as **many** answers as you need to.

No

Yes, because I didn't have health insurance and couldn't afford the cost by myself.

Yes, because I had health insurance but it didn't cover what I needed.

Yes, because I had health insurance but my share of the cost (deductible/co-pay/co-insurance) was too high.

Yes, because the provider (doctor, clinic or hospital) would not take my insurance or Medicaid.

Yes, because I didn't have transportation to get there.

Yes, because I didn't know where to go.

Yes, because it took too long to get an appointment.

Yes, because the doctor wasn't taking new patients.

10. Was there a time in the past 12 months when you could not get a **medically necessary prescription**? Choose as **many** answers as you need to.

- No
- Yes, because I didn't have health insurance and couldn't afford the cost by myself.
- Yes, because I had health insurance but it didn't cover any prescriptions or the prescription I needed.
- Yes, because I had health insurance drug coverage but my share of the cost (deductible/co-pay/co-insurance) was too high.
- Yes, because the pharmacy would not take my insurance or Medicaid.
- Yes, because I had problems with Medicare Part D coverage.
- Yes, because I didn't have transportation to get there.
- Yes, because I didn't know where to go.

11. Was there a time during the past 12 months when you needed to get **dental care** but could not? Choose as **many** answers as you need to.

- No
- Yes, because I didn't have dental insurance and couldn't afford the cost by myself.
- Yes, because I had dental insurance but it didn't cover what I needed.
- Yes, because I had dental insurance but my share of the cost (deductible/co-pay/co-insurance) was too high.
- Yes, because the dentist would not take my insurance or Medicaid.
- Yes, because I didn't have transportation to get there.
- Yes, because I didn't know where to go.
- Yes, because It took too long to get an appointment.
- Yes, because the dentist wasn't taking new patients.

12. If a friend or family member needed counseling for a **mental health** or a **drug/alcohol abuse problem**, who would you tell them to call or talk to? Choose as **many** answers as you need to.

- |   |   |
|---|---|
| <input type="checkbox"/> Freedom House Recovery Center  | <input type="checkbox"/> School counselor, nurse or social worker |
| <input type="checkbox"/> Private counselor or therapist | <input type="checkbox"/> Support group (e.g., AA, Al-Anon)        |
| <input type="checkbox"/> Doctor                         | <input type="checkbox"/> Other                                    |
| <input type="checkbox"/> Minister/religious official    | <input type="checkbox"/> Not sure/don't know                      |
| <input type="checkbox"/> Person Memorial Hospital       |   |

### PART 3. Personal Health

The following questions ask about **your own personal health**. Remember, this survey will not be linked to you in any way.

13. Considering all types of alcoholic beverages, on how many days during the past month did you have **5 or more** alcoholic drinks on a single occasion or at one sitting? Choose **only one (1)** answer.

- None       One or two times       Three or four times       Five or more times

14. Do you use "e-cigarettes"?       Yes       No

15. Do you **smoke regular (tobacco) cigarettes**? Choose **only one (1)** answer.

- I have never smoked.
- I used to smoke but have quit.
- I smoke less than one pack a day.
- I smoke one or more packs a day.

16. Where would you go for help if you wanted to **quit smoking**? Choose as **many** answers as you need to.

- |   |  |
|---|--|
| <input type="checkbox"/> Not applicable: I don't smoke                | <input type="checkbox"/> Pharmacy/over-the-counter product   |
| <input type="checkbox"/> Not applicable: I don't want to quit smoking | <input type="checkbox"/> Church/religious leader             |
| <input type="checkbox"/> Quit Now NC/Quit Line                        | <input type="checkbox"/> Doctor, private counselor/therapist |
| <input type="checkbox"/> Health Department                            | <input type="checkbox"/> Not sure/don't know                 |

17. Have you ever been told by a **doctor, nurse, or other health professional** that you have any of the conditions in the following list? Please answer every question.

- |  |                              |                             |
|--|------------------------------|-----------------------------|
| Angina/heart disease                                       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Lung disease (asthma, emphysema, COPD, chronic bronchitis) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Cancer   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Depression or anxiety                                      | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Diabetes (not during pregnancy)                            | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| High blood pressure  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| High cholesterol   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Overweight/obesity   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Pre-diabetes/borderline diabetes                           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

18. In the past year, have you:

- |   |                              |                             |   |
|---|------------------------------|-----------------------------|---|
| Had a routine/annual physical or check-up | <input type="checkbox"/> Yes | <input type="checkbox"/> No |   |
| Been to the dentist/dental hygienist      | <input type="checkbox"/> Yes | <input type="checkbox"/> No |   |
| Had your blood pressure checked           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |   |
| Had your cholesterol checked              | <input type="checkbox"/> Yes | <input type="checkbox"/> No |   |
| Had a mammogram                           | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Not applicable |
| Had a colonoscopy                         | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Not applicable |
| Conducted monthly breast self-exams       | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Not applicable |
| Conducted monthly testicular self-exams   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Not applicable |
| Conducted monthly skin-checks             | <input type="checkbox"/> Yes | <input type="checkbox"/> No |   |

#### Part 4. Emergency Preparedness

19. Does your household have *working* smoke and carbon monoxide detectors? Choose **only one (1)** answer.

- |  |   |
|--|---|
| <input type="checkbox"/> Yes, smoke detectors only           | <input type="checkbox"/> Yes, both kinds of detectors |
| <input type="checkbox"/> Yes, carbon monoxide detectors only | <input type="checkbox"/> Not sure/don't know          |



20. Does your family have a **basic emergency supply kit with enough supplies to last at least three (3) days?** (These kits include water, non-perishable food, necessary prescriptions, first aid supplies, flashlight and batteries, non-electric can opener, blanket, etc.).

Yes       No       Not sure/don't know

21. What would be your **main way of getting information** from authorities in a large-scale disaster or emergency? Choose **only one (1)** answer.

Television       Print media (newspaper)       Text message or phone call from an emergency alert system  
 Radio       Social networking site  
 Internet       Neighbors, friends, family       /Not sure/don't know

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

Yes, I would evacuate  
 Not sure/don't know if I would evacuate  
 No, I would not evacuate

23. If you answered "Not sure/don't know" or "No", why are you unsure or why would you not evacuate? Choose as **many reasons** as you need to.

Not applicable: I said I would evacuate       Concern about family safety  
 Lack of transportation       Concern about leaving pets  
 Lack of trust in public officials       Concern about traffic jams/ability to leave  
 Concern about leaving property behind       Health problems (could not be moved)  
 Concern about personal safety       Other

24. Are you signed up to receive local emergency alerts through the "Code Red" system? Choose **only one (1)** answer.

Yes  
 No; I've heard about "Code Red" but haven't signed up yet.  
 No; I don't know what "Code Red" is.  
 No; I don't know how to sign up  
 No; I prefer not to sign up

### Part 5. Health Department Questions

25. Person County Health Department's main building is open Monday-Friday from 8:00 a.m. to 4:30 p.m. Are these hours sufficient to meet the needs of the community? Choose **only one (1)** answer.

Yes       Needs extended hours one evening a week  
 Should open earlier in the morning       Should offer services during lunch hours

26. Environmental Health offices are open Monday-Friday from 8:30 a.m. to 5:00 p.m. Are these hours sufficient to meet the needs of the community? Choose **only one (1)** answer.

- Yes  
 Should open earlier in the morning
  Needs extended hours one evening a week  
 Should offer services during lunch hours

27. Which of the following Person County Health Department services have you ever used or think you might use in the future? Check all as **many** as you need to.

	Have never used	Have used in the past	Might use in the future	Not familiar with
Clinical Services (e.g., shots, worksite flu clinics, blood pressure checks, lab work, birth control, prenatal visits, STI testing/treatment, child health visits, breast and cervical cancer control visits, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WIC (Women, Infants, Children) Nutrition Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Health Services (e.g., restaurant inspections, well water sampling, septic system permits, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Home Health and Hospice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health Education Services (e.g., educational programs, weight loss challenges, chronic disease and diabetes self-management programs, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

28. If you have used any Person County Health Department services, please rate your overall experience.

- Very Satisfied       Satisfied       Dissatisfied       Very Dissatisfied  
 I have not used any Person County Health Department services.

29. What are the best ways to let the community know about Person County Health Department services? Choose as **many** as you need to.

- Cable channel 10       Courier-Times       Facebook       Health Department website  
 Radio Roxboro       Other \_\_\_\_\_

30. If you have had an unpleasant experience with the Person County Health Department, please describe your experience and any suggestions you have for improvement.

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*The Health Department welcomes your comments and suggestions. Go to:*  
<http://health.personcounty.net> (Questions & Comment Link),  
 Call 336-597-2204 x2278 (Comment Line) or call 336-597-2204.  
 There is also Public Comment time at Board of Health meetings (call for schedule)

## FINAL PART. Demographic Questions

We have a final set of questions about you. These are questions that help us understand how different types of people view different health issues.

31. What is the ZIP code of your PRIMARY residence in Person County? Check only one (1).

27291     27343     27565     27573     27583     27305  
 27541     27572     27574     I work in Person County but live in another county.

32. How old are you?

18-19                       40-49                       65-69                       85 or older  
 20-29                       50-59                       70-79  
 30-39                       60-64                       80-85

33. How do you describe yourself?

Male                       Female                       Other

34. Are you of Hispanic, Latino, or Spanish origin?

Yes                       No

35. What do you consider your race? Please check only one (1) answer.

White only  
 Black/African American only  
 Hispanic or Latino  
 Native American/American Indian/Alaska Native only  
 Asian (Indian, Pakistani, Japanese, Chinese, Korean, Vietnamese, Filipino/a) only  
 Pacific Islander (Native Hawaiian, Samoan, Guamanian/Chamorro) only  
 Other race not listed here  
 Two or more races

36. What is the highest level of school, college or training that you have finished? Choose only one (1) answer.

Less than 9<sup>th</sup> grade                       Some college (no degree)  
 9<sup>th</sup> – 12<sup>th</sup> grade, no diploma                       Bachelor's degree  
 High school diploma (or GED/equivalent)                       Graduate or professional degree  
 Associate's Degree or Vocational Training                       Other

37. What was your total household income last year, before taxes? (This includes everybody age 15 or older who lives in your house and has income.) Choose only one (1) answer.

Less than \$20,000                       \$40,000 to \$49,999                       \$70,000 to \$79,999  
 \$20,000 to \$29,999                       \$50,000 to \$59,999                       \$80,000 to \$99,999  
 \$30,000 to \$39,999                       \$60,000 to \$69,999                       \$100,000 or more

38. How many people does this income support? (If you are paying child support but your child is not living with you, this still counts as someone living on your income.) Choose **only one (1)** answer.
- 1 person       2 people       3 or 4 people       5 or more people
39. What is your employment status? (Choose as **many** answers as you need to describe your situation.)
- Employed full-time       Unemployed       Homemaker  
 Employed part-time       Disabled       Self-employed  
 Retired       Student
40. Do you have any kind of medical health insurance coverage (private insurance, Medicaid, Medicare, insurance through the Affordable Care Act)?
- Yes       No
41. Does your medical health insurance cover prescription drugs?
- Yes       No       I don't know
42. Do you use the Internet?       Yes       No

**Thank you very much for completing the Community Health Survey!**

## Appendix 4: Prioritization Summary

### 2018 Person Co. Community Health Assessment - Priority Setting Survey

By taking this short survey you will learn what residents identified earlier this year (through a community health survey) as the leading health problems, unhealthy behaviors and community issues in our county. You will also be informed about the leading causes of death for Person Co. according to the most recent state data. Your input will help us narrow down the top 3-5 health priorities for the county for the next 4 years. The Community Health Assessment team which consists of community volunteers, as well as representatives from Cooperative Extension, the Health Dept., Person Family Medical, PCC, DSS, Freedom House Recovery Center, Roxboro Housing Authority, Roxboro Presbyterian Church, Person Co. Schools, Roots & Wings, Person Memorial Hospital, and EMS, thanks you for your input! If you would like to get involved in helping address the priorities identified call 597-2204 x2277.

You must be 18 or older to complete the survey. You must also live and/or work in Person County.

**PLEASE ANSWER ALL OF THE QUESTIONS. IT IS THE ONLY WAY WE CAN USE THE SURVEY. THANKS!**

\* 1. In a recent survey, Person County residents identified what they felt were the leading health problems in the county. Those problems are listed below alphabetically (instead of according to how they ranked in the survey). Please let us know which 5 you think should be the county's highest priorities to address. You must choose exactly 5 responses before you can move to the next question.

- Alzheimer's Disease
- Cancer
- Diabetes
- Heart Disease/Heart Attack
- Infectious/Contagious Diseases
- Lung Disease
- Mental Health
- Obesity/Overweight
- Substance Abuse
- Teenage Pregnancy

\* 2. The recent survey also identified what residents felt were the county's leading unhealthy behaviors. These behaviors are listed alphabetically (instead of how they ranked in the survey). Which 5 of these behaviors listed are of the most concern to you? You must choose exactly 5 responses before you can move to the next question.

- Alcohol abuse
- Drug abuse
- Having unsafe sex
- Lack of exercise/poor physical fitness
- Lack of parenting skills
- Not going to the doctor for preventive check-ups/screenings
- Poor eating habits
- Reckless/drunken driving
- Smoking/tobacco use
- Violent/angry behavior

\* 3. The survey also revealed community issues that were of concern to county residents. Those issues are listed below alphabetically (instead of how they ranked in the survey). Which 5 of these issues are of the most concern to you? You must choose exactly 5 responses before you can move to the next question.

- Affordability of health services
- Affordability of housing
- Availability of healthy food choices in restaurants/grocery stores
- Crime
- Gang Activity
- Lack of/inadequate health insurance
- Lack of counseling/mental health services/support groups
- Lack of recreational facilities
- Low income/poverty
- Unemployment/underemployment

\* 4. Listed here are Person County's leading causes of death for 2012-2016 according to the NC State Center for Health Statistics. They are listed alphabetically and not according to how they ranked ( i.e. #1 cause, #2 cause, etc.) Which 5 of these leading causes of death do you think should be of greatest concern and addressed in the county? You must choose exactly 5 responses before you can move to the next question.

- All Other Unintentional Injuries (death due to poisoning, falls, burns, choking, animal bites, drowning, occupational or recreational injuries)
- Alzheimer's Disease
- Cancer
- Chronic Lower Respiratory Disease (emphysema, chronic bronchitis, asthma)
- Diabetes
- Heart Disease
- Pneumonia and Flu (flu is a contagious infection of the throat, mouth, & lungs caused by an airborne virus)
- Septicemia (infection in the blood; sepsis)
- Stroke
- Unintentional Motor Vehicle Injury

\* 5. How do you describe yourself?

- Male                       Female                       Other

\* 6. How old are you?

- 18-19                       50-59                       80-85  
 20-29                       60-64                       86 or older  
 30-39                       65-69  
 40-49                       70-79

\* 7. Do you live and/or work in Person County?

- Yes                                       No

\* 8. Are you an . . .

- Elected Official                       Appointed Official                       Neither

\* 9. What do you consider your race?

- Asian (Indian, Pakistani, Japanese, Chinese, Korean, Vietnamese, Filipino/a) only
- Black/African American only
- Hispanic/Latino only
- Native American/American Indian/Alaska Native only
- Other race not listed here
- Pacific Islander (Native Hawaiian, Samoan, Guamanian/Chamorro) only
- Two or more races
- White only

\* 10. Are you of Hispanic, Latino, or Spanish origin?

- Yes     No



## Appendix 5: Problem Importance and Prioritization Worksheet

### Problem Importance Worksheet

Complete a separate form for each health issue identified by the CHA Team.

**Health issue:** \_\_\_\_\_

*Brief review of input and data on this issue*

Check the appropriate box for each item and record the score under subtotal.

	10 High	9	8	7	6	5	4	3	2	1 Low	Sub- total
Magnitude											
Consequences											
Feasibility											
Other (define criteria-add rows as necessary)											
<b>Problem Importance Index (Sum of Subtotals)</b>											

### Problem Prioritization Worksheet

List all of the problems identified in the Problem Importance Worksheet according to their ranking with the problem with the highest number listed first and subsequent problems listed in descending order.

Problem	Problem Importance Index
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	