



ALBEMARLE REGIONAL HEALTH SERVICES
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2010
Community Health Assessment
Chowan County

ALBEMARLE REGIONAL HEALTH SERVICES

Partners in Public Health



A University Health Systems Affiliate



BERTIE MEMORIAL HOSPITAL
CHOWAN HOSPITAL



Community Health Assessment funding provided by
Albemarle Regional Health Services,
Albemarle Hospital Foundation,
Chowan Hospital Foundation, and
Bertie Memorial Hospital Foundation

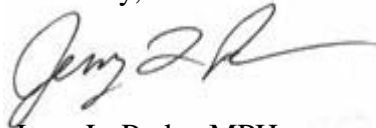
December 1, 2010

Dear Citizens of Chowan County:

Our rural network of communities, the diversity of our population, and our continued growth make our county an exciting place to live, work, and learn. These same factors challenge our system of services, which in turn, drive the need for a continuum of programs. The Community Health Assessment allows us to analyze and prioritize our community's needs and strengths with the people of Chowan County. With this process, the direction and guidance becomes evident in identifying potential problems that merit focus in order to create healthier communities.

This document provides fundamental steps that will guide us to work together as a community to seek available and needed resources. I would like to personally thank all organizations and individuals that worked together in this effort.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry L. Parks", with a long horizontal flourish extending to the right.

Jerry L. Parks, MPH
Health Director

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Introduction

Local public health agencies in North Carolina (NC) are required to conduct a Comprehensive Community Health Assessment once every four years. This community health assessment, which is comprised of both a process and a document, is intended to describe the current health status of the community, what has changed since the past 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 data, socioeconomic data, health statistics, environmental data, and public and professional opinion. The *document* is a summary of all the available evidence and serves as a resource until the next assessment. Together they serve as the basis for prioritizing the community's health needs and culminate in planning to meet those needs.

In communities where there is an active Healthy Carolinians partnership, the coalition of partners may coordinate the community assessment process with support from the local health department. 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 interested members of the public and representatives of the agencies and organizations that serve the health and human service needs of the local community, as well as businesses, churches, schools, and civic groups.

Albemarle Regional Health Services (ARHS), a district health agency, contracted with Mark Smith, PhD. Epidemiologist and Steve Ramsey, with Guilford County Health Department to assist in collecting and analyzing the primary data for the 2010 Community Health Assessment in all seven counties within its jurisdiction. Through their association with the Public Health Regional Surveillance Team (PHRST) and North Carolina Public Health Preparedness & Response (NC PHP&R) they assisted in the assessment process by coordinating our survey sampling, trained volunteers in the use of GIS handheld units, and helped analyze the survey data. Together, the Albemarle Regional Health Services Assessment Team (ARHSAT), which included representation from each of the three Healthy Carolinians coalitions in the region, developed a multi-phase plan for conducting the assessment. The phases included: (1) a research phase to identify, collect, and review demographic, socioeconomic, and health data; (2) a survey phase to solicit information and opinion from the general public; (3) a stakeholder interview phase to gather information and opinion from local community leaders and health and human service agencies; (4) a data synthesis and analysis phase; (5) a period of reporting and discussion among the coalition members; and finally, (6) a prioritization and decision-making phase. Upon completion of this work the ARHSAT has the tools it will need to develop plans and activities that will improve the health and well-being of the seven counties in the region.

Members of the ARHSAT, health department staff, and members of the three Healthy Carolinians coalitions in the region conducted the community survey. Survey participants were asked to provide demographic information about themselves by selecting appropriate responses from lists describing categories of age, gender, race and ethnicity, marital status, education level, household income, and employment status. This demographic information was collected in order to assess how well the survey participants represented the general population in each of the participating counties. Other survey items sought participants' opinions on quality of life statements, community

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health; behavioral and social problems, personal health, emergency preparedness, demographic characteristics, lists of health problems and behaviors, and community issues. Participants were also asked questions about their personal health and health behaviors. All responses were kept confidential and not linked directly to the respondents in any way.

Primary Data Methodology

Interview locations were randomly selected using a modified two-stage cluster sampling methodology. The survey methodology is an adaptation of the Rapid Needs Assessment (RNA) developed by the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) for surveying populations after natural disasters. The WHO/CDC RNA approach was modified to utilize mobile GIS software, handheld computers, and GPS receivers. For the Albemarle Community Health Assessment, the assessment area included seven counties and data was needed for each county so a stratified two-stage cluster sampling method was employed. Statistical power analysis suggested that 80 surveys per county would yield acceptable precision of estimates. Census blocks were selected as the type of geographic cluster for the first stage of the two-stage sample. To ensure sufficient households for second stage sampling, only census blocks with at least ten households were included in the sampling frame. The sample was selected utilizing a Survey Sampling Tool extension to the ESRI ArcView GIS software and developed by NC PHP&R. The sample selected included four households in each of 20 census blocks in each of seven counties, for a total of 560 surveys.

To complete data collection in the field, survey teams generally consisted of two persons: one to read the survey questions and one to enter the responses into a handheld computer. Survey teams were comprised of health department staff and volunteers recruited from each of the seven assessment counties. Survey protocol followed procedures established for RNAs and Community Health Assessments whereby surveys were conducted during work hours and early evening hours. When target households resulted in refusals or not-at-homes, survey teams proceeded on to the next household on their route and within the designated survey cluster.

A training session was provided for survey teams on March 15, 2010, and the surveys were conducted over several weeks. Survey data were analyzed using the CDC's statistical analysis software Epi-Info version 3.5.1 using the complex sample frequencies analysis procedure, which produces frequencies and means weighted based on census block population size. When appropriate, responses were stratified by the age, gender, race, education, and income of the respondents. In the end, 560 surveys were analyzed.

In order to learn about the specific factors affecting the health and quality of life of Albemarle Region residents, two UNC-Chapel Hill Master of Public Health graduate students consulted numerous readily available secondary data sources. As part of their practicum, these students collected secondary data and conducted phone interviews with key community stakeholders.

In May and June of 2010, a total of seven community leaders in Chowan County were interviewed, working from county-specific lists of names identified by the ARHSAT. Interview subjects represented agencies in key sectors of the community such as local health and human services, business, government, education, and law enforcement. Each interview was conducted according to a script of questions that asked each interviewee to describe the services their agencies provided, how county residents heard about their services, the barriers residents faced in accessing their services, and methods used to eliminate or reduce any barriers to care that exist. Respondents were also asked to describe the county's general strengths and challenges, greatest health

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concerns, and possible causes and solutions for these shortcomings. Interviewees were all provided with assurance that no personally identifiable information, such as names or organizational affiliations, would be connected to their responses. A copy of the interview protocol and script appears in Appendix B.

For secondary data sources, data on the demographics, economic, and social characteristics of the community sources included:

- Administration for Children and Families
- Annie E. Casey Foundation Kids Count Data Center
- Federal Deposit Insurance Corporation (FDIC), Regional Economic Conditions (RECON)
- NC Child Advocacy Institute
- NC Coalition against Domestic Violence
- NC Court System, Domestic Violence Issues in District Court Civil Cases
- NC Department of Commerce, County Tier Designations
- NC Department of Commerce, Economic Development Network, County Profiles
- NC Department of Crime Control and Public Safety, Governor's Crime Commission Division
- NC Department of Health and Human Services, Division of Social Services
- NC Department of Justice
- NC Department of Juvenile Justice and Delinquency Prevention
- NC Department of Public Instruction Statistical Profiles
- NC Employment Security Commission
- NC Office of Budget and State Management, Log Into North Carolina (LINC) Database
- NC Rural Economic Development Center
- NC State Center for Health Statistics: Pregnancy Risk Assessment Monitoring System (PRAMS) Data
- US Bureau of Economic Analysis
- US Census Bureau, American Fact Finder
- US Census Bureau, State and County Quick Facts
- US Department of Agriculture, Economic Research Service

The primary source of health data for this report was the NC State Center for Health Statistics (NC-SCHS), including:

- Annie E. Casey Foundation
- Behavioral Risk Factor Surveillance System (BRFSS)
- Cancer Registry
- Carolina Medicare Epidemiologic Data
- Cecil G. Sheps Center for Health Services Research
- County Health Data Books
- Health Statistics Pocket Guides
- Highway Safety Research Center
- National Vital Statistics Report
- NC Communicable Disease Information
- NC Comprehensive Assessment for Tracking Community Health (NC-CATCH)
- NC Department of Health and Human Services, Division of Aging and Adult Services
- NC DHHS Oral Health Section

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- NC Division of Medical Assistance
- NC Institute of Medicine (IOM)
- NC Resident Race and Sex-Specific Age Adjusted Death Rates, 2004-2008
- NC Tuberculosis Control
- Vital Statistics

Environmental data were gathered from sources including:

- NC Department of Commerce
- NC Department of Environment and Natural Resources
 - Division of Air Quality
 - Division of Enforcement
 - Division of Environmental Health
 - Division of Waste Management
 - Division of Water Quality
- NC State Laboratory of Public Health
- US Environmental Protection Agency

Other health data sources included:

- National Center for Health Statistics, Healthy People 2010
- Office of Healthy Carolinians
- NC Nutrition and Physical Activity Surveillance System (NC-NPASS)
- NC Child Advocacy Institute

Local hospital (UHS of Eastern NC: Bertie and Chowan Counties) and health department (Albemarle Regional Health Services) data has been included where appropriate.

As applicable, Chowan County statistics have been compared with state statistics, as well as four peer counties. These peer counties were identified by the NC-CATCH system using a two-step process in which, 1) possible peer counties are selected based upon age, race, and poverty characteristics, and 2) the final peer counties are selected from a group of counties within the same population range as the subject county.

For Chowan County, the NC-CATCH system identified Caswell, Gates, Jones, and Swain as peer counties. Therefore, in addition to NC statistics, these four counties were used for comparison throughout the assessment process.

ARHSAT analyzed and synthesized all secondary and primary data described above and prepared the final Albemarle Regional Community Health Assessment Reports.

Throughout the Chowan County Community Health Assessment you will find **BLUE** comments. These are comments and remarks made during the Data Presentation to community leaders on September 30, 2010.

Community Health Assessment Acknowledgements

The Community Health Assessment Team included representatives from all three Healthy Carolinians Partnerships in the region: Healthy Carolinians of the Albemarle, Three Rivers Healthy Carolinians, and Gates Partners for Health. Members also included individuals who work to provide health, wellness, and support resources to citizens in the Albemarle District. The Community Health Assessment Team met on the second Friday of each month starting in November 2009 to create a plan for conducting the health assessment and solving any problems encountered.

Amy Underhill

Health Promotion Coordinator/Healthy Carolinians of the Albemarle Chair

Albemarle Regional Health Services

Representative for Currituck, Camden, Pasquotank, and Perquimans County

◆ Amy Underhill coordinated and organized Community Health Assessment Team meetings, and managed the funds dedicated to the Community Health Assessment project. As the Chair of Healthy Carolinians of the Albemarle she was responsible for disseminating information about the community health assessment process and progress being made to partnership members. Amy organized volunteers to conduct opinion surveys door-to-door and coordinated the data review and priority selection process for Currituck, Camden, Pasquotank, and Perquimans County.

Ann Roach

Healthy Carolinians of the Albemarle Coordinator

Representative for Currituck, Camden, Pasquotank, and Perquimans County

◆ Ann Roach coordinated community health assessment efforts in Currituck, Camden, Pasquotank, and Perquimans Counties. As the Coordinator of Healthy Carolinians of the Albemarle, Ann publicized the community health assessment and helped to get as much of the community involved as possible. She gathered numerous volunteers to conduct surveys and also helped coordinate the priority selection process for Currituck, Camden, Pasquotank, and Perquimans County.

Arina Boldt

Director of Marketing and Data Management/Member of Healthy Carolinians of the Albemarle

Albemarle Health

Representative for Currituck, Camden, Pasquotank, and Perquimans County

◆ Arina Boldt attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She also helped in the data analysis and priority selection process for the four counties under Healthy Carolinians of the Albemarle.

Ashley H. Stoop

Preparedness Coordinator & Safety Officer

Albemarle Regional Health Services

Representative for all seven counties

◆ Ashley Stoop was a major asset to the Community Health Assessment Team and supplied much appreciated experience with the community health assessment process, survey collection using two-stage cluster sampling, and use of GIS software and equipment. Through her connections with PHRST and other Preparedness Coordinators

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across the state, she arranged for the use of state and neighboring counties' GIS equipment to be used by volunteer survey collectors. She also contributed educational materials regarding emergency preparedness and travel sized bottles of hand sanitizer that were placed in the reusable bags distributed to citizens who participated in the opinion survey.

Ashley Mercer

Public Health Education Specialist/Member of Healthy Carolinians of the Albemarle
Albemarle Regional Health Services

Representative for Pasquotank and Perquimans County

◆ Ashley Mercer attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She contributed to the collection of opinion surveys in all seven counties. As a member of Healthy Carolinians of the Albemarle she also played an integral role in the data analysis and priority selection process for Perquimans and Pasquotank County.

Cathie Williams

Public Health Dental Hygienist/Member Healthy Carolinians of the Albemarle
NC Oral Health Section

North Carolina Public Health

Representative for Camden, Currituck, Pasquotank and Perquimans County

◆ Cathie Williams attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She contributed to the collection of opinion surveys in Pasquotank and Camden Counties. She donated toothpaste and sugar-free gum that were placed in the reusable bags that were distributed to citizens who participated in the opinion survey. As a member of Healthy Carolinians of the Albemarle she also played an integral role in the data analysis and priority selection process for all four counties.

Dana Hamill

Public Health Education Specialist/Albemarle Regional Health Services

Representative for all seven counties

◆ Dana Hamill assisted with the facilitation and organization of Community Health Assessment Team Leader meetings. She also participated in CHA Call-In meetings and assisted with CHA Data workgroups for Perquimans, Pasquotank, Camden, Chowan, and Bertie County. She also assisted with data analysis and priority selection process for Healthy Carolinians of the Albemarle and Three Rivers Healthy Carolinians.

Esther Lassiter

Gates Partners for Health Director

Representative for Gates County

◆ Esther Lassiter coordinated community health assessment efforts in Gates County. As the Director of Gates Partners for Health, Esther publicized the community health assessment and helped to get as much of the community involved as possible. She contributed Gates Partners for Health information and prizes that were placed in the reusable bags that were distributed to citizens who participated in the opinion survey. She gathered numerous volunteers to conduct surveys door-to-door and finished the survey process in Gates County in two days. She also coordinated the data analysis and priority selection process for Gates County.

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Fae Deaton

Spokeswomen for Woman's Heart Health/Member of Healthy Carolinians of the Albemarle

Representative for Currituck, Camden, Pasquotank, and Perquimans County

◆ Fae Deaton attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She contributed heart health educational materials placed in the reusable bags that were distributed to citizens who participated in the opinion survey. As a member of Healthy Carolinians of the Albemarle, she also provided a strong voice to the group during the data analysis and priority selection process for Currituck, Camden, Perquimans, and Pasquotank County.

Hunter Balltziglier

Wellness Coordinator/Member of Three Rivers Healthy Carolinians

University Health Systems - Chowan and Bertie Memorial Hospitals

Representative for Chowan and Bertie County

◆ Hunter Balltziglier attended Community Health Assessment Team Meetings and assisted in making decisions concerning the assessment process. He contributed educational materials regarding the services provided through University Health Systems placed in the reusable bags that were distributed to citizens who participated in the opinion survey. Hunter participated in the opinion survey collection process and provided a strong voice when Three Rivers Healthy Carolinians selected priority health issues.

Jill Jordan

Health Education Director, Public Information Officer Albemarle Regional Health Services

Representative for all seven counties

◆ Jill Jordan attended Community Health Assessment Team Meetings and assisted in making decisions concerning the assessment process. As the Public Information Officer for Albemarle Regional Health Services, Jill handled all media releases, including press releases and news articles regarding the Community Health Assessment. She also supplied an appreciated opinion to Three Rivers Healthy Carolinians as they analyzed the data and chose priority health issues for Bertie and Chowan County.

Juanita Johnson

Director of Community Case Management/Member of Healthy Carolinians of the Albemarle

Community Care Clinic of Pasquotank County

Albemarle Health

◆ Juanita Johnson attended Community Health Assessment Team Meetings and assisted in making decisions concerning the assessment process.

Kaley Goodwin

Public Health Education Specialist/Member of all three Healthy Carolinians Partnerships

Albemarle Regional Health Services

Representative for all seven counties

◆ Kaley Goodwin coordinated and organized Community Health Assessment Team meetings. In addition, Kaley managed the primary and secondary data collection process for all seven counties. She was responsible for collecting opinion survey information door-to-door in each county. She also provided information about the

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community health assessment process and progress being made during Three Rivers Healthy Carolinians and Gates Partners for Health meetings.

Lisa Spry

Public Health Education Specialist/Member of Three Rivers Healthy Carolinians
Albemarle Regional Health Services Representative for Bertie and Chowan County

◆ Lisa Spry attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She contributed to the collection of opinion surveys in all seven counties. As a member of Three Rivers Healthy Carolinians, she also played an integral role in the data analysis and priority selection process for Chowan and Bertie County.

Mary Morris

Family/Consumer Education Agent/Three Rivers Healthy Carolinians Chair
Bertie County Cooperative Extension
Representative for Bertie and Chowan Counties

◆ As the Chair of Three Rivers Healthy Carolinians, Mary Morris helped provide updates on the community health assessment process and progress being made to partnership members. Mary volunteered to conduct opinion surveys door-to-door and played an important part in the data analysis and priority selection process for Chowan and Bertie County.

Misty Deanes

Clerk to the Board of Commissioners/Member of Three Rivers Healthy Carolinians
Executive Assistant to the County Manager
Representative for Bertie County

◆ Misty Deanes worked to recruit volunteers to participate in the opinion survey data collection in Bertie County. She enlisted several individuals to drive door-to-door and ask residents to complete the survey. Misty also worked to publicize the Community Health Assessment and survey data collection to the residents of Bertie County. As an active member of Three Rivers Healthy Carolinians, Misty provided a valued opinion when looking at the data from Bertie County and selecting health priorities.

Nancy Easterday

Director of Patient Access/Care Coordination
Albemarle Health

Representative for Pasquotank County and the surrounding area

◆ Nancy Easterday attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She contributed educational materials regarding the services provided through Albemarle Health which were placed in the reusable bags distributed to citizens who participated in the opinion survey. Nancy participated in the opinion survey collection process and recruited volunteers. She also provided a strong voice when selecting priority health issues.

Nancy Morgan

Three Rivers Healthy Carolinians Coordinator
Representative for Bertie and Chowan County

◆ Nancy Morgan coordinated community health assessment efforts in Bertie and Chowan County. As the Coordinator of Three Rivers Health Carolinians, Nancy publicized the community health assessment and helped to get as much of the

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community involved as possible. She contributed Three Rivers Healthy Carolinians information and prizes placed in the reusable bags that were distributed to citizens who participated in the opinion survey. She gathered numerous volunteers to conduct surveys door-to-door. She also coordinated the data analysis and priority selection process for Bertie and Chowan County.

Rich Olson

City Manager/Member of Healthy Carolinians of the Albemarle
Representative for Pasquotank County

◆ Rich Olson attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. His wealth of knowledge in statistics was valuable in deciding the sampling method used to gather opinion survey data, analyzing data, and choosing priority health issues in Pasquotank County.

Wesley Nixon

Environmental Health Specialist
Representative for all seven counties

◆ Wesley Nixon attended Community Health Assessment meetings and assisted in making decisions concerning the assessment process. Wesley served as the technical advisor for the survey collection process in all seven counties. In this role, he organized and kept track of all GIS/GPS hardware, compiled and saved all of the opinion survey data collected, and served as technical assistance to survey collection volunteers in the field.

Zary Ortiz

Director of Hispanic Service/Member of Healthy Carolinians of the Albemarle
Northeastern Community Development Corporation
Representative for Camden, Currituck, Pasquotank, and Perquimans County

◆ Zary Ortiz attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. As an active member of Healthy Carolinians of the Albemarle, she also participated in analyzing data and picking the most important health priorities for the Healthy Carolinians Partnership.

Survey Collection Volunteers Chowan County

Nancy Morgan
Lisa Spry
Hunter Balltzglier
Megan Booth-Mills
Stephanie Nugen
Ashley Mercer
Shannon Ray
Kaley Goodwin

Data Analysis Work Group

Lisa Spry, Karen Tynch, Dana Hamill, Hunter Balltzglier, Nancy Morgan, Debbie Farmer, and Clifton Hardison

Chapter One:

Chowan County Community Profile

Geography

Chowan County is located in northeastern NC, in the Coastal Plain region of the state. It is characterized by flat plains and shallow stream valleys. The county contains miles of waterfront along the Chowan River and the Albemarle Sound. The nearest metropolitan area is Norfolk, VA, which is located 70 miles to the northeast. The county is 140 miles east of Raleigh, 50 miles west of the Outer Banks, and 181 miles northeast of Wilmington.

Chowan County is bordered on the west by the Chowan River, across which are Bertie and Hertford County. To the north, the county borders Gates County, and to the south, the Bachelor Bay section of the Albemarle Sound. To the east, Chowan County borders Perquimans County (Figure 1).

There are four townships in Chowan County. Edenton is the most populated township and is also the county seat (1).

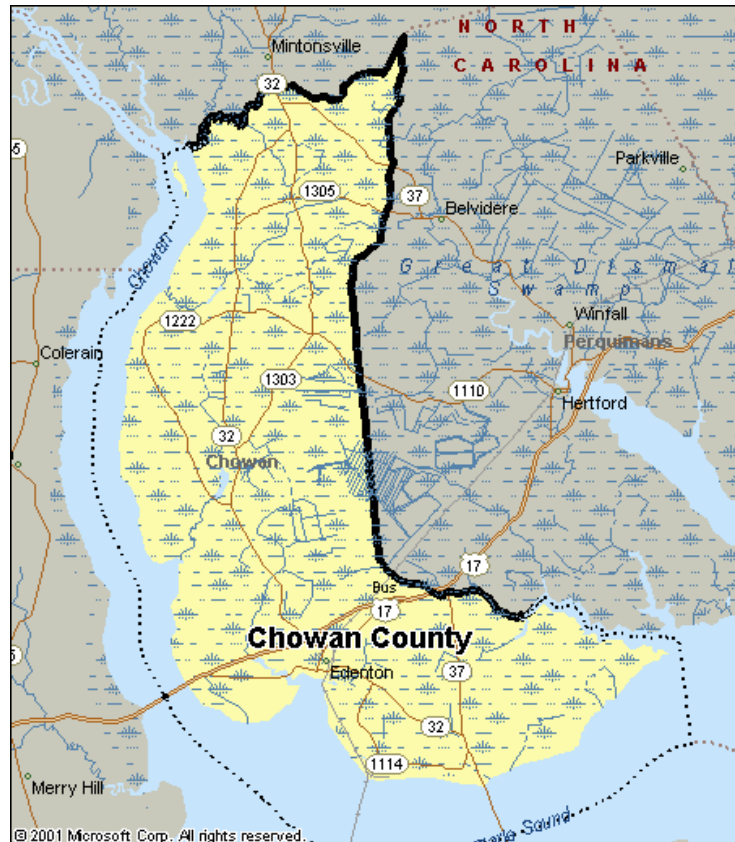
The nearest interstate highway is I-95, 70 miles west of the county. US Highway 17 runs through Edenton, northeast toward the Outer Banks, and southwest toward Wilmington. It joins US 64, which leads to Raleigh going west. Highway 32 goes north into VA.

The nearest airport offering commercial passenger service is Norfolk Airport, located 70 miles north in Norfolk, VA. Pitt-Greenville Airport, located 75 miles south in Greenville, NC, also offers commercial passenger service. US Highway 64 provides access to the Raleigh-Durham International Airport located 140 miles to the west. Northeastern Regional Airport serves commuter and recreational fliers and is located 3 miles south of Edenton. The closest Amtrak station is in Portsmouth, VA, 58 miles away (2). The nearest Greyhound Line stop is in Edenton (3).

The county land area is approximately 233 square miles, of which 171 square miles are land and 62 square miles are water, making it NC's smallest county. The county has 56 miles of paved roads. No Chowan County residents live within 10 miles of an entirely four-lane highway (although the part of Highway 17 that traverses the county is four-lane) (4).

The elevation of the county ranges from sea level in the western and southern sections to 52 feet in Hobbsville. Chowan County has a relatively mild climate with an annual mean temperature of around 61.1 degrees. The average annual precipitation is around 48 inches (5).

Figure 1. Map of Chowan County



History

Chowan County was formed in 1670 as a precinct in Albemarle County. The county is named for the American Indian tribe Chowan, who were living in the northeastern part of the county (State Library). In 1720, Edenton was established and named for Governor Charles Eden. In 1722, Edenton became the Chowan County seat, and served as the first colonial capital from 1722 until 1743 (NCHS).

During the 1700s and early 1800s, Edenton was a commercial, political, and cultural center for colonies. During the early 1700s, Edenton was the 2nd largest port in the colonies. One of its first citizens signed the Declaration of Independence. Another Edenton citizen signed the US Constitution (NCHS). The architecture in Edenton spans 250 years, including Jacobean, Georgian, Federal, Greek Revival, and Victorian styles. Edenton contains two National Historical Landmarks and various buildings listed on the National Register of Historic Places (Edenton) (6).

Demographics

Please note, at the time of preparation of this report, data from the 2010 U.S. Census was not yet available; therefore, in some cases the latest demographic data presented in this report dates from the 2000 Census.

- In 2010, Chowan County had an estimated permanent population of 14,784 persons, making it only about one-sixth as populous as the average NC county.
- Like the state as a whole, Chowan County's population is increasing, although not at nearly the same rate as the rest of the state. Between 1990 and 2000, the Chowan County population increased by 7.6%, while the average NC County population grew by more than 21%.
- The predominant race in Chowan County is white, with minorities making up 39.5% of the population in 2000; in NC, minorities represent almost 28% of the total population.
- In 2000, the median age of Chowan County residents was 39.8 years, four-and-a-half years older than the median age for the state, 35.3.
- Edenton is the largest township in Chowan County, accounting for over 50% of the county's population. The next largest township is Middle Township, accounting for another 23% of the county's population.
- The least populated township is Upper Township, located in the southern part of the county.
- The "oldest" townships are Upper and Yeopim Townships, both with a median age of around 42 years, while Edenton Township has the youngest median age of 37.5.

Socioeconomic Climate

Income

- According to data in Table 1, in 2005, Chowan County residents had a per capita income that was \$3,778 (11%) lower than the state average.
- In 2005, the median household income in Chowan County was \$9,406 (18%) lower than in the NC average.

Table 1. Income (2005)

County	2010 Tier Desig	Per Capita Personal Income (2005)	Per Capita Income Difference from State	Median Household Income (2005)	Median Household Income Difference from State
Chowan	3	\$28,456	-\$3,778	\$35,035	-\$9,406
NC	n/a	\$32,234	n/a	\$44,441	n/a
Source	a	b	calculated	b,c	calculated
a - NC Department of Commerce, County Tier Designation, http://www.nccommerce.com b - NC Department of Commerce, Economic Development, County Profiles. http://cmedis.commerce.state.nc.us/countyprofiles c - US Census Bureau, http://www.census.gov/hhes/www/income/statemedfaminc.html					

Employment

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

The term *labor force* includes all persons over the age of 16 who, during the week, are employed, unemployed or in the armed services. The term *civilian labor force* excludes the Armed Forces from that equation. Civilians are considered *unemployed* if they are not currently employed, but are available for work and have actively looked for a job within the four weeks prior to the date of analysis. Those who have been laid off and are waiting to be called back to their jobs, as well as those who will be starting new jobs in the next 30 days are also considered “unemployed.” *The unemployment rate* is calculated by dividing the number of unemployed persons by the number of people in the civilian labor force. *Employment growth* is the rate at which net new, non-agricultural jobs are being created.

- Since 2006, Chowan County has seen an overall decline in employment, reflecting the recession that began in 2008. In 2009, job losses were lower than in the previous year (Table 2).
- The initial stage of the 2008 recession affected Chowan County early. The rate of job loss was substantially higher in Chowan County in 2008 than in the state as a whole.

Table 2. Annual Employment Growth (2006-2010)

County	Percent Change from Previous Year				
	2006	2007	2008	2009	2010
Chowan	0.2	0.0	-8.1	-3.8	na
NC Avg.	3.3	1.4	-0.7	-5.3	na
Source	FDIC, Regional Economic Conditions (RECON). http://www2.fdic.gov/recon				

Industry

- Healthcare/Social Assistance is the largest industry in Chowan County, accounting for 21.3% of the labor force. In the state, manufacturing is the largest industry, accounting for 13.2% of the labor force.
- Manufacturing is the second largest industry in Chowan County, employing 14.4% of the labor force; statewide, retail trade is the second largest industry (11.4%).

Table 3. Employment by Industry (Fourth Quarter, 2007)

Industry	% of Workforce	
	Chowan	NC
Accommodation/Food Services	8.4	8.5
Administrative/Waste Services	1.3	0.5
Agriculture/Forestry/Fishing/Hunting	3.5	0.7
Construction	5.3	6.0
Educational Services	1.6	1.4
Finance/Insurance	2.2	3.8
Health Care/Social Assistance	21.3	10.7
Information	1.2	1.8
Management of Companies	0.0	1.7
Manufacturing	14.4	13.2
Other Services (not Public Admin)	2.1	2.5
Professional and Technical Services	2.0	4.5
Public Administration	na	5.6
Real Estate/Rental Leasing	1.0	1.3
Retail Trade	10.5	11.4
Transportation/Warehousing	2.4	2.8
Unclassified	0.5	0.4
Utilities	0.0	0.3
Wholesale Trade	4.9	4.5

Source: NC Department of Commerce <http://cmedis.commerce.state.nc.us/countyprofiles>

Employers

Table 4. Major Employers in Chowan County, September 2006

Employer	Industry	Number Employed
EDENTON-CHOWAN SCHOOLS	Education and Health Services	250-499
EAST CAROLINA HEALTH INC	Education and Health Services	250-499
CHOWAN COUNTY	Public Administration	100-249
MCHERRIN AGRICULTURAL	Trade, Transportation, and Utilities	100-249
ECONOMIC IMPROV. COUNCIL	Other Services	100-249
COLONY TIRE CORP	Trade, Transportation, and Utilities	100-249
BRITTHAVEN OF EDENTON INC	Education and Health Services	100-249
SOVEREIGN HEALTHCARE	Education and Health Services	100-249
BRITTHAVEN OF EDENTON INC	Education and Health Services	100-249
UNIVERSAL BLANCHERS	Manufacturing	50-99
LIFE INC	Education and Health Services	50-99

Unemployment

- In 2010, an average of 662 members of the Chowan County civilian labor force were unemployed (7).

Table 5. Annual Unemployment Rate (1999-2009)

County	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Chowan	3.1	4.0	5.5	6.0	5.3	4.6	4.9	5.0	6.2	8.7	11.1
NC	3.3	3.7	5.6	6.6	6.5	5.5	5.3	4.7	4.7	6.2	10.6
Source	a	a	a	a	a	a	a	a	a	a	a

a - NC Employment Security Commission, <http://eslmi40.esc.state.nc.us/ThematicLAUS/cf.asp/startCLFSAA.Y.asp>

Business Closings and Layoffs

According to data catalogued by the NC Employment Security Commission (8) from newspaper reports and data submitted to the commission, between 2008 and 2010 (to date) there was one reported business closing in Chowan County in 2008 that affected 33 people, and one closing in 2009 that affected 48 people. These closing/layoff sites were in Edenton. It should be noted that these data are largely anecdotal and as such are likely underestimates.

“Businesses have closed- boat places, the sewing factory, downsized employees in the school system, George Seymour closed.”

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Poverty

The *poverty rate* is the percent of the population (both individuals and families) whose monetary income (which includes job earning, unemployment compensation, social security income, public assistance, pension/retirement, royalties, child support, etc.) is below the threshold established by the Census Bureau.

The poverty rate in Chowan County has been consistently above the comparable state rate since 1980 (Table 6).

Table 6. Annual Poverty Rate * (1980-2008)

County	1980	1990	1999	2000	2003	2008
Chowan	24.0	17.7	17.6	17.6	16.1	18.5
NC County Average	14.8	13.0	12.3	12.3	13.4	14.6
Source	a	a	b	c	c	b
a - Log Into North Carolina (LINC) database, http://linc.state.nc.us						
b - US Census Bureau, NC Quick Facts						
c - Economic Research Service, US Dept of Agriculture, 2003 County Level Poverty Rates for NC. http://www.ers.usda.gov/data/povertyrates						
* - The poverty rate is the percent of the population - individuals and families - whose money income (including job earnings, unemployment compensation, social security income, public assistance, pension/retirement, royalties, child support, etc.) is below the threshold established by the Census Bureau.						

Poverty and Race

- Since 1990, poverty rates in Chowan County have been consistently highest among the black population, and in 2000 the local poverty rate among blacks exceeded the comparable state rate by almost 55% (Table 7).

Table 7. Persons in Poverty by Race, Percent (1990 and 2000)

County	1990					2000				
	Total Persons in Poverty	Total % in Poverty	% White in Poverty	% Black in Poverty	% Other in Poverty	Total Persons in Poverty	Total % in Poverty	% White in Poverty	% Black in Poverty	% Other in Poverty
Chowan	2,341	17.7	9.4	31.5	0.0	2,432	17.6	6.3	35.4	1.5
State Total/Avg.	829,858	13.0	8.7	27.1	0.5	958,667	12.3	8.5	22.9	1.3
Source	Log Into North Carolina (LINC) database, http://linc.state.nc.us									

Children in Poverty

- Since 2001, Chowan County has demonstrated higher proportions of persons in poverty under the age of 18, when compared to the state, though the difference is narrowing as the proportion of children under the age of 18 in poverty in the county is decreasing.
- In 2008, 18.5% of all Chowan County residents lived in poverty, a proportion 26.7% higher than the state rate. In the same year, 29.7% of Chowan County residents under the age of 18 lived in poverty, a proportion 49% higher than the comparable state rate.

“Close to 60% of Chowan County Students receive free/reduced lunch.”

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Food Stamps

- Between 2001 and 2009 the number of people on food stamps has risen in Chowan County (Table 8).

Table 8. Food Stamp Recipients, Number (2001-2009)

	Average Monthly Number of Food Stamp Recipients								
County	2001	2002	2003	2004	2005	2006	2007	2008	2009
Chowan	1,772	1,858	1,935	2,254	2,029	2,148	2,242	2,268	2,609
State Total	483,015	555,951	624,167	727,710	787,756	842,363	874,426	924,265	1,077,914
NC County Avg.	4,830	5,560	6,242	7,277	7,878	8,424	8,744	9,243	10,779
Source	Log Into North Carolina (LINC) database, http://linc.state.nc.us								

- The percentage of children under the age of 18 receiving food stamps increased in both Chowan County and the state since 2001 (Table 9).

Table 9. Food Stamp Recipients Ages 0-17, Percent (1999-2004)

	Percent of Children 0-17 who receive Food Stamps					
County	1999	2000	2001	2002	2003	2004
Chowan	24.5	23.5	22.9	25.8	29.3	29.0
NC County Avg.	13.7	11.8	12.7	14.3	16.3	18.0
	a	a	a	a	a	b
Source	a - Previously but no longer: NC Child Advocacy Institute, County and State Data, CLIKS On-Line database, http://www.aecf.org/cgi-bin/cliiks.cgi?action=raw_data_results&subset=NC					
	b - NC Child Advocacy Institute, County and State Data, CLIKS On-line Database, http://www.aecf.org/cgi-bin/cliiks.cgi					

Housing

- In Chowan County both the *percentage* of and *number* of owned housing units increased between 1990 and 2000. The percentage of owned units was slightly higher in Chowan County than the state average during the reporting period.
- The *percentage* of rental household units in the county decreased over the period even as the *number* of rental units increased.
- The *number* of mobile home units increased while the *percentage* decreased slightly in Chowan County.
- In 2000, Chowan County had a higher percentage of both owned homes and mobile homes than the state as a whole.

Affordable Housing

According to data from the NC Rural Economic Development Center based on the 2000 Census (9):

- Of the Chowan County population, 19.1% at the time was living in “unaffordable” housing; this compares to 20.7% statewide. The Census Bureau defines unaffordable housing as housing that costs more than 30% of the total household income.
- Of Chowan County housing units, compared to 0.1% statewide, 0.2% were considered “substandard,” meaning that they were overcrowded (more than one person living in a room) *and* lacking complete indoor plumbing facilities (hot and cold piped water, a flush toilet, and a bath or shower).

There is limited HUD-subsidized housing, public housing, or Choice Voucher Section 8-approved housing in the entire Albemarle Region.

- The HUD Homes and Communities web pages and associated links list no single-family HUD-sponsored homes in Chowan County or in any of the other six counties of the Albemarle Region (10).
- There is a HUD Public and Indian Housing Authority located in Chowan County, in Edenton. Other HUD PHA offices in the Albemarle Region are located in Ahoskie, (Hertford County), Elizabeth City (Pasquotank County), and Hertford (Perquimans County) (11).
- The only privately owned HUD-subsidized rental housing properties in Chowan County listed on the HUD website are a group home for the mentally disabled (in Edenton) and three multi-family apartment complexes, Chowan Court Apartments (two) and Tyler Run Apartments, all of which are located in Edenton (12).

The US Department of Agriculture catalogues information about rental properties available in rural areas (13). According to the USDA, the Multi-Family Housing website provides an online guide to Government assisted rental projects.

- The most recent listing (August 27, 2010) shows three rental properties in Chowan County, all of them in Edenton (Chowan Gardens Apartments, E.A. Swain Apartments, and Tyler Run II Apartments).

While discussing affordable housing in Chowan County, a comment made during the CHA Presentation included “It’s, (Edenton), a historical area. Wealthy retirees are willing /can pay that much (for rent).”

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Children and Families

- As of the 2000 Census, 6.7% of Chowan County residents were under the age of 5.
- Approximately 24% of residents were under the age of 18.
- The largest number and percent of children under 18 live in Edenton, as opposed to other townships.
- Children, as a percent of the population, are evenly distributed throughout the other townships of Chowan County.

Single Parent Families

- The number and percent of homes with single parents increased between 1990 and 2000 in Chowan County and the state.
- When compared to the state, Chowan County has a significantly lower percentage of homes headed by a single parent.
- The number of homes with single fathers in Chowan County decreased during this period, while the state number almost doubled. In 2000, the percentage of homes headed by a single male was lower in Chowan County than the state average.
- The number and percentage of homes with single mothers increased dramatically in Chowan County over the period, while the state percentage increased only slightly.

“A lot of activities for kids are provided by the faith-based communities like basketball and retreats.”

“We all look forward to the Chowan County Fair!”

“Chowan has the 21st Century Program, which is grant funded to target low academic kids to improve their test scores.”

Comments made at the Chowan CHA Data Presentation on September 30, 2010.

Child Care Programs

- Of the children in regulated child care in Chowan County, 36% received a subsidy in 2005, a rate only half that noted in 2001. The 2005 rate of child care subsidy in the county was about the same as the state average
- In 2005, 112 Chowan County children who had applied for and been declared eligible for subsidized care were not receiving this subsidy.
- Between 1999 and 2003, the number of children under the age of five in foster care increased in Chowan County (although the numbers of children were very low), but decreased in the average NC county. Unfortunately, more recent available data refers to children between the ages of 0 and 17 and is not comparable.

In September 2000, the NC Division of Child Development issued star rated licenses to all eligible Child Care Centers and Family Child Care Homes. NC's Star Rated License System gives stars to child care programs based on how well they are doing in providing quality child care. Child Care programs receive a rating of one to five stars. A rating of one star means that a child care program meets North Carolina's minimum licensing standards for child care. Programs that choose to voluntarily meet higher standards can apply for a two to five star license. (Note: Religious-sponsored child care programs will continue to operate with a notice of compliance and will not receive a star rating unless they choose to apply.)

Three areas of child care provider performance are assessed in the star system: program standards, staff education, and compliance history. Each area has a range of one through five points. The star rating is based on the total points earned for all three areas. Listed below is the breakdown for the number of stars received based on the total points earned in each of the three areas. A five-star facility has earned a total of 13-15 points, a four-star facility from 10-12 points, a three-star facility from 7 - 9 points, a two-star facility from 4 - 6 points, and a one-star facility from 1 - 3 points.

According to the NC Division of Child Development Child Care Facility Search Site (14) there are 16 child care facilities in Chowan County that are licensed to operate in NC in the following categories:

- Five Star Center License – 1 facility
- Four Star Center License – 2 facility
- Four Star Family Child Care Home License – 1 facility
- Three Star Center License – 3 facilities
- Two Star Center License - 2 facilities
- Two Star Family Child Care Home License – 4 facilities
- GS 110-106 – 3 facilities

“Seventy percent of kids in regulated daycare are subsidized.”

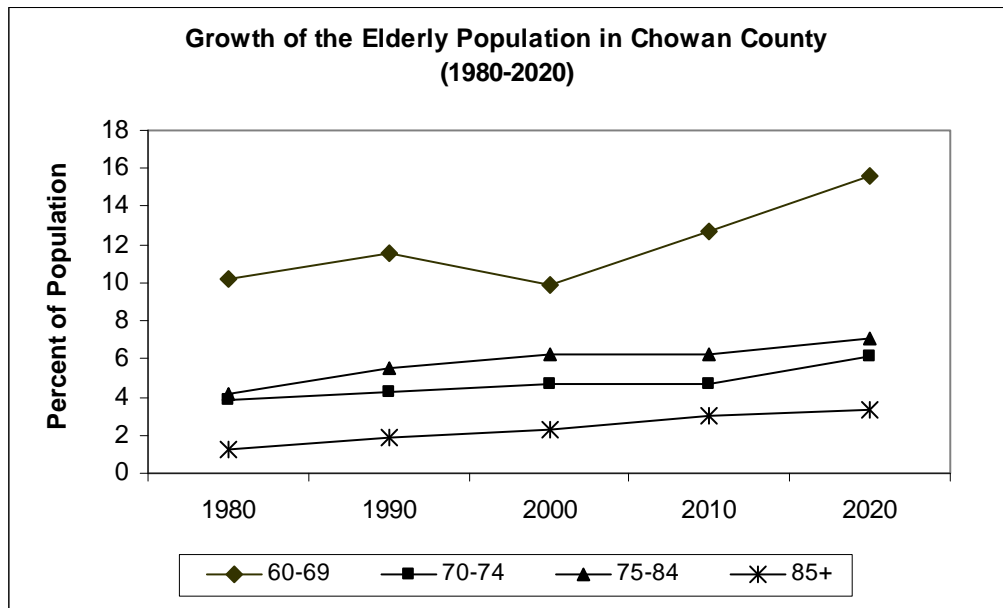
Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Older Adults

Growth of the Elderly Population

- As demonstrated in Figure 2, the population of adults over the age of 60 is growing and is expected to continue to increase over the next 10 years.
- Though all segments of the elderly population are growing, the proportion of residents aged 60-69 decreased between 1990 and 2000. Over the following 20 years, however, the population of residents aged 60-69 is expected to increase by 58%, making it the age group with the highest predicted rate of growth. The county, especially Edenton, is billing itself as a retirement destination, and this growth projection reflects the anticipated success of that marketing campaign.
- The percent of the population aged 70-74 is predicted to increase by 30% between 2000 and 2020, while the segment aged 75-84 could increase by 15% and the 85 and older segment could increase by 43% over the same period.

Figure 2



Source: Log Into North Carolina (LINC) database, <http://linc.state.nc.us>. (Topic group: Population and Housing. Select: Population Ages: 60-64, 65-69, 70-74, 75-79, 80-84, 85 and over)

“Senior Center is active. They have their own gym and provide lunch.”

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Transportation

Inter-County Public Transportation Authority (ICPTA), is intended to provide high quality transportation services to the people who live or visit the five-county service area of Pasquotank, Perquimans, Camden, Chowan, and Currituck. ICPTA services provide transportation to the general public to nutrition sites, medical appointments, and other locations in order to access services or attend activities related to daily living, while promoting improved quality of life. Out-of-town medical transportation to VA and Greenville, NC are provided on specific days of the week and by appointment only.

In 2010, among Chowan County residents, 2,692 trips were provided to the general public (includes going to work, school, grocery store, etc.) and ICPTA provided 5,711 trips to the elderly and disabled. Riders that are wheelchair bound can be secured on the bus in their wheelchair. ICPTA does contract with the Medicaid Program. Medicaid will pay for trips that have prior approval.

Commuting Patterns

- The percentage of Chowan County workers commuting out of the county to work increased between 1990 and 2000, as did the percent leaving the state to work. During that period, a higher percentage of the Chowan County workforce left the county for work (i.e. traveled to a job in another county or state) than in the average NC County.
- The majority of workers in Chowan County (and NC) drive alone to work. The number of people driving alone to work increased between 1990 and 2000, as did the number of residents who walked to work or worked at home. The number of workers carpooling or using public transportation to work declined in Chowan County during this time.

Education

Educational Attainment and Investment

- As of the 2000 Census, Chowan County had approximately 6% fewer high school graduates and 27% fewer college graduates than the average NC county.
- According to 2008 End of Grade (EOG) Test results, 3rd graders in the Chowan County school system performed at lower rates of proficiency in math than students statewide, but 8th graders had a higher rate of math proficiency than students statewide. Both 3rd and 8th graders performed more poorly than the state average in reading.
- The 2005 average SAT scores for students in the Chowan County school system (973) was 37 points below the NC average (1010).
- In 2006-2007, the rate of acts of school violence in Chowan County schools (8.02) was 3% higher than the NC system-wide average (7.77).
- The 2007-2008 total-per-pupil expenditure (i.e. per-pupil expenditure from state, federal, and local sources) in the Chowan County school system (\$7,127) ranked 23rd among school systems in the state.

High School Drop-Out Rate

- High school drop-out rates have fluctuated in the Edenton/Chowan School System since the 2004-2005 school year with an overall decrease of 18% between 2002 and 2008. The high school drop-out rate in NC increased 4% during the same period.
- The high school drop-out rate in Edenton/Chowan Schools has been lower than the average NC county rate since the 2005-2006 school year.
- According to the latest figures, the high school drop-out rate in Edenton/Chowan Schools (4.1) is 18% higher than the NC rate.

“Chowan has a full-time Drop-Out Prevention Specialist.”

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Schools and School Enrollment

Primary and Secondary Education

- There are four public schools in Chowan County: two elementary schools, one middle school, and one high school. Chowan County has no charter schools.
- Enrollment in Chowan County public schools has decreased overall since 2003, while public schools in the average NC County have experienced increased enrollment.

Crime

Crime Rates

- The index crime rate in Chowan County fluctuated between 2003 and 2008, but has shown an overall decrease. Currently, the local index crime rate is lower than the comparable state index crime rate.
- The violent crime rate decreased somewhat between 2005 and 2006, but increased in 2007 and 2008. However, the local violent crime rate remains lower than the state violent crime rate.
- The property crime rate in the county was higher in 2007, but lower than in 2004, and remains lower than the rate for NC as a whole.
- The actual number of violent crimes committed in Chowan County fluctuates on a yearly basis, with the highest number having occurred in 2008. Aggravated assault accounts for the majority of violent crimes in the county.
- Unlike violent crimes, the greatest number of property crimes in Chowan County occurred in 2003. Larceny (the theft of property without the use of force) is the most common property crime.
- As of August 27, 2010 there were 28 sex offenders in the NC Sex Offender and Public Protection Registry with addresses in Chowan County (15).
- No clandestine drug lab busts have occurred in Chowan County as compared to an increasing rate in the state as whole (16).
- As of 2004, there were two gangs in the county; this represented an increase from no gangs in 1999 (17).
- In 2008, 69 people in Chowan County were charged with driving while intoxicated (DWI). Of those charged, 50 were convicted, for a conviction rate of 72%, which is 5% higher than the statewide conviction rate of 68% (18).

“I live in town near the high school, a lot of foot traffic. My community put together a Community Watch Group. The police have been involved and attend meetings.”

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Environmental Health

Albemarle Environmental Management Systems affords the community services to ensure health and safety, while reducing the spread of communicable diseases.

- Sewage Inspection
- Food & Lodging Inspection
- Swimming Pool Inspection
- Management Entity
- Lead Investigation
- Communicable Disease Investigation

Perquimans, Chowan, Gates Landfill

Perquimans, Chowan, and Gates County formed a partnership in 1989 that operates as a department of the local health department (now ARHS) as the Perquimans Chowan Gates Landfill (PCG) Commission. These counties operate a jointly-owned transfer station in Belvidere plus 13 convenience sites for collecting solid waste, recyclables, and special wastes. The transfer station serves the residential, commercial, and industrial sectors of the community. These facilities safely expedite the removal of solid wastes from the area to the privately owned East Carolina Environmental Landfill in Bertie County. PCG also provides yard waste chipping and an inert debris landfill at its facility. This partnership strives to provide environmentally preferable handling of special wastes such as pesticide containers, waste motor oil, paints, gasoline, used appliances, scrap tires, electronic wastes, antifreeze, and other materials. PCG has operated junk car and abandoned mobile home removal programs with the assistance of state grants.

Figure 3. Perquimans Chowan Gates Convenience Centers Map

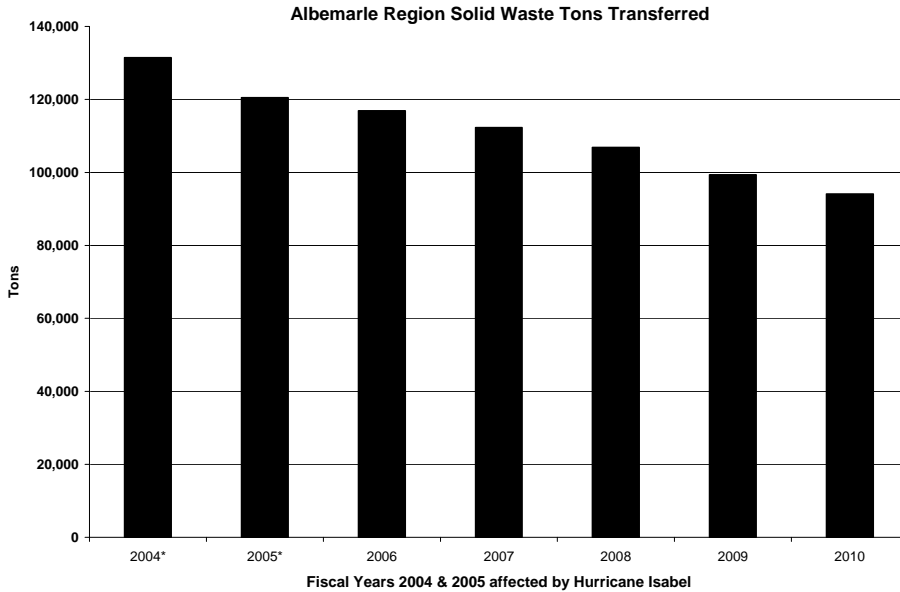


Albemarle Regional Solid Waste Management Authority

Albemarle Regional Solid Waste Management Authority is a county-level legal entity serving the counties of Perquimans, Chowan, Gates, Dare, Currituck, Hyde, and Tyrrell. This area has approximately 107,000 permanent residents and several hundred thousand visitors each year. Through a 26-year contract signed in 2009 with Republic Services of NC, the Authority aims to provide cost-effective and efficient solid waste

disposal for the region. All municipal wastes and most construction and demolition debris in the region are landfilled in the East Carolina Environmental Landfill in Bertie County. The waste is primarily sent there through the three transfer stations located in Dare, Currituck, and Perquimans County. The towns and counties operate their own solid waste collection programs. The Authority conducts centralized solid waste billing, data collection and reporting, educational services, and technical assistance for local programs.

Figure 4



On-Site Wastewater

The use of onsite wastewater systems, also known as septic systems, is the most common method of wastewater collection and treatment in the county. ARHS regulates the design, installation, and maintenance of these systems in accordance with the Laws and Rules for Sewage Treatment and Disposal Systems of the NC Department of Environment and Natural Resources, Division of Environmental Health.

Table 10. On-Site Waste Water Program

Chowan	2007	2008	2009
Construction Authorizations – New	73	41	30
Construction Authorizations – Repair	34	19	33
Improvement Permits Denied	0	1	0
Improvement Permits Issued	84	53	39
Other Site Visits	96	102	92

Chapter Two:

Access to Care

Health Care Professionals

Access and utilization of healthcare is affected by a range of variables including the availability of medical professionals in a region, insurance coverage, transportation, cultural expectations, and other factors. Compilation of comprehensive health resources data was beyond the scope of this project; however, some overview-type data were collected and are presented here.

Practitioners

- The proportional availability of physicians and nurses in Chowan County has been generally similar to that in the state as a whole, as demonstrated by the persons-per-provider data shown in Table 11.
- The persons-per-primary care physician ratio has decreased since 2001, indicating that as the population grows the county has gained physicians.
- The ratio of persons-per-registered nurse has declined, indicating that as the county grows the county is also gaining registered nurses.
- The availability of dentists in Chowan County has been consistently lower than the state as a whole.
- There is a particular shortage of dentists who accept Medicaid patients, especially children. According to data from the NC Division of Medical Assistance (19), in 2010 there is one dentist in Chowan County who accepts Medicaid patients. According to information in a dental services referral list provided by ARHS (20), there are nine, in the Albemarle Region who will accept Medicaid children.

Table 11. Persons per Provider Type (2001-2007)

County	2001				2003				2005				2007			
	Primary Care Physician	Primary Care Physician Extender	Registered Nurse	Dentist	Primary Care Physician	Primary Care Physician Extender	Registered Nurse	Dentist	Primary Care Physician	Primary Care Physician Extender	Registered Nurse	Dentist	Primary Care Physician	Primary Care Physician Extender	Registered Nurse	Dentist
Chowan	1,118	970	115	4,846	1,197	981	111	4,789	804	701	98	3,618	977	831	96	2,932
NC County Avg.	1,198	872	109	2,471	1,193	860	110	2,432	1,056	749	109	2,302	1,043	717	107	2,313
Source	NC State Center for Health Statistics. Pocket Guides 2001-2007. http://www.schs.state.nc.us/SCHS/pubs/title.cfm															

2010 Chowan County Community Health Assessment

- The distribution of health care professionals in Chowan County according to specialty area is shown in Table 12.
- The data indicate that although there is representation in Chowan County in several major categories of health care, many categories such as podiatry, optometry, and psychology are under-represented.

Table 12. Licensed Medical Practitioners in Chowan County (2008)

Category of Practitioner	No.
Family practice	8
General practice	0
Internal medicine	6
Obstetrics/Gynecology	3
Pediatrics	3
Other medical specialties	11
Registered nurse	152
Nurse practitioner	3
Licensed practical nurse	51
Chiropractor	3
Physician assistant	1
Podiatrist	1
Dentists	5
Dental hygienist	6
Optometrist	1
Pharmacist	11
Physical therapist	4
Physical therapy assistant	11
Practicing psychologist	1
Psychological associate	1
Source: Cecil G. Sheps Center for Health Services Research, Data Available, NC Health Professions Data System, Download Data, State and County Profiles. Choose the year and then the county. http://www.shepscenter.unc.edu/hp/stco.htm	

Survey Respondents indicated that Chowan has a “Good” health care system.

“I agree (with survey respondents), more doctors are available.”

“Still difficult to get in to see a physician.”

“Heart Center is open, has been for a couple of years. It’s affiliated with UHS/ECU.”

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Health Services Inventory

Hospitals and Health Centers

There is only one hospital in Chowan County, Chowan Hospital, although residents also take advantage of services provided by hospitals, such as those listed below, in neighboring counties. At the present time, Chowan Hospital reports having 49 beds, which is a decline from 2004.

Chowan Hospital

Chowan Hospital, a facility located in Edenton, NC (Chowan County), is part of the University Health Systems of Eastern North Carolina. The hospital provides services and programs to 110,000 people in seven counties, including Chowan. The hospital offers a wide range of services and healthcare specialties provided by a medical staff that includes practitioners in primary care, pediatrics, internal medicine, and surgery. Special medical and surgical services at Chowan Hospital include intensive care, a surgical center, an emergency department, a labor and delivery suite, and bone density screening. The hospital offers outpatient clinics in cardiology, gastroenterology, oncology, and other medical specialties. It provides physical, speech, and occupational therapy in hospital, outpatient, and home settings. The hospital also has a telemedicine link with the Brody School of Medicine at East Carolina University (21).

Affiliated with Chowan Hospital is the Chowan Hospital Foundation, a non-profit corporation formed in 1992 whose mission is to provide leadership and resources for the enhancement of the health care status of residents in Chowan County and neighboring counties. The Foundation has contributed over \$250,000 to the community and Chowan Hospital since 1998, and has written grant proposals on behalf of the hospital and its patients. Recent grant awards, aimed at community health education and disease prevention, as well as hospital staff and equipment improvements, have totaled \$1.2 million. The Foundation has partnered with Chowan Hospital to provide free community screenings and wellness programs.

Albemarle Hospital

Albemarle Hospital, located in Elizabeth City, NC in Pasquotank County, is a regional, not-for-profit, 182-bed community hospital serving not only Chowan County, but also six other counties and a total of more than 130,000 people. With a medical staff of more than 100 physicians representing 30 medical specialties the hospital provides a complete range of care, including inpatient hospitalization, advanced surgery, a rehabilitation program, a diagnostic center, same-day ambulatory surgery, urgent and emergency care, and a regional oncology center, as well as a wide array of community education and support groups.

The Albemarle Hospital Foundation is supported by hospital employees, physicians, and volunteers in efforts to develop and fund community outreach programs like the Community Care Clinics, which serve the region's indigent, underinsured, and uninsured residents (22).

Bertie Memorial Hospital

Bertie Memorial Hospital is a non-profit, six-bed facility, located in Windsor NC, and is part of University Health Systems of Eastern North Carolina. The hospital provides surgical, 24-hour emergency and diagnostic services, specialty clinics, and primary care clinics (family medicine and internal medicine). Through its outpatient therapy services unit the hospital provides physical, speech, and occupational therapy. The hospital also includes a home healthcare agency (University Home Care of Cashie), and has a telemedicine link with the Brody School of Medicine at East Carolina University in Greenville, NC. The hospital's primary care physician practice operates the Cashie Medical Center, which provides medical care for children and adults (23).

Chesapeake General Hospital

Chesapeake Hospital, located in Chesapeake, VA is a major health resource for southeast VA and northeast NC residents, including those in Chowan County. It has a medical staff of members from nearly every major specialty and 310 all-private beds. Services include cancer services, cardiac care, home health, hospice, community outreach, diabetes services, nutrition counseling, obstetrical services, orthopedic services, outpatient testing, and women's services (24).

Outer Banks Hospital

The Outer Banks Hospital, located in Nags Head, NC (Dare County) is a private not-for-profit acute care 21-bed hospital with services that include emergency services, inpatient and outpatient surgery, labor and delivery, physical therapy, respiratory therapy, speech therapy, laboratory, blood bank, and radiology. The hospital offers consultations with medical experts in other locations via interactive television provided in conjunction with the East Carolina University Brody School of Medicine (25).

Roanoke-Chowan Hospital

Roanoke-Chowan Hospital is a 124-bed, not-for-profit hospital located in Ahoskie, NC (Hertford County). The hospital services approximately 39,000 residents in Hertford County and three neighboring counties, including Chowan. The Roanoke-Chowan Hospital's medical staff includes primary care, pediatric, and internal medicine physicians, as well as specialists in orthopedics, general surgery, urology, cardiology, and obstetrics and gynecology. It also engages consulting physicians and specialists from Pitt County Memorial Hospital (in Greenville), the Brody School of Medicine, and the surrounding region. The hospital's Emergency Department provides emergency care 24-hours a day, and operates a non-emergency medical service open from 5:00 pm until midnight. As part of University Health Systems of Eastern North Carolina, the hospital's patients have access to treatment at facilities and clinics in other locations (26).

Tertiary and Critical Care Facilities

Tertiary care is specialized consultative care, usually provided on referral from primary or secondary medical care personnel. It is offered by specialists working in centers that have the staff, equipment, and other facilities for special investigation and treatment. The nearest tertiary care facility accessible to Chowan County residents is Pitt County Memorial Hospital, a 745-bed hospital and academic medical center located in Greenville, NC, approximately 45 miles southwest of Windsor, NC.

Pitt County Memorial Hospital (27) is also designated as a Level I Trauma facility, meaning it conforms to the highest national and state standards for trauma care. Trauma is a sudden, serious, and sometimes life-threatening injury that requires immediate and highly skilled medical attention. The hospital's Trauma Center is responsible for the development and maintenance of a coordinated trauma system in eastern NC and is the site of the Eastern Regional Advisory Committee (ERAC). The hospitals affiliated with ERAC work with Pitt County Memorial Hospital to plan, implement, and evaluate the care of injured patients throughout eastern NC.

Sentara Norfolk General Hospital in Norfolk, also a Level I Trauma Facility, is within reach of residents of Chowan County.

Community Care Clinic

The Albemarle Hospital Foundation runs Community Care Clinics in the counties of Camden, Chowan, Currituck, Gates, Pasquotank, and Perquimans. The Foundation, established in 2003, allows each clinic site to offer prescriptions, financial assistance for prescriptions, and free primary care to the medically indigent, uninsured, and underinsured in the Albemarle region. The Albemarle Hospital Foundation targets minorities and the growing Hispanic population, as well as those populations' increasing health care needs in the area of chronic disease (especially high cholesterol, high blood pressure, obesity, and diabetes). Community Care Clinics also run specialized preventive care outreach programs, targeting the Hispanic and African American populations.

Chowan County's Community Care Clinic operates Thursdays from 9:00 am to noon, at the Department of Social Services Office in Edenton (28).

Local Health Department

The Chowan County Health Department is part of ARHS, a seven-county regional, accredited Public Health Department headquartered in Elizabeth City, NC. The local health department is located in Edenton at 100 W. Freemason Circle. Comprehensive clinical services include Women's Preventive Health, Adult Health, Communicable Disease programming, Immunizations, School and Community Health Education, Breast and Cervical Cancer Control Program, Diabetes Management, Child Health, WIC, Albemarle Hospice, Albemarle Home Care, Albemarle LifeQuest/Health Promotion, Environmental Health, Preparedness and Response Solid Waste Management Authority, and the Regional Landfill services.

Long Term Care Facilities

- According to the Medicare Nursing Home Compare System, in 2010 there were two nursing homes in Chowan County with a total of 170 certified beds. As such, Chowan County has fewer nursing home beds when compared to the average NC County, and this difference has not changed since 2005. The number of beds in the state has increased only slightly over the same period.
- In 2004, there were six beds in family care homes and 60 beds in adult care homes in Chowan County.

Nursing Homes

Nursing homes are facilities that provide nursing or convalescent care for three or more persons unrelated to the licensee. A nursing home provides long term care for chronic conditions, short term convalescent, or rehabilitative care of remedial ailments, for which medical and nursing care are indicated. All nursing homes must be licensed in accordance with NC law by the NC Division of Facility Services Licensure Section. Chowan County facilities include:

- Britthaven of Edenton (Edenton): A corporate health care facility that provides skilled nursing, rehabilitation services (physical, occupational and speech therapies), hospice care, and respite care; licensed for 160 residents.

Adult Care Homes

Adult care homes are residences for aged and disabled adults who may require 24-hour supervision and assistance with personal care needs. People in adult care homes typically need a place to live, some help with personal care (such as dressing, grooming and keeping up with medications), and limited supervision. Medical care may be provided on occasion, but is not routinely needed. These facilities, which are also sometimes called *domiciliary homes*, *rest homes*, or *family care homes*, vary in capacity from two to 100. Adult care homes differ from nursing homes in the level of care and qualifications of staff. There are over 1,400 adult care homes in NC. They are licensed by the Division of Facility Services (Group Care Section) under State regulations and are monitored by Adult Home Specialists within county departments of social services. Facilities that violate licensure rules can be subject to sanctions, including fines. Chowan County facilities include:

- Edenton Prime Time Retirement Village (Edenton) – 74 beds
- Tyner Manor Family Care Home (Tyner) – 6 beds

Adult Day Care/Health Centers

Adult day care provides an organized program of services during the day in a community group setting for the purpose of supporting the personal independence of older adults and promoting their social, physical, and emotional well-being. Also included in the service, when supported by funding from the Division of Aging and Adult Services, are no-cost medical examinations required for admission to the program. Nutritional meals

and snacks, as appropriate, are also expected. Providers of adult day care must meet North Carolina State Standards for Certification, which are administrative rules set by the Social Services Commission. These standards are enforced by the office of the Adult Day Care Consultant within the State Division of Aging and Adult Services. Routine monitoring of compliance is performed by Adult Day Care Coordinators located at county departments of social services. (Costs to consumers vary, and there is limited funding for adult day care from state and federal sources, for example Day Break in Elizabeth City (Pasquotank County).)

Mental Health Services and Facilities

East Carolina Behavioral Health (ECBH) is a local Management Entity (LME) designated by the NC Division of Mental Health, Developmental Disabilities and Substance Abuse Services to oversee the appropriate provision of state and federally funded services and supports. ECBH manages a local benefit plan designed to assist with the multiple challenges of managing services while containing cost.

ECBH does not provide direct services. The mission of ECBH is to work in partnership with people who face significant challenges related to substance abuse, mental illness, and/or developmental disability. Our commitment is to provide consistently excellent, person-centered, family-oriented services within a recovery based system that is flexible, accessible, and respects the individual's freedom of choice. A person can access services by contacting the Access to Care Line at 1-877-685-2415. The Access to Care line is staffed by clinical professionals who provide triage, screening, and referrals to providers throughout the ECBH area. Emergency assistance is provided 24-hours daily, 365 days a year.

East Carolina Behavioral Health Serves the following counties: Beaufort, Bertie, Camden, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, Jones, Martin, Northampton, Pamlico, Pasquotank, Perquimans, Pitt, Tyrrell, and Washington.

"When there is a patient in need of mental health services, a 1-800# is called. They will send out an individual or team and then make appropriate referrals."

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Medical Insurance

Medically Indigent Population

In most communities, citizens' access to and 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/programs.

- In Chowan County, the percentage of the total population that is uninsured has been consistently higher than the NC county average, and by recent trend, the gap appears to be growing larger (Table 13).
- The percentage of the population without health insurance was highest in Chowan County in 2004 and highest in NC in 2003.
- The proportion of uninsured children under the age of 18 in Chowan County has decreased overall since 2002 (Table 13).
- In Chowan County, adults aged 18-64 make up an increasing percentage of those without health insurance.

Table 13. Percent of Population without Health Insurance, by Age (2002-2004)

County	2002			2003			2004		
	Total	Under 18	18-64	Total	Under 18	18-64	Total	Under 18	18-64
Chowan	20.2	13.4	23.2	20.0	11.3	23.4	21.1	11.9	24.9
NC County Avg.	19.0	12.3	21.8	19.4	n/a	n/a	17.5	n/a	n/a
Source: Sheps Center for Health Services Research, Publications. County Level Estimates of the Uninsured:1999-2000, 2002, 2003, and 2004 Updates. http://www.shepscenter.unc.edu/									

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Medicaid

- The number and percent of the Chowan County population eligible for Medicaid have remained relatively stable from 2000 to 2004 (Table 14).
- When compared to the NC county average, a smaller *number* of Chowan County residents were eligible for Medicaid in 2004, although the *percent* of Medicaid-eligible residents is greater than the comparable percent statewide.
- Chowan County spends more per capita on Medicaid than the average NC county and the difference is increasing.

Table 14. Medicaid Eligibility and Expenditures (2001-2004)

County	FY 2001					FY 2002					FY 2003					FY 2004				
	Est. Total Population	Number Eligible	% Eligible	Per Capita Expenditure	Per Capita Expenditure Rank	Est. Total Population	Number Eligible	% Eligible	Per Capita Expenditure	Per Capita Expenditure Rank	Est. Total Population	Number Eligible	% Eligible	Per Capita Expenditure	Per Capita Expenditure Rank	Est. Total Population	Number Eligible	% Eligible	Per Capita Expenditure	Per Capita Expenditure Rank
Chowan	14,526	3,657	25.2	\$1,048	21	14,538	3,554	24.4	\$1,142	17	14,304	3,614	25.3	\$1,198	18	14,366	3,666	25.5	\$1,233	24
State Total	8,049,313	1,354,593	n/a	n/a	n/a	8,188,008	1,390,028	n/a	n/a	n/a	8,323,375	1,447,283	n/a	n/a	n/a	8,418,090	1,512,360	n/a	n/a	n/a
NC County Avg.	80,493	13,546	16.8	\$661	n/a	81,880	13,900	17.0	\$724	n/a	83,234	14,473	17.4	\$757	n/a	84,181	15,124	18.0	\$820	n/a
Source	NC Division of Medical Assistance, http://www.dhhs.state.nc.us/dma/countyreports/index.htm																			
Note:	The 2000 population given is the estimate listed in the data provided by DMA and upon which the percentages and ranks are based; the numbers do not match the 2000 Census data.																			

North Carolina Health Choice

As has been established with previously cited data, children in Chowan County are disproportionately burdened by poverty and its consequences. One of these consequences is limited access to health care due to inability to pay. Enrollment in Medicaid or NC Health Choice for Children can help them access needed services. Families not eligible for Medicaid, but whose income is not sufficient to afford rising health insurance premiums may be able to receive free or reduced-price comprehensive health care for their children through the NC Health Choice for Children (NCHC) program. This plan, which took effect in October 1998, includes the same benefits as the State Health Plan, plus vision, hearing, and dental benefits (following the same guidelines as Medicaid). Children enrolled in NCHC are eligible for benefits including sick visits, check-ups, hospital care, counseling, prescriptions, dental care, eye exams and glasses, hearing exams and hearing aids, and more.

- Both the number and percent of Chowan County children enrolled in Medicaid grew between 2000 and 2004, as did the number and percent of county children enrolled in NC Health Choice (Table 15).
- The percent of Chowan County children enrolled in Medicaid increased by 23% between 2000 and 2004; at the state level the rate of increase was 18%.
- The percent of Chowan County children enrolled in NC Health Choice increased by 20% over the period cited, while at the state level the increase was 50%.

Table 15. Children Enrolled in Medicaid and Health Choice (2000, 2004)

County	2000				2004			
	# Children Enrolled in Medicaid	% Children Enrolled in Medicaid	# Children Enrolled in Health Choice	% Children Enrolled in Health Choice	# Children Enrolled in Medicaid	% Children Enrolled in Medicaid	# Children Enrolled in Health Choice	% Children Enrolled in Health Choice
Chowan	1,339	39	166	5	1,543	48	188	6
State Total	559,025	28	70,636	4	674,963	33	121,836	6
NC County Avg.	5,590	n/a	706	n/a	6,750	n/a	1,218	n/a
Source	NC Child Advocacy Institute, State and Local Data, CLIKS System; http://www.aecf.org/cgi-bin/cliiks.cgi							

Community Care of North Carolina: ACCESS, ACCESS II, and ACCESS III

Carolina ACCESS

Carolina ACCESS, implemented in 1991, is NC's Primary Care Case Management (PCCM) Program for Medicaid recipients. It serves as the foundation managed care program for Medicaid recipients and brings a system of coordinated care to the Medicaid program by linking each eligible recipient with a primary care provider (PCP) who has agreed to provide or arrange for healthcare services for each enrollee. Primary care providers bill fee-for-service and are reimbursed based on the Medicaid fee schedule. They also receive a small monetary incentive per member per month for coordinating the care of program participants enrolled with their practice. By improving access to primary care and encouraging a stable doctor-patient relationship, the program helps to promote continuity of care, while reducing inappropriate health service utilization and controlling costs.

Carolina ACCESS II and ACCESS III

ACCESS II and III are enhanced primary care programs initiated in 1998 to work with local providers and networks to manage the Medicaid population with processes that impact both the quality and cost of healthcare. ACCESS II includes local networks comprised of Medicaid providers such as primary care providers, hospitals, health departments, departments of social services, and other community providers who have agreed to work together to develop the care management systems and supports that are needed to manage enrollee care. In addition to a primary care provider, ACCESS II and III enrollees have care managers who assist in developing, implementing, and evaluating enhanced managed care strategies at each demonstration site. Providers in ACCESS II and III receive a small monetary incentive per member per month; the demonstration sites are paid a similar small per member per month care management fee. ACCESS II includes 10 integrated networks; ACCESS III includes countywide partnerships in three counties.

- As of June 2009, there were 998,484 Medicaid recipients enrolled in Carolina ACCESS or ACCESS II statewide, which represents 67% of all Medicaid recipients eligible to participate (30).
- As of June 2009, there were 3,193 Medicaid recipients in Chowan County enrolled in Carolina ACCESS or ACCESS II, which represents 66% of all Medicaid recipients in the County eligible to participate (30).
- According to data provided by the state (31), there were (as of August 2006) eight medical providers in Chowan County participating in Carolina ACCESS programs; five in ACCESS and three in ACCESS II.

Chapter Three: Health Statistics

Understanding Health Statistics

Methodology

Routinely collected mortality and morbidity surveillance data and behavior survey data can be used to describe the health status of Chowan County residents. These data, which are readily available in the public domain, typically use standardized definitions, thus allowing comparisons among county, state, and national figures. There is, however, some error associated with each of these data sources. Surveillance systems for communicable diseases and cancer diagnoses, for instance, rely on reports submitted by health care facilities across the state and are likely to miss a small number of cases.

Age-adjustment

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

Aggregate Data

Another convention typically used in the presentation of health statistics is aggregate data combining data gathered over a five-year period. The practice of presenting data that are aggregated over a five-year period 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 counties like Chowan County. The calculation is performed by dividing the number of cases or deaths due to a particular disease over five years by the sum of the population size for each of the five years.

Incidence

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

Incidence

Incidence is calculated according to the following formula:

$$\text{Incidence} = \frac{\text{number of new cases of disease}}{\text{population size}} \times 100,000 = \text{cases per 100,000}$$

The incidence rates for certain diseases, such as cancer, are simple to obtain since data are routinely collected by the NC Central Cancer Registry. However, other conditions, such as diabetes or heart disease, are not normally reported to central data-collecting agencies. It is therefore difficult to measure burden of disease within a community, and incidence is often estimated by consulting hospital records. Utilization records show the number of residents within a county who use hospital, in-patient services for given diseases during a specific time period. Typically, these data underestimate the true incidence of the given disease in the population, since individuals who are diagnosed outside of the hospital, in-patient setting are not captured by the measure.

Mortality

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

Mortality

Mortality is calculated according to the following formula:

$$\text{Mortality Rate} = \frac{\text{number of deaths from disease}}{\text{population size}} \times 100,000 = \text{deaths per 100,000 people}$$

Prevalence

Prevalence, which describes the extent of a problem, refers to the number of existing cases of a disease or health condition in a population at a defined point in time or during a time period. Prevalence expresses a *proportion*, not a rate. It is not used extensively in this report.

Trends

Data for multiple years is included in this report wherever possible. Since comparing data on a year-by-year basis can yield very unstable trends due to the often small number of cases and deaths per year in Chowan County, the preferred method for reporting incidence and mortality trend data is long-term trends using the age-adjusted aggregated format. Most data points used in the report are standardized to the 2000 US population.

ICD Coding Changes

Beginning in 1999, all causes of death were coded using the 10th Revision of the International Classification of Diseases (ICD-10). For the years 1979-1998, the 9th (ICD-9) revision was used. With three years of data now available using ICD-10 coding, multiyear age-adjusted data has been published. Previous data points were published over five-year periods, and as data becomes available using ICD-10 coding, the NC-SCHS will again build up to five-year rates. Community health planning groups should incorporate these five-year rates into the trends when they become available to maintain continuity, but it should be noted that in this report the final data point in many trend lines is a three-year rather than a five-year aggregate.

The most important consequence of the change in coding is that differences between ICD-9 and ICD-10 disease definitions could cause comparability problems across the two revisions. To help users cope with potential problems, the NC-SCHS has presented comparability ratios for leading causes of death.

The comparability ratio is a measure of expected changes due only to the changes in disease definitions. The ratio is calculated by dividing the number of deaths coded using ICD-10 in a standard population by the number of deaths coded using ICD-9 in the same population. The ratio can be used to determine whether an apparent change in mortality is due to factors other than a change in coding. For example, after 1998 there will be a 6% rise in mortality due to cerebrovascular disease, due only to the changes in disease definition. Any additional visible change should be due to factors other than coding.

Behavioral Risk Factor Surveillance System (BRFSS)

Chowan County residents participate regularly in the state's annual Behavioral Risk Factor Surveillance System (BRFSS) Survey, as part of the nine-county North East Region II sample (32). However, the typically small number of participants across the sample of which the county is a part, yields data too limited to interpolate reliably to a single county, so it is seldom used in this document.

Leading Causes of Death

Table 16 shows the leading causes of death in Chowan County, listed in descending order based on aggregate mortality data for the years 2004 - 2008.

Table 16. Age-Adjusted Mortality Rates for the Leading Causes of Death in Chowan County, North Carolina and the United States (2004-2008)

Cause of Death	Chowan County		North Carolina	United States
	Number	Rate	Rate	Rate
1. Total Cancer	230	222.0	192.5	180.7
2. Heart Disease	221	206.7	202.2	200.2
3. Cerebrovascular Disease	82	76.4	54.4	43.6
4. Chronic Lower Respiratory Disease	40	36.6	25.2	23.3
5. Diabetes	31	30.5	18.6	15.0
6. Unintentional Non-Motor Vehicle Injury	26	27.5	14.2	na
7. Unintentional Motor Vehicle Injuries	18	23.7	47.8	40.5
8. Septicemia	19	18.8	28.7	na
9. Alzheimer's Disease	21	18.3	18.8	na
10. Pneumonia and Influenza	18	15.9	20.3	17.8
11. Kidney Diseases	13	12.6	7.2	6.2
12. Homicide	8	11.0	28.4	24.8
13. Suicide	7	8.6	4.4	4.0
14. Chronic Liver Disease and Cirrhosis	8	7.5	11.9	10.9
15. HIV/AIDS	2	3.0	9.1	8.8
Total Deaths All Causes (some causes not listed)	926	900.6	861.4	776.5
Source	a	a	a	b

a - NC State Center for Health Statistics, County-level Data. County Health Databook. 2010 County Health Data Book. 2004-2008 Race-Sex-Specific Age-Adjusted Death Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook/>
 b - National Center for Health Statistics. Information Showcase. Health, United States, 2009. Complete Report. Table 26: Age-adjusted death rates for selected causes of death. (Data from 2006) <http://www.cdc.gov/nchs/data/hus/hus09.pdf>

State and National Mortality Rate Comparisons

Compared to NC, Chowan County has **higher** age-adjusted mortality rates in 2004-2008 for:

- **Suicide** by **95%**
- **Unintentional Non-Motor Vehicle injuries** by **94%**
- **Kidney Disease** by **75%**
- **Diabetes** by **64%**
- **CLRD** -by **45%**
- **Cerebrovascular disease** by **40%**
- **Total Cancer** by **15%**
- **Heart Disease** by **2%**

Compared to the national mortality rates available (33), Chowan County has **higher** mortality rates for:

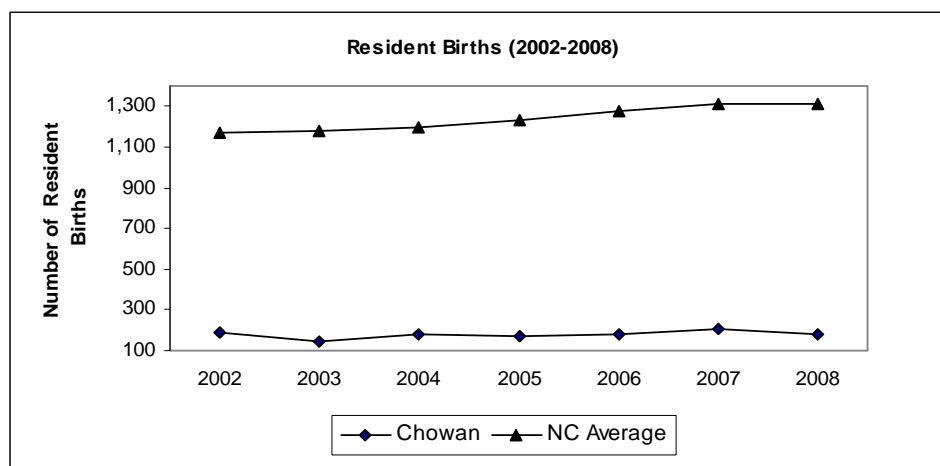
- **Suicide** by **115%**
- **Diabetes** by **103%**
- **Kidney Disease** by **103%**
- **Cerebrovascular disease** by **75%**
- **CLRD** by **57%**
- **Total Cancer** by **23%**
- **Heart Disease** by **3%**

Maternal and Child Health

Adult and Teen Pregnancy and Birth Rates

- Figure 5 plots the Chowan County and NC county averages for the annual number of live births from 2002 - 2008. The average number of live births in Chowan County fluctuated during this time, but decreased overall and remained below both the regional and state rates. In NC the annual number of live births increased significantly after 2002 and remained higher than the comparable Chowan County average throughout the rest of the reporting period. The Chowan County average remained fairly stable.

Figure 5



Source: NC State Center for Health Statistics. Health Data. County-level Data. Basic Automated Birth Yearbook (Babybook); 1998-2004, Chowan County. <http://www.schs.state.nc.us/SCHS/data/county.cfm>.

- As monitored by the NC-SCHS, the pregnancy rate is the number of pregnancies per 1,000 women between the ages of 15 and 44 in the referenced population. The overall pregnancy rate in Chowan County for the period from 2005 to 2007 was 85.9, which was 2% higher than the average NC county pregnancy rate of 83.9.
- Both the aggregate pregnancy rate and aggregate birth rate among teens (15-19) in Chowan County were higher than the comparable state rate during this period.
- In Chowan County between 2005 and 2007, 47.3% of live births occurred among minority mothers. Of the Chowan County live births among girls ages 15-19, 56.88% occurred among minority mothers.
- In 2007, Chowan County had a higher percentage of births to Medicaid mothers in the state (67.9% vs. 51.8%).
- In 2007, Chowan County had 41% more births to health department mothers and 50% more WIC moms when compared to the state as a whole.

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- According to more recent data, the 2008 overall pregnancy rate (ages 15-44) in Chowan County was 76.5 compared to 83.9 statewide. Among whites in the county ,the rate was 70.1 (NC=78.6); among minorities the rate was 83.8 (NC=91.2). The overall 2008 teen pregnancy rate (age 15-19) in Chowan County was 53.0 compared to 58.6 statewide. Among white teens in the county the rate was 31.8 (NC=47.8); among minority teens the rate was 79.1 (NC=77.7) (56).

Adolescent (10-14 years of Age) Pregnancies and Births

- Because of very small numbers, a pregnancy rate for adolescents 10-14 years of age has not been calculated for Chowan County.
- In 2008 there were no adolescent pregnancies in Chowan County (55).

Abortion

- For women between the ages of 15 and 44, the most recently calculated (2008) abortion rate in Chowan County was 11.3, which was below the overall state abortion rate of 14.4 (34).
- The annual abortion rates for Chowan County women ages 15-44 have fluctuated since 2003 and increased overall. Statewide abortion rates fluctuated less dramatically and remained consistently higher than those in the county.
- For teenagers between the ages of 15 and 19, the 2008 abortion rate in Chowan County was 9.3, 26% lower than the statewide teen abortion rate of 12.5 (34).
- Teen abortion rates also fluctuated in Chowan County during the reporting period, while statewide rates decreased. Most recently, Chowan County teen abortion rates have fallen below the statewide rate.

Programs and Interventions:

May 6, 2007, ARHS worked with Three Rivers Healthy Carolinians' Maternal and Child Health Subcommittee to provide an in-service on teen pregnancy prevention.

ARHS Health education staffs are trained in the "Making Proud Choices" curriculum that is endorsed by the NC Department of Public Instructional and the NC Comprehensive School Health Training Center.

Pregnancy Risk Factors

- The percentage of high parity births among women aged 30 and younger in Chowan County from 2004-2008 was higher than the comparable state rate (Table 17). According to NC-SCHS, a birth is high parity if the mother is younger than 18 when she has had one or more births, aged 18 or 19 and has had two or more births, is 20-24 and has had four or more births, etc.
- The percentage of high parity births among Chowan County women age 30 and older was slightly lower than the state rate.
- The percentage of short interval births (less than six months between pregnancies) is lower in Chowan County than statewide.
- Between 2004 and 2008, 13.3% of babies in Chowan County were born to mothers who smoked, a rate slightly higher than the state rate (11.5%).

Table 17. High Risk Births (2004-2008)

	High Parity Births				Short Interval Births		Births to Mothers who Smoke	
	Mothers Under 30		Mothers Over 30		Number	Percent	Number	Percent
	Number	Percent	Number	Percent				
Chowan	146	20.7	42	19.0	70	11.5	123	13.3
State Total	74,440	18.0	43,711	20.0	53,431	12.7	72,513	11.5
Source	a	a	a	a	b	b	c	c
a - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2010 County Health Data Book. 2000-2008 Number At Risk NC Live Births due to High Parity by County of Residence. http://www.schs.state.nc.us/SCHS/data/databook/								
b - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2010 County Health Databook. 2000-2008 NC Live Births by County of Residence; Number with Interval from Last Delivery to Conception of Six Months or Less.								
c - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2010 County Health Databook. 2000-2008 Number and Percent of Births to Mothers Who Smoked Prenatally. http://www.schs.state.nc.us/SCHS/data/databook								

- Of the pregnant women in Chowan County, 83.8% received prenatal care in the first trimester in 2004-2008, a proportion slightly above the state rate of 82.1%.
- A higher percentage of black women received prenatal care in the first trimester in Chowan County than in NC as a whole (76.7% vs. 75.0%). The percentage of black Chowan County women who received prenatal care in the first trimester was 8% lower than the comparable percentage for Chowan County women overall.

Pregnancy Outcomes

Low Birth Weight and Very Low Birth Weight

- From 2004-2008, the total percentage of low birth weight births (below 2500 grams or 5.5 pounds) was higher in Chowan County than in NC as whole (12.6% vs. 9.1%). The percentage of white low birth weight babies in Chowan County was higher than the comparable state rate and the percent of minority low birth weight babies was also higher in the county than statewide (Table 18).
- During the same period the percentages of very low birth weight births (below 1500 grams or 3.3 pounds) was higher overall in Chowan County than in NC as a whole (2.1 vs. 1.8); the percentage of very low birth weight babies was lower among blacks in the county than among blacks statewide (3.0 vs. 3.5).

Table 18. Number and Percent of Low and Very Low Birth Weight Births by Race (2004-2008)

	Low Birth Weight (<2500 grams) Births						Very Low Weight (<1500 grams) Births			
	Total		White		Minority		Total		Black	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Chowan	117	12.6	49	10.0	68	15.6	19	2.1	13	3.0
State Total	57,823	9.1	33,941	7.4	23,882	13.6	11,649	1.8	5,198	3.5
Source	a	a	a	a	a	a	b	b	c	c

a - NC State Center for Health Statistics. County-level Data. County Health Databooks. County Health Data Book. Low Birth Weight Births by Race. <http://www.schs.state.nc.us/SCHS/data/databook/>

b - NC State Center for Health Statistics. County-level Data. County Health Databooks. County Health Data Book. Low (<2500 grams) and Very Low (<1500 grams) Weight Births. <http://www.schs.state.nc.us/SCHS/data/databook/>

c - NC State Center for Health Statistics. County-level Data. County Health Databooks. County Health Data Book. Low (<2500 grams) and Very Low (<1500 grams) Weight Black Births. <http://www.schs.state.nc.us/SCHS/data/databook/>

Infant Mortality

According to Table 19:

- For 2004-2008 the aggregate Chowan County infant mortality rate (10.8) was significantly higher than the statewide infant mortality rate (8.4).
- In the 1999-2003 reporting period, the infant mortality rate among Chowan County minorities was lower than the rate among Chowan County whites. Since this time, the infant mortality rate among whites in the county has decreased and the infant mortality rate among minorities has increased, exceeding the infant mortality rate among whites in the most recent reporting period.

Table 19. Infant (<1 year) Death Rate per 1,000 Live Births (1999-2008)

County	1999-2003			2000-2004			2004-2008			2008					
	Total	White	Minority	Total	White	Minority	Total	White	Minority	White Infant Deaths	White Infant Death Rate	Minority Infant Deaths	Minority Infant Death Rate	Total Infant Deaths	Total Infant Death Rate
Chowan	4.5	4.5	4.4	3.3	0.0	6.7	10.8	4.1	18.4	1	10.4	2	24.7	3	16.9
State	8.5	6.2	14.4	8.4	6.1	14.6	8.4	6.2	14.3	558	6.0	508	13.5	1066	8.2
NC County Avg.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.6	n/a	5.1	n/a	10.7	n/a
Source: NC State Center for Health Statistics, 2008 Selected Vital Statistics Vol. 1, http://www.schs.state.nc.us/SCHS/vitalstats/volume1/2008/															

Communicable Disease

Health professionals are required to report cases of certain communicable diseases to the North Carolina Department of Health and Human Services through their local health department.

Reportable Communicable Diseases

In the period from 1996 through 2000 the incidence rates for Hepatitis B and tuberculosis were higher in Chowan County than statewide; the county incidence rate for salmonellosis was lower than the comparable state rate (Table 20).

Table 20. Communicable Disease Incidence (1996-2000)

County	Hepatitis A		Hepatitis B		Salmonellosis		Tuberculosis		Whooping Cough	
	Cases	Incidence	Cases	Incidence	Cases	Incidence	Cases	Incidence	Cases	Incidence
Chowan	n/a	n/a	3	4.1	8	11.0	10	13.8	n/a	n/a
State Total	864	n/a	1,325	n/a	6,480	n/a	2,447	n/a	649	n/a
NC County Avg.	9	2.2	13	3.4	65	16.6	24	6.3	6	1.7
Source	NC Division of Public Health. Epidemiology. Communicable Disease Control. County Tables. Http://www.epi.state.nc.us/epi/gcdc.html									

Sexually Transmitted Diseases

Table 21 lists incidence rates for the most prevalent sexually transmitted diseases (STD) in Chowan County, as well as HIV/AIDS.

In 2008, the NC STD Surveillance Data System underwent extensive changes as NC implemented NC Electronic Disease Surveillance System (NC EDSS). During this transition, chlamydia and gonorrhea morbidity counts for some counties may have been affected. Report totals for 2009 should be considered with this in mind. Reports are summarized by the date received at the Communicable Disease Surveillance Unit rather than by date of diagnosis.

Table 21. Sexually Transmitted Disease Incidence

N.C. STD Rate and County Comparison

RESIDENCE	Chlamydia					Gonorrhea					All Syphilis				
	2005 Rate	2006 Rate	2007 Rate	2008 Rate	2009 Rate	2005 Rate	2006 Rate	2007 Rate	2008 Rate	2009 Rate	2005 Rate	2006 Rate	2007 Rate	2008 Rate	2009 Rate
North Carolina	360.1	380.0	338.6	410.8	474.2	174.0	195.7	184.3	162.8	160.6	5.6	6.8	6.3	5.5	10.2
<i>Chowan</i>	327.3	392.5	321.1	384.5	686.6	236.8	365.0	184.5	164.8	226.6	0.0	0.0	6.8	0.0	0.0

North Carolina 2009 HIV/STD Surveillance Report. Communicable Disease Branch.

<http://www.epi.state.nc.us/epi/hiv/pdf/std09rpt.pdf>

Chlamydia

The incidence rate of Chlamydia was 36.5 in Chowan County, a rate 6% higher than the regional average and 1% lower than the comparable state rate.

Gonorrhea

The 2004-2008 Chowan County incidence rate for gonorrhea (242.6) was 36% higher than the state rate. The Healthy Carolinians 2010 goal for gonorrhea is 191 cases per 100,000 (35). The Healthy People 2010 target is approximately 19 cases per 100,000 (36). Gonorrhea incidence in Chowan County is well above both goals.

The minority population in Chowan County, as in the state as a whole, is disproportionately burdened by gonorrhea. The 2004-2008 incidence rate for gonorrhea among minority Chowan County residents was 2.3 times the overall Chowan County gonorrhea incidence rate. Likewise, at the state level the minority rate was over three times the overall rate.

Syphilis

Primary and secondary syphilis are the communicable stages of the disease and as such are the cases that are reported. Only one new case of syphilis was reported in Chowan County for the period 2004-2008 (Table 21, cited previously). Statewide, the incidence rate is 3.1 cases per 100,000 (Table 21). The Healthy Carolinians goal for syphilis is approximately 0.3 cases per 100,000 (35) and the Healthy People 2010 target is 0.2 cases per 100,000 (36).

Aggregate data show that the syphilis incidence in Chowan County and the state has fallen since 2000.

HIV/AIDS

HIV/AIDS Incidence

The 2000-2004 HIV incidence rate in Chowan County (6.0) was 50% lower than the state rate. Since 2002, the incidence of HIV/AIDS in the state has changed very little, though the regional incidence has risen slightly. The HIV/AIDS incidence rate in Chowan County has decreased since 2002, however, the current incidence rate is significantly higher than the target rate of approximately 1.5 new cases per 100,000 set by Healthy Carolinians (35). Table 22 lists the number of HIV cases, rates and ranking for Chowan as compared to the state.

Table 22. N.C. HIV Disease Cases and County Comparison with Rank
*Rank based on Three-year average rate

RESIDENCE	Rank in NC	2007 Cases	2008 Cases	2009 Cases	2007 Rate	2008 Rate	2009 Rate	Avg Rate
North Carolina		1807	1782	1710	20.0	19.3	18.5	19.3
<i>Chowan</i>	71	0	3	0	0.0	20.6	0.0	6.9

Carolina 2009 HIV/STD Surveillance Report. Communicable Disease Branch.
<http://www.epi.state.nc.us/epi/hiv/pdf/std09rpt.pdf>

Table 23 compares the cases and rates of HIV for Chowan and NC.

Table 23. N.C. HIV Disease Cases and County Comparison, 2005-2009

RESIDENCE	2005 Cases	2006 Cases	2007 Cases	2008 Cases	2009 Cases	2005 Rate	2006 Rate	2007 Rate	2008 Rate	2009 Rate
North Carolina	1,600	1,642	1,807	1,782	1,710	18.5	18.6	20.0	19.3	18.5
<i>Chowan</i>	1	0	0	3	0	7.0	0.0	0.0	20.6	0.0

Carolina 2009 HIV/STD Surveillance Report. Communicable Disease Branch.
<http://www.epi.state.nc.us/epi/hiv/pdf/std09rpt.pdf>

Table 24 compares the cases and rates of AIDS for Chowan and NC.

Table 24. N.C. AIDS Cases and County Comparison, 2005-2009

RESIDENCE	2005 Cases	2006 Cases	2007 Cases	2008 Cases	2009 Cases	2005 Rate	2006 Rate	2007 Rate	2008 Rate	2009 Rate
North Carolina	884	887	848	926	957	10.2	10.0	9.4	10.0	10.4
<i>Chowan</i>	0	1	1	4	1	0.0	6.9	0.0	27.5	6.9

Carolina 2009 HIV/STD Surveillance Report. Communicable Disease Branch.
<http://www.epi.state.nc.us/epi/hiv/pdf/std09rpt.pdf>

HIV/AIDS Mortality

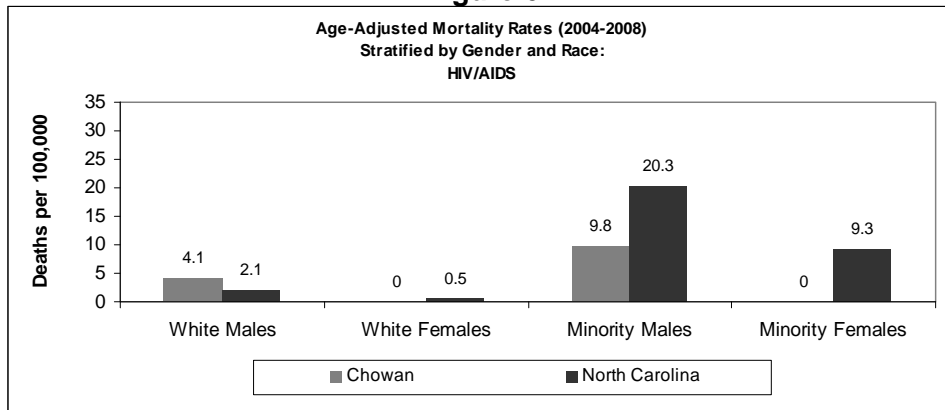
Two deaths in Chowan County over the period from 2004 through 2008 were attributable to HIV/AIDS (Table 25). Stratified by race and gender the numbers of AIDS deaths in Chowan County are small and make the associated rates too unstable for comparison.

Table 25. HIV/AIDS Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	2	3.0	1	4.1	0	0.0	1	9.8	0	0.0
State Total	1,982	4.4	357	2.1	74	0.5	1,013	20.3	538	9.3
NC County Avg.	20	n/a	4	n/a	1	n/a	10	n/a	5	n/a
Source	NC State Center for Health Statistics, 2010 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Minority males are disproportionately affected by HIV/AIDS in the state as a whole, with a mortality rate of 20.3 per 100,000 (Figure 6).

Figure 6



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2010 County Health Data Book. Mortality. 2004-2008 Race-Sex Specific Age-Adjusted Rates by County.
<http://www.schs.state.nc.us/SCHS/data/databook>.

Oral Health

Child Oral Health

The Oral Health Section of the NC Division of Public Health periodically coordinates a dental assessment screening for kindergarten and 5th grade schoolchildren. Dental hygienists use a standardized technique to measure the prevalence of decayed and filled teeth among these children.

Compared to NC county averages in 2000-2001:

- A higher proportion of kindergarteners and 5th graders were screened in Chowan County and the Albemarle region.
- Chowan County kindergarteners had a lower percentage of being cavity free, a lower prevalence of untreated decay, and by small margins, a higher average number of decayed, missing, and filled teeth per child (DMFT) and low average number of decayed teeth (DT) per child.
- Chowan County fifth graders had a higher percentage of being cavity free, a lower prevalence of untreated decay, a lower percentage of children with sealants, a higher average number of decayed, missing, and filled teeth per child (DMFT), and a lower average of decayed teeth (DT) per child.
- Albemarle kindergarteners and 5th graders had similar oral health to that of Chowan County with the exception of the percent of cavity free kindergarteners.
- Compared to NC averages, a smaller percentage of Chowan County and Albemarle Region Medicaid eligible youth of all ages received dental services in 2003.

Adult Oral Health

Chowan County residents are surveyed about their dental health status and dental health behaviors in the state's annual BRFSS Survey, as part of the nine-county North East Region II sample (32). However, the small number of 2005 participants (n=510) across the sample of which the county is a part yields data too limited to interpolate reliably to a single county, so it is not presented here.

Adult dental health issues were assayed in the 2006 Chowan County Community Health Survey, and those results are presented in Chapter Three of this report.

Mental Health and Substance Abuse

Table 26 presents data on utilization of mental health, developmental disability, and substance abuse services (MH/DD/SAS) by Chowan County residents.

- The number of Chowan County residents served by state developmental centers remained the same while the number served by substance abuse treatment centers increased between 2003 and 2009.
- The number of people served in state psychiatric hospitals decreased in Chowan County and statewide over the same period.
- The number of people served by the local MH/DD/SAS management entity/area programs in Chowan County has decreased overall since 2000, while statewide the number of people served increased.

Table 26. Mental Health, Developmental Disability, Substance Abuse Service Utilization (FY2003-FY2009)

County	Number of Persons Served								
	Developmental Centers		Alcohol and Drug Abuse Treatment Centers		State Psychiatric Hospitals		Area Programs		
	2003-2004	2008-2009	2003-2004	2008-2009	2003-2004	2008-2009	2000-2001	2003-2004	2008-2009
Chowan	7	7	6	16	22	13	645	529	550
State Total	1,892	1,404	3,656	4,812	16,987	9,643	323,718	334,856	326,563
NC County Avg.	19	14	37	48	170	96	3,237	3,349	3,266
Source - NC DHHS, Division of Mental Health, Publications, Statistical Reports. http://www.dhhs.state.nc.us/mhddsas/statspublications/reports/index.htm#sta									

The majority of the substance abuse diagnoses at each location over the four year period cited were alcohol abuse, accounting for 59% of all substance abuse diagnoses (38 of 61) at Bertie Memorial Hospital and 71% (84 of 119 diagnoses) at Chowan Hospital. The second most frequent substance abuse diagnosis at both hospitals was cocaine abuse, accounting for 20% of the total at Bertie Memorial Hospital (12 of 61) and 14% of the total at Chowan Hospital (17 of 119).

Further examination of the data provided by University Health Systems reveals some interesting information about the patients whose diagnoses are summarized previously.

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- The largest percentage of substance abuse diagnoses at Bertie Memorial Hospital occurred in the 25-54 age group; the largest percentage at Chowan Hospital occurred in the 35-44 age group.
- The smallest percentage of substance abuse diagnoses at Bertie Memorial Hospital occurred in the youngest age group (0-17); the smallest percentage at Chowan Hospital occurred in the oldest age group (65 and older).
- Males accounted for 77% (47 of 61) of the substance abuse diagnoses at Bertie Memorial Hospital and 75% (89 of 119) at Chowan Hospital. At Bertie Memorial Hospital the majority of substance abuse diagnoses were among blacks 80% (49 of 61), 18% (11 of 61) occurred among whites and approximately 2% (1 of 61) occurred among Hispanics. At Chowan Hospital 48% (57 of 119) of substance abuse diagnoses occurred among whites, 45% (54 of 119) occurred among blacks, and 5% (6 of 119) occurred among Hispanics (37).

“Many are unsure of how to access mental health. Providers have a card in our pocket to refer people to.”

Comment made at the Chowan CHA Data Presentation on September 30, 2010.

Obesity

Adult Obesity

Chowan County residents are surveyed about their height, weight, and eating behaviors in the state's annual BRFSS Survey, as part of the nine-county North East Region II sample. However, the small number of 2005 participants (n=510) across the sample of which the county is a part yields data too limited to interpolate reliable to a single county, so it is not presented here.

Adult dietary and exercise behaviors and diagnoses of overweight and obesity were assayed in the 2010 Chowan County Community Health Survey, and those results are presented in Chapter Four of this report.

Childhood Obesity

The NC Healthy Weight Initiative, using the NC Nutrition and Physical Activity Surveillance System (NC-NPASS), collects height and weight measurements from children seen in NC Division of Public Health-sponsored WIC and Child Health Clinics, as well as some school-based Health Centers (64). This data is used to calculate Body Mass Index (BMI) in order to gain some insight into the prevalence of childhood obesity.

BMI = (weight in kilograms) / (height in meters)²

Children with BMIs in the 95th percentile or above are considered overweight, while children with BMIs that are between the 85th and 94th percentiles are considered "at-risk" of becoming overweight. Caution should be exercised when using these data, since the survey sample is relatively small, especially in some age groups, and may not be representative of the countywide population of children. For example, the 2005 Chowan County sample was composed of 260 2-4 year-olds, 84 5-11 year-olds, and 64 12-18 year-olds (38). Across the nation, 16% of children aged 6-11 and 12-19 are considered overweight or obese (39).

According to NC-NPASS data for children who are overweight:

- Chowan County has a slightly lower proportion of 2-4 year-olds who are overweight than the state as a whole.
- Chowan County has a slightly higher proportion of 5-11 year-olds who are overweight than the state as a whole.
- Chowan County has a slightly lower proportion of 12-18 year-olds who are overweight than the state as a whole.

According to NC-NPASS data for children who are *at risk* of becoming overweight:

- Chowan County has a lower proportion of 2-4 year-olds at risk than the state as a whole.
- Chowan County has a lower proportion of 5-11 year-olds at risk than the state as a whole.
- Chowan County has lower proportion of 12-18 year-olds at risk of being overweight than the state as a whole.

In addition to NC-NPASS information, data on childhood obesity in Chowan County is also available from a school-based study conducted by ARHS (40). In FY 2004-2005, ARHS measured the height and weight of children in pre-kindergarten through 5th grade at two elementary schools in Chowan County. The height and weight data were supplemented with survey data on eating and physical activity behaviors collected from the parents of the children in the study. Aggregate results for the Chowan County schools in the study are presented below.

- A total of 1,072 students participated in the study. The mean age of the participants was 8.3 years.
- BMI results are as follows:
 - Underweight – 2.0%
 - Normal weight – 49.4%
 - At risk of overweight – 16.8%
 - Overweight – 31.8%

Programs and Interventions:

ARHS partnered with the Edenton-Chowan Recreation Department in 2008 to bring “Chowan Goes the Distance,” a walking program where participants were given incentives to walk across the country, tracking their mileage with a pedometer.

ARHS also partnered with Three Rivers Healthy Carolinians and the Edenton-Chowan School System in April 2010 and Chowan County Cooperative Extension to bring TRACK Family Day to DF Walker Elementary and White Oak Elementary School. The day gave students and their families an opportunity to engage in physical activity and to sample different types of fruits and vegetables.

Asthma

One way the burden of asthma in a community can be assessed is by reviewing hospital records. According to hospital records from 2004 that tally information about patients from Chowan County regardless of the location of their hospitalization:

- The total hospitalization rate due to asthma (including children and adults) in 2008 was 17% lower in Chowan County (95.3) than in the state as a whole (115.4). The recent county rate is 19% lower than the Healthy Carolinians goal of 118 (35).
- For children age 0-14, the Chowan County asthma hospitalization rate of 109.7 is lower than the state rate of 151.9. The Chowan County asthma hospitalization rate for children is 63% lower than the Healthy People 2010 target of 173 (36).

Recent local data, provided by University Health Systems of Eastern NC on behalf of Bertie Memorial Hospital and Chowan Hospital, tracks emergency department utilization by patients with a diagnosis of asthma for the period from 2002 through 2005 (37). These data represent *principal* diagnosis (not admitting diagnosis).

Further examination of the data provided by University Health Systems reveals some interesting demographic information about the patients whose diagnoses are summarized previously:

- The largest percentage of asthma diagnoses at Bertie Memorial Hospital occurred in the 0-17 age group; the largest percentage at Chowan Hospital occurred in the same age group.
- The smallest percentage of asthma diagnoses at Bertie Memorial Hospital occurred in the 55-64 age group; the smallest percentage at Chowan Hospital occurred in the 35-44 age group.

Racial and Gender Disparities

Males accounted for just over half, 50.5% of the asthma diagnoses at Bertie Memorial Hospital. At Chowan Hospital females accounted for 51.8% of the asthma diagnoses. At Bertie Memorial Hospital the vast majority of asthma diagnoses, 84%, were among blacks (338 of 400); 15% (59 of 400) occurred among whites. At Chowan Hospital 70% (515 of 732) of asthma diagnoses occurred among blacks, 29% (210 of 732) occurred among whites, and 0.4% (3 of 732) occurred among Hispanics (37).

In 2000 The NC School Asthma Survey was performed statewide in NC by a group of researchers from the School of Public Health at UNC-Chapel Hill. The purpose of the survey was to assess the prevalence of asthmatic symptoms and risk factors in school-aged children. The survey assessed school-age children in Chowan County, and according to the results of this survey (41):

- Eight percent of school children surveyed had been diagnosed with asthma.
- Twenty-one percent of children surveyed had experienced undiagnosed wheezing.
- The total proportion of surveyed children who currently experienced wheezing was 29%.
- Eleven percent of Chowan County children have missed school, 13% have limited activities, and 17% experience sleep disturbances due to asthma.

Programs and Interventions

Albemarle Pediatric Asthma Coalition (APAC) has had an active roll in reducing the asthma epidemic in the region. They have standardized the use of the Asthma Action Plan for pre-school children and school-aged children. APAC has provided Asthma Education and Case Management services for families who have a child living with asthma. Targeted public awareness campaigns have included billboards, promotional signs and banners, pinwheel displays, and public proclamations for Asthma Awareness Month and World Asthma Day have been accomplished in the region.

Chowan Middle School has an Asthma Club that students with asthma can join.

Air Quality flags are flown at Chowan Hospital, Edenton-Chowan Recreation Department, Chowan Middle School, and Edenton Town Hall Building.

The Air Quality Index (AQI) is a tool used to report levels of ozone, particles and other pollutants in the air to the public. The AQI scale is divided into five color-coded categories, each corresponding to a different level of health concern ranging from green (good) to purple (very unhealthy). Greater AQI values correspond to greater concentrations of air pollution and indicate greater health danger.

The air quality color codes are demonstrated by Figure 7:

Figure 7. Air Quality Index Chart

AQI Color Code	Air Quality	AQI Number
Green	Good	0 to 50
Yellow	Moderate	51 to 100
Orange	Unhealthy for Sensitive Groups	101 to 150
Red	Unhealthy	151 to 200
Purple	Very Unhealthy	201 to 300

The AQI color codes are used for both air quality forecasts and for air quality reporting. The forecast, available year-round in the Triad and Charlotte, and April 1 through October 31 in Asheville, Fayetteville, Hickory, and the Triangle, predicts anticipated pollution levels using the AQI color code. Air quality reports give either current pollution levels detected by monitors or air pollution levels that have already occurred, usually during the previous day. For reports of recent air quality levels in many areas of NC, visit the [DAQ ozone and particulate matter monitoring website](#) or call 1-888-AIRWISE (1-888-247-9473).

Cardiovascular Disease and Stroke

Heart disease and cerebrovascular disease (stroke) are both diseases of the circulatory system. While heart disease is any disease that diminishes or interrupts blood supply to the heart, stroke is an interruption in blood supply to the brain. The most common cause of both of these diseases is a narrowing or blockage of arteries that supply the heart and brain, respectively (42).

Heart disease and stroke are the second and third leading causes of death among Chowan County residents. Over the 2004-2008 time period, 221 Chowan County residents died of heart disease and 82 died of stroke.

Heart Disease Mortality

The most recent data (aggregated for the years 2004-2008) show that county mortality due to heart disease (206.7) is higher than the state rate (202.2) (Table 27).

Table 27. Heart Disease Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	221	206.7	77	263.4	60	125.3	41	392.1	43	215.3
State Total	87,332	202.2	35,043	248.4	33,582	154.1	9,307	289.1	9,337	186.1
NC Avg.	873	na	350	na	336	na	93	na	93	na
Source	NC State Center for Health Statistics. 2010 County Health Data Book. http://www.schs.state.nc.us/SCHS/data/databook									

Table 28 compares Chowan County and its peers heart disease deaths per 100,000.

Table 28. Heart Disease Death Comparison with Peer Counties

Heart Disease Deaths per 100,000 Population		
RESIDENCE	2007	
North Carolina	218.5	
<i>Chowan</i>	267.5	
PEERS	Caswell	216.6
	Gates	229.3
	Jones	321.7
	Swain	296.5

Stroke Mortality

The county mortality rate for stroke (76.4) is higher than that of the state as a whole (54.4) (Table 29).

Table 29. Cerebrovascular Disease Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	82	76.4	22	76.6	26	52.4	19	177.4	15	78.0
State Total	23,158	54.4	6,763	50.9	10,688	48.9	2,432	78.5	3,275	65.7
NC County Avg.	232	n/a	68	n/a	107	n/a	24	n/a	33	n/a
Source	NC State Center for Health Statistics, 2010 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Table 30 compares stroke death per 100,000 for Chowan and it's peers.

Table 30. Stroke Death Comparison With Peer Counties

Cerebrovasluar Disease Deaths per 100,000 Population		
RESIDENCE	2007	
North Carolina	49.1	
<i>Chowan</i>	46.4	
PEERS	Caswell	33.7
	Gates	87.6
	Jones	79.6
	Swain	93.6

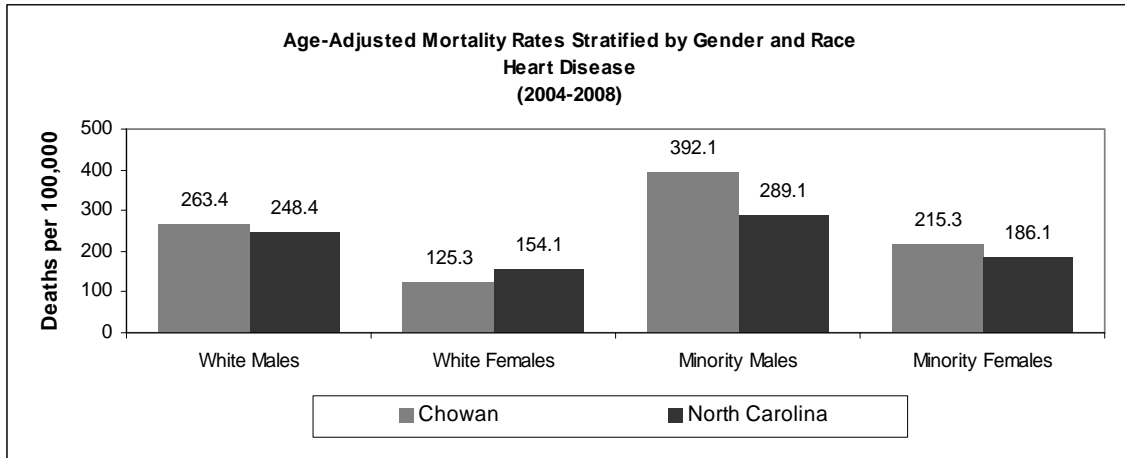
Programs and Interventions:

ARHS is a member of the Eastern NC Stroke Network and works diligently with its partners to improve stroke outcomes within its community.

Gender and Racial Disparities in Heart Disease and Stroke Mortality

Figure 8 compares age adjusted mortality rates due to heart disease, aggregated between 2004-2008 among white males, minority males, white females, and minority females.

Figure 8



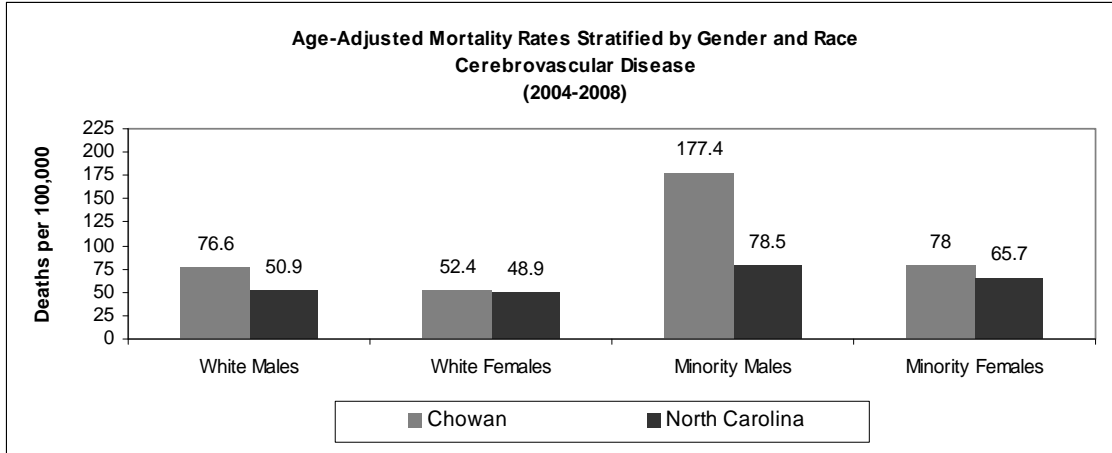
Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2010 County Health Data Book. Mortality. 2004-2008 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

In Chowan County, minority males have a 49% higher mortality rate (392.1) due to heart disease than white males (263.4). Minority females in Chowan County have a 72% higher mortality rate (215.3) due to heart disease than white females (125.3).

Gender disparities in heart disease mortality exist among both whites and minorities in Chowan County, though the disparity among whites is greater. The mortality rate among minority males is 82% higher than the rate among minority females. The mortality rate due to heart disease among white males is 110% higher than that of white females. The mortality rate due to heart disease among white and minority males in Chowan County is higher than the comparable rate at the state level.

Figure 9 compares age-adjusted mortality rates for cerebrovascular disease in Chowan County.

Figure 9



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2010 County Health Data Book. Mortality. 2004-2008 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

The mortality rate due to cerebrovascular disease among minority males in Chowan County is higher than the comparable state rate. The cerebrovascular disease mortality rate in Chowan County among minority males (177.4) is about 2.3 times higher than the rate for white males (76.6). Minority females in Chowan County die of cerebrovascular disease at a rate (78.0) that is 49% higher than white females (52.4). The cerebrovascular disease mortality rate among white males is 46% higher than the rate among white females. The mortality rate due to cerebrovascular disease among minority males is 127% higher than minority females.

Risk Factors for Heart Disease and Stroke (42)

- Age (65 or older for heart disease, 55 or older for stroke)
- Gender (male)
- Heredity/family history
- Race (especially African American)
- Tobacco use
- High cholesterol
- High blood pressure
- Physical inactivity
- Obesity/overweight
- Diabetes
- Stress
- Alcohol abuse

Cancer

Total Cancer

Cancer is the group of diseases characterized by the uncontrollable growth and spread of abnormal body cells. If the disease remains unchecked, it can result in death (42). Cancers of all kinds are sometimes grouped together in a parameter called “total cancer.” Total cancer was the leading cause of death in Chowan County for the period from 2004-2008. In 2008 in Chowan County hospital charges associated with cancer diagnoses totaled nearly \$1.5 million (39).

Cancer incidence and mortality data for Chowan County were obtained from the NC Cancer Registry, which collects data on newly diagnosed cases from NC clinics and hospitals, as well as on NC residents whose cancers were diagnosed at medical facilities in bordering states.

Total Cancer Incidence

There were 450 newly diagnosed cases of all cancers combined in Chowan County between 2002 and 2006 (Table 31). The incidence rate for all cancers in Chowan County (476.3) is slightly below the rate in the average NC county (477.0). Nationally, the age-adjusted cancer incidence rate for all types of cancer was 439.9 (43). (Incidence rates for the four major individual site-specific cancers will be presented and discussed subsequently.)

Table 31. Cancer Incidence (2002-2006)

County	All Cancer		Colorectal Cancer		Lung Cancer		Female Breast Cancer		Prostate Cancer	
	# Cases	Incidence Rate	# Cases	Incidence Rate	# Cases	Incidence Rate	# Cases	Incidence Rate	# Cases	Incidence Rate
Chowan	450	476.3	57	56.9	65	66.5	77	151.8	64	152.5
State Total	207,251	477.0	20,843	48.4	32,376	75.0	35,163	147.2	29,402	153.2
NC County Avg.	2,073	n/a	208	n/a	324	n/a	352	n/a	294	n/a
Source	NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Total Cancer Mortality

Cancer is the leading cause of death among Chowan County residents, resulting in 230 deaths between 2004 and 2008. The mortality rate for all types of cancer in Chowan County for that period was 222.0 deaths per 100,000, above the state rate of 192.5 (Table 32).

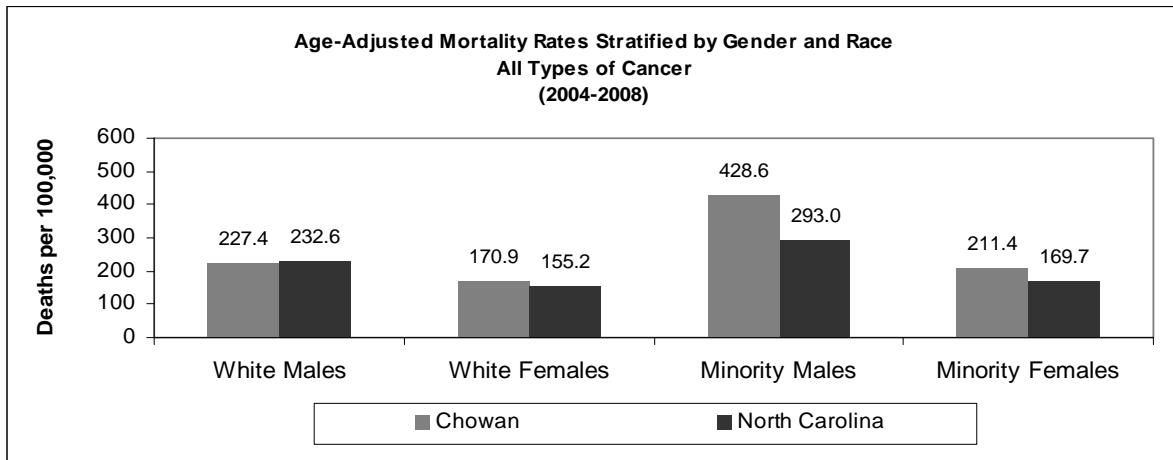
Table 32. Total Cancer Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	230	222.0	72	227.4	73	170.9	47	428.6	38	211.4
State Total	85,206	192.5	35,288	232.6	31,591	155.2	9,699	293.0	8,628	169.7
NC County Avg.	852	n/a	353	n/a	316	n/a	97	n/a	86	n/a
Source	NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Gender and Racial Disparities in Total Cancer Mortality

In Chowan County minority males have a 88% higher rate of death due to cancer than white males. White females have a 19% lower rate of death due to cancer than minority females in the county.

Figure 10



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2010 County Health Data Book. Mortality. 2004-2008 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

Breast Cancer

Breast Cancer Incidence

Between 2002 and 2006, breast cancer was the second most commonly diagnosed cancer in Chowan County, with 77 new cases diagnosed during the cited period. Nationally, breast cancer is the 2nd most commonly diagnosed cancer, with an incidence rate of 119.6 per 100,000 in 2006. The incidence rate is highest nationally among non-Hispanic white females (130.3 per 100,000).

Since 1998, breast cancer incidence rate has increased in Chowan County and is slightly higher than in the state as a whole.

Breast Cancer Mortality

Between 2004 and 2008, 18 people died of breast cancer in Chowan County representing an age-adjusted mortality rate of 35.3 per 100,000. During this time, 63 died in the average NC county, representing age-adjusted mortality rates of 25.0 per 100,000.

Table 33. Breast Cancer Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	18	35.3	0	0.0	10	30.8	0	0.0	8	43.3
State Total	6,301	25.0	40	0.3	4,589	22.8	14	0.4	1,658	31.3
NC County Avg.	63	n/a	0	n/a	46	n/a	0	n/a	17	n/a
Source	NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/									

The Healthy Carolinians 2010 goal for breast cancer is a mortality rate of 22.6 per 100,000 (35). The Healthy People 2010 target rate is 22.3 per 100,000 females (36). The current Chowan County rate is above these goals.

Racial Disparities in Breast Cancer Mortality

In Chowan County, minority females die from breast cancer at a greater rate (43.3) than white females (30.8). This disparity is slightly less pronounced at the state level. While rare, it should be noted that breast cancer does occur in males, although no Chowan County males died of breast cancer in the cited period.

Breast Cancer Risk Factors (62)

Risk factors for breast cancer include:

- A personal or family history of breast cancer
- A biopsy-confirmed hyperplasia
- A long menstrual history (menstrual periods that started early and ended late in life)
- Obesity after menopause
- Recent use of oral contraceptives or postmenopausal estrogen and progestin
- Not having children or having a first child after age 30
- Consumption of alcoholic beverages

Suspected risk factors include:

- High breast density

Table 34 compares breast cancer deaths per 100,000 between Chowan and it’s peers.

**Table 34. Breast Cancer Deaths
County, Peer, and State Comparison**

Breast Cancer Deaths Per 100,000		
RESIDENCE	2007	
North Carolina	25.3	
<i>Chowan</i>	35.8	
PEERS	Caswell	12.2
	Gates	29.0
	Jones	39.7
	Swain	9.7

Programs and Interventions

ARHS has received funding from UHS-Chowan Hospital Foundation to provide free mammograms to low-income women without insurance, Medicaid, or Medicare since 2007.

Prostate Cancer

Prostate Cancer Incidence

Prostate cancer has the highest age-adjusted incidence rate of any cancer in Chowan County and NC. There were 64 new cases of prostate cancer diagnosed in Chowan County in the period between 2002 and 2006. Prostate cancer incidence rates have fluctuated at the county and state level. Approximately \$119,000 was spent treating Chowan County prostate cancer patients in 2008 (39).

As of 2006, prostate cancer had the highest incidence rate of all cancers nationwide, 155.1 new cases per 100,000. Nationally, the prostate cancer incidence rate was highest among African American males (217.1 per 100,000) (43).

Prostate Cancer Mortality

The 2004-2008 prostate cancer mortality rate in Chowan County was higher than in the state as a whole (37.1 vs. 27.3) (Table 35). During that period, 15 males in Chowan County died from prostate cancer.

Table 35 Prostate Cancer Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	15	37.1	6	20.6	0	0.0	9	88.0	0	0.0
State Total	4,314	27.3	2,855	21.8	0	0.0	1,459	56.3	0	0.0
NC County Avg.	43	n/a	29	n/a	0	n/a	15	n/a	0	n/a
Source	NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/									

The Healthy People 2010 prostate cancer goal is 28.8 deaths per 100,000 males (36), a rate Chowan County is currently above. Nationally, prostate cancer has the 2nd highest mortality rate among the most prevalent cancers (43).

Racial Disparities in Prostate Cancer Mortality

In Chowan County, the prostate cancer mortality rate among minority males is more than four times the rate among white males. At the state level the difference in prostate cancer mortality rates between white and minority rates is less profound though the rate for minority males (56.3) continues to be more than 2.5 times greater than that for white males (21.8).

Prostate Cancer Risk Factors (44)

Risk factors for prostate cancer include:

- Increasing age
- Familial predisposition (may be responsible for 5-10 percent of cases)
- A *suspected* risk factor is high fat consumption

Table 36 compares prostate cancer deaths per 100,000 for Chowan and it's peers.

**Table 36. Prostate Cancer
County, State and Peer Comparison**

Prostate Cancer Deaths
per 100,000

RESIDENCE		2007
North Carolina		26.5
<i>Chowan</i>		40.3
PEERS	Caswell	58.0
	Gates	41.1
	Jones	15.9
	Swain	0.0

Lung Cancer

Lung Cancer Incidence

Between 2002 and 2006, 65 new cases of trachea, bronchus, and lung cancer were diagnosed in Chowan County, making it the 3rd most commonly diagnosed cancer. The resulting aggregate incidence rate of 66.5 per 100,000 was below the rate in the state (75.6). In 2008, hospital charges for the treatment of lung cancer in Chowan County residents totaled \$232,000 (39).

Since 1998, Chowan County, as well as the state, has experienced an increase in lung cancer incidence rates. The state rate has remained above the county rate through the reporting period.

Lung Cancer Mortality

The 2000-2004 lung cancer mortality rate was slightly higher in Chowan County than in the state (61.5 vs. 59.1) (Table 37). Between 2004 and 2008, a total of 65 people died of lung cancer in Chowan County.

Nationally, lung cancer is the leading cause of death from cancer with a mortality rate of 51.7 per 100,000 in 2006 (43). Chowan County's current lung cancer mortality rate exceeds the national rate by 19%. The Healthy People 2010 goal is to reduce the lung cancer mortality rate to 44.9 per 100,000 (36). Chowan County currently exceeds this target rate by 37%.

Table 37 Lung Cancer Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	65	61.5	24	74.2	20	45.5	16	143.4	5	27.0
State Total	26,325	59.1	12,507	80.2	9,108	44.9	3,035	88.7	1,675	33.2
NC County Avg.	263	n/a	125	n/a	91	n/a	30	n/a	17	n/a
Source	NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Gender and Racial Disparities in Lung Cancer Mortality

In Chowan County, the lung cancer mortality rate among white men (74.222) is 63% higher than the rate among white women (45.5). Statewide, the rate for white men is almost double the rate for white women. The lung cancer mortality rates for minority men exceed the rates for white men at the local and state levels by a difference of from 11% to 93%. At the state level, the lung cancer mortality rate among minority men is almost three times the rate among minority women. At the county level the rate of death among minority men was more than five times that of minority women.

Lung Cancer Risk Factors (44)

Risk factors for lung cancer include:

- Cigarette smoking
- Exposure to arsenic
- Exposure to some organic chemicals, radon, and asbestos
- Radiation exposure from occupational, medical, and environmental sources
- Air pollution
- Tuberculosis
- Secondhand exposure to tobacco smoke

Colorectal Cancer

Colorectal Cancer Incidence

Cancers of the colon and rectum accounted for 57 new cancer diagnoses in Chowan County between 2002 and 2006, making it the 4th most commonly diagnosed cancer in the county. At that time, the local incidence rate (56.9) for colon and rectal cancer was 18% higher than the rate for the state as a whole (48.4). In 2008, hospital charges attributable to colorectal cancers among Chowan County residents totaled \$258,000 (39).

Colorectal cancer was the 4th most commonly diagnosed cancer in the US in 2006, with a national incidence rate of 51.1 new cases per 100,000 among males and 40.2 new cases per 100,000 among females. Nationally, incidence rates were highest among black men (61.4) and black women (51.9) (43).

Colorectal Cancer Mortality

The colorectal mortality rate in Chowan County was higher than the rate in the state as a whole for the period between 2004 and 2008 (Table 38). During this period, 24 people in Chowan County died from colorectal cancer, representing an age-adjusted mortality rate of 21.9 per 100,000.

Of the four major cancer types, colorectal cancer had the lowest national mortality rate, 20.5 per 100,000 in 2006 (43). The current mortality rate for Chowan County is 7% higher than the 2006 national mortality rate. The current mortality rate for NC is below the national rate.

The Healthy Carolinians 2010 target rate for colorectal cancer mortality is 16.4 deaths per 100,000 (35), a rate Chowan County currently exceeds by 34%.

Table 38. Colorectal Cancer Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	24	21.9	6	18.6	9	18.2	3	31.7	6	33.2
State Total	7,627	17.3	2,932	19.4	2,798	13.5	917	27.0	980	19.4
NC County Avg.	76	n/a	29	n/a	28	n/a	9	n/a	10	n/a
Source	NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Gender and Racial Disparities in Colorectal Cancer Mortality

In Chowan County, the number of colorectal cancer deaths among minority males was below the threshold for meaningful local mortality rate comparisons. The mortality rate for minority females was 82% higher than among white females. On the state level, however, the colorectal cancer mortality rate among minority men was 39% higher than the rate among white men; the mortality rate for minority women is 44% higher than the rate for white women.

In Chowan County, the colorectal cancer mortality rate among white males is only 2% higher than among white females. The state mortality rate among white men is higher than that for white women (by 44%). In the state, the mortality rate among minority males is 39% higher than among minority females.

Colorectal Cancer Risk Factors (44)

Risk factors for colorectal cancer include:

- Personal or family history of rectal polyps
- Inflammatory bowel disease

Other suspected risk factors include:

- Smoking
- Physical inactivity
- High-fat diet
- Low-fiber diet
- Alcohol consumption

Chronic Lower Respiratory Disease

According to the National Institutes of Health (NIH), chronic obstructive pulmonary disease (COPD) is a group of lung diseases involving limited airflow, airway inflammation, and the destruction of lung tissue (42). Around 1999, the NC State Center for Health Statistics started classifying COPD within the broader heading of chronic lower respiratory disease (CLRD), which was not used as a separate category previously. It can be assumed that COPD rates from prior to 1999 can be compared to CLRD rates after 1999. Hospital charges for treating Chowan County residents with CLRD totaled \$916,000 in 2008 (39).

COPD/CLRD Mortality

COPD/CLRD was the 4th leading cause of death in Chowan County for the period 2004-2008. Table 39 shows race-sex specific age-adjusted mortality rates for COPD/CLRD in Chowan County and North Carolina. For the most current aggregate time period (2004-2008), the overall COPD/CLRD mortality rate in Chowan County (36.6) is 31% lower than the state rate (47.8).

The national mortality rate for CLRD was 40.5 in 2006 (43), a rate lower than the state rate, but higher than the county.

Table 39. Chronic Lower Respiratory Disease Mortality, including COPD (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	40	36.6	12	39.6	22	47.8	4	39.0	2	9.0
State Total	20,522	47.8	8,590	61.1	9,577	46.0	1,352	46.5	1,003	20.3
NC County Avg.	205	n/a	86	n/a	96	n/a	14	n/a	10	n/a
Source	NC State Center for Health Statistics, 2006 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Gender and Racial Disparities in COPD/CLRD Mortality

In Chowan County, the mortality rate for white women (47.8) was 21% higher than the rate for white men (39.6). The numbers of COPD/CLRD deaths among minority women and minority men at the county level were below the threshold for meaningful local mortality rate comparison. At the state level, however, the mortality rate due to COPD/CLRD was 31% higher among white men (61.1) than among minority men (46.5). White women (46.0) die from COPD/CLRD at more than twice the rate of minority women (20.3). The mortality rate for white men is 33% higher than the rate for white women. Statewide, the COPD/CLRD mortality rate among minority males is more than twice the rate among minority women.

COPD/CLRD Risk Factors

The leading cause of COPD/CLRD is smoking, which leads to emphysema and chronic bronchitis, the two most common forms of COPD/CLRD. Other risk factors include environmental pollutants and passive smoking (exposure to secondhand smoke) (42).

Table 40 compares Chronic Lower Respiratory Diseases deaths per 100,000 for Chowan and its peers.

**Table 40. Chronic Lower Respiratory Diseases Deaths
County, State and Peer Comparison**
**Chronic Lower Respiratory
Diseases Deaths
Per 100,000**

RESIDENCE		2007
North Carolina		47.7
<i>Chowan</i>		14.9
PEERS	Caswell	30.1
	Gates	87.3
	Jones	52.0
	Swain	41.5

Diabetes

Diabetes is a disorder of the metabolic system resulting from a shortage of insulin, a hormone that allows sugar to enter body cells and convert into energy. If diabetes is uncontrolled, sugar and fats remain in the blood, over time damaging vital organs (42). Diabetes was the 5th leading cause of death in Chowan County in 2004-2008 and caused \$592,000 in hospital charges in 2008 (39).

Diabetes Incidence

Incidence data for diabetes is not routinely available, but incidence can be estimated by other means, such as hospital discharge rates. In Chowan County in 2008 the hospital discharge rate for endocrine, metabolic, and nutritional diseases (including diabetes) was 4.6 discharges per 1,000, 12% higher than the state rate (4.1) (39). The county's discharge rate has fluctuated between 2004 and 2008, but has recently been below the state rate.

In 2008 the county discharge rate associated with *diabetes alone* was 2.2 per 1,000 (39). The hospital discharge rate for the diagnosis of diabetes alone is shown in Figure 33. Note that hospital discharge data tends to underestimate incidence since it does not include people being treated who do not require hospitalization.

The Healthy People 2010 target is no more than 5.4 hospitalizations per 10,000 (36), a population base 10 times larger than the base customarily used in NC. Converted to the national base, the current rate in Chowan County would be 22 rather than 2.2; more than four times the Healthy People 2010 goal.

Diabetes Mortality

Between 2004 and 2008, 31 deaths in Chowan County were attributed to diabetes for an overall rate of 30.5 (Table 41, following page). The current Healthy Carolinians goal for diabetes-related mortality is 67.4 per 100,000 population (35); the current Chowan County rate is less than half that target. In 2006, the national mortality rate was 23.1 per 100,000 (43). The Healthy People 2010 target for deaths due to diabetes is 45.0 per 100,000 (36), and the current rate in Chowan County is 32% below that goal.

Table 41. Diabetes Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	31	30.5	1	3.1	11	23.3	5	44.6	14	76.8
State Total	11,049	25.2	3,636	24.1	3,368	16.2	1,723	51.3	2,322	46.9
NC County Avg.	110	n/a	36	n/a	34	n/a	17	n/a	23	n/a
Source	NC State Center for Health Statistics, 2010 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Gender and Racial Disparities in Diabetes Mortality

For the five-year aggregate period 2004-2008, the Chowan County diabetes mortality rate among minority males could not be compared to the rate among minority females because the number was too low for meaningful comparison. There were too few diabetes deaths among white or minority males in Chowan County to yield a stable rate for comparison. On the state level, however, the diabetes mortality rate for white males exceeds the rate for white females by 49%, and the mortality rate for minority males exceeds the rate for minority females by 9%.

Significant racial disparities in diabetes mortality exist in Chowan County and the state. For the reason cited above the local rate for males should not be used for comparison; at the state level, the diabetes mortality rate among minority males is more than twice the rate among white males. The Chowan County diabetes mortality rate for minority females is more than three times higher than the rate among white females; at the state level the rate for minority females is nearly three times the rate for white females.

Diabetes Risk Factors

Risk factors for diabetes include:

- older age
- obesity
- family history of diabetes
- prior history of gestational diabetes
- impaired glucose tolerance
- physical inactivity (42).

Programs and Interventions:

TRHC has sponsored an annual “Diabetes Day” in Chowan and Bertie counties since 2008. The event provides an opportunity for diabetics to interact with educators about topics related to healthy diet, exercise, and glucose control.

Unintentional Motor Vehicle Injury

The NC-SCHS distinguishes unintentional motor vehicle injuries from all other injuries when calculating mortality rates and ranking leading causes of death. Injury mortality attributable to motor vehicle crashes is the 7th leading cause of death in Chowan County.

Unintentional Motor Vehicle Injury Mortality

Between 2004 and 2008, there were 18 deaths due to motor vehicle injuries in Chowan County (Table 42). The county mortality rate associated with motor vehicle injuries in 2004-2008 (23.7) was 27% higher than the state rate (18.6).

The Healthy Carolinians 2010 goal for motor vehicle injury is to reduce the mortality rate to 15.8 per 100,000 (35). The Chowan rate currently exceeds this goal by 50%.

In the US in 2006, motor vehicle crashes were the 8th leading cause of death, with a mortality rate of 15.0 (43). The rate in Chowan County currently exceeds this rate by 58%. The Healthy People 2010 goal is to reduce the overall motor vehicle accident mortality rate to 17.7 per 100,000 (36). Chowan County must reduce the local mortality rate by 25% to meet this goal.

Table 42. Unintentional Motor Vehicle Injury Mortality (2004-2008)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chowan	18	23.7	10	43.4	1	2.1	6	48.6	1	8.6
State Total	8,308	18.6	4,368	26.3	1,924	11.2	1,462	28.4	554	9.4
NC County Avg.	83	n/a	44	n/a	19	n/a	15	n/a	6	n/a
Source	NC State Center for Health Statistics, 2010 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Unintentional motor vehicle injury mortality rates in Chowan County have fluctuated between 1984 and 2008, with a recently decreasing trend. In NC the rates have remained relatively stable having decreased slightly over the period.

Gender and Racial Disparities in Unintentional Motor Vehicle Injury Mortality

The number of motor vehicle deaths among white and minority females in Chowan County for the period cited are below the threshold for meaningful mortality rate comparisons; other rate comparisons are valid. Minority males in Chowan County were 12% more likely to have died from motor vehicle injuries than white males (Figure 37). On the state level, racial disparities are not as dramatic as gender disparities. The mortality rate due to motor vehicle injury for white men (27.3) is more than twice the rate for white women (12.1). Statewide, the motor vehicle injury mortality rate among minority men was three times the rate among minority women.

According to the NC Highway Research Center, in 2008 there were 255 motor vehicle accidents in Chowan County, resulting in 80 nonfatal injuries and two fatalities.

Frequently, motor vehicle crashes are associated with alcohol consumption. In 2008, 4.3% of Chowan County motor vehicle accidents were associated with alcohol, a figure comparable to the state percentage of 5.7%. Alcohol was involved in 6.3% of all *nonfatal* motor vehicle accidents in the county and one (50%) of the *fatal* accidents. In the state as a whole, 8.6% of all *nonfatal* motor vehicle accidents, and 30% of all *fatal* motor vehicle accidents were alcohol-related.

The Healthy Carolinians 2010 goal for motor vehicle injury is to reduce the mortality rate to 15.8 per 100,000 (35). The current Chowan County rate exceeds this goal by 50%.

In the US in 2008 motor vehicle crashes had a mortality rate of 40.5 (43). The rate in Chowan County is currently 41% lower than the national rate. The Healthy People 2010 goal is to reduce the overall motor vehicle accident mortality rate to 17.7 per 100,000 (36). The current vehicular mortality rate in Chowan County exceeds this goal by 34%.

Programs and Interventions:

Three Rivers Healthy Carolinians has secured funding to provide a Car Seat Program in Chowan and Bertie Counties. Car seats will be checked by a certified child protective seat technician to ensure proper installation and seat safety. Seats are available if a replacement is needed.

Homicide

Homicide was the 12th leading cause of mortality in Chowan County for the period 2004-2008 and was responsible for eight deaths in that five-year aggregate accounting for an overall mortality rate of 11.0 per 100,000. The state mortality rate was 7.2.

While the homicide rate in the state has decreased overall since 1984, the rates in Chowan County have increased recently above the state.

The Healthy Carolinians 2010 homicide rate goal is 5.0 per 100,000 (35). At the national level, homicide is the 2nd leading cause of death for persons 15 to 24 years of age and is *the* leading cause of death for African-Americans in this age-group (43). The Healthy People 2010 goal is to reduce homicide rates to no more than 3.0 deaths per 100,000 (36).

Gender and Racial Disparities in Homicide Mortality

During the 2004-2008 period, the number of homicide related deaths in Chowan County were too few to calculate any meaningful mortality rates for comparison. At the state level, the homicide rate among minority males was more than four times that for white males.

Chapter Four:

Community Health Survey & Stakeholder Interviews Primary Data Methodology Survey Results Stakeholder Comments



ALBEMARLE REGIONAL HEALTH SERVICES
Partners in Public Health

Chowan County

Hello, I am _____ and this is _____ representing the Chowan County Health Department. (*Show badges.*) You are being asked to participate in a health survey for our county because your address was randomly selected. The purpose of this survey is to learn more about the health and quality of life in Chowan County, North Carolina. The Chowan County Health Department, Three Rivers Healthy Carolinians and Chowan Hospital will use the results of this survey to help develop plans for addressing the major health and community issues in Chowan County. All the information you give us will be completely confidential and will not be linked to you in any way.

The survey is completely voluntary. All of your answers are confidential. It should take no longer than 30 minutes to complete. If you don't live here at this house, please tell me now.

Would you be willing to participate?

If they want to confirm this survey is legitimate, please ask them to call the Health Department.

- *Chowan County Health Dept. → 252-482-6003*

Additionally, the numbers for the local law enforcement are provided here:

- *Chowan County Sheriff's Office → 252-482-8484*

The purpose of this survey is to learn more about health and quality of life in the Albemarle Region of North Carolina. The local health departments of Albemarle Regional Health Services, Albemarle Hospital, Bertie Memorial and Chowan Hospitals-University Health Systems, Gates Partners for Health, Healthy Carolinians of the Albemarle and Three Rivers Healthy Carolinians will use the results of this survey and other information to help develop plans for addressing the health problems of the region and its seven constituent counties: Pasquotank, Perquimans, Camden, Chowan, Currituck, Bertie and Gates. Thank you for taking the time to complete this Community Health Survey. **If you have already completed this survey, or if you don't live in Chowan County, please STOP here.**

Your answers on this survey will not be linked to you in any way.

PART 1: Quality of Life Statements

The first part of this survey is about the quality of life in Chowan County. After I read the statement, please tell me whether you strongly disagree, disagree, agree or strongly agree with it.

Quality of Life Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
Question 1 There is a good health care system in Chowan County. (Think about health care options, access, cost, availability, quality, etc.)	4.9%	16.0%	63.0%	13.6%
Question 2 Chowan County is a good place to raise children. (Think about the availability and quality of schools, child care, after school programs, places to play, etc.)	1.2%	3.7%	79.0%	16.0%
Question 3 Chowan County is a good place to grow old. (Think about elder-friendly housing, access/ways to get to medical services, elder day care, social support for the elderly living alone, meals on wheels, etc.)	2.5%	4.9%	69.1%	23.5%
Question 4 There are plenty of ways to earn a living in Chowan County. (Think about job options and quality of jobs, job training/higher education opportunities, etc.)	39.5%	44.4%	16.0%	0%
Question 5 Chowan County is a safe place to live. (Think about safety at home, in the workplace, in schools, at playgrounds, parks, shopping centers, etc.)	2.5%	4.9%	81.5%	8.6%
Question 6 There is plenty of support for individuals and families during times of stress and need in Chowan County. (Examples include neighbors, support groups, faith community outreach, agencies, organizations, etc.)	3.7%	19.8%	60.5%	12.3%
Question 7 Chowan County has clean air.	0%	7.4%	76.5%	13.6%
Question 8 Chowan County has clean water.	14.8%	25.9%	50.6%	6.2%

PART 2: Community Health, Behavioral, and Social Problems

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

SHOW QUESTION PICK LIST

Question 9

Using this list, please tell us the five (5) most important health problems in Chowan County.

(Problems that you think have the greatest overall effect on health in the community.)

- 35.4%** Cancer
- 22.8%** Diabetes
- 21.5%** Heart Disease
- 16.5%** Obesity
- 11.4%** Mental health

Question 10

Using this list, please tell us the five (5) most important “unhealthy behaviors” in Chowan County. (Unhealthy behaviors that you think have the greatest overall effect on health and safety in the community.)

- 46.8%** Alcohol abuse
- 41.8%** Drug abuse
- 21.5%** Having unsafe sex
- 17.7%** Lack of exercise
- 17.7%** Unhealthy eating

Question 11

Using this list, please tell us the five (5) most important “community social issues” in Chowan County. (Social issues that you think have the greatest overall effect on the quality of life in the community.)

- 26.6%** Lack of affordable health care/health insurance
- 21.5%** Lack of education/dropping out
- 17.7%** Underemployment/lack of well-paying jobs
- 8.9%** Poverty
- 8.9%** Neglect and abuse

PART 3: Community Service Problems and Issues

Now I am going to ask you: In the past 12 months have you needed any of these specific community services but had difficulty finding or using the service? I will name several, so if you did not need this service, tell me that and we'll skip to the next one.

Question 12

Tell me if you needed this service in the past 12 months.

IF NO, SKIP TO NEXT SERVICE

If YES, tell me whether you had one of the following problems with this service: (if you had no problem with this service, please tell me so)

Adult day care/respice care

0% Lack of information

0% Cost

2.2% Service not available

0% Language/Cultural barriers

0% Lack of transportation

3.3% No problem with this service

96.7% Did not need this service

Assistance with housing costs/subsidized housing

0.7% Lack of information

0.3% Cost

0% Service not available

0% Language/Cultural barrier

0% Lack of transportation

10.3% No problem with this service

84.2% Did not need this service

Assistance with food costs/food stamps

0% Lack of information

0% Cost

3.2% Service not available

0% Language/Cultural barrier

0% Lack of transportation

21.2% No problem with this service

73.3% Did not need this service

Health Promotion/Wellness programs

0% Lack of information

4.4% Cost

2.2% Service not available

0% Language/Cultural barrier

0.3% Lack of transportation

21.5% No problem with this service

69.3% Did not need this service

Medical case management for an ongoing health problem

0% Lack of information

0% Cost

4.8% Service not available

0% Language/Cultural barrier

0.3% Lack of transportation

25.3% No problem with this service

67.4% Did not need this service

Legal services

0% Lack of information

0.5% Cost

0.9% Service not available

0% Language/Cultural barrier

0% Lack of transportation

2.1% No problem with this service

94.3% Did not need this service

Emergency medical care

1.3% Lack of information

0% Lack of transportation

0.7% Cost
2.4% Service not available
0% Language/Cultural barrier

30.0% No problem with this service
63.2% Did not need this service

Hospital care

1.3% Lack of information
0.8% Cost
0.5% Service not available
0% Language/Cultural barrier

0% Lack of transportation
31.2% No problem with this service
63.9% Did not need this service

Pregnancy care

0% Lack of information
0% Cost
0% Service not available
0% Language/Cultural barrier

0% Lack of transportation
3.2% No problem with this service
94.6% Did not need this service

Enrolling in Medicaid or Medicare

0.3% Lack of information
0.9% Cost
5.1% Service not available
0% Language/Cultural barrier

0% Lack of transportation
28.2% No problem with this service
63.3% Did not need this service

Mental health care or counseling

1.9% Lack of information
0% Cost
2.6% Service not available
0% Language/Cultural barrier

0% Lack of transportation
4.9% No problem with this service
88.4% Did not need this service

Drug or alcohol treatment program

1.9% Lack of information
0% Cost
0% Service not available
0% Language/Cultural barrier

0% Lack of transportation
0.9% No problem with this service
94.5% Did not need this service

Rehabilitation from an injury or permanent disability

0% Lack of information
0% Cost
0% Service not available
0% Language/Cultural barrier

0% Lack of transportation
20.4% No problem with this service
77.4% Did not need this service

Home health care

0.7% Lack of information
0% Cost
2.2% Service not available
0% Language/Cultural barrier

0% Lack of transportation
10.2% No problem with this service
84.6% Did not need this service

Nutrition service

0% Lack of information
0% Cost

0% Lack of transportation
3.7% No problem with this service

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0.5% Service not available
0% Language/Cultural barrier

93.6% Did not need this service

Purchasing medical equipment

0% Lack of information
1.9% Cost
0.5% Service not available
0% Language/Cultural barrier

0% Lack of transportation
20.4% No problem with this service
74.8% Did not need this service

Getting prescription medications

0% Lack of information
13.0% Cost
0.3% Service not available
0% Language/Cultural barrier

0% Lack of transportation
58.5% No problem with this service
25.5% Did not need this service

Smoking cessation

0% Lack of information
0% Cost
0% Service not available
0% Language/Cultural barrier

0% Lack of transportation
5.6% No problem with this service
92.2% Did not need this service

Dental care

0% Lack of information
7.4% Cost

0.9% Service not available
0% Language/Cultural barrier

0% Lack of transportation
52.4% No problem with this service
service
37.1% Did not need this service

PART 4: Personal Health

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

Question 13

How would you rate your own personal health?

5.5% Excellent 14.3% Very Good **45.6%** Good 32.8% Fair 1.8% Poor

Question 14

Do you currently have any of the following kinds of health insurance or health care coverage? (Pick all the answers that apply.)

22.8% Health insurance *my employer provides*
11.4% Health insurance *my spouse's employer provides*
0% Health insurance *my school provides*
0% Health insurance *my parent or my parent's employer provides*
24.1% Health insurance I bought for myself

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15.2% Medicaid
39.2% Medicare
2.5% Veteran's Administration benefits
____ Other: _____
10.3% I currently do not have any kind of health insurance or health care coverage

Question 15

During the past 12 months, was there any time that you did not have any health insurance or health care coverage?

8.0% Yes 92% No

Question 16

What type of medical provider(s) do you visit when you are sick?

(Pick all the answers that apply.)

<u>93.2%</u> Doctor's office	<u>0%</u> Company nurse
<u>5.8%</u> Health department	<u>0%</u> Community or Rural Health Center
<u>8.6%</u> Hospital clinic	<u>1.7%</u> Urgent Care Center
<u>6.6%</u> Hospital emergency room	____ Other: _____
<u>0%</u> Student Health Services	

Question 17

In what cities are the medical providers you visit located?

(Pick all the answers that apply.)

<u>0.5%</u> Ahoskie	<u>0%</u> Franklin	<u>0%</u> Suffolk
<u>4.4%</u> Chesapeake	<u>0%</u> Gatesville	<u>10.5%</u> Virginia Beach
<u>1.2%</u> Dare County	<u>17.2%</u> Greenville	<u>1.2%</u> Williamston
<u>75.6%</u> Edenton	<u>10.9%</u> Hertford	<u>0.7%</u> Windsor
<u>15.5%</u> Elizabeth City	<u>3.4%</u> Norfolk	____ Other: _____

Question 18

Where do you usually get advice on your health?

(Pick all the answers that apply.)

<u>90.6%</u> Doctor's office	<u>0%</u> Urgent Care Center
<u>1.2%</u> Health department	<u>33.9%</u> Family
<u>0%</u> Hospital clinic	<u>24.2%</u> Friends
<u>1.2%</u> Hospital emergency room	<u>9.2%</u> Media (television, news, radio, magazine)
<u>0%</u> Student Health Services	<u>11.1%</u> internet or other computer-based info
<u>3.1%</u> Company nurse	____ Other: _____
<u>0%</u> Community or Rural Health Center	

Question 19

About how long has it been since you last visited a doctor for a routine ("well") medical checkup? Do not include times you visited the doctor because you were sick or pregnant.

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- 89.3% Within the past 12 months
- 8.9% 1-2 years ago
- 1.5% 3-5 years ago
- 0.3% More than 5 years ago
- 0% I have never had a routine or “well” medical checkup.

Question 20

About how long has it been since you last visited a dentist for a routine (“well”) dental checkup? Do not include times you visited the dentist because of a toothache or other emergency.

- 53.7% Within the past 12 months
- 15.7% 1-2 years ago
- 20.5% 3-5 years ago
- 9.8% More than 5 years ago
- 0.3% I have never had a routine or “well” dental checkup.

Question 21

If one of your friends or family members needed counseling for a mental health, substance abuse, or developmental disability problem, whom would you suggest they go see?

- 1.2% Children’s Developmental Services Agency/Developmental Evaluation Center
- 25.0% Counselor or therapist in private practice
- 23.2% Doctor
- 2.4% Emergency Room
- 0% Employee Assistance Program
- 19.9% Local Mental Health Facility
- 16.8% Minister/pastor
- 1.2% School counselor
- 0% Vocational Rehabilitation/Independent Living
- 27.3% I don’t know
- ____ Other: _____

Question 22

How would you describe your day-to-day level of stress?

- 20.4% High
- 38.7% Moderate
- 40.9% Low

Question 23

In the past 12 months, how often would you say you were worried or stressed about having enough money to pay your rent/mortgage?

- 17.8% Always
- 1.7% Usually
- 12.7% Sometimes
- 17.5% Rarely
- 50.2% Never

Question 24

On how many of the past 7 days did you drink alcohol of any kind? (Beer, Wine, Spirits)

<u>11.6%</u> 1 day	<u>0.9%</u> 6 days
<u>6.5%</u> 2 days	<u>2.0%</u> 7 days
<u>0%</u> 3 days	<u>32.6%</u> I didn't drink alcohol on any of the past 7 days
<u>0%</u> 4 days	<u>46.2%</u> I never drink alcohol
<u>0.3%</u> 5 days	

Question 25

During that same 7-day period, how many times did you have five (5) or more alcoholic drinks (Beer, Wine, Spirits) in a single day?

<u>94.9%</u> 0 times	<u>0%</u> 4 times
<u>4.4%</u> 1 time	<u>0%</u> 5 times
<u>0.3%</u> 2 times	<u>0%</u> 6 times
<u>0.3%</u> 3 times	<u>0%</u> 7 times

Question 26

Do you smoke cigarettes?

<u>15.7%</u> Yes
<u>72.6%</u> I have never smoked cigarettes
<u>11.7%</u> I used to smoke but have quit

Question 27

How many cigarettes do you smoke per day?

(Please check only one (1) answer.)

<u>84.3%</u> Doesn't smoke
<u>4.0%</u> Less than half a pack per day
<u>5.4%</u> Between half a pack and one (1) pack per day
<u>5.0%</u> More than one (1) pack a day
<u>1.2%</u> Two (2) packs a day
<u>0%</u> Three (3) packs a day

Question 28

Are you regularly exposed to second-hand smoke from others who smoke?

<u>21.2%</u> Yes	<u>79.0%</u> No
------------------	-----------------

Question 29

If you answered “yes” to the question 28, where are you regularly exposed to secondhand smoke? (Pick all answers that apply.)

- 0% In restaurants
- 18.0%** At home
- 2.9% At work
- 0.3% In the car

Question 30

How often do you currently use smokeless tobacco (chewing tobacco, snuff, Snus®, “dip”)?

- 13.2% Not at all
- 7.2% Less than once per week
- 6.1% Once per week
- 36.5%** 2-3 times per week
- 14.9% 4-6 times per week
- 22.1% Daily

Question 31

During the past 7 days, other than your regular job, how often did you engage in physical activity for at least a half-an-hour?

- 13.2% None
- 7.2% Less than once a week
- 6.1% Once a week
- 36.5%** 2-3 times a week
- 14.9% 4-6 times a week
- 22.1% Daily

Question 32

If you answered “none” to question 31, why don’t you engage in physical activity?

- 0.3% My job is physical or hard labor
- 1.0% I don’t have enough time for physical activity
- 2.6% I’m too tired for physical activity
- 7.7%** I have a health condition that limits my physical activity
- 0% I don’t have a place to exercise
- 0% Weather limits my physical activity
- 0% Physical activity costs too much (equipment, shoes, gym expense)
- 1.2% Physical activity is not important to me
- Other: _____

Question 33

Not counting juice, how often do you eat fruit in an average week?

- 9.9% None
- 50.6%** 1-5 servings
- 28.4% 6-10 servings
- 4.9% 11-15 servings
- 6.2% More than 15 servings

Question 34

Not counting potatoes and salad, how often do you eat vegetables in an average week?

- 4.9% None
- 21.0% 1-5 servings
- 50.6%** 6-10 servings
- 14.8% 11-15 servings
- 8.6% More than 15 servings

Question 35

Are grocery stores in or near your neighborhood?

- 77.3%** Yes
- 22.7% No

Question 36

Are fresh fruits and vegetables readily available at nearby grocery stores?

- 73.5%** Yes
- 26.5% No

Question 37

On average, about how many meals a week do you eat out?

- 30.9% None
- 66.7%** 1-5 times
- 2.5% 6-10 times
- 0% More than 10 times

Question 38

Have you ever been told by a doctor, nurse, or other health professional that you have any of the following?

- 18.8% Asthma
- 20.2% Depression
- 30.3% Diabetes
- 66.9%** High blood pressure
- 45.1% High cholesterol
- 1.9% Mental Illness
- 43.5% Overweight/obesity

MEN'S HEALTH QUESTIONS. Answer the following two questions only if you are a man age 40 or older. *If you are a man, but younger than age 40, skip to question 46. If you are a woman, skip to question 41.*

Question 39

Do you get an annual prostate exam?

24.3% Yes

_____ No, why not?

I. 0% Lack of Information

II. 0.3% Cost

III. 4.4% Service Not Available

IV. 0% Language or Cultural Barrier

V. 0% Lack of Transportation

VI. 3.5% Instructed by a health professional that an annual prostate exam was not necessary

Question 40

How long has it been since your last prostate exam?

21.4% Within the past 12 months

9.7% 1-2 years ago

0% 3-5 years ago

0.6% More than 5 years ago

0.3% I don't know/don't remember

0% I have never had a prostate exam

WOMEN'S HEALTH QUESTIONS. Answer the following four (4) questions only if you are a woman. *If you are a man, skip to question 45.*

Question 41

If you are age 40 or older, do you get a mammogram every 1-2 years?

53.8% Yes 96.3% N/A because I'm under age 40 (*now skip to question 43*)

_____ No, why not?

I. 0.1% Lack of Information

II. 1.4% Cost

III. 0% Service Not Available

IV. 0% Language or Cultural Barrier

V. 2.2% Lack of Transportation

VI. 1.9% Instructed by a health professional that a mammogram every 1-2 years was not necessary

Question 42

How long has it been since your last mammogram?

43% Within the past 12 months

7.1% 1-2 years ago

3.1% 3-5 years ago

1.9% More than 5 years ago

0.5% I don't know/don't remember
0.5% I have never had a mammogram

Question 43

Do you get a Pap test at least every 1-3 years?

41.8% Yes
____ No, Why?
I. 1.1% Lack of Information
II. 5.8% Service Not Available
III. 0% Language or Cultural Barrier
IV. 0% Lack of Transportation
V. 16.6% Instructed by a health professional that a pap test every 1-3 years was not necessary

Question 44

How long has it been since your last Pap test?

31.3% Within the past 12 months
9.6% 1-2 years ago
9.3% 3-5 years ago
5.6% More than 5 years ago
0% I don't know/don't remember
0% I have never had a mammogram

Question 45

FOR MEN AND WOMEN: If you are a man or woman age 50 or older, have you ever had a test or exam for colon cancer?

56.9% Yes ____ No ____ N/A because I'm under age 50

PART 5: Adolescent (age 9-17) Behavior.

Answer the following three (3) questions only if you are the parent or guardian of a child aged 9-17. If you are not the parent or guardian of a child in this age range, skip to question 49.

Question 46

Do you think your child is engaging in any of the following high-risk behaviors?

(Check all answers that apply.)

<u>1.8%</u> Alcohol	<u>0%</u> Gang violence
<u>3.8%</u> Drugs	<u>0%</u> Reckless driving/speeding
<u>0%</u> Sex	<u>0%</u> Eating disorder (e.g. anorexia or bulimia)
<u>1.3%</u> Tobacco	<u>10.4%</u> My child is not engaging in any high risk behaviors.

Question 47

Are you comfortable talking to your child about the above behaviors?

14.9% Yes ____ No

Question 48

Do you or your child need more information about any of the following issues?

(Check all answers that apply.)

- | | |
|---------------------|--|
| <u>1.9%</u> Alcohol | <u>0%</u> Reckless driving/speeding |
| <u>1.9%</u> Drugs | <u>0%</u> Eating disorder (e.g. anorexia or bulimia) |
| <u>0%</u> Sex | <u>0%</u> Mental health issues (e.g. depression, anxiety) |
| <u>0%</u> Tobacco | <u>0%</u> Fitness/nutrition |
| <u>0%</u> STDs | Other: _____ |
| <u>0%</u> HIV | <u>7.6%</u> My child does not need information about any of the above. |
| <u>0%</u> Gangs | |

PART 6: Emergency Preparedness

The next three questions ask about how prepared you and your household are for an emergency.

Question 49

Does your household have working smoke and carbon monoxide detectors?

(Check only one)

- | | |
|--|---|
| <u>49.2%</u> Yes, smoke detectors only | <u>0.3%</u> Yes, carbon monoxide detectors only |
| <u>46.4%</u> Yes, both | <u>4.1%</u> No |

Question 50

Does your household have a Family Emergency Plan?

- | | |
|------------------|-----------------|
| <u>61.5%</u> Yes | <u>38.5%</u> No |
|------------------|-----------------|

Question 51

Does your household have a basic emergency supply kit? If yes, how many days do you have a supply for?

- | | | | |
|-------------------------------|--------------------|---------------------|---------------------|
| <u>46.1%</u> No | <u>7.5%</u> 3 days | <u>33.8%</u> 1 Week | <u>9.7%</u> 2 weeks |
| <u>4.0%</u> More than 2 weeks | | | |

Question 52

Did you get your H1N1 Flu vaccine?

- ___ Yes, why?
- | |
|--|
| <u>12.6%</u> Feel I am at risk, or a household member is at risk |
| <u>0%</u> I know someone who has been sick |
| <u>16.8%</u> My doctor recommended it |
| <u>16.4%</u> I always get the flu vaccine |
- 54.1% No, why not?
- | |
|---|
| <u>0.5%</u> I couldn't afford it |
| <u>4.2%</u> It was not available |
| <u>15.5%</u> I feel the vaccine is not safe |
| <u>0.6%</u> My physician does not recommend its use |

- 9.7% H1N1 is not serious enough or I am not at risk
- 1.2% Prefer to wait and get vaccine later
- 0.3% The type available is not suitable for my age or medical condition
- 17.1%** I never get vaccinated against flu
- 5.1% It was not convenient

PART 7: Demographics

Please answer this next set of questions so we can see how different types of people feel about local health issues.

Question 53

Do you work or go to school outside Chowan County?

15.5% Yes 55.2% No

Question 54

How old are you?

<u>1.3%</u> 18-24	<u>3.8%</u> 40-44	<u>6.3%</u> 60-64
<u>3.8%</u> 25-29	<u>6.3%</u> 45-49	<u>15.2%</u> 65-69
<u>2.5%</u> 30-34	<u>16.5%</u> 50-54	<u>2.5%</u> 70-74
<u>6.3%</u> 35-39	<u>17.8%</u> 55-59	<u>16.5%</u> 75 or older

Question 55

What is your sex?

30.4% Male

69.6% Female

Question 56

What is your race or ethnicity?

<u>27.9%</u> African American/Black	<u>0%</u> Native American
<u>1.3%</u> Asian/Pacific Islander	<u>69.6%</u> White/Caucasian
<u>0%</u> Hispanic/Latino	<u>1.3%</u> Other:

Question 57

What is your marital status?

<u>40.5%</u> Married	<u>3.8%</u> Separated	<u>9.9%</u> Never married
<u>20.3%</u> Widowed	<u>15.9%</u> Divorced	

Question 58

What is the highest education level you have completed?

(Check only one (1) answer.)

- 7.0% Less than high school
- 38.4%** High school diploma or GED
- 12.6% Associate's Degree
- 15.9% Some college but no degree
- 17.7% College degree (Bachelor's degree)
- 6.6% Graduate degree (Masters or Doctoral degree)

Question 59

What is your employment status?

(Check all answers that apply.)

- | | |
|---------------------------------|--------------------------------------|
| <u>31.2%</u> Employed full-time | <u>7.2%</u> Disabled; unable to work |
| <u>10.0%</u> Employed part-time | <u>0%</u> Student |
| <u>10.9%</u> Unemployed | <u>3.9%</u> Homemaker |
| <u>50.8%</u> Retired | |

Question 60

What was your total household income last year, before taxes? (*This is the total income, before taxes, earned by all people over the age of 15 living in your house.*)

- 40.6% Less than \$20,000
- 3.7% \$20,000 to \$29,999
- 13.5% \$30,000 to \$49,999
- 17.7% \$50,000 to \$74,999
- 6.9% \$75,000 to \$100,000
- 6.6% Over \$100,000
- 10% No Answer

Question 61

How many individuals make up your household?

- | | |
|----------------------|----------------------|
| <u> </u> 1 person | <u> </u> 6 people |
| <u> </u> 2 people | <u> </u> 7 people |
| <u> </u> 3 people | <u> </u> 8 people |
| <u> </u> 4 people | <u> </u> 9 people |
| <u> </u> 5 people | |

Question 62

Are you the primary caregiver for any of the following?

(Check all answers that apply.)

- | | |
|--|---------------------------------------|
| <u>0.3%</u> Disabled child (under age 18) | <u>0%</u> Foster child (under age 18) |
| <u>7.0%</u> Disabled adult (age 18 or older) | <u>3.6%</u> Grandchild (under age 18) |
| <u>10.1%</u> Senior adult (age 65 or older) | |

THE END!

Thank you very much for completing the Community Health Survey!

Stakeholder Comments

Available Services

The interview subjects worked for or volunteered with organizations that provided the following kinds of services:

- Public assistance program administration
- Public school educational services (kindergarten through 12th grade)
- Outreach to senior citizens
- Family nutrition services
- Children's health
- Health education and other health related services and activities

Unmet Service Needs

When the interview subjects were asked to identify what they felt were necessary, but unavailable services, they offered the following:

- **Transportation services**
- **Prescription drug assistance program**
- **Communication services**
- **Outreach programs**
- **Obesity programs**
- **Diabetes programs**
- **Dental care for the uninsured and underinsured**
- **Preventive health programs**

Comments made during the stakeholder interviews include:

There's an incredible amount of resources available; we need to make sure communities know about them. Health education is not reaching those who need it.

Outreach programs for seniors are needed, and how do we reach children?

Client Populations Served

Some health education and service activities specifically target children, youths, seniors, and Medicaid recipients.

Barriers to Service Access

Transportation was frequently cited as a barrier to service access in Chowan County. Many people also have little to no knowledge of the programs that exist. Some people may also be discouraged from receiving services because of the public's perception of people who receive social services. There are also language barriers in some cases.

Overcoming Access Barriers

Improved communication was seen as a key to overcoming access barriers. Interpreters are sometimes used to help people with limited English skills.

Community Strengths

Interview subjects particularly noted the county's small-town settings, sense of community, and quality health care providers and facilities as strengths of Chowan County.

The retirement community brings a significant amount of education into the area.

It's a really community-minded community. There are strong civic groups and clubs that work with people and a strong community spirit.

The hospital is a big strength. There is a good local hospital with quality health providers. Emergency care is available.

It's a small and clean community, people are friendly, and the doctors care.

Everybody knows each other, it's a safe environment.

Community Challenges

The interviewees expressed concern that there are few employment opportunities and a lack of industry in Chowan County. Childhood obesity and high blood pressure were cited as common health problems. Lack of insurance, inadequate insurance, and difficulties with affording prescription drugs are frequent problems. The recent recession has had a negative impact on the county's economy.

For eyes and hearing, there's no affordable care. Same with dental care. Health clinics are needed to provide free or affordable care.

The population is aging, increasing the need for health care, but decreasing support for funding for schools.

There is high unemployment and many people without insurance. Affordable health care is hard to find.

A major challenge is the ability to deliver health care to low-wealth community; over 60% of students receive a free or reduced lunch.

Lack of opportunity for young adults to acquire substantive employment in which they can afford to live and raise a family in the county.

Sometimes there's information overload due to the Internet.

Community Health Problems

Access to health-care was a major health concern for this group of interview subjects. High blood pressure, obesity, and cancer were noted as common health problems. Cardiovascular health problems are common. Chronic Obstructive Pulmonary Disease also appears among smokers and factory workers. Tobacco use is high. Asthma is common in children. Respondents also cited a need for increased communication and education on preventive health-care and health-care screenings. They also noted that transportation and cost also affect people's ability to access health-care services.

There's an epidemic of obesity seen every day, people gaining weight- how do we reach them?

There are many chronic health problems associated with aging, such as COPD and diabetes. There are not a lot of nursing home beds- nursing homes are outside the area.

There is no tertiary care facility- you need to go out of town for tertiary care.

Obesity is linked to financial conditions- it's hard to find good food. People have bad dietary habits.

The county has only one dermatologist and one urologist. People need to go to metropolitan areas for tertiary care. There's a significant turnover in primary care physicians.

Solving Community Health Problems

When asked what the community could do to solve its health problems the interviewees suggested increasing preventive care programs and efforts to educate the community about health problems. They also recommended improving access to health services and doing a better job about getting health information out to the community.

There's a need for more aggressive preventive services for children in the schools.

We could look to other tourist-driven communities and develop an economic plan that utilizes the tourist attraction of the county as well as supports the economic requirements of the working class citizens.

We need continued health education and for those things you can't do anything about wait patiently on God's kingdom.

There's a need for more primary care physicians and specialists.

We should get more information to people in rural communities.

Collaboration with the school system could be useful. It seems that the kids learn a lot in school about healthy diets, but the message doesn't get carried back to the parents.

Quality of Life

Six respondents replied to the Quality of Life questions.

1) There is a good health care system in Chowan County.

Four respondents agreed with this statement and two disagreed.

2) Chowan County is a good place to raise children.

Five respondents agreed with this statement and one disagreed.

It's a quiet community.

3) Chowan County is a good place to grow old.

Five respondents agreed with this statement and one disagreed..

4) There are plenty of ways to earn a living in Chowan County.

Six respondents disagreed with this statement.

Children leave for metro areas.

5) Chowan County is a safe place to live.

Six respondents agreed with this statement.

6) There is plenty of support for individuals and families during times of stress and need in Chowan County.

Three respondents agreed with this statement and three disagreed.

The faith based community and civic community respond en masse.

7) Chowan County has clean air.

All six respondents agreed with this statement.

The area has few “bad air” days.

8) Chowan County has clean water.

Five respondents agreed with this statement and one disagreed.

We used to have an algae problem from a fertilizer plant but it’s closed now.

Chapter Five:
**Acting on Community Health
Assessment Results**

Health Priorities

What do Chowan County citizens say about the health of their community?

Below are issues most citizens rated as:

The 5 most important “health problems”:

Cancer
Diabetes
Heart Disease
Obesity
Mental Health

The 5 most important “unhealthy behaviors”:

Alcohol Abuse
Drug Abuse
Unsafe Sex
Exercise
Unhealthy eating

The 5 most important “community social issues”:

Lack of affordable health care/insurance
Lack of education/dropping out
Underemployment/Lack of well paying jobs
Poverty
Neglect and abuse of a child, spouse or elderly

Health Priority Selection

On October 18, 2010, members of Three Rivers Healthy Carolinians, (TRHC), met to identify leading community health problems. During the meeting, health concerns identified through the surveys, work groups and stakeholder interviews were presented.

Attendance:

Hunter Balltzglier	Megan Booth-Mills	Bobbie Parker	Charles Smith
Mary Morris	Dee Spruce	Cindy Smith	Misty Deanes
Lisa Spry	Dana Hamill		

Problems identified:

1. Chronic Lower Respiratory Diseases
2. Cancer
3. Low Birth Weight/Very Low Birth Weight/Infant Mortality
4. Stroke
5. Heart Disease
6. Diabetes
8. Childhood Obesity
9. Mental Health-Subcommittees decided they cannot do anything about this. Although it was mentioned Hertford County has a billboard with a Crisis Hotline number for Mental Health Services. 1-800#.

2010 Chowan County Community Health Assessment

Possible subcommittee assignments:

Chronic Disease

Stroke

Heart Disease

Diabetes

Cancer (More focus on Prostate Cancer)

Behaviors noted:

Exercise, eating healthy

Maternal & Child Health

HIV/STDs

Low Birth Weight/Very Low Birth Weight babies

Infant Mortality

Teen pregnancy and infant mortality

Teen pregnancy-education needs to be a bit more inclusive of everyone, not just underserved.

Behaviors noted:

Lack of prenatal care, poor preconceptional health, unprotected sex

Wellness

Childhood Obesity

Smoking Cessation (CLRD was a leading cause of death)

Behaviors noted:

Exercise, nutrition

***Very active recreation department and the schools are proactive in making sure kids get their exercise, fruits, and veggies. Elementary school age kids are doing well as far as obesity rates, need to start targeting teens.

Next Steps

The next step TRHC plans to take is the development of the community action plans, which are due in June 2011. The Action Plans will reflect the priority health issues, strategies, and steps to implement change along with our target populations, and resource networking with the various community partners. This is a critical component that the partnership must take in selecting activities that are reasonable and relatively easy to implement and align with the 2020 Healthy People Objectives in Bertie and Chowan Counties. TRHC Partnership members will utilize the information gathered during the community assessment process and the prioritization process to clearly define our community's health priorities, actions, and expected results. TRHC will meet on January 2011 to begin this process. Partnership meetings will take place the third Friday of each month throughout this process and through the completion of the recertification process. All partnership members, as well as chairpersons from the three TRHC subcommittees, Chronic Disease, Maternal and Child Health and Wellness, will be involved in completing new or revised action plans based on the prioritization of health needs. The completed action plans will include a description of each health issue/problem and will specify the proposed actions and community organizations that will provide and coordinate the intervention activities. The action plans will be developed after carefully considering all the factors that cause and perpetuate the problem they address. The plans will also identify how progress towards the outcome will be measured.

Dissemination Plan

TRHC plans to disseminate the Community Health Assessment information through presentations to county and city governments, local civic groups, faith organizations, and business leaders. TRHC will make flyers available to participants of the community health survey highlighting key issues for that population. With the help of ARHS, there are plans to make the document available on the ARHS website, and work with other agencies to provide links to the information. ARHS also plans to work with the local newspapers to provide news releases about the findings made in each county. Copies of the assessment will be placed in the local libraries, county health department, and in the libraries of Elizabeth City State University, College of the Albemarle, and Mid-Atlantic Christian University. TRHC members will have copies of the assessment at their disposal to use in the community.

Chapter Six:

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Chapter Seven: Appendices

Appendix A:

Chowan County Health Services Inventory

Adult Care

Britthaven of Edenton
1341 Paradise Rd
Edenton, NC 27932
252-482-8451

Chowan Hospital Skilled Nursing Facility
211 Virginia Rd
Edenton, NC 27932
252-482-8451

Edenton Prime Time Retirement
106 Mark Drive
Edenton, NC 27932
252-482-4492

Anesthesiology

Dr. Christopher Justis, MD
211 Virginia Rd
Edenton, NC 27932
252-482-8451

Cardiologist

Chowan Heart Center
222 Virginia Road
Edenton, NC 27932-9667
(252) 482-5600

Clinics

Community Care Clinic
2869 Virginia Rd
Tyner, NC 27980
252-384-4805

Cooperative Extension

Chowan County Cooperative Extension
730 N. Granville Street Suite A
Edenton, NC 27932
252-482-6585
FAX 252-482-6590

Dental Care

Public Health Dental Hygienist
Oral Health Section of North Carolina Public Health

Provides oral health assessments, education and referrals for targeted school age children in Chowan, Camden, Currituck, Pasquotank, and Perquimans. Also provides oral health education services upon request for all age groups.

Christopher H. Koppelman, DDS
Ethan B. Nelson, DDS
Lonnie V. Sieck, DDS
103 Mark Drive
Edenton, NC 27932
252-482-5131

Jerry L. Bradley, DDS
512 Coke Ave
Edenton, NC 27932
252-482-1080

Paul S. Richmond, DDS
410 N. Broad St
Edenton, NC 27932
252-482-2181

Dermatologist

Eastern Dermatology
222 Virginia Road
Edenton, NC 27932-9667
252-482-5661

Family Medicine

Chowan Family Medicine
701 Luke St, Suite D
Edenton, NC 27932
252-482-6522

Chowan Hospital Family Practice
201 Virginia Road
Edenton, NC 27932
252-482-2116

Family Medicine of Edenton
314 West Queen St
Edenton, NC 27932
252-482-7774

General Surgeons

Edenton Surgical Practice
203 Earnhardt Drive
Edenton, NC 27932-9668
252-482-5868

Gynecology & Obstetrics

Women's Health of Edenton
309 N. Broad St.
Edenton, NC 27932
252-482-7001

Chowan OB/GYN
203 Earnhardt Drive
Edenton, NC 27932
252-482-2134

Health Department

Chowan County Health Department
100 Freemason Circle
Edenton, NC 27932
252-482-6003
FAX 252-482-6020

Albemarle Regional Health Services is the seven-county regional Public Health agency that serves 132,978 residents in rural, northeastern North Carolina. For over 69 years, the communities of the Albemarle region have been the recipients of quality Public Health services. The Public Health professionals and programs of Albemarle Regional Health Services are dedicated to disease prevention and the promotion of a healthy environment to reduce morbidity, mortality, and disability through quality service, education, and advocacy. Funding for Health Department programs come from the County, State, Federal and special grants. Foreign language assistance is available for individuals who do not speak English. Below is a general list of programs and services:

Clinical Services

Adult Health Clinic- Comprehensive physical assessments and clinical services are provided for all adults in an effort to detect and prevent chronic diseases, which may cause disability or premature mortality.

Child Health Clinic- Primary child health services are provided in an effort to detect problems so appropriate interventions can begin as early as possible.

Immunizations- Immunizations are provided to children and adults in an effort to prevent communicable diseases such as polio, pertussis, tetanus, mumps, measles, rubella, diphtheria, and hepatitis. Adult immunizations include the annual influenza and pneumonia campaign, in addition to all recommended adult immunizations.

Communicable Disease Program-

Family Planning- helps women and men maintain optimal reproductive health and assists families in determining the number, timing, and spacing of their children.

Maternal Health- Maternal Health Care services are provided in an effort to reduce infant mortality and ensure all pregnant women receive the highest level of health care. High Risk Perinatal Clinic was established to improve the pregnancy outcomes of women with pregnancy complications.

Breast and Cervical Cancer Control Program (BCCCP)- provides access to screening services for financially and medically eligible women.

Additional Programs

WIC Women Infant and Children Program- Nutritional support program for infants, children and pregnant, postpartum and breastfeeding women.

Sexually Transmitted Diseases Clinic- STD and HIV diagnosis, treatment, and counseling are available on a walk-in-basis. There are no fees associated with STD services.

Public Health Preparedness and Response- work is focused on the communities in order to keep the public safe and prepared for any disaster. This is achieved by coordinating with local emergency management partners, response agencies, and medical partners. ARHS focuses specifically on Public Health related disaster and emergency events, including but not limited to, pandemics, disease outbreaks, bioterrorism, and natural disasters.

Albemarle Regional Diabetes Care Program- offers Individualized counseling, follow-up nutrition education, and disease management are integral components.

Interpretive Assistance- Interpretive services are available to ARHS clients to enhance communication during direct service delivery.

Environmental Health

Albemarle Environmental Management Systems affords the community services to ensure health and safety while reducing the spread of communicable diseases.

2010 Chowan County Community Health Assessment

Sewage inspection
Swimming Pool Inspection
Communicable Disease Investigation
Food & Lodging Inspection
Management Entity
Lead Investigation

Home Health & Hospice

Albemarle Home Care
311 Cedar Street
Elizabeth City, NC 27909
252-338-4066
FAX 252-338-4069
Toll Free 1-800-478-0477

Home Life Care
412 W Queen St
Edenton, NC 27932
252-482-1130

Healthcare Options of East
819 N Broad St
Edenton, NC 27932
252-482-5561

ResCare Home Care
905 Halstead Blvd Unit 15
Elizabeth City, NC 27909
252-331-2708
www.ResCareHomeCare.com

University Health Systems-Home Health and Hospice
1762 Ocean Hwy
Edenton, NC 27932
252-482-1988

Hospital

Chowan Hospital
211 Virginia Road
Edenton, NC 27932
252-482-8451

Internal Medicine

Chowan Internal Medicine
105 Mark Drive
Edenton, NC 27932
252-482-3047

Edenton Internal Medicine
104 Mark Drive
Edenton, NC 27932
252-482-5171

Mental Health

Alcohol Anonymous
Call 252-338-1849 or 1-800-350-2538 for meeting
schedules and contact information, or visit
www.aanc32.org

Outpatient Behavioral Health Program
211 Virginia Rd
Edenton, NC 27932
252-482-6347

PORT Human Services
305 East Main Street
Elizabeth City, NC 27909
252-335-0803
FAX 252-413-0932
Crisis Hotline: 866-488-PORT (7678)
www.porthumanservices.org

Port Human Services is a private, non-profit organization that provides a full continuum of substance abuse and mental health services to the citizens of Eastern North Carolina.

Mobile Crisis Team
Integrated Family Services PLLC
1-866-437-1821
24 hours a day/ 7 days a week
www.integratedfamilyservices.net

The Mobile Crisis Team helps people in crisis who have: Mental Health Issues, Developmental Disabilities, and Substance Abuse Issues.

Ophthalmology

Edenton Eye Care
101 Mark Drive
Edenton, NC 27932
252-482-7471
Eye Care Center
Dr. Stephen Benkusky
103 W. Eden St.
Edenton, NC 27932
252-482-3218
Orthopedics

2010 Chowan County Community Health Assessment

Coastal Albemarle Orthopedics
701 Luke St
Edenton, NC 27932
252-482-5011

Pediatrics

Chowan Pediatrics
203 Earnhardt Drive
Edenton, NC 27932
252-482-7407

Pharmacies

Blount's Mutual Drugs, INC
323 S Broad St
Edenton, NC 27932
252-482-2127

CVS Pharmacy
1316 N Broad St
Edenton, NC 27932
252-482-0945

Podiatry

East Carolina Foot and Ankle Specialist, PA
222 C Virginia Road
Edenton, NC 27932
252-482-1400

Support Services

~Food Pantry~

Edenton Chowan Food Pantry
1370 N Broad St
Edenton, NC 27932
252-482-2504

Pleasant Grove Soup Kitchen
121 E. Carteret St.
Edenton, NC 27932
252-482-8551

Shalom International Church
115 Hicks St
Edenton, NC 27932
252-482-1132

~Housing Assistance~

Economic Improvement Council (Main Office)
P.O Box 549
Edenton, NC 27932
252-482-4459

~In Case of Crisis~

Salvation Army
602 N. Hughes Blvd
Elizabeth City, NC 27909
252-338-4129

The American Red Cross
905 Halstead Blvd.
Elizabeth City, NC
252-338-2185

~Social Services~

Chowan County Department of Social Services
113 East King St
Edenton, NC 27932
252-482-7441

Urology

Edenton Urology
210 North Broad Street
Edenton, NC 27932
252-482-1606

R. Daniel Bohl, MD
222 Virginia Rd
Edenton, NC 27932
252-482-2210

Appendix B:
ARHS Community Health Assessment
Community Leader Telephone Interviews
Interview Protocol
Chowan County

Pre-Interview Phase

Introductory Phone Call

Say: "Hello, my name is _____ and I'm working for the UNC School of Public Health on a health assessment project with the local health departments of Albemarle Regional Health Services and their community health partners throughout the region. The goals of the project are to learn more about health and quality of life – and to identify the special strengths and challenges – in each county of the region.

We have just completed a broad community survey and currently are in the process of interviewing people like you who lead organizations that serve the needs of people in each county. A short time ago you should have received a letter from the Chowan County sponsors of this project inviting you to participate in one of these interviews. I hope you have had a chance to read the letter and think about how you can help the community by participating. Would you be willing to participate in an interview?"

[NOTE: At this point the subject may want more information about the interview. You may tell the subject that the interview will take approximately a half-hour to complete and will include questions about what his or her agency or organization does and who it serves, as well as opinion-type questions about the strengths and challenges of healthcare and other resources in the community.]

If their answer is **NO**: thank them for their time and tell them that the final results of the project will be made available to the public around the end of the year. [Of course if your invitation is by email, you will not wait for a yes or no answer; you will assume the answer will be "YES" and move on in your message as in the following paragraph.]

If their answer is **YES**: assure them that the interview will take place at their convenience. They may suggest using the present time; if not, ask on what date and at what time it would be convenient to call them back for the interview. If to this point the subject has not asked for more information about the activity, please now provide the information from the **NOTE** above. Be sure to get correct phone information (i.e., do not assume that the number on the roster is the number they will want to use for the interview) and try to accommodate their timing needs. This *may* require you to call them back in the evening or on a weekend. If they

offer you choices or other kinds of flexibility, you may then schedule the call to your convenience. Thank them for agreeing to participate and tell them you look forward to talking with them on: [repeat the day/time of the interview].

Introductory Email

Write: “Dear [proper name/title of prospective participant],

My name is _____ and I’m working for the UNC School of Public Health on a health assessment project with the local health departments of Albemarle Regional Health Services and their community health partners throughout the region. The goals of the project are to learn more about health and quality of life – and to identify the special strengths and challenges – in each county of the region.

We have just completed a broad community survey and currently are in the process of interviewing people like you who lead organizations that serve the needs of people in each county. A short time ago you should have received a letter from the Chowan County sponsors of this project inviting you to participate in one of these interviews. I hope you have had a chance to read the letter and have decided to participate.

The interview will take approximately a half-hour to complete and will include questions about what your agency or organization does and who it serves, as well as personal opinion-type questions about the strengths of and challenges to health and healthcare in Chowan County.

I want to be sure that the interview can take place on a day and at a time that is convenient for you. Will you please reply to this message with a brief note suggesting some days -- and times on those days -- when it would be convenient for me to call you for the interview? Please also provide the phone number you would like me to use for the call. [It is permissible for the interviewer to suggest some possible time slots in the name of efficiency, but the suggestion should be in the form of a question (e.g., “Would it be convenient for me to call you on.....”, rather than “I’d like to call you on.....)].

If you would like additional information, please feel free to contact me at the address above.

Thank you sincerely for your participation in this project. Your input will be very helpful in the effort to identify health issues, services and service gaps in Chowan County. I look forward to hearing from you!

[Sign name]

Interview Phase: Call Protocol; Interview Guide

Say: "Hello, my name is _____ and we spoke [or exchanged email messages] a short time ago about your participation in a telephone interview about health and quality of life in Chowan County. This is the time you suggested that I call to conduct that interview. Is this still a convenient time for you?"

If the answer is **NO**, apologize for the inconvenience and ask them to suggest a day and time to which to reschedule the interview. It is possible that the subject may have changed his/her mind about participating. If the subject declines to reschedule, thank them for their time and tell them that, should they be interested, the results of the project will be made public around the end of the year.

If the answer is **YES**, say:

"Thank you again for agreeing to participate in this interview. Our conversation will take approximately 30 minutes to complete, but I don't want you to feel rushed. Please feel free to take as much time as you need it to say what you want to say."

"What we discuss will be kept confidential. Nothing you say will have your name or organization attached, and the responses we gather in interviews will be combined and then summarized. It is possible that we may use some quotes from the interviews, but they will be modified as necessary so that neither the person who said them nor his/her organization can be identified."

"Are you ready? Let's begin."

A. The first questions are about your agency or organization and its clients:

- 1) What services does your agency provide for county residents?
- 2) Please describe county residents who *currently* are most likely to use your services (age, gender, race, income level, etc.).
- 3) In the *past 5 years* have there been any *changes* in the composition of the people who use your services? If yes, please describe.
- 4) What do you think are the barriers residents encounter in accessing your services?
- 5) What does your agency do to try to meet the special needs of people who use your services (e.g., language/cultural issues, cost, transportation, etc.)?
- 6) Is there anything else you'd like to tell me about your organization?

B. The following open-ended questions also relate to Chowan County as a whole.

- 1) What services/programs are needed now that are not currently available?
- 2) Overall, what would you consider to be Chowan County's greatest strengths?
- 3) What do you feel are the major challenges Chowan County is facing?
- 4) Looking *specifically at health*: what do you think are the most important health problems/health concerns in Chowan County?
- 5) What factors do you believe are causing these health problems or concerns?
- 6) What do you think could be done to solve or overcome these health problems or concerns?

C. Did you participate in the recent Chowan County Community Health Survey?

NOTE to interviewer: If NO, please ask subject to answer the following questions (Section D) which were on the survey; if YES, conclude with the last question (Section E):

D. The next questions are about Chowan County as a whole. Please tell me if you agree or disagree with the following statements about Chowan County [prompt for details, especially for very strong positive or negative responses]:

- 1) There is a good health care system in Chowan County.
- 2) Chowan County is a good place to raise children.
- 3) Chowan County is a good place to grow old.
- 4) There are plenty of ways to earn a living in Chowan County.
- 5) Chowan County is a safe place to live.
- 6) There is plenty of support for individuals and families during times of stress and need in Chowan County.
- 7) Chowan County has clean air.
- 8) Chowan County has clean water.

E. That concludes the formal interview. Are there any other thoughts you'd like to share?

Thank you for your time!