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2010
Community Health Assessment

Bertie County

ALBEMARLE REGIONAL HEALTH SERVICES
Partners in Public Health

Albemarle Health | Albemarle Hospital
A University Health Systems Affiliate

UNIVERSITY HEALTH SYSTEMS
of Eastern Carolina℠

BERTIE MEMORIAL HOSPITAL
CHOWAN HOSPITAL

PHP&R
Albemarle Regional Health Services

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Albemarle Regional Health Services,
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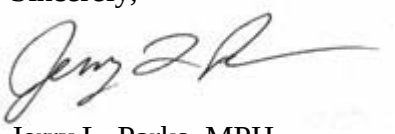
December 1, 2010

Dear Citizens of Bertie 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 Bertie 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,



Jerry L. Parks, MPH
Health Director

2010 Bertie County Community Health Assessment
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Community Health Assessment Purpose

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 (CHA), which describes both a process and a document, is intended to describe the current health status of the community, what has changed since the past assessment in 2006, and what still needs to change to improve the health of the community. The *process* involves the collection and analysis of a large range of data, including demographic, socioeconomic and health statistics, environmental data, and 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, both 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 and North Carolina Public Health Preparedness & Response, 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, employment status, household income, household size, and primary caretaker information. 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 Health; Behavioral and Social Problems, Personal Health, Emergency Preparedness, and Demographic Characteristics. Participants also were asked questions about their personal health and health behaviors. All responses were kept in confidence and not linked directly to the respondents in any way.

Secondary 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 the 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 Masters 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 withy key community stakeholders.

A total of 5 community leaders in Bertie 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 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
- 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, Bertie County statistics have been compared with state statistics, as well as three 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 Bertie County, the NC-CATCH system identified Hertford, Northampton and Warren as peer counties. Therefore, in addition to NC statistics, these three counties were used for comparison throughout part of 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 Bertie County Community Health Assessment you will find **BLUE** comments. These are comments and remarks made during the Data Presentation to community leaders on October 13, 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 Counties

♦ Amy Underhill coordinated and organized Community Health Assessment Team meetings as well as 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 Counties.

Ann Roach
Healthy Carolinians of the Albemarle Coordinator
Representative for Currituck, Camden, Pasquotank, and Perquimans Counties

♦ 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 coordinated the priority selection process for Currituck, Camden, Pasquotank, and Perquimans Counties.

Arina Boldt
Director of Marketing and Data Management/Member of Healthy Carolinians of the Albemarle
Albemarle Health
Representative for Currituck, Camden, Pasquotank, and Perquimans Counties

♦ 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 teams and other Preparedness Coordinators 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 that were 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 Counties

♦ Ashley Mercer attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She greatly 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 part in the data analysis and priority selection process for Perquimans and Pasquotank Counties.

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

♦ Cathie Williams attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She greatly 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 part 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

♦ Assisted with the facilitation and organization of Community Health Assessment Team Leader meetings, as well as participated in CHA Call-In meetings, assisted with CHA Data workgroups for Perquimans, Pasquotank, Camden, Chowan, and Bertie Counties. 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.

Fae Deaton
Spokeswomen for Woman's Heart Health/Member of Healthy Carolinians of the Albemarle
Representative for Currituck, Camden, Pasquotank, and Perquimans Counties

♦ Fae Deaton attended Community Health Assessment Team meetings and assisted in making decisions concerning the assessment process. She contributed heart health educational materials 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 provided a strong voice to the group during the data analysis and priority selection process for Currituck, Camden, Perquimans, and Pasquotank Counties.

Hunter Balltziglier
Wellness Coordinator/Member of Three Rivers Healthy Carolinians
University Health Systems - Chowan and Bertie Memorial Hospitals
Representative for Chowan and Bertie Counties

♦ 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 that were 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 their 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 also 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 Counties.

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, as well as 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 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 Counties

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

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 Counties.

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 greatly 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 that were distributed to citizens who participated in the opinion survey. Nancy participated in the opinion survey collection process as well as recruited other volunteers. She also provided a strong voice when selecting priority health issues.

Nancy Morgan
Three Rivers Healthy Carolinians Coordinator
Representative for Bertie and Chowan Counties

♦ Nancy Morgan coordinated community health assessment efforts in Bertie and Chowan Counties. As the Coordinator of Three Rivers Healthy Carolinians, Nancy publicized the community health assessment and helped to get as much of the community involved as possible. She contributed Three Rivers Health Carolinians 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. She also coordinated the data analysis and priority selection process for Bertie and Chowan Counties.

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 as well as analyzing data and choosing priority health issues in Pasquotank County.

Wesley Nixon
Environmental Health Specialist

♦ 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 Counties

♦ 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 Bertie County
Lisa Spry
Kaley Goodwin
Quaker Harmon
Dr. Sherry Brown
Brian White
Misty Deans
Bobbi Parker
Irma Robbins

Data Analysis Work Group
Mary Morris
Nancy Morgan
Al Bond
Megan Booth-Mills
Bobbie Parker
Misty Deanes
Charles Smith
JoAnn Jordan
Charles Smith
Dana Hamill

What do Bertie 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
- Stroke

The 5 most important “unhealthy behaviors”:

- Alcohol Abuse
- Drug Abuse
- Smoking
- Unhealthy eating
- Drunk driving

The 5 most important “community social issues”:

- Inadequate/unaffordable housing
- Lack of affordable health care/insurance
- Lack of education/dropping out
- Underemployment/lack of well-paying jobs
- Poverty

Chapter One:

Bertie County Community Profile

Geography

Bertie County is located in northeastern NC, in the Coastal Plain region of the state. It is characterized by low, flat plains with shallow stream valleys. The county is situated approximately 65 miles west of the Atlantic Ocean. The nearest metropolitan area is Greenville, North Carolina which is located 35 miles to the south. The county is 75 miles from the Outer Banks, 100 miles east of Raleigh, and 90 miles southwest of Norfolk, Virginia.

Bertie County's western border is shared with Halifax County. To the north, the county is bounded by Hertford County, to the south by Martin County and the Roanoke River, and to the east by Chowan County, the Chowan River, and the Albemarle Sound. A small portion of Bertie County is bordered by Northampton County to the northwest and Washington County to the southeast (Figure 1).

There are nine townships in Bertie County. Windsor is the most populated township in the county, and is the home of a town by that name that is the county seat (1).

The nearest interstate highway is Interstate 95, 50 miles west of the county. US Highways 13 and 17 run through the center of Bertie County. These roads provide a direct connection with US 64, which leads to the Outer Banks to the east and Raleigh to the west. US Highway 17 connects the county to Wilmington in the south; US Highway 11 connects the county to Southern Virginia to the north and Greenville, NC to the south.

The nearest airport offering commercial passenger service is Pitt Greenville Airport, located 35 miles south in Greenville. US Highway 64 provides access to the Raleigh-Durham International Airport located 110 miles to the west, and US Highway 11 provides access to Norfolk International Airport located 85 miles to the northeast. The Tri-County Airport in Ahoskie serves commuter and recreational fliers. Rocky Mount and Wilson are the closest stops on any passenger railway system. Carolina Trailways serves the county via a terminal in Windsor; the nearest Greyhound Lines stops are in Edenton and Williamston (2, 3, 4).

The county land area is approximately 700 square miles with 158 miles of paved roads. Approximately 25% of Bertie County residents live within 10 miles of a full-length four-lane highway (5).

Figure 1. County Map

History

From the official Bertie County Chamber of Commerce website (4):

Bertie County is one of the physically largest counties in NC, spanning 741 square miles; five percent of its area is covered by water. It was originally part of Albemarle County, established in 1660. In 1670, Chowan County, including Bertie Precinct, was cut from Albemarle County. Bertie Precinct was finally given status of county in 1722 when it separated from Chowan County. Initially, Bertie County was comprised of present Bertie County, Tyrrell County, Edgecombe County, Northampton County and Hertford County. By 1780, Bertie County had been divided to resemble its current shape.

Bertie County was named for James and Henry Bertie, Lords Proprietors of the territory originally given to Sir William Berkeley and Edward Hyde. It extended as far as the colonial government desired, to the Pacific Ocean. Bertie County's county seat is Windsor, which was established in 1766 and was made county seat in 1774.

Agriculture plays a key role in the lives of Bertie County citizens. The fertile uplands and lowlands, with some large swamps called pocosins, are ideal for agriculture. The primary crops for Bertie County are cotton, tobacco, peanuts, corn and soybeans. In addition, the timber industry is key to the area, especially Windsor and the surrounding area. Livestock and the growing poultry industry, which focuses on broiler production, are major contributors to Bertie County's agriculture base.

A large chicken processing plant, a textile plant and a furniture plant add to the area's income. Tourism—a large force in the state's economy—is growing in Bertie County, as well.

The Chamber of Commerce and Bertie County Economic Development Department are working to bring new business into the area. Festivals and annual events sponsored by the Chamber, the Bertie County Arts Council and other groups, attract local residents and area visitors, too.

Demographics

Note: Data from the 2010 census was not yet available at the time this Community Health Assessment was performed; in many cases, demographic and other data from the 2000 census was the most recent available.

- In 2010 Bertie County had an estimated permanent population of 19,434 persons; this figure is approximately 23% of the population of the average NC county.

- Unlike the state as a whole, Bertie County's population is decreasing. Between 1990 and 2000, the Bertie County population decreased by 3% while the population in NC grew by more than 21%.

- In 2000, the median age of Bertie County residents was 38.6 years, almost three years older than the median age for the state, 35.5.

- The population in Bertie County is predominately non-white, with minorities making up 63.7% of the population in 2000; in NC at that time minorities represented approximately 28% of the total population (Table 1).

- In 2000, people over the age of 65 made up 16% of the Bertie County population and 12% of the total NC population (Table 2, subsequent page).

- In 2000 children under the age of five in Bertie County represented a very similar proportion of the population when compared to the state: 6.4% vs. 6.7% respectively (Table 2).

- The size of the Bertie County population had decreased every decade since 1980. The population is expected to continue to decrease through 2010, but at a slower rate.

- Following the declining trend in population, the Bertie County population is becoming *less* dense while the population of the state as a whole is becoming *more* dense.

- By 2010, the average NC county is predicted to be almost seven times more densely populated than Bertie County.

- While NC becomes more urban in nature, Bertie County remains entirely rural, with 100% of the population considered to be in rural areas; only about 40% of North Carolina's overall population is considered rural.

Table 1. Population Distribution by Race/Ethnicity (2000)

	Number and Percent												
		White		Black		Native American		Asian		Other		Hispanic Origin	
County	Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bertie	19,773	7,178	36.3	12,326	62.3	87	0.4	21	0.1	65	0.3	195	0.1
State Total	8,046,485	5,804,656	n/a	1,737,545	n/a	99,551	n/a	113,689	n/a	186,629	n/a	378,963	n/a
NC County Avg.	80,465	58,047	72.1	17,375	21.6	996	1.2	1,137	1.4	1,866	2.3	3,790	4.7
Source	US Census Bureau, 2000 Census, http://www2.census.gov/census_2000/datasets/demographic_profile/North_Carolina/2kh37.pdf												

Table 2. Population Distribution by Age, Percent (2000)

	Percent of Total								
County	Total Population	0-4 Years	5-19	20-24	25-34	35-44	45-54	55-64	65+
Bertie	19,773	6.4	22.3	5.1	11.1	15.3	13.8	10.0	16.0
State Total/Average	8,046,485	6.7	21.5	7.2	15.1	16.0	13.5	9.0	12.0
Source	US Census Bureau, 2000 Census, http://www2.census.gov/census_2000/datasets/demographic_profile/North_Carolina/2kh37.pdf								
	Calculated based on calculated US Census figures in the previous table								

- In 2000, the age segment of the population with the largest number and percentage of residents in Bertie County, as well as NC, was the 5-19-year-old group, representing 22.3% of the Bertie County population and 21.5% of the NC population. The adult age group 65 and older was the next largest segment of the county population, 16%. The second largest age segment statewide was the 35-44 year-old group, at 16%.

- As in NC, children ages 0-4 compose the smallest portion of the population in Bertie County, accounting for 6.4% of the population.

Commuting Patterns

Commuting patterns can be an indicator of the employment opportunities within a county. In Bertie County commuting patterns seem to point to a lack of jobs within the county, or the presence of "better" jobs in neighboring counties of NC or Virginia.

- The percentage of Bertie County workers commuting out of the county to work increased between 1990 and 2000. During that period, a higher percentage of the Bertie County workforce left the county for work (i.e., traveled to a job in another county or state) than the workforce in the average NC county.

- The majority of workers in Bertie County (and NC) drive alone to work. The number of people driving alone to work increased between 1990 and 2000, while use of all other means of travel to work (carpooling, public transportation, walking or working from home) dramatically declined in Bertie County and increased in NC in the last decade.

Transportation

Choanoke Public Transportation Authority serves the citizens of Bertie, Halifax, Hertford and Northampton Counties. For thirty years, CPTA has provided transportation needs for any person in the four county area who is in need of a ride, whether it be to local community colleges, shopping centers, medical offices, senior centers, day cares, human service agencies, etc.

In the 2009-10 fiscal year, CPTA made 45,672 trips in Bertie County out of a total of 203,701 trips for their entire service area. CPTA serviced 1,331,466 miles and 56,275 hours during the same year for the entire service area.

Socioeconomic Climate

In 2010, Bertie County was state-designated as a Tier One county, which indicates, among other things, that it is among the economically poorest 20% of counties in NC.

Income

- Bertie County residents have a per capita income that is $8,375 (26%) lower than the state average.

- The median household income in Bertie County is $18,062 (34%) lower than in the NC average.

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.

- Bertie County had positive employment growth in 2007, but in 2008, reflecting the recession that affected the United States as a whole; there was a net decline in employment of -4.5%. In 2009, there was a slight growth in employment in comparison with the previous year but it was not large enough to make up for the losses from 2008 (Table 3).

- Bertie County fared somewhat worse than the state as a whole in 2008, but its employment conditions were better than the state as a whole in 2009, with the county having a net gain in that year of +0.4% in comparison with a state-level decline in employment of -5.3%.

Table 3. Annual Employment Growth (2006-2010)

	Percent Change from Previous Year				
County	**2006**	**2007**	**2008**	**2009**	**2010**
Bertie	-0.1	1.7	-4.5	0.4	na
NC Avg.	3.3	1.4	-0.7	-5.3	na
Source	FDIC, Regional Economic Conditions (RECON). http:www2.fdic.gov/recon				

- Manufacturing is the largest industry in Bertie County, accounting for 33.6% of the labor force. Statewide, manufacturing is also the largest industry, accounting for 13.2% of the labor force (Table 4).

- Educational service is the second largest industry in Bertie County, employing 8.0% of the labor force; statewide, retail trade is the second largest industry (11.4%).

Table 4. Employment by Industry (2008 Annual)

	Percent of Workforce	
Industry	**Bertie**	**NC**
Accomodation/Food Services	0	8.5
Administrative/Waste Services	1.2	0.5
Agriculture/Forestry/Fishing/Hunting	5.1	0.7
Construction	4.9	6.0
Educational Services	8	1.4
Finance/Insurance	1.3	3.8
Health Care/Social Assistance	0	10.7
Information	0	1.8
Management of Companies	0	1.7
Manufacturing	33.6	13.2
Other Services (not Public Admin)	1.6	2.5
Professional and Technical Services	0.8	4.5
Public Administration	4.3	5.6
Real Estate/Rental Leasing	0.4	1.3
Retail Trade	4.1	11.4
Transportation/Warehousing	2.6	2.8
Unclassified	0	0.4
Utilities	0	0.3
Wholesale Trade	0	4.5

Source: NC Department of Commerce
https://edis.commerce.state.nc.us/EDIS/demographics.html

"Purdue, school system, government and hospitals are our top employers."
"There are a lot of small businesses. Mom and Pop farming."

Comments made at the Bertie CHA Data Presentation on October 13, 2010

Table 5. Major Employers in Bertie County, Fourth Quarter 2009

Employer	Industry	No. Employed
Purdue Products Inc.	Manufacturing	1000+
Bertie County Board of Education	Education and Health Services	500-999
State of North Carolina	Public Administration	250-499
New Hope Foundation	Education and Health Services	250-499
Centex Construction	Construction	100-249
East Carolina Health	Education and Health Services	100-249
County of Bertie	Public Administration	100-249
Home Life Care	Education and Health Services	100-249
Bertie Ambulance Services	Education and Health Services	50-99
Perdue Fats and Proteins	Education and Health Services	50-99
Golden Peanut Company	Education and Health Services	50-99

Unemployment

- In June 2010, 10.6% of the Bertie County civilian labor force was unemployed (7).
- Bertie County unemployment rates have historically been above the prevailing state unemployment rate, and have generally fluctuated since 1999, reflecting national trends during that time. There was a peak unemployment rate of 8.1% in 2002, followed by a decline through 2007, but unemployment grew dramatically starting in 2008, reaching 10.5% in 2009. The 2009 rate was comparable with that of the state as whole (10.6%). (Table 6).

Table 6. Annual Unemployment Rate (1999-2009)

County	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bertie	5.7	7.1	8.0	8.1	7.4	7.7	7.1	6.5	5.6	7.7	10.5
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/clfasp/startCLFSAAY.asp

Poverty

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

- The Bertie County poverty rate decreased overall from 1980 (29.4%) to 2003 (20.6%), but rose again (to 23.3%) in 2008 (Table 7).
- The poverty rate in Bertie County has been consistently above the comparable state rate since 1980.

Table 7. Annual Poverty Rate (1980-2008)

County	1980	1990	1999	2000	2003	2008
Bertie	29.4	25.9	23.5	23.5	20.6	23.3
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						

Poverty and Race

- Since 1990, poverty rates in Bertie County have been consistently highest among the black population, though the percent of blacks in poverty decreased slightly between 1990 and 2000 (Table 8).
- The poverty rate for the white Bertie County population decreased between 1990 and 2000.
- Between 1990 and 2000, poverty rates decreased statewide among whites and blacks.

Table 8. Persons in Poverty by Race (1990 and 2000)

	1990					2000				
County	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
Bertie	5,243	25.9	12.0	34.7	0.4	4597	23.5	9.4	31.5	1.7
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, Bertie County has had significantly higher proportions of persons in poverty compared to the state.

- Bertie County has had a consistently larger proportion of children under the age of 18 in poverty when compared to the state as a whole.

- In 2008, 32% of Bertie County children under the age of 18 lived in poverty, a proportion more than 60% higher than the comparable state proportion.

- Corroborating this evidence for significant child poverty in Bertie County is data from the Annie E. Casey Foundation (8) on the percentage of school children receiving free or reduced school lunches. In 2001, 82% of Bertie County school-aged children were enrolled in a free or reduced cost school lunch program; in 2005 that percentage had risen to 93%. These county figures compare to the statewide figures of 40% in 2001 and 48% in 2005.

- For each of the past three Census periods, the percent of very young children (age 6 and under) in poverty in Bertie County has been nearly double the comparable state figure.

- While the percent of young children in poverty has been decreasing at the state level between 1980 and 2000, the comparable figures in Bertie County have remained very much the same except for a "temporary" increase in 1990.

Food Stamps

- Since 2001, the number of people on food stamps in Bertie County has generally increased. In 2001, there were 3,292 residents receiving food stamps, while in 2009, there were 4,448, despite the fact that the population of the county as whole has been in decline.

- Bertie County has consistently had twice the percentage of children (under 18) receiving food stamps as the average NC county. The percentages increased in Bertie County and the state every year between 2000 and 2004.

"The Food Bank has received money to buy fruits for their supply."
"Churches cook at health fairs and there are a lot of health fairs!"

Comments made at the Bertie CHA Data Presentation on October 13, 2010

Housing

- In Bertie County, the *percentage* of owned housing units decreased between 1990 and 2000 even as the *number* of owned housing units increased during the same period. The percentages of owned housing units in the county were higher than the comparable NC county averages in 1990 and 2000.

- The *percentage* of rental household units in the county also decreased slightly over the period, even as the *number* of rented housing units increased.

- The number and percentage of mobile home units increased in both the county and in the state over the decade cited.

- In 2000, the percentage of housing units in Bertie County that were mobile homes was twice the comparable state percentage.

Affordable Housing

According to data from the NC Rural Economic Development Center:

- In 2000, 20.3% of the Bertie County population was living in "unaffordable" housing; this compares to 20.7% statewide (9). (The Census Bureau defines unaffordable housing as housing that costs more than 30% of the total household income).

- Only 0.2% of Bertie County housing units, compared to 0.1% statewide, 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 webpage's and associated links list no single-family HUD-sponsored homes in Bertie County or in any of the other six counties of the Albemarle Region (10).

- There is no HUD Public and Indian Housing Authority located in Bertie County. HUD PHA offices in the Albemarle Region are in Ahoskie (Hertford County), Edenton (Chowan County), Elizabeth City (Pasquotank County), and Hertford (Perquimans County) (11).

- The only privately owned HUD-subsidized rental housing properties in Bertie County listed on the HUD website are a group home for the mentally disabled (in Windsor) and a multi-family apartment complex, Windsor Oaks, which also is located in Windsor. The latter property is accessed through the Mid-East Regional Housing Authority located in Washington, NC (Beaufort County) (12).

The US Department of Agriculture catalogues information about rental properties available in rural areas. According to the USDA, the MFH web site provides an online guide to Government assisted rental projects (13).

- The most recent listing (August 2010) shows three rental properties in Windsor (Cashie Apartments, Windsor Oaks, and Windsor Village) and one in Aulander (Sandpiper Square).

Homelessness

According to the Albemarle United Way, there are three homeless shelters in the Albemarle Region, all located in Elizabeth City (Pasquotank County).

Children and Families

- As of the 2000 Census, approximately 26% of Bertie residents were under the age of 18.

- The largest *number* of children live in Windsor Township; the largest *percentage* of children (29.4) live in Snake Bite Township.

- The location with the smallest *number* of children is Indian Woods Township; the smallest *percentage* of children (22.9) live in White Township.

Single Parent Families

- The number and percent of homes with single parents increased between 1990 and 2000 in Bertie County and the state.

- When compared to the state, Bertie County has a significantly lower percentage of single parent homes.

- The number of homes with single fathers in Bertie County increased by 41% during this period, while the comparable number for the state as a whole nearly doubled; the percentage of these households increased 47%.

- The number and percentage of homes with single mothers increased by 8% in Bertie County over the period; the comparable state increase was 17%.

Child Care Programs

- Between 2000 and 2005, the percent of children receiving subsidized child care increased in Bertie County but decreased in the state.

- Of the children in regulated care in Bertie County, 58% received a subsidy in 2005, a rate 57% higher than the NC state average. That Bertie County figure also represented an in-county increase of 38% from 2001.

- In 2005, 94 Bertie County children who had applied for and been declared eligible for subsidized care were not receiving it.

- The number of children under the age of five in foster care decreased in Bertie County, as well as in North Carolina, between 1999 and 2003. Unfortunately, more recent 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. North Carolina'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 10-12 points, a three-star facility 7-9 points, a two-star facility 4-6 points, and a one-star facility 1-3 points.

According to the NC Division of Child Development Child Care Facility Search Site (14) there are 26 child care facilities in Bertie County (as of August 2010) that are licensed to operate in NC in the following categories:

- Five Star License Center - 2 facilities
- Four Star Center License – 2 facilities
- Four Star Family Child Care Home License – 3 facilities
- Three Star Center License – 6 facilities
- Three Star Family Child Care Home License – 1 facility
- Two Star Center License – 1 facility
- Two Star Family Child Care Home License – 7 facilities
- One Star Family Child Car Home License – 3 facilities
- Temporary License – 0 facility
- GS 110-106 – 1 facility

"Bertie is family oriented. Families raise families."

Comments made at the Bertie CHA Data Presentation on October 13, 2010

Older Adults

Growth of the Elderly Population

NC has long been perceived as a good place for elderly persons to live. As a result, the state both retains its elderly population and attracts elderly persons from outside the state who come to join their adult children or to retire here.

Location of the Elderly Population

- As of the 2000 Census, 16.0% of the population in Bertie County was over the age of 65.
- Though Windsor has the largest *number* of adults older than 65, Indian Woods is the township with the largest *percentage* of people of retirement age and older, 18.7.
- In all but three townships in Bertie County, adults aged 65 and older represent more than 15% of the population. In NC, only 12% of the population is made up of adults aged 65 and older.

Characteristics of the Elderly Population

Characteristics of the elderly persons in a county can help service providers understand how this population can or cannot access and utilize services. Factors such as educational level, mobility and disability are all useful predictors of service access and utilization. The NC Division of Aging (15) collects and catalogues information about factors like these on the county level. Some of the Division's US Census Bureau-derived data on Bertie County – and comparable data for the state of NC as a whole, are summarized below.

Educational Attainment

- Elderly persons in Bertie County tend to be less educated than their counterparts elsewhere in NC. In Bertie County, 59.7% of persons age 65 and older *lack* a high school diploma, compared to a comparable figure of 41.6% for the state as a whole. In addition, 36.7% of persons aged 45-64 in Bertie County lack a high school diploma, compared to 19.9% for the state as a whole.
- About half as many Bertie County residents as NC residents age 65 and older have had a graduate school education (2.3% vs. 5.5%). In the age group 45-64 the difference is even greater: 3.7% in Bertie County compared to 8.8% statewide.

Living Conditions

- Approximately 388 persons in Bertie County can be classified as grandparents, who are raising grandchildren under the age of 18. This number computes to a proportion of the total population equal to approximately 2%, a figure twice the comparable rate for NC as a whole (1%).
- With regard to home ownership, the figures for the elderly population in Bertie County are about the same as for the state as a whole: in both groups approximately 80% of the persons between the ages of 45 and 64 as well as those aged 65 and older are homeowners.

Mobility

- The elderly population in Bertie County has a higher proportion of persons with disabilities than in North Carolina as a whole. According to the 2000 US Census figures, 23.3% of persons age 65 or older in Bertie County reported having one disability; 30.6% of the same population reported having two or more disabilities. These percentages compare to respective statewide figures of 20.6% and 25.1%. The US Census Bureau of Disability includes any long-lasting physical, mental or emotional condition that can make it difficult for persons to walk, climb stairs, dress, bathe, learn or remember.
- Significantly higher proportions of Bertie County residents in several older age groups are without a car as compared to similar data for NC as a whole. In Bertie County, 12% of householders between the ages of 55 and 64, 15.8% of those between the ages of 65 and 74, and 27.1% of those aged 75 or older do *not* have an automobile. These percentages compare to respective statewide figures of 6.0%, 9.0% and 21.3%.

Education

Educational Attainment and Investment

- As of the 2000 Census, Bertie County had approximately 18% fewer high school graduates and 61% fewer college graduates than the NC county average.
- According to 2008 End of Grade (EOG) Test results, both third and eighth graders in the Bertie County School System performed at lower rates of proficiency in both math and reading than students statewide.
- The 2005 average SAT scores for students in the Bertie County School System (802), was 208 points below the NC average (1010).
- In 2006-2007, the rate of acts of school violence in Bertie County Schools (1.94) was 75% lower 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 Bertie County School System ($7,279) ranked 18th among school systems in the state.

High School Drop-Out Rate

- Until the most recent data period (2007-2008), the overall high school drop-out rate in NC had shown an overall decrease, decreasing from 5.2 to 2.4. However, in 2007-2008 the rate increased to 4.7.
- The drop-out rate in Bertie County was 6% lower than the average NC county rate in 2007-2008.

Schools and School Enrollment

Primary and Secondary Schools

- There are eight traditional public schools in the Bertie County School District: four elementary schools, one middle school, and three high schools. Bertie County has no charter schools but there is one “alternative school” (grades 6-12) listed for the county (16,17).
- There are two private schools in Bertie County, both teaching students in grades K-12. One has a religious affiliation and the other is independent (18).
- Enrollment in Bertie County public schools has consistently decreased since 2003, while public schools in the average NC County have experienced increased enrollment (Table 9).

Table 9. Public School Enrollment (SY2003-SY2008)

	Number of Students				
County	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**
Bertie	3,503	3,463	3,412	3,240	3,146
State Total	1,397,124	1,421,335	1,456,895	1,481,981	1,491,142
NC County Average	13,971	14,213	14,569	14,820	14,911
Source	NC Department of Instruction, Statistical Profiles: http://www.ncpublicschools.org/fbs/resources/data/				

Higher Education

- Roanoke-Chowan Community College (RCCC), is a regional community college, located in Ahoskie, NC (Hertford County). RCCC serves Bertie County residents and has about 20 curricular programs in which students may seek degrees, diplomas and short term skills based certificates (19).

- Chowan University is a small (<1,000 students) four-year liberal arts university located in Murfreesboro (Hertford County). Chowan University is affiliated with the Southern Baptist Association (20).

- Martin Community College (MCC) is a regional community college located in Williamston, NC (Martin County) with a satellite campus located in Windsor that was founded in 1983 that provides adult basic education, adult high school education, extension classes, and selected curriculum courses (21).

- Elizabeth City State University (ECSU) is a four-year state university located in Elizabeth City in Pasquotank County. A constituent institution of The University of North Carolina, ECSU offers baccalaureate programs in the arts and sciences and professional and pre-professional areas, as well as master's degrees in selected disciplines. Originally an institution for African-American students, the university's rich heritage provides a strong background for its increasingly multicultural student body (22).

- East Carolina University (ECU) is a large, four-year state university that is also a constituent member of the UNC System. ECU was founded in 1907 to alleviate the desperate shortage of teachers in the eastern part of the state. The College of Education has been joined by programs of high distinction in health care and the fine and performing arts. Today the university offers 106 bachelor's degree programs, 71 master's degree programs, 4 specialist degree programs, 1 first-professional MD program, and 16 doctoral programs in professional colleges and schools, the Thomas Harriot College of Arts and Sciences, and the Brody School of Medicine (23). A total of 93 Bertie County residents enrolled in ECU as freshmen between 2000 and 2004; another 13 Bertie County residents transferred into ECU during the same period (24).

Crime and Safety

Crime Rates

All crime statistics reported below were obtained from the North Carolina State Bureau of Investigation unless otherwise noted.

- The index crime rate in Bertie County fluctuated between 2003 and 2008. Most recently (2008,) the index crime rate has dropped from the previous year and is lower than the statewide index crime rate.
- The violent crime rate also fluctuated between 2003 and 2008. Overall the violent crime rate increased by 29% between 2003 and 2008. Throughout the six-year period cited the county violent crime rate was lower than the statewide rate.
- The property crime rate in the county was lower in 2008 than in any of the previous four years, and it has consistently remained lower than the rate for NC as a whole.
- In 2010, there were 40 registered sex offenders residing in Bertie County (compared to 130 in the average county) (25).
- Between 2001 and 2003, no clandestine drug lab busts have occurred in Bertie County as compared to an increasing rate in the state as whole, from 34 in 2001 to 177 in 2003 (26).
- As of 2004, there was only 1 gang in the county. This number has remained well below the state average since 1999 (27).
- In 2008, 95 people in Bertie County were charged with driving while intoxicated (DWI). Of those charged, 68 were convicted, for a conviction rate of 71.6% (28).

Juvenile Crime

- The number of complaints of undisciplined and delinquent youth decreased in Bertie County and the average NC county between 2004 and 2009.
- The rates of both undisciplined and delinquent youth in Bertie County were lower than the average NC county rates in 2009.
- The number of Bertie County youths sent to secure detention increased by 50% between 2003 and 2004 while the comparable number in the average NC county decreased 6% during the same interval.
- According to data presented in Table 10, the rate of children in the juvenile justice system in Bertie County rose every year between 2000 and 2003, increasing almost 54% overall during the period. The comparable NC county average rate rose only 5% during the same period.

Table 10. Youth in the Juvenile Justice System[1] (2000-2003)

	2000		2001		2002		2003	
County	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**
Bertie	63	25.5	66	26.6	83	36.1	90	39.2
State Total	28,230	n/a	33,093	n/a	29,950	n/a	30,938	n/a
NC County Avg.	282	32.4	331	39.2	300	33.0	309	34.1
Source	Previously but no longer available through: NC Child Advocacy Institute, County and State Data, CLIKS On-Line database, http://www.aecf.org/cgi-bin/cliks.cgi?action=rawdata_results&subset=NC							
	1- The rate of youth ages 10-17 per 1,000 in county who are in Training Schools and Detention Centers AND in programs under Juvenile Crime Prevention Councils (JCPC)							

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

Albemarle Regional Solid Waste Management Authority

Republic Services, Inc. is a leading provider of services in the domestic, non-hazardous solid waste industry providing non-hazardous solid waste collection services for commercial, industrial, municipal, and residential customers in seven sites throughout Bertie County. East Carolina Environmental Services is a private company categorized under Nonhazardous Waste Disposal Sites and located in Aulander, NC.

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 Counties. 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.

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 North Carolina Department of Environment and Natural Resources, Division of Environmental Health.

Table 11. On-Site Waste Water Program

Bertie	2009
Construction Authorizations – New	35
Construction Authorizations – Repair	34
Improvement Permits Denied	2
Improvement Permits Issued	46
Other Site Visits	138

Chapter Two:

Access to Care

Health Care Resources

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; nevertheless, some overview-type data were collected and are presented here.

Practitioners

- The proportional availability of physicians, nurses, and dentists in Bertie County has been consistently lower than the state as a whole, as demonstrated by the persons-per-provider data shown in Table 12.
- The persons-per-primary care physician ratio has increased since 2001.
- The ratio of persons per nurse has remained relatively stable.
- The Bertie County persons-per-dentist ratio is very large.
- There is a particular shortage of dentists who accept Medicaid patients, especially children.(29)
- The NC Division of Medical Assistance maintains a list of dentists who are enrolled in the NC Medicaid program and who have filed claims for at least ten new Medicaid patients in the last quarter. On this basis, the system lists one such dentist in Bertie County (30).

Table 12. Persons per Health Care Provider Type (2001-2007)

	2001				2003				2005				2007			
County	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
Bertie	1,655	1,067	189	19,855	1,801	1,268	187	19,813	2,806	1,377	207	19,640	2,853	1,339	182	19,971
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															

"Cashie Medical Center added a provider in the fall of 2007. Cashie has 3 physicians and one midlevel. Rural Health has 2 mds, and 3 midlevels as well as an OB/GYN. There's a doctor working in Powellsville, Aulander and Colerain."

"There's one dentist in Bertie that does not see children."

Comments made at the Bertie CHA Data Presentation on October 13, 2010

Table 13. Licensed Medical Practitioners in Bertie County (2008)

Category of Practitioner	No.
Family practice	6
General practice	0
Internal medicine	2
Obstetrics/Gynecology	1
Pediatrics	0
Other medical specialties	0
Registered nurse	106
Nurse practitioner	4
Licensed practical nurse	55
Chiropractor	0
Physician assistant	9
Podiatrist	0
Dentist	1
Dental hygienist	1
Optometrist	1
Pharmacist	9
Physical therapist	0
Physical therapy assistant	4
Practicing psychologist	1
Psychological associate	2

Source: Cecil G. Sheps Center for Health Services Research, Data Available, NC Health Professions Data System, Download Data, State and County Profiles. Chose the year and then the county. http://www.shepscenter.unc.edu/hp/stco.htm

Hospitals and Health Centers

Bertie Memorial Hospital is the only hospital located in the county, though residents also take advantage of services provided by hospitals in neighboring counties. As of 2008 this hospital had only six beds. The number of beds available in Bertie County is much lower than that in the average NC county.

Bertie Memorial Hospital

Bertie Memorial Hospital is a non-profit, six-bed facility, located in Windsor, 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 (31).

Albemarle Hospital

Albemarle Hospital, located in Elizabeth City (Pasquotank County) NC, is a regional, not-for-profit, 182-bed community hospital serving not only Pasquotank County, but also six other counties (including Bertie) 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 (32).

Chesapeake General Hospital

Chesapeake Hospital, located in Chesapeake, VA is a major health resource for southeastern Virginia and northeastern North Carolina residents. It has a medical staff of nearly 600 members from 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 (33).

Chowan Hospital

Chowan Hospital, a facility located in Edenton (Chowan County) NC, 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 Bertie. 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 also 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 (34).

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 School of Medicine (35).

Roanoke-Chowan Hospital

Roanoke-Chowan Hospital is a 124-bed, not-for-profit hospital located in Ahoskie (Hertford County), NC. The hospital services approximately 39,000 residents in Hertford County and three neighboring counties, including Bertie. 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 (36)

Bertie Rural Health Association

The Bertie County Rural Health Association, Inc. is an administrative organization that runs two year-round Federally-qualified health center clinics providing medical services to people in Bertie County who otherwise confront financial, geographic, language/cultural and other barriers to adequate health care. The Bertie County Rural Health Association clinic is located in Windsor. The Lewiston-Woodville Family Medical Center is located in Lewiston. Both community health centers offer primary medical care services to the rural, underserved population. Everyone is eligible to use the health services at the Rural Health clinics, and those without health insurance may be eligible to pay on a sliding-fee scale or pay in part at the time of their visit and pay the rest of the cost later (37).

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 Bertie 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.

Pitt County Memorial Hospital also is 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 North Carolina 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 North Carolina (38).

In addition, Sentara Norfolk General Hospital provides the highest level of trauma and emergency care available in the Norfolk/Tidewater area of southern tier Virginia. As a Level I Trauma facility, Sentara Norfolk General Hospital is one of multiple Sentara Hospital sites, all of which handle a variety of emergencies. Sentara emergency departments are staffed by Emergency Medicine Board Certified or Board Eligible physicians, and on-call specialists are used for specialized patient needs.

Local Health Department

The Bertie County Health Department is part of the Albemarle Regional Health Services (ARHS), a seven-county regional, accredited Public Health Department headquartered in Elizabeth City, NC. Bertie County joined ARHS in 2002. The local health department is located in Bertie County at 102 Rhodes Avenue in Windsor. Comprehensive clinical services include Women's Preventive Health, Adult Health, Communicable Diseases programming, Immunizations, School and Community Health Education, Breast and Cervical Cancer Control program, Diabetes Management, Child Health, WIC, Albemarle Hospice, Albemarle Home Care, Albemarle Life Quest/Health Promotion, Environmental Health, and Solid Waste Management Authority. Regional Landfill services are provided in the Bertie area. Bertie County Home Health agency is located within the health department. The health department is positioned on the Medical Complex with Bertie Memorial Hospital and the Rural Health Center in Windsor (39).

Long-Term Care Facilities

- According to the Medicare Nursing Home Compare System (40), there are two nursing homes in Bertie County, both in Windsor, with a total of 142 certified beds. Both are owned by for-profit corporations that participate in Medicaid and Medicare.
- Bertie County has fewer nursing home beds when compared to the average NC County, and the number has not changed from 2005-2009. The number of beds in the state increased by 5% over the same period.
- In 2004, there were significantly fewer adult care homes but more family care homes in Bertie County than in the average NC 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 or 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. Includes, for example in Bertie County:

- Brian Center Health and Rehabilitation (Windsor) – a corporate health care facility that provides skilled nursing, rehabilitation services (physical, occupational and speech therapies), coordinates transportation to medical appointments, makes home health referrals, equipped to care for Alzheimer patients; licensed for 82 patients.
- Three Rivers Health and Rehabilitation Center (Windsor) – a corporate health care facility providing rest home/assisted living care; short-term and long-term skilled nursing; occupational, physical and speech therapies; home health services, and medical appointment arrangements and transportation. It is equipped to care for Alzheimer patients.

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 some 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 2 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 North Carolina. They are licensed by the State 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. Includes, for example in Bertie County:

- Cherry's Family Care Homes (Aulander) – Provides assisted living for elderly: private rooms, meals, housekeeping, bathing, transportation to medical appointments and shopping; at four sites in Aulander
- River's Edge Rest Home (Washington) – Provides assisted living services; all health services are contracted off-site; provides transportation to medical services.

Adult Day Care/ Day 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 of 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. Includes, for example in Bertie County:

- Katheryn Elizabeth Chaver Adult Day Health Center (Powellsville) – Provides health day care for older adults.
- Mary Alice Adult Day Care Center (Windsor) – Provides day care for senior citizens: meals, snacks, field trips, exercise and art classes and daily devotionals.

The Bertie County Resource Directory (50) lists the following additional adult care facilities:

- Bertie County Group Home (Windsor) – Provides housing and residential services for adults with developmental disabilities.
- Everette's Family Care Home (Aulander) – Provides adult care for seniors.
- Lighthouse Tower Village (Lewiston) – Provides long-term care for seniors: meals, laundry, transportation to medical appointments, help with daily living tasks, medication administration. Also provides a religious ministry.
- Mary's Family Care Home (Lewiston) – Provides total care, personal care and medication administration.
- Moore's Family Care Home (Colerain) – Provides 24 hour care for elderly and disabled individuals: meals, assistance with dressing and grooming, local transportation, laundry.
- Peele's Family Care (Windsor) – Provides 24-hour assisted living for adults and the elderly: private rooms, meals and snacks, daily housekeeping, personal laundry, transportation to medical appointments and shopping, medication monitoring and prescription pick-up.
- Winston Park Rest Home (Windsor) – Provides rest home care.

Mental Health Services and Facilities

East Carolina Behavioral Health LME (ECBH) is a local Management Entity 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.

East Carolina Behavioral Health does not provide direct services. The mission 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 •Washington.

Roanoke-Chowan Human Services Center is the local management entity (LME) for mental health services in Bertie County. It coordinates mental health, developmental disability and substance abuse services for children and adults of four counties in the Roanoke-Chowan Region, including mental health counseling, emergency services including a 24-hour crisis hotline, a day program for adults with mental illness, community and school-based education and prevention programs, a child development center, early childhood intervention, a program for developmentally disabled adults, a program for mentally retarded or disabled adults, a detoxification and residential treatment center and outpatient counseling and treatment for DWI offenders. (Information from: Roanoke-Chowan Human Services Center).

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 Bertie County, the percentage of total population that is uninsured has been consistently higher than the NC county average, though the difference is narrowing, as evidenced by the improvement in Bertie County's ranking for uninsured (Table 14).
- The percent of the population without health insurance was highest in 2003 in both Bertie County and NC (Table 15).

Table 14. Percent of Population Aged 0-62 without Health Insurance (1997-2004)

County	1997	1998	1999	2000	2001	2002	2003	2004	State Rank 2003	State Rank 2004
Bertie	22.5	21.3	22.8	20.9	23.2	23.2	23.6	18.9	93	41
NC County Avg.	16.9	15.8	16.3	15.6	17.7	19.0	19.4	17.5	n/a	n/a
Source	a	a	a	a	b	b	b	b	b	b
a - NC State Center for Health Statistics. County Health Databooks. http://www.schs.state.nc.us/SCHS/data/databook/										
b - 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/										

Table 15. Percent of Population without Health Insurance, by age (2000-2004)

	2002			2003			2004		
County	Total	Under 18	18-64	Total	Under 18	18-64	Total	Under 18	18-64
Bertie	23.2	15.4	26.7	23.6	12.3	28.3	18.9	12.7	21.5
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/									

Medicaid

- When compared to the NC county average, a 84% greater percentage of Bertie County residents were eligible for Medicaid in 2004 (Table 16).
- Bertie County spends more than twice as much per capita on Medicaid as the average NC county, and the amount has been increasing.

Table 16. Medicaid Eligibility and Expenditures (2000-2004)

	FY 2001					FY 2002					FY 2003					FY 2004				
County	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
Bertie	19,773	6,736	34.1	$1,511	1	19,855	6,556	33.0	$1,583	1	19,807	6,541	33.0	$1,659	1	19,813	6,567	33.1	$1,838	1
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 Bertie 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 North Carolina 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.

- The percent of Bertie County children enrolled in Medicaid increased almost 22% between 2000 and 2004; at the state level the rate of increase was 18% (Table 17).
- The percent of Bertie County children enrolled in NC Health Choice increased by 33% over the period cited, while at the state level the increase was 50%.

Table 17. Children Enrolled in Medicaid and Health Choice (2000, 2004)

	2000				2004			
County	# 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
Bertie	2,337	46	289	6	2,632	56	369	8
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/cliks.cgi							

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

Carolina ACCESS

Carolina ACCESS, implemented in 1991, is North Carolina'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.

- 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 (51).
- As of June 2009, there were 3,617 Medicaid recipients in Bertie County enrolled in Carolina ACCESS or ACCESS II, which represents 64% of all Medicaid recipients in the County eligible to participate (41).
- According to data provided by the state (42), there were (as of August, 2006), six medical providers in Bertie County participating in Carolina ACCESS programs, one in ACCESS, four in ACCESS II and one with no level specified.

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.

- Bertie County residents participate in ACCESS and ACCESS II.

Medicare

- The number of dually eligible Medicare/Medicaid beneficiaries in Bertie County remained relatively stable between 1999 and 2001, with slight increases in the under 65 and 65-74 groups and slight decreases in the 75-84 and over 85 groups (Table 18).
- The Bertie County percentages are consistently above the comparable percentages for the state as a whole, in keeping with previously cited data establishing that Bertie County has higher percentages of both older persons and poverty.

Table 18. Dually Eligible Medicare Beneficiaries
(Eligible for both Medicare and Medicaid; 1999-2001)

	1999								2000								2001							
	<65		65-74		75-84		85+		<65		65-74		75-84		85+		<65		65-74		75-84		85+	
County	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Bertie	569	49.3	534	31.7	408	40.4	159	53.7	598	50.3	533	31.3	400	39.9	155	54.6	629	52.5	549	32.4	389	38.2	148	51.2
State Total	87,716	n/a	61,667	n/a	53,564	n/a	25,539	n/a	83,428	n/a	61,588	n/a	52,715	n/a	25,377	n/a	92,941	n/a	62,197	n/a	53,919	n/a	24,419	n/a
NC County Avg.	877	36.3	617	15.3	536	22.8	255	36.4	834	35.8	616	15.4	527	22.9	254	37.3	929	37.0	622	24.2	539	22.6	244	35.6
Source	Carolina Medicare Epidemiologic Data, Medicare Population Data, http://www.mrnc.org/NCMED/beneficiary.asp																							

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 Bertie 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 just because of its age distribution. At any one time some communities have higher proportions of "young" people, and other communities 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 Bertie 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:

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

The incidence rates for certain diseases, such as cancer, are simple to obtain, since data are routinely collected by the North Carolina 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) cause of death is routinely reported on death certificates. However, some error can be associated with cause-of-death classification, since it is sometimes difficult to choose an underlying cause of death from potentially many co-occurring conditions.

Mortality

Mortality is calculated according to the following formula:

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

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 Bertie 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 this 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 ninth (ICD-9) revision was used. With several 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 some trend lines may represent other than a five-year aggregate period.

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 (see Table 19, following page).

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 other change should be due to factors other than coding.

Behavioral Risk Factor Surveillance System (BRFSS)

Bertie County residents participate regularly in the state's annual Behavioral Risk Factor Surveillance System (BRFSS) Survey, as part of the six-county North East Region I sample. However, the typically small number of participants (n=399 in 2004 and 516 in 2005) 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 20 shows the leading causes of death in Bertie County, listed in descending order based on aggregate mortality data for the years 2004 through 2008. Figures in **boldface** type indicate causes of death for which the Bertie County rate exceeds the comparable rate for the state as a whole.

Table 20. Age-Adjusted Mortality Rates for the Leading Causes of Death in Bertie County, North Carolina and the United States (2004-2008)

Cause of Death	Bertie County		North Carolina	United States
	Number	Rate	Rate	Rate
1. Total Cancer	285	228.3	192.5	180.7
2. Heart Disease	260	205.8	202.2	200.2
3. Cerebrovascular Disease	79	61.8	54.4	43.6
4. Unintentional Motor Vehicle Injury	53	53.0	18.6	15.0
5. Diabetes	65	51.0	25.2	23.3
6. Chronic Lower Respiratory Disease	61	47.8	47.8	40.5
7. Alzheimer's Disease	30	23.1	28.7	na
8. Unintentional Non-Motor Vehicle Injury	26	21.8	28.4	24.8
9. Kidney Diseases	25	19.8	18.8	na
10. Septicemia	24	19.2	14.2	na
11. Pneumonia and Influenza	21	16.3	20.3	17.8
12. HIV/AIDS	9	9.5	4.4	4.0
13. Suidice	7	8.0	11.9	10.9
14. Chronic Liver Disease and Cirrhosis	10	7.7	9.1	8.8
15. Homicide	6	6.6	7.2	6.2
Total Deaths All Causes (some causes not listed)	1,213	989.4	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

Table 20 (previous page) provides recent, overall age-adjusted mortality rates for Bertie County, as well as for NC and the United States.

Compared to NC data, Bertie County has **higher** age-adjusted mortality rates for:

- **HIV/AIDS –** by **116%**
- **Unintentional motor vehicle injury –** by **185%**
- **Diabetes –** by **102%**
- **Septicemia –** by **35%**
- **Cerebrovascular disease –** by **14%**
- **Total cancer -** by **19%**
- **Heart disease –** by **2%**
- **Kidney diseases –** by **5%**

Compared to the national mortality rates available, Bertie County has **higher** age-adjusted mortality rates for:

- **HIV/AIDS –** by **140%**
- **Diabetes –** by **118%**
- **Unintentional motor vehicle injury –** by **253%**
- **Cerebrovascular disease –** by **42%**
- **Homicide –** by **6%**
- **Total cancer –** by **26%**
- **Heart disease –** by **3%**
- **Chronic Lower Respiratory Disease - by 18%**

Maternal and Child Health

Adult and Teen Pregnancy and Birth Rates

- 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 Bertie County for the period from 2005 to 2007 was 80.7, which was 3.8% lower than the average NC county pregnancy rate of 83.9 (Table 21).(43)
- In Bertie County between 2005 and 2007, 72.6% of overall live births occurred among minority mothers; of the Bertie County live births among girls ages 15-19, 86.7% occurred among minority mothers.
- In 2007, Bertie County had a 55% higher percentage of births to Medicaid mothers than the state as a whole (80.3% vs. 51.8%).
- In 2007, Bertie County had 15.6% more births to mothers who were Health Department clients and a 77.8% higher percentage to mothers who were WIC participants when compared to the state as a whole.

Table 21. Pregnancies and Births (2005-2007)

	Pregnancy, Total (2005-2007)						Pregnancy, Females 15 - 19 (2005-2007)						2007 Percent of Live Births To:		
			Percent of Live Births						Percent of Live Births						
County	Preg Rate	Birth Rate	Minority	Low Weight	Late/No Care	Mother Smoked	Preg Rate	Birth Rate	Minority	Low Weight	Late/No Care	Mother Smoked	Medicaid Moms	Health Dept. Moms	WIC Moms
Bertie	80.7	64.7	72.6	14.3	13.1	10.1	94.9	72.8	86.7	17.0	17.0	6.7	80.3	24.5	71.1
NC County Avg.	83.9	68.2	27.8	9.2	17.3	11.5	62.6	47.9	40.0	11.2	29.9	14.6	51.8	21.2	40.0
Source	NC Health Statistics Pocket Guide. http://www.schs.state.nc.us/SCHS/data/pocketguide/2007/														

Table 22 compares Bertie County's pregnancies to mothers under the age of 18 to its peers and the state

Table 22 Live births to Mothers under the age of 18

RESIDENCE		2007
North Carolina		3.8
Bertie		6.9
PEERS	Hertford	6.1
	Northampton	6.2
	Warren	8.2

Programs and Interventions:

March 21, 2009, ARHS worked with TRHC's Maternal and Child Health Subcommittee and Bertie's School Health Advisory Council to provide an in-service, Teen Pregnancy Prevention Day, to 65 teens in Bertie.

Health education staff at ARHS 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.

Adolescent Pregnancies and Births

- Because of very small numbers, a pregnancy rate for adolescents 10-14 years of age has not been calculated for Bertie County.
- In Bertie County in 2007, there were four pregnancies among 10-14 year olds. (44)

Abortion

- For women between the ages of 15 and 44, the 2008 abortion rate in Bertie County was 15.3, which is 6.3% higher than the overall state abortion rate of 14.4 (44).
- For teenagers between the ages of 15 and 19; the 2008 abortion rate in Bertie County was 9.6, 30.2% lower than the statewide teen abortion rate of 12.5 (44).

Pregnancy Risk Factors

- The percentage of high parity births among Bertie County women age 30 and older (17.4) was lower than the state rate (20.0).
- Between 2004 and 2008, approximately 9.9% of babies in Bertie County were born to mothers who smoked. A rate 16.2% lower than the comparable state rate.
- Approximately 84% of pregnant women in Bertie County received prenatal care in the first trimester in 2004-2008, a proportion similar to the state rate of 82.1%.
- A higher percentage of black women received prenatal care in the first trimester in Bertie County than in NC as a whole (80.5% vs. 75.0%). The percentage of black Bertie County women who received prenatal care in the first trimester was only 3.9% lower than the comparable percentage for Bertie County women overall.

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 about 60% higher in Bertie County than in NC as whole (14.6% vs. 9.1%).
- The percentage of white, low birth weight babies was lower in Bertie County than in the state as a whole. However, the percentage of minority low birth weight babies was higher in the county than statewide.
- The total percentage of very low weight births (below 1500 grams or 3.3 pounds) in Bertie County was almost twice the percentage of NC as a whole (3.2% vs. 1.8%).
- The Bertie County percentage of black births of very low birth weight (3.6%) was only slightly higher than the comparable statewide rate (3.5%).

Infant Mortality

- For the four-year period 2004-2008, the total Bertie County infant mortality rate (15.8) was 88% higher than the statewide infant mortality rate (8.4).
- For the single year of 2008, the total infant mortality rate for the county was considerably higher than the state rate (19.4 vs. 8.2). *Note, however, that these rates are based on very small numbers of infant deaths and therefore may be unstable.*

Communicable Diseases

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. Tables 23 presents Bertie County, state, and NC county average data for several important infectious diseases subject to this requirement.

Reportable Communicable Disease

The incidence rates for Hepatitis A and salmonellosis in Bertie County for the period 1996-2000 (the most recent period for which data is available), were lower than the rates for the state. The local incidence rate for Hepatitis B was higher than both the regional and state rates. The incidence rate for tuberculosis was much higher at the county level than at the state or NC county average level.

Table 23. Communicable Disease Incidence (1996-2000)

	Hepatitis A		Hepatitis B		Salmonellosis		Tuberculosis		Whooping Cough	
County	Cases	Incidence	Cases	Incidence	Cases	Incidence	Cases	Incidence	Cases	Incidence
Bertie	1	1.0	5	5.0	14	14.0	15	15.0	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 State Center for Health Statistics, 2002 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Sexually Transmitted Diseases

Table 24 lists incidence rates for the most prevalent STDs, including HIV/AIDS in Bertie County.

Chlamydia

The 2003-2007 incidence rate of chlamydia in Bertie County was 604, a rate 75% higher than the state rate.

Gonorrhea

The 2004-2008 Bertie County incidence rates for gonorrhea (372.6), was 108% higher than the state rate. The Healthy Carolinians 2010 goal for gonorrhea is 191 cases per 100,000 (45). The Healthy People 2010 target is approximately 19 cases per 100,000 (46). Incidence in Bertie County is well above both goals. Minority populations are disproportionately burdened by gonorrhea. The 2004-2008 incidence rate for gonorrhea among minority Bertie County residents was 46% higher than the overall Bertie 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. There were very few cases of syphilis in Bertie County for any of the years reported, and consequently the incidence rates are low. The Bertie County syphilis rate, although low, is above both the Healthy Carolinians goal of approximately 0.3 cases per 100,000 and the Healthy People 2010 target of 0.2 cases per 100,000 (45, 46).
There were no cases of syphilis in Bertie County for the period 2004-2008 while in NC as a whole the rate was 3.1 cases per 100,000.

Table 24. Sexually Transmitted Disease Incidence 2005-2009

N.C. STD Rate and County Comparison

	Chlamydia					Gonorrhea					All Syphilis				
RESIDENCE	**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	3.2	3.5	3.6	3.1	6.3
Bertie	753.4	755.7	524.4	899.8	708.5	468.9	407.4	272.5	362.0	279.3	0.0	0.0	0.0	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

HIV/AIDS

HIV/AIDS Incidence

Between 2007 and 2009, the number of new cases of HIV/AIDS in Bertie County has declined, though in the state as a whole they have changed very little (Tables 25 and 26). The HIV/AIDS incidence rate in Bertie County is significantly higher than the target rate of approximately 1.5 new cases per 100,000 set by Healthy Carolinians (45).

Table 25. 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
Bertie	*23*	*4*	*4*	*3*	*20.6*	*20.7*	*15.5*	*18.9*

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

HIV/AIDS Mortality

The mortality rates attributable to HIV/AIDS for NC, Bertie and Bertie's peer counties are presented in Table 26. The numbers of AIDS deaths in Bertie County and the average NC county for white males and females and minority females are small and make the associated rates unstable. HIV/AIDS mortality rates among minority males are more likely to be stable. The Bertie County HIV/AIDS mortality rate is approximately double the comparable rate for the state.

Table 26. HIV/AIDS Disease Deaths
Per 100,000

RESIDENCE		2007
North Carolina		4.2
Bertie		10.7
Peers	Hertford	10.2
	Northampton	4.3
	Warren	0.0

Gender and Racial Disparities in HIV/AIDS Mortality

The numbers of HIV/AIDS deaths in Bertie County are too few to calculate stable, comparative rates stratified by race or gender. At the state level, however, minority males are disproportionately affected by HIV/AIDS, with a mortality rate of 20.3 per 100,000 compared to a rate of 2.1 for white males. Table 27 compares the number of AIDS cases and the rate in Bertie to the state.

Table 27. 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
Bertie	3	3	3	3	3	15.8	16.1	15.4	15.5	15.5

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

Oral Health

Child Oral Health

The Oral Health Section of the North Carolina Division of Public Health periodically coordinates a dental assessment screening for kindergarten and fifth-grade schoolchildren. Dental hygienists use a standardized technique to measure the prevalence of decayed and filled teeth among these children. Table 28 presents the results of the 2000-2001 screenings in Bertie County, and in NC.

Table 28. Child Oral Health Screening Results (2000-2001)

	Percent Children Screened		Percent Children Cavity Free		Percent of Children w/ Untreated Tooth Decay		Percent of Children with Sealants	Average DMFT/Child		Average DT/Child	
County	Kindergarten	5th Grade	Kindergarten	5th Grade	Kindergarten	5th Grade	5th Grade	Kindergarten	5th Grade	Kindergarten	5th Grade
Bertie	96.0	90.0	65.2	89.0	27.3	4.0	6.0	1.3	0.2	0.8	0.1
NC County Avg.	86.0	79.0	63.4	80.0	22.8	4.0	37.0	1.4	0.4	0.7	0.1
Source	NC Child Advocacy Institute, State and County Data, 2004 Child Health Report Card. http://www.ncchild.org/2004healthreportcard.pdf										

Adult Oral Health

Bertie County residents are surveyed about their dental health status and dental health behaviors in the state's annual Behavioral Risk Factor Surveillance System (BRFSS) Survey, as part of the six-county North East Region I sample. However, the small number of 2004 participants (n=399) 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 2010 Bertie County Community Health Survey, and those results are presented in Chapter Three of this report.

Mental Health and Substance Abuse

Table 29 presents data on utilization of mental health, developmental disability and substance abuse services (MH/DD/SAS) by Bertie County residents.

- The number of Bertie County residents served by state developmental centers and substance abuse treatment centers increased between 2003-2004 and 2008-2009.
- The number of people served in state psychiatric hospitals decreased in Bertie County and statewide over the same period.
- The number of county residents served by the local MH/DD/SAS management entity/area program serving Bertie County has increased since 2000.

Table 29. Mental Health, Developmental Disability, Substance Abuse Service Utilization (years as noted)

	Number of Persons Served								
	Developmental Centers		Alcohol and Drug Abuse Treatment Centers		State Psychiatric Hospitals		Area Programs		
County	2003-2004	2008-2009	2003-2004	2008-2009	2003-2004	2008-2009	2001-2002	2003-2004	2008-2009
Bertie	11	13	5	8	23	13	1,288	1,190	1,317
State Total	1,892	1,404	3,656	4,812	16,987	9,643	317,122	334,856	326,563
NC County Avg.	19	14	37	48	170	96	3,171	3,349	3,266
Source - NC DHHS, Division of Mental Health, Publications, Statistical Reports. http://www.dhhs.state.nc.us									

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) (47).

- The largest percentage of substance abuse diagnoses at Bertie Memorial Hospital occurred in the 25-34 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 (47).

"People with mental health needs go to the emergency department, structured out-patient behavioral programs or group therapy."

Comment made at the Bertie CHA Data Presentation on October 18, 2010.

Obesity

Adult Obesity

Bertie County residents are surveyed about their height, weight and eating behaviors in the state's annual Behavioral Risk Factor Surveillance System (BRFSS) Survey, as part of the six-county Region I sample. However, the small number of 2004 participants (n=399) 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 dietary and exercise behaviors and diagnoses of overweight and obesity were assayed in the 2010 Bertie County Community Health Survey, and those results are presented in Chapter Three of this report.

Childhood Obesity

The North Carolina Healthy Weight Initiative, using the North Carolina Nutrition and Physical Activity Surveillance System (NC-NPASS), collects height and weight measurements from children seen in North Carolina Division of Public Health sponsored WIC and Child Health Clinics, as well as some school-based health centers (48). This data is used to calculate Body Mass Index (BMI) in order to gain some insight into the prevalence of childhood obesity.

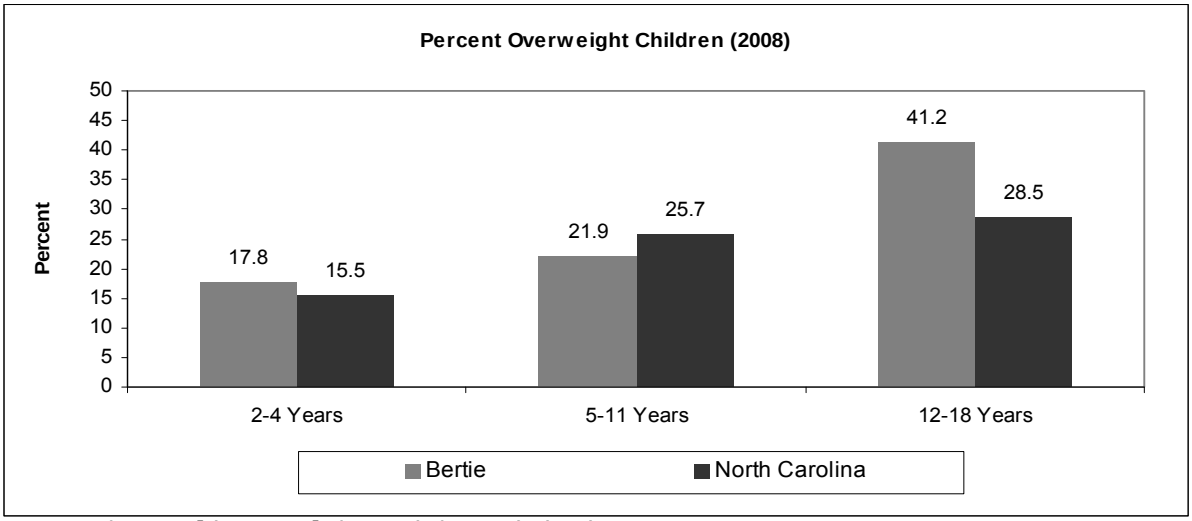
$$\textbf{BMI} = \textbf{(weight in kilograms) / (height in meters)}^2$$

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 Bertie County sample was composed of 421 2-4 year-olds, 88 5-11 year-olds, and 51 12-18 year-olds (48). Across the nation, 16% of children aged 6-11 and 12-19 are considered overweight or obese (49).

According to NC-NPASS data for children who are overweight (Figure 2, following page):

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

Figure 2



North Carolina Healthy Weight Initiative. Eat Smart Move More. Data. NC NPASS. http://www.eatsmartmovemorenc.com/data.htm.

In addition to NC-NPASS information, data on childhood obesity in Bertie County also is available from a school-based study conducted by ARHS. In FY 2004-05, ARHS measured the height and weight of children in kindergarten through fifth grade at six elementary schools in Bertie 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 (50). Aggregate results for the Bertie County Schools in the study are presented below.

- A total of 1,414 students participated in the study. The mean age of the participants was 8.6 years.

  BMI results are as follows:
  Underweight – 2.2%
  Normal weight – 46.0%
  At risk of overweight – 17.4%
  Overweight – 34.4%

"Are we not putting it together? Sedentary lifestyle + not eating healthy=heart attack!"

Comment made at the Bertie CHA Data Presentation on October 18, 2010.

Asthma

One way the burden of asthma in a community can be assessed is by reviewing hospital records. Recent local data, provided by University Health Systems of Eastern North Carolina 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 (47). These data represent *principal* diagnosis (not admitting diagnosis).

- For children age 0-14, the Bertie County asthma hospitalization rate of 26.0 is lower than the state rate of 151.9. The Bertie County asthma hospitalization rate for children is substantially below the Healthy People 2010 target of 173 (46).

- 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.

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 (47).

According to hospital records from 2008 that tally information about patients from Bertie County regardless of the location of their hospitalization:

- The total hospitalization rate due to asthma (including children and adults) was 21% higher in Bertie County (139.5) than in the state as a whole (115.4). The recent county rate is 18% higher than the Healthy Carolinians goal of 118 (45).

Programs and Interventions

Albemarle Pediatric Asthma Coalition 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, public proclamations for Asthma Awareness Month and World Asthma Day have been accomplished in the region.

Air Quality flags are flown at Bertie Memorial Hospital.

In 2000, The North Carolina School Asthma Survey was performed statewide in NC by a group of researchers from the School of Public Health at the University of North Carolina in 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 Bertie County, and according to the results of this survey (51):

- 9.7% of school children surveyed had been diagnosed with asthma;
- 15.7% of children surveyed had experienced undiagnosed wheezing;
- The total proportion of surveyed children who experienced wheezing was 25.4%; and 11% of Bertie County children have missed school, 13% have limited activities, and 16% experience sleep disturbances due to asthma.

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.

Figure 3. Air Quality Index

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).

Heart 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 (52).

Heart Disease and Stroke Incidence

Hospital utilization data provided by the NC-SCHS (53) give some indication of the burden of heart disease in Bertie County. Between 2004 and 2008, the hospital discharge rates for all circulatory diseases, as well as heart disease and cerebrovascular disease individually, declined. However, together the two diseases currently account for more hospitalizations than any other condition. Consequently, costs due to these two conditions were greater than for any other condition, together accounting for over $12 million in hospital charges in Bertie County in 2008 (53).

Heart Disease Mortality

Heart disease and stroke are the second and third leading causes of death among Bertie County residents. For the period 2004-2008, 260 Bertie County residents died of heart disease and 79 died of stroke (54).

The most recent aggregate data (2004-2008) show that the Bertie County overall mortality rate due to heart disease (205.8) is slightly higher than the comparable state rate (202.2) (Table 30).

Table 30. Heart Disease Mortality (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Bertie	260	205.8	71	312.7	50	141.7	80	296.6	59	135.1
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. Mortality. 2004-2008 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook									

Stroke Mortality

The Bertie County mortality rate for stroke (61.8) is also higher than that of the state as a whole (54.4) (Table 31).

Table 31. Cerebrovascular Disease Mortality (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**
Bertie	79	61.8	6	26.6	15	41.6	23	92.2	35	74.9
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/									

The Healthy Carolinians 2010 goal for heart disease is to reduce the mortality rate to 219.8 deaths per 100,000 (45). The current Bertie County heart disease mortality rate, 205.8, is under the target rate by 6.8%. Nationally, the mortality rate due to heart disease is 200.2 (49), which is 2.8% lower than the mortality rate among Bertie County residents and less than 1% lower than the rate statewide. The Healthy People 2010 goal is to reduce mortality due to heart disease to 166 per 100,000 (61). The Bertie County rate is 24% higher than the national goal.

The Healthy Carolinians 2010 goal for stroke is to reduce the mortality rate to 61 deaths per 100,000 (45); the Bertie County rate (61.8) is currently close to that goal. The most recent (2006) United States death rate due to stroke is 43.6 per 100,000 population (49), a rate exceeded in Bertie County by 42%.

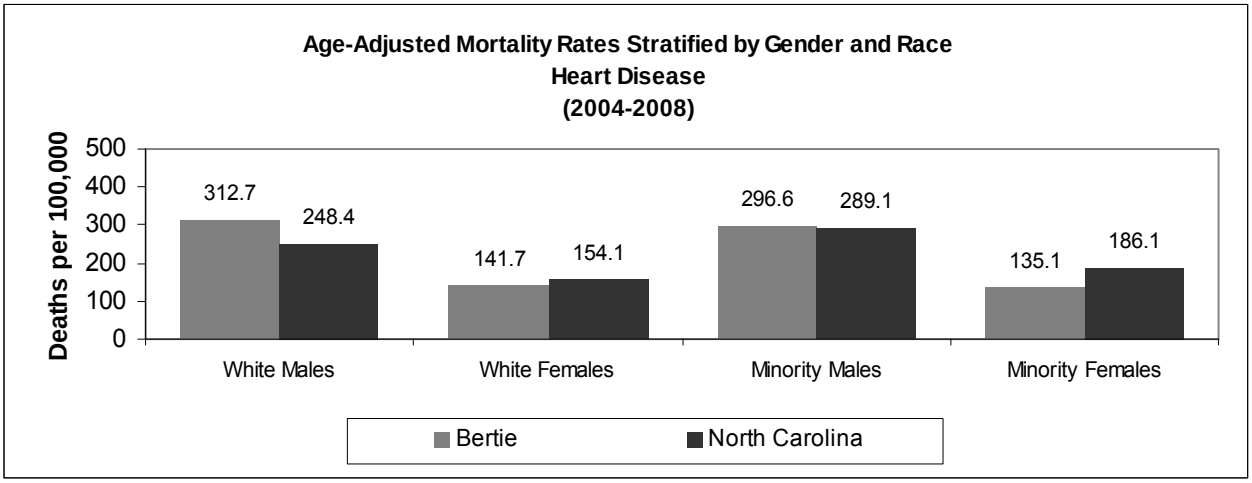
Programs and Interventions:

Albemarle Regional Health Services is a member of the Eastern North Carolina 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 4, which plots data from Table 31, compares age adjusted mortality rates due to heart disease, aggregated between 2004-2008 among white males, minority males, white females, and minority females.

Figure 4



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 Bertie County, minority males have a 5.6% lower mortality rate (296.6) due to heart disease than white males (312.7). Minority females in Bertie County have a 4.9% higher mortality rate (135.1) due to heart disease than white females (141.7).

Gender disparities in heart disease mortality are apparent among both whites and minorities in Bertie County. The mortality rate due to heart disease among white males is 25.9% higher than that of white females. The mortality rate among minority males is 120% higher than the rate among minority females. The mortality rates due to heart disease among both white males and minority males are higher than the comparable rates at the state level.

In Bertie County, rates among white males and females are below state rates while rates among minority males and females are above the state rates. The cerebrovascular disease mortality rate among minority males (92.2) is 247% higher than the rate for white males (26.6); minority females die of cerebrovascular disease at a rate (74.9) 80% higher than white females (41.6). The cerebrovascular disease mortality rate among white females is significantly higher than the rate among white males. The mortality rate due to cerebrovascular disease is 23% higher among minority males than minority females.

Risk Factors for Heart Disease and Stroke (55)

- 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

Tables 32 and 33 compare Bertie's death rate for heart disease and stroke to it's peers and the state.

Table 32
Cerebrovascular deaths per 100,000

RESIDENCE		2007
North Carolina		49.1
Bertie		70.9
PEERS	Hertford	60.8
	Northampton	40.7
	Warren	47.3

Table 33
Cardiovascular deaths per 100,000

RESIDENCE		2007
North Carolina		196.5
Bertie		225.1
PEERS	Hertford	146.2
	Northampton	246.9
	Warren	265.3

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 (52). Cancers of all kinds are sometimes grouped together in a parameter called “total cancer”. Total cancer was the leading cause of death in Bertie County for the period from 2004-2008. In 2008 Bertie County hospital charges associated with cancer diagnoses totaled more than $2.8 million (53).

Cancer incidence and mortality data for Bertie County originate from the North Carolina Central 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

Table 34 shows aggregate, age-adjusted incidence rates for total cancer as well as colorectal, lung, breast and prostate cancers for the period from 2004-2008. There were 581 newly diagnosed cases of all types of cancers in Bertie County between 2004 and 2008. The incidence rate for all cancers in Bertie County (500.9) is 5% above the statewide rate (477.0).

Table 34. Cancer Incidence (2004-2008)

	All Cancer		Colorectal Cancer		Lung Cancer		Female Breast Cancer		Prostate Cancer	
County	# Cases	Incidence Rate	# Cases	Incidence Rate	# Cases	Incidence Rate	# Cases	Incidence Rate	# Cases	Incidence Rate
Bertie	581	500.9	79	68.5	87	74.1	97	154.3	103	207.0
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. 2010 County Health Data Book. Morbidity. 2002-2006 NC Cancer Incidence Rates per 100,000. http://www.schs.state.nc.us/SCHS/data/databook									

Total Cancer Mortality

Cancer is the leading cause of death among Bertie County residents, resulting in 285 deaths between 2004 and 2008 (54). The mortality rate for all types of cancer in Bertie County for that period was 228.3 deaths per 100,000 (Table 35), well above the state rate of 192.5. For most of the aggregate periods since 1984, the overall cancer mortality rate for Bertie County has been higher than the state as a whole. In the last decade, the trend in the cancer mortality rate for Bertie County has paralleled that of the state (Figure 5, following page).

Table 35. Total Cancer Mortality (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**
Bertie	285	228.3	73	301.7	59	175.2	75	276.0	78	186.2
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/									

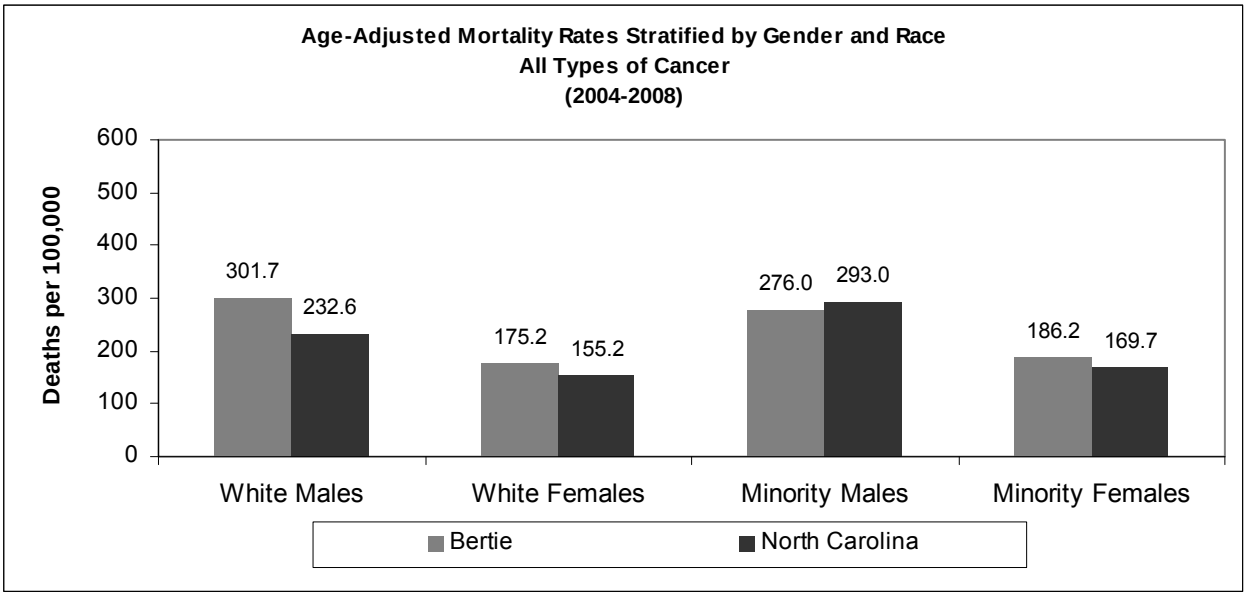
The Healthy Carolinians 2010 goal is a mortality rate of 166.2 per 100,000 for all types of cancer (45), a target currently exceeded by 37% in Bertie County. The county also exceeds the Healthy People 2010 target of 159.3 deaths per 100,000 by 43% (46). The national mortality rate for all types of cancer was 180.7 per 100,000 in 2006, with cancer ranking as the leading cause of death (49). For 2004-2008, the rates in Bertie County, the Albemarle Region, and NC all exceeded the national rate.

Gender and Racial Disparities in Total Cancer Mortality

Nationally, among people of all ethnicities, the overall cancer incidence rate was highest in the white, non Hispanic or Latino population (471.7) in 2006; among men, the incidence rate was significantly higher for black males (572.8) than for any other race; among women, the incidence rate was higher for white, non Hispanic or Latina women than for minority women (49).

Figure 5 plots 2004-2008 age-adjusted mortality rates due to all type of cancer for Bertie County from Table 35. In Bertie County, white males had a 9% higher rate of death due to cancer than minority males. Minority females have a 6% higher rate of death due to cancer than white females. Among men in Bertie County, the mortality rate due to all types of cancer is 72% higher for white men than for white women, and the mortality rate for minority men is 48% higher than the rate for minority women.

Figure 5



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

Nationally, breast cancer is the second 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) (49). Between 2004 and 2008, breast cancer was the third most commonly diagnosed cancer in Bertie County, with 97 new cases diagnosed.

Breast Cancer Mortality

The mortality rate due to breast cancer for the period 2004 through 2008 was higher in Bertie County than in the state as a whole (Table 36, following page). Between 2004 and 2008, 23 people in Bertie County died of breast cancer; representing an age-adjusted mortality rate of 32.2 per 100,000; versus 25.0 for the state.

Table 36. Breast Cancer Mortality (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**
Bertie	23	32.2	0	0.0	6	20.3	1	2.9	16	37.9
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 (59). The Healthy People 2010 target rate is 22.3 per 100,000 females (46). The current Bertie County rate is higher than these goals.

Breast cancer mortality rates have fluctuated more in Bertie County than in the Albemarle Region or in NC. While the number of new breast cancer cases has decreased overall in the state and county since 1984, the county incidence rate has more recently risen above the state level.

Programs and Interventions

Albemarle Regional Health Services has received funding from UHS-Bertie Memorial Hospital Foundation to provide free mammograms to low-income women without insurance, Medicaid or Medicare since 2007.

Racial Disparities in Breast Cancer Mortality

In Bertie County, the breast cancer mortality rate among minority females (37.9) is 87% higher than the rate among white females (20.3). The disparity between white and minority women is also apparent at the state level, where minority women also exhibit higher mortality rates than white women.

Breast Cancer Risk Factors (55)

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 estrogens and progestins
- Not having children or having a first child after age 30
- Consumption of alcoholic beverages

Suspected risk factors include:

- High breast density

Table 37 compares Bertie's breast cancer death rate to its peers and the state.

Table37
Breast Cancer Deaths
Per 100,000

RESIDENCE		2007
	North Carolina	25.3
	Bertie	29.2
PEERS	Hertford	31.0
	Northampton	50.7
	Warren	33.0

Prostate Cancer

Prostate Cancer Incidence

Since 1998, the prostate cancer incidence rates have fluctuated at the county level and remained steady at the state level.

The current Bertie County prostate cancer incidence rate, 207.0, is 35% higher than the rate for the state (153.2). During the most recent reporting period, there were 103 new cases of prostate cancer diagnosed in the county, making it the most commonly diagnosed cancer. Nearly $129,000 was spent treating Bertie County prostate cancer patients in hospitals in 2008 (53).

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) (49).

Prostate Cancer Mortality

The 2004-2008 prostate cancer mortality rate in Bertie County (34.7) was lower than the regional rate (39.2) but higher than the state rate (31.6) (Table 38). During that period 16 males in Bertie County died from prostate cancer.

Table 38. Prostate Cancer Mortality (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Bertie	20	42.1	5	21.6	0	0.0	15	61.7	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 (46), a rate Bertie County is currently above. Nationally, prostate cancer has the second highest mortality rate among the four main cancers (49).

Racial Disparities in Prostate Cancer Mortality

In Bertie County, minority males die from prostate cancer at a 186% higher rate (61.7) than the rate for while males (21.6). At the state level the difference in prostate cancer mortality rates between white and minority groups is similar. In NC, the comparable rate for minority males (21.8) is also close to three times the rate for white males (56.3).

Prostate Cancer Risk Factors (55)

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

Lung Cancer

Lung Cancer Incidence

Between 2002 and 2006, 87 new cases of trachea, bronchus, and lung cancer were diagnosed in Bertie County, making it the third most commonly diagnosed cancer. The resulting aggregate incidence rate of 74.1 per 100,000 was 1% lower than the rate for the state (75.0). In 2008 hospital charges for the treatment of lung cancer in Bertie County residents totaled almost $294,000 (53).

Lung Cancer Mortality

The 2004-2008 lung cancer mortality rate was slightly higher in Bertie County than in the state as a whole (59.5 vs. 59.1) (Table 39). In the period cited, 75 people died of lung cancer in Bertie County.

Table 39. Lung Cancer Mortality (2004-2008)

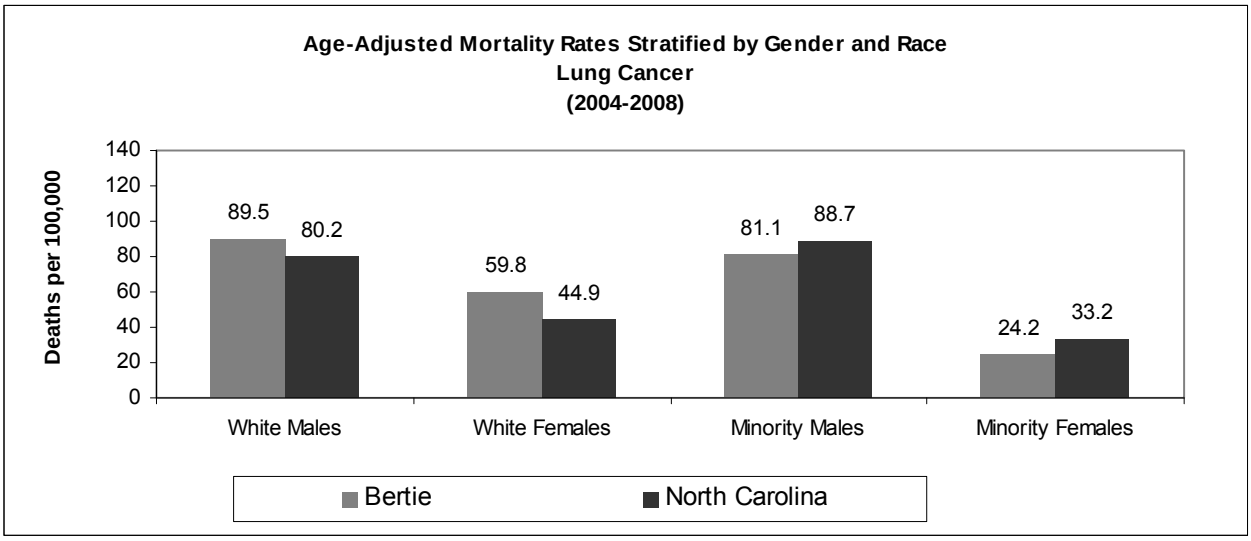
	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Bertie	75	59.5	21	89.5	20	59.8	24	81.1	10	24.2
State Total	26,325	59.1	12,507	80.2	9,108	44.9	3,035	88.7	1,675	33.2
NC County Avg.	263	n/a	125	n/a	91	n/a	30	n/a	17	n/a
Source	NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Nationally, lung cancer is the leading cause of death from cancer with a mortality rate of 51.7 per 100,000 in 2006 (56). Bertie County's current lung cancer mortality rate exceeds the national rate by 15%. The Healthy People 2010 goal is to reduce the lung cancer mortality rate to 44.9 per 100,000 (46). Bertie County currently exceeds this target rate by 33%.

Gender and Racial Disparities in Lung Cancer Mortality

Figure 6 plots aggregate age-adjusted mortality rates due to lung cancer for the period 2004-2008 from Table 39. From this data it appears that gender disparities may be more pronounced than racial disparities. In Bertie County, the lung cancer mortality rate for white men (89.5) is only slightly higher than for minority men (81.8), but the lung cancer mortality rate for white men is almost double the rate for white women. The lung cancer mortality rate for white women (59.8) was substantially higher than the rate for minority women (24.2).

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.

Lung Cancer Risk Factors (55)

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

Colon and Rectal Cancer

Colorectal Cancer Incidence

Cancers of the colon and rectum accounted for 79 new cancer diagnoses in Bertie County between 2002 and 2006, making it the fourth most commonly diagnosed cancer in the county. During that period, the local incidence rate for colon and rectal cancer (68.5) was 42% higher than the incidence rate for the state as a whole (48.4). In 2008, hospital charges attributable to colorectal cancers among Bertie County residents totaled almost $1,032,000 (53).

Colorectal cancer was the fourth 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) (49).

Colorectal Cancer Mortality

During the period from 2004 through 2008, 32 people in Bertie County died from colorectal cancer, representing an age-adjusted mortality rate of 26.1 per 100,000 (Table 40). During this period the county rate was 51% higher than the rate for the state as a whole (17.2).

Table 40. Colorectal Cancer Mortality (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Bertie	32	26.1	8	32.5	8	23.8	5	19.6	11	26.1
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/									

Of the four major cancer types, colorectal cancer had the lowest national mortality rate of 20.5 per 100,000 in 2006 (56). The current mortality rate for Bertie County is 27% above the 2003 national mortality rate. The current mortality rate for NC is slightly below the national rate.

The state colorectal mortality rate has been declining since 1984. While the comparable Bertie County rate has been more variable; the overall local trend has also been negative since 1999.

Gender and Racial Disparities in Colorectal Cancer Mortality

In Bertie County, the mortality rate among white men was 66% higher than the rate among minority men; the mortality rate for white women was 10% lower than the rate for minority women. On the state level, however, the mortality rate among white men was 39% lower than the rate among minority men; the mortality rate for white women was 44% lower than the rate for minority women. The county mortality rates for white and minority males are below the comparable regional rates, but the local rates for white and minority women are both above the comparable regional rates.

In Bertie County, the colorectal cancer mortality rate for minority men is 33% lower than the rate for minority women. On the state level, the mortality rate among minority men is higher than among minority women (39%). The state mortality rate among white men is higher than those among white women (44%).

Colorectal Cancer Risk Factors (55)

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

Diabetes

Diabetes is a disorder of the metabolic system resulting from a shortage of insulin, a hormone that allows sugar to enter cells and convert it into energy. If diabetes is uncontrolled, sugar and fats remain in the blood, over time damaging vital organs (52). Diabetes was the fifth leading cause of death in Bertie County in 2004-2008 and caused over $1,378,000 in hospital charges in 2008 (53).

Diabetes Incidence

Incidence data for diabetes is not routinely available; thus it is necessary to estimate incidence by other means, such as hospital discharge rates. In Bertie County, in 2008, the hospital discharge rate for endocrine, metabolic and nutritional diseases (including diabetes) was 5.2 discharges per 1,000, approximately 27% higher than the state rate (4.1). The county's discharge rate has fluctuated between 2004 and 2008, but remains above the state rate. The local discharge rate associated with *diabetes alone* was 2.8 per 1,000. It should be noted that hospital discharge information tends to underestimate the true extent of diabetes in the population, because it does not include people being treated for diabetes who do not require hospitalization.

Diabetes Mortality

Between 2004 and 2008, 65 deaths in Bertie County were attributed to diabetes. For the five-year aggregate period presented in Table 41, the age-adjusted mortality rate attributable to diabetes in Bertie County was 51.0, 102% higher than the comparable state rate.

Since 1984, mortality due to diabetes has been rising in the county and the state. The most dramatic increase has occurred at the county level.

Table 41. Diabetes Mortality Rates (2004-2008)

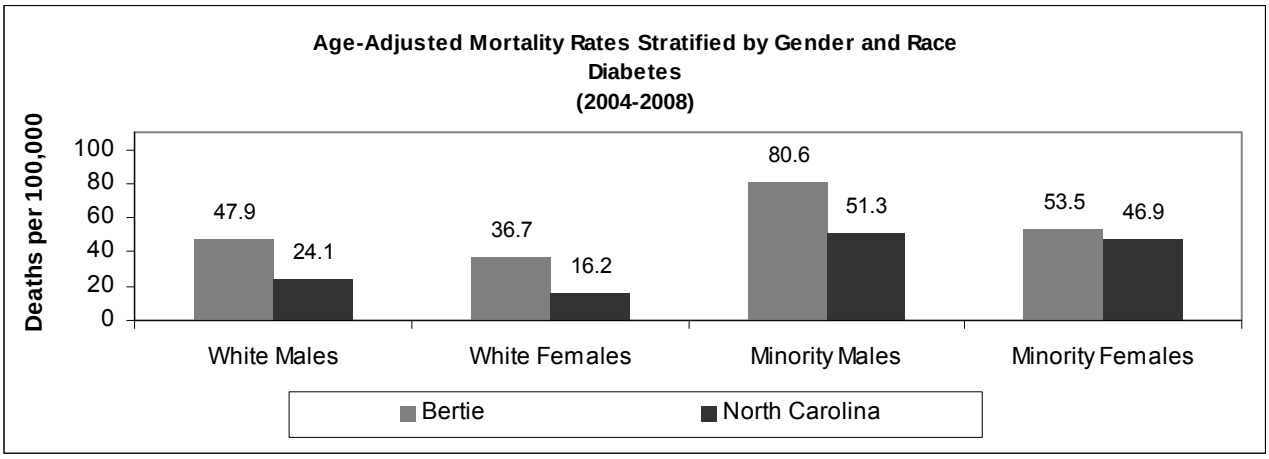
	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**
Bertie	65	51.0	11	47.9	10	36.7	19	80.6	25	53.5
State Total	11,049	25.2	3,636	24.1	3,368	16.2	1,723	51.3	2,322	46.9
NC 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

Figure 7 graphs the 2004-2008 age-adjusted mortality rates for diabetes that were presented in Table 69. The mortality rate among white females was lower than the rate for white males (36.7 vs. 47.9). The mortality rate among minority females was lower than the rate for minority males (36.7 vs. 53.5). On the regional and state levels the gender disparities were also small.

Racial disparities in diabetes mortality exist in Bertie County, the Albemarle Region, and the state. At the state level, the diabetes mortality rate is dramatically higher among minority males than among white males (51.3 vs. 24.1). In Bertie County, the diabetes mortality rate was also dramatically higher among minority males than among white males (80.6 vs. 47.9). The disparity between minority females and white females mirrors that between white and minority males at the county, regional, and state levels (Figure 7, following page).

Figure 7



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.

Diabetes Risk Factors

Risk factors for diabetes include: older age; obesity; family history of diabetes; prior history of gestational diabetes; impaired glucose tolerance; and physical inactivity (52).

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 accidents is the fourth leading cause of death in Bertie County.

Unintentional Motor Vehicle Injury Mortality

Between 2004 and 2008, there were 53 deaths due to motor vehicle injuries in Bertie County (Table 42). The associated mortality rate (53.0) was 185% higher than the state rate (18.6).

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

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Bertie	53	53.0	9	61.1	8	39.3	27	94.0	9	23.3
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/									

Gender and Racial Disparities in Unintentional Motor Vehicle Injury Mortality

Racial disparities in the county are not as dramatic as gender disparities. In Bertie County, the mortality rate due to motor vehicle injury for white men is more than two times the rate for white women. The rate of motor vehicle related deaths in Bertie County among minority men is nearly four times the rate among minority women. Although not as drastic, similar trends in motor vehicle mortality rates exist at the state level.

According to the NC Highway Research Center, in 2008 there were 431 motor vehicle accidents in Bertie County, resulting in 158 nonfatal injuries and 9 fatalities (Table 43).

Frequently, motor vehicle crashes are associated with alcohol consumption. In 2008, 6.3% of Bertie County motor vehicle accidents were associated with alcohol, a figure slightly lower than the comparable state percentage of 5.7%. Alcohol was involved in 9.5% of all *nonfatal* motor vehicle accidents in the county but in 33% of the *fatal* accidents. In the state as a whole, 8.6% of all *nonfatal* motor vehicle accidents but almost 30% of all *fatal* motor vehicle accidents were alcohol related.

Table 43. Motor Vehicle Injuries, 2008

	Crashes		Number of Injuries				Alcohol Related Crashes		
County	Total Number	Number Alcohol Related	Non-Fatal	Fatal	Alcohol Related Non-Fatal	Alcohol Related Fatal	Percent of Total Crashes	Percent of Non-Fatal Crashes	Percent of Fatal Crashes
Bertie	431	27	158	9	15	3	6.3	9.5	33.3
State Total	209,318	11,920	112,387	1,450	9,267	431	5.7	8.6	30.0
NC County Avg.	2,093	119	1,124	15	93	4	n/a	n/a	n/a
Source:	Highway Safety Research Center, NC Alcohol Facts, http://www.hsrc.unc.edu/ncaf								

Programs and Interventions:

TRHC 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.

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 (52). 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 pre-1999 can be compared to CLRD rates after 1999. Hospital charges for treating Bertie County residents with CLRD totaled nearly $1,135,000 in 2008 (53).

CLRD Mortality

COPD/CLRD was the sixth leading cause of death in Bertie County for the period 2004-2008. Table 44 shows race-sex specific age-adjusted mortality rates for COPD/CLRD in Bertie County and North Carolina. For the most current aggregate time period (2004-2008), the overall COPD/CLRD mortality rate in Bertie County is the same as the state rate.

Table 44. Chronic Lower Respiratory Disease Mortality, including COPD (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Bertie	61	47.8	18	78.6	15	41.4	19	83.5	9	20.3
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, 2010 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Gender and Racial Disparities in CLRD Mortality

In Bertie County, the mortality rate due to COPD/CLRD was 6% higher among minority men than among white men. The mortality rate for white men in Bertie County is 90% higher than the rate for white women. The Bertie County mortality rate for white men is also higher than the comparable rate at the state level. The COPD/CLRD mortality rate is 104% higher among white women than minority women in Bertie County. Minority men die from COPD/CLRD at about four times the rate as among minority women. The same trends are observed at the state level.

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) (52).

Unintentional Non-Motor Vehicle Injury

The NC-SCHS distinguishes unintentional non-motor vehicle injuries from motor vehicle injuries when calculating mortality rates for unintentional injuries and ranking leading causes of death. Both non-motor vehicle and motor vehicle injuries are among the ten leading causes of death in Bertie County. Unintentional injuries of all types are costly injuries and led to almost $7 million in hospital charges for Bertie County residents in 2008 (53).

Between the years 2004 and 2008, there were 26 deaths in Bertie County due to unintentional non-motor vehicle injuries (e.g., boating accidents, falls, animal bites, drowning, choking) (Table 45), making this category the eighth leading cause of death in the county.

Table 45. Unintentional Non-Motor Vehicle Injury Mortality (2004-2008)

County	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Bertie	26	21.8	4	16.0	4	13.7	12	43.2	6	15.7
State Total	12,435	28.4	6,082	39.6	4,276	22.0	1,341	31.2	736	13.8
NC County Avg.	124	n/a	61	n/a	43	n/a	13	n/a	7	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 Unintentional Non-Motor Vehicle Injury Mortality

Significant gender disparities are apparent. The data show that in Bertie County the mortality rate among white males is 17% higher than the rate among white females. This trend is even more pronounced at the state level, where the rates for white males is almost double the rate for white females. Statewide and region wide, the unintentional non-motor vehicle injury mortality rate among minority males is more than twice the rate among minority females; in Bertie County the rate for minority males is 175% higher than the rate for minority females.

Homicide

Homicide was the sixth leading cause of mortality in Bertie County for the period 2004-2008, responsible for eight deaths in that five-year aggregate (Table 46).

The county homicide rate for 2004-2008 was 6.6 per 100,000, a figure 8% lower than the state rate. The Healthy Carolinians 2010 homicide rate goal is 5.0 per 100,000 (45); Bertie County needs to reduce its current homicide rate by 24% to meet this goal.

Table 46. Homicide Mortality (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**
Bertie	6	6.6	2	15.6	0	0	3	10.3	1	3.0
State Total	3,208	7.2	1,005	6.0	409	2.5	1,476	26.2	318	5.3
NC County Avg.	32	n/a	10	n/a	4	n/a	15	n/a	3	n/a
Source	NC State Center for Health Statistics, 2010 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

While the homicide rates in NC have declined since 1984, the rates in Bertie County have fluctuated with a peak during the 1994-1998 period. Overall, however, the county, regional, and state rates for mortality due to homicide have decreased slightly during the reporting period.

Gender and Racial Disparities in Mortality Due to Homicide

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

Chronic Liver Disease and Cirrhosis

Chronic liver disease is marked by the gradual destruction of liver tissue over time. Cirrhosis is a group of chronic liver diseases in which normal liver cells are damaged and replaced by scar tissue, progressively diminishing blood flow through the liver. Risk factors for chronic liver disease include: exposure to hepatitis and other viruses; use of certain drugs; alcohol abuse; chemical exposure; autoimmune diseases; diabetes; malnutrition; and hereditary diseases (52). In 2008, chronic liver disease cost county residents $330,000 in hospital charges (53).

In the aggregate period 2004-2008, liver disease/cirrhosis was the fourteenth leading cause of death in Bertie County, accounting for a total of 10 deaths (Table 47). The 2004-2008 age-adjusted county mortality rate was 7.7, slightly lower than the comparable state rate.

Table 47. Chronic Liver Disease and Cirrhosis Mortality (2004-2008)

	Overall Rate		White Males		White Females		Minority Males		Minority Females	
County	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**	**Number**	**Rate**
Bertie	10	7.7	5	18.9	1	3.1	3	9.6	1	2.2
State Total	4,199	9.1	2,217	13.0	1,163	6.0	547	12.2	272	5.0
NC County Avg.	42	n/a	22	n/a	12	n/a	5	n/a	3	n/a
Source	NC State Center for Health Statistics, 2010 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/									

Chapter Four:

Community Health Survey

2010 COMMUNITY HEALTH SURVEY

ALBEMARLE REGIONAL HEALTH SERVICES
Partners in Public Health

Bertie County

Hello, I am _____ and this is _____ representing the Bertie 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 Bertie County, North Carolina. The Bertie County Health Department, Three Rivers Healthy Carolinians and Bertie Memorial Hospital will use the results of this survey to help develop plans for addressing the major health and community issues in Bertie 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.

- *Bertie County Health Dept. → 252-794-6200*

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

- *Bertie County Sheriff's Office → 252-794-5330*

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 Bertie 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 Bertie 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 Disagree Agree
Question 1 **There is a good health care system in Bertie County.** (Think about health care options, access, cost, availability, quality, etc.)	2.4%	12.0%	**65.1%**	18.1%
Question 2 **Bertie 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%	8.4%	**69.9%**	20.5%
Question 3 **Bertie 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.)	0%	7.2%	**75.9%**	16.9%
Question 4 **There are plenty of ways to earn a living in Bertie County.** (Think about job options and quality of jobs, job training/higher education opportunities, etc.)	33.7%	**47.0%**	15.7%	3.6%
Question 5 **Bertie County is a safe place to live.** (Think about safety at home, in the workplace, in schools, at playgrounds, parks, shopping centers, etc.)	0%	8.4%	**79.5%**	10.8%
Question 6 **There is plenty of support for individuals and families during times of stress and need in Bertie County.** (Examples include neighbors, support groups, faith community outreach, agencies, organizations, etc.)	1.2%	27.7%	**56.6%**	9.6%
Question 7 **Bertie County has clean air.**	1.2%	12.0%	**75.9%**	10.8%
Question 8 **Bertie County has clean water.**	O%	12.0%	**77.1%**	10.8%

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 Bertie County.

SHOW QUESTION PICK LIST

Question 9
Using this list, please tell us the five (5) most important health problems in Bertie County. (Problems that you think have the greatest overall effect on health in the community.)

32.9% Cancer
34.1% Diabetes
18.3% Heart Disease
18.3% Obesity/Overweight
13.4 Stroke

Question 10
Using this list, please tell us the five (5) most important "unhealthy behaviors" in Bertie County. (Unhealthy behaviors that you think have the greatest overall effect on health and safety in the community.)

47.6% Alcohol Abuse
36.6% Drug Abuse
22.0% Smoking/tobacco use
18.3% Unhealthy Eating
7.3% Reckless/drunk driving

Question 11
Using this list, please tell us the five (5) most important "community social issues" in Bertie County. (Social issues that you think have the greatest overall effect on the quality of life in the community.)

14.6% Inadequate/unaffordable housing
23.2% Lack of affordable health insurance/health care
15.9% Lack of education/dropping out of school
15.9% Underemployment/lack of well paying jobs
11.0% Poverty

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 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/respite care

0% Lack of information	0% Lack of transportation
0% Cost	3.3% No problem with this service
0% Service not available	**96.7%** Did not need this service
0% Language/Cultural barriers	

Assistance with housing costs/subsidized housing

0.9% Lack of information	0% Lack of transportation
1.7 Cost	4.9% No problem with this service
1.1% Service not available	**91.4%** Did not need this service
0% Language/Cultural barrier	

Assistance with food costs/food stamps

5.4% Lack of information	0% Lack of transportation
1.9% Cost	22.6% No problem with this service
0.8% Service not available	**69.4%** Did not need this service
0% Language/Cultural barrier	

Health Promotion/Wellness programs

3.3% Lack of information	0% Lack of transportation
0.6% Cost	16.6% No problem with this service
1.9% Service not available	**77.6%** Did not need this service
0% Language/Cultural barrier	

Medical case management for an ongoing health problem

1.9% Lack of information	2.6% Lack of transportation
1.3% Cost	16.6% No problem with this service
0% Service not available	**76.8%** Did not need this service
0% Language/Cultural barrier	

Legal services

0.8% Lack of information	1.1% Lack of transportation
0% Cost	1.6% No problem with this service
0% Service not available	**95.8%** Did not need this service
0% Language/Cultural barrier	

Emergency medical care

0% Lack of information	4.4% Lack of transportation
1.2% Cost	33.5% No problem with this service
0% Service not available	**60.2%** Did not need this service
0% Language/Cultural barrier	

Hospital care

0% Lack of information	0% Lack of transportation
1.9% Cost	39.2% No problem with this service
0% Service not available	**58.1%** Did not need this service
0% Language/Cultural barrier	

Pregnancy care

0% Lack of information	0% Lack of transportation
0% Cost	10.6% No problem with this service
0% Service not available	**86.2%** Did not need this service
0% Language/Cultural barrier	

Enrolling in Medicaid or Medicare

0% Lack of information	0% Lack of transportation
1.1% Cost	28.9% No problem with this service
0% Service not available	**69.9%** Did not need this service
0% Language/Cultural barrier	

Mental health care or counseling

2.6% Lack of information	0% Lack of transportation
0% Cost	6.6% No problem with this service
0% Service not available	**90.8%** Did not need this service
0% Language/Cultural barrier	

Drug or alcohol treatment program

0.8% Lack of information	0% Lack of transportation
0% Cost	2.8% No problem with this service
0% Service not available	**93.8%** Did not need this service
0% Language/Cultural barrier	

Rehabilitation from an injury or permanent disability

0.8% Lack of information	0% Lack of transportation
0.9% Cost	9.9% No problem with this service
0% Service not available	**88.4%** Did not need this service
0% Language/Cultural barrier	

Home health care

0% Lack of information	0% Lack of transportation
1.1% Cost	8.5% No problem with this service
0% Service not available	**90.3%** Did not need this service
0% Language/Cultural barrier	

Nutrition service

1.5% Lack of information	0% Lack of transportation

0% Cost
0% Service not available
0% Language/Cultural barrier
4.3% No problem with this service
94.2% Did not need this service

Purchasing medical equipment

0% Lack of information
2.5% Cost
0% Service not available
0% Language/Cultural barrier
0% Lack of transportation
18.1% No problem with this service
79.4% Did not need this service

Getting prescription medications

0% Lack of information
7.3% Cost
1.1% Service not available
0% Language/Cultural barrier
0% Lack of transportation
60.4% No problem with this service
29.5% 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
94.3% Did not need this service

Dental care

0% Lack of information
0% Cost
0% Service not available
0% Language/Cultural barrier
0% Lack of transportation
31.2% No problem with this service
63.0% 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?

7.5% Excellent 18.5% Very Good **45.9%** Good 24.8% Fair 3.2% 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.)*

31.7% Health insurance *my* employer provides
7.3% Health insurance *my spouse's* employer provides
0% Health insurance *my school* provides
1.2% Health insurance *my parent or my parent's* employer provider
15.9% Health insurance I bought for myself
15.9% Medicaid
39.0% Medicare
3.7% Veteran's Administration benefits
___ Other: _____

14.6% 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?

14.4% Yes ___ No

Question 16
What type of medical provider(s) do you visit when you are sick?
(Pick all the answers that apply.)

73.4% Doctor's office
1.4% Health department
11.2% Hospital clinic
18.7% Hospital emergency room
0% Student Health Services
2.0% Company nurse
11.0% Community or Rural Health Center
0% Urgent Care Center
____ Other: Care at job

Question 17
In what cities are the medical providers you visit located?
(Pick all the answers that apply.)

27.2% Ahoskie
0% Chesapeake
0% Dare County
8.4% Edenton
10.7% Elizabeth City
0% Franklin
0%Gatesville
17.7% Greenville
0% Hertford
0%Norfolk
0% Suffolk
0% Virginia Beach
21.1% Williamston
43.0% Windsor
____ Other:

Question 18
Where do you usually get advice on your health?
(Pick all the answers that apply.)

63.2% Doctor's office
6.2% Health department
4.6% Hospital clinic
2.0% Hospital emergency room
0% Student Health Services
2.8% Company nurse
5.8% Community or Rural Health Center
0.6% Urgent Care Center
22.1% Family
8.6% Friends
5.6% Media (television, news, radio, magazine)
9.6% Internet or other computer-based info
____ Other: _____

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.***

88.4% Within the past 12 months
5.1% 1-2 years ago

5.3% 3-5 years ago
1.2% 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.*

39.6% Within the past 12 months
15.8% 1-2 years ago
9.7% 3-5 years ago
29.6% More than 5 years ago
1.2% 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?

0.8%Children's Developmental Services Agency/Developmental Evaluation Center
15.7%Counselor or therapist in private practice
25.1% Doctor
0% Emergency Room
0% Employee Assistance Program
12.6% Local Mental Health Facility
15.3% Minister/pastor
0.8% School counselor
0% Vocational Rehabilitation/Independent Living
35.0% I don't know
____ Other: _____

Question 22
How would you describe your day-to-day level of stress?

13.5% High 27.2% Moderate **39.3%** 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?

13.4% Always 6.1% Usually 22.3% Sometimes 18.0% Rarely
39.0% Never

Question 24
On how many of the past 7 days did you drink alcohol of any kind? (Beer, Wine, Spirits)

4.9% 1 day 0.6% 6 days

4.5% 2 days
1.5% 3 days
0.9% 4 days
0% 5 days
2.6% 7 days
25.4% I didn't drink alcohol on any of the past 7 days
59.7% I never drink alcohol

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?

97.0% 0 times
1.1% 1 time
0.6% 2 times
1.3% 3 times
0% 4 times
0% 5 times
0% 6 times
0% 7 times

Question 26
Do you smoke cigarettes?

15.8% Yes
67.8% I have never smoked cigarettes
16.2% I used to smoke but have quit

Question 27
How many cigarettes do you smoke per day?
(Please check only one (1) answer.)

84.1% Doesn't smoke
7.4% Less than half a pack per day
5.5% Between half a pack and one (1) pack per day
2.9% More than one (1) pack a day
0% Two (2) packs a day
0% Three (3) packs a day

Question 28
Are you regularly exposed to second-hand smoke from others who smoke?

32.0%Yes
68.0% No

Question 29
If you answered "yes" to the question 28, where are you regularly exposed to secondhand smoke? *(Pick all answers that apply.)*

3.7% In restaurants
15.6% At home
5.8% At work
4.1% In the car
____Other: ____

Question 30
How often do you currently use smokeless tobacco (chewing tobacco, snuff, Snus®, "dip")?

19.5% Not at all
9.1% Less than once per week
13.4% Once per week
28.1% 2-3 times per week
8.6% 4-6 times per week
21.4% 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?

19.5% None
9.1% Less than once a week
13.4% Once a week
28.1% 2-3 times a week
8.6% 4-6 times a week
21.4% Daily

Question 32
If you answered "none" to question 31, why don't you engage in physical activity?

1.1% My job is physical or hard labor
0% I don't have enough time for physical activity
1.6% I'm too tired for physical activity
3.1% I have a health condition that limits my physical activity
2.6% I don't have a place to exercise
0% Weather limits my physical activity
0% Physical activity costs too much (equipment, shoes, gym expense)
6.4% Physical activity is not important to me
____ Other: _____

Question 33
Not counting juice, how often do you eat fruit in an average week?

3.7% None
59.8% 1-5 servings
28.0% 6-10 servings
6.1% 11-15 servings
2.4% More than 15 servings

Question 34
Not counting potatoes and salad, how often do you eat vegetables in an average week?

2.4% None
43.9% 1-5 servings
46.3% 6-10 servings
6.1% 11-15 servings
1.2% More than 15 servings

Question 35
Are grocery stores in or near your neighborhood?

61.5% Yes ____ No

Question 36
Are fresh fruits and vegetables readily available at nearby grocery stores?

59.6%Yes ____ No

Question 37
On average, about how many meals a week do you eat out?

23.2% None
69.5% 1-5 times
4.9% 6-10 times
2.4% 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?

13.6% Asthma
14.4% Depression
21.6% Diabetes
67.3% High blood pressure
40.4% High cholesterol
3.8% Mental Illness
25.6% 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?

28.7% Yes

No, why not?
2.7% Lack of Information
0.3% Cost
0% Service Not Available
0% Language or Cultural Barrier
0% Lack of Transportation
0.8% 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?

22.6% Within the past 12 months
6.1% 1-2 years ago
1.7% 3-5 years ago
0.7% More than 5 years ago
0.6% I don't know/don't remember
2.4% 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?

____ Yes ____ N/A because I'm under age 40 *(now skip to question 43)*
____ No, why not?
3.2% Lack of Information
1.2% Cost
0% Service Not Available
0% Language or Cultural Barrier
0% Lack of Transportation
0% 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?

30.5% Within the past 12 months
10% 1-2 years ago
2.6% 3-5 years ago
1.6% More than 5 years ago
0% I don't know/don't remember
1.3% I have never had a mammogram

Question 43
Do you get a Pap test at least every 1-3 years?

42.4% Yes

No, Why?
2.9% Lack of Information
0.6% Cost
0% Service Not Available
0% Language or Cultural Barrier
0% Lack of Transportation
10.7% 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?

29.7% Within the past 12 months
9.4% 1-2 years ago
8.8% 3-5 years ago
2.9% More than 5 years ago
4.1% I don't know/don't remember
0% I have never had a pap test

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?

46.5% 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.)*

0% Alcohol
0% Drugs
0.7% Sex
0% Tobacco
0% Gang violence
0% Reckless driving/speeding
0% Eating disorder (e.g. anorexia or bulimia)
13.6% My child is not engaging in any high risk behaviors.

Question 47
Are you comfortable talking to your child about the above behaviors?

13.7% Yes ____ No

Question 48
Do you or your child need more information about any of the following issues? (*Check all answers that apply.)*

0.6% Alcohol
0% Drugs
0% Sex
0% Tobacco
0% STDs
0% HIV
0% Gangs
0% Reckless driving/speeding
0% Eating disorder (e.g. anorexia or bulimia)
0% Mental health issues (e.g. depression, anxiety)
0% Fitness/nutrition
____ Other: _____
8.8% My child does not need information about any of the above.

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)*

57.7% Yes, smoke detectors only
0% Yes, carbon monoxide detectors only
31.2% Yes, both
11.0% No

Question 50
Does your household have a Family Emergency Plan?

39.7% Yes
60.3% No

Question 51
Does your household have a basic emergency supply kit? If yes, how many days do you have a supply for?

47.0% No
20.0% 3 days
19.8% 1 Week
2.3% 2 weeks
10.9% More than 2 weeks

Question 52
Did you get your H1N1 Flu vaccine?

29.7% Yes, why?
3.2% Feel I am at risk, or a household member is at risk
2.6% I know someone who has been sick
16.5% My doctor recommended it
7.5% I always get the flu vaccine
70.3%No, why not?
1.1% I couldn't afford it
5.6% It was not available
20.9% I feel the vaccine is not safe
10.6% My physician does not recommend its use
5.5% H1N1 is not serious enough or I am not at risk
1.2% Prefer to wait and get vaccine later
2.9% The type available is not suitable for my age or medical condition
12.6% I never get vaccinated against flu
9.8% 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 Bertie County?
31.6% Yes
67.5% No

Question 54
How old are you?

8.5% 18-24	11% 40-44	6.1% 60-64
1.2% 25-29	2.4% 45-49	4.9% 65-69
6.1% 30-34	15.9% 50-54	8.5% 70-74
3.7% 35-39	9.8% 55-59	**22.0%** 75 or older

Question 55
What is your sex? 43.9% Male **54.9%** Female

Question 56
What is your race or ethnicity?

70.0% African American/Black	0% Native American
0% Asian/Pacific Islander	30.0% White/Caucasian
0% Hispanic/Latino	____ Other: _____

Question 57
What is your marital status?

44.4% Married 7.6% Separated 17.8% Never married
24.0% Widowed 6.2% Divorced ____ Other: ____

Question 58
What is the highest education level you have completed?
(Check only one (1) answer.)

21.7% Less than high school
36.6% High school diploma or GED
10.7% Associate's Degree
13.8% Some college but no degree
17.1% College degree (Bachelor's degree)
0% Graduate degree (Masters or Doctoral degree)
____ Other: _____

Question 59
What is your employment status?
(Check all answers that apply.)

31.1% Employed full-time	9.2% Disabled; unable to work
8.7% Employed part-time	2.7% Student
5.0% Unemployed	9.1% Homemaker
34.6% 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*.)

34.8% Less than $20,000

10.9% $20,000 to $29,999
17.5% $30,000 to $49,999
7.6% $50,000 to $74,999
2.7% $75,000 to $100,000
7.2% Over $100,000
19.1% No Answer

Question 61
How many individuals make up your household?

21.8% 1 person
36.3% 2 people
21.9% 3 people
11.2% 4 people
4.9% 5 people
0.7% 6 people
2.5% 7 people
0% 8 people
0.7% 9 people

Question 62
Are you the primary caregiver for any of the following?
(Check all answers that apply.)

1.9% Disabled child (under age 18)
2.3% Disabled adult (age 18 or older)
3.6% Senior adult (age 65 or older)
0% Foster child (under age 18)
3.3% Grandchild (under age 18)

THE END!

Thank you very much for completing the Community Health Survey!

Stakeholder Comments

Methodology

Between April and September of 2010, a UNC-Chapel Hill Masters of Public Health graduate student, as part of their practicum, conducted telephone interviews with five community stakeholders in Bertie County. The interviewees, who were selected for participation by the ARHSAT, received a letter preceding the phone calls inviting them to participate in an interview. To emphasize the importance of the invitation, the letter was signed by the local health director and Three Rivers Healthy Carolinians Coordinator. Many more community leaders initially were contacted, but several declined participation, and several others did not respond to multiple contact attempts.

The respondents were asked to describe the services provided by their agency, the population they served, barriers that community members faced when attempting to access those services, and what the agencies did to help their clients access their services. Respondents also were asked general opinion-type questions about Bertie County as a whole. These questions were about services that were needed and about the county's strengths and challenges it was facing. At the end of the interview respondents who did not participate in the Bertie County Community Health Survey were read eight statements about Bertie County and asked whether they agreed or disagreed with the statements. The complete interview script appears in the Appendix of this document.

Interview data was initially recorded in narrative form in Microsoft Word. Themes in the data were identified and representative quotes were drawn from the data to illustrate the themes. Interviewees were assured that personal identifiers such as name or organizational affiliations would *not* be connected in any way to the information presented in this report. Therefore, quotes included in the report may have been altered slightly to preserve confidentiality.

Interview Participants

Interviewees worked for the following types of organizations:

- Social services for the aging
- Social services for the disabled
- Bertie County Schools
- Public health organization

Interview Results

Available Services

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

- Evaluation of services to the disabled
- Public school educational services (kindergarten through twelfth grade)
- Outreach to senior citizens
- 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**
- **Communication services**

We can pay for some health services, but we need to get the word out- there needs to be more PR about resources that <u>are</u> available. There needs to be some way to let folks know what we have.

There's a need for better access to information for the public large.

We have no easy way to check on the elderly and shut-ins.

- **Affordable dental care**
- **Medical and dental care for the uninsured and underinsured**
- **Prescription drug assistance program**

Many people do not understand the Medicare Part D program.

One thing we see a lot of in seniors is Medicare Part D questions. It needs to be more like Part A or B. There are too many different plans that confuse people.

- **Many health services are not available within the county**

Client Populations Served

Some health education and service activities specifically target youth, seniors, new parents, young children, the Medicare population, the disabled, those under the poverty level, and public assistance recipients.

We serve a wide range of demographics. The people we work with run the gamut, but lean toward people with a lack of financial resources- most are unable to pay, have no insurance or inadequate insurance.

Several respondents noted that the county population has been aging. There are growing numbers of seniors with age-related health problems.

Barriers to Service Access

Respondents universally cited a need for better transportation for Bertie County residents to get access to health and social services. Many residents live in rural areas and are unable to easily get to the places where services are available.

Transportation is a big issue- there are big rural areas, it's hard for seniors to travel and to get into town.

There is no transportation system in the county.

Respondents indicated that lack of knowledge of services and lack of communication created barriers for people to access services. Many people are also uninformed about the availability and need for some services.

People don't see the need for screening and prevention...

Services are not well-publicized. Some residents are illiterate. There is a funding shortage for better communication.

Overcoming Access Barriers

Some service providers have private transportation contracts. There are some medical transport services available to take people to medical facilities in Greenville. There is also some home health care services available.

Community Strengths

Interview subjects particularly noted the county's rural and coastal setting and sense of community as strengths of Bertie County.

We have clean air and the people are friendly. It's a nice place to settle.

It's a typical small town- everybody's in it together. It's a real tight-knit community.

The work ethic is strong. Cordiality is strong.

It's a small community- people know people and neighbors are willing to help neighbors.

Community Challenges

The interviewees expressed concern that there are few employment opportunities and a lack of industry in Bertie County. A lack of funding for health-related programs was also cited. The recent downturn in the economy has also presented a challenge.

We need more jobs, more jobs, more jobs.

Finances- the lack of money- is one drawback. The state is cutting Medicaid and home care services.

It's a challenge to change past philosophies regarding health care. There's a lot of obesity, a lack of exercise, and a lack of healthy eating habits. We need to get the message out for prevention, especially with youth.

Medical services are a long distance away.

We have areas that need more services as people age and retire

Community Health Problems

Access to health-care was the major health concern for this group of interview subjects. They were particularly concerned that senior citizens in the county lacked access to health services. High blood pressure was noted as a common health problem, and there is also increasing obesity in both adults and 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.

Transportation is a big, big issue for us. It's a huge county and it's really, really difficult for people to get to medical services.

There's not proper dental and vision care. Doctors are leaving the county.

There's no proper cancer screening and people don't use free screening when it's available.

The health system is not as helpful to patients as it could be. Doctors treat people like numbers, not people.

Solving Community Health Problems

When asked what the community could do to solve its health problems the interviewees suggested increasing existing health 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 widely dispersed community.

We need more nutrition fairs, and we need to go to different parts of the county. We do have health fairs, but they tend to be in the major population areas. People don't get the care they need. They don't know the facts about health issues.

We need to go to different parts of the county and be more mobile to catch more people.

We need technology and other ways of getting information out to all households. We need better communication between providers and those who need health care.

Education is needed to get the message out and get commitments. There needs to be encouragement for appropriate screenings. People need to be encouraged to seek treatment early for symptoms.

Quality of Life

All respondents replied to the Quality of Life questions.

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

Three respondents agreed with this statement, one disagreed and one was "half and half".

We need more doctors.

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

Four respondents agreed with this statement and one was "neutral."

A lot of the core values are good.

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

All five respondents agreed with this statement.

People are moving back after retirement.

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

All five respondents disagreed with this statement.

If we could just get some more businesses with good, clean jobs the situation would be better.

5) Bertie County is a safe place to live.

All five respondents agreed with this statement.

It's a quiet and clean place.

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

All five respondents agreed with this statement.

7) Bertie County has clean air.

Four respondents agreed with this statement, one disagreed.

8) Bertie County has clean water.

All five respondents agreed with this statement.

Chapter Five:

Acting on the CHA Results

Health Priorities Selection

Below are issues most citizens in Bertie County rated as important

The 5 most important "health problems":
- Cancer
- Diabetes
- Heart Disease
- Obesity
- Stroke

The 5 most important "unhealthy behaviors":
- Alcohol Abuse
- Drug Abuse
- Smoking
- Unhealthy eating
- Drunk driving

The 5 most important "community social issues":
- Inadequate/unaffordable housing
- Lack of affordable health care/insurance
- Lack of education/dropping out
- Underemployment/lack of well-paying jobs
- Poverty

On October 18, 2010, members of Three Rivers Healthy Carolinians met to identify leading community health problems. During the meeting, health concerns identified though 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	
Lisa Spry	Dana Hamill	Misty Deanes	

Bertie County problems identified:
1. HIV/STDs
2. Cancer
3. Low Birth Weight/Very Low Birth Weight/Infant Mortality
4. Stroke
5. Heart Disease
6. Diabetes
7. Cancer
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#.

Possible subcommittee assignments:

Chronic Disease
- Stroke
- Heart Disease
- Diabetes
- Cancer
- Behaviors noted:
- Exercise, eating healthy

Maternal & Child Health
- HIV/STDs
- Low Birth Weight/Very Low Birth Weight babies
- Infant Mortality

Behaviors noted:
Lack of prenatal care, poor preconceptional health, unprotected sex

Wellness
- Childhood Obesity

Behaviors noted:
Exercise, nutrition

Areas of Improvement/Concern:
Categorize HIV/STDs in Maternal & Child Health (adding Family Planning to the title).
Dental health was noted as a problem, however not sure if subcommittees can take this on.
Continue to work to improve heart disease, stroke and cancer rates.
Improve efforts to reduce smoking.
Improve efforts to reduce childhood obesity.

Next Steps

The next step Three Rivers Healthy Carolinians 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. Three Rivers Healthy Carolinians 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. Three Rivers Healthy Carolinians will meet in 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

Three Rivers Healthy Carolinians plans to disseminate the Community Health Assessment information through presentations to county and city governments, local civic groups, faith organizations, and business leaders. Three Rivers Healthy Carolinians will make flyers available to participants of the community health survey highlighting key issues for that population. With the help of Albemarle Regional Health Services, there are plans to make the document available on the ARHS website, as well as working with other agencies to provide links to the information. ARHS also plans to work with the local newspapers to provide news releases to the public about the findings made in each county. Copies of the assessment will be placed in the local libraries, local health department, as well as 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 disposable to use in the community.

Chapter Six:

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Chapter Seven:

Appendices

Appendix A:

Bertie County Health Services Inventory

Adult Care

Brian Center Health and Rehabilitation
1306 South King St
Windsor, NC 27983
252-794-5146

Three Rivers Health Rehabilitation Center
1403 Conner Dr
Windsor, NC 27983
(252) 794-4441

Windsor House
336 Rhodes Ave.
Windsor, NC 27983
252-794-9333

Cooperative Extension

Bertie County Extension Center
106 Dundee St
Windsor, NC 27983
252-794-5317
FAX 252-794-5375

Dental Care

Wayne P. Attikisson, DDS, PA
402 Sterlingworth St
Windsor, NC 27983
252-794-2053

Dianna Hall, RDH
Public Health Dental Hygienist
270 Tuggie Eure Rd.
Gates, NC 27935
252-357-1077

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.

Doctor's Offices

Aulander Medical Practice
Semaan El-Khoury, MD
Penny L. Brown, FNP
108 South Commerce St.
P.O Box 309
Aulander, NC 27805
252-345-3791

Bertie County Rural Health Association
Windsor Family Medical Center
306 Winston Lane
Windsor, NC 27983
252-794-3042

Cashie Medical Center
Located inside Bertie Memorial Hospital
1403 South King St
Windsor, NC 27983
252-794-6775

Colerain Primary Care
109 W. River Street
Colerain, NC 27924
252-356-2404

Eastern Carolina Geriatric Associates & Family Practice
105 Commerce Street
Powellsville, NC 27967
252-332-6484

Lewiston Medical Center
307 S Main Street
Lewiston, NC 27849
252-348-3140

Health Department

Albemarle Regional Health Services

102 Rhodes Avenue
Windsor, NC 27983
(252) 794-5323

Albemarle Regional Health Services is the seven-county regional Public Health agency that serves132,978 residents in rural, northeastern North Carolina. For over 68 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.

Environmental Health

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

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

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.

Home Health

Bertie County Home Health
102 Rhodes Ave.
Windsor, NC 27983
(252) 794-5323

Quality Home Staffing
228 US 13 S Bypass
Windsor, NC 27983
252-794-4227

University Home Care of Cashie
214 E Granville Street
Windsor, NC 27983
252-794-2622

Hospital

Bertie Memorial Hospital
1403 South King St.
Windsor, NC 27983
252-794-6600

Mental Health

Alcohol Anonymous
For information about meetings in Bertie County,
call Bille W. (in Williamston)
at 252-661-1228

Access to Care Line

1-877-685-2415
252-332-5306
After Hours: 252-332-4442

Services provided 24/7, 365 days a year.

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.

Outpatient Behavioral Health Program
1403 South King St
Windsor, NC 27983
252-794-6637

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.

Nephrologists

Windsor Dialysis Center
1421 South King St
Windsor, NC 27983
252-794-5041

Optometrist

Windsor Eye Care
106 N King St
Windsor, NC 27983
252-794-3381

Support Services

~Food Pantries~

All God's Children Food Pantry
302 Commerce St
Aulander, NC 27805
252-345-1077

Askewville Food Pantry
101 E. Askewville St.
Windsor, NC 27983
252-325-3467

Ebenezer Assembly of God/Threshold of Hope Food Pantry
809 NC Highway 305
Aulander, NC 27805
252-794-4463

Good Shepherd Food Pantry
1008 N. King St
Windsor, NC 27983
252-794-3478

Lewiston-Woodville Resource Center Food Pantry
108 S. Main St
Lewiston-Woodville, NC 27849
252-348-2010

Metropolitan Food Pantry
112 W. Main Street
Aulander, N.C 27805
252-345-1160

Mt. Ararat Baptist Church Food Pantry
305 Cowtrack Rd
Windsor, NC 27983
252-348-2596

Mt. Olive Baptist Church Food Pantry
102 Mt. Olive Rd
Windsor, NC 27983
252-348-2644 OR
252-348-3500

~Housing Assistance~

Choanoke Area Development Corporation
100 S. King Street
Windsor, NC 27983
252-794-3107

~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~

Bertie County Department of Social Service
1006 Wayland St
Windsor, NC 27983

252-794-5320

Appendix B:

ARHS Community Health Assessment

Community Leader Telephone Interviews

Interview Protocol

Bertie 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 Perquimans 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 Bertie 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 Bertie 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 Bertie 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 Perquimans 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."

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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 Perquimans County as a whole.

1) What services/programs are needed now that are not currently available?

2) Overall, what would you consider to be Bertie County's greatest strengths?

3) What do you feel are the major challenges Bertie County is facing?

4) Looking *specifically at health*: what do you think are the most important health problems/health concerns in Bertie 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 Bertie 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 Bertie County as a whole. Please tell me if you *agree or disagree* with the following statements about Bertie County [prompt for details, especially for very strong positive or negative responses]:

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

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

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

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

5) Bertie County is a safe place to live.

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

7) Bertie County has clean air.

8) Bertie 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!