2007
Forsyth County
Community Assessment
Report

Forsyth County Department of Public Health
Report of the Epidemiology & Health Surveillance Division
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Preface

This report describes the participants, process, and outcomes of the 2007 Forsyth County Community Health Assessment. Although this process takes place every four years, the fundamental findings are based on population-based measures and they often change little in such a relatively short period. Some of the critical findings of this process that remain important are: (a) Forsyth County residents experience a high level of preventable disease and death from tobacco use, unhealthy dietary habits, and inadequate physical exercise; (b) Forsyth County residents experience a disproportionately high rate of pregnancy loss and infant death; and (c) Racial inequalities in health outcomes are even greater in Forsyth County than in the State and Nation. Some of the implications from these findings are that: (i) The greatest contributors to loss of productive life in our community are human behaviors which are strongly influenced by our social and economic systems; and (ii) Our racial inequalities in health outcomes are also influenced by our social and economic systems and history. The priority health problems identified four years ago are still central issues. They are: Health Behaviors (poor dietary practices, inadequate physical activity, and tobacco use); Reproductive Health Outcomes (infant mortality, etc.); Poverty and Access to Health Care; Domestic Violence; Racial Disparities in Health Outcomes; and the Reorganization of Mental Health Services. These priority focus areas have been somewhat reformulated as the result of the current process into the following list of new priority focus areas:

-Health Promotion with emphasis on School Nutrition
-Health Promotion with emphasis on Tobacco Cessation
-Health Promotion with emphasis on Physical Activity
-Environmental Health with emphasis on Illegal dumping
-Community health with emphasis on Economic Justice
-Injury with emphasis on Domestic Violence
-Mental health with emphasis on Homelessness & Access to Care
-Infant Mortality with emphasis on Preventing Repeat Premature Births

These priority concerns, and the bases for their identification, are discussed at length in the body of this document. The Forsyth County Healthy Community Coalition, which lead the process of the CHA along with the Department of Public Health, is continuing a previously adopted novel strategy in its efforts to improve the health of our community - it will focus more on change in public policy and less on efforts to provide new clinical health services or related support services. The rationale for this strategy is outlined in the Community Health Action Plan.

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Community Health Assessment Team

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Introduction

Local public health agencies in North Carolina are required to conduct a Comprehensive Community Health Assessment once every four years. This community health assessment, 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, 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.

Forsyth County Department of Public Health (FCDPH) along with community partners conducted a community- wide assessment between September 2006 and December 2007. In September 2006, a team of FCDPH staff was assembled to develop and lead the community assessment process. In addition, the Forsyth County Healthy Community Coalition helped guide and respond to the work of the Community Assessment Team. *Forsyth County Healthy Community Coalition is a community coalition whose mission is to create, build, and sustain efforts that improve the quality of life of the residents of Forsyth County.*

The Community Health Assessment team was made up of community residents and representatives from several organizations which reflect all facets of the community. The team met monthly to review the various primary and secondary data already collected and collated. In agreement with the consensus reached by the 2003 Community Assessment Team, the goal of the 2007 Community Health Assessment was to identify health-related issues that can be solved through effective policy change. This will be accomplished through two avenues: (1) the development and publication of "Position Statements" related to all major public policy issues which have the potential to impact community health; and (2) a grassroots activism and organizing initiative designed to closely monitor all such public policy processes and to be prepared to address the issues in the public forum in a timely fashion. Despite the CHA team's shift in focus from the creation of specific community–based organizations and programs, the need for programs and organizations that serve minority groups in Forsyth County is still considered a vital part of serving our community. In lieu of this understanding, a partnership between the Healthy Community Coalition and current community-based organizations does exist to effectively address specific service needs.

Upon prioritization of the various health problems, eight health related issues were selected. The team was further organized into working groups and charged with creating a community action plan and developing interventions for addressing the eight priority health issues:

- Health Promotion with emphasis on school nutrition.
- Health Promotion with emphasis on tobacco cessation
- Health Promotion with emphasis on physical activity
- Environmental Health with emphasis on illegal dumping
- Community Health with emphasis on economic justice.

- Injury with emphasis on domestic violence
- Mental Health with emphasis on homelessness and access to care
- Infant Mortality with emphasis on preventing repeat premature births.

Data Sources

In order to learn about the specific factors affecting the health and quality of life of Forsyth County residents, the CHA team and NCIPH consulted numerous readily available primary, secondary and environmental health data sources. Primary data was collected via a community survey, focus groups, listening sessions and interviews among community leaders.

Primary Data

The purpose of the Community Health Opinion Survey was to assess the views of Forsyth County residents regarding their own personal health and health behaviors. Residences were selected for participation in the survey on the basis of geographical positioning (GPS) coordinates for parcels and structures using the tax information system. Of the residences that fell within the selected GPS Coordinates, thirty census blocks were randomly selected within the county with seven selected household points within each block group, according to CDC's 30-7 rapid need assessment methodology. The Survey was conducted in April 2007.

Demographics

195 electronics surveys were collected and later supplemented by survey responses collected in the field via staff using pen and paper. All surveys were combined into one dataset. Overall, 213 surveys were sent to NCIPH for analysis. Of those surveyed, 43% were male and 55% were female. The participants were mainly Caucasian (48%) and African-Americans (40%). 10% of participants were between the ages of 18-24, 13% between the ages of 25-34, 18% between 35-44, 38% between the ages of 45-64, and 20% reported being 65 years old or older. Demographic were collected to ensure that the chosen participants were representative of the Forsyth County general population.

In early 2007 Forsyth Futures, a community collaborative of residents, organizations and institutions, conducted community conversations and surveys with Forsyth residents. The data, or community input, obtained from these events were used to produce the annual community indicator report. The annual community indicator report reflects the community progress in predetermined goal areas. The community input process, although not governed by scientific data collection standards, is used to collect the perceptions and opinions from residents about life in Forsyth County. Data was collected through three methods: listening sessions, written surveys, and online surveys. Community members were asked to provide input on issues that were most important to family and Forsyth County in the areas of education, economic stability, health and safety.

Demographics

Through the community input process over 5000 community members participated; collectively providing over 20,000 data points.

Focus groups, informal structured meetings in which community members discuss their thoughts on various community topics through predetermined questions, were conducted in collaboration with existing community based organizations in Forsyth County. The purpose of the focus groups was to better understand community concerns and to identify barriers that affect the Forsyth County Residents' health. Discussion sessions were held in an informal setting in which community members discussed their thoughts on various community topics through predetermined questions. Group agendas were the same across all targeted groups and were conducted by a uniformly trained CHA team. Prior to each session, participants were presented with a written notice of consent form informing participants that the session would be audio taped and of the need to sign the consent agreement before participation.

Participants were referred to by first name only to ensure confidentiality. Group size of sessions ranged from six to sixteen. Consent forms and focus group sessions were given and conducted in both English and Spanish.

Demographics

Focus groups were conducted in such a way to include target populations within all geographical regions of the county and the diversity of the county population including Hispanics, African-Americans, Whites, and individuals from a broad age span (middle/high school students through elderly). Overall, ninety-five individuals participated. Of the participants involved 86% were female and 14% were male. Regarding race and ethnicity, 41% of participants were African-American, 37% Hispanic, and 21% Caucasian. Most of the participants were between the ages of 20-64 (52%), while 32% were under 20 years of age and 16% were 65 or older. Participants were from the groups listed below:

- Forsyth Technical Community College
- Iglesia Nueva Vita
- Baby Love Parenting class
- A community book club
- Faith Seeds Reentry Program
- Teen Talk Program
- YWCA Empowering Family Center
- ESL Program at Latham Elementary School
- Healthwise Program at the Rural Hall Library
- Healthwise Program at the Kernersville Library

From July to September of 2007, NCIPH staff conducted telephone interviews with stake holders representing 22 organizations in Forsyth County that work in the following key sectors of the community: healthcare, education, business, law enforcement, and supportive services. Interviewees were asked to report the services they provided and to share their opinions regarding changes in the community in terms of demographics and emerging needs. In addition, each community leader or service provider was asked to share their perspective on the strengths of Forsyth County, as well as general and health specific challenges. During the interview consent portion of the data collection, stakeholders were assured that their personal identities were protected and would not be connected to the report in any way. Qualitative data was recorded in narrative form and then analyzed using Atlas.ti to identify major themes.

Demographics

Representatives from the following agencies and organizations participated in the stakeholder interviews:

- Assistant Chief of Police
- Board of Health
- Chamber of Commerce
- Chief of Police
- Council on Aging
- County Manager
- Department of Pediatrics
- Department of Social Services
- Domestic Violence Service
- Forsyth County Parks & Recreation
- Forsyth Medical Center
- Forsyth Technical College
- Forsyth Technical Hispanic Center
- Healthy Carolinians
- Hispanic Interaction
- Institute for Dismantling Racism
- Medical Society
- Salem College
- Smart Start
- Superintendent of Schools
- United Way
- WFU Baptist Medical Center

Secondary Data

Secondary data is information that has already been collected by someone other than you. The data may be a compilation of records or surveys that are conducted by other agencies. The data collected is generally of fairly high quality, especially when that agency involved collects similar data on a regular basis. This Community Assessment includes secondary data from the following sources:

- 2000 US Census Bureau
- Log Into North Carolina (LINC)
- NC Department of Commerce
- NC Employment Security Commission
- Federal Insurance Deposit Corporation
- NC Child Advocacy Institute
- NC Department of Public Instruction
- NC State Bureau of Investigation
- NC Department of Health and Human Services
- NC Division of Medical Assistance
- NC Board of Elections
- 2004/5 Smart Start of Forsyth County Annual Report
- 2004/5 WSFC School Dropout Data Report
- 2006 advocacy for the Poor Report
- Cecil B. Sheps Center for Health Services Research
- Frank Porter Graham Early Childhood Development Institute
- National Center for Health Statistics
- US Environmental Protection Agency
- Environmental Defense
- NC Department of Environment and Natural Resources Divisions of Water Quality, Air Quality, Waste Management, Environmental Health, and Enforcement
- NC State Laboratory of Public Health

The United States Census Bureau is a part of the United States Department of Commerce. One of the major duties of the United States Census Bureau is the United States Census, a decennial poll mandated by the United States Constitution. Census created by this agency is then used to allocate Congressional seats, electoral votes, and government program funding.

Log into North Carolina (LINC) is a web resource for North Carolina Statistical data. With over 1300 data items from state and federal agencies, LINC provides data on such areas as Population and Housing, Vital Statistics and Health, Social and Human Services, Law Enforcement, Courts, and Corrections, Environment, Recreation, and Resources, Energy and Utilities, Government, Employment and Income, Business and Industry, Agriculture and Transportation.

The North Carolina Department of Commerce is the state's leading economic-development agency, working with local, regional, national and international companies. The department's mission is to improve the economic well-being and quality of life for all North Carolinians. This mission is carried out by serving existing business and industry, including providing international trade assistance; recruiting new jobs and domestic and foreign investment; encouraging entrepreneurship and innovation; marketing North Carolina and its brand; supporting workforce development; strengthening communities; and promoting tourism, film and sports development. The Department also provides data, statistics, information and reports for state government and agencies, which regulate commerce in the state.

The mission of the Employment Security Commission (ESC) is to promote and sustain the economic well being of North Carolinians in the world marketplace by providing high quality and accessible workforce-related services. For more than 50 years, ESC has played a key role in North Carolina's economic vitality, helping employers find the staff they need to carry out their business; serving as a career resource center for workers at all skill levels and age groups; supplying labor market data to government officials, researchers and others; and providing unemployment insurance to people who lose their jobs through no fault of their own.

The Federal Deposit Insurance Corporation (FDIC) preserves and promotes public confidence in the U.S. financial system by insuring deposits in banks and thrift institutions for at least $100,000; by identifying, monitoring and addressing risks to the deposit insurance funds; and by limiting the effect on the economy and the financial system when a bank or thrift institution fails. An independent agency of the federal government, the FDIC was created in 1933 in response to the thousands of bank failures that occurred in the 1920s and early 1930s. Since the start of FDIC insurance on January 1, 1934, no depositor has lost a single cent of insured funds as a result of a failure.

The North Carolina Child Advocacy Institute (NCCAI) is an organization that influences public policy in favor of all children and youth below the age of eighteen residing in North Carolina. NCCAI provides on its website data including indicators of well-being, child health reports, child protective services information and other information to inform policymakers and citizens about how children are faring in North Carolina. In addition to health and safety information, information about education reform including current legislative mandates, budget situations and accountability programs are featured.

The North Carolina Department of Public Instruction is the agency charged with implementing the State's public school laws and the State Board of Education's policies and procedures governing pre-kindergarten through 12th grade public education. The elected State Superintendent of Public Instruction heads the Department and functions under the policy direction of the State Board of Education. The Department of Public Instruction (DPI) develops the Standard Course of Study which describes the subjects and course content that should be taught in North Carolina public schools and develops the assessments and accountability model used to evaluate school and district success. The DPI administers annual public school funds totaling approximately $7 billion in state and federal funds and licenses the approximately 100,000 teachers and administrators serving in public schools.

The State Bureau of Investigation is a division of the Department of Justice under the direction of Attorney General Roy Cooper. The Crime Reporting and Statistics Unit administer the crime reporting standards for North Carolina and provide support for the 475 law enforcement agencies who participate in the Uniform Crime Reporting Program. This involves the collation and analysis of data collected by the SBI to assure quality control of the data. The collected data is then compiled into the Uniform Crime Report and disseminated to locations throughout the state and country. This report is used by the media, legislature, local government, and the office of the Attorney General.

The North Carolina Department of Health and Human Services (DHHS) is the largest agency in state government. It is responsible for ensuring the health; safety and well being of all North Carolinians, providing the human service needs for fragile populations like the mentally ill, deaf, blind and developmentally disabled, and helping poor North Carolinians achieve economic independence. Overall, the mission of DHHS is to provide efficient services that enhance the quality of life of North Carolina individuals and families so that they have opportunities for healthier and safer lives resulting ultimately in the achievement of economic and personal independence.

The Division of Medical Assistance (DMA) oversees two programs: Medicaid and NC Health Choice for Children. North Carolina's Medicaid program serves approximately one out of every eight people residing in our state with the largest budget in NC government – second only to overall budget for primary and secondary education. NC Health Choice for Children (NCHC) provides funding to extend health care coverage to roughly 115,000 children each month whose family income exceed Medicaid eligibility criteria. DMA partners with the State Employee's Health Plan and NC Blue Cross/Blue Shield in administering this program.

The NC Board of Elections is responsible for monitoring all elections held in Forsyth County and surrounding North Carolina counties. Principal functions include establishing election precincts and voting sites, appointing and training precinct officials, preparing and distributing ballots and voting equipment, canvassing and certifying the ballots cast in elections, and investigating any voting irregularities. It maintains voter registration and participation records and provides public information on voters and elections.

The Cecil G. Sheps Center for Health Services Research seeks to improve the health of individuals, families, and populations by understanding the problems, issues and alternatives in the design and delivery of health care services. This is accomplished through an interdisciplinary program of research, consultation, technical assistance and training that focuses on timely and policy-relevant questions concerning the accessibility, adequacy, organization, cost and effectiveness of health care services and the dissemination of this information to policy makers and the general public.

The Frank Porter Graham Early Childhood Development Institute (FPG) is an organization that serves as an objective, knowledgeable force for social change to enhance the lives of children and families in our community. Research on parent and family support; early care and education; child health and development; early identification and intervention; equity, access and inclusion; and early childhood policy are major focus areas for FPG researchers.

Compiling statistical information to guide actions and policies to improve the health of our people, the National Center for Health Statistics (NCHS) is a unique public resource for health information–-a critical element of public health and health policy. Through the collection of vital health statistics the NCHS is able to: document the health status of the population and of important subgroups, identify disparities in health status and use of health care by race/ethnicity, socio-economic status, region, and other population characteristics, describe our experiences with the health care system, monitor trends in health status and health care delivery, identify health problems, support biomedical and health services research, provide information for making changes in public policies and programs, and evaluate the impact of health policies and programs.

Environmental Defense (formerly known as Environmental Defense Fund or EDF) is a US-based nonprofit environmental advocacy group that functions through the uses of sound science, good economics and good law to find solutions that work. The group is known for its work on issues including global warming, ecosystem restoration, oceans, and human health. It is nonpartisan, and its work often advocates market-based solutions to environmental problems.

The N.C. Department of Environment and Natural Resources (DENR) is the lead stewardship agency for the preservation and protection of North Carolina's natural resources. The organization administers regulatory programs designed to protect air quality, water quality, and the public's health. DENR also offers technical assistance to businesses, farmers, local governments, and the public and encourages responsible behavior with respect to the environment through education programs provided at DENR facilities and through the state's school system. Through its natural resource divisions, DENR works to protect fish, wildlife and wilderness areas. The agency's activities range from helping to make sure drinking water is safe to managing state parks and forests for safe and enjoyable outdoor recreation experiences.

The State Laboratory of Public Health provides certain medical and environmental laboratory services (testing, consultation and training) to public and private health provider organizations responsible for the promotion, protection and assurance of the health of North Carolina citizens.

Community Profile:

Demographic and Socioeconomic Data

Demographic and Socioeconomic Data

Location and Geography

Forsyth County is located in central North Carolina. The largest metropolitan area in the county is Winston-Salem. The county is 30 miles west of Greensboro, NC; 80 miles north of Charlotte, NC; and 107 miles northwest of Raleigh, NC.

Forsyth County is bounded on the north by Stokes County, east by Guildford County, south by Davidson County, southwest by Davie County, and to the west by Yadkin County (Figure 1).

There are fourteen townships in Forsyth County and eight cities and towns including Bethania, Clemmons, Kernersville, Lewisville, Rural Hall, Tobaccoville, Walkertown, and Winston-Salem. Winston is the most populated township, and is home of Winston-Salem, which is the county seat (1).

The nearest Interstate Highway is I-40 which runs east-to-west through the county. US Highway 311 and NC Highway 8 and Highway 66 all run through Winston Salem. US Highway 421 runs east and west along the lower part of the county.

The nearest airport offering commercial passenger service is Piedmont Triad International Airport (PTI), located 20 miles east of Winston-Salem in Greensboro, NC. Interstate Highway 85 provides access to the Charlotte/Douglas International Airport located 80 miles to the south. The Smith Reynolds Airport (Winston-Salem, NC) is used primarily for general aviation and flight training, although some passenger operations take place there. Winston-Salem is the closest stop on any passenger railway system (2); the nearest Greyhound Lines stop is also in Winston-Salem, NC (3).

The physical area of Forsyth County is approximately 409 square miles. Almost 100% of Forsyth County residents live within 10 miles of a full-time four-lane highway (4).

The elevation of the county is 969 feet above sea level. The climate in Forsyth County is relatively mild, with an annual mean temperature of around 59.5 degrees. The average annual precipitation is around 41 inches (5).

Figure 1. County Map

History

From the official Forsyth County website (6):

Forsyth County began as a Moravian settlement in 1753 when Bishop August Gottlieb Spangenberg acquired a hundred-thousand acre tract of land from Lord Granville, one of the lord proprietors of North Carolina. The Moravians called their land Wachovia after the Austrian estate of Count Nicholas Lewis von Zinzendorf, an early protector of the Moravian church.

After the two settlements of Bethabara and Bethania were established, the town of Salem was founded in 1766 as the central town in Wachovia. Salem grew rapidly both as a religious center and as a center for crafts and trades. Forsyth County was named in honor of Colonel Benjamin Forsyth, a respected landowner in Stokes County. Colonel Forsyth distinguished himself in battle during the war of 1812 at Odelltown, Canada, where he was mortally wounded.

In 1849, the North Carolina legislature created the new County of Forsyth out of part of Stokes County. The courthouse square was laid one mile north of Salem Square with plans for the street of the two towns to run together. In 1851 an act was passed naming the county seat Winston. In 1879 an act was passed authorizing that Winston and Salem be combined, provided the people voted for the same. In 1913 Winston and Salem were incorporated as one town and Winston-Salem became the county seat.

Forsyth County has progressed from its rustic past to a modern community, although its past remains memorialized in historic preservation areas in the county, including Old Salem.

Population Characteristics

- In 2005 Forsyth County had an estimated permanent population of 325,967 persons, a number four times the population in the average North Carolina county (Table 1).
- Like the state as a whole, Forsyth County's population is increasing. Between 1990 and 2000, the Forsyth County population increased by 13.1% while the average NC County population grew by more than 21% (Table 1).
- In 2000, the median age of Forsyth County residents was 36 years, almost one year older than the median age for the state, 35.3 (Table 1).
- Over half of Forsyth County residents (68.5%) are white, with minorities making up 31.5% of the population in 2000. In NC minorities represent almost 28% of the total population (Table 1).
- People over the age of 65 make up 12.6% of the Forsyth County population, compared to 12% of the population statewide (Table 9).
- Children under the age of five were more numerous in Forsyth County than in the average NC County (Table 1), but represented a similar proportion of the population: 6.7% vs. 6.7% (Table 9).

Table 1. General Demographic Characteristics (years as noted)

	2000 Census										
County	Total Population (2005)	% Pop Change 1990-2000	No. Males	No. Females	Median Age	No. Under 5 Years	No. 65 Years and Older Male	No. 65 Years and Older Female	Race % White	Race % Other	% Hispanic or Latino, Any Race
Forsyth	325,967	13.1	146,217	159,850	36	20,494	14,919	23,630	68.5	31.5	6.4
State Total	8,672,459	n/a	3,942,695	4,106,618	n/a	539,509	389,048	580,037	72.1	27.9	4.7
NC County Avg.	86,725	21.4	39,427	41,066	35.3	5,395	3,890	5,800	n/a	n/a	n/a
Source	a	b	a	a	a	a	a	a	a	a	a

a - US Census Bureau, 2000 Census, http://www2.census.gov/census_2000/datasets/demographic_profile/North_Carolina/2kh37.pdf
b - NC Department of Commerce, Economic Development Information Service, http://cmedis.commerce.state.nc.us/countyprofiles

- The population in Forsyth County has grown every decade since 1980, but the rate of increase is expected to slow by 2010.

Table 2. Population Growth Comparison (1980-2010)

	Number of Persons							
County	1980	1990	% Change 1980-1990	2000	% Change 1990-2000	2007 (Est.)	2010 (Est.)	% Change 2000-2010
Forsyth	243,704	265,878	9.1	306,063	15.1	335,668	347,470	13.5
State Total	5,880,095	6,632,448	12.8	8,046,485	21.3	8,968,800	9,349,175	16.2
NC County Avg.	58,801	66,324	n/a	80,465	n/a	89,688	93,492	n/a
Source	a	a		b	b	a	a	

a - Log Into North Carolina (LINC) database, http://linc.state.nc.us; some % change was calculated
b - US Census Bureau (North Carolina QuickFacts available at: http://quickfacts.census.gov)

- The Forsyth County population is becoming denser, as is the population in the state as whole. By 2010, Forsyth County is predicted to be over four times more densely populated than the average NC County (Table 3).

Table 3. Population Density (1980-2010)

	Persons per Square Mile							
	1980		1990		2000		2010 (Est.)	
County	Population	Density	Population	Density	Population	Density	Population	Density
Forsyth	243,704	590.8	265,878	649.0	306,063	747.2	347,470	848.3
State Total	5,880,095	n/a	6,632,448	n/a	8,046,485	n/a	9,349,175	n/a
NC County Avg.	58,801	120.4	66,324	136.1	80,465	165.2	93,492	191.9
Source	Log Into North Carolina (LINC) database, http://linc.state.nc.us							

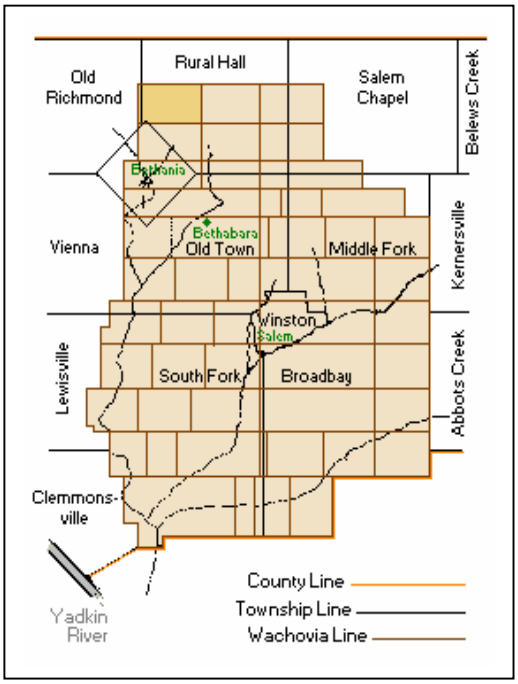
- As with North Carolina as a whole, Forsyth County has become more urban in nature with, with 9.1% of the population considered to be in rural areas; only about 40% of North Carolina's population is considered rural (Table 4, following page).

Table 4. Urban/Rural Population Distribution (1980-2000)

	Percent of Population					
	1980		1990		2000	
County	Urban	Rural	Urban	Rural	Urban	Rural
Forsyth	75.0	25.0	74.9	25.1	90.9	9.1
NC County Avg.	48.0	52.0	50.3	49.7	60.2	39.8

Source: Log Into North Carolina (LINC) database, http://linc.state.nc.us
Some percentages were calculated.

Figure 2. Forsyth County Township Map



- Winston is the largest township in Forsyth County, accounting for nearly 61% of the county's population. The next largest township is Kernersville, accounting for another 8.6% of the county's population (Table 5)
- The least populated townships are Old Town (0.1%), and Broadbay (0.9%), each accounting for less than 1% of the county's population.
- Old Town is the "oldest" township, with a median age of 43.6, while Winston has the youngest median age of 34.6.

Table 5. Forsyth County Population, by Township (2000)

Township	Number	Percent	Median Age
Abbotts Creek	12,869	4.2	37.7
Belews Creek	5,631	1.8	36.9
Bethania	9,543	3.1	39.3
Broadbay	2,904	0.9	40.4
Clemmonsville	13,123	4.3	39.6
Kernersville	26,372	8.6	35.6
Lewisville	15,431	5.0	36.3
Middle Fork	6,779	2.2	37.8
Old Richmond	5,165	1.7	39.1
Old Town	176	0.1	43.6
Salem Chapel	7,069	2.3	38.5
South Fork	3,213	1.0	37.7
Vienna	12,016	3.9	39.3
Winston	185,776	60.7	34.6
TOTAL/Average	306,067	100.0	38.3

Source: US Census Bureau, American Fact Finder, Data Sets, Summary File 1, Quick Tables, County Subdivision, Chose NC and county, then add applicable townships. Highlight Table DP-1 (Profile of General Demographic Characteristics 2000). http://factfinder.census.gov

- As detailed in Table 6 (following page), 68.5% of Forsyth County residents are white, with minorities making up 31.5% of the population in 2000.
- Forsyth County has a higher proportion of African Americans (25.6%) than NC as a whole (21.6%). The proportion of Hispanic residents in the county (6.4%) is higher than in the state as a whole (4.7%).

Table 6. 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	%
Forsyth	306,067	209,552	68.5	78,388	25.6	923	0.3	3,172	1	9,962	3.3	19,577	6.4
State Total	8,049,313	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.	80,493	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

- Abbotts Creek, Belews Creek, Clemmonsville, Lewisville, Old Richmond, Old Town, and Vienna are all over 90% white.
- In Winston Township, 37.1% of the population is African American (Table 7).
- The largest number of American Indians reside in Winston Township; the largest number and highest percentage of Hispanics (8.6%) reside in Winston.

Table 7. Population by Race, by Township (2000)

Township	White		Black/African American		American Indian/ Alaska Native		Asian		Native Hawaiian or Other Pacific Islander		Hispanic/ Latino	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Abbotts Creek	11,780	91.5	608	4.7	49	0.4	118	0.9	1	0.0	295	2.3
Belews Creek	5,111	90.8	402	7.1	24	0.4	21	0.4	0	0.0	81	1.4
Bethania	7,776	81.5	1,374	14.4	28	0.3	44	0.5	3	0.0	310	3.2
Broadbay	2,522	86.8	254	8.7	14	0.5	13	0.4	3	0.1	112	3.9
Clemmonsville	12,046	91.8	555	4.2	10	0.1	203	1.5	6	0.0	414	3.2
Kernersville	22,969	87.1	1,921	7.3	84	0.3	277	1.1	9	0.0	1440	5.5
Lewisville	13,981	90.6	902	5.8	28	0.2	243	1.6	2	0.0	292	1.9
Middle Fork	5,286	78.0	1,296	19.1	37	0.5	15	0.2	2	0.0	173	2.6
Old Richmond	4,760	92.2	337	6.5	2	0.0	13	0.3	0	0.0	46	0.9
Old Town	164	93.2	3	1.7	3	1.7	4	2.3	0	0.0	11	6.3
Salem Chapel	6,161	87.2	705	10.0	33	0.5	11	0.2	0	0.0	139	2.0
South Fork	2,816	87.6	303	9.4	15	0.5	34	1.1	3	0.1	44	1.4
Vienna	10,937	91.0	804	6.7	29	0.2	68	0.6	0	0.0	177	1.5
Winston	103,243	55.6	68,924	37.1	567	0.3	2108	1.1	67	0.0	16043	8.6

Source: Source: US Census Bureau, American Fact Finder, Data Sets, Summary File 1, Quick Tables, County Subdivision, Select areas, Table DP-1 (Profile of General Demographic Characteristics 2000). http://factfinder.census.gov

- In terms of both numbers (Table 8) and percent (Table 9) the largest age segment of the population in Forsyth County is persons ages 5-19, representing 19.9% of the Forsyth County population compared to 20.5% of the NC population.
- Children under the age of five represent the smallest portion of the population in Forsyth County accounting for 6.7% of the population (Table 9).

Table 8. Population Distribution by Age, Number (2000)

County	Total Population	0-4 Years	5-19	20-24	25-34	35-44	45-54	55-64	65+
Forsyth	306,067	20,494	61,183	20,856	45,667	49,574	42,531	27,213	38,549
State Total	8,049,313	539,509	1,653,851	577,508	1,213,415	1,287,120	1,085,150	723,712	969,048
NC County Avg.	80,493	5,395	16,539	5,775	12,134	12,871	10,852	7,237	9,690

Source: US Census Bureau, 2000 Census, http://www2.census.gov/census_2000/datasets/demographic_profile/North_Carolina/2kh37.pdf

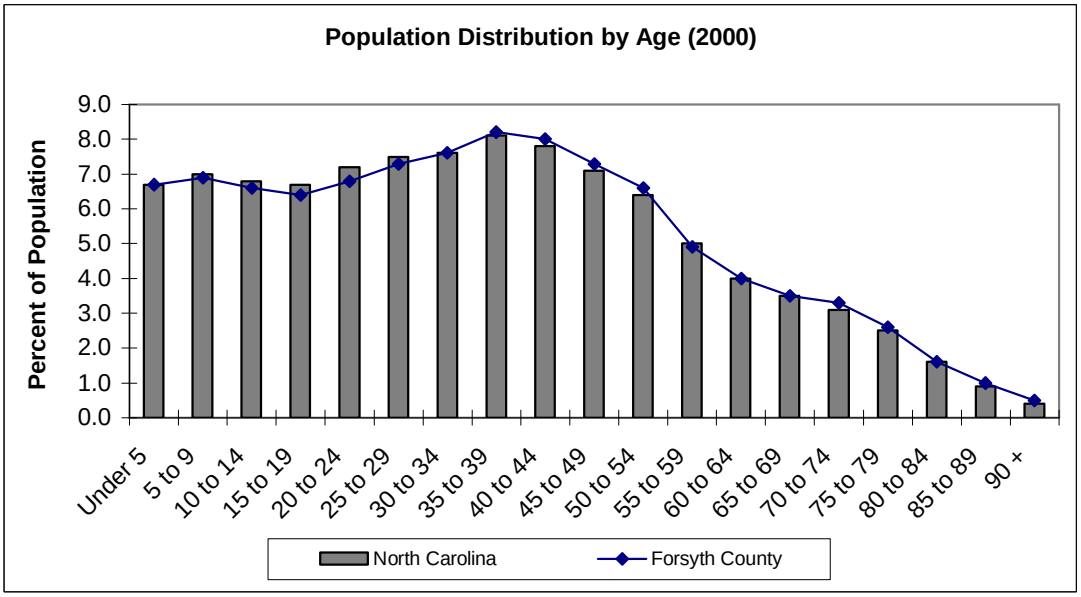
Table 9. Population Distribution by Age, Percent (2000)

County	Percent of Total								
	Total Population	0-4 Years	5-19	20-24	25-34	35-44	45-54	55-64	65+
Forsyth	306,067	6.7	19.9	6.8	14.9	16.2	13.9	8.9	12.6
State Total/Average	8,049,313	6.7	20.5	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

- The age distribution of the Forsyth County population closely resembles the age distribution of state population. Forsyth County has slightly larger proportions than the state of people aged 35-54, 70-79, and 85-90+ (Figure 3).

Figure 3



Source: US Census Bureau, American Fact Finder, Data Sets, Summary File 1, Quick Tables,Select areas, Table QT-P1 (Age Groups and Sex 2000). http://factfinder.census.gov

- Table 10 (following page) provides a breakdown of the number and percent of people in each age group, for both Forsyth County and the state.

Table 10. Demographic Profile by Age and Gender (2000)

	Forsyth County						North Carolina		
	Number			Percent			Percent		
Age Group	Total	Male	Female	Total	Male	Female	Total	Male	Female
All ages	306067	146217	159850	100.0	100.0	100.0	100.0	100.0	100.0
Under 5	20494	10545	9949	6.7	7.2	6.2	6.7	7.0	6.4
5 to 9	21241	10912	10329	6.9	7.5	6.5	7.0	7.3	6.7
10 to 14	20235	10305	9930	6.6	7.0	6.2	6.8	7.1	6.6
15 to 19	19707	9940	9767	6.4	6.8	6.1	6.7	7.0	6.4
20 to 24	20856	10230	10626	6.8	7.0	6.6	7.2	7.7	6.7
25 to 29	22468	11014	11454	7.3	7.5	7.2	7.5	7.8	7.2
30 to 34	23199	11422	11777	7.6	7.8	7.4	7.6	7.8	7.4
35 to 39	25115	12225	12890	8.2	8.4	8.1	8.1	8.3	8.0
40 to 44	24459	11684	12775	8.0	8.0	8.0	7.8	7.9	7.8
45 to 49	22416	10594	11822	7.3	7.2	7.4	7.1	7.0	7.1
50 to 54	20115	9600	10515	6.6	6.6	6.6	6.4	6.3	6.4
55 to 59	14970	7086	7884	4.9	4.8	4.9	5.0	4.9	5.1
60 to 64	12243	5741	6502	4.0	3.9	4.1	4.0	3.9	4.2
65 to 69	10839	4801	6038	3.5	3.3	3.8	3.5	3.3	3.7
70 to 74	10161	4277	5884	3.3	2.9	3.7	3.1	2.8	3.5
75 to 79	7996	3144	4852	2.6	2.2	3.0	2.5	2.0	3.0
80 to 84	5016	1643	3373	1.6	1.1	2.1	1.6	1.1	2.0
85 to 89	2918	756	2162	1.0	0.5	1.4	0.9	0.5	1.2
90 +	1619	298	1321	0.5	0.2	0.8	0.4	0.2	0.7

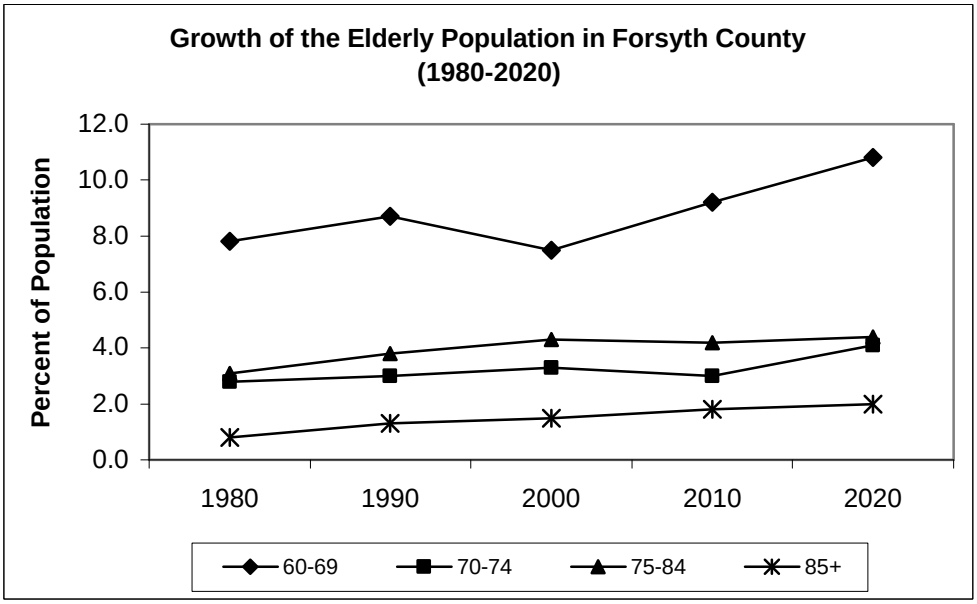
Source: US Census Bureau, American Fact Finder, Data Sets, Summary File 1, Quick Tables, Select areas, Table QT-P1 (Age Groups and Sex 2000). http://factfinder.census.gov

Older Adults

Growth of the Elderly Population

- As demonstrated in Figure 4, the population of Forsyth County adults over the age of 60 is increasing and is expected to continue to increase over the next 20 years.
- Though all segments of the elderly population are growing, the segment expected to grow the fastest in the 20 years between 2000 and 2020 is the group aged 60-69, which is predicted to grow by 44% over that period, from 7.5% to 10.8% of the total county population.
- The population segments aged 70-74 and 85-and-older will significanly grow over the period from 2000-2020 (33% and 24% respectively). The county population in the 75-84 category is also expected to grow, but by a much smaller percentage (2.3%).

Figure 4



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

Location of the Elderly Population

- As of the 2000 Census, 12.6% of the Forsyth County population was over the age of 65 (Table 9, cited previously).
- Winston is the township with the largest *number* of people age 65 and older; Old Town had the highest *percentage* (15.3%) of people age 65 and older (Table 11).
- In ten of the fourteen townships in Forsyth County, adults aged 65 and older represent more than 12% of the population. In North Carolina, only 12% of the entire population is made up of adults aged 65 and older.

Table 11. Forsyth County Population of Adults Age 65 and Older, by Township (2000)

Township	Number	% of Township Population
Abbotts Creek	1,458	11.3
Belews Creek	451	8.0
Bethania	1,307	13.7
Broadbay	436	15.0
Clemmonsville	1,587	12.1
Kernersville	2,426	9.2
Lewisville	1,311	8.5
Middle Fork	889	13.1
Old Richmond	629	12.2
Old Town	27	15.3
Salem Chapel	957	13.5
South Fork	393	12.2
Vienna	1,274	10.6
Winston	25,404	13.7
TOTAL	38,549	12.6

Source: US Census Bureau, American Fact Finder, Data Sets, Summary File 1, Quick Tables, County Subdivision, Select areas, Table DP-1 (Profile of General Demographic Characteristics 2000). http://factfinder.census.gov.

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 (7) collects and catalogues information about factors like these on the county level. Some of the Division's US Census Bureau-derived data on Forsyth County – and comparable data for the state of North Carolina as a whole – are summarized below.

Educational Attainment

- Elderly persons in Forsyth County tend to be more educated than their counterparts elsewhere in North Carolina. In Forsyth County 35.2% 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, 14.5% of persons aged 45-64 in Forsyth County *lack* a high school diploma, compared to 19.9% for the state as a whole.
- A larger proportion of Forsyth County residents than North Carolina residents age 65 and older have had a graduate school education (6.3% vs. 5.5%). In the age group 45-64 the difference is even greater: 11.8 % in Forsyth County compared to 8.8% statewide.

Living Conditions

- In 2000 approximately 2,725 persons in Forsyth County could 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 0.9%, a figure slightly less than the comparable rate for North Carolina as a whole (1%).
- With regard to home ownership, the figures for the elderly population in Forsyth County are slightly lower than for the state as a whole: in Forsyth County 77.9% of persons in the 45-64 age group are homeowners, as are 79.9% of persons in the 65 and older age

- group. At the state level the comparable percentages are 80.3% and 82.0% for the same respective age groups.

Mobility

- The elderly population in Forsyth County has a slightly smaller proportion of persons with disabilities as North Carolina as a whole. According to 2000 US Census figures, 20.4% of persons age 65 or older in Forsyth County reported having one disability; 20.6% 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.
- Higher proportions of Forsyth County residents in older age groups are without a car as compared to similar data for North Carolina as a whole. In Forsyth County, 6.9% of householders between the ages of 55 and 64,10.6% of those between the ages of 65 and 74, and 22% of those aged 75 or older did not have an automobile in 2000. These percentages compare to respective statewide figures of 6%, 9.0%, and 21.3%.

Non-English Speaking Population

North Carolina has seen continuous growth in the number of foreign-born residents, with this segment of the population increasing from 39,382 in 1969 to 430,000 in 2000, almost an 11-fold increase. According to demographers, this official count is likely an underestimate, since many in this population do not participate in the Census. The foreign-born population in a community is one that potentially does not speak English, and so is of concern to service providers.

Statewide the greatest proportion of the increase in foreign-born persons is represented by immigrants of Hispanic origin; however, statewide there has also been an influx foreign-born immigrants from Southeast Asia.

According to data in Table 12:

- As of the 2000 Census, there were 19,836 foreign-born residents in Forsyth County, making up 6.5% of the total county population (306,063) at that time.
- In 2000, almost half (8765) of the Forsyth County residents who were foreign-born had entered the United States in the preceeding five years.
- The percent of increase in the foreign-born population in Forsyth County between 1995 and 2000 (79.2%) was higher than the percent of increase at the state level over the same period.

Table 12. Growth of Potentially Non-English Speaking Population (1965-2000)

County	Number of Persons by Year of Entry for Foreign- Born Population									% Increase Since 1994
	<1965	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-2000	Total	
Forsyth	947	548	654	734	1664	2252	4272	8765	19,836	79.2
State Total	28,217	11,165	14,099	21,721	35,480	50,961	82,454	185,903	430,000	76.2
NC County Average	282	112	141	217	355	510	825	1,859	4,300	76.2

Source US Census Bureau, 2000 Census, http://www2.census.gov/census_2000/datasets/demographic_profile/North_Carolina/2kh37.pdf

- As of 2000, 19,294 *individuals*, or 6.8% of the Forsyth County population, reported on the US Census that they spoke Spanish at home, making Spanish the most commonly

- spoken language other than English in the county (8). Of the Forsyth County residents who reported speaking Spanish, 33% said they speak English "very well".
- Of 124,023 Forsyth County *households* assessed in the 2000 Census, 11,974 or 9.7% reported speaking a language other than English; of these 11,974, about 3,615 or 30% reported being linguistically isolated, meaning that all household members who are older than 14 have at least some difficulty speaking English (Table 13).

Table 13. Household Language by Linguistic Isolation [1] (2000)

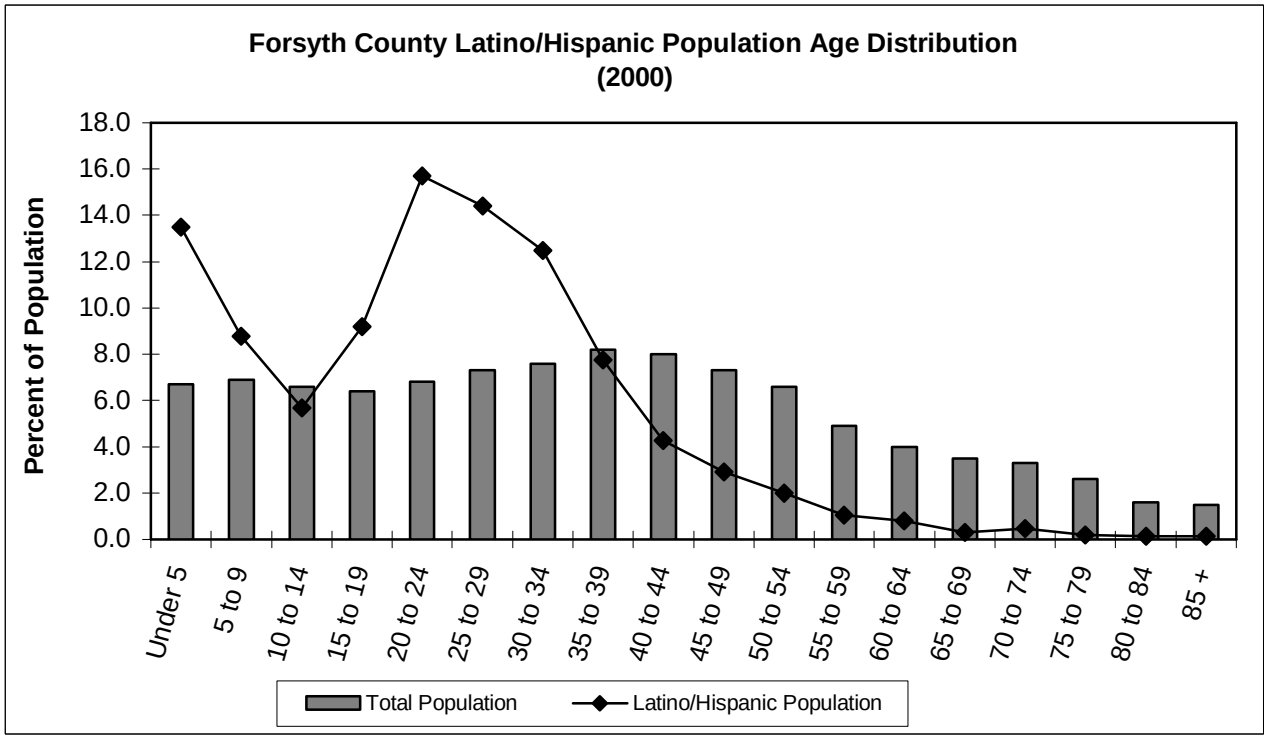
	Number of Households									
			Spanish-Speaking		Speaking Other Indo-European Languages		Speaking Asian or Pacific Island Languages		Speaking Other Languages	
County	Total Households	English-Speaking	Isolated	Not isolated	Isolated	Not isolated	Isolated	Not isolated	Isolated	Not isolated
Forsyth	124,023	112,049	2938	4949	316	2350	307	784	54	276
State Total	3,133,282	2,841,028	43,698	125,899	6,804	69,246	8,730	25,143	1,607	11,127
NC County Avg.	31,333	28,410	437	1,259	68	692	87	251	16	111

Source: US Census Bureau, 2000 Census, http://www2.census.gov/census_2000/datasets/demographic_profile/North_Carolina/2kh37.pdf

1 - Linguistic isolation describes a household where no member over 14 years of age (1) speaks only English or (2) speaks a non-English language and also speaks English "very well". In other words, all members have difficulty with English.

- As Figure 5 (following page) dramatically illustrates, there is a much higher proportion of Hispanics/Latinos ages 15-34 than in the overall county population. There is also a higher proportion of Hispanics under the age of 10. There is a significantly lower proportion of Hispanics/Latinos than in the general population in all other age groups, with the greatest difference in the age groups over 65 years of age.
-

Figure 5



US Census Bureau. American Fact Finder. Decennial Census. Data sets. Summary File 3, Detailed Tables. By County. P145H. Sex by Age (Hispanic or Latino). http://factfinder.census.gov/home/saff/main.html

Commuting Patterns

- The percentage of Forsyth County workers commuting out of the county to work increased between 1990 and 2000 while the percent leaving the state to work decreased. During that period, a lower percentage of the Forsyth County workforce left the county for work (i.e., traveled to a job in another county *or* state) than that in the average NC County (Table 14).

Table 14. Worker Commuting Patterns (1990 and 2000)

	Number and Percent of Persons													
	1990							2000						
County	Total # of Workers over 16	# Working Out of County	% Working Out of County	# Working Out of State	% Working Out of State	Total # Leaving County for Work	Total % Leaving County for Work	Total # of Workers over 16	# Working Out of County	% Working Out of County	# Working Out of State	% Working Out of State	Total # Leaving County for Work	Total % Leaving County for Work
Forsyth	143,474	19,256	13.4	1,081	0.8	20,337	14.2	147,838	27,501	18.6	1,104	0.7	28,605	19.3
State Total	3,300,481	657,483	n/a	60,323	n/a	717,806	n/a	3,837,773	936,047	n/a	75,604	n/a	1,011,651	n/a
NC County Avg.	33,005	6,575	19.9	603	1.8	7,178	21.7	38,378	9,360	24.4	756	2.0	10,117	26.4
Source	US Census Bureau, 1990 Census, 2000 Census, http://www2.census.gov													

- The majority of workers in Forsyth County (and NC) drive alone to work. The number of Forsyth County workers in this category increased between 1990 and 2000; as did the number carpooling and the number of workers walking to work or working from home; conversely, the use of public transportation declined (Table 15).

Table 15. Modes of Transportation to Work (1990 and 2000)

	Number of Persons							
	Drove Alone		Carpooled		Used Public Transportation		Walked, or Worked at Home	
County	1990	2000	1990	2000	1990	2000	1990	2000
Forsyth	107,240	118,936	16,991	18,887	2,653	2,216	6,041	6,554
State Total	2,527,980	3,046,666	529,828	538,264	33,902	34,803	80,573	177,098
NC County Avg.	25,280	30,467	5,298	5,383	339	348	806	1,771
Source	US Census Bureau, 1990 Census, 2000 Census, http://www2.census.gov							

Civic Participation

The Forsyth County Board Commissioners is the governing body for Forsyth County. A total of five County Commissioners compose the Board, serving staggered four-year terms. Each commissioner lives in a specific district, but all five commissioner seats are subject to a countywide vote(9).

The Forsyth County Board of Elections routinely reports voter registration and election turnout information for the county to the State Board of Elections, which catalogs both state and local data.

- Of the 188,699 voters registered in Forsyth County as of August, 2006, approximately 44% were registered as Democrat, 38% as Republican, and 18% as Independent/Unaffiliated (10).

- In 1990 and 2000, Forsyth County has had a higher percentage of the population registered to vote than the state as a whole. However, in the most recent year 2006, the percentage fell below the state percentage of the population registered to vote.
- In the 2004 presidential election a slightly higher proportion of the population voted in Forsyth County than in the state as a whole (Table 16).

Table 16. Registered Voters (1990, 2000, 2004 and 2006)

	Number and Percent of Population Registered to Vote												% of Population that Voted in 2004 Election
	1990				2000				2006				
County	Total %	Total	White	Non-White	Total %	Total	White	Non-White	Total %	Total	White	Non-White	Total
Forsyth	69.7	143,015	113,373	29,642	89.4	208,173	159,034	48,098	75.6	188,699	137,949	50,750	65.6
State Total	66.7	3,347,635	2,677,162	670,473	84.2	5,122,123	4,028,032	1,091,890	83.1	5,568,981	4,249,860	1,319,121	63.4

Source: Log Into North Carolina (LINC) database, http://linc.state.nc.us

Economic Climate

Income

- According to data in Table 17, in 2004 Forsyth County residents had a per capita income that was $3,022 (10%) higher than the state average.
- In 2004 the median household income in Forsyth County was $1,628 (4%) higher than in the average North Carolina County.

Table 17. Income (years as noted)

County	Per Capita Personal Income (2004)	Per Capita Income Difference from State	Median Household Income (2004)	Median Household Income Difference from State
Forsyth	$33,575	$3,022	$42,491	$1,628
NC County Avg.	$30,553	n/a	$40,863	n/a
Source	a	calculated	b	calculated

a - NC Department of Commerce, Economic Development, County Profiles. http://cmedis.commerce.state.nc.us/countyprofiles
b - US Department of Agriculture. Economic Research Service. Data Sets. County-Level Unemployment and Median Household Income for North Carolina. http://www.ers.gov/Data/Unemployment/

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 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.

- Forsyth County has experienced a fluctuation in growth between the years 2002 to 2006, however it appears that growth has increased between 2003 and 2005. (Table 18).
- Forsyth County has fared less than the state as a whole since 2002, with lower percentages of positive growth, except for 2002 and 2005 where growth was higher than the county average.

Table 18. Annual Employment Growth (2002-2006)

	Percent Change from Previous Year				
County	**2002**	**2003**	**2004**	**2005**	**2006**
Forsyth	0.5	0.0	1.1	2.3	2.2
NC County Avg.	-0.3	0.9	1.6	2.2	2.8
Source	FDIC, Regional Economic Conditions (RECON). http:www2.fdic.gov/recon				

Table 19 (following page) details the various categories of industry in Forsyth County and North Carolina.

- Health care/social assisstance is the largest reported industry in Forsyth County, accounting for 16.4% of the labor force. In the state, manufacturing is the largest industry, accounting for 14.3% of the labor force.
- Manufacturing is the second largest reported industry in Forsyth County, employing 13.6% of the labor force; statewide, health care/social assistance is the second largest industry (12.8%).

Table 19. Forsyth County Employment by Industry (Third Quarter, 2006)

Industry	% of Workforce	
	Forsyth	NC
Accomodation/Food Services	7.8	8.0
Administrative/Waste Services	7.1	5.7
Agriculture/Forestry/Fishing/Hunting	0.1	0.7
Construction	4.2	6.0
Educational Services	10.6	9.4
Finance/Insurance	5.2	3.8
Health Care/Social Assistance	16.4	12.8
Information	1	1.9
Management of Companies	2.5	1.8
Manufacturing	13.6	14.3
Other Services (not Public Admin)	2.4	2.5
Professional and Technical Services	4	4.4
Public Administration	3.7	5.7
Real Estate/Rental Leasing	1.1	1.3
Retail Trade	11.1	11.5
Transportation/Warehousing	4.7	3.5
Unclassified	0.2	0.6
Utilities	0.1	0.4
Wholesale Trade	3.3	4.5

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

Table 20 (following page) lists the major employers in Forsyth County, all of which employed over 1,000 people during the period cited.

Table 20. Major Employers in Forsyth County, 2006

Employer	Industry	Number Employed
Winston Salem Forsyth Co. School	Education and Health Services	1000+
North Carolina Baptist Hospitals	Education and Health Services	1000+
Forsyth Memorial Hospital, Inc.	Education and Health Services	1000+
Hanesbrands, Inc.	Manufacturing	1000+
RJ Reynolds Tobacco Company	Manufacturing	1000+
Wake Forest University School of ME	Education and Health Services	1000+
Wachovia Bank	Financial Activities	1000+
City of Winston-Salem	Public Administration	1000+
US Air, Inc.	Trade, Transportation, and Utilities	1000+
State of North Carolina	Public Administration	1000+

Source: Employment Security Commission of NC, Labor Market Information, Industry Information: North Carolina's Largest Employers. 25 Largest Employers by County. Scroll through the long document to find the appropriate county. http://jobs.esc.state.nc.us/lmi/largest/largest.pdf

Unemployment

- In 2006, an average 7,517 members of the Forsyth County civilian labor force were unemployed (10).
- Unemployment rates in Forsyth County have fluctuated historically, with the lowest unemployment rate (2.4) in 1999 and the highest rate (5.7) in 2002. From 1995 through 2006 the Forsyth County unemployment rates werebelow the state rates; so far in 2007 the local rate slightly exceeds the state rate (Table 21).

Table 21. Annual Unemployment Rate Trend (1995-2005)

County	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007 YTD
Forsyth	3.4	3.3	2.9	2.7	2.4	3.2	4.7	5.7	5.6	5.0	4.7	4.7	4.7
NC County Avg.	4.3	4.3	3.6	3.5	3.2	3.6	5.5	6.7	6.5	5.5	5.3	4.8	4.5

Source - NC Employment Security Commission, http://www.ncesc.com/lmi/laborStats/laborStatMain.asp

Business Closings and Layoffs

According to data catalogued by the NC Employment Security Commission (11) from newspaper reports and data submitted to the commission, between 2002 and 2007 (to date) there were 138 reported business closings in Forsyth County, that affected a total of 3,810 people. In addition, there were 47 reported layoffs that affected a total of 5,286 people. It should be noted that these data are largely anecdotal and as such are likely underestimates.

Poverty

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

- The poverty rate in Forsyth County has been below the comparable state rate since 1980 (Table 22).
- The Forsyth County poverty rate has fluctuated, but inccreased overall from 11.6% in 1980 to 13.6% in 2004; the state poverty rate has decreased overall over the same period.

Table 22. Annual Poverty Rate (1980-2004)

County	1980	1990	2000	2004
Forsyth	11.6	10.5	11.0	13.6
NC County Average	14.8	13.0	12.3	13.8
Source	a	a	a	b

a - Log Into North Carolina (LINC) database, http://linc.state.nc.us
b - Economic Research Service, US Dept of Agriculture, 2004 County Level Poverty Rates for NC. http://www.ers.usda.gov/data/povertyrates
*The poverty rate is the percent of the population - individuals and families - whose money income (including job earnings, unemployment compensation, social security income, pubic assistance, pension/retirement, royalties, child support, etc.) is below the threshold established by the Census Bureau.

Poverty and Race

- In 1990 and 2000, poverty rates in Forsyth County were highest among the black population (Table 23).
- The poverty rate for the white Forsyth County population increased between 1990 and 2000, while it decreased for the black population.
- Statewide, between 1990 and 2000 poverty rates decreased for all populations.

Table 23. Persons in Poverty, by Race, Percent (1990 and 2000)

	1990				2000			
County	Total Persons in Poverty	Total % in Poverty	% White in Poverty	% Black in Poverty	Total Persons in Poverty	Total % in Poverty	% White in Poverty	% Black in Poverty
Forsyth	27,102	10.5	5.9	23.9	32699	11.0	6.4	21.2
State Total/Avg.	829,858	13.0	8.7	27.1	958,667	12.3	8.5	22.9

Source: Log Into North Carolina (LINC) database, http://linc.state.nc.us

Children in Poverty

- Since 2001, Forsyth County has demonstrated slightly lower proportions of persons in poverty under the age of 18 compared to the state. Recently both the county and state rates have increased (Table 24, following page).
- Corroborating this evidence for significant child poverty in Forsyth County is data catalogued by the Annie E. Casey Foundation (12) on the percentage of school children receiving free or reduced school lunches. In 2001, 35% of Forsyth County school-aged children were enrolled in a free or reduced cost school lunch program; in 2005 that percentage had risen to 47%. These county figures compare to the statewide figures of 40% (2001) and 48% (2005).

Table 24. Persons in Poverty by Age, Percent (2001-2004)

	Percent in Poverty											
	2001			2002			2003			2004		
County	All Ages	Ages 0-17	Ages 5-17	All Ages	Ages 0-17	Ages 5-17	All Ages	Ages 0-17	Ages 5-17	All Ages	Ages 0-17	Ages 5-17
Forsyth	10.7	15.2	13.4	11.8	16.5	14.5	13.2	18.6	16.0	13.6	18.6	16.4
State Total	11.9	16.4	14.7	12.9	17.4	15.7	13.4	19.1	16.7	13.8	18.7	16.9

Source: US Census Bureau, People: Poverty. Small Area Income and Poverty Estimates, http://www.census.gov/hhes/www/saipe/saipe.html

- In the most recent Census period (2000), the percent of very young children (under age 6) in poverty in Forsyth County was similar to the the comparable state rate (17.9 vs. 17.8) (Table 25). According to a 2003 estimate, the Forsyth County rate remained almost as same as the state rate.

Table 25. Children under Age 6 in Poverty, Number and Percent (1980-2003)

County	1980		1990		2000		2003
	Number	%	Number	%	Number	%	Est. %
Forsyth	2,913	16.6	3,550	16.8	4,331	17.9	17.6
State Total	94,676	n/a	102,822	n/a	113,199	n/a	n/a
NC County Average	947	19.7	1,028	19.1	1,132	17.8	17.5
Source	a	a	a	a	a	a	b

a - Log Into North Carolina (LINC) database, http://linc.state.nc.us. Children = Under 6

b - Frank Porter Graham Early Childhood Development Institute. Early Childhood Needs and Resources Report 2003, http://www.fpg.unc.edu/~NCNR_Assessment/pdfs. Children = Under 5

Food Stamps

- The number of people receiving food stamps in the county decreased significantly between 1995 and 2001; however, the number started to increase between 2002 and 2003. An increase was also noted at the state level during this same period.

Table 26. Food Stamp Recipients (1995-2003)

County	Average Monthly Number of Food Stamp Recipients								
	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forsyth	21,701	20,842	19,929	16,860	14,098	13,707	13,704	16,015	18,588
State Total	617,971	606,801	621,938	540,933	494,396	506,736	483,015	555,951	624,167
NC County Avg.	6,180	6,068	6,219	5,409	4,944	5,067	4,830	5,560	6,242
Source	Log Into North Carolina (LINC) database, http://linc.state.nc.us								

- Forsyth County has a lower percentage of children (under 18) receiving food stamps than the average NC county. While this number has previously fluctuated, more recently it has increased in both Forsyth County and the state (Table 27).

Table 27. Food Stamp Recipients Ages 0-17 (2000 & 2004)

County	Percent of Children 0-17 who receive Food Stamps	
	2000	2004
Forsyth	10.0	16.0
NC County Avg.	11.8	18.0

Source: Annie E. Casey Foundation - Kids Count: http://www.kidscount.org/cgi-bin/cliks.cgi?action=rawdata_results&subset=NC

Housing

- In Forsyth County the *number and percentage* of owned housing units increased between 1990 and 2000; the percentage of owned housing units was slightly lower than the comparable figures in the average NC county (Table 28).
- The *number* of rental household units in the county increased, while the percentage slightly decreased between 1990 and 2000.
- The *percentage* of rental household units was slightly higher than the percentage in the state as a whole.
- The *number* and *percentage* of mobile home units increased in the county and in the state.
- The percentage of mobile home units in the county was significanly lower than the percentage in the state as a whole.

Table 28. Housing (1990 and 2000)

	1990									2000								
	Total Housing Units	Average Persons/ Household	Owner Occupied Units		Renter Occupied Units		Median Rent	Mobil Home Units		Total Housing Units	Average Persons/ Household	Owner Occupied Units		Renter Occupied Units		Median Rent	Mobile Home Units	
County	No.	No.	No.	%	No.	%	$	No.	%	No.	No.	No.	%	No.	%	$	No.	%
Forsyth	115,715	2.4	68,185	58.9	39,234	33.9	$302	5,631	4.9	133,093	2.4	81,233	61.0	42,618	32.0	$435	7,001	5.3
State Total	2,818,193	n/a	1,711,882	n/a	805,144	n/a	n/a	421,464	n/a	3,523,944	n/a	2,172,355	n/a	959,658	n/a	n/a	577,323	n/a
NC County Avg.	28,182	2.54	17,119	60.7	8,051	28.6	$284	4,215	15.0	35,239	2.49	21,724	61.6	9,597	27.2	$431	5,773	16.4
Source	Log Into North Carolina (LINC) database, http://linc.state.nc.us																	

Affordable Housing

According to information from the NC Rural Economic Development Center (based on 2000 US Census data) (13):

- 21.4% of the Forsyth County population at the time was living in “unaffordable” housing; this compares to 20.7% statewide. The Census Bureau defines unaffordable housing as housing that costs more than 30% of the total household income.
- Approximately 0.1% of housing units in both Forsyth County and 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 Forsyth County.

- The HUD Homes and Communities web pages and associated links list ten single-family HUD-sponsored homes in Forsyth County (14).
- There are two HUD Public and Indian Housing Authority offices located in Forsyth County, in Winston-Salem (15).
- There are 32 privately owned HUD-subsidized rental housing properties in Forsyth County listed on the HUD website: 11 group homes for the developmentally disabled; 14 apartment facilities for the elderly; one family home; and one health care facility (16).

The US Department of Agriculture catalogues information about rental properties available in rural areas (17). According to the USDA, the Multi-Family Housing web site provides an online guide to Government assisted rental projects.

The most recent listing (July 12, 2007) shows six rental properties in Forsyth County, all of them located in Kernersville (Century Square Apartments, Donnell Villas, Robinwood, Village East Apartments, and Wynnfield Court Apartments I and II).

Homelessness

According to the Forsyth United Way there are two homeless shelters in Forsyth County (The Salvation Army and The Bethesda Center for the Homeless), both located in Winston-Salem.

The state attempts to assess homelessness by periodically sponsoring a point-in-time survey/census. According to the 2007 point-in-time census data submitted on behalf of Forsyth County, there were 503 homeless persons (including 76 children) identified in the county at that time (18).

Children and Families

- As of the 2000 Census, 6.7% of Forsyth County residents were under the age of 5 (Table 9, cited previously).
- Approximately 24% of residents were under the age of 18 (Table 28).
- The largest number of children under 18 live in Winston Township, while the largest percentage lives in Lewisville.
- The smallest number of children under 18 live in Old Town Township, while the smallest percentage lives in Broadbay Township.

Table 29. Forsyth County Population Under 18, by Township (2000)

Township	Number	% of Township Population
Abbotts Creek	2,988	23.2
Belews Creek	1,420	25.2
Bethania	2,200	23.1
Broadbay	605	20.8
Clemmonsville	3,391	25.8
Kernersville	6,686	25.4
Lewisville	4,178	27.1
Middle Fork	1,576	23.2
Old Richmond	1,243	24.1
Old Town	45	25.6
Salem Chapel	1,658	23.5
South Fork	723	22.5
Vienna	3,144	26.2
Winston	43,365	23.2
TOTAL	73,222	23.9

Source: US Census Bureau, American Fact Finder, Data Sets, Summary File 1, Quick Tables, County Subdivisions, Select areas, Table QT-P1 (Age Groups and Sex 2000). http://factfinder.census.gov

Single Parent Families

- The number and percent of homes with single parents increased between 1990 and 2000 in Forsyth County and the state (Table 30, following page).
- When compared to the state, Forsyth County has a similar percentage of single parent homes.
- The percentage of homes with single fathers in Forsyth County increased by 73% during this period, the percentage in the average NC County increased by 65%.
- The percentage of homes with single mothers increased 21.6% in Forsyth County between 1990 and 2000; statewide the comparable increase was 17%.

Table 30. Single Parent Families (1990 and 2000)

	1990							2000						
	Total Family Homes	Total Homes with Single Parent		Single Male Head of Household		Single Female Head of Household		Total Family Homes	Total Homes with Single Parent		Single Male Head of Household		Single Female Head of Household	
County	Number	Number	%	Number	%	Number	%	Number	Number	%	Number	%	Number	%
Forsyth	73,276	19,541	26.7	1,103	1.5	7,484	10.2	81,693	27,755	34.0	2,155	2.6	10,107	12.4
State Total	1,824,465	488,515	n/a	31,588	n/a	164,000	n/a	2,158,869	697,521	n/a	60,791	n/a	227,351	n/a
NC County Avg.	18,245	4,885	26.8	316	1.7	1,640	9.0	21,589	6,975	32.3	608	2.8	2,274	10.5

Source: Log Into North Carolina (LINC) database, http://linc.state.nc.us

Child Care Programs

- Of the children in regulated care in Forsyth County, 41% received a subsidy in 2005, a rate slightly less that noted in 2001. The 2005 rate of child care subsidy in the county was higher than the NC county average (Table 31, following page).
- In 2005, 2,400 Forsyth County children who had applied for and been declared eligible for subsidized care were not receiving it.
- In 2005, there were 296 children in foster care in Forsyth County compared to 98 in the average NC county.

Table 31. Subsidized Child Care (years as noted)

County	# Children (0-12) Enrolled in Regulated Child Care (2001)	# Children (0-12) Enrolled in Regulated Child Care (2005)	% Children (0-12) in Regulated Child Care Receiving Subsidy (2001)	% Children (0-12) in Regulated Child Care Receiving Subsidy (2005)	# Children (0-12) Eligible for but Not Receiving Child Care Subsidy (2005)	% Children Enrolled in free/reduced price School Lunch Programs (2001)	% Children Enrolled in free/reduced price School Lunch Programs (2005)	# Children in Foster Care (2005)
Forsyth	8,060	8,687	44.0	41.0	2,400	35.0	47.0	296
State Total	211,553	260,252	n/a	n/a	37,063	n/a	n/a	9,820
NC County Avg.	2,116	2,603	43.0	37.0	371	40.0	48.0	98

Source: Annie E. Casey Foundation, Kids Count, Community Level Data, http://www.kidscount.org/cgi-bin/cliks.cgi?action=rawdata_results&subset=NC

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.)

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 from 14-15 points, a four-star facility from 11-13 points, a three-star facility from 8-10 points, a two-star facility from 5-7 points, and a one-star facility from 3-4 points. (Note: The system will implement new compliance rules beginning January 1, 2008.)

According to the NC Division of Child Development Child Care Facility Search Site (19) there are 301 child care facilities in Forsyth County that are licensed to operate in North Carolina in the following categories:

- Five Star Center License – 13 facilities
- Five Star Family Child Care Home License – 31 facilities
- Four Star Center License – 30 facilities
- Four Star Family Child Care Home License – 33 facilities
- Three Star Center License – 29 facilities
- Three Star Family Child Care Home License – 39 facilities
- Two Star Center License – 7 facilities
- Two Star Family Child Care Home License – 7 facilities
- One Star Center License – 17 facilities
- One Star Family Child Care Home License – 62 facilities
- Temporary License – 8 facilities
- GS 110-106 – 21 facilities
- Probationary License – 1 facility
- Provisional License – 3 facilities

Education

Educational Attainment and Investment

According to data presented in Table 32:

- As of the 2000 Census, Forsyth County had 5% more high school graduates and 28% more college graduates than the NC county average. Approximately 18% of the county's population had not finished high school.
- According to 2005 End of Grade (EOG) Test results, both third and eighth graders in Forsyth County schools performed at similar or lower rates of proficiency in math and reading than students statewide.
- The 2005 average SAT scores for students in Forsyth County schools (1015) was 5 points above the NC average (1010).
- In 2004-2005 the rate of acts of school violence in Forsyth County schools (6.2) was 17% lower than the NC system-wide average (7.5).
- The 2004-2005 total-per-pupil expenditure (i.e., per-pupil expenditure from state, federal, and local sources) in Forsyth County schools ($7,512) ranked 93th among the 115 school systems in the state.

Table 32. Educational Attainment of Residents (years as noted)

County	% High School Graduates (2000)	% College Graduates (2000)	Per Pupil Expenditure State, Fed and Local (2004-05)	Per Pupil Expenditure State Ranking (2004-05)	% 3rd Graders Proficient on EOG Math Test (2005)	% 3rd Graders Proficient on EOG Reading Test (2005)	% 8th Graders Proficient on EOG Math Test (2005)	% 8th Graders Proficient on EOG Reading Test (2005)	Average Total SAT Scores (2005)	School Violence: Acts/1,000 Students (2004-05)
Forsyth	82.0	28.7	$7,512	93rd of 115	84	83	81	87	1015	6.2
NC County Avg.	78.1	22.5	$1,328	n/a	86	83	85	89	1010	7.5
Source	a	a	b	b	c	c	c	c	c	d

a - NC Department of Commerce, Economic Development Information Service, http://cmedis.commerce.state.nc.us/countyprofiles
b - NC Department of Public Instruction, http://www.ncpublicschools.org/fbs/stats/StatProfile05.PDF
c - NC Child Advocacy Institute, CLIKS System, http://www.aecf.org/cgi-bin/cliks.cgi
d - http://www.ncpublicschools.org/docs/schoolimprovement/alternative/reports/2004-05schoolviolence.pdf

High School Drop-Out Rate

- For the 2004-2005 school year, the high school dropout rate in Forsyth County Schools (5.0) was 4% higher than the average dropout rate statewide (4.8).
- The high school drop-out rate in Forsyth County and in the average North Carolina county have been decreasing steadily since 1999.

Table 33. High School Drop-Out Rate (SY1999-SY2005)

County	Drop Out Rate						
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Forsyth	7.2	6.4	5.5	5.8	5.3	5.2	5.0
NC County Avg.	6.8	6.4	5.7	5.3	4.8	4.8	4.8
Source	http://www.ncpublicschools.org/fbs/stats/						

Schools and School Enrollment

Primary and Secondary Education

- There are 76 public schools in the Forsyth County school district: 54 elementary schools, 16 high schools, and 6 combined elementary and high schools (20). There are six charter schools (21) and 28 private schools (22) in the county.
- During the 2004-2005 school year, 49,838 students were enrolled in the Forsyth County public school system (Table 34, following page).
- Local school enrollment in Forsyth County and in the average NC County have expereinced increased enrollment between 2000 and 2005.

Table 34. Public School Enrollment Trend (SY2000-SY2005)

	Number of Students					
County	**1999-2000**	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**2004-05**
Forsyth	44,909	46,162	47,109	48,110	49,004	49,838
State Total	n/a	1,267,070	1,285,729	1,313,777	1,325,344	1,346,681
NC County Average	n/a	12,671	12,857	13,138	13,253	13,467

Source NC Department of Instruction, Statistical Profiles, 1999-2005: http://www.ncpublicschools.org/fbs/stats/

Higher Education

- Winston-Salem State University (WSSU) is a public, mater's level University located in Winston-Salem, NC. The University enrolls over 2,500 students and is a constituent institution of the University of North Carolina. WSSU is a historically black institution, with a diverse enrollment. Degree programs include fields such as health sciences, information technology, financial services and teacher education (23).

- Wake Forest University is a private school located in Winston-Salem, NC. Wake Forest University enrolls over 6,500 students and includes undergraduate, graduate, and professional schools. The schools include: Wake Forest School of Law, Wake Forest School of Medicine, Babcock Graduate School of Management, Wake Forest Graduate School of Arts and Sciences, and Wake Forest Divinity School (24).

- Forsyth Technical Community College is a public school located in Winston-Salem, NC, serves Forsyth and Stokes Counties. Forsyth Tech enrolls over 3,200 students and is one of the largest community colleges in North Carolina. The college offers 168 programs of study that lead to an associate's degree, certificate or diploma in a variety of fields, including healthcare, engineering technologies, business and office technologies, criminal justice, automotive repair, logistics management and biotechnology. Many students begin at Forsyth Tech and then continue on to a four-year college or university. Forsyth Tech has eight locations and classes are offered on site in traditional classroom settings and through distance learning site options such as online, telecourses, or interactive TV courses (25).

-

In addition, residents from Forsyth County also attend institutions of higher education outside of the county:

- North Carolina Agricultural and Technical (NCA&T) State University is located in downtown Greensboro, NC. NCA&T enrolls over 6,900 students and offers degrees at the baccalaureate, master's, and doctoral levels. The University's academic programs are organized into two colleges (College of Engineering and College of Arts and Sciences) and six schools (Agriculture and Environmental Sciences, Business and Economics, Education, Nursing, Technology, and Graduate Studies) (26).

- High Point University, located in High Point, NC, is a four-year, coeducational, liberal arts university related to The United Methodist Church. The school enrolls over 4,800 students and offers 50 majors in a traditional day format. It also offers non-traditional Evening Programs, and the Graduate Studies offers four Master's degrees and six programs (27).

- Guilford Technical Community College, located in Jamestown, NC, enrolls over 4,800 students. The College offers an associate degree, a diploma, or a certificate, depending on the program. Curriculum programs of study include arts and sciences, biological technologies, business, health sciences, engineering, public service, and transportation systems technologies (28).

- The University of North Carolina at Greensboro (Greensboro, NC), is a public, four-year institution that enrolls over 14,000 students. The University offers over 100 undergraduate, 59 masters and 22 doctoral programs. Some of the programs include arts and sciences, business and economics, education, health and human performance, environmental sciences, music, and nursing (29).

- Rowan-Cabarrus Community College is a fully accredited College located in Salisbury, NC (Rowan County). The college enrolls over 2,500 students and offers various occupational programs leading to an Associate in Applied Science degree. Diplomas and certificates of completion are awarded for other occupational programs. An Arts and Sciences program also is offered, leading to the Associate in Arts degree (30).

Crime and Safety

Crime Rates

All crime statistics reported below were obtained from the North Carolina State Bureau of Investigation unless otherwise noted. Table 35 shows the rates for "index crime", which consists of violent crime (murder, rape, robbery, and aggravated assault) plus property crime (burglary, larceny, arson, and motor vehicle theft). Table 36 shows the actual number of index crimes by type that occurred in Forsyth County between 1999 and 2005.

- The index crime rate in Forsyth County has decreased 24% overall between 1999 and 2005; however, the county index crime rate remained above the comparable state rate for every year during this period (Table 35).
- The violent crime rate in Forsyth County steadily decreased between 2000 and 2002; then steadily increased between 2003 and 2005. The county violent crime rate was above the comparable state rate for every year cited.
- The property crime rate in the county has also fluctuated between 1999 and 2005; with the most recent rate being the lowest since 1999. The county property crime rate was above the state rate for every year cited.

Table 35. Crime Rates (1999-2005)

Crimes per 100,000 Population

	1999			2000			2001			2002			2003			2004			2005		
County	Index Crime	Violent Crime	Property Crime	Index Crime	Violent Crime	Property Crime	Index Crime	Violent Crime	Property Crime	Index Crime	Violent Crime	Property Crime	Index Crime	Violent Crime	Property Crime	Index Crime	Violent Crime	Property Crime	Index Crime	Violent Crime	Property Crime
Forsyth	7630.7	887.3	6743.4	7238.6	931.5	6307.2	7077.2	744.3	6332.9	6413.0	610.9	5802.0	6795.5	631.1	6164.4	5974.9	635.7	5339.2	5765.9	644.8	5121.1
NC County Avg.	5233.2	549.7	4683.5	4921.5	498.3	4423.2	4993.1	501.5	4491.6	4771.0	473.7	4297.4	4675.4	450.3	4225.1	4574	446.9	4127.1	4617.9	478.1	4139.7

Source: North Carolina State Bureau of Investigation, Crime Statistics, Annual Reports. http://sbi2.jus.state.nc.us/crp/public/Default.htm

- As detailed in Table 36 (following page), the actual number of violent crimes committed in Forsyth County fluctuates on a yearly basis, but has decreased since 1995. Aggrevated assault accounts for the majority of violent crimes in the county.
- Property crimes committed in Forsyth County also fluctuate yearly, but has decreased since 2000, with the current year being the lowest number of property crime. Larceny (the theft of property without the use of force) was the most common property crime in all years.

Table 36. Number of Index Crimes Reported in Forsyth County (1995-2005)

Type of Crime	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Violent crime	**2,844**	**2,735**	**2,467**	**2,251**	**2,565**	**2,845**	**2,281**	**1,892**	**1,983**	**2,015**	**2,064**
Murder	*25*	*30*	*14*	*21*	*19*	*22*	*22*	*20*	*22*	*24*	*17*
Rape	*165*	*151*	*183*	*183*	*145*	*135*	*138*	*147*	*151*	*124*	*155*
Robbery	*984*	*934*	*682*	*679*	*671*	*925*	*763*	*592*	*606*	*590*	*656*
Aggravated assault	*1,670*	*1,620*	*1,588*	*1,368*	*1,730*	*1,763*	*1,358*	*1,133*	*1,204*	*1,277*	*1,236*
Property crime	**21,800**	**21,290**	**20,777**	**18,699**	**19,494**	**19,264**	**19,409**	**17,968**	**19,368**	**16,924**	**16,392**
Burglary	*5,908*	*4,932*	*5,125*	*4,815*	*4,908*	*4,628*	*4,647*	*4,467*	*5,310*	*4,617*	*5,088*
Larceny	*14,429*	*14,327*	*14,206*	*12,440*	*13,260*	*13,108*	*13,553*	*12,315*	*12,649*	*10,999*	*10,124*
Motor vehicle theft	*1,463*	*2,031*	*1,446*	*1,444*	*1,326*	*1,528*	*1,209*	*1,186*	*1,409*	*1,308*	*1,180*

Source: North Carolina State Bureau of Investigation, Crime Statistics, Uniform Crime Reporting Program. Annual Summary Reports (Available 1995-2005). In an individual year's report, under "Crime Trends - Offenses and Rates per 100,000", Select "County Offenses

- Of the 11,910 registered sex offenders living in North Carolina in 2007, fifty were residing in Forsyth County (31).
- Since 2004, one clandestine drug lab busts has occured in Forsyth County (32).
- As of 2004, 17 gangs were reported to be operating in the county (33).
- In 2005, 1,911 people in Forsyth County were charged with driving while intoxicated (DWI). Of those charged, 1,339 were convicted, for a conviction rate of 70.1% (which is 14% higher than the statewide conviction rate of 61.4%) (34).

Juvenile Crime

- In 2006, the rate of Forsyth County juveniles found undisciplined (3.2) was slightly lower than the comparable state rate of 3.6. The rate of county juveniles found delinquent in the same year was 12% lower than the comparable state rate (Table 37).
- The number of Forsyth County juveniles sent to serve in detention centers is significanlty higher than the NC County Average. In 2006, 302 juveniles in Forsyth County were sent to serve in detention center comparted to the NC County Average of 83.

Table 37. Juvenile Justice Complaints and Outcomes (FY 2005-2006 as noted)

	Number of Complaints						Outcomes											
County	Undisciplined (2004)	Undisciplined (2005)	Undisciplined (2006)	Delinquent (2004)	Delinquent (2005)	Delinquent (2006)	Undisciplined Rate (2004)	Undisciplined Rate (2005)	Undisciplined Rate (2006)	Delinquent Rate (2004)	Delinquent Rate (2005)	Delinquent Rate (2006)	Sent to Secure Detention (2004)	Sent to Secure Detention (2005)	Sent to Secure Detention (2006)	Sent to Youth Developme nt Center (2005)	Sent to Youth Developme nt Center (2006)	Transferred to Superior Court (2005)
Forsyth	197	139	177	1,229	903	1,422	3.7	2.6	3.2	27.6	20.3	31.8	301	402	302	6	11	4
State Total	5,218	4,756	5,169	40,823	40,633	42,920	n/a	n/a	n/a	n/a	n/a	n/a	7,921	7,654	8,311	428	486	50
NC County Avg.	52	48	52	408	406	429	3.8	3.4	3.6	35.3	34.9	36.2	79	77	83	4	5	1
Source	a	a	b	a	a	b	a	a	b	a	a	b	a	b	b	a	b	a

a - NC Department of Juvenile Justice and Delinquency Prevention, Statistics, County Databook. http://www.ncdjjdp.org/statistics/databook.html
b - NC Department of Juvenile Justice and Delinquency Prevention, Statistics, Annual Report 2004. http://www.ncdjjdp.org/statistics/annual.html

Undis = Undisciplined	Juvenile between 6 and 16, who is unlawfully absent from school, or regularly disobedient and beyond disciplinary control of parent/guardian, or is regularly found where it is unlawful for juveniles to
Delinq = Delinquent	Any juvenile between 6 and not yet 16 who commits an offense that would be a crime under state or local law if commited by an adult.
Complaint	Formal allegation that a juvenile committed an offense, which will be reviewed by a counselor who decides whether to approve or not approve the complaint; if approved it be heard in juvenile court.
Diversion	If a complaint is not approved, it may be diverted to a community resource or placed on a diversion contract or plan which lays out stipulations for the juvenile (like community service) to keep the
Non-divertible	Non-divertible offenses include things like: murder, rape, sexual offense, arson, first degree burglary, crime against nature, willful infliction of serious bodily harm, assault with deadly weapon, etc.
Transferred to Superior Court	A juvenile who is 13, 14 or 15 who is alleged to have commited a felony may be transferred to Superior Court and tried and sentenced as an adult. If a juvenile is over 13 and charged with first
Rate	Per 1,000 persons aged 6-17 in the county

Domestic Violence

- According to data from the NC Court System there were 1,095 *ex parte* orders issued in Forsyth County in FY2006 related to domestic violence complaints; these *ex parte* orders resulted in 435 protective orders upon hearing (35). These numbers represent an increase from FY2005, when 946 *ex parte* orders and 380 protective orders were issued.
- According to the data from the NC Coalition against Domestic Violence, there were 11 domestic violence homicides that occurred between 2002 and 2006, with three occurring in 2006. All of the homicides occurred in Winston Salem, except for one, which occurred in Rural Hall in 2003 (36).

County	Ex-Parte Orders							Protective Orders						
	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Forsyth	799	476	942	965	926	946	1095	469	379	410	461	400	380	435
State Total	24,133	24,905	25,993	27,727	28,297	29,734	31,765	11,062	10,982	11065	11626	11738	11864	11932
NC County Average	241	249	260	277	283	297	318	111	110	111	116	117	119	119

Source The NC Court System, http://www.nccourts.org/Citizens/SRPlanning/Statistics.asp
Ex-Parte Orders protect alleged victim and minor children PRIOR to a domestic violence court hearing
Protective Orders are issued AFTER a domestic violence court hearing has been conducted.

Elder/Adult Maltreatment

The Forsyth County Department of Social Services provided local data on adult abuse (37). The data was not broken down by age; rather it came from a list of adults aged 18 and over that had a disability. According to this data, in FY2006-07 the agency received 363 referrals for adult abuse, neglect or exploitation; of these, 122 were evaluated and 25% were eventually substantiated. In FY2005-06 the agency received 251 referrals for adult abuse, neglect or exploitation; of these, 164 were evaluated and 34% were eventually substantiated.

Child Maltreatment

- As demonstrated in Table 40, the number of reports of child abuse in Forsyth County increased steadily between 2001 and 2006.
- The *number* of substantiated child abuse cases in Forsyth County has increased from 452 in 2000 to 534 in 2006 (Table 40). (A case of child abuse is substantiated if the investigation finds proof that abuse did in fact occur.)

Table 40. Forsyth County Child Abuse Investigations, Number (2000-2006)

County	2000-01		2001-02		2002-03		2003-04		2004-05		2005-06	
	Reports Made	Number Substantiated	Reports Made	Number Substantiated	Reports Made	Number Substantiated	Reports Made	Number Substantiated	Reports Made	Number Substantiated	Reports Made	Number Substantiated
Forsyth	2,227	452	1,714	480	1,894	313	2,546	513	2,798	555	3,150	534
State Total	102,158	32,581	107,218	32,883	107,157	30,016	113,557	27,310	111,581	19,908	111,150	24,597
NC County Avg.	1,022	326	1,072	329	1,072	300	1,136	273	1,116	199	1,112	246

Source NC Department of Health and Human Services, Division of Social Services, Statistics and Reviews, Child Welfare, Central Registry Statistics

The most commonly types of maltreatment in the Region are: injurious environment, improper supervision and improper care/lack of discipline
Children who are only subject to family assessments are not included in the number of children who are substantiated.

- The Forsyth County child abuse substantiated *rate* slightly increased between 2001 and 2005, while the sate rate decreased (Table 41, following page).
- In 2005, the county rates of reports investigated and substantiated were lower than the comparable state rates.

Table 41. Forsyth County Child Abuse/Neglect Substantiated Rate, per 1,000 Children aged 0-17 (2001 & 2005)

County	2001		2005	
	Rate of Invetigation	Rate Substantiated	Rate of Invetigation	Rate Substantiated
Forsyth	30	6	35	7
NC County Avg	51	16	54	10
Source	Annie E. Casey Foundation, http://www.kidscount.org/cgi-bin/cliks.cgi?action=rawdata_results&subset=NC			

- Four child abuse homicides were recorded in Forsyth County; two in 2001 and two in 2004 (38).

- The numbers of Forsyth County children in DSS custody have fluctuated but have decreased in the most recent reporting period (Table 42).

Table 42. Number of Forsyth County Children Placed by DSS (2000-2006)

County	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Forsyth	137	124	111	137	199	143
State Total	4,906	5,152	5,273	5,571	6,008	6074
NC County Avg.	49	52	53	56	60	61
Source	NC Dept. of Health and Human Services, Division of Social Services, Statistics and Review, Child Welfare, County Experiences. http://ssw.unc.edu/cw/					

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 active, licensed physicians, physician extenders, nurses, and dentists in Forsyth County has been consistently higher than the state as a whole since 1999, as demonstrated by the lower-than-state-average persons-per-provider ratio data shown in Table 43.
- The persons-per-primary care physician ratio has decreased overall since 1997, as has the person-per-physician extender, registered nurse, and dentist ratio, indicating that as the county population has grown the county also has gained physicians, physician extenders, nurses, and dentists.
- According to information from the NC Division of Medical Assistance, there are twenty-two dentists in Forsyth County that accept Medicaid patients (39). However, there is a particular shortage of dentists who accept Medicaid children. According to information in a dental services referral list provided by the Dental Health Program through the Forsyth County Department of Public Health (40), there are seven dentists in Forsyth County who will accept Medicaid children.

Table 43. Persons per Provider Type (1997-2005)

	1997				1999				2001				2003				2005			
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	Primary Care Physician	Primary Care Physician Extender	Registered Nurse	Dentist
Forsyth	2,638	2,162	70	1,762	827	790	66	1,790	790	528	67	1,825	821	544	64	1,699	724	464	60	1,745
NC County Avg.	1,281	1,007	113	2,495	1,238	1,198	108	2,477	1,198	872	109	2,471	1,193	860	110	2,432	1,056	749	109	2,302

Source NC State Center for Health Statistics. Pocket Guides 1997-2005. http://www.schs.state.nc.us/SCHS/data/county.cfm

- The distribution of health care professionals in Forsyth County according to specialty area is shown in Table 44.
- The data indicate that there is representation in Forsyth County in most major categories of health care.

Table 44. Licensed Medical Practioners in Forsyth County (2005)

Category of Provider	No.
Family practice	123
General practice	5
Internal medicine	155
Obstetrics/Gynecology	54
Pediatrics	92
Other medical specialties	895
Registered nurse	5395
Nurse practitioner	141
Licensed practical nurse	1027
Chiropractor	35
Physician assistant	241
Podiatrist	17
Dentist	187
Dental hygienist	195
Optometrist	44
Pharmacist	419
Physical therapist	233
Physical therapy assistant	57
Practicing psychologist	84
Psychological associate	29
Respiratory Therapist	276

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. Available from 1996-2004. http://www.shepscenter.unc.edu/hp/stco.htm

Hospitals and Health Centers

There are three hosptials located in Winston-Salem in Forsyth County including North Carolina Baptist Hospital, Forsyth Memorial Hospital, and Medical Park Hospital. As noted in Table 45, the number of hospital beds in the county in 2004 was 1,471.

Table 45. Trend in Number of Hospital Beds (1999-2004)

County	1999	2000	2001	2002	2003	2004
Forsyth	1,513	1,513	1,513	1,513	1,461	1,471
State Total	21,030	21,001	20,932	20,930	20,558	20,590
NC County Average	210	210	209	209	206	205.9

Source: Log into North Carolina (LINC) database. http://linc.state.nc.us

North Carolina Baptist Hospital

North Carolina Baptist Hospital (Winston-Salem, NC), is a 821-bed teaching hospital that is the region's main tertiary referral center. The facility includes inpatient hospitals, a community health center, a health maintenance organization and primary care centers. The hospital is part of Wake Forest University Baptist Medical Center, an integrated health care system that operates 1,298 acute care, rehabilitation and long-term care beds, outpatient services, and community health and information centers. The Medical Center has 20 subsidiary or affiliate hospitals and conducts 87 satellite clinics throughout the region (41).

Forsyth Medical Center

Forsyth Medical Center, an 847-bed, not-for-profit regional medical center, is located in Winston-Salem (Forsyth County), NC. The facility is
accredited by the Joint Commission on Accreditation of Healthcare Organizations and is a member of the American Hospital Association. Specialty centers at the facility include cancer, cardiac and vascular, orthopedics, rehabilitation, women's health, and stroke and neurovascular care. Forsyth Medical Center offers services in behavioral health, diabetes care, emergency care, surgery, home health care, radiology, respiratory care, and wound care (42).

Medical Park Hospital

Medical Park Hospital, located in Winston-Salem, NC, is part of Forsyth Medical Center's comprehensive network of services. Medical Park Hospital is a 136-bed, not-for-profit hospital that specializes in elective inpatient and outpatient surgeries. The hospital is accredited by the Joint Commission on Accreditation of Healthcare Organizations and is a member of the American Hospital Association (43).

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 North Carolina tertiary care facility accessible to Forsyth County residents is North Carolina Baptist Hospital, located in Winston-Salem, NC (41).

North Carolina Baptist Hospital is the Medical Center's primary clinical arm that includes inpatient hospitals, a community health center, a health maintenance organization and primary care centers. *North Carolina Baptist Hospital* also boasts an 830-bed teaching hospital that is the region's main tertiary referral center.

North Carolina Baptist Hospital is part of a three-pronged partnership that includes Wake Forest University Health Sciences and Wake Forest University Physicians. Together they make up Wake Forest University Baptist Medical Center, one of the nation's preeminent academic medical centers, with an integrated health care system that operates 1,282 acute care, rehabilitation and long-term care beds, outpatient services, and community health and information centers. The medical center is also designated as a Level I Trauma facility, meaning it conforms to the highest national and state standards for trauma care. (Trauma is a sudden, serious and sometimes life-

threatening injury that requires immediate and highly skilled medical attention.) The hospital's primary service area is a 26-county region in northwestern North Carolina and southwest Virginia.

Community Clinics

Community Care Center of Forsyth County

The Community Care Center provides early and free access to medical care for those residents of Forsyth, Stokes and Davie counties who cannot afford to pay. The clinic is staffed by volunteer healthcare professionals and other non-medical volunteers who have an interest in the health and well-being of the community.

The physicians at the Center represent a mix of specialties, allowing most medical problems to be handled in house. The clinic provides basic healthcare services and the following, specialty clinical services:

- Cardiology
- Dental
- Dermatology
- Endocrinology
- Gastroenterology
- Gynecology
- Neurology
- Ophthalmology

Forsyth County's Community Care Clinic is in Winston-Salem. The Community Care Center offers two evening medical and dental clinics – Monday and Thursday from 4:00 to 8:30 pm – and two afternoon medical clinics – Tuesday and Wednesday from 1:00 to 4:00 pm. (44).

Local Health Department

The Forsyth County Department of Public Health is located at 799 N. Highland Avenue in Winston-Salem. Comprehensive clinical services include Women's Preventive Health, Teen and Adult Health, Communicable Disease Control, Immunizations, School and Community Health Education, Dental Health Services, Diabetes Management, Child Health, WIC, Environmental Health, Solid Waste Management, TB Control, Family Planning, STDs, HIV Testing and Counseling, and Lead Poisoning and Prevention.

Neighborhood Clinic are held each month at two local churches (Trinity Moravian Church and Bethany Baptist Church) in the community in order to serve persons who have difficulty in getting to the Health Department. They are intended for adults and children who do not have private doctors. Services provided include health screenings, immunizations, and laboratory testing. All services are free of charge, walk-in only (no appointments), and are provided by registered nurses from the Health Department, along with volunteer physicians (45).

Long-Term Care Facilities

- According to the Medicare Nursing Home Compare system (46), there are twelve nusing homes in Forsyth County. These nursing homes provide 1,661 beds to Forsyth County residents; a number much larger than in the average NC county. The number of long-term beds in the county has decreased since 2000. The number of beds in the state has increased only slightly over the same period (Table 46).
- According to the NC Division of Aging and Adult Services (47) in 2006, there were 15 family care homes and 29 adult care homes in Forsyth County.

Table 46. Number of Beds in Long-Term Care Facilities (1999-2006)

	Nursing Homes						2006	
County	1999	2000	2001	2002	2003	2004	Family Care Homes	Adult Care Homes
Forsyth	1,918	1,802	1,757	1,757	1,681	1,661	15	29
State Total	41,413	42,458	42,587	43,082	43,512	43,776	3,647	35,287
NC County Avg	414	425	426	431	435	438	36	353
	a	a	a	a	a		b	b

a - Log into North Carolina (LINC) database. Http://linc.state.nc.us

b - NC DHHS, Division of Aging and Adult Services, http://facility-services.state.nc.us/ahlist.pdf, http://facility-services.state.nc.us/fchlist.pdf, http://facility-services.state.nc.us/bedcounts.pdf

The NC Division of Aging and Adult Services provided the following information on categories of long- and short-term adult care (47):

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 of 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 Forsyth County:
In Winston-Salem:

- Arbor Acres United Retirement Community
- Baptist Retirement Homes of NC – licensed for 51 residents
- Brian Center Health & Retirement – licensed for 40 residents
- Forsyth Memorial Hospital – licensed for 22 residents
- Lutheran Home – licensed for 217 residents
- Salemtowne – licensed for 33 residents
- Silas Creek Manor – licenced for 99 residents
- Springwood Care Center of Forsyth – licensed for 200 residents
- The Oaks at Forsyth – licensed for 151 residents
- The Rehabilitation and Skilled Nursing Facility at Oak Summint – licensed for 170 residents
- Winston Salem Rehabilitaiton and Health – licensed for 230 residents

-

Other nursing homes located in Forsyth County:

- Britthaven of Kernersville (Kernersville) – licensed for 92 residents
- Clemmons Nursing & Rehabilitaiton Center (Clemmons) – licensed for 120 residents
- High Point Healthcare (High Point, NC)

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 Forsyth County:

In Winston-Salem:

- Alterra Clare Bridge of Winston-Salem - 38 beds
- Brighton Gardens of Winston-Salem - 115 beds
- C.R.T. –Golden Lamb Rest Home – 40 beds
- Forest Heights Senior Living Community – 125 beds
- Forsyth Village - 60 beds
- Heritage Woods – 29 beds
- Homestead Hills Retirement Limited Partnership dba
- Kapson Danby, LLC dba The Homestead – 100 beds
- Reynolda Park – 72 beds
- Salem Terrace- 142 beds
- Somerset Court at University Place – 60 beds
- Southfork -78 beds
- The Salem House (Winston-Salem) 120 beds

In Clemmons:

- Brookstone Terrace - 20 beds
- Clemmons Village I & II - 60 and 66 beds
- Elms at Tanglewood – 104 beds
- Woodland Place – 96 beds

In Kernersville:

- Creekside Manor – 60 beds
- Kerner Ridge Assisted Living - 66 beds
- Shuler Health Care Inc. (Crane Villa, Phillips Villa, Peirce Villa, Record Villa, Storey Villa) – 60 beds
- The Bradford Village of Kernersville East & West - 59 and 62 beds

Other Adult Care Homes in Forsyth County:

- Vienna Village, Inc. (Pfafftown) – 90 beds
- Reynolds House (Marion) – 121 beds

Adult Day Care/Health Centers

Adult day care provides an organized program of services during the day in a community group setting for the purpose of supporting the personal independence of older adults an promoting their social, physical and emotional well-being. Also included in the service, when supported by funding from the Division of Aging and Adult Services, are no-cost medical examinations required for admission to the program. Nutritional meals and snacks, as appropriate, are also expected. Providers of adult day care must meet North Carolina State Standards for Certification, which are administrative rules set by the Social Services Commission. These standards are enforced by the office of the Adult Day Care Consultant within the State Division of Aging and Adult Services. Routine monitoring of compliance is performed by Adult Day Care Coordinators located at county departments of social services. Costs to consumers vary, and there is limited funding for adult day care from state and federal sources. Includes, for example in Forsyth County:

- Elizabeth and Tab Williams Adult Day Center of Senior Services, Inc. (Winston-Salem) – provides adult day care and adult day health services
- Mount Zion Senior Enrichment Adult Day Care/Day Health Center (Winston-Salem) – provides adult day care and adult day health services

Mental Health Services and Facilities

Daymark Recovery Services

Daymark Recovery Services delivers mental health, developmental disabilities, and substance abuse services (MH/DD/SAS) to Cabarrus, Davidson, Davie, Forsyth, Rowan, Stanley, Stokes, and Union counties. Direct service sites are located in each of the eight counties served. Services are tailored to individual needs and delivered using evidence based approaches to increase effectiveness. Specific services include: outpatient individual, group, and familty therapy, psychological testing, competency evaluations, in-home therapy, psychiatric evaluations, substance abuse assessment, alcohol and drug classes and treatment, community support, and mobile crisis (48).

Forsyth Medical Center

Forsyth Medical Center Behavioral Health has psychiatrists, RNs, psychiatric technicians, counselors, recreational therapists and clinical social workers who provide treatment at multiple levels. A patient can be treated at one level only or move through a series of transitions from one level to another (42).

Wake Forest University Baptist Medical Center

CareNet counseling centers provide outpatient counseling for a variety of individual, couple, and family emotional/spiritual health issues. All CareNet counselors are academically trained and state licensed. CareNet specializes in faith-based counseling that assists the client in identifying and incorporating the client's own faith resources, values, and support systems into the counseling process. Other services provided include coaching, consultation, educational workshops, retreats, and seminars (49).

The Department of Psychiatry and Behavioral Medicine offers a full range of psychiatric services – inpatient and outpatient. The Adult Inpatient Psychiatry Unit has 24 beds and treats adult patients for depression, schizophrenia, bipolar disorder, substance abuse, and dementia. The Child and Adolescent Psychiatry Inpatient Service has 14 beds providing crisis stabilization and evaluation services for patients ages 6 to 18 with psychological difficulties requiring twenty-four hour supervision (50).

The Mental Health Association

The Mental Health Association in Forsyth County is a non-profit, non-governmental agency that promotes mental health for all persons in our community through advocacy, outreach, education and support. The Association works for improved services for children and adults with mental health needs (51).

Medical Insurance

Medically Indigent Population

In most communities, citizens' access to and utilization of health care services is related to the ability to pay for those services, either directly or through private or government health insurances plans/programs.

- In Forsyth County, the percentage of the total population that is uninsured has increased over the years and has remained consistently lower than the comparable state percentage during the years 1997-2005 (Table 47).
- The percent of the population without health insurance was highest in in the county in 2002 and in the state in 2003.

Table 47. Percent of Population without Health Insurance (1997-2004)

County	1997	1998	1999	2000	2001	2002	2003	2004	2005	State Rank 2003	State Rank 2004	State Rank 2005
Forsyth	15.3	14.2	14.8	15.1	17.1	17.9	17.6	16.3	16.5	6	8	15
NC County Avg.	16.9	15.8	16.3	15.6	17.7	19.0	19.4	17.5	17.2	n/a	n/a	n/a
Source	a	a	a	a	b	b	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, 2004 and 2005 Updates. http://www.shepscenter.unc.edu/

- In 2002, the proportion of uninsured children (under the age of 18) in Forsyth County was lower than the proportion of uninsured children in the state as a whole. Since that time the proportion of uninsured children in the county has decreased slightly overall but in 2005 was higher than the comparable state proportion (Table 48, following page).
- In Forsyth County the percentage of adults aged 18-64 without health insurance has decreased between 2002 and 2005.

Table 48. Percent of Population without Health Insurance, by Age (2002-2004)

County	2002			2003			2004			2005		
	Total	Under 18	18-64	Total	Under 18	18-64	Total	Under 18	18-64	Total	Under 18	18-64
Forsyth	17.9	12.1	20.4	17.6	11.8	20.0	16.3	11.2	18.3	16.5	11.8	18.3
NC County Avg.	19.0	12.3	21.8	19.4	n/a	n/a	17.5	n/a	n/a	17.2	11.3	19.5

Source - Sheps Center for Health Services Research, Publications.
County Level Estimates of the Uninsured:1999-2000, 2002, 2003, 2004 and 2005 Updates. http://www.shepscenter.unc.edu/

Medicaid

- The number and percentage of Forsyth County residents eligible for Medicaid increased each year between 2001 and 2005. (Table 49).
- When compared to the NC county averages, a smaller percent of Forsyth County residents were eligible for Medicaid in every year cited in Table 49.
- Throughout the period cited, Forsyth County spent less per capita on Medicaid than the average NC county. In 2005 the difference was 12%.

-

Table 49. Medicaid Eligibility and Expenditures (2001-2005)

County	FY 2001					FY 2002					FY 2003					FY 2004					FY 2005				
	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	Est. Total Population	Number Eligible	% Eligible	Per Capita Expenditure	Per Capita Expenditure Rank
Forsyth	306,067	41,879	13.7	$540	89	310,331	44,540	14.4	$599	88	314,853	47,194	15.0	$642	84	317,643	50,383	15.9	$729	81	320764	53087	16.55	778	83
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	8,541,263	1,563,751	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	85,413	15,638	18.3	$885	n/a

Source: NC Division of Medical Assistance, http://www.dhhs.state.nc.us/dma/ncms.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 Forsyth 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.

- Both the number and percent of Forsyth County children enrolled in Medicaid grew between 2000 and 2004, as did the number and percent of county children enrolled in NC Health Choice (Table 50).
- The percent of Forsyth County children enrolled in Medicaid increased 15% between 2000 and 2004; at the state level the rate of increase was 18%.
- The percent of Forsyth County children enrolled in NC Health Choice increased by 67% over the period cited, while at the state level the increase was 50%.

Table 50. Children Enrolled in Medicaid and NC Health Choice (2000, 2004)

County	2000				2004			
	# Children Enrolled in Medicaid	% Children Enrolled in Medicaid	# Children Enrolled in Health Choice	% Children Enrolled in Health Choice	# Children Enrolled in Medicaid	% Children Enrolled in Medicaid	# Children Enrolled in Health Choice	% Children Enrolled in Health Choice
Forsyth	19,898	27	1,994	3	24,873	31	3,536	5
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 July 2006 there were 822,596 Medicaid recipients enrolled in Carolina ACCESS statewide, which represents 73.2% of all Medicaid recipients eligible to participate (52)
- As of July 2006 there were 32,166 Medicaid recipients in Forsyth County enrolled in Carolina ACCESS or ACCESS II, which represents 81% of all Medicaid recipients in the County eligible to participate (52).
- According to data provided by the state (53) there were, as of August, 2007, 58 medical providers in Forsyth County participating in Carolina ACCESS programs: 29 in ACCESS I and 29 in ACCESS II. A majority of these providers are located in Winston-Salem.

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.

- Forsyth County residents participate in ACCESS II.

Medicare/Medicaid Dual Eligibility

- The percentage of dually eligible Medicare/Medicaid beneficiaries in Forsyth County slightly decreased overall in each age group between 1999 and 2001, except for ages 65 and under, which slightly increased in number and percentage each year. (Table 51).
- Between 1999 and 2001, the percentages of dually eligible beneficiaries were lower in all age groups in Forsyth County than in the average county in the state.

Table 51. 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.	%
Forsyth	2,293	29.4	1,642	7.8	1,263	10.8	758	21.6	2,329	28.5	1,594	7.6	1,294	10.7	764	21.2	2,528	30.3	1,607	7.7	1,304	10.5	751	20.5
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

Health Statistics

Health Statistics

Methodology

Routinely collected mortality and morbidity surveillance data and behavior survey data can be used to describe the health status of Forsyth 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.

Understanding Health Statistics

Age-adjustment

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

Aggregate Data

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

Incidence

Incidence is the population-based *rate* at which new cases of a disease occur and are diagnosed. It is calculated by dividing the number of newly diagnosed cases of a disease or condition during a given 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) causes of death are routinely reported on death certificates. However, some error can be associated with cause-of-death classification, since it is sometimes difficult to choose a single 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 Forsyth County, the preferred method for reporting incidence and mortality trend data is long-term trends using the age-adjusted aggregated format. Most data points used in the report are standardized to the projected 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 three years of data now available using ICD-10 coding, multiyear age-adjusted data has been published. Previous data points were published over five-year periods, and as data becomes available using ICD-10 coding, the NC-SCHS will again build up to five-year rates. Community health planning groups should incorporate these five-year rates into the trends when they become available to maintain continuity.

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 (Table 52, 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 visible change should be due to factors other than coding.

Table 52. Leading Causes of Death and ICD-9 to ICD-10 Comparability Ratios

Cause of Death	Comparability Ratio
Heart Disease	0.99
Cerebrovascular Disease	1.06
Cancer – All Types	1.01
HIV Disease	1.14
Septicemia	1.19
Diabetes	1.01
Chronic Lower Respiratory Disease	1.05
Chronic Liver Disease and Cirrhosis	1.04
Nephritis, Nephrosis, and Nephrotic Syndrome	1.23
Motor Vehicle Injuries	0.85
All Other Unintentional Injuries	1.08
Suicide	1.00
Homicide	1.00
Alzheimer's Disease	1.55
Deaths From All Causes	1.00

Behavioral Risk Factor Surveillance System (BRFSS)

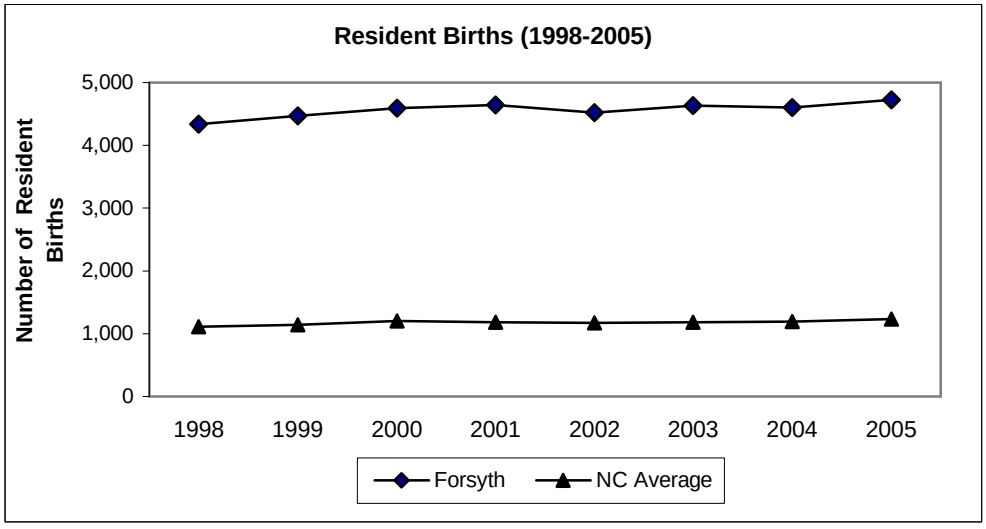
Forsyth County residents participate regularly in the state's annual Behavioral Risk Factor Surveillance System (BRFSS) Survey, as a stand-alone one county sample. In 2005 there were 456 participants in the sample; in 2006 there were 418 participants. BRFSS data is used occasionally in Volume I and Volume II of this Community Health Assessment report.

Maternal and Child Health

Adult and Teen Pregnancy and Birth Rates

- Figure 6 plots the Forsyth County and NC county averages for the annual number of live births from 1999 through 2005. The average number of live births per county statewide has remained fairly stable and significantly lower than the comparable figures for Forsyth County throughout the the reporting period. The number of births in the county has increased slightly since 1998.

Figure 6



Source: NC State Center for Health Statistics. Health Data. County-level Data. Basic Automated Birth Yearbook (Babybook); 1998-2007, Forsyth County. http://www.schs.state.nc.us/SCHS/data/county.cfm.

- As monitored by the NC-SCHS, the overall 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 Forsyth County for the period from 2003 to 2005 was 85.4, which was 5% higher than the average NC county pregnancy rate of 81.5 (Table 53, following page).
- In Forsyth County between 2003 and 2005, 28.0% of all live births occurred among minority mothers; of the Forsyth County live births among girls ages 15-19, 40.8% occurred among minority mothers. These local percentages are both slightly above the state averages (Table 53).
- In 2004, Forsyth County had a 12% higher percentage of births to Medicaid mothers than the state (54.7% vs. 48.8%).
- In 2004, Forsyth County had 96% fewer births to Health Department mothers and a 5% more births to WIC mothers than the NC county average.

- **Table 53. Pregnancies and Births (2003-2005)**

County	Pregnancy, Total (2003-2005)						Pregnancy, Females 15 - 19 (2003-2005)						2004 Percent of Live Births To:		
			Percent of Live Births						Percent of Live Births						
	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
Forsyth	85.4	67.0	28.0	9.9	11.4	11.2	67.1	48.7	40.8	11.1	21.9	14.6	54.7	0.9	41.2
NC County Avg.	81.5	65.8	27.2	9.1	15.9	12.4	61.7	46.6	39.6	11.2	28.9	16.4	48.8	21.0	39.1

Source: NC Center for Health Statistics, Pocket Guide - 2005. http://www.schs.state.nc.us/SCHS/data/county.cfm

- According to single-year data, the overall pregnancy rate in Forsyth County in 2005 for women ages 15-44 was 86.7, compared to a state rate of 82.2. Among white women in this age group the county pregnancy rate was 82.6 (NC=77.2); among minority women the county rate was 73.6 (NC=87.4). Among teens aged 15-19, the overall 2005 pregnancy rate was 66.5 compared to a rate of 61.7 statewide. Among white teens, the county rate was 54.7 (NC=50.9); among minority teens the pregnancy rate was 84.1 (NC=82.3) (54).

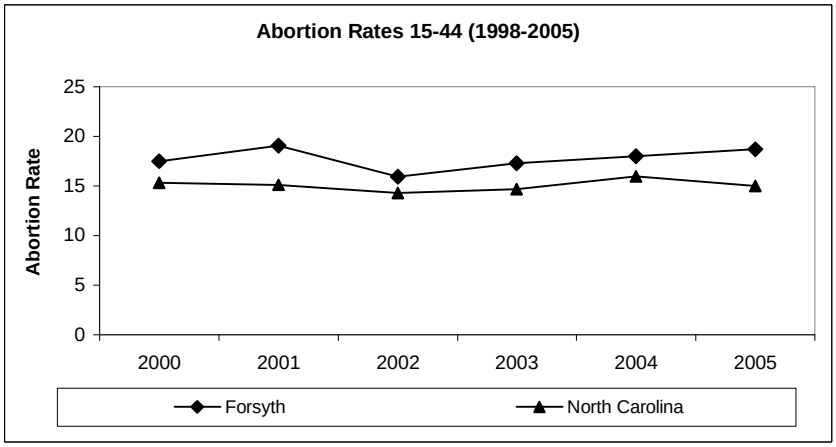
Adolescent Pregnancies and Births

- Because of relatively small annual numbers of pregnancies, a pregnancy *rate* for adolescents 10-14 years of age has not been calculated for Forsyth County.
- During the five year period from 2001 through 2005 there was a total of 117 pregnancies among 10-14 year-olds in Forsyth County, with the highest number (thirty) occurring in 2001 (55).

Abortion

- For women between the ages of 15 and 44, the most recently calculated abortion rate in Forsyth County was 18.7; a number higher than the overall state abortion rate of 15.0 (54).
- According to the data plotted in Figure 7, the annual abortion rate for Forsyth County women ages 15-44 has fluctuated since 2000 and increased slightly overall. The comparable statewide abortion rate has been more stable and has been consistently below the Forsyth County rate.

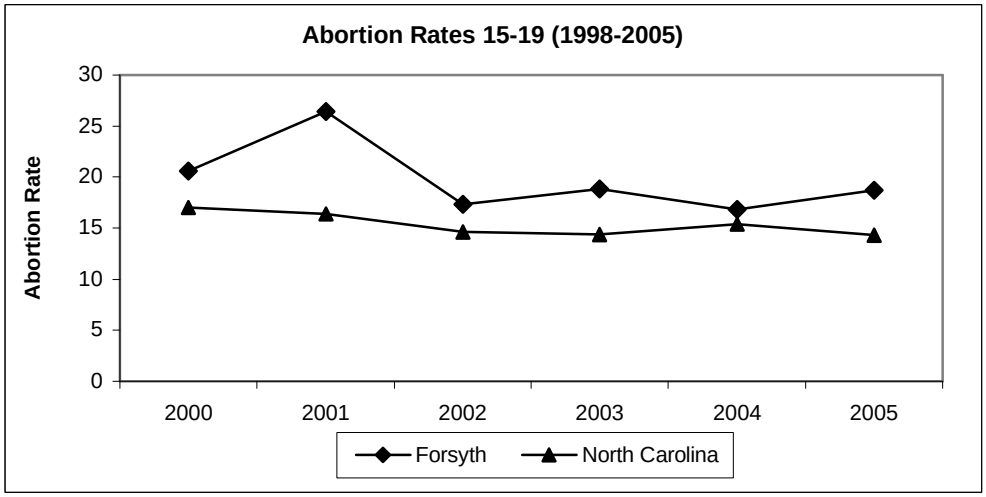
Figure 7



Source: State Center for Health Statistics. County Health Data Books 2002-2007. Pregnancy, Fertility and Abortion Rates per 1,000 Population. Females 15-44. http://www.schs.state.nc.us/SCHS/data/databook/.

- For teenagers between the ages of 15 and 19, the 2005 abortion rate in Forsyth County was 18.7, higher than the statewide teen abortion rate (54).
- Between 2000 and 2005 the teen abortion rates in Forsyth County remained above the average state teen abortion rate (Figure 8, following page).

Figure 8



Source: State Center for Health Statistics. County Health Data Books 2002-2007. Pregnancy, Fertility and Abortion Rates per 1,000 Population. Females 15-44. http://www.schs.state.nc.us/SCHS/data/databook/.

Pregnancy Risk Factors

- The percentage of high parity births among women aged <30 in Forsyth county from 2001-2005 was higher than the comparable state rate (Table 54). According to NC-SCHS, a birth is high parity if the mother is younger than 18 when she has had one or more births, or aged 18 or 19 and has had two or more births, or is 20-24 and has had four or more births, etc.
- The percentage of high parity births among Forsyth County women age 30 and older was also higher than the state rate.
- The percentage of short interval births (less than six months between pregnancies) was lower in Forsyth County than the state as a whole (Table 54).
- Between 2001 and 2005, approximately 11.9% of babies born in Forsyth County were born to mothers who smoked, a rate 8% lower than the state (12.9%) (Table 54).

Table 54. High Risk Births (2001-2005)

County	High Parity Births				Short Interval Births		Births to Mothers who Smoke	
	Mothers Under 30		Mothers 30 and Older					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Forsyth	2947	19.8	1612	19.6	1822	11.6	2750	11.9
State Total	71,459	18.3	38,422	18.7	48,220	12.2	76,712	12.9
Source	a	a	a	a	b	b	c	c

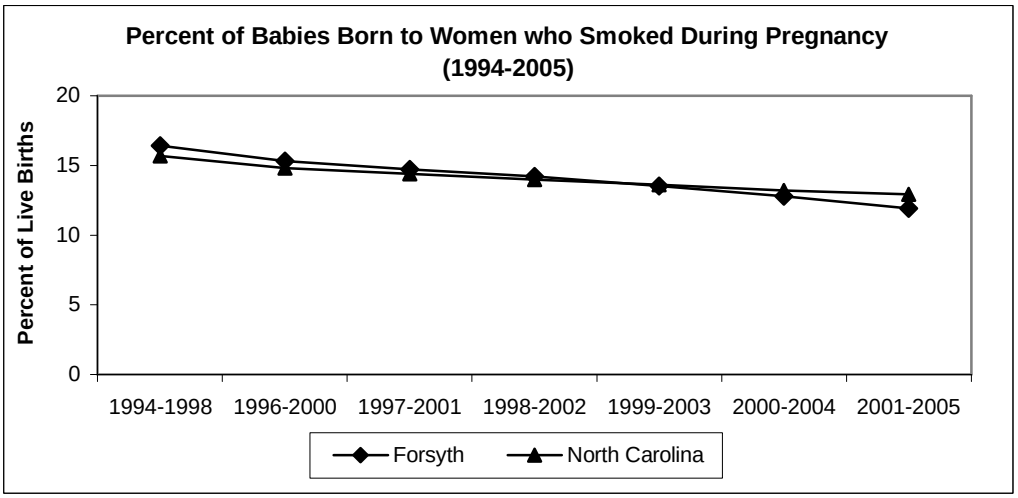
a - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2007 County Health Data Book. 2001-2005 Number At Risk NC Live Births due to High Parity by County of Residence. http://www.schs.state.nc.us/SCHS/data/databook/

b - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2007 County Health Databook. 2001-2005 NC Live Births by County of Residence; Number with Interval from Last Delivery to Conception of Six Months or Less. http://ww

c - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2007 County Health Databook. 2001-2005 Number and Percent of Births to Mothers Who Smoked Prenatally. Http://www.schs.state.nc.us/SCHS/data/databook

- The percentage of babies born to Forsyth County mothers who smoked decreased overall since 1994 and has fallen below the comparable figure for the state as a whole (Figure 9, following page).

Figure 9



Source: NC State Center for Health Statistics. 2007 County Health Data Book. 2001-2005; Number and Percent of Births to Mothers Who Smoked Prenatally. http://www.schs.state.nc.us/SCHS/data/databook

- Almost 89% of pregnant women in Forsyth County received prenatal care in the first trimester in 2001-2005, that proportion was higher than state rate of 83.5% (Table 55, following page).
- During the same period a significantly higher percentage of black women received prenatal care in the first trimester in Forsyth County than in North Carolina as a whole (87.3% vs. 75.5%) (Table 55).

Table 55. Women Receiving Care in the First Trimester (1996-2005)

County	1996-2000		1997-2001		1998-2002		1999-2003		2000-2004		2001-2005	
	Total	Black	Total	Black	Total	Black	Total	Black	Total	Black	Total	Black
Forsyth	88.8	83.5	88.9	84.3	89.2	85.6	89.7	86.6	89.8	86.9	88.8	87.3
State Total	83.8	73.9	84.0	74.7	84.0	75.1	84.0	75.4	83.7	75.4	83.5	75.5

Source: NC State Center for Health Statistics. County-level Data. County Health Databooks 2002-2007. Women Receiving Prenatal Care in the First Trimester. http://www.schs.state.nc.us/SCHS/data/databook/

Pregnancy Outcomes

Low Birth Weight and Very Low Birth Weight

- Over the period from 2001 through 2005, the total percentage of low birth weight births (below 2500 grams or 5.5 pounds) was 10% higher in Forsyth County than in North Carolina as whole. The percentage of minority low birth weight babies was higher in the county than statewide (Table 56).
- Over the same period the total percentage of very low birth weight births (below 1500 grams or 3.3 pounds) was 10% lower in the county than the state. Among minorities in the county, the percentage of low weight births was 14% higher than the state rate for minorities.

Table 56. Number and Percent of Low and Very Low Birth Weight Births by Race (2001-2005)

County	Low Birth Weight (<2500 grams) Births						Very Low Weight (<1500 grams) Births			
	Total		White		Minority		Total		Minority	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Forsyth	2,297	9.9	1,307	7.8	990	15.4	493	2.1	243	4.1
State Total	53,975	9.0	32,097	7.4	21,878	13.4	11,177	1.9	4,997	3.6
Source	a	a	a	a	a	a	b	b	c	c

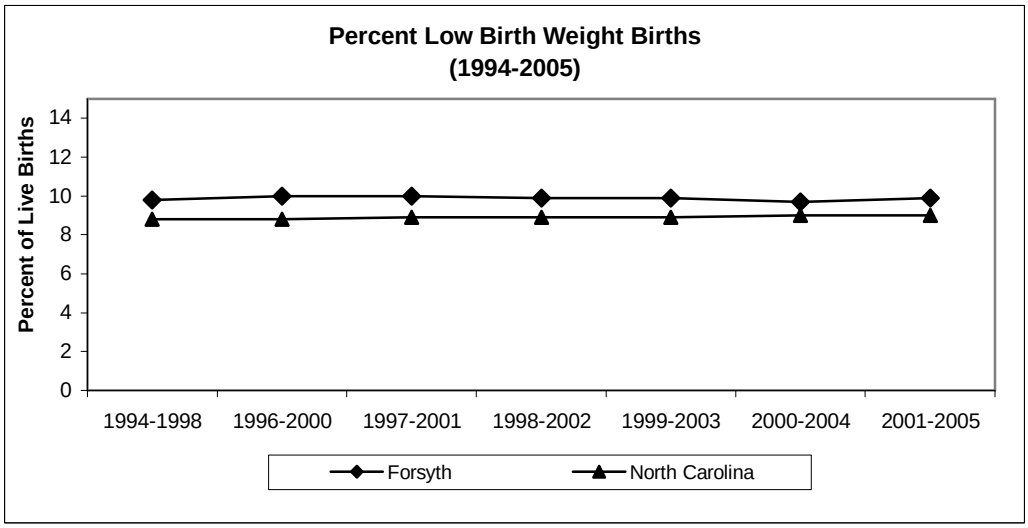
a - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2007 County Health Data Book. Low Birth Weight Births by Race, 2001-2005. http://www.schs.state.nc.us/SCHS/data/databook/

b - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2007 County Health Data Book. Low (<2500 grams) and Very Low (<1500 grams) Weight Births, 2001-2005. http://www.schs.state.nc.us/SCHS/data/databook/

c - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2007 County Health Data Book. Low (<2500 grams) and Very Low (<1500 grams) Weight Black Births, 2001-2005. http://www.schs.state.nc.us/SCHS/data/databook/

- Since 1994, the percentage of low weight births has remained relatively stable in both Forsyth County and in the state (Figure 10, following page).

Figure 10



Source: NC State Center for Health Statistics. County Health Databooks. County Health Data Books, 1999-2007. Low (<2500 grams) and Very Low (<1500 grams) Weight Births. http://www.schs.state.nc.us/SCHS/data/databook/

Infant Mortality

According to Table 57 (following page):

- For the aggregate period from 2001 through 2005 the total Forsyth County infant mortality rate of 8.9 was 5% higher than the statewide infant mortality rate of 8.5.
- The five-year aggregate overall infant mortality rates in the county and the state have fallen each successive period since 1999; the rate among whites has remained relatively stable. The minority infant mortality rates in the county have steadily declined overall between 1998 and 2005.
- At the state level, the infant mortality rates for whites and minorities did not change much from one period to the next for the three aggregate periods cited.
- In 2005 alone, there were 42 infant deaths in Forsyth County.

Table 57. Infant (<1 year) Death Rate per 1,000 Live Births (1998-2005)

	1999-2003			2000-2004			2001-2005			2005					
County	Total	White	Minority	Total	White	Minority	Total	White	Minority	White Infant Deaths	White Infant Death Rate	Minority Infant Deaths	Minority Infant Death Rate	Total Infant Deaths	Total Infant Death Rate
Forsyth	9.5	6.1	18.3	9.2	5.8	18.1	8.9	6.0	16.4	20	5.9	22	16.4	42	8.9
State Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	575	n/a	502	n/a	1,077	n/a
NC County Avg.	8.5	6.2	14.4	8.4	6.1	14.6	8.5	6.1	14.7	6	6.4	5	14.9	11	8.8
Source	a	a	a	a	a	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/healthstats/databook/
b- NC State Center for Health Statistics. Infant Mortality Statistics 2005. http://www.schs.state.nc.us/SCHS/deaths/ims/2005/2005rpt.html

Leading Causes of Death

Table 58 shows the leading causes of death in Forsyth County, listed in descending order based on combined mortality data for the years 2001 through 2005. Figures in **boldface** type indicate causes of death for which the Forsyth County rate exceeds the comparable rate for the state as a whole.

Table 58. Age-Adjusted Mortality Rates for the Leading Causes of Death in Forsyth County, North Carolina and the United States (2001-2005)

Cause of Death	Forsyth County		North Carolina	United States
	Number	Rate	Rate	Rate
1. Total Cancer	3,219	**199.3**	197.7	185.8
2. Heart disease	3,100	193.2	226.8	217
3. Cerebrovascular Disease	1,036	**65.0**	64.7	50
4. Chronic Lower Respiratory Disease	752	**47.3**	46.9	41.1
5. Alzheimer's	583	**36.7**	27.1	n/a
6. Diabetes	465	**28.9**	27.6	24.5
7. Unintentional Non-Motor Vehicle Injury	370	23.3	26	37.7
8. Kidney disease	291	**18.2**	17.9	n/a
9. Pneumonia and Influenza	287	18.0	23.3	19.8
10. Septicemia	236	**14.7**	14.5	n/a
11. Unintentional Motor Vehicle Injuries	196	12.4	19.3	15.2
12. Suicide	169	10.4	11.6	10.9
13. Chronic Liver Disease and Cirrhosis	130	7.9	8.8	9
14. Homicide	113	7.1	7.2	5.9
15. HIV/AIDS	113	**7.0**	5.2	4.5
Total Deaths All Causes (some causes not listed)	**13,889**	**866.0**	**895.5**	**800.8**
Source	a	a	a	b

a - NC State Center for Health Statistics, County-level Data. County Health Databook. 2007 County Health Data Book. 2001-2005 Race-Sex-Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook/

b - National Center for Health Statistics. Information Showcase. Health, United States, 2006. Complete Report. Table 29: Age-adjusted death rates for selected causes of death. http://www.cdc.gov/nchs/data/hus/hus06.pdf

State and National Mortality Rate Comparisons

Table 58 (previous page) provides recent, overall age-adjusted mortality rates for Forsyth County, as well as for North Carolina and the United States.

Compared to North Carolina, Forsyth County has **higher** age-adjusted mortality rates for:

- **Alzheimer's Disease –** by **35%**
- **HIV –** by **35%**
- **Diabetes –** by **4.7%**
- **Kidney disease –** by **1.7%**
- **Septicemia –** by **1.4%**
- **Total Cancer –** by **<1%**
- **CLRD –** by **<1%**
- **Cerebrovascular disease –** by **<1%**

Compared to the national mortality rates available, Forsyth County has higher mortality rates for:

- **HIV –** by **55.6%**
- **Cerebrovascular disease –** by **30%**
- **Homicide –** by **20.3%**
- **Diabetes –** by **18%**
- **Chronic lower respiratory disease –** by **15.1%**
- **Total Cancer –** by **7.3%**

Gender Disparities in Mortality

Table 59 compares rates for males versus females in Forsyth County. The mortality data cited in this section were obtained from the North Carolina State Center for Health Statistics and represent the period from 2001-2005.

Table 59. Age-adjusted Mortality Rates by Gender, Forsyth County (2001-2005)

Cause of Death	Males		Females	
	Number	Rate	Number	Rate
Diseases of Heart	1,453	241.5	1,647	159.6
Cerebrovascular Disease	373	65.5	663	63.5
Total Cancer	1,593	247.3	1,626	170.7
Colon, Rectum, and Anus	127	19.8	182	18.7
Trachea, Bronchus, and Lung	539	81.3	412	43.8
Female Breast	7	1.3	236	25.5
Prostate	169	29.5	0	0.0
Diabetes Mellitus	227	35.6	238	24.2
Pneumonia and Influenza	108	19.9	179	16.9
Chronic Lower Respiratory Diseases	344	58.2	408	41.5
Chronic Liver Disease and Cirrhosis	83	11.3	47	5.1
Septicemia	100	16.5	136	13.5
Nephritis, Nephrotic Syndrome, and Nephrosis	131	22.1	160	15.7
Unintentional Motor Vehicle Injuries	134	18.3	62	7.1
Unintentional Non-Motor Vehicle Injuries	199	30.5	171	17.7
Suicide	132	17.7	37	4.4
Homicide	87	11.3	26	3.2
Alzheimer's disease	138	28.0	445	40.3
AIDS	71	9.1	42	5.1
Total Deaths - All Causes (some causes not listed)	**6,385**	**1031.9**	**7,504**	**749.1**

Source: North Carolina State Center for Health Statistics, 2007 County Health Databook

For all deaths combined, Forsyth County males have a 38% higher mortality rate than females.

*In comparing rates – including mortality rates – it is important to consider the base number of events on which each rate was calculated. When the number of events is small, the rate calculated from that number may be unstable and neither a reliable measure nor a valid predictor. This report will **not** analyze disparities for any cause of death for which there were five or fewer aggregate deaths during the period in question for any of the stratified groups being examined.*

Applying the rule above, gender differences in mortality can be described for all leading causes of death in Forsyth County.

Compared to the mortality rates for Forsyth County females, the mortality rates among Forsyth County **males are higher** for:

- **Suicide –** by **4 times**
- **Homicide–** by **3 1/2 times**
- **Unintentional motor vehicle injury** – by **2.6 times**
- **Chronic liver disease and cirrhosis** – by **2.2 times**
- **Trachea, bronchus, and lung cancer –** by **86%**
- **HIV/AIDS –** by **78%**
- **Unintentional non-motor vehicle injury –** by **72%**
- **Heart disease –** by **51%**
- **Diabetes** – by **47%**
- **Total cancer –** by **45%**
- **Kidney diseases** – by **41%**
- **Chronic lower respiratory disease** – by **40%**
- **Septicemia** – by **22%**
- **Pneumonia/influenza –** by **18%**
- **Colon, rectum, and anus cancer –** by **6%**
- **Cerebrovascular disease** – by **3%**

Compared to the mortality rates for Forsyth County males, the mortality rates among Forsyth County **females are higher** for:

- **Alzheimer's disease –** by **44%**

Racial Disparities in Mortality

Racial disparities in mortality are discussed in detail in the descriptions of specific diseases and health conditions in the sections that follow. Note that because the numbers of deaths in the minority population due to certain causes are quite small, the caveat set forth in the previous section on gender disparities in mortality will be applied: mortality rates will *not* be analyzed for racial disparities for any cause of death for which there were five or fewer aggregate white or minority deaths during the period in question.

For all causes of death, the age-adjusted mortality rate among Forsyth County minorities for the period from 2001 through 2005 (1077.2) was 34% higher than the overall age-adjusted mortality rate for whites (806.2).

In addition, following the above guidelines, for the period from 2001 through 2005 mortality rates in Forsyth County were **higher among minorities than among whites** for:

- **HIV/AIDS** – by **23 times**
- **Diabetes –** by **3 times**
- **Kidney diseases –** by **2.7 times**
- **Prostate cancer** – by **2.6 times**
- **Homicide –** by **2.5 times**
- **Septicemia –** by **98%**

- **Breast cancer –** by **56%**
- **Cerebrovascular disease –** by **51%**
- **Colon, rectum, and anus cancer –** by **45%**
- **Heart disease –** by **38%**
- **Total cancer –** by **30%**
- **Lung cancer –** by **13%**
- **Chronic liver disease and cirrhosis** – by **12%**
- **Pneumonia and influenza –** by **11%**

Conversely, mortality rates in Forsyth County were **higher among whites than among minorities** for:

- **Unintentional motor vehicle injury –** by **81%**
- **Chronic lower respiratory disease –** by **66%**
- **Suicide –** by **47%**
- **Alzheimer's disease –** by **26%**
- **Unintentional non-motor vehicle injury –** by **7%**

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 (56).

Heart Disease and Stroke Incidence

Hospital utilitzation data provided by the NC-SCHS for Table 60 give some indication of the burden of heart disease in Forsyth County. From 2000 through 2005 the hospital discharge rates for all circulatory diseases, as well as heart disease and cerebrovascular disease declined overall.

Heart and cerebrovascular diseases account for more hospitalizations than any other health condition. Consequently, costs due to these two conditions were greater than for any other, together accounting for over $108 million in hospital charges to Forsyth County residents in 2005 (57).

It should be noted that the usefulness of this information is limited in that it does not include people who may have cardiovascular or cerebrovascular conditions but have *not* sought medical care or been hospitalized. The category represented in Table 60 includes not only diagnoses of heart disease and cerebrovascular disease, but other diseases of cardiovascular and circulatory systems as well. Therefore, the sum of the rates for heart disease and cerebrovascular disease will not add up to the total discharge rates for all cardiovascular and circulatory diseases.

Table 60. Forsyth County Hospital Discharges per 1,000 Persons (2000-2005)

Condition	2000	2001	2002	2003	2004	2005
Cardiovascular and Circulatory Diseases	19.4	19.3	18.7	19.1	18.0	17.5
Heart Disease	12.8	12.9	12.7	12.9	11.8	11.2
Cerebrovascular Disease	3.8	3.4	3.2	3.4	3.5	3.4

Source: North Carolina State Center for Health Statistics, County Health Databooks

Heart Disease Mortality

Heart disease and stroke are the second and third leading causes of death among Forsyth County residents. For the 2001-2005 time period, 3,100 Forsyth County residents died of heart disease and 1,036 died of stroke (Table 58, cited previously).

The most recent data (aggregated for the years 2001-2005) show that the county mortality rate due to heart disease (193.0) is lower than the state rate (226.8). (Table 61).

Table 61. Heart Disease Mortality (2001-2005)

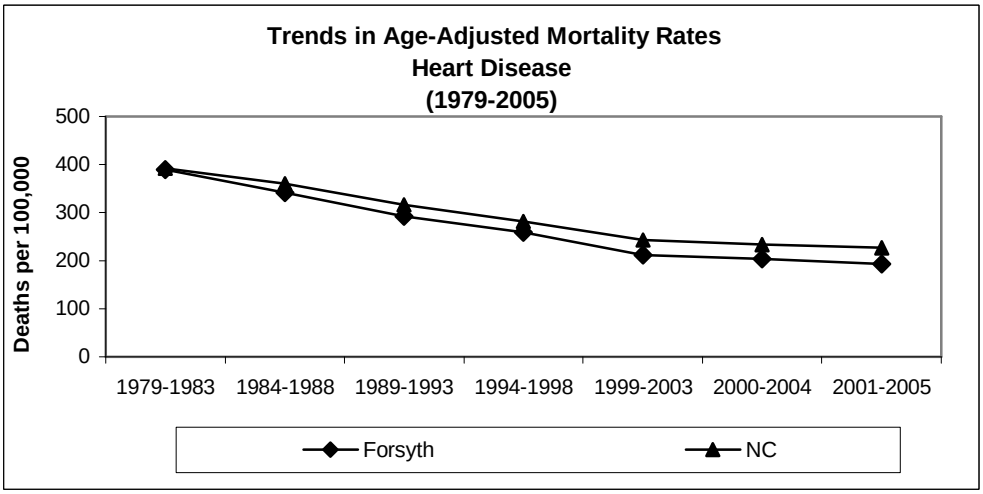
County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	3,100	193.0	1,078	222.8	1,243	146.5	375	321.8	404	202.6
State Total	91,056	n/a	35,889	n/a	35,731	n/a	9426	n/a	10,010	n/a
NC County Avg.	911	226.8	359	276.5	357	174.4	94	323.7	100	215.0

Source NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

The Healthy Carolinians 2010 goal is to reduce the heart disease mortality rate to 219.8 per 100,000 (58). Forsyth County currently meets the target rate by 12%. Nationally, the mortality rate due to heart disease is 217.0 (59), which is 12% higher than the mortality rate among Forsyth County residents, and 4% lower than the rate statewide. The Healthy People 2010 goal is to reduce mortality due to heart disease to 166 per 100,000 (60). Forsyth County currently exceeds this national goal goal by 16%.

Since 1979, the mortality rate due to heart disease in Forsyth has paralleled a decreasing trend seen at the state level (Figure 11, following page).

Figure 11



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Stroke Mortality

The county mortality rate for stroke (65.0) is slightly lower than the comparable rate in the state as a whole (67.4) (Table 62, following page).

The Healthy Carolinians 2010 goal is to reduce the mortality rate due to stroke to 61 deaths per 100,000 population (58), a rate Forsyth County exceeds by 7%. The most recent (2004) death rate due to stroke in the United States is 50.0 per 100,000 population (59), a rate exceeded in Forsyth County by 30%. The state mortality rate also exceed that of the country as whole though by a similar amount.

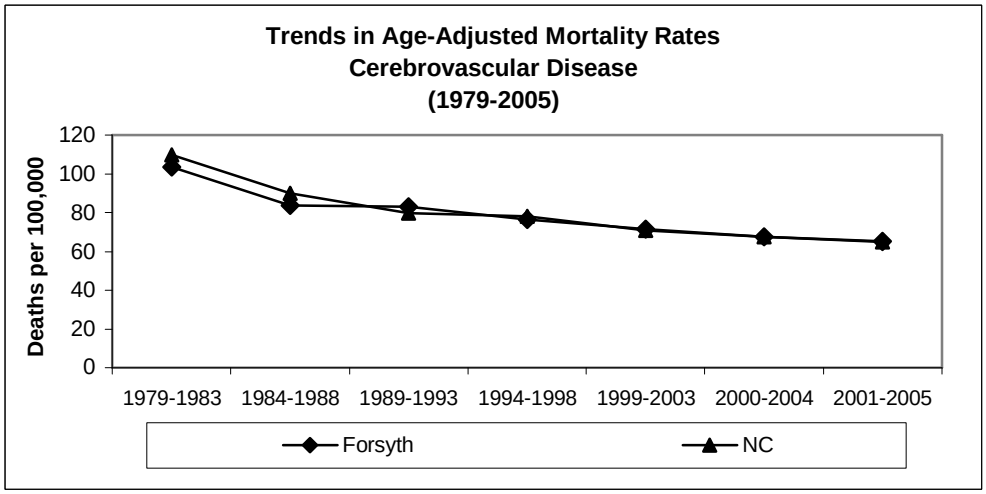
Table 62. Cerebrovascular Disease Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	1,036	65.0	266	58.1	499	57.6	107	96.2	164	84.3
State Total	25,615	n/a	7,278	n/a	12,118	n/a	2,512	n/a	3,707	n/a
NC County Avg.	256	64.7	73	60.2	121	58.6	25	92.0	37	79.8

Source NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Between 1979 and 2005, the mortality rate due to stroke in Forsyth County decreased as did the comparable state rates (Figure 12).

Figure 12

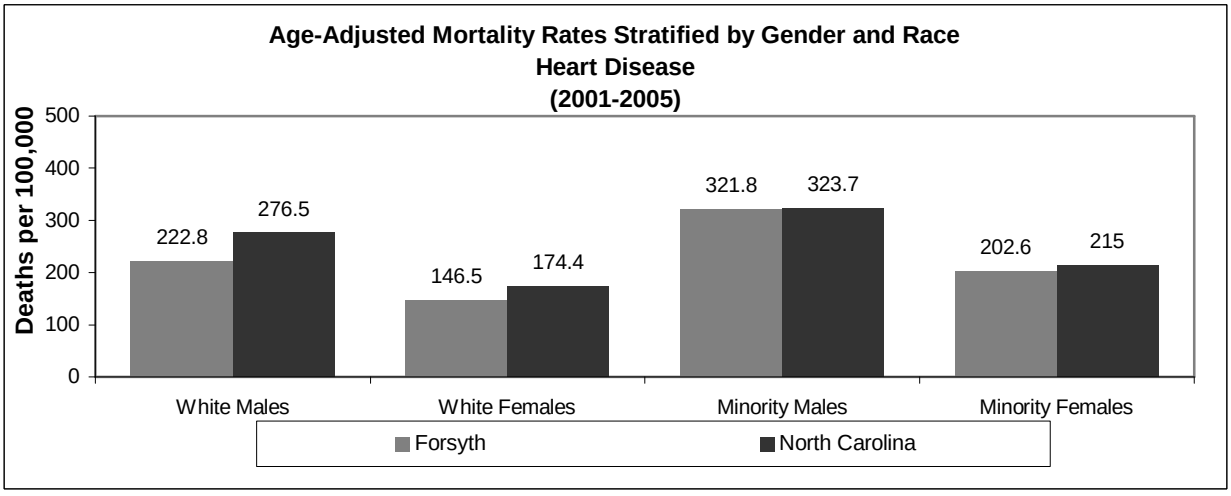


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Heart Disease and Stroke Mortality

Figure 13 compares age adjusted mortality rates due to heart disease, aggregated between 2001-2005 among white males, minority males, white females, and minority females. (This is the same data that appeared in Table 61.)

Figure 13



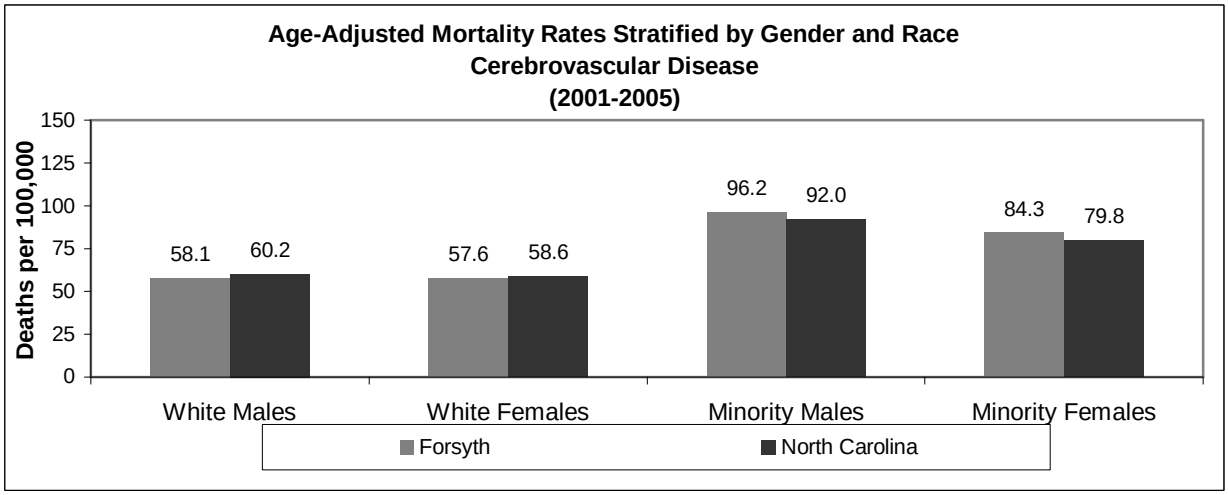
Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

In Forsyth County, minority males have a heart disease mortality rate nearly the same as the state rate for minority males (321.8 vs. 323.7); and a 44% greater rate than the rate for white males in Forsyth County (321.8 vs. 222.8). Minority females in the county have a 38% higher heart disease mortality rate than white females (202.6 vs. 146.5) (Figure 13).

Gender disparities in heart disease mortality exist among both whites and minorities in Forsyth County, though the disparity among minorities is greater. The mortality rate among minority males is 59% higher than the rate among minority females. The mortality rate due to heart disease among white males is 52% higher than the rate among white females. The mortality rates due to heart disease among whites and minorities in Forsyth County are lower than the comparable rates at the state level (Figure 13).

Figure 14 compares sex-race stratified age-adjusted mortality rates for cerebrovascular disease (with data from Table 62, cited previously)

Figure 14



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

In Forsyth County the cerebrovascular disease mortality rate among minority males is 66% higher than the rate among white males, and the rate among minority females is 46% higher than the rate among white females. The cerebrovascular disease mortality rate among white females is 1% lower than the rate among white males, and the rate among minority females is 12% lower than the rate among minority males (Figure 14).

Risk Factors for Heart Disease and Stroke (56)

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

Cancer

Total Cancer

Cancer is the group of diseases characterized by the uncontrolled growth and spread of abnormal body cells. If the disease remains unchecked, it can result in death (56). Cancers of all kinds are sometimes grouped together in a parameter called "total cancer". Total cancer was the first leading cause of death in Forsyth County for the period from 2001-2005. Hospital charges associated with cancer diagnoses among Forsyth County residents totaled nearly $34 million in 2005(57).

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

Total Cancer Incidence

There were 8,068 newly diagnosed cases of all cancers combined in Forsyth County between 2000 and 2004. Table 63 shows this total and the resultant age-adjusted total cancer incidence rates for the period, as well as individual incidence rates for colorectal, lung, breast, and prostate cancers. The incidence rate for total cancer during the period cited in Forsyth County (502.6) was above the rate in the average NC county (452.1).

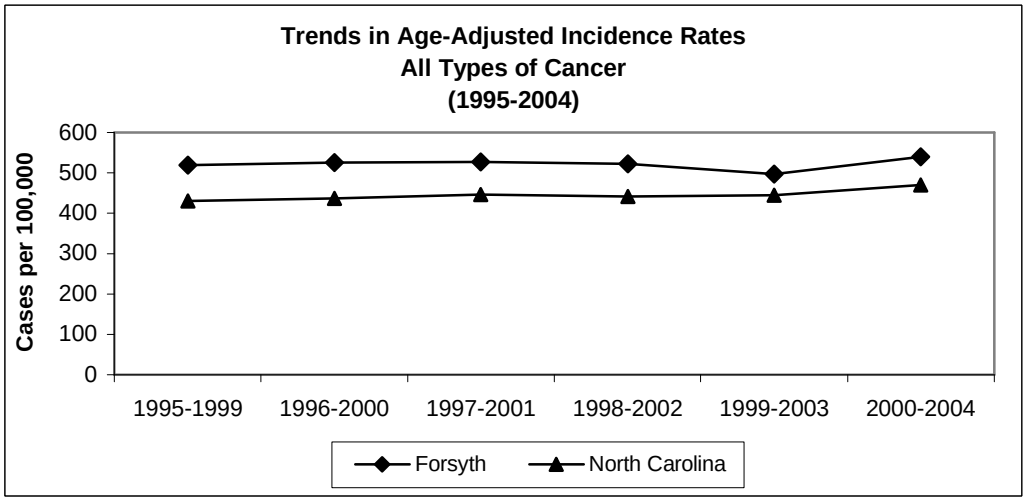
Table 63. Cancer Incidence (2000-2004)

	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
Forsyth	8,068	502.6	754	47.2	1,211	75.7	1,447	161.4	1,202	177.3
State Total	187,473	n/a	19,584	n/a	28,882	n/a	33,139	n/a	27,400	n/a
NC County Avg.	1,875	452.1	196	47.7	289	69.9	331	145.6	274	151.1

Source NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/

As shown in Figure 15, the total cancer incidence rate in Forsyth County has remained above the state rate throughout the period cited. In the most recent reporting period the county rate has increased.

Figure 15



Source: NCState Center for Health Statistics. Cancer. Annual Reports: NC Cancer Incidence Rates 1999-2005. Cancer Incidence Rates for All Counties by Specific Site (by five-year aggregate). Available at: http://www.schs.state.nc.us/SCHS/CCR/reports.html.

Nationally, in 2003 the age-adjusted cancer incidence rate for all types of cancer was 447.1 (59). The total cancer incidence rate was highest in the black population (489.0); among men nationally, the total cancer incidence rate was significantly higher for black males (634.6) than for any other race. Among women nationally, the incidence rate was higher for white females (407.5) than for minority women (59).

Total Cancer Mortality

Cancer of all types was the leading cause of death among Forsyth County residents in the period from 2001 through 2005, resulting in 3,219 deaths (Table 64). The mortality rate for all cancers in the county for that period was 199.3 deaths per 100,000, slightly above the state rate of 197.7.

Table 64. Total Cancer Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	3,219	199.3	1,231	236.1	1,195	157.5	362	294.4	431	216.8
State Total	81,428	n/a	33,778	n/a	30,315	n/a	9,174	n/a	8,161	n/a
NC County Avg.	814	197.7	338	240.6	303	158.3	92	309.6	82	174.1

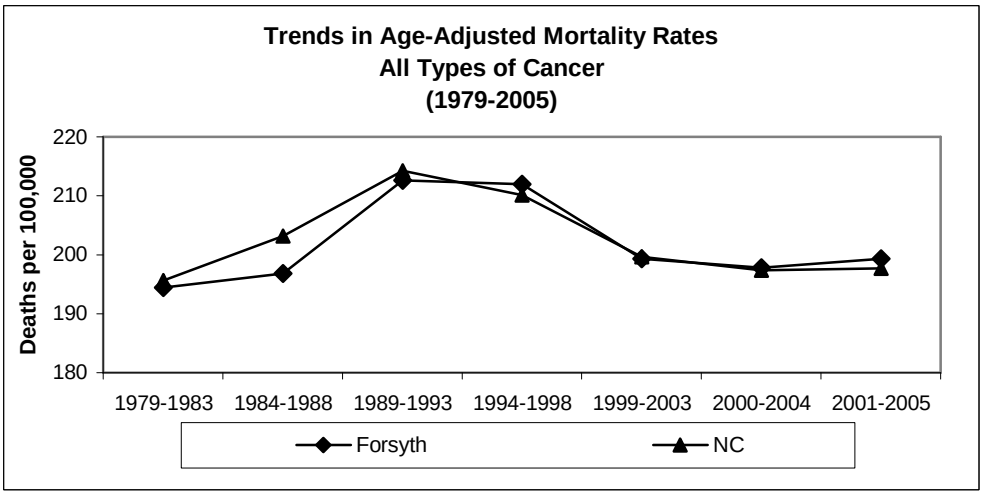
Source: NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/

The Healthy Carolinans 2010 goal for total cancer is a mortality rate of 166.2 per 100,000 (58), a target currently exceeded by 20% in Forsyth County.

The national mortality rate for all types of cancer was 185.8 per 100,000 in 2004, with cancer ranking as the second leading cause of death (59). For 2001-2005, Forsyth County and North Carolina exceeded the national rate. Forsyth County also exceeds the Healthy People 2010 target of 159.3 deaths per 100,000 (60) by 25%.

The overall cancer mortality rate for Forsyth County has remained slightly above the state rate since 1979 (Figure 16, following page).

Figure 16

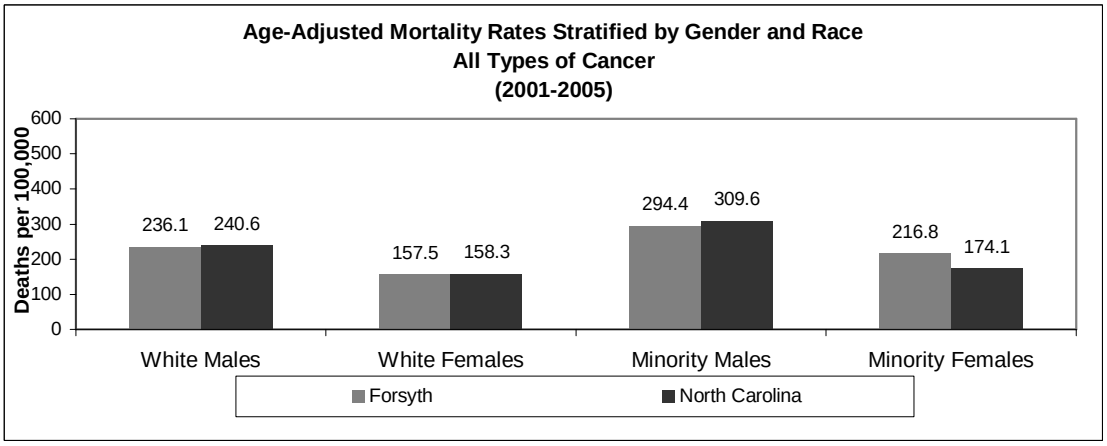


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Total Cancer Mortality

Figure 17 compares stratified age-adjusted mortality rates due to all types of cancer in Forsyth County. The data represent aggregate deaths between 2001 and 2005 among white males, minority males, white females, and minority females.

Figure 17



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

In Forsyth County minority males have a 25% higher rate of death due to cancer than white males, and minority females have a 38% higher rate of death due to cancer than white females.

The county mortality rate due to all types of cancer is 50% higher among white men than among white women, and the total cancer mortality rate among minority men is 36% higher than the rate for minority women.

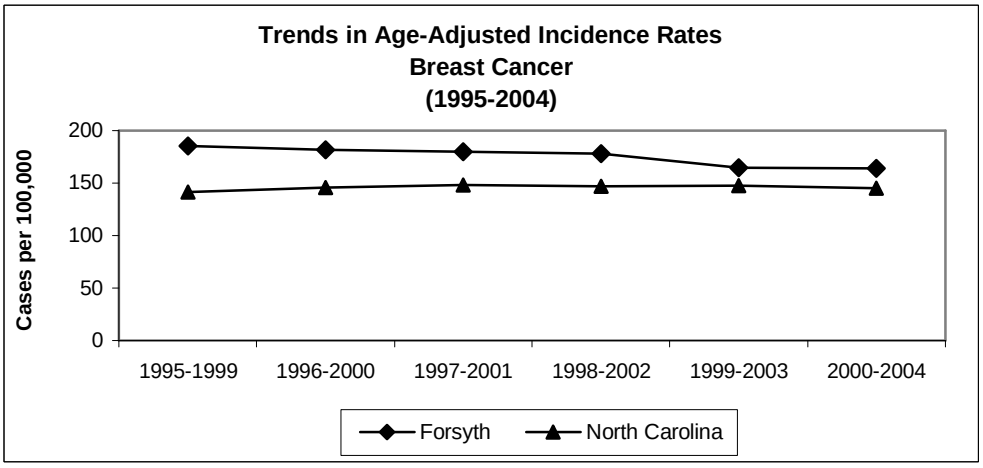
Breast Cancer

Breast Cancer Incidence

Between 2000 and 2004, breast cancer was the most commonly diagnosed cancer in Forsyth County, with 1,447 new cases diagnosed during that period (Table 63, cited previously). Nationally, breast cancer is the second most commonly diagnosed cancer, with an incidence rate of 121.1 per 100,000 in 2003. The incidence rate is highest nationally among white non-Hispanic females (131.1 per 100,000) (59).

Since 1995, breast cancer incidence rates have decreased slightly overall in Forsyth County, while the number of new breast cancer cases has increased slightly in the state. Throughout the period cited the county breast cancer incidence rates have been above the state incidence rates (Figure 18).

Figure 18



Source: NCState Center for Health Statistics. Cancer. Annual Reports: NC Cancer Incidence Rates 1999-2005. Cancer Incidence Rates for All Counties by Specific Site (by five-year aggregate). Available at: http://www.schs.state.nc.us/SCHS/CCR/reports.html.

Breast Cancer Mortality

Between 2001 and 2005, 243 people died of breast cancer in Forsyth County representing an age-adjusted mortality rate of 26.2 per 100,000. During this time, 61 people died in the average NC county, representing an age-adjusted mortality rate of 26.0 (Table 65).

Table 65. Breast Cancer Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	243	26.2	5	1.2	163	22.4	2	1.3	73	34.7
State Total	6,091	n/a	49	n/a	4,458	n/a	16	n/a	1,568	n/a
NC County Avg.	61	26.0	0	0.4	45	23.7	0	0.5	16	32.3

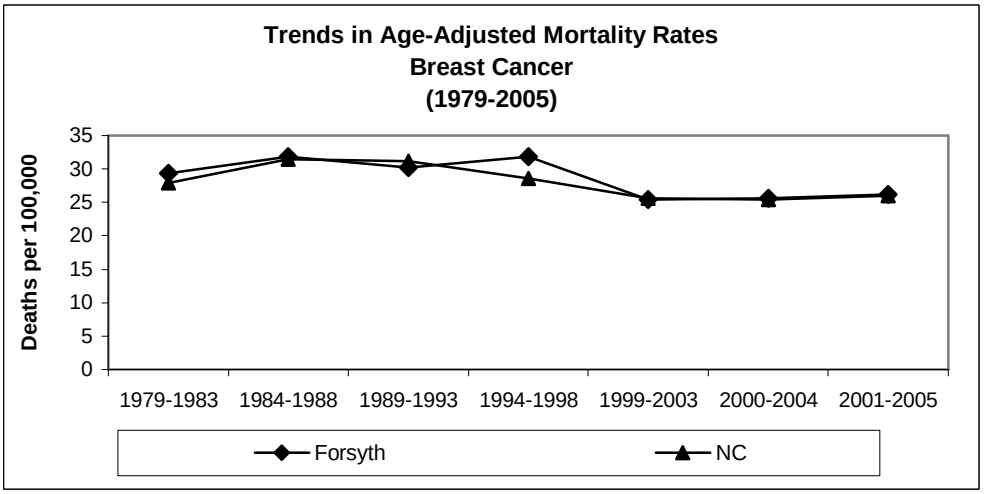
Source NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/

The Healthy Carolinians 2010 goal for breast cancer is a mortality rate of 22.6 per 100,000 (58).

In 2004, the national breast cancer mortality rate was 24.1, and breast cancer was the third most deadly cancer (59). The Healthy People 2010 target rate is 22.3 per 100,000 females (60). The current Forsyth County and North Carolina breast cancer mortality rates are above the state and national target goals.

Since 1979, the breast cancer mortality rate in Forsyth County has decreased overall, as has the state as a whole (Figure 19, following page).

Figure 19

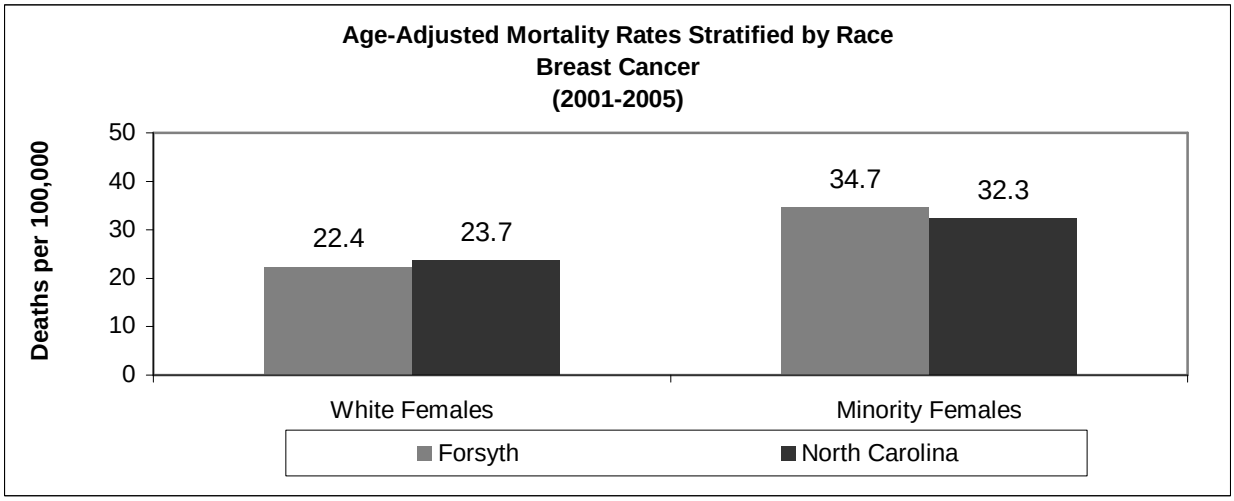


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Racial Disparities in Breast Cancer Mortality

Figure 20 (following page) compares 2001-2005 aggregate age-adjusted breast cancer mortality rates for white females and minority females in Forsyth County and North Carolina. (It should be noted that, while rare, breast cancer does occur in males, and in Forsyth County seven males died of breast cancer in the cited period.)

Figure 20



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

In Forsyth County the breast cancer mortality rate among minority females was 55% higher than the rate among white females. This disparity is slightly less pronounced (36% difference) at the state level (Figure 20).

Breast Cancer Risk Factors (61)

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

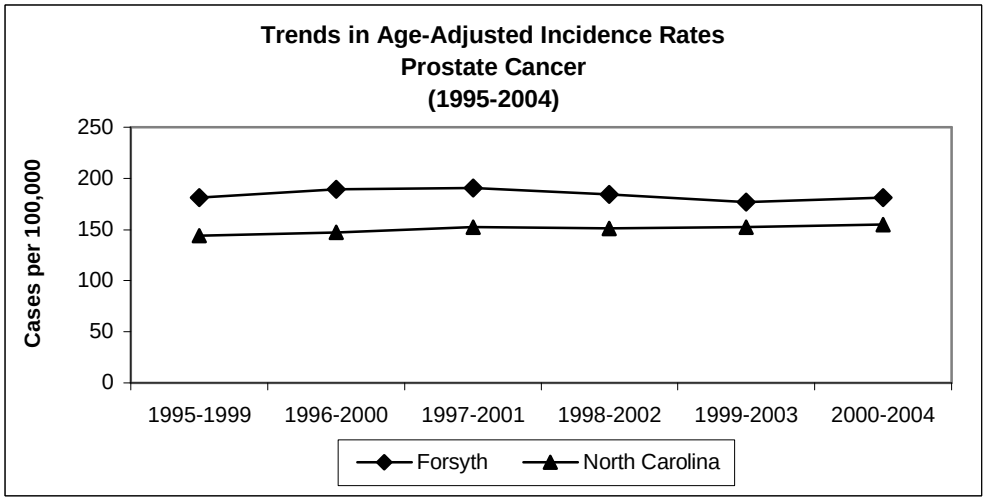
Prostate Cancer

Prostate Cancer Incidence

As of 2003, prostate cancer had the highest incidence rate of all cancers nationwide, 160.4 new cases per 100,000 (59). Nationally, the prostate cance incidence rate was highest among African American males (237.5 per 100,000). Since 1995, the prostate cancer incidence rate in Forsyth County has remained above the state rate (Figure 21).

During the most recent reporting period, 2000-2004, there were 1,202 new cases of prostate cancer diagnosed in Forsyth County, making it the third commonly diagnosed cancer in the county (Table 63, cited previously). Nearly $1.1 million was spent treating Forsyth County prostate cancer patients in 2005 (57).

Figure 21



Source: NCState Center for Health Statistics. Cancer. Annual Reports: NC Cancer Incidence Rates 1999-2005. Cancer Incidence Rates for All Counties by Specific Site (by five-year aggregate). Available at: http://www.schs.state.nc.us/SCHS/CCR/reports.html.

Prostate Cancer Mortality

Nationally, prostate cancer has the second highest mortality rate among the four main cancers (59).

From 2001 through 2005, 169 males in Forsyth County died of prostate cancer (Table 66), for a mortality rate of 29.5, which was slightly lower than the state average (29.9).

Table 66. Prostate Cancer Mortality (2001-2005)

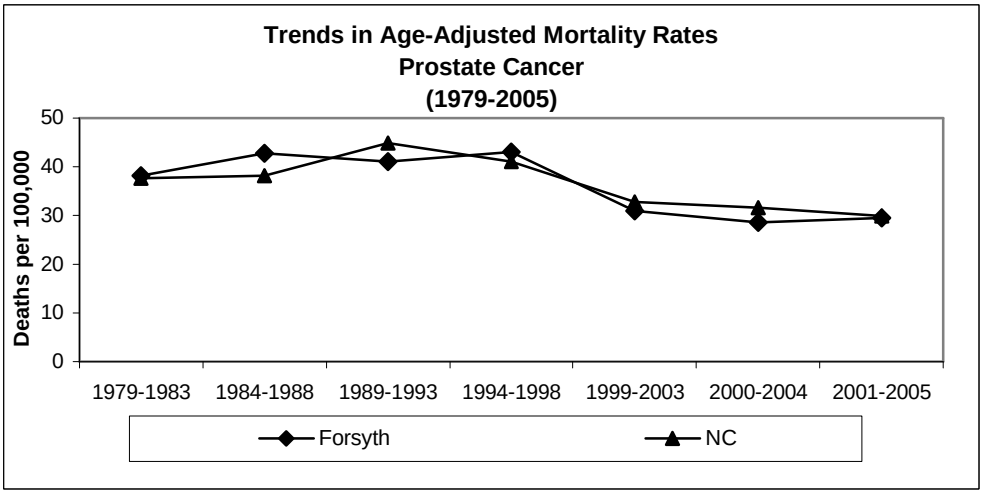
County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	169	29.5	108	23.2	0	0	61	59.7	0	0
State Total	4,341	n/a	2,854	n/a	0	n/a	1,487	n/a	0	n/a
NC County Avg.	43	29.9	29	23.7	0	0.0	15	62.7	0	0.0

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 (61), a rate Forsyth County currently exceeds by 2%.

Since 1979, the prostate cancer mortality rate in the county and state all have decreased overall (Figure 22, following page).

Figure 22

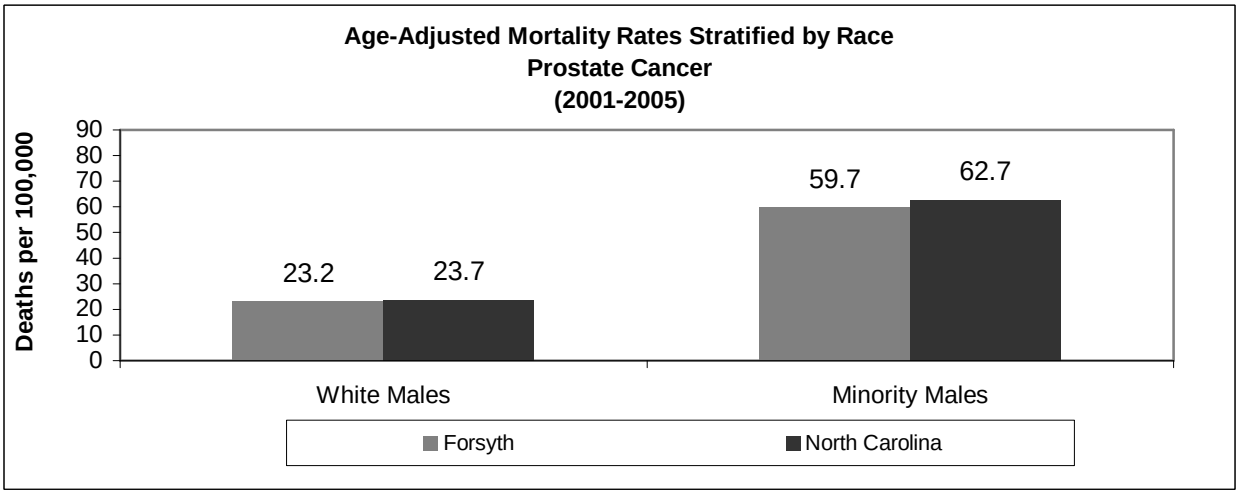


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Racial Disparities in Prostate Cancer Mortality

Figure 23 (following page) compares 2001-2005 aggregate age-adjusted prostate cancer mortality rates for white males and minority males in the county and North Carolina. In Forsyth County the prostate cancer mortality rate among minority males was 157% higher than the rate among white males. At the state level the difference is 165%.

Figure 23



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook

Prostate Cancer Risk Factors (61)

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

Colon and Rectal Cancer

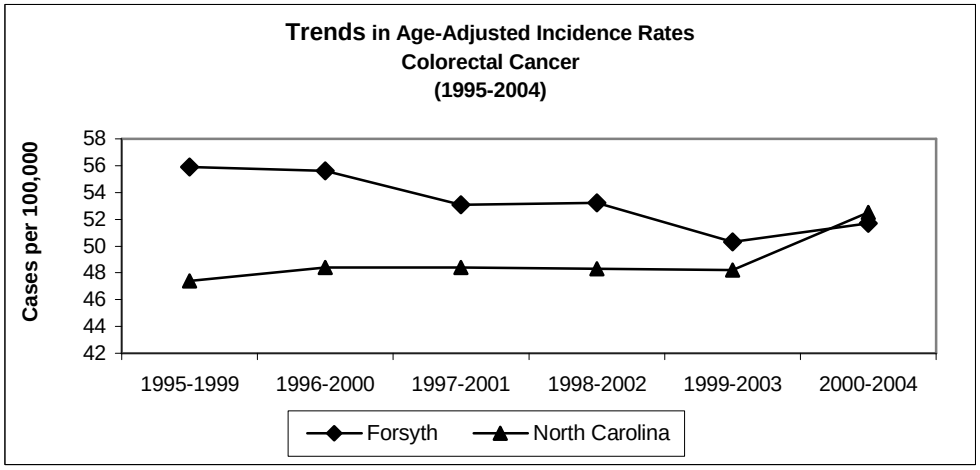
Colorectal Cancer Incidence

Colorectal cancer was the fourth most commonly diagnosed cancer in the US in 2003, with a national incidence rate of 56.8 new cases per 100,000 among males and 42.4 new cases per 100,000 among females. Nationally, incidence rates were highest among black men (73.2) and black women (53.0) (59).

From 2000 through 2004 cancers of the colon and rectum accounted for 754 new cancer diagnoses in Forsyth County, making it the fourth most commonly diagnosed cancer (Table 63, cited previously). At that time, the local incidence rate was 1% lower than the incidence rate for the state as a whole. In 2005, hospital charges attributable to colorectal cancers among Forsyth County residents totaled over $4.8 million (57).

The Forsyth County colorectal cancer incidence rate has decreased overall since 1995, remaining below the state rate (Figure 24). The comparable state rate has increased overall over the same period.

Figure 24



Source: NCState Center for Health Statistics. Cancer. Annual Reports: NC Cancer Incidence Rates 1999-2005. Cancer Incidence Rates for All Counties by Specific Site (by five-year aggregate). Available at: http://www.schs.state.nc.us/SCHS/CCR/reports.html.

Colorectal Cancer Mortality

The colorectal cancer mortality rate in Forsyth County was higher than in the state as a whole for the period from 2001 through 2005 (Table 67). During this period, 309 people in Forsyth County died from colorectal cancer, representing an age-adjusted mortality rate of 19.2 per 100,000.

Table 67. Colorectal Cancer Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	309	19.2	92	17.9	134	17.1	35	27.3	48	24.5
State Total	7,628	n/a	2,931	n/a	2,881	n/a	854	n/a	962	n/a
NC County Avg.	76	18.6	29	21.0	29	14.7	9	28.4	10	20.8

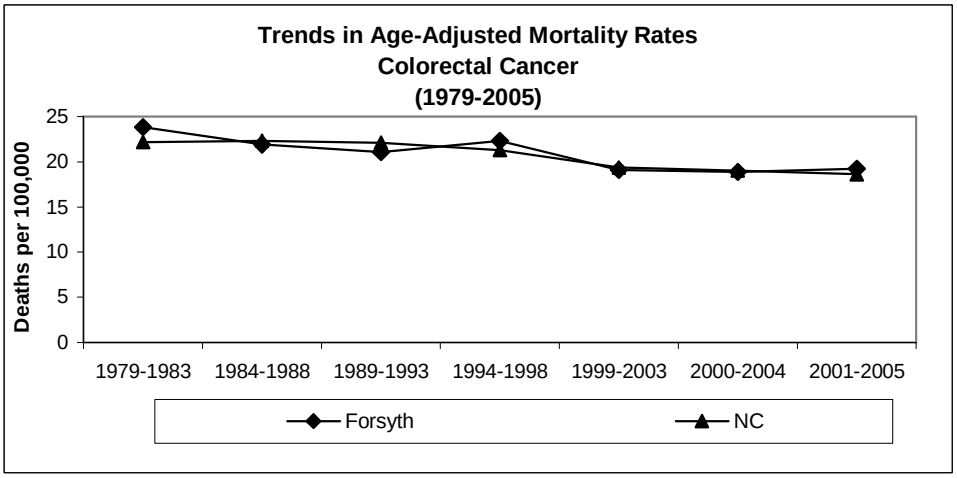
Source NC State Center for Health Statistics, http://www.schs.state.nc.us/SCHS/healthstats/databook/

Of the four major cancer types, colorectal cancer had had the lowest national mortality rate: 18.0 per 100,000 in 2004 (59). The current mortality rate for Forsyth County and the state as a whole is higher than the 2004 national mortality rate.

The Healthy Carolinians 2010 target rate for colorectal mortality is 16.4 deaths per 100,000 (58), a rate Forsyth County currently exceeds by 17%.

Colorectal mortality rates have been declining similarly since 1979 on the county and state levels (Figure 25, following page).

Figure 25



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

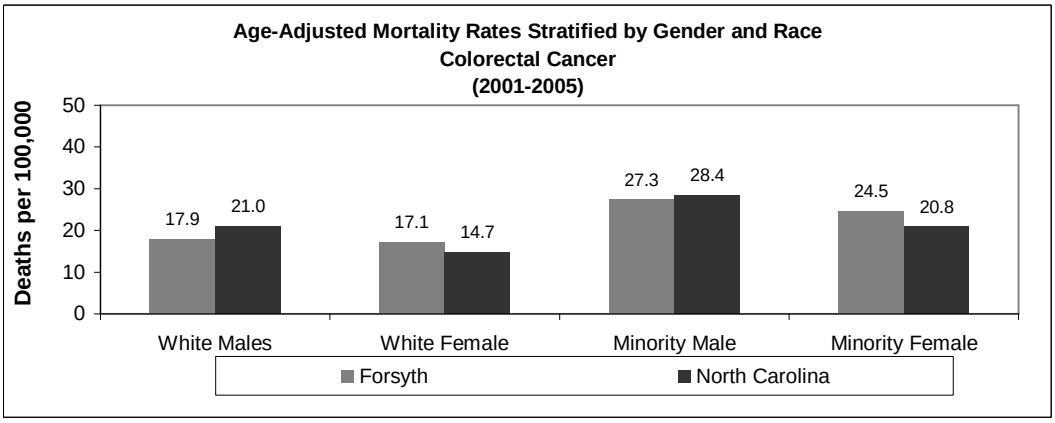
Gender and Racial Disparities in Colorectal Cancer Mortality

Figure 26 (following page) compares sex-race stratified aggregate age-adjusted colorectal cancer mortality rates for the period 2001-2005.

In Forsyth County the colorectal cancer mortality rate among minority males was 53% higher than the rate among white males, and the rate among minority females was 43% higher than the rate among white females. On the state level the colorectal cancer mortality rate among minority men was 35% higher than the rate among white men, and the mortality rate for minority women was 41% higher than the rate among white women.

In Forsyth County the colorectal cancer mortality rate among white females was 4% lower than the rate among white males, and for minorities the rate was 10% lower among females than the rate for males. At the state level the mortality rate among white females is lower than the rate among white men (by 30%) and the mortality rate among minority females is 27% lower than among minority males.

Figure 26



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

Colorectal Cancer Risk Factors (61)

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

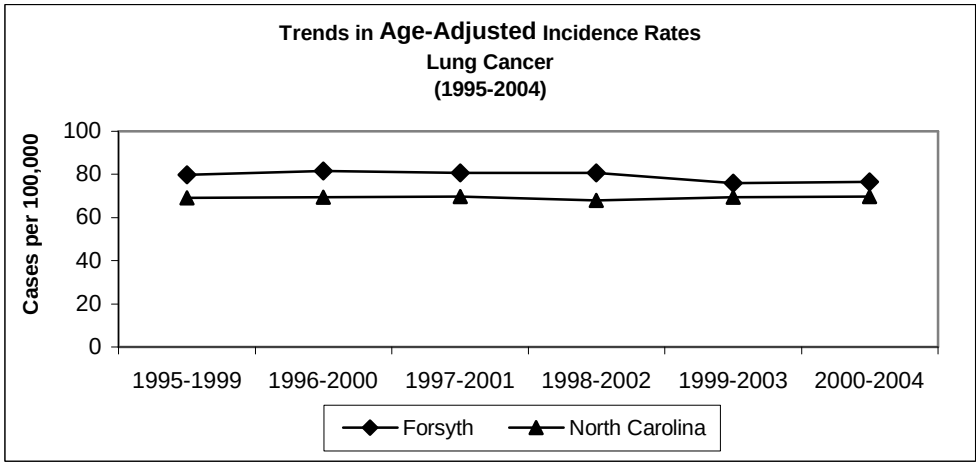
Lung Cancer

Lung Cancer Incidence

Between 2000 and 2004, 1,211 new cases of trachea, bronchus, and lung cancer were diagnosed in Forsyth County, making it the second most commonly diagnosed cancer (Table 63, cited previously). The resulting aggregate incidence rate of 75.7 per 100,000 was above the average county in the state (69.9). In 2005, hospital charges for the treatment of lung cancer in Forsyth County residents totalled over $4.3 million (57).

Since 1995 the Forsyth County lung cancer incidence rate has remained relatively stable and above the state rate. (Figure 27).

Figure 27



Source: NCState Center for Health Statistics. Cancer. Annual Reports: NC Cancer Incidence Rates 1999-2005. Cancer Incidence Rates for All Counties by Specific Site (by five-year aggregate). Available at: http://www.schs.state.nc.us/SCHS/CCR/reports.html.

Lung Cancer Mortality

The 2001-2005 lung cancer mortality rate in Forsyth County (58.7) was 2% lower than the rate statewide (59.9) (Table 68). Between 2001 and 2005, a total of 951 people died of lung cancer in Forsyth County.

Table 68. Lung Cancer Mortality (2001-2005)

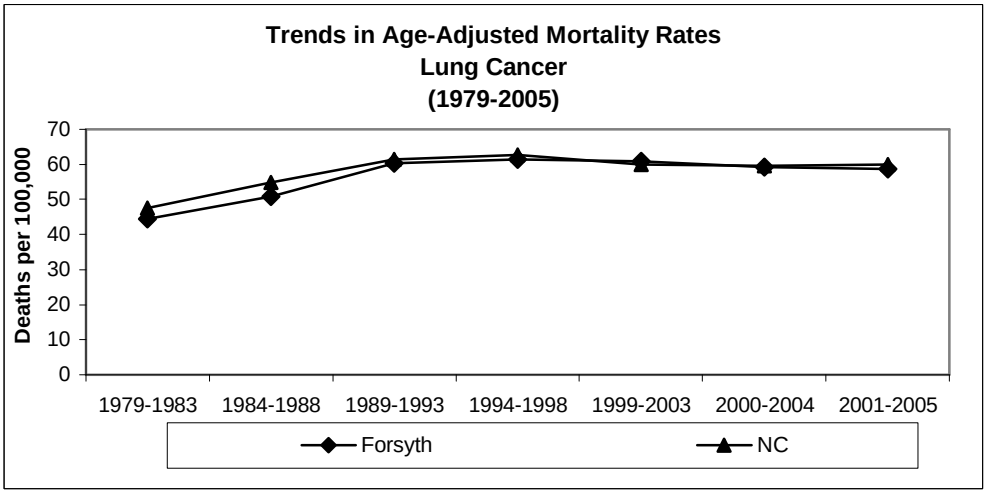
County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	951	58.7	436	81	305	40.7	103	81.2	107	54.2
State Total	24,869	n/a	12,112	n/a	8,304	n/a	2,907	n/a	1,546	n/a
NC County Avg.	249	59.9	121	83.6	83	43.6	29	94.1	15	33.3

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 53.2 per 100,000 in 2004 (59). Forsyth County's current lung cancer mortality rate exceeds the national rate by 10%. The Healthy People 2010 goal is to reduce the lung cancer mortality rate to 44.9 per 100,000 (58). The current lung cancer mortality rate in Forsyth County exceeds the national target rate by 31%.

Since 1979, the lung cancer mortality rates in Forsyth County and the state have increased overall (Figure 28, following page). For a majority of the reporting period, the county rate has remained similar to the state rate.

Figure 28



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

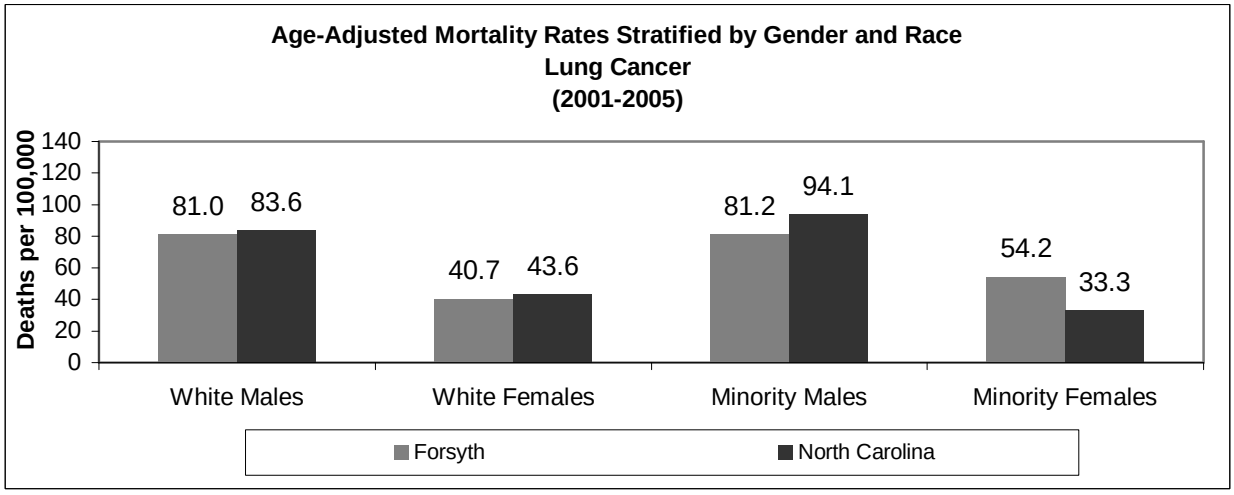
Gender and Racial Disparities in Lung Cancer Mortality

Figure 29 (following page) compares sex-age stratified aggregate age-adjusted mortality rates due to lung cancer for the period 2001-2005.

In Forsyth County, the lung cancer mortality rate among white males and minority males is very similar, while the rate among minority females is 33% higher than the rate among white females. At the state level, the lung cancer mortality rate among minority men is 13% higher than the rate for white men, and the rate for white females is 31% higher than the rate among minority females.

The lung cancer mortality rate in Forsyth County for white males was nearly double the rate for white females, and the rate among minority males was 50% higher than the rate among minority females. The differences are similar in direction on the state level as well.

Figure 29



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

Lung Cancer Risk Factors (61)

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

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 (56). 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 Forsyth County residents with CLRD totaled over $9.6 million in 2005 (57).

COPD/CLRD Mortality

COPD/CLRD was the fourth leading cause of death in Forsyth County for the period 2001-2005 (Table 58, cited previously). For the most current aggregate time period (2001-2005), the overall COPD/CLRD mortality rate in Forsyth County (47.3) was 1% higher than the state rate (Table 69).

Table 69. Chronic Lower Respiratory Disease Mortality, including COPD (2001-2005)

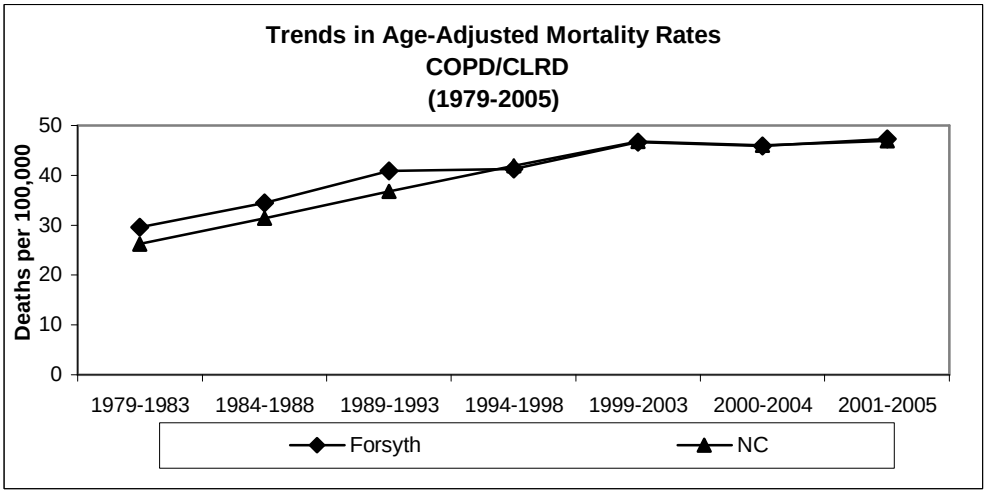
County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	752	47.3	295	61	364	45.8	49	42.1	44	23
State Total	18,800	n/a	8,111	n/a	8,489	n/a	1,346	n/a	854	n/a
NC County Avg.	188	46.9	81	62.7	85	43.0	13	51.4	9	18.5

Source NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

In 2004 the national mortality rate for CLRD was 41.4 per 100,000 (59), a rate exceeded in Forsyth County by 14%.

As demonstrated in Figure 30 (following page), COPD/CLRD mortality rates have steadily increased since 1979 in the county and the state. In the most recent reporting period (2001-2005), the COPD/CLRD mortality rate in Forsyth County slightly exceeded the state rate.

Figure 30



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

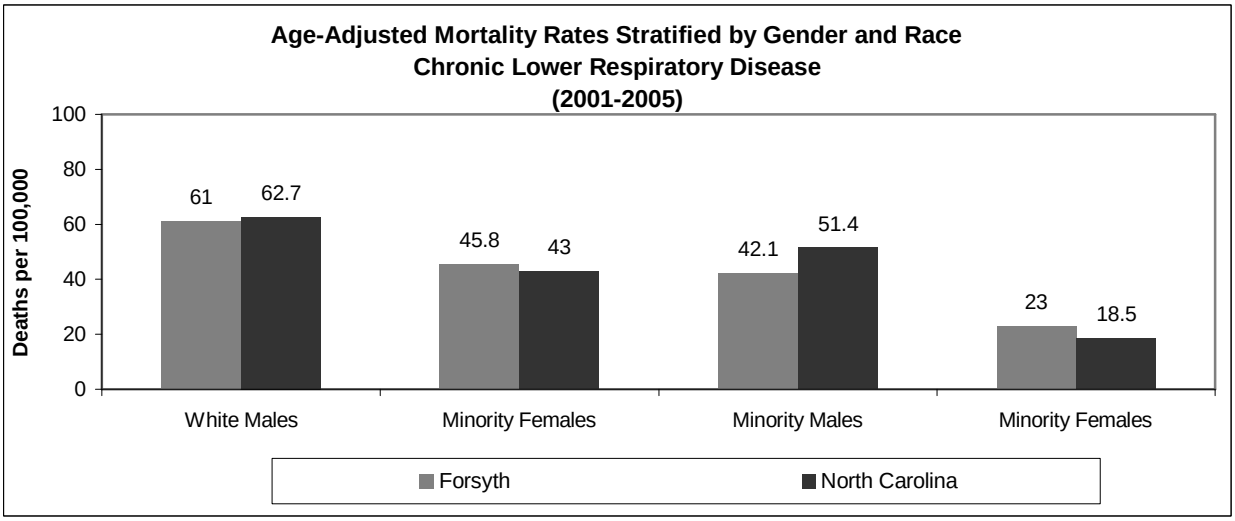
Gender and Racial Disparities in COPD/CLRD Mortality

Figure 31 plots the data from Table 69 in order to highlight racial and gender disparities.

In Forsyth County, the mortality rate for white men (61.0) was 33% higher than the rate for white women (45.8), and the mortality rate among minority males (42.1) was 83% higher than the rate among minority females (23.0). Statewide, the mortality rate for white men was 46% higher than the rate for white women, and the mortality among minoirty males was almost three times the rate among minority women.

In Forsyth County the COPD/CLRD mortality rate among white males was 45% higher than the rate among minority males, and the rate among white females was 99% higher than the rate among minority females. At the state level, the mortality rate was 22% higher among white males than among minority males, and 132% higher among white females than minority females.

Figure 31



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

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) (56).

Pneumonia and Influenza

Pneumonia and influenza are diseases of the lungs. Influenza (the "flu") is a contagious infection of the throat, mouth and lungs caused by an airborne virus. Pneumonia is an inflammation of the lungs caused by either bacteria or viruses. Bacterial pneumonia is the most common and serious form of pneumonia, and among individuals with suppressed immune systems it may follow influenza or the common cold (56). Pneumonia/influenza was the ninth leading cause of death in Forsyth County in the period 2001-2005, and hospital charges to treat the diseases among county residents in 2005 totaled over $19 million (57).

Pneumonia and Influenza Mortality

In the 2001-2005 reporting period, the overall pneumonia/influenza mortality rate in Forsyth County, 18.0, was 23% lower than the rate in the state as a whole (Table 70).

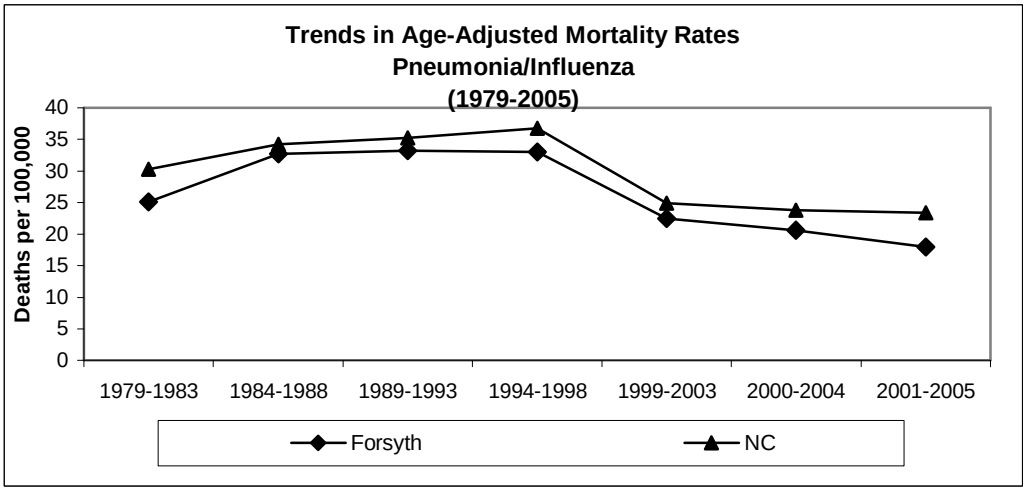
Table 70. Pneumonia/Influenza Mortality (2000-2004)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	287	18.0	86	20	142	16.3	22	18.5	37	19.1
State Total	9,163	n/a	3,183	n/a	4,382	n/a	754	n/a	844	n/a
NC County Avg.	92	23.3	32	27.6	44	21.0	8	29.5	8	17.9

Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Despite periodic plateaus, the statewide mortality rate for pneumonia/influenza has declined overall between 1979 and 2005, as have the rates for Forsyth County (Figure 32, following page).

Figure 32



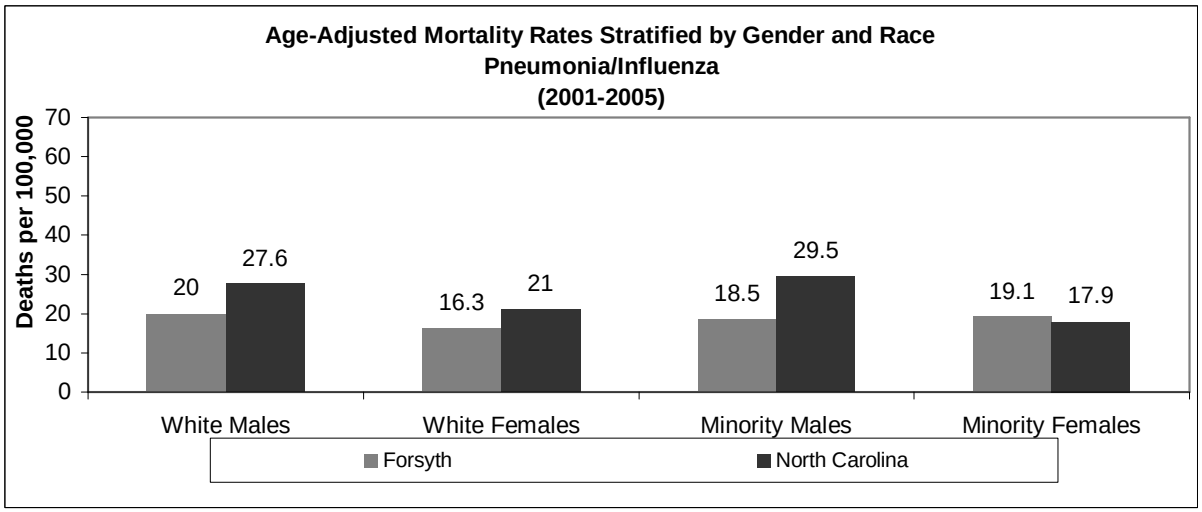
Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Pneumonia/Influenza Mortality

Figure 33 (following page) plots the data from Table 70. In Forsyth County and the state, the pneumonia/influenza mortality rate for white men is higher than the rate for white women (by 23% and 31%, respectively). The pneumonia/influenza rate for minority males is 3% lower than the rate for minority females at the county level, while the rate is 65% higher among minority males at the state level.

In Forsyth County, the mortality rate among white males was 8% higher than the rate among minority males, and the rate among minority females was 17% higher than the rate among white females. At the state level, the mortality rate among white men was 6% lower than the rate among minority men. Statewide the mortality rate among white women exceeded the rate among minority women by 17%.

Figure 33



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

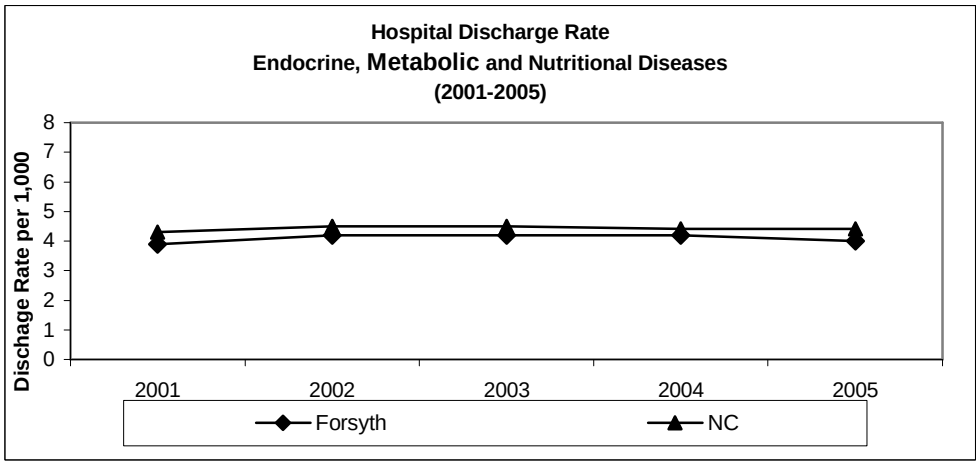
Diabetes

Diabetes is a disorder of the metabolic system resulting from a shortage of insulin, a hormone that allows sugar to enter body cells and convert into energy. If diabetes is uncontrolled, sugar and fats remain in the blood, over time damaging vital organs (59). Diabetes was the sixth leading cause of death in Forsyth County in 2001-2005 (Table 58, cited previously) and caused over $8.5 million in hospital charges to county residents in 2005 (57).

Diabetes Incidence

Incidence data for diabetes is not routinely available, so it is necessary to estimate incidence by other means, such as hospital discharge rates. It should be noted that hospital discharge information tends to *underestimate* the true extent of a disease in the population because it does not include people being treated for the disease who do *not* require hospitalization. In 2005 in Forsyth County the hospital discharge rate for endocrine, metabolic and nutritional diseases (including diabetes) was 4.0 discharges per 1,000, which was 9% lower than the state rate (57). Both county and state discharge rates remained relatively stable between 2001 and 2005 (Figure 34).

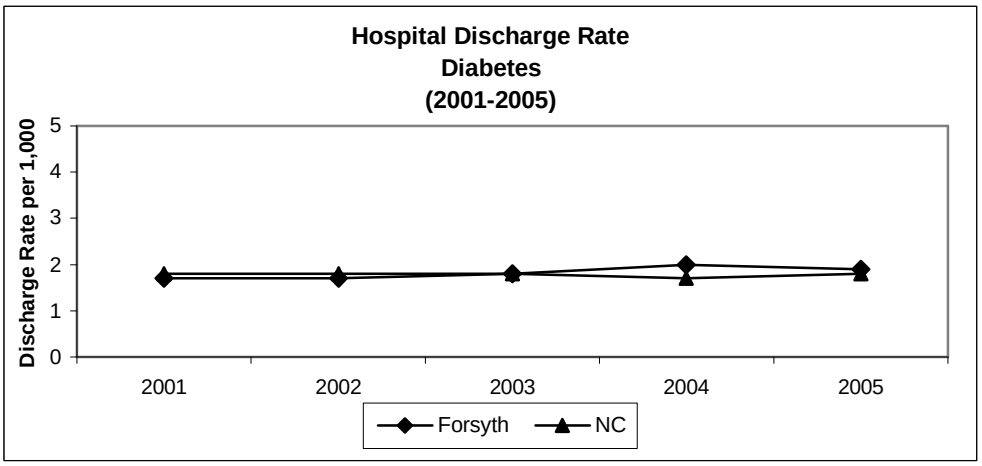
Figure 34



NC State Center for Health Statistics. Health Data. County-level Data. County Health Data Books, 2003-2007. Morbidity. Inpatient Hospital Utilization and Charges by Principal Diagnosis, and County of Residence. Available at**:** http://www.schs.state.nc.us/SCHS/data/databook/.

In 2005 the county discharge rate associated with *diabetes alone* was 1.9 per 1,000 (Figure 35). Comparing Figure 35 with 34 it is apparent that almost half of the hospital discharges for endocrine diseases have been related to a diagnosis of diabetes. Note also that the county discharge rates were similar to the statewide average rates.

Figure 35



NC State Center for Health Statistics. Health Data. County-level Data. County Health Data Books, 2003-2007. Morbidity. Inpatient Hospital Utilization and Charges by Principal Diagnosis, and County of Residence. Available at: http://www.schs.state.nc.us/SCHS/data/databook/.

The Healthy People 2010 diabetes incidence target is no more than 5.4 hospitalizations per *10,000* (60), a population base 10 times larger than the base customarily used in North Carolina. Converted to the national base, the current rate in Forsyth County would be 40 rather than 4.0; more than seven times greater than the Healthy People 2010 goal.

Diabetes Mortality

Between 2001 and 2005, 465 deaths in Forsyth County were attributed to diabetes, computing to a mortality rate of 28.9 per 100,000 (Table 71). This rate is slightly above the state rate.

Table 71. Diabetes Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	465	28.9	131	25.3	137	17.2	96	79.4	101	51
State Total	11,273	n/a	3,505	n/a	3,727	n/a	1,651	n/a	2,390	n/a
NC County Avg.	113	27.6	35	25.3	37	19.0	17	55.3	24	51.9

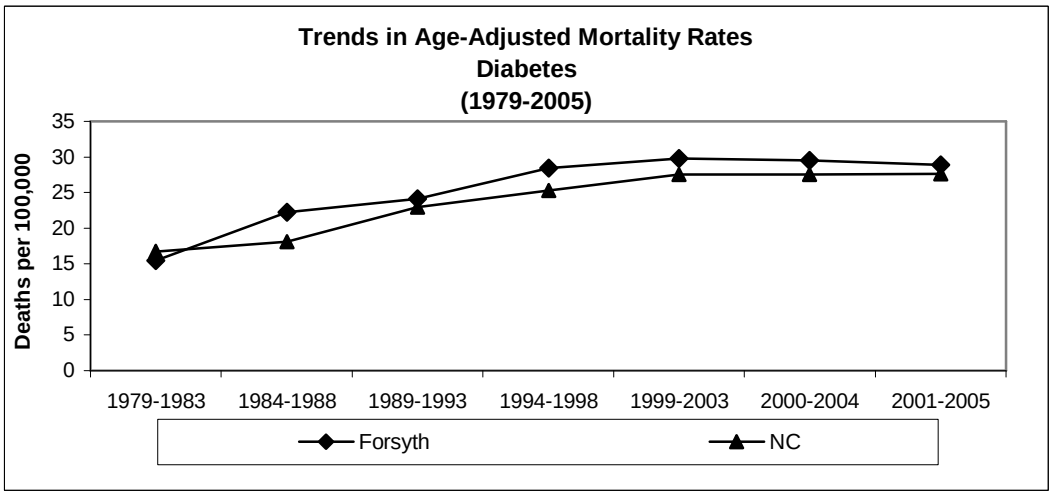
Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

The current Healthy Carolinians goal for diabetes related mortality is 67.4 per 100,000 population (58); the Forsyth County diabetes mortality rate is presently 57% lower than this goal.

In 2004, the national mortality rate was 24.5 per 100,000 (59). The Healthy People 2010 target for deaths due to diabetes is 45.0 per 100,000 (60); the rate in Forsyth County is currently 36% below the national target.

Since 1979, the county and state diabetes mortality rates all have increased steadily (Figure 36, following page).

Figure 36



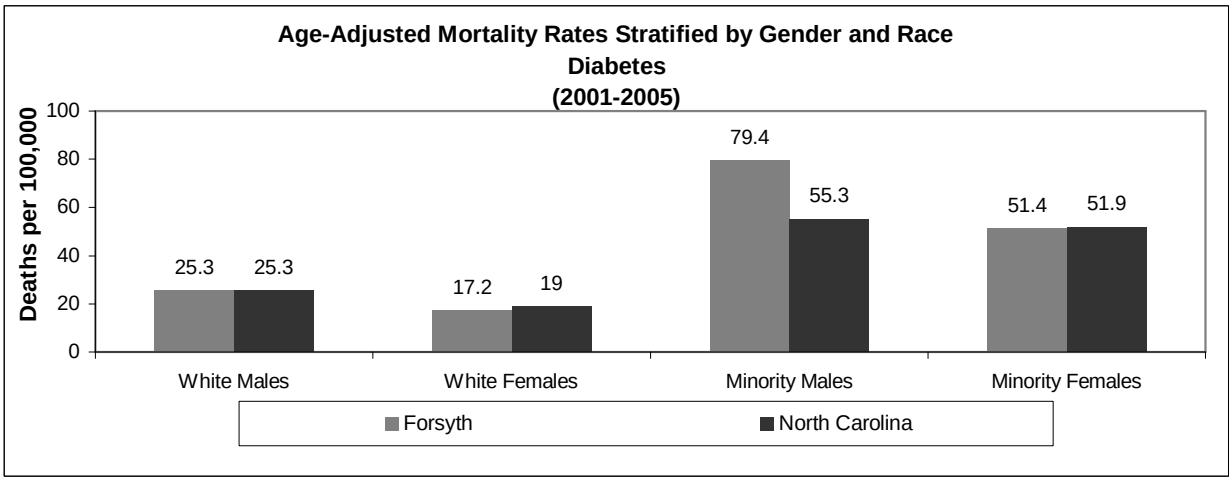
Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Diabetes Mortality

Figure 37 (following page) graphs the 2001-2005 age-adjusted mortality rates for diabetes that were presented in Table 71. From these data it appears that there is a pronounced racial disparity in diabetes mortality at the county and state level.

In Forsyth County, the diabetes mortality rate among minority males is more than three times higher than the rate among white males, and the mortality rate among minority females is almost three times higher than the rate among white females. At the state level, the diabetes mortality rate among minority males is twice the rate among white males, and the rate among minority females is almost three times the rate among white females.

Figure 37



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 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 (56).

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. Unintentional non-motor vehicle injuries are the seventh leading cause of death in Forsyth County (Table 58, cited previously). Unintentional injuries of all types are costly injuries and led to over $63 million in hospital charges for Forsyth County residents in 2005 (57).

Unintentional Non-Motor Vehicle Injury Mortality

Frin 2001 through 2005 there were 370 deaths in Forsyth County due to unintentional non-motor vehicle injury (e.g., boating accidents, falls, animal bites, drowning, choking, etc). The corresponding mortality rate was 23.3 per 100,000, a rate 10% lower than the state rate (Table 72).

Table 72. Unintentional Non-Motor Vehicle Injury Mortality (2000-2004)

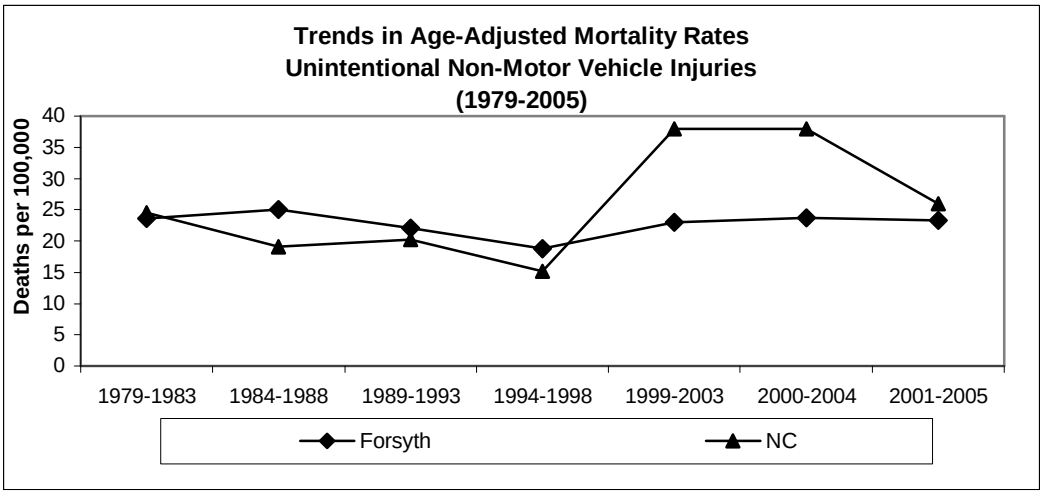
County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	370	23.3	156	30.8	134	17.8	43	30.2	37	17.1
State Total	10,670	n/a	5,144	n/a	3,651	n/a	1,193	n/a	682	n/a
NC County Avg.	107	26.0	51	35.8	37	19.6	12	30.5	7	13.6

Source NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Unintentional non-motor vehicle injuries are the fifth leading cause of death nationwide. The 2004 national mortality rate was 37.7 (59). The Healthy People 2010 goal is to reduce deaths due to unintentional injuries to no more than 17.5 per 100,000 (60), which is 25% lower than the current rate in Forsyth County.

Since 1979 Forsyth County mortality rates due to non-motor vehicle injuries have fluctuated slightly, while the rates for the state increased significantly between 1998 and 2003, and then began to decline (Figure 38, following page).

Figure 38



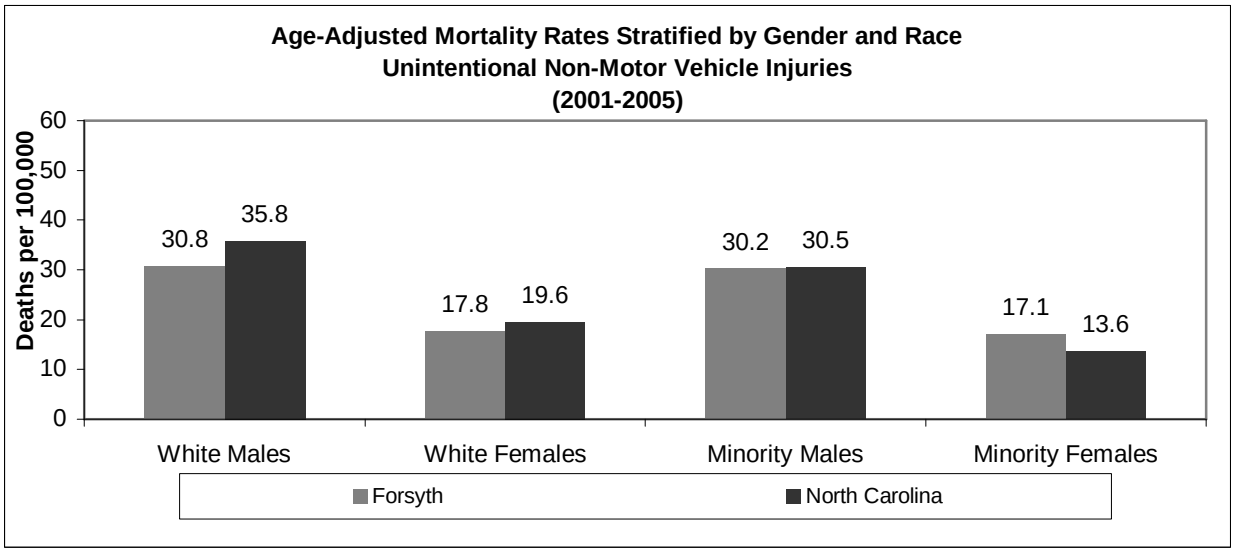
Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Unintentional Non-Motor Vehicle Injury Mortality

Figure 39 (following page) plots the data from Table 72 (cited previously).

Gender disparities in this category of mortality are strong. At the county level the mortality rates among white males was 73% higher than the rate among white females. At the state level, this rate was even greater (83% higher for white males). At the county level the unintentional non-motor vehicle injury mortality rates among minority males was 77% higher than the rate for minority females, while at the state level, the rate was even greater (124% higher among miniority males).

Figure 39



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

Septicemia

Septicemia is a rapidly progressing infection resulting from the presence of bacteria in the blood. The disease often arises from other infections throughout the body, such as meningitis, burns and wound infections. Septicemia can lead to septic shock wherein low blood pressure and low blood flow cause organ failure (56).

Septicemia was the tenth leading cause of death in Forsyth County for the period from 2001 through 2005 (Table 58, cited previously). Hospital charges associated with this treatment totaled over $21 million for county residents in 2005 (57). Septicemia is certainly not as well known a health condition as heart disease, for example, but it costs even more to treat. In 2005 the per-case hospital charge associated with heart disease in Forsyth County averaged $23,845; the comparable cost for a septicemia case was $42,264 (57).

The 2001-2005 mortality rate attributed to septicemia in Forsyth County was 14.7 per 100,000 (Table 73), a rate similar to the rate for the state as a whole.

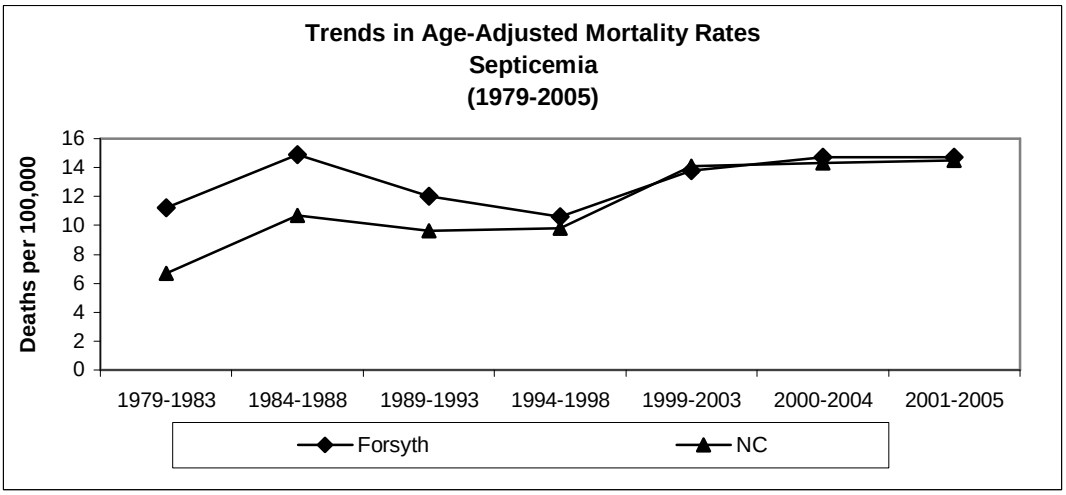
Table 73. Septicemia Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	236	14.7	72	14.4	89	11.2	28	26.2	47	23.4
State Total	5,829	n/a	1,756	n/a	2,401	n/a	740	n/a	932	n/a
NC County Avg.	58	14.5	18	13.5	24	12.1	7	26.3	9	19.8

Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Since 1979, the septicemia mortality rates for the county and state all have risen overall (Figure 40, following page).

Figure 40



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

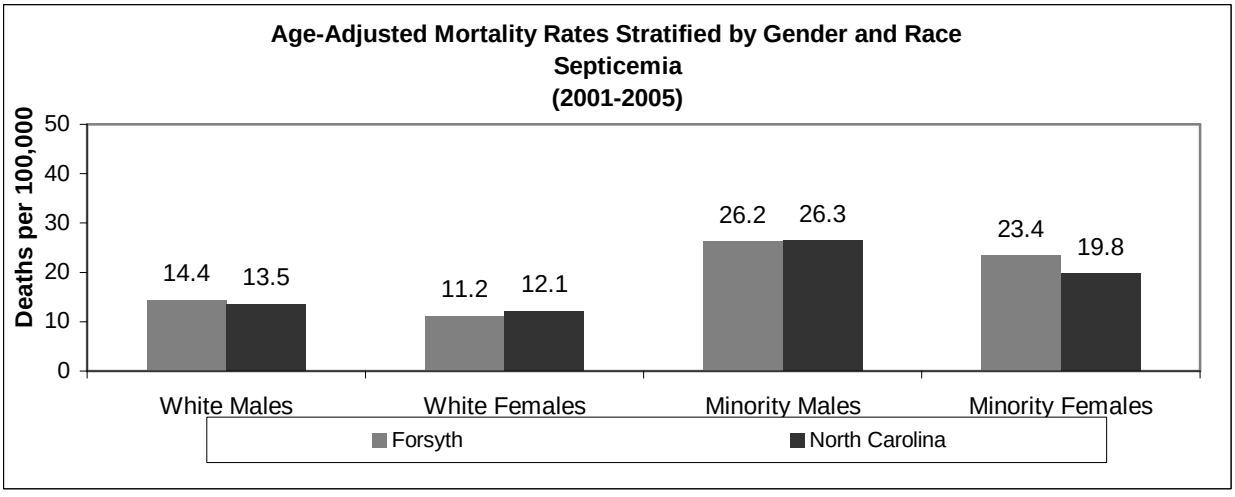
Gender and Racial Disparities in Septicemia Mortality

Figure 41 (following page) plots race-sex specific age-adjusted mortality rates for septicemia.

The county septicemia mortality rate among white males was 29% higher than the rate among white females, and the rate among minority males was 12% higher than the rate among minority females. The state rates were similar to the county rates.

At the county level, the speticimia mortality rate among minority males was 82% higher than the rate for white males, and the rate among minority females was 109% higher than the rate for white females.

Figure 41



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

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 eleventh leading cause of death in Forsyth County (Table 58, cited previously).

Unintentional Motor Vehicle Injury Mortality

From 2001 through 2005 there were 196 deaths due to motor vehicle injury in Forsyth County (Table 74). The mortality rate associated with these deaths was 12.4 per 100,000, which was 36% lower than the corresponding state rate.

Table 74. Unintentional Motor Vehicle Injury Mortality (2000-2004)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	196	12.4	112	20.6	52	8.1	22	12.6	10	4.3
State Total	8,188	n/a	4,187	n/a	1,971	n/a	1,434	n/a	596	n/a
NC County Avg.	82	19.3	42	26.7	20	12.1	14	30.1	6	10.8

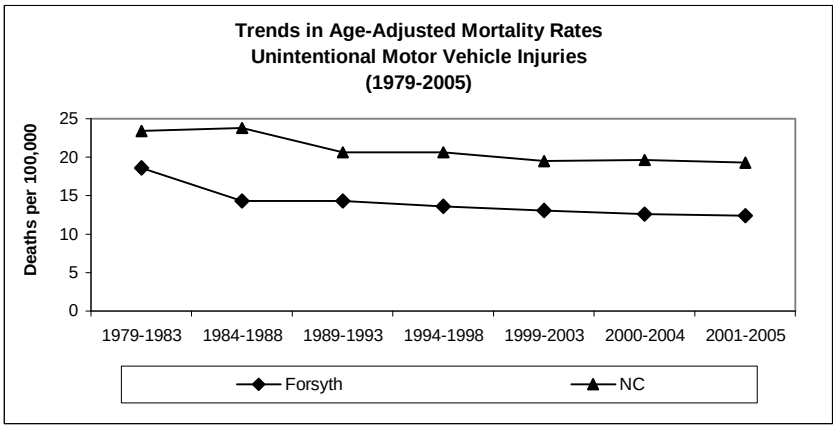
Source NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

The Healthy Carolinians 2010 goal for motor vehicle injury is a mortality rate of 15.8 per 100,000 (58). Forsyth County has already met this goal.

In 2004 in the United States, the mortality rate for motor vehicle crashes was 15.2 (59). The Healthy People 2010 goal is to reduce the overall motor vehicle accident mortality rate to 17.7 per 100,000 (60). Forsyth County has already met this national goal.

The motor vehicle injury mortality rate in Forsyth County decreased overall between 1979 and 2005, as did the rate for the state as a whole. The county rate was consistently below the state rates (Figure 42).

Figure 42



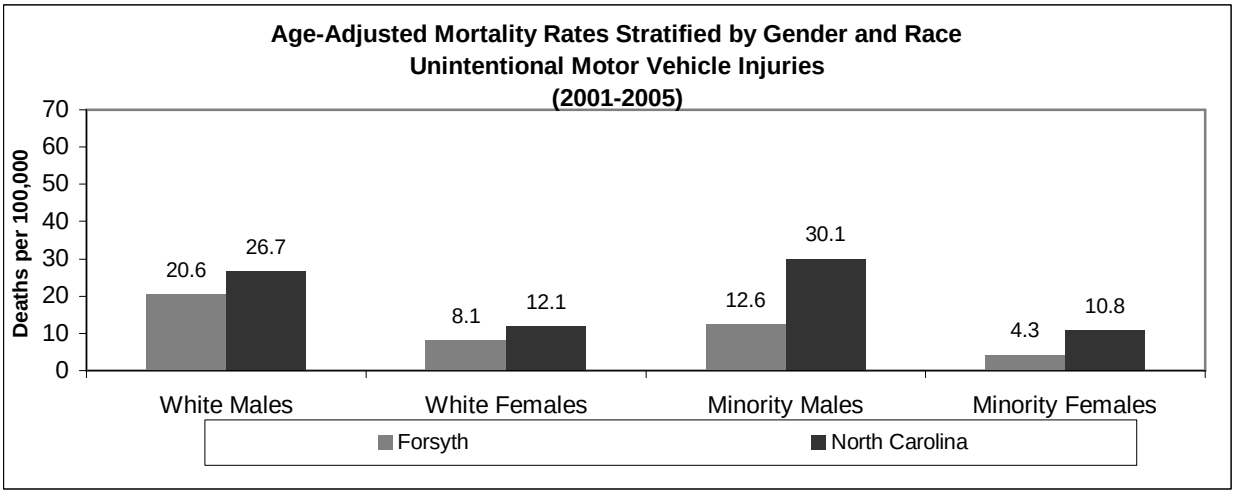
Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Unintentional Motor Vehicle Injury Mortality

Figure 43 (following page) plots the data presented previously in Table 74.

In Forsyth County the motor vehicle injury mortality rate for white males was over twice the rate for white females. The same was true at the state level. At the county and state level, the motor vehicle injury mortality rate among minority males was almost three times as high as the rate among minority females.

Figure 43



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

According to the NC Highway Research Center, in 2005 there were 8,634 motor vehicle accidents in Forsyth County, resulting in 4,352 nonfatal injuries and 32 fatalities (Table 75).

Table 75. Motor Vehicle Injuries, 2005

County	Crashes			Number of Injuries				Alcohol Related Injuries			DWI Convictions		
	Total Number	Number Alcohol Related	Percent of Crashed Alcohol Related	Non-Fatal	Fatal	Alcohol Related Non-Fatal	Alcohol Related Fatal	Percent of Total Injuries	Percent of Non-Fatal Injuries	Percent of Fatal Injuries	No. DWI Charges	No. DWI Convictions	% DWI Convictions
Forsyth	8,634	410	4.8	4,357	32	283	8	6.6	6.5	25.0	1911	1339	70.1
State Total	222,298	11,359	n/a	123,793	1,546	9,296	417	n/a	n/a	n/a	61,324	37,925	61.8
NC County Avg.	2,223	114	5.1	1,238	15	93	4	7.8	7.5	27.0	613	379	0.6

Source: Highway Safety Research Center, NC Alcohol Facts, http://www.hsrc.unc.edu/ncaf

Frequently, motor vehicle crashes are associated with alcohol consumption. In 2005, 4.8% of Forsyth County motor vehicle crashes were associated with alcohol, a figure slightly lower than the state average 5.1% (Table 75). Alcohol was involved in 6.5% of all *nonfatal* motor vehicle accident injuries in the county and 25% of the *fatal* injuries. In the state as a whole, 7.5% of all *nonfatal* motor vehicle accident injuries and 27% of all *fatal* motor vehicle accident injuries were alcohol-related.

Motor Vehicle Injury Fatalities among Children

According to data catalogued by the Annie E.Casey Foundation Kids Count Program (62) there were sixteen motor vehicle fatalities in Forsyth County among children from ages 0 to 17 in 2003, the most recent year for which data were reported.

Nephritis, Nephrosis and Nephrotic Syndrome

Nephritis, nephrosis and nephrotic syndrome are renal (kidney) disorders. Nephritis is any inflammation of the kidneys, while nephrotic syndrome (also known as nephrosis) is a kidney disease resulting from damage to the blood vessels that filter waste from the blood. These conditions can result from infections, drug exposure, malignancy, hereditary disorders, immune disorders, or diseases that affect multiple body systems (e.g., diabetes and lupus) (56). This complex of kidney disorders represented the eighth leading cause of death in Forsyth County for the period from 2001 through 2005 (Table 58, cited previously), and cost county residents over $9.2 million in hospital charges in 2005 (57).

Kidney Disease Mortality

From 2001 through 2005 a total of 291 deaths in Forsyth County were attributed to kidney diseases, yielding a mortality rate for the period of 18.2 per 100,000 (Table 76), 2% higher than the rate for the state as a whole (17.9).

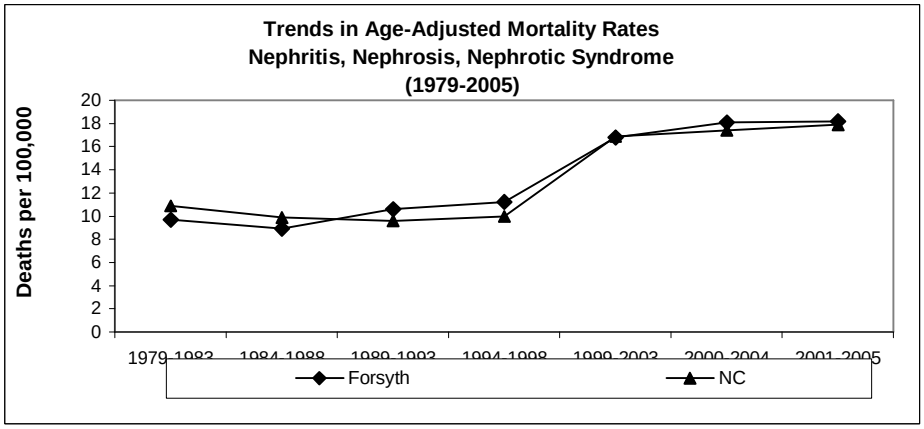
Table 76. Nephritis, Nephrosis and Nephrotic Syndrome Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	291	18.2	83	17.9	95	11.2	48	40.7	65	33.1
State Total	7,161	n/a	2,187	n/a	2,481	n/a	1,050	n/a	1,443	n/a
NC County Avg.	72	17.9	22	17.5	25	12.2	11	38.0	14	31.3

Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Since 1979 the mortality rate due to kidney disease increased overall in the county and in the state (Figure 44, following page). Note that a dramatic increase in the mortality rates on both levels occurred after 1998. Some portion of those increases may be an artifact due to the conversion from ICD-9 to ICD-10 coding protocols. Kidney disease is one condition for which the ICD coding change makes a considerable difference (see discussion at the beginning of this chapter). If the 1999-2003, 2000-2004, and 2001-2005 data points (ICD-10 coding) were converted to ICD-9 coding to match previous data points the recent apparent increase would not be as great.

Figure 44



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

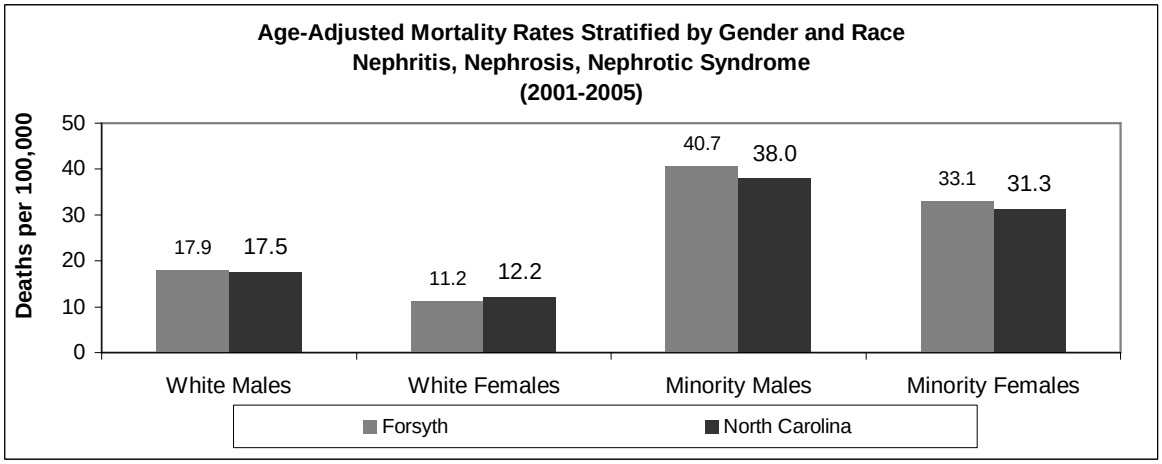
Gender and Racial Disparities in Kidney Disease Mortality

Figure 45 (following page) shows race-sex specific age-adjusted rates for nephritis, nephrosis, and nephrotic syndrome.

At the county and state level the rate of kidney disease mortality among minority men was over twice the rate for white men. The rates among minority females also were over twice as high as the rate for white women in both the county and the state.

Kidney disease mortality rates for white males was 60% higher than the rate for white females. At the state level, this rate difference was lower, and the rate was 43% higher among white males. Minority males had a 23% higher kidney disease mortality rate than minority females. At the state level the difference was similar and minority males had a rate 21% higher than minority females.

Figure 45



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

Alzheimer's Disease

Alzheimer's disease is a progressive neurodegenerative disease affecting mental abilities including memory, cognition and language. Alzheimer's disease is characterized by memory loss and dementia. The risk of developing Alzheimer's disease increases with age (e.g., almost half of those 85 years and older suffer from Alzheimer's disease). Early-onset Alzheimer's has been shown to be genetic in origin, but a relationship between genetics and the late-onset form of the disease has not been demonstrated. No other definitive causes have been identified (56).

Alzheimer's Disease Mortality

Alzheimer's disease data has been recorded only in recent years, so long-term trend data is not yet available. According to data aggregated for 2001 through 2005, there were 583 deaths attributable to Alzheimer's disease in Forsyth County where it was the fifth leading cause of death (Table 58, cited previously). The mortality rate in Forsyth County (36.7) was 35% higher than the comparable state rate (27.1) (Table 77).

Table 77. Alzheimer's Disease Mortality (2001-2005)

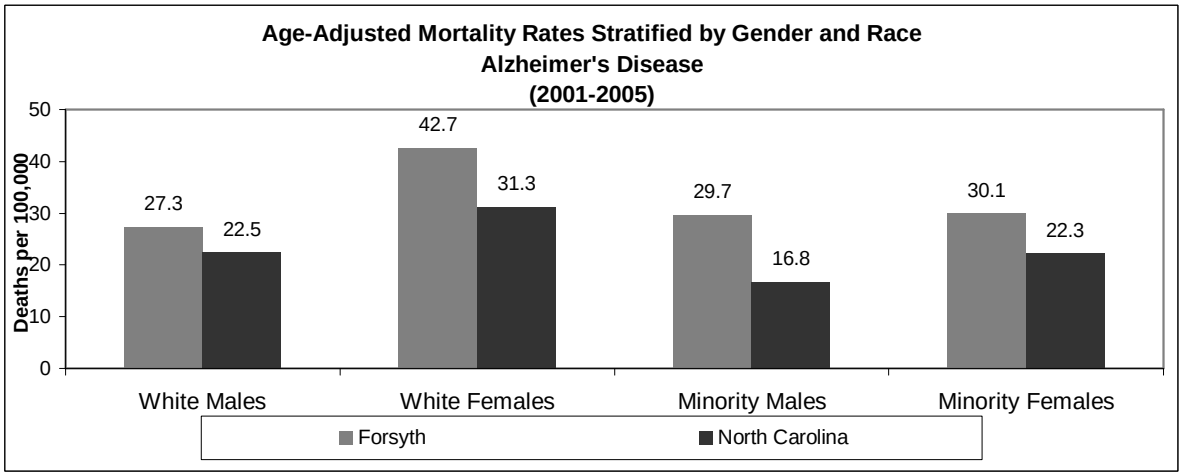
County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	583	36.7	112	27.3	386	42.7	26	29.7	59	30.1
State Total	10,486	n/a	2,445	n/a	6,657	n/a	349	n/a	1,035	n/a
NC County Avg.	105	27.1	24	22.5	67	31.1	3	16.8	10	22.3

Source NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Gender and Racial Disparities in Alzheimer's Disease Mortality

From data plotted in Figure 46 it appears that on the county level the Alzheimer's disease mortality rates among minorities were similar and that gender differences were more distinct between whites. White females had a 56% higher mortality rate for Alzheimer's disease than white males. At the state level, this difference was smaller, and white females had a 39% higher mortality rate than white males.

Figure 46



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

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 (56).

Chronic Liver Disease Mortality

From 2001 through 2005 130 people died of chronic liver disease/cirrhosis in Forsyth County, making it the thirteenth leading cause of death (Table 58, cited previously). The corresponding county mortality rate, 7.9 per 100,000, was 10% lower than the statewide mortality rate (Table 78).

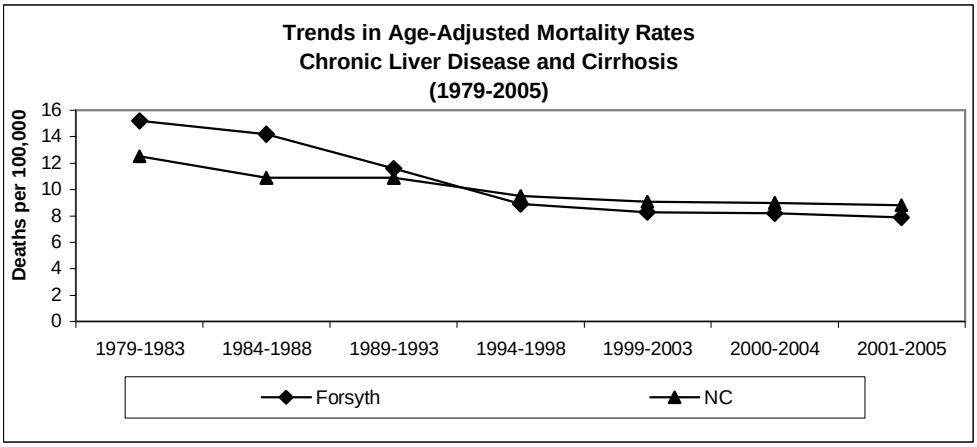
Table 78. Chronic Liver Disease and Cirrhosis Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	130	7.9	63	11.1	35	4.9	20	12.9	12	5.6
State Total	3,764	n/a	1,943	n/a	1,035	n/a	531	n/a	255	n/a
NC County Avg.	38	8.8	19	12.4	10	5.6	5	13.3	3	5.1

Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Since 1979, the chronic liver disease/cirrhosis mortality rates have declined overall in the county and state (Figure 47, following page).

Figure 47

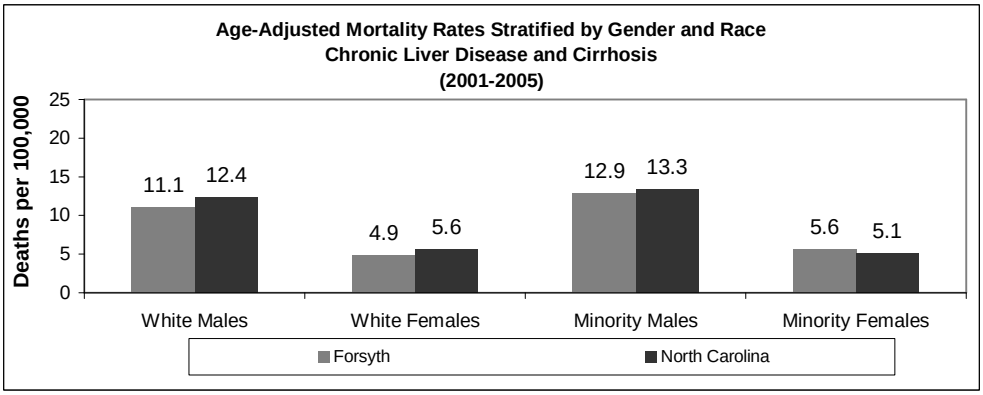


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Chronic Liver Disease Mortality

While racial disparities exist for chronic liver disease/cirrhosis mortality, the differences are even greater for gender disparities at both the county and state levels. At both the county and state level, the chronic liver disease mortality rates for white and minority males are very similar and in both cases at least twice the rate for their female counterparts, which are themselves very similar (Figure 48, following page).

Figure 48



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

Suicide

From 2001 through 2005, there were 169 deaths due to suicide in Forsyth County, making it the twelfth leading cause of death in the county (Table 58, cited previously). Over this period the suicide mortality rate in Forsyth County was 10.4 per 100,000, 10% below the the statewide suicide rate (Table 79).

Table 79. Suicide Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	169	10.4	105	18.3	33	5.4	27	17.5	4	1.5
State Total	4,919	n/a	3,403	n/a	943	n/a	468	n/a	105	n/a
NC County Avg.	49	11.6	34	21.7	9	5.8	5	9.7	1	1.9

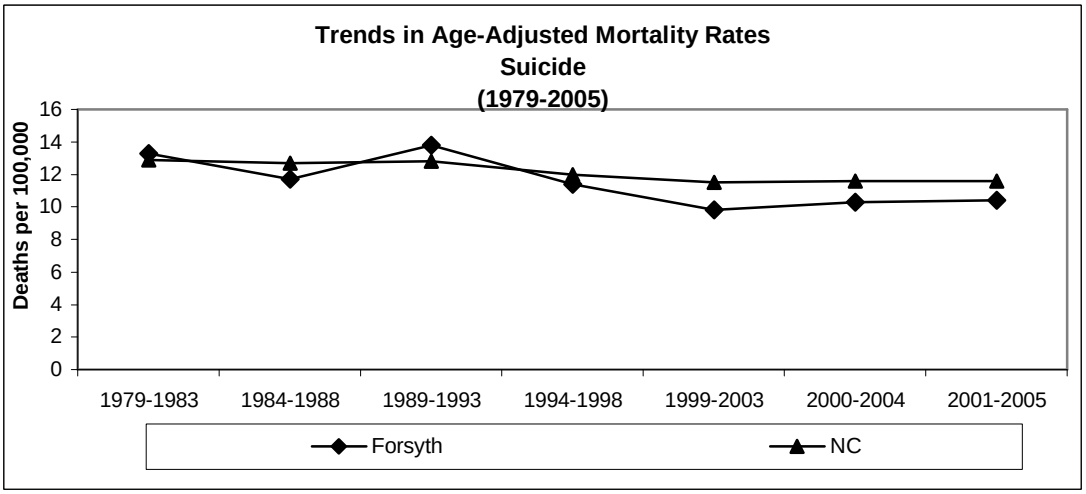
Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

The Healthy Carolinian's goal for suicide is 8.0 per 100,000 (58), a figure Forsyth County exceeds by 30%.

Nationally, the mortality rate due to suicide is 10.9 per 100,000 (59), 5% higher than the current Forsyth County rate. The Healthy People 2010 goal is 5.0 deaths due to suicide per 100,000 (60). The current Forsyth County suicide rate exceeds the national goal by 108%.

Suicide mortality rates in both Forsyth County and in the state have declined slightly overall since 1979, with the change more pronounced at the county level (Figure 49, following page).

Figure 49



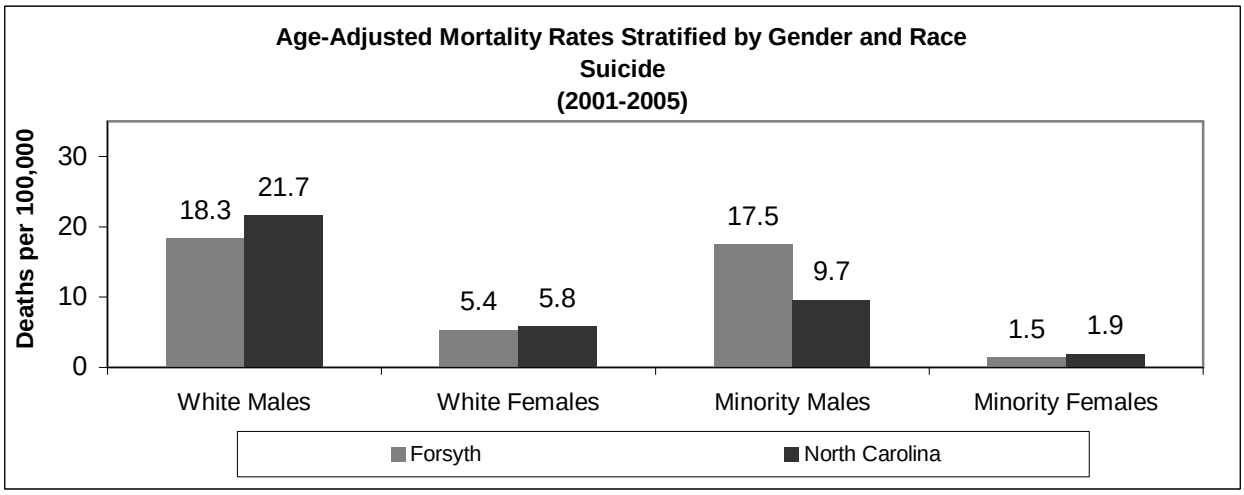
Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Suicide Mortality

At the county level, suicide mortality rates among white males was over three times the rate for white females. At the state level, the mortality rate among white males was almost four times the rate among white females. The state suicide mortality rate among minority males was five times the rate among minority females, while in the county, the rate among minority males was almost twelve times the rate among minority females.

The county suicide mortality rate difference between white and minority males was small (5%) but at the state level, mortality rates were twice as high among white men. At both the county and state levels, the suicide mortality rate among white females was over three times higher than the rate for minority females (Figure 50, following page).

Figure 50



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

Homicide

Homicide was the fourteenth leading cause of death in Forsyth County for the period 2001-2005 (Table 58, cited previously) and was responsible for 113 deaths in that five-year aggregate, with a resultant mortality rate of 7.1 per 100,000 (Table 80). The county homicide rate for the period was almost the same as the state rate.

Table 80. Homicide Mortality (2001-2005)

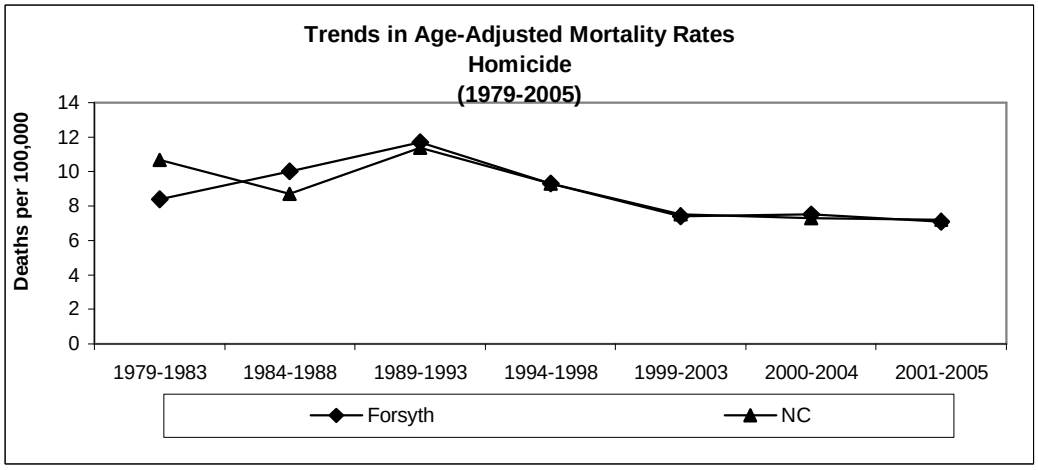
County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	113	7.1	43	7.7	14	2.5	44	22	12	5.1
State Total	3,080	n/a	1,009	n/a	412	n/a	1,356	n/a	303	n/a
NC County Avg.	31	7.2	10	6.2	4	2.6	14	25.8	3	5.3

Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

The Healthy Carolinians 2010 homicide rate goal is 5.0 per 100,000 (58); Forsyth County currently exceeds this goal by 42%. The Healthy People 2010 goal is to reduce the overall homicide rate to no more than 3.0 deaths per 100,000 (60). Forsyth County must reduce its homicide rate by 58% to meet the national goal.

Homicide rates in Forsyth County and North Carolina have decreased overall since 1979 (Figure 51, following page).

Figure 51

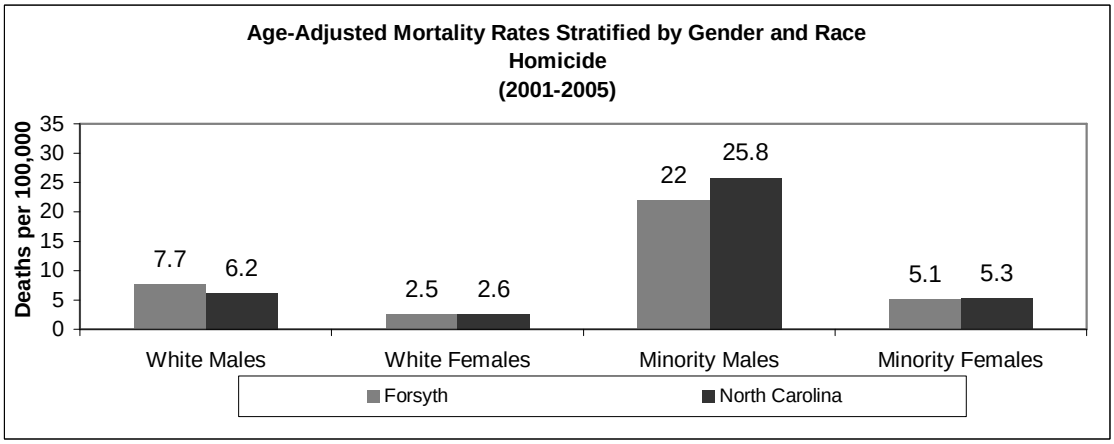


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in Homicide Mortality

During the 2001-2005 period, the rates of homicide related deaths in Forsyth County in each gender and racial group were similar to the rates in North Carolina. At the county level, the homocide rate among minority males was almost three times the comparable rates among white males; almost nine times higher than the rate among white females; and over four times the rate for minority females. The state rates followed a similar pattern, but the differences were even higher for minority males (Figure 52, following page).

Figure 52



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

Communicable Disease

Health professionals are required to report cases of certain communicable diseases to the North Carolina Department of Health and Human Services through their local health department. Tables 81 and 82 present Forsyth County and North Carolina average data for several important infectious diseases subject to this requirement. *Food-, water- and vector-borne communicable diseases are discussed in Volume II (Environmental Data) of this assessment.*

Reportable Communicable Diseases

In 2005 the incidence rates in Forsyth County remained fairly low, except there were 53 reported cases of Hepatitis B (Table 81).

Table 81. Communicable Disease Incidence (2005)

County	Hepatitis A Cases	Hepatitis B Cases	Hepatitis C Cases	Tuberculosis Cases	Whooping Cough Cases	H Flu Cases	Measles Cases	Men DIS Cases	Men Pneu Cases	Mumps Cases	Rubella Cases	Strep A Cases	VRE Cases
Forsyth	3	53	1	13	3	3	0	5	0	0	0	6	3
State Total	84	1,016	21	329	127	74	0	32	32	13	0	124	12

Source: Epidemiology: Communicable Disese Control, http://www.epi.state.nc.us/epi/gcdc/pdf/CDbyDiseasebyYear2000-2005.pdf

H Flu = Haemophilus Influenzae	An infection of the membranes covering the brain and spinal cord (meninges) caused by H. influenzae bacteria.
Men Dis = Meningococcal Invasive Disease	An infection of the tissue which covers the brain caused by the bacterium Neisseria meningitidis.
Men Pneu = Pneumoccoccal Meningitis	An inflammation or infection of the membranes covering the brain and spinal cord caused by Streptococcus pneumoniae
Strep A = Group A Streptococcus	A bacterium often found in the throat and on the skin. Most GAS infections are relatively mild illnesses such as "strep throat," or impetigo.
VRE = Vancomycin Resistant Enteroccoccus	Enterococci are bacteria that are naturally present in the intestinal tract. Vancomycin is an antibiotic to which some strains of enterococci have become resistant. These resistant strains are referred to as VRE.

Sexually Transmitted Diseases

Table 82 (following page) lists incidence rates for gonorrhea and syphilis in Forsyth County for the time period 2001-2005.

Table 82. Gonorrhea and Syphilis Incidence, Cases per 100,000 (years as noted)

	Gonorrhea, 2001-2005				I^{o} & II^{o} Syphilis, 2001-2005			
	Total		Minority		Total		Minority	
County	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	3,781	237.7	3,045	677.0	29	1.8	19	4.2
State Total	77,371	n/a	63,939	n/a	1,340	n/a	987	n/a
NC County Avg.	774	183.5	639	600.1	13	3.2	10	9.3

Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

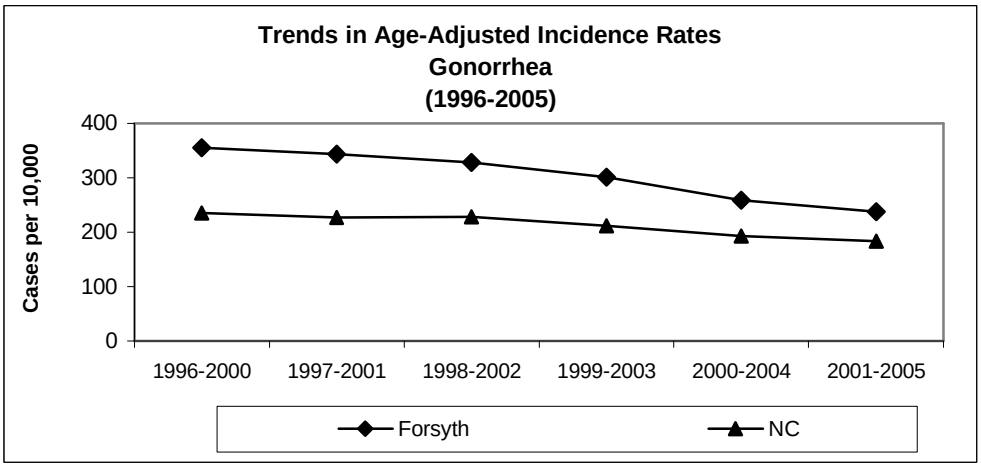
Gonorrhea

According to Table 82, the 2001-2005 Forsyth County incidence rate for gonorrhea (237.7) was 30% higher than the state rate. The Healthy Carolinians 2010 goal for gonorrhea is 191 cases per 100,000 (58). The Healthy People 2010 target is approximately 19 cases per 100,000 (60). Gonorrhea incidence in Forsyth County is well above both goals.

The minority population in Forsyth County and the state as a whole, is disproportionately burdened by gonorrhea. The 2001-2005 incidence rate for gonorrhea among minority Forsyth County residents was nearly three times higher than the overall Forsyth County gonorrhea incidence rate. Likewise, at the state level the minority rate was over three times the overall rate.

Figure 53 shows the most recently published trend data for gonorrhea, indicating that since 1996 the incidence of gonorrhea has decreased overall in Forsyth County and in the state as a whole.

Figure 53



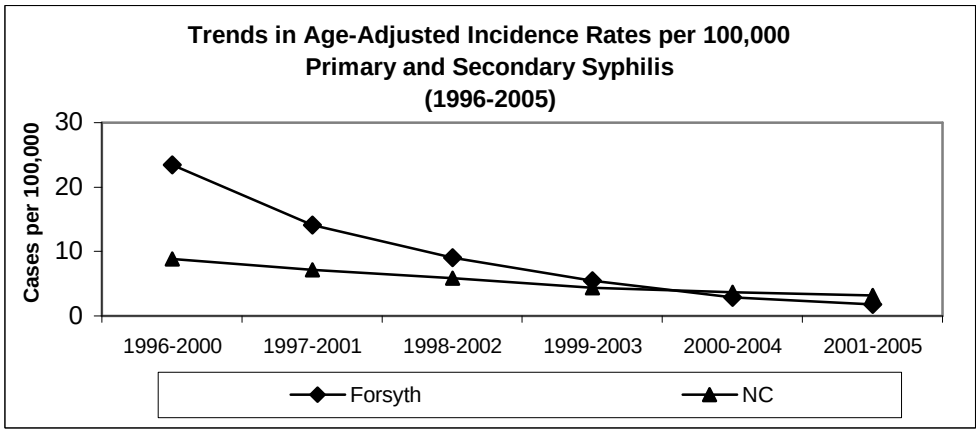
NC State Center for Health Statistics, County-level Data. County Health Data Books. 2002-2007 County Health Data Books. Morbidity. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Syphilis

Primary and secondary syphilis are the communicable stages of the disease and as such are the cases that are reported. Twenty-nine new cases of syphilis were reported in Forsyth County for the period 2001-2005, for a local overall incidence rate of 1.8. Statewide, the incidence rate was 3.2 cases per 100,000 (Table 82, cited previously). The calculated county syphilis rate is significantly above both the Healthy Carolinians goal of approximately 0.3 cases per 100,000 (58) and the Healthy People 2010 target of 0.2 cases per 100,000 (60).

Aggregate data show that the syphilis incidence rates in Forsyth County and the state all have fallen since 1996 (Figure 54, following page).

Figure 54

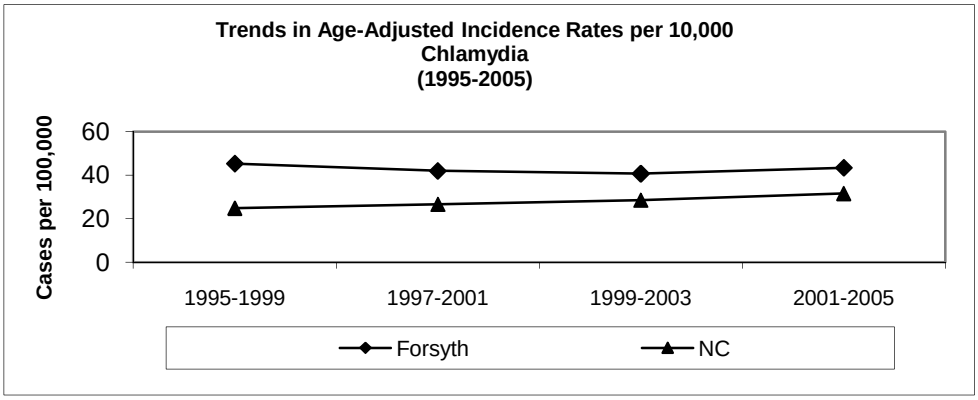


NC State Center for Health Statistics, County-level Data. County Health Data Books. 2002-2007 County Health Data Books. Morbidity. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Chlamydia

Chlamydia incidence rates are reported based on cases per 10,000 people. The 2001-2005 incidence rate for Chlamydia in Forsyth County was 43.3 per 10,000. This rate is 37% higher than the state rate of 31.5. Figure 55 (following page) shows the most recently published trend data for Chlamydia, indicating that since 1995 the incidence of Chlamydia has slightly decreased overall in Forsyth County, while the rate steadily increased in the state as a whole

Figure 55



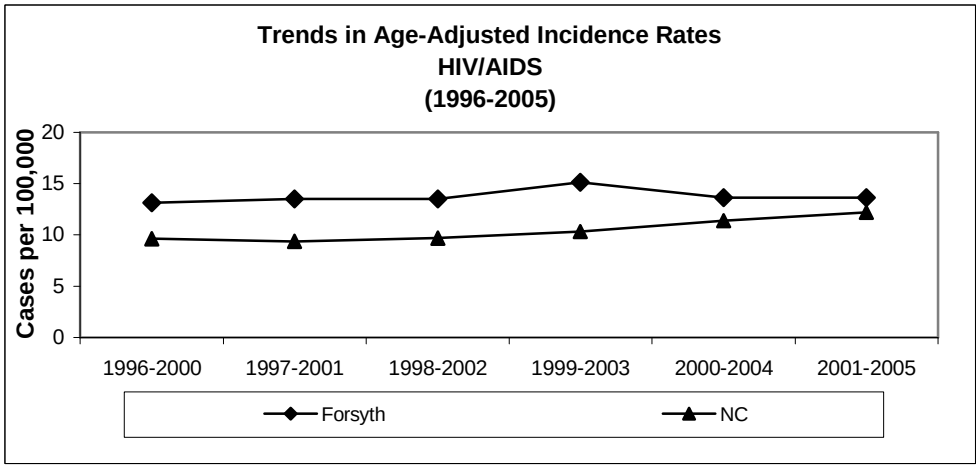
NC State Center for Health Statistics, County-level Data. County Health Pocket Guides. 1999-2005. Morbidity. http://www.schs.state.nc.us/SCHS/healthstats/databook/

HIV/AIDS

HIV/AIDS Incidence

The 2001-2005 HIV incidence rate in Forsyth County was approximately 13.6 cases per 100,000. Between 1996 and 2005, the incidence of HIV/AIDS in the state has increased slightly overall, while the county rate has remained stable (Figure 55, following page). The county's current incidence rate is below the target rate of approximately 1.5 new cases per *10,000* set by Healthy Carolinians (58).

Figure 55



NC State Center for Health Statistics, County-level Data. County Health Data Books. 2002-2007County Health Data Books. Morbidity. http://www.schs.state.nc.us/SCHS/healthstats/databook/

HIV/AIDS Mortality

As presented in Table 83, 113 deaths in Forsyth County were attributable to HIV/AIDS during the period 2001-2005. The resulting HIV/AIDS mortality rate in Forsyth County was 35% higher than the state rate.

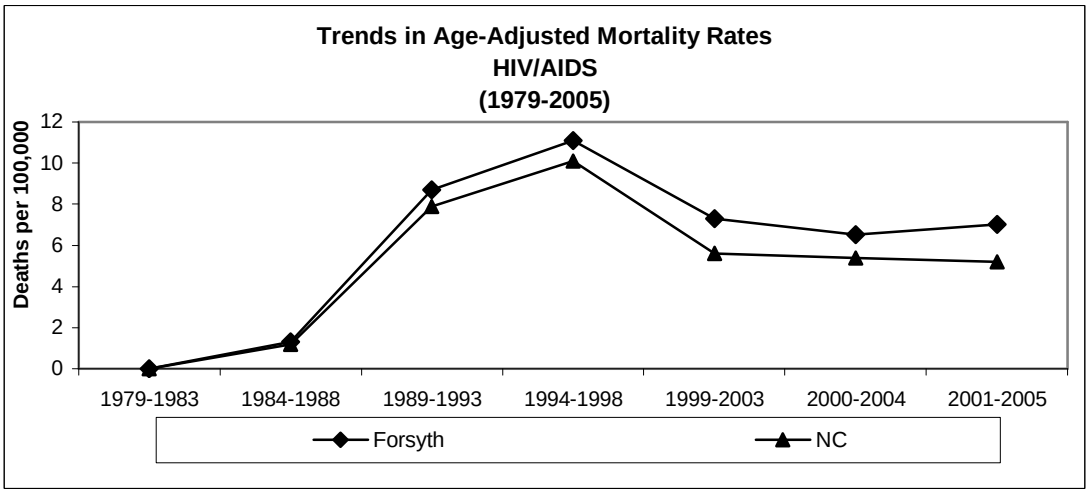
Table 83. HIV/AIDS Mortality (2001-2005)

County	Overall Rate		White Males		White Females		Minority Males		Minority Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Forsyth	113	7.0	10	1.7	2	0.4	61	31.4	40	16.9
State Total	2,217	n/a	390	n/a	72	n/a	1,161	n/a	594	n/a
NC County Avg.	22	5.2	4	2.4	1	0.5	12	25.0	6	10.9

Source NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

As plotted in Figure 56, the county and statewide HIV/AIDS mortality rates rose dramatically between the discovery of the disease in the early 1980s then fell, coincident with the introduction of life-prolonging therapies.

Figure 56

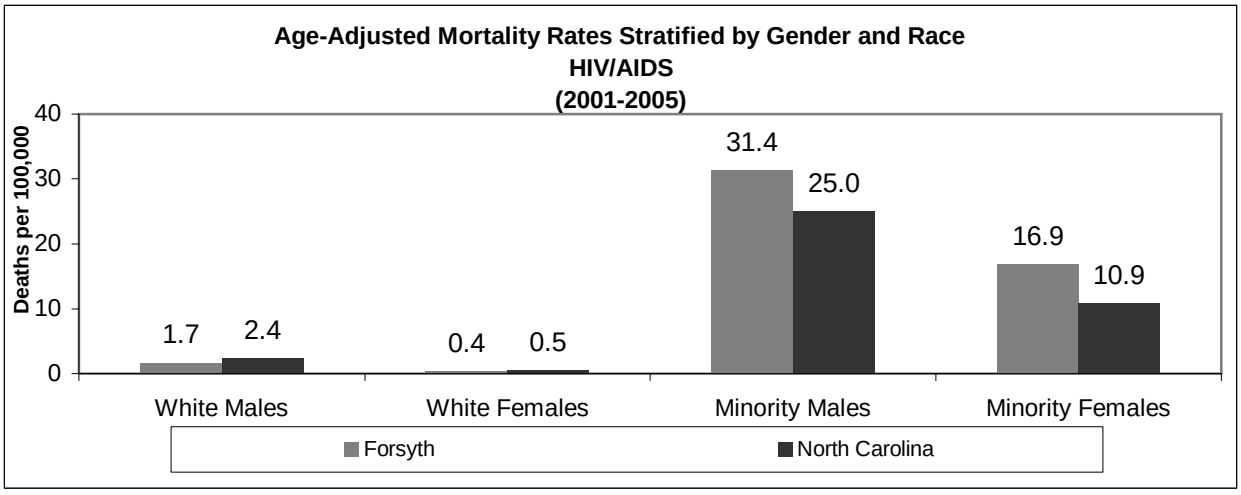


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm

Gender and Racial Disparities in HIV/AIDS Mortality

The HIV/AIDS mortality rates among whites remained low, while minority males are disproportionately affected by HIV/AIDS in Forsyth County and the state as a whole, with a mortality rate of 31.4 per 100,000 and 25.0 per 100,000 respectively (Figure 57, following page). The HIV/AIDS mortality rates among minority females at both the county and state level were also much higher than the rate among white males and females.

Figure 57



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2007 County Health Data Book. Mortality. 2001-2005 Race-Sex Specific Age-Adjusted Rates by County. http://www.schs.state.nc.us/SCHS/data/databook.

Oral Health

Child Oral Health

The Oral Health Section of the 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 84 presents the results of the 2005-2006 screenings in Forsyth County and in North Carolina.

Compared to North Carolina county averages in 2005-2006 (Table 84):

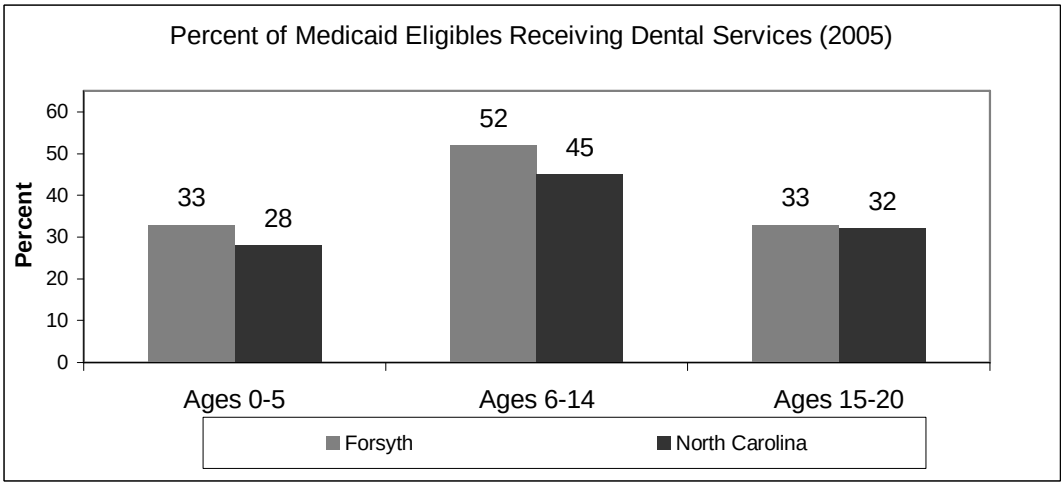
- A higher proportion of kindergarteners and fifth graders were screened in Forsyth County.
- Forsyth County kindergarteners had a similar percentage of untreated decay, and by small margins, a higher average number of decayed, missing and filled teeth per child (DMFT) and a similar average number of decayed teeth (DT) per child.
- Forsyth County fifth graders had the same prevelance of untreated decay, a higher percentage of children with sealants, a higher average number of decayed, missing and filled teeth per child (DMFT), and the same percentage of decayed teeth (DT) per child, when comparted to the state.

Table 84. Child Oral Health Screening Results (2005-2006)

	Percent Children Screened		Percent of Children w/ Untreated Tooth Decay		Children with Sealants	Average DMFT/Child		Average DT/Child	
County	Kindergarten	5th Grade	Kindergarten	5th Grade	5th Grade	Kindergarten	5th Grade	Kindergarten	5th Grade
Forsyth	93.0	91.0	21.0	5.0	56	2.2	0.7	0.6	0.08
NC County Avg.	82.0	76.0	21.0	5.0	44	1.7	0.5	0.6	0.08
Source	School Level Oral Health Status Data, 2005-2006, NC Division of Public Health, Oral Health Section								

Compared to North Carolina averages, a higher percentage of Forsyth County eligible youth of all ages received dental services in 2005 (Figure 58).

Figure 58



Source: Annie E. Casey Foundation, Community Level Data, 2005 Percentage of XIX eligibles receiveing dental services. http://kidscount.org/cgi-bin/cliks.cgi?action=rawdata_results&subset=NC

Adult Oral Health

Forsyth 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 Forsyth County sample. Results for 2006 include:

- 65% of adults in the Forsyth County (compared to 65.2% statewide) reported that they had visited a dentist within the last 12 months.
- 52.8% of the Forsyth County respondents compared to 51.6% statewide report that they had lost no teeth due to decay.

Oral health questions were a part of the Forsyth County Community Health Survey conducted as a part of the Forsyth County Community Health Assessment. Those results are presented in Chapter Three of this report.

Mental Health and Substance Abuse

Table 85 presents data on utilization of mental health, developmental disability and substance abuse services (MH/DD/SAS) by Forsyth County residents.

- The number of Forsyth County residents served by state developmental centers decreased between 2003 and 2006.
- The number of people served in alcohol and drug abuse treatement centers as well as the number of people served in state psychiatric hospitals increased in Forsyth County, increased over the same period.
- The number of Forsyth County residents served by MH/DD/SAS management entity/area programs has decreased 26% overall since FY2002-03. Note that this decrease does not necessarily indicate a reduced need for mental health services but rather may reflect the degree to which patients can access services.

Table 85. Mental Health, Developmental Disability, Substance Abuse Service Utilization (years as noted)

	Persons Served												
	Developmental Centers			Alcohol and Drug Abuse Treatment Centers			State Psychiatric Hospitals			Area Programs			
County	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006	2002-2003	2003-2004	2004-2005	2005-2006
Forsyth	94	90	84	84	144	202	733	822	901	15,911	21,151	12,544	11,760
State Total	2,189	2,172	1,690	3,656	3732	4003	16,987	18,435	18,292	316,904	334,856	336676	322397
NC County Avg.			17	37	37	40	170	184	183	3,169	3,349	3366.76	3223.97

Source NC DHHS, Division of Mental Health, Publications, Statistical Reports. http://www.ncdhhs.gov/mhddsas/statspublications/reports/index.htm

Obesity

Adult Obesity

Based on several separate questions pertaining to weight the 2006 Behavioral Risk Factor Surveillance System (BRFSS) Survey estimated the proportion of respondents in each of four weight categories: underweight, recommended weight, overweight and obese. These derived figures were based on the ***Body Mass Index (BMI)*** of respondents. BMI is a calculation relting weight to height by the following formula:

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

By definition, for adults, Underweight=BMI less than 18.5, Recommended Range= BMI 18.5-24.9, Overweight=BMI 25.0-29.9, and Obese=BMI 30.0 or greater.

As noted previously, Forsyth County residents are part of a Forsyth County BRFSS survey. Of the 394 survey participants whose responses were included in the 2006 obesity results, 57.5% were considered overweight or obese (compared to 62.8% of respondents statewide). In 2005, 429 responses were included in the obesity analysis; at that time 59.2% were catagorized as overweight or obese (compared to 62.6% of respondents statewide).

Childhood Obesity

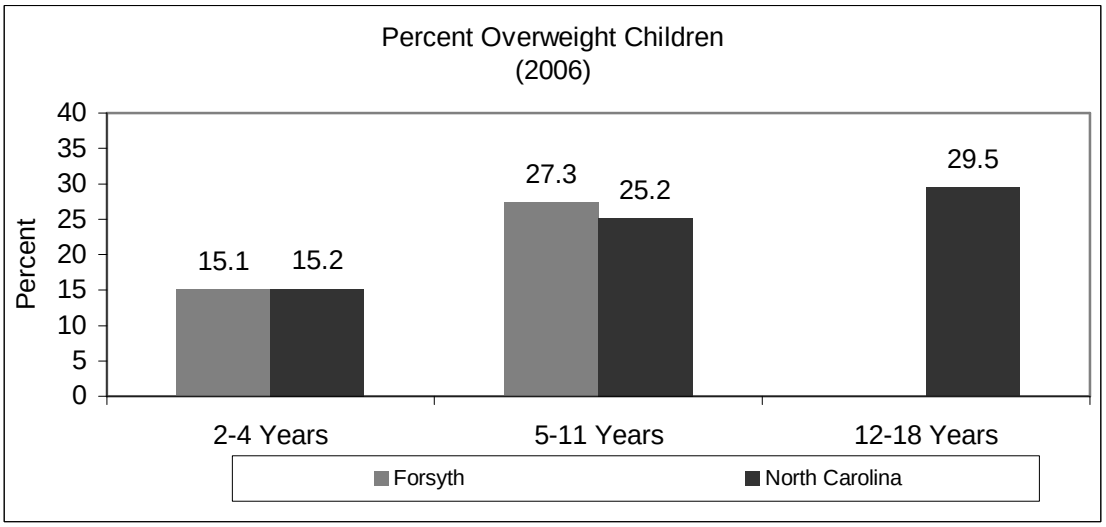
The North Carolina Healthy Weight Initiative, using the North Carolina Nutrition and Physical Activity Surveillance System (NC-NPASS), collects height and weight measurements from children seen in North Carolina Division of Public Health-sponsored WIC and Child Health Clinics, as well as some school-based Health Centers (63). This data is used to calculate Body Mass Indices (BMI) in order to gain some insight into the prevalence of childhood obesity.

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 Forsyth County sample was composed of 3,624 2-4 year-olds, and 11 5-11 year-olds. Note that *no data was submitted in 2004, 2005 or 2006 for 12-18 year-olds in Forsyth County* (63). Across the nation, 17-19% of children aged 6-11 and 12-19 are considered overweight or obese (59).

According to NC-NPASS data for children who are overweight (Figure 59):

- Forsyth County has a similar percentage of overweight 2-4 year-olds as the state as a whole.
- Forsyth County has a slightly higher percentage of 5-11 year-olds who are overweight than the state as a whole.

Figure 59

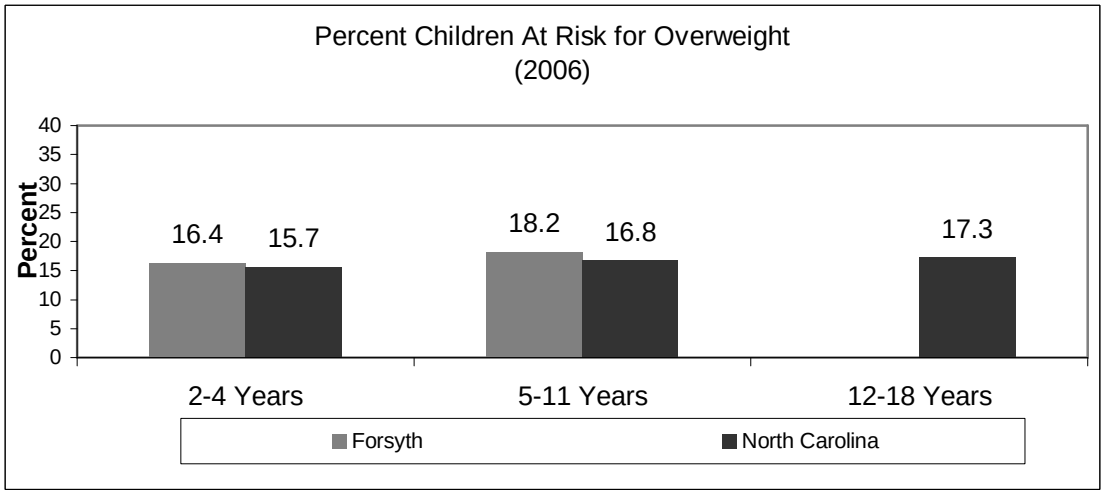


North Carolina Healthy Weight Initiative. Eat Smart Move More. Data. NC NPASS. http://www.eatsmartmovemorenc.com/.

According to NC-NPASS data for children who are *at risk* of becoming overweight (Figure 60, following page):

- Forsyth County has a slightly higher proportion of 2-4 year-olds at risk than the state as a whole.
- Forsyth County has a slightly higher proportion of 5-11 year-olds at risk than the state as a whole.

Figure 60



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

Asthma

One way the burden of asthma in a community can be assessed by reviewing hospital records. According to hospital records from 2005 that tally information about patients from Forsyth County regardless of the location of their hospitalization (Table 89):

- The total county hospitalization rate due to asthma (including children and adults) in 2005 (98.7) was 23% lower than the state rate. The recent county rate is below the Healthy Carolinians goal of 118 (58).
- For children age 0-14, the Forsyth County asthma hospitalization rate of 125.2 is approximately 24% lower than the state rate of 164.6. The Forsyth County asthma hospitalization rate for children is lower than the Healthy People 2010 target of 173 (60).

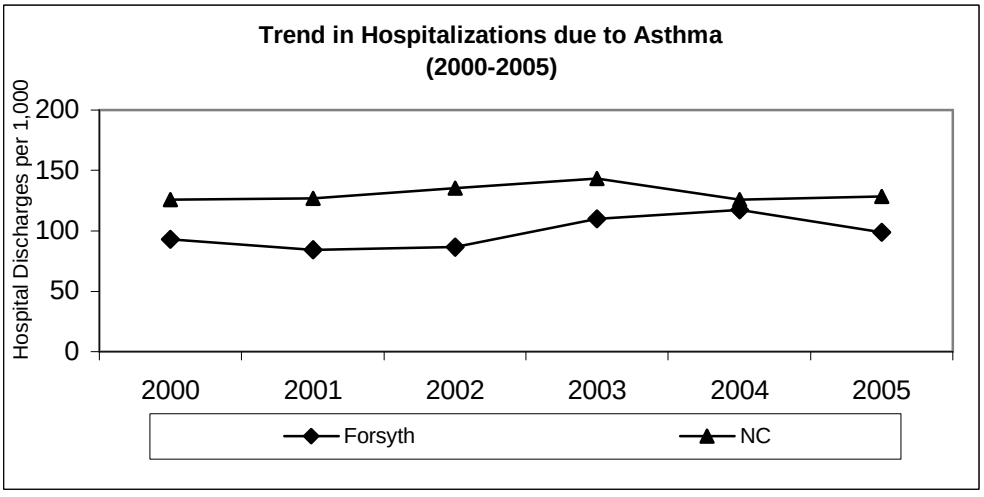
Table 89. Asthma Hospitalization Rates (2005)

County	Asthma Hospitalizations Per 100,000 (2005 Hospital Discharge Reports)			
	Total		Ages 0-14 Years	
	Number	Rate	Number	Rate
Forsyth	322	98.7	83	125.2
State Total	11,158	n/a	2,884	n/a
NC County Avg.	112	128.5	29	164.6

Source: NC State Center for Health Statistics, 2007 County Health Databook. http://www.schs.state.nc.us/SCHS/healthstats/databook/

Since 1997, the total hospitalization rates due to asthma have increased overall in both Forsyth County and in the state, although the rates have recently begun to decrease (Figure 61, following page).

Figure 61



NC State Center for Health Statistics, County-level Data. County Health Data Books. 1999-2007 County Health Data Books. Morbidity. Asthma Hospital Discharges
http://www.schs.state.nc.us/SCHS/healthstats/databook/

Environmental Data

This section presents an overview of data describing major features of the natural environment of Forsyth County. It is intended to complement the Forsyth County Community Health Assessment, *Demographic*, *Socioeconomic and Health Data*, by describing the environmental context in which the people of Forsyth County are living. An environmental assessment of this type has not been a part of the County's previous community health assessment process. Therefore, it does not serve as a trend document but rather as a baseline for future comparisons.

The information in this report is broadly based on the Center for Disease Control (CDC) list of environmental public health indicators (EPHIs). These indicators identify specific areas that should be evaluated in order to track environmental exposures and adverse health effects within a community. The report describes in general terms the quality of water, air, and land in Forsyth County, using primarily data from the public domain supplemented by local data where appropriate and available. It lists the major contaminants and pollutants affecting ambient and drinking water quality and outdoor ambient and indoor air quality in the County, and names the sources of the pollutants. It describes chemicals and wastes affecting the County's land and soil, and describes municipal waste management and water and wastewater sanitation practices. The report also identifies community exposure to lead, pesticides, and toxics. Finally, it contains data on environment-related health issues such as water-, food- and vector-borne diseases.

Water Quality

One measure of a community's environmental health is the status of its waters as evaluated according to the process established by the Federal Clean Water Act of 1972. Water is a renewable resource, but clean water is in limited quantity; as the population continues to grow, the demand for clean water rises every year.

The Division of Water Quality (DWQ) in the NC Department of Environment and Natural Resources (DENR) operates the Ambient Monitoring System (AMS) in order to monitor and assess the State's water quality. The AMS consists of a network of stations established to provide site-specific, long-term water quality information on significant rivers, streams, and estuaries throughout the State (64). Program objectives include:

- To monitor water bodies of interest for determination of levels of chemical, physical, and bacterial pathogen indicators for comparison to a selection of the State's water quality standards and action levels.
- To identify locations where exceedances of water quality standards and action levels for physical and chemical indicators occur in more than 10% of samples/measurement (20% for coliforms).
- To identify long-term temporal or spatial patterns.

In response to the stipulations of Section 303(d) of the Clean Water Act, NC DWQ is charged with submitting a biennial report to the US Environmental Protection Agency (US EPA) that assesses water quality in North Carolina according to standards set by the State. This report traditionally describes the quality of surface waters, groundwaters, and wetlands, according to how well they support the designated uses (e.g., swimming, water supply) and what might be causes and sources of impairment for those designated uses. North Carolina conducts its water quality assessment and planning on a watershed-based schedule, with each of the State's existing 17 watershed basins being monitored once in a five-year rotation (65).
In order to understand water quality monitoring in North Carolina it is necessary first to understand the terminology and ecological and hydrogeological principles that apply.

Surface Water

A geographic area's surface waters are its fresh flowing water (rivers, streams and creeks), and its fresh standing waters (lakes, ponds and reservoirs). Also included among surface waters are the estuaries, bays and coasts of oceanic environments, which, of course, do not pertain to Forsyth County. Surface waters serve many purposes that affect the quality of life in a community: sources of water for human and industrial consumption, sources of food, sites for recreation, routes for transportation and commerce, and sites for disposal of byproducts and wastes of manufacturing and sewage treatment.

As of 1998, Forsyth County ranked among the 20% of counties in the nation with the cleanest surface waters (that is, having a low *percentage* of waters with threatened or impaired uses). When the *number* of water bodies in Forsyth County that are actually impaired are compared to the rest of the nation, the County falls at the national average, indicating it has a similar quantity of impaired water bodies as 50% of the nation (66). A water body is considered *impaired* if it does not attain minimum EPA water quality standards. Standards may be violated due to an individual pollutant, multiple pollutants, thermal pollution, or an unknown cause of impairment. A water body is considered *threatened* if it currently attains water quality standards but is predicted to violate minimum water quality standards by the time the next assessment is submitted to EPA (67).

According to the 1999 list of impaired waters, which was compiled on the basis of state data from 1997-1998, two percent of the surface waters in Forsyth County at that time had reported water problems (66). For comparison, the North Carolina county with the highest percentage (80-90%) of impaired water bodies in that report was Richmond County, which was also in the top percentile of counties, ranked nationwide, with threatened and impaired water bodies.

The following table describes the 1998 Clean Water Act status of Forsyth County as well as the leading pollutants and stressors. Note that there are possible inconsistencies in data on impaired water bodies and the percentage of water bodies assessed. For further explanation, see http://www.scorecard.org/env-releases/def/water_inconsistency.htm.

Table 1. Forsyth County Clean Water Act Status, 1998

Surface water type	Surface Waters with Reported Problems		Leading Pollutants and Stressors (% Affected)				
	No.	%	Metals	Pathogens	Sediments	Impaired Biological Communities	Inorganics
Rivers, Streams, Creeks	16	-	-	19%	19%	6%	6%
Lakes, Reservoirs, Ponds	1	-	100%	-	-	-	
Total	17	2%	-	-	-	-	-

Source: Environmental Defense Scorecard, Pollution Locator, Water. Available at http://www.scorecard.org/env-releases/water/cwa-county.tcl?fips_county_code=37067#report. (Accessed January 2007).

The leading stressor of water bodies in the County during the reporting period cited in Table 1 varied by water body type. A complete list of the 17 water bodies with reported problems can be found at http://www.scorecard.org/env-releases/water/cwa-waterbodies-in-region.tcl?fips_county_code=37067.

For impaired rivers, streams, and creeks the major stressors are pathogens and sediments (27%). Pathogens, such as waterborne bacteria, viruses and protozoa can enter waters through inadequately treated sewage, storm water drains, septic systems, runoff from livestock pens, and sewage dumped overboard from recreational boats. Regulatory agencies usually measure indicator bacteria, because it is impossible to test waters for every disease causing organism. The presence of indicator bacteria like *E.coli* suggests that the water may be contaminated with untreated sewage and that other dangerous organisms *may* be present (68).

Sedimentation occurs when soil particles enter the water from eroding land, or sometimes through agricultural production. Because of the high clay content of North Carolina soil, most rivers have a high natural sediment load after a rainfall. Sedimentation is considered a pollutant when it exceeds this natural level and has detrimental effects, such as clogging and abrading fish gills, suffocating fish eggs and aquatic insect larvae, or reducing water clarity and so interfering with recreational activities. Nutrients and chemicals may attach to sediment particles on land and enter the surface waters, where pollutants settle with sediment or detach and become soluble (68).

Other leading stressors include impaired biological communities (6%) and inorganics (6%). Impaired Biological Communities are aquatic ecosystems that provide habitat for a variety of species but have been adversely affected by human activities. Inorganics include such as trace elements as flouride, cyanide, flourene, chlorine, or hydrogen sulfide (68).

Impairment cause was not reported for 56% of Forsyth County rivers, streams, and creeks.

Metals are the leading stressor (100%) for Belews Lake (the sole lake with reported surface water problems). Metals occur naturally in the environment, but human activities can dramatically alter their distribution. When metals are released into the environment in higher than natural concentrations they can be highly toxic and disruptive of aquatic ecosystems and therefore decrease a water body's suitability for industrial and domestic uses (68).

The following table indicates the leading sources of water quality impairment in Forsyth County for each surface water type.

Table 2. Forsyth County Leading Sources of Water Quality Impairment, 1998

Surface water type	Surface Waters with Reported Problems		Source of Impairment (% Affected)			
	No.	%	Non-point	Municipal	Agriculture	Urban Runoff/Storm Sewers
Rivers, Streams, Creeks	16	-	75%	25%	12%	6%
Lakes, Reservoirs, Ponds	1	-	-	-	-	-
Total	17	2%	-	-	-	-

Source: Environmental Defense Scorecard, Pollution Locator, Water. Available at http://www.scorecard.org/env-releases/water/cwa-county.tcl?fips_county_code=37067#report. (Accessed February 2007).

In Forsyth County, the primary sources of water quality problems for rivers, streams, and creeks was non-point sources, which affected 75% of the water bodies in the county. Municipal sources accounted for 25% of the impairment, 12% of sources were not reported, 12% of sources were due to agriculture, and 6% were from urban runoff/storm sewers (68). Non-point source pollution occurs when rainfall or snowmelt picks up chemicals, biological agents and sediments and carries them to surface and ground waters. These inputs include agricultural and residential fertilizers, herbicides and insecticides; oil, grease and toxic chemicals from urban run-off and energy production; sediment from construction sites, crop and forest lands; and bacteria and nutrients from livestock, pet wastes and faulty septic systems (69).

Municipal point source pollution is discharge from publicly owned waste water treatment plants. Agricultural production involves many activities that lead to the emission of pollutants: confined animal facilities, grazing, plowing, pesticide spraying, irrigation, fertilizing, planting and harvesting. The pollutants may include sediment, nutrients, pathogens, pesticides and salts. Lastly, urban Runoff/Storm sewers can erode streambanks, damage streamside vegetation, and widen stream channels leading to lower water depths during non-storm periods, higher than normal water levels during wet weather periods, increased sediment loads, and higher water temperatures. Additionally, pollutants from urbanization can be transported by runoff including oil, grease, and toxic chemicals from automobiles; nutrients and pesticides from turf management and gardening; viruses and bacteria from failing septic systems; road salts; and heavy metals. Aquatic life cannot survive in urban streams severely impacted by urban runoff (69).

Sources of impairment for Belews Lake were not reported.

Watersheds

The majority of Forsyth County lies in the Yadkin-Pee Dee River Basin. Forsyth County also contains a portion of the Roanoke River Basin and the Cape Fear River Basin (70,71,72)

As noted previously, North Carolina monitors water quality on a watershed basin basis. A watershed is a geographic region with elevations and topographical features that cause flowing waters (creeks, streams, rivers) to drain into a common destination. Every river, stream and creek belongs to a particular watershed, and smaller watersheds can join together naturally to become larger watersheds, called river basins. North Carolina contains a portion of 58 different smaller watersheds which drain into 17 river basins. Water moves downstream in a watershed, so any activity that affects the water at the head, or anywhere else upstream, can also affect the characteristics of the downstream waters. The most downstream points in a watershed may, in fact, bear and demonstrate the cumulative results of upstream affects.

According to the 1998 EPA Clean Water Act Data, 26 of the 58 small watersheds in North Carolina have “better” water quality and are at low vulnerability for impairment. Nine North Carolina watersheds have “better” water quality but are at high vulnerability for deterioration. This means that designated uses for the rivers are largely met and other indicators show few problems, but that significant pollution and stressors exist in the area and heighten the vulnerability of aquatic health (73). The EPA uses nine indicators to profile the vulnerability of aquatic resources to future degradation and classify them into one of seven categories (74):

1. Better Water Quality - Low Vulnerability:
Designated uses are largely met and other indicators of watershed condition show few problems. Pollutants or other stressors are low, so there is a lower potential for future declines in aquatic health. Actions to prevent declines in aquatic conditions in these watersheds are appropriate, but at a lower priority than in watersheds with higher vulnerability.

2. Better Water Quality - High Vulnerability:
Designated uses are largely met and other indicators of watershed condition show few problems. Significant pollution and other stressors exist, so there is a higher vulnerability to declines in aquatic health. These watersheds have the greatest need for actions to protect quality and prevent decline.

3. Less Serious Water Quality Problems - Low Vulnerability:
Watersheds with aquatic conditions below water quality goals and with problems revealed by other indicators. Pollutants or other stressors are low, so there is a lower potential for future declines in aquatic health. Actions to prevent declines in aquatic conditions in these watersheds are appropriate, but at a lower priority than in watersheds with higher vulnerability.

4. Less Serious Water Quality Problems - High Vulnerability:
Watersheds with aquatic conditions below water quality goals and with problems revealed by other indicators. Significant pollution and other stressors exist, so there is a higher vulnerability to declines in aquatic health. These watersheds have the greatest need for actions to protect quality and prevent decline.

5. More Serious Water Quality Problems - Low Vulnerability:
Watersheds with aquatic conditions well below water quality goals and with serious problems exposed by other indicators. Pollutants or other stressors are low, so there is a lower potential for future declines in aquatic health. Actions to prevent declines in aquatic conditions in these watersheds are appropriate, but at a lower priority than in watersheds with higher vulnerability.

6. More Serious Water Quality Problems - High Vulnerability:
Watersheds with aquatic conditions well below water quality goals and with serious problems exposed by other indicators. Significant pollution and other stressors exist, so there is a higher vulnerability to declines in aquatic health. These watersheds have the greatest need for actions to protect quality and prevent decline.

7. Insufficient Data:
There are insufficient data to accurately characterize the watersheds.

The major watersheds of Forsyth County are the Upper Yadkin, the Upper Dan, the Lower Yadkin, and portions of the Deep and Haw watersheds (75). Both the Upper Yadkin and Upper Dan are characterized by "better" water quality problems with "low" vulnerability. The remaining three watersheds were evaluated as having "better" water quality but "high" vulnerability (76).

The EPA has classified five of the watersheds in Forsyth County as highly vulnerable to agricultural run-off, four of the watersheds as highly vulnerable to both aquatic/wetland species at risk and population change, and three watersheds as highly vulnerable to hydrologic modification (77).

Agricultural runoff can cause water quality problems due to combinations of pesticides, nitrogen and sediment entering the rivers, creeks and streams (77).

Aquatic/wetland species at risk indicates that in a given watershed, there are aquatic or wetland species that are classified by the Heritage Network as critically imperiled, or are listed as "threatened" or "endangered" under the federal Endangered Species Act. This indicator suggests that the watershed is highly vulnerable to water quality or habitat degradation and therefore jeopardizes the survival of susceptible aquatic or wetland species; it does not necessarily indicate poor watershed conditions but rather that there is not the exceptionally high quality habitat necessary to sustain these species (77).
Growth of the human population can impact watersheds through increased pollution and land use changes which include construction, loss of wetlands, and increased sewage flows (77).

Finally, hydrological modification is perhaps the most damaging human-induced impact in the aquatic environment. The construction of dams and the subsequent impoundment of water resources can compromise the health of the aquatic system in a watershed. Flowing waters become quiescent waters. Carbon, pollutants, and sediments accumulate in the bottom of dams, leading to algal blooms, because there is no way for materials to travel downstream. Oxygen cannot easily enter water that doesn't flow over rocks or riffle and so previously rushing streams turn into fetid ponds. Rivers that are downstream of a dam have controlled, limited or sometimes non-existent flow, which leads to habitat change and deterioration (77).

Water Quality in the Yadkin-Pee Dee River Basin

The following section details the water quality of the Yadkin-Pee Dee River Basin as it pertains to Forsyth County, providing further information on creeks and streams in the basin. This information was gleaned from the pertinent assessment report produced for each of the large watersheds in the State by the Division of Water Quality (DWQ) (78). The most recent assessment of the Yadkin-Pee Dee River Basin was completed in 2007 (79).

The Yadkin River originates in the eastern Blue Ridge Mountains and flows northeast for 100 miles, cutting across the southern half of Wilkes County (79). It turns southeast and forms the border between Yadkin and Forsyth, and Davie and Davidson counties. The South Fork of the

Yadkin River begins in Alexander County and flows east, following the southern border of Yadkin County, before joining the main Yadkin River just above High Rock Lake in Davidson County. The Yadkin River joins the Uwharrie River to form the Pee Dee River south of High Rock Lake and continues toward the North Carolina/South Carolina border. The Yadkin-Pee Dee River Basin is the second largest basin in North Carolina. For assessment and monitoring purposes the entire river basin is divided into 17 subbasins; Forsyth County contains portions of Subbasins 03, 04, and 07.

Subbasin 03, which contains the Ararat River and its tributaries, originates in the mountains of Virginia. Small western and northwestern sections of this subbasin fall within the mountain ecoregion. However, the vast majority of this subbasin is in the Piedmont ecoregion. The major tributaries to the Ararat River include Stewarts, Lovills, and Flat Shoal Creeks. The Ararat River flows generally south and empties into the Yadkin River east of Elkin. Land use in the area is mostly forest and pasture. The Ararat River and its tributaries have moderate to swift flow throughout the year and turbidity can become a problem after rainfall. This subbasin contains the towns of Mount Airy and Pilot Mountain, both of which have wastewater treatment plants (WWTPs) that discharge into the Ararat River at 7 MGD (million gallons per day) and 1.5 MGD, respectively (79).

Subbasin 04 includes the city of Winston-Salem – one of the largest urban areas in North Carolina – in its upper portion. The major watershed for this area, Muddy Creek, receives runoff from almost the entire Winston-Salem vicinity. Muddy Creek has two major tributaries, Slam and South Fork Muddy Creeks. The city has numerous permitted dischargers; many are small residential wastewater treatment plants (package plants). Large discharges include the Winston-Salem Archie Elledge wastewater treatment plant (30MGD into Salem Creek) and the Winston-Salem Muddy Creek wastewater treatment plant (21MGD into the Yadkin River). South of Winston-Salem, land use is primarily forest and pasture (79).

Subbasin 07, also known as the Abbotts Creek watershed, begins south of Kernersville and flows through Lexington to empty into High Rock Lake. The subbasin also includes Rich and Hunts Forks, and Swearing and Hamby Creeks. The majority of the subbasin is in Davidson County; it is bisected by US 64 and I-85. The largest municipalities are the cities of Lexington, Thomasville, and Highpoint. The largest dischargers are the City of High Point wastewater treatment plant (6.2 MGD into Rich Fork), Thomasville wastewater treatment plant (4 MGD into Hamby Creek), and Lexington wastewater treatment plant (5.5 MGD into Abbotts Creek). In non-urban area, the land use is primarily forest and pasture. (79).

Water Quality in the Roanoke River Basin

The Roanoke River Basin originates in Virginia where it also is referred to as the Roanoke River Basin. The Basin covers 6,382 square miles. In addition to the Roanoke River, it also contains the Ararat River Subbasin. The headwaters of the Basin begin in the mountainous terrain of eastern Montgomery County and flow southeasterly to the Virginia/North Carolina state line. The Basin passes through three physiographic provinces, the Valley and Ridge Province to the northwest, and the Blue Ridge and Piedmont Provinces to the Southeast (80).

Ten percent of the Basin is considered urban. The 2000 population for the Basin was 675,844, covering all or portions of 16 counties and five cities: Roanoke, Salem, Martinsville, Danville, and Bedford. The major tributaries in the northern section of the basin are the Little Otter and Big Otter Rivers along with the Blackwater and Pigg Rivers. Major tributaries in the southern portion include the Dan River, Smith River, and Banister River. The basin also contains two major reservoirs, Smith Mountain and Leesville Lakes to the north and Kerr Reservoir and Lake Gaston

located at the junction of the Roanoke River and the NC state line. Sixty-two percent of the basin is forested, and 25% is cropland and pasture. The basin is divided in to six US Geological Services hydrologic units (80).

The Basin contains 9,409 miles of rivers, 66,203 acres of lakes, and 0 square miles of estuaries. The leading pollutant of river impairments include: E-coli (910 miles); fecal coliform (779 miles); and PCBs in fish tissue (212 miles). The leading pollutant of lake impairment is dissolved oxygen (62,000 acres); PCB in fish tissue (57,502 acres); E-coli (4,472 acres); and pH (3,155 acres). Impairments due to dissolved oxygen are most often natural impairments. Wildlife other than waterfowl (733 miles), unspecified domestic waste (663 miles), livestock grazing (642 miles), on-site treatment systems (465 miles), and waste from pets (435 miles) were the leading source of impairment for rivers. Natural conditions (54,560 acres), changes in ordinary stratification and bottom water hypoxia/anoxia (3,387 acres), and livestock grazing, on-site treatment systems, unspecified domestic waste, and wildlife other than wildfowl (2,466 acres) were the leading source of impairment for lakes (80).

The following section details the water quality of the Roanoke River Basin as it pertains to Forsyth County, providing further information on creeks and streams in the basin. This information was gleaned from the pertinent assessment report produced for each of the large watersheds in the State by the Division of Water Quality (DWQ) (81). The most recent assessment of the Roanoke River Basin was conducted in 2004 and completed in the spring of 2005. While nearly all rivers, creeks and watersheds in this river basin are in fair or good condition, the headwaters have better water quality (good) than the lower waters (good-fair) where Forsyth County is located (82).

The Roanoke River extends from its source in the Blue Ridge Mountains of Virginia to the Albemarle Sound in North Carolina. It encompasses mountainous, piedmont, and coastal topography as it flows for the most part east to southeastward. The river basin comprises 3,503 square miles of drainage area and about 2,390 miles of streams and rivers in NC. Fifteen counties and 42 municipalities are included in the basin. For assessment and monitoring purposes, the river basin is divided into ten subbasins; Forsyth County contains portions of subbasin 01 (82).

Subbasin 01 is primarily in the Northern Inner Piedmont Level IV ecoregion, but contains part of the Sauratown Mountain ecoregion near Hanging Rock State Park and part of the Triassic Basins ecoregion in the lower watershed of Town Fork Creek. The subbasin includes the uppermost portion of the Dan River in North Carolina although its headwaters are in Virginia. Major tributaries include Double, Snow, and Town Fork Creeks. Land is more than 70% forested, a portion is used for pasture, and less than 3% is used for crops. There are 30 permitted dischargers in the subbasin, the largest being the Town of Walnut Cove's wastewater treatment plant (0.5 MGD into Town Creek). Five of the dischargers are required to monitor effluent toxicity: Kobe Copper Products Inc, two Stokes County high schools, Rayco Utilities, and Duke Power's Belews Creek Steam Station (82).

Water Quality in the Cape Fear River Basin

The following section details the water quality of the Cape Fear River Basin as it pertains to Forsyth County, providing further information on creeks and streams in the basin. This information was gleaned from the pertinent assessment report produced for each of the large watersheds in the State by the Division of Water Quality (DWQ) (83). The most recent assessment of the Cape Fear River Basin was completed in 2004 (84).

The Cape Fear River Basin is the largest river basin in North Carolina; it covers over 9,000 square miles and 24 counties. There are 6,300 miles of streams and rivers in the basin. The Cape Fear River forms as a convergence of the Deep and Haw Rivers at the Chatham and Lee County lines (79). For assessment and monitoring purposes the entire river basin is divided into 24 subbasins; Forsyth County contains portions of Subbasins 01, 02, and 08.

Subbasin 01 is located in the Northern Inner Piedmont and Southern Outer Piedmont ecoregions. The former has higher elevations and rugged topography while the latter is characterized by lower elevations, less relief, and less precipitation. This subbasin includes the headwaters of the Haw River and the Troublesome Creek watershed. The headwaters are slow flowing. The northern and western portions of the subbasin are sandy while the southeast portions are rocky. The majority of the subbasin is pastureland or forested. The largest urban area is the Town of Reidsville. The subbasin has twelve permitted discharges, many of which are very small with a discharge less than 0.05 million gallons per day (MGD). The largest discharger is the Town of Reidsville's WWTP (7.5 MGD) and Glen Rave Mills (0.15 MGD). Both discharge into the Haw River (79).

Subbasin 02 is located in the Southern Outer Piedmont ecoregion. The subbasin includes the City of Greensboro and has 32 permitted discharges with a total permitted flow of 60 MGD. More than eighty percent of landuse is forest or pasture. However, this percentage is quickly changing as there is much urban growth (79).

Subbasin 08 includes the headwaters of the Deep River. It is primarily in the Southern Outer Piedmont ecoregion. The subbasin includes portions of the Triad Metropolitan area (the Cities of Greensboro and Highpoint) as well as the I-40 and I-85 corridors. Subbasin 08 is the most urbanized subbasin in the Cape Fear River Basin. More than thirteen percent of the subbasin is urbanized (79).

Impaired Water Bodies in Forsyth County

In Forsyth, there are five water bodies that have been classified as impaired according to section 303(d) of the CWA (85). These water bodies are listed below in Table 3.

Table 3. Forsyth County Water Bodies Classified as Impaired Under the CWA, 2006

Subbasin	Water Body	Impaired Use	Year listed	Reason for listing	Potential Source	Area
Yadkin 04	Muddy Creek, from Mill Creek #3 to SR 2995	AL	2004	Impaired biological integrity	Minor non-municipal; Urban Runoff/Storm Sewers	15.2 FM
Yadkin 04	Salem Creek (Middle Fork Muddy Creek), from Winston-Salem Water Supply Dam (Salem Lake) to Muddy Creek	AL, O	1998	Impaired biological integrity; Standard Violation: Fecal coliform	Urban Runoff/Storm Sewers	12.0 FM
Yadkin 04	Reynolds Creek, from Sequoia to Muddy Creek	O	1998	Impaired biological integrity	Urban Runoff/Storm Sewers; Agriculture	2.9 FM
Cape Fear 01	Haw River, from source to SR 2109	O	2000	Impaired biological integrity	WWTP NPDES, Impervious Surface, Agriculture	7.8 FM
Roanoke 01	East Belews Creek, from backwaters of Belews Lake to Southern Railroad Bridge	FC	2006	Fish Advisory – Mercury	Unknown	0.5 FM

Key:
AL = Aquatic life
SH = Shellfish harvesting
O = Overall
REC = Recreation
FC = Fish Consumption
F = Freshwater
S = Saltwater
M = Miles
A = Acres

Source: NC Department of Environment and Natural Resources. Division of Water. North Carolina Water Quality Assessment and Impaired Water List (2006 Integrated 305(b) and 303(d) Report). Public Review Draft. 303d List Draft. Available at http://h2o.enr.state.nc.us/tmdl/General_303d.htm. (Accessed January 2007).

The DWQ gives each creek, stream, lake and river a bioclassification, based on the number of intolerant, or sensitive species, particularly macroinvertebrates, present in the water. The presence of intolerant species indicates higher quality water than can support such sensitive organisms, while their absence signifies possible water quality or habitat problems. Excellent, good and good-fair waters are fully supportive of benthic macroinvertebrates; fair waters are partially supportive; poor waters are not supportive of such life. Loss of canopy, increase of stream temperature, increased nutrients, toxicity or sedimentation all affect the benthic (bottom dwelling) community. Table 4 shows the bioclassifications for the Yadkin Pee-Dee subbasins that pertain to Forsyth County for 2001 and 2006. All five stations rated only Good-Fair or Fair. There were no bioclassification monitoring stations for Forsyth County in either the Roanoke or Cape Fear River Basins.

Table 4. Bioclassification Water Bodies located in Forsyth County, 2007

Water Body	Location	1997 Status	2002 Status
Muddy Creek	SR 1898	Good-Fair	Fair
Muddy Creek	SR 2995	Good-Fair	Fair
Salem Creek	SR 2902	Fair	Fair
Salem Creek	SR 2991	Fair	Fair
S Fork Muddy Creek	SR 2902	Good-Fair	Good-Fair

Source: NC Department of Environment and Natural Resources. Division of Water Quality. Basinwide Assessment Report Yadkin-Pee Dee River Basin, 2007. http://www.esb.enr.state.nc.us/bar.html. (Accessed January 2007).

Ambient Monitoring System Data

There are 38 DWQ Ambient Monitoring System (AMS) stations in the Yadkin-Pee Dee River Basin, three of which are in Forsyth County (79). Table 5 provides information on each of these stations. None of the 20 AMS stations in the Roanoke River Basin and none of the 59 AMS stations of the Cape Fear River Basin are located in Forsyth County.

Table 5. DWQ Ambient Monitoring System stations in Forsyth County, 2002

Subbasin	Station #	Location
Yadkin 02	Q2040000	Yadkin River at SR 1605 at Enon
Yadkin 04	Q2510000	Salem Creek at Elledge WTP at Winston Salem
	Q2600000	Muddy Creek at SR 2995 near Muddy Creek

Source: NC Department of Environment and Natural Resources. Division of Water Quality. Basinwide Assessment Report Yadkin-Pee Dee River Basin, 2002. http://www.esb.enr.state.nc.us/bar.html. (Accessed January 2007).
Source: NC Department of Environment and Natural Resources. Division of Water Quality. Environmental Sciences Branch. Monitoring. Network of Stations. NC Division of Water Quality Ambient Monitoring Network. Available at http://h2o.enr.state.nc.us/esb/stations/ams.htm. (Accessed February 2007).

The following data describe the results of AMS monitoring for the five year period from 1996 through 2001. Data from the most recent basin assessment report (2007) does not include ambient monitoring system information.

Water Chemistry. According to data from the AMS, there were no significant or actionable exceedances of water quality standards for dissolved oxygen at the three fixed monitoring sites in Forsyth County. Dissolved oxygen is an important parameter of water quality because sufficiently high levels are required to sustain aquatic life, and the more desirable aquatic species (e.g. trout) require the highest levels. Eight AMS stations elsewhere in the Yadkin-Pee Dee River Basin had more than 10 percent of the measurements for dissolved oxygen below the minimum standard of 5.0 mg/L.

Similarly, there were no significant exceedances of pH at any of the four monitoring sites in Forsyth County. However four AMS stations elsewhere in the Yadkin-Pee Dee River Basin had more than 10 percent of measurements outside the pH value limits set by North Carolina Administrative Code. Low pH values are indicative of waters rich in organic matter whereas high values are found during algal blooms.

Turbidity data values typically vary according to the intensity of rainfall events. Eleven stations in the Yadkin-Pee Dee River Basin, including one in Forsyth County, had more than 10 percent of observations greater than the standard of 50 NTU (National Turbidity Units).

Dissolved metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel and zinc) can be toxic to living organisms, sometimes in very low concentrations, so they are included in water quality testing regimes. Generally speaking, elevated concentrations of metals are not a common problem in the Yadkin-Pee Dee River Basin. Those analyses that were greater than the reporting level had too few samples to interpret statistically.

Fecal Coliforms. Fecal coliforms are usually harmless bacteria that live in soil, water, and the digestive system of animals. Fecal coliform bacteria are present in large numbers in the feces and intestinal tracts of humans and other warm-blooded animals, and can enter water bodies from human and animal wastes.

Swimming in waters with high levels of fecal coliform bacteria increases the chance of developing illness (fever, nausea or stomach cramps). Diseases and illnesses that can be contracted in water with high fecal coliform counts include typhoid fever, hepatitis, gastroenteritis, dysentery, and ear infections.

Thirteen of the AMS sites in the Yadkin-Pee Dee River Basin, including two from Forsyth County, had fecal coliform counts exceeding the plate count reference standard of 200 colonies/100 ml.

Chlorophyll a. Chlorophyll a is used to estimate the amount of phytoplankton in water. The water quality standard is 40 µg/L and values greater than this indicate large volumes of phytoplankton. However, the chlorophyll a parameter was not reported in the Yadkin-Pee Dee River Basin Assessment Report.

Nutrients. The introduction of nutrients, especially nitrogen and phosphorus, into water bodies can stimulate the growth of algae and aquatic weeds, which can in turn impart unpleasant appearance and taste to the water and, more importantly, deplete dissolved oxygen and imperil other aquatic life. All three AMS stations in Forsyth County showed elevated levels of nitrites and nitrates.

Fish Kills

There were six fish kill events reported in Forsyth County between 1997 and 2006. In 1997 a fish kill of 50 occurred at a Private Lake with elevated dissolved oxygen noted. Also in 1997, a fish kill of 200 sunfish occurred near Stanleyville. An oil sheen was seen, water was noted as brown and turbid, and an algal bloom was determined as the cause. In 2002, a fish kill of 1,000 sunfish, suckers, and minnow occurred in Peters Creek due to a fire that migrated from P&B Distributors. In 2003, a fish kill of 400 occurred in Salem Creek; cause could not be determined. In 2004, a fish kill of 791 sunfish, carp, largemouth bass, and suckers occurred near Winston Salem; it was caused by sanitary sewer overflow. Lastly, in 2006, a fish kill of 200 crappie occurred in Spurgeon Creek; investigators suspected pond turnover (86).

Fish Consumption Advisories

The Epidemiology Section of the NC Division of Public Health maintains an Internet website listing current fish consumption advice and advisories across the State (87). As of March 2007 the section listed a statewide advisory against women of childbearing age, pregnant women, nursing mothers and children under age 15 eating any fish high in mercury; the section further advises all other persons to consume fish high in mercury no more than once a week and fish low in mercury no more than four meals per week. The fish with high mercury levels are primarily ocean species, and include: almaco jack, banded rudderfish, canned white tuna (albacore tuna), cobia, crevalle jack, greater amberjack, south Atlantic grouper (gag, scamp, red, and snowy), king mackerel, ladyfish, little tunny, marlin, orange roughy, shark, Spanish mackerel, swordfish, tilefish, and tuna (fresh or frozen). There are five freshwater species on the “avoid” list: blackfish (bowfin), catfish (caught wild), jack fish (also called chain pickerel), largemouth bass, and warmouth. Freshwater fish with the highest mercury levels have been found primarily south and east of Interstate 85.

In addition, the website also lists site-specific advisories regarding consumption of species with high levels of other chemicals such as polychlorinated biphenyls (PCBs) and dioxins. None of the referenced sites are in Forsyth County.

Groundwater

Much less is known generally about groundwater than surface waters. Groundwater is the water basin beneath the soil surface that can be collected by wells and pumps and other man-made devices, or that flows naturally to the surface via seeps or springs. Groundwater is the primary source of water for 50% of the population in the US, with heavier dependency in rural areas. Despite the visual prominence of surface waters, the vast majority of the earth's freshwater - 97% - is located underground.

Bacteria in Well Water

The North Carolina State Laboratory for Public Health analyzes samples of drinking water from wells and other sources for the presence of microorganisms and chemicals. Samples from private wells must be submitted through a local health department. From 2004-2006, the State Laboratory conducted no microbiological analyses of water samples from Forsyth County (88).

Groundwater Incidents

The NC Division of Water Quality Incident Management Office keeps track of leaks and spills of chemicals that present risks to health. No such incidents were reported in Forsyth County between 2001 and 2006(89).

Air Quality

Outdoor Ambient Air

The US EPA categorizes outdoor air pollutants as "criteria air pollutants" (CAPs) and "hazardous air pollutants" (HAPs).

Criteria Air Pollutants

Criteria air pollutants (CAPS) are six chemicals that can injure human health, harm the environment, or cause property damage: carbon monoxide, lead, nitrogen oxides, particulate matter, ozone, and sulfur dioxide. The EPA has established National Ambient Air Quality Standards (NAAQS) that define the maximum legally allowable concentration for each criteria air pollutant, above which human health may suffer adverse affects (90). Table 6 lists the current NAAQS.

Table 6. National Ambient Air Quality Standards

Pollutant	Primary Standard	Averaging Times	Notes
Carbon monoxide (CO)	9 ppm (10 mg/m^3)	8-hour	Not to be exceeded > 1/year
	35 ppm (40 mg/m^3)	1-hour	Not to be exceeded > 1/year
Lead	1.5 µg/m^3	Quarterly average	--
Nitrogen dioxide	0.053 ppm (100 µg/m^3)	Annual mean	--
Particulate matter (PM_{10})	150 µg/m^3	24-hour	Not to be exceeded > 1/year on average over 3 years
Particulate matter ($PM_{2.5}$)	15.0 µg/m^3	Annual mean	To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors mush not exceed 15.0 µg/m^3
	35 µg/m^3	24-hour	To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m^3
Ozone (O_3)	0.08 ppm	8-hour	To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm
	0.12 ppm	1-hour (applies only in limited areas)	This standard has been revoked in all areas except the fourteen 8-hour ozone nonattainment Early Action Compact (EAC) Areas (which include the Fayetteville, Greensboro/Winston-Salem/High Point, and Hickory/Morganton/Lenoir regions in North Carolina)
Sulfur Oxides (SO_x)	0.03 ppm	Annual mean	--
	0.14 ppm	24-hour	Not to be exceeded > 1/year

Source: Environmental Protection Agency. Air & Radiation. National Ambient Air Quality Standards (NAAQS). http://www.epa.gov/air/criteria.html. (Accessed January 2007).

Nationwide 77% of carbon monoxide (CO) emissions are from transportation sources, primarily highway motor vehicles, but other sources include wood-burning stoves, incinerators and industrial outputs. Lead (Pb) enters the atmosphere primarily from gasoline additives, non-ferrous smelters, and battery plants. The proportion of atmospheric lead from cars and trucks has decreased dramatically over a generation due primarily to a shift to lead-free gasoline. Nitrogen oxides (NO_x) are formed when fuels are burned at high temperatures, such as in transportation vehicles and stationary combustion sources like electric utilities and industrial furnaces. They play an important role in the reactions that create ozone and acid rain. Particulate matter (PM) pollutants, usually categorized on the basis of size, include dust, dirt, soot, smoke, and liquid droplets emitted directly into the air by factories, power plants, construction activity, fires and vehicles. Ozone (O_3), the major component of smog, is not usually emitted directly but is formed through chemical reactions in the atmosphere. Precursor compounds like volatile organic compounds (VOC) and oxides of nitrogen (NOx) react to form O_3 when stimulated by ultraviolet radiation and temperature, so peak O_3 levels typically occur during the warmer times of the day and year. VOCs are chemicals that play a role in forming ozone and are emitted from a variety of sources, including automobiles, chemical and paint manufacturing plants, dry cleaners, and other facilities that use solvents and paint. Sulfur dioxide (SO_2) is released primarily by burning sulfur-containing fuels like coal, oil and diesel fuels, and is emitted from power plants, steel mills, refineries, pulp and paper mills and smelters. Table 7 lists some of the environmental and health effects of the criteria air pollutants (91).

Table 7. Health and Environmental Effects of Criteria Air Pollutants

Pollutant	Effect
CO	Reduces delivery of oxygen to the body's organs and tissues
Pb	Affects nervous, reproductive, digestive, cardiovascular systems and the kidney
NO_x	Effects ecosystems on land and in water; plays a role in the formation of acid rain
PM	Affects breathing, aggravates existing respiratory and cardiovascular disease; damages lung tissue
O_3	Damaged lung tissues, reduces lung function and sensitizes lungs to other irritants
VOC	Contributes to ozone formation; may cause cancer and have reproductive toxicity
SO_2	Affects breathing and may aggravate existing respiratory and cardiovascular disease

Source: Environmental Defense, Scorecard. Pollution Locator. Description of Criteria Air Pollutants. Available at: http://www.scorecard.org/env-releases/cap/pollutant-desc.tcl. (Accessed January 2007).

Annual CAP Maxima

Annual high levels of criteria air pollutants are not available specifically for Forsyth County, but are available for North Carolina as a whole (92). In 2005 North Carolina's annual maxima for 1-hour and 8-hour ozone and large particulate matter were higher than the respective NAAQS standards; all other annual maxima were below the NAAQS standards (Table 8).

Table 8. North Carolina Annual High Levels of Criteria Air Pollutant Emissions, 2005

Pollutant	NAAQS Standard	Highest Recorded Concentration
Carbon monoxide		
1-hour average max	35ppm	10.0ppm
8-hour average max	9ppm	2.8ppm
Ozone		
1-hour average max	0.12ppm	0.146ppm
8-hour average max	0.08ppm	0.111ppm
PM-25		
24-hour average max	65µg/m^3	70µg/m^3
PM-10		
24-hour average max	150ug/m^3	69µg/m^3
Sulfur Dioxide		
3-hour average max	0.5ppm	0.106ppm
24-hour average max	0.14ppm	0.030ppm

Source: Environmental Protection Agency. Air & Radiation. Air Data. http://www.epa.gov/air/data/geosel.html. (Accessed January 2007).

North Carolina ranks 10th in the nation for CO emissions; 14th for NO_x emissions; 13th for PM-2.5 emissions; 13th for SO_2 emissions; and 8th for volatile organic compound emissions. Forsyth County does ranks consistently in the top 25 North Carolina counties for tons of emissions of any of the six criteria air pollutants: 6th for carbon monoxide emissions (96,026 tons), 9th for nitrogen oxides emissions (16,729 tons), 5th for small particulate matter emissions (3,876 tons), 5th for large particulate matter emissions (10,423 tons), 14th for sulfur dioxide emissions (7,645 tons), and 4th for volatile organic compound emissions (20,658 tons) (93).

Forsyth County is listed in the 10th percentile of dirtiest/worst counties in the US for carbon monoxide emissions and volatile organic compound emissions. Other criteria air pollutants (nitrogen oxides, particulate matter, and sulfur dioxide) are 20th percentile (94).

Air Quality Index

The impact of criteria air pollutants on the environment is described on the basis of exposure, emissions and health risks. One useful measure that combines these parameters is the Air Quality Index (AQI), which was formerly called the Pollutant Standards Index (PSI). The AQI is an information tool to advise the public and it is often presented in the media along with local weather reports. The AQI describes the general health effects associated with different pollution levels, and public AQI alerts include precautionary steps that may be necessary for certain segments of the population when air pollution levels rise into the unhealthy range. The AQI measures concentrations of five of the six criteria air pollutants and converts the measures to a number on a scale of 0-500, with 100 representing the National Ambient Air Quality Standard established under the Clean Air Act. An AQI level in excess of 100 on a given day means that a pollutant is in the unhealthy range that day; an AQI level at or below 100 means a pollutant is in the "satisfactory" range (95). The AQI levels are defined in Table 9.

Table 9. General Health Effects and Cautionary Statements, Air Quality Index

Index Value	Descriptor	General Health Effects	Cautionary Statements
Up to 50	Good	None for the general population.	None required.
50 to 100	Moderate	Few or none for the general population.	None required.
100 to 200	Unhealthy	Mild aggravation of symptoms among susceptible people, with irritation symptoms in the general population.	Persons with existing heart or respiratory ailments should reduce physical exertion and outdoor activity. General population should reduce vigorous outdoor activity.
200 to 300	Very Unhealthy	Significant aggravation of symptoms and decreased exercise tolerance in persons with heart or lung disease; widespread symptoms in the healthy population.	Elderly and persons with existing heart or lung disease should stay indoors and reduce physical activity. General population should avoid vigorous outdoor activity.
Over 300	Hazardous	Early onset of certain diseases in addition to significant aggravation of symptoms and decreased exercise tolerance in health persons. At AQI levels above 400, premature death of ill and elderly persons may result. Health people experience adverse symptoms that affect normal activity.	Elderly persons with existing diseases should stay indoors and avoid physical exertion. At AQI levels above 400, general population should avoid outdoor activity. All people should remain indoors, keeping windows and doors closed, and minimize physical exertion.

Source: NC Department of Environment and Natural Resources, Division of Air Quality, 2000 Ambient Air Quality Report, available at: http://daq.state.nc.us/monitor/reports/2002-01.pdf (Accessed January 2007).

According to the EPA, the AQI monitoring site in Forsyth County indicates values of 2.0ppm for 2nd max 1-hour carbon monoxide (standard of 35), 1.5ppm for 2nd max 8-hour carbon monoxide (standard of 9), 0.019ppm for 2nd max 24-hour sulfur dioxide (standard of 0.14), a 0.007ppm annual mean for sulfur dioxide (standard of 0.030), a 11.1µg/m3 annual mean for small particulate matter (standard of 15), and a 18µg/m3 annual mean for large particulate matter (standard of 50). The data is from 2007; none of the CAP values are higher than the standards given by the EPA (96).

Non-AQI air pollution data for Forsyth County are also available, however. These data – total categorical CAP emissions – are dated but do offer a picture of the relative importance of each category of pollutant. Table 10 details the total tons of emissions of the six criteria air pollutants for the County, and the amount of each pollutant coming from the typical source categories for 1999.

Table 10. Forsyth County Criteria Air Pollutant Emissions, in Tons, 1999

Source Category	CO	NO_x	PM -2.5	PM-10	SO_2	VOC	TOTAL
Mobile Sources	84,622	12,935	1,887	6,378	1,012	7,838	114,672
Area Sources	10,781	792	1,830	3,801	1,308	9,522	28,034
Point Sources	622	3,002	159	243	5,325	3,298	12,649
All Sources	96,025	16,729	3,876	10,422	7,645	20,658	155,355

Source: Environmental Defense. Scorecard. Pollution Locator. Smog and Particulates. Forsyth County Report. Available at: http://www.scorecard.org/env-releases/cap/county.tcl?fips_county_code=37059. (Accessed January 2007).

Mobile sources include both on-road vehicles like cars, trucks and busses as well as off-road equipment like airplanes, construction and agricultural equipment. Such sources contribute significantly to air pollution, as nationwide mobile sources are responsible for 75% of carbon monoxide emissions and more nitrogen oxide emissions than either area or point sources (97). Mobile sources in Forsyth County produce more carbon monoxide (88%) nitrogen oxides (77%), small particulate matter (49%), and large particulate matter (61%) than any other source. Nationally, carbon monoxide (77.1%), nitrogen oxides (55.5%), and large particulate matter (40.3%) mostly come from mobile sources. Mobile sources are the primary source of criteria air pollutants in this County (74% of the total tonnage) and in the country (60.2%). County percentages are calculated from Table 10, for example, the 10,781 tons of CO released from area sources makes up 11% of the total 96,025. National percentages can be calculated similarly from information found at http://www.scorecard.org/env-releases/cap/us.tcl (97,98).

Area sources are defined as sources that emit less than 10 tons per year of a criteria or hazardous air pollutant or less than 25 tons per year of a combination of pollutants. Such sources include dry cleaners, gas stations and auto body paint shops, and residential and commercial buildings (heating and cooling units, fireplaces). Waste disposal in the form of open burning, landfills and wastewater treatment also are significant area sources (97). In Forsyth County, area sources account for 18% of all criteria air pollution and produce more volatile organic compounds (46%) than any other source. Nationally, area sources account for only 21.6% of criteria air pollutants, and are not the source for the majority of any of these pollutants.

Point sources are those facilities that emit 10 tons a year of any of the criteria or hazardous air pollutants or 25 tons per year of a mixture of air toxics. Such sources include major industrial facilities like chemical plants, steel mills, oil refineries, power plants and hazardous waste incinerators. Nationwide point sources contribute the majority (90%) of sulfur dioxide emissions, and account for about 40% of total nitrogen oxide releases (97). In Forsyth County point sources are a major contributor of sulfur dioxides (70%) and make up 8% of the total tonnage. Nationally point sources account for 18.1% of the total pollutants.

For comparative purposes, in Mecklenburg County, the county in North Carolina with the highest emissions of criteria air pollutants, mobile, area and point sources emitted a total of over 365,000 tons of pollutants, just over two times the tons of air pollutants generated in Forsyth County (99).

EPA Air Quality Non-Attainment Areas

As of December 2006, the EPA designated 32 North Carolina counties as "non-attainment" counties regarding ozone standards. The determination was based on air quality monitoring data that shows ozone levels exceed the 8-hour ozone standard in parts of North Carolina during the warmer months (100). The State is required to develop remediation plans for the non-attainment counties that include proposals for curbing ozone by reducing emissions from vehicles, industries and power plants (101). Forsyth County is one of these non-attainment counties.

Additionally, the EPA designated three North Carolina counties as "non-attainment" regarding small particulate matter. The State has successfully worked to improve particle pollution through legislative action via the 2002 Clean Smokestacks Act which targets coal-fired power plants to reduce particle forming emissions (102). Forsyth County is not on the current list of non-attainment counties.

The EPA has not designated any North Carolina counties as "non-attainment" for carbon monoxide, nitrogen dioxide, ozone (1 hour), sulfur dioxide, large particulate matter, or lead (100).

Vehicle Emission Inspection Mandates

As of January 1, 2006 48 of the 100 North Carolina counties have mandatory vehicle emission testing; Forsyth is among them. Most of the counties under the mandate are in major population centers or along the major Interstate Highway corridors spanning the State (103)

Vehicle Miles Driven

Since most criteria air pollutants are emitted by mobile sources, it is instructive to examine the patterns and trends in vehicle miles traveled (VMT) per capita (104). Table 11 provides a description of the annual vehicle miles traveled in the United States and in urban and rural areas of North Carolina for 2004. Comparable data for Forsyth County is not available.

Table 11. Annual Vehicle Miles Traveled (in millions of miles), 2004

	Rural		Urban		Total per
	Annual VMT	% Trucks	Annual VMT	% Trucks	Capita
North Carolina	47,183	12.6	48,720	9.1	11,222
US Average	20,985	15.6	37,103	7.7	10,077

Source: Federal Highway Administration. Highway Statistics 2004. Selected Measures for Identifying Peer States. Available at www.fhwa.dot.gov/policy/ohim/hs04/htm/ps1.htm. (Accessed January 2007).

According to data from the Energy Center at Appalachian State University, growth in energy consumption for the transportation sector has been outpacing overall energy consumption in the State. One of the primary causes of this growth in energy consumption has been the rapid growth in VMT. VMT figures in North Carolina have grown 3.9% per year over the past 21 years, and VMT per capita have increased 2.2% annually over approximately the same period (105)

Vehicles Powered by Alternative Fuels

One way to overcome air pollution from the combustion of gasoline is to power automobiles by alternative, lower-polluting fuels. According to date from the US Census Bureau (106) the number of vehicles in the US powered by alternative fuels has increased every year between 2002 and 2004 (Table 12).

Table 12. Number of Vehicles in the US Powered by Alternative Fuels, 2002-2004

Fuel Type	Number of Alternative Fueled Vehicles		
	2002	2003	2004
Liquefied petroleum gasses (LPG)	187,680	190,438	194,389
Compressed natural gas (CNG)	120,839	132,988	143,742
Liquefied natural gas (LNG)	2,708	3,030	3,134
Methanol, 85 percent (M85)	5,873	4,917	4,592
Ethanol, 85 percent (E85)	120,951	133,776	146,195
Electricity*	33,047	45,656	55,852
Total	471,098	510,805	547,9094

Key:* The category "electricity" excludes gasoline-electric hybrids.
Source: US Census Bureau. Publications. Statistical Abstract of the US: 2006. Section 23, Transportation. Table 1079, Alternative Fueled Vehicles in Use by Fuel Type: 2002-2004. Available at http://www.census.gov. (Accessed January 2007).

Given the recent influx of hybrid vehicles on the automotive market, it would be expected that future counts of alternative fueled vehicles would be much higher.

Mass Transportation

Each year, North Carolina's public transportation systems operate more than 1,900 vehicles and transport more than 40 million passengers. Through cooperative planning, public transportation systems in North Carolina are working with intercity passenger rail services, ferries, land-use planners and community leaders to create an intermodal, transportation network linking all areas of the State.

Currently, public transportation operates in all 100 North Carolina counties. Nearly half of these counties are predominantly rural, while others are almost completely urbanized or suburban. Seventeen city transit systems and one metropolitan regional transit system also operate in the State (107)

Forsyth County is served by Trans-AID of Forsyth County which operates a fleet of 24 mini-buses to provide transportation service to elderly and disabled residents for a 50-cent fare. Additionally, the City of Winston-Salem Transit Authority operates a bus system throughout the city for a fare of one dollar (107,108,109).

Hazardous Air Pollutants

Hazardous Air Pollutants (HAPs) refer to over 188 chemicals that can cause adverse effects on human health and the environment. They include substances that can cause cancer, as well as neurological, respiratory and reproductive effects in humans. HAPs are ranked by a method that combines exposure data from the US EPA National Scale Air Toxics Assessment with toxicity data to estimate the health risks posed by chemical pollutants in ambient air (110) The exposure estimates used in determining risk are based on 1996 emissions data, although they are generally consistent with current air monitoring data. The resulting risk estimates are based on models, and therefore are useful for relative ranking but not for predicting any individual's risk of suffering health effects from exposure (111)

Risk due to HAPs is estimated by two measures: added lifetime cancer risk for carcinogenic HAPs, and cumulative hazard indices for chemicals with noncancer effects. Added cancer risk is the estimated individual risk of getting cancer due to a lifetime exposure to outdoor hazardous air pollutants. The goal of the Clean Air Act is to reduce lifetime cancer risk from HAPs to 1 in 1,000,000, so added cancer risk is expressed as a multiple of this measure (112).

According to EPA data accessed via Environmental Defense, Mecklenburg County is the North Carolina county with the highest risks (cancer and non-cancer) from hazardous air pollutants. It also has the greatest population living in proximity to such risk. Of the 100 counties in North Carolina, Forsyth County ranked 6th in terms of an individual's added cancer risk. The estimated added cancer risk for the Forsyth County population is 590, that is, it is 590 times the goal set by the Clean Air Act (113)

The vast majority of the cancer risks (82%) in Forsyth County come from mobile sources, primarily diesel emissions from on road vehicles such as cars, buses and trucks, and off-road equipment, such as airplanes and agricultural and construction equipment (114) Diesel emissions are a *recognized* carcinogen, and *suspected* to be a cardiovascular or blood toxicant, and a respiratory toxicant (115)

Noncancer hazards are measured by the cumulative hazard index (CHI), which is determined by the ratio of a hazardous air pollutant concentration divided by its safe exposure level. Therefore, if a hazard index exceeds 1, the resulting exposure level may pose noncancer risks such as neurological, respiratory, reproductive, developmental or other adverse health effects. The goal of the Clean Air Act is to attain an "ample margin of safety to protect public health", or an index of less than one (112).

According to data from Environmental Defense, Forsyth County is ranked 7th for cumulative hazard index out of all North Carolina counties with a score of 2.4, which is well above the Clean Air Act goal of 1.0. Mecklenburg County, which is ranked as the county with the highest risks of any kind, has a cumulative hazard index of 3.5 (113).

The sources of the pollutants that contribute to non-cancer health risks are not as easy to pinpoint as those leading to cancer risks, and they vary much more from county to county. However the most significant non-cancer hazardous air pollutant in Forsyth County is acrolein (114). This chemical, ranked among the worst 10% of compounds hazardous to ecosystems and human health, is produced in high volume in consumer products, building materials or furnishings, and pesticide products, and contributes to indoor air pollution. Acrolein is *suspected* of being a carcinogen, a cardiovascular or blood toxicant, a developmental toxicant, a gastrointestinal or liver toxicant, a neurotoxicant, a respiratory toxicant, and a skin or sense organ toxicant (116). In Forsyth County, area sources contribute 26% to the cumulative hazard index while mobile sources contribute 71% to the CHI (114).

Indoor Ambient Air

The quality of the air inside buildings has received greater attention in recent years. Indoor ambient air pollutants may cause both short-term and long-term health effects. Immediate effects may show up after a single exposure or after repeated exposures. Health effects from indoor air pollutants include irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue. Such immediate effects are usually short-term and treatable. Sometimes the treatment is simply eliminating the person's exposure to the source of the pollution, if it can be identified. Symptoms of some diseases, including asthma, hypersensitivity pneumonitis, and humidifier fever, may also show up soon after exposure to some indoor air pollutants.

Other health effects may show up either years after exposure has occurred or only after long or repeated periods of exposure. These effects, which include some respiratory diseases, heart disease, and cancer, can be severely debilitating or fatal. It is prudent to try to improve the indoor air quality in homes and other structures even if symptoms are not noticeable.

The primary cause of indoor air quality problems in homes is sources that release gases or particles into the air, including sources of combustion (oil, gas, kerosene, coal and wood as well as tobacco products), wet, damp or deteriorated insulation or carpet, cabinetry and furniture made of certain pressed wood products, chemical products for cleaning, personal care, or hobbies, and central heating and cooling systems and humidification devices. Also of concern are gasses from the outside such as radon, pesticides and outdoor air pollution that seep into homes. Inadequate ventilation can increase indoor pollutant levels by not bringing in enough outdoor air to dilute emissions from indoor sources and by not carrying indoor air pollutants out of the home (117)

Carbon Monoxide

Carbon monoxide (CO) is called the silent killer because it cannot be seen, smelled or tasted, and it does not irritate the skin, eyes or lungs. Most accidental carbon monoxide poisonings occur from CO released by heaters or cars. People exposed to the gas are unaware they are breathing in the CO until they get sick. About 600 accidental deaths due to CO poisoning occur each year in the United States (118)

Carbon Monoxide Poisoning Deaths

In North Carolina in 2004, there were10 deaths due to *accidental* exposure to non-organic gases and vapors (including carbon monoxide) and an additional 30 deaths due to *intentional* self-poisoning; one death was due to an assault with gases and vapors. In 2005 there were 20 accidental deaths and 34 intentional deaths attributable to these causes (119).

According the NC State Center for Health Statistics, in 2005 there were 49 deaths statewide due to CO poisoning, 14 of which were unintentional. Three deaths due to CO poisoning occurred in Forsyth County in 2005 (120).

Radon

Radon is a naturally occurring, invisible, odorless gas that comes from soil, rock and water. It is a radioactive decay product of radium, which is in turn a decay product of uranium; both radium and uranium are common elements in soil. Radon usually is harmlessly dispersed in outdoor air, but when trapped in buildings it can be harmful. Most indoor radon enters a home from the soil or

rock beneath it, in the same way air and other soil gases enter: through cracks in the foundation, floors or walls, hollow-block walls, and openings around floor drains, heating and cooling ductwork, pipes, and sump pumps (121)

Radon may also be dissolved in water as it flows over radium rich rock formations. Dissolved radon can be a significant health hazard, although to a lesser extent than radon in indoor air. Homes supplied with drinking water from private wells or from community water systems that use wells as water sources generally have a greater risk of exposure to radon in water than homes receiving drinking water from municipal water treatment systems. This is because well water comes from ground water, which has much higher levels of radon than surface waters. Municipal water tends to come from surface water sources which are naturally lower in radon, and the municipal water treatment process itself tends to reduce radon levels even further (122).

Trace amounts of uranium are sometimes incorporated into construction materials such as concrete, brick, granite and drywall. Although these materials have the potential to produce radon, they are rarely the main cause of elevated radon levels in buildings (121).

Elevated levels of radon have been found in many counties in North Carolina, but the highest levels have been detected primarily in the upper Piedmont and mountain areas of the State where the soils contain the types of rock (gneiss, schist and granite) that have naturally higher concentrations of uranium and radium. Eight counties in North Carolina appear to have the highest levels of radon, exceeding, on average, 4 pCi/L (pico curies per liter). These counties are Alleghany, Buncombe, Cherokee, Henderson, Mitchell, Rockingham, Transylvania and Watauga (123)

Forsyth County is among the 31 North Carolina Counties with predicted average indoor radon levels in the mid-range, between 2 and 4pCi/L (124). According to county-level data provided by the NC Radon Program, the average radon level among 433 Forsyth County air samples reported in 2004 was 3.53 pCi/L (125)

Health Risks of Radon

The primary risk of exposure to radon gas is an increased risk of lung cancer. Smokers are at higher risk of developing radon-induced lung cancer than non-smokers. There is no evidence that other respiratory diseases, such as asthma, are caused by radon exposure, nor is there evidence that children are at any greater risk of radon-induced lung cancer than are adults (126)

In recent years, the US EPA has worked with the National Academy of Sciences to update the estimates of lung cancer risks from indoor radon. The EPA's updated best national estimate of annual lung cancer deaths from radon is about 21,000 (127)
Table 13 shows the lifetime risk of lung cancer death per person from radon exposures of certain levels in homes.

Table 13. Lifetime Risk of Lung Cancer Death (per person) from Radon Exposure in the Home

Radon Level (pCi/L)	Never Smokers	Current Smokers	General Population
20	36 out of 1,000	260 out of 1,000	110 out of 1,000
10	18 out of 1,000	150 out of 1,000	56 out of 1,000
8	15 out of 1,000	120 out of 1,000	45 out of 1,000
4	73 out of 10,000	620 out of 10,000	230 out of 10,000
2	37 out of 10,000	320 out of 10,000	120 out of 10,000
1.25	23 out of 10,000	200 out of 10,000	73 out of 10,000
0.4	73 out of 100,000	640 out of 100,000	230 out of 100,000

NB: Assumes constant lifetime exposure in homes at these levels
Source: US EPA. Air. Indoor Air Quality. Radon. Assessment of Risks from Radon in the Home. Available at http://www.epa.gov/radon/risk_assessment.html. (Accessed February 2007).

Environmental Tobacco Smoke

In 1992, the EPA completed its risk assessment on *The Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders* and concluded that the widespread exposure to environmental tobacco smoke (ETS) in the United States presents a serious and substantial public health impact. Children are particularly susceptible to the effects of passive smoking. Their bronchial tubes are smaller and their immune systems are less developed, making them more likely to develop respiratory and ear infections when exposed to environmental tobacco smoke. Because they have smaller airways, children breathe faster than adults and consequently breathe in more harmful chemicals per pound of their weight than an adult would in the same amount of time (128).

A review by the World Health Organization concluded that passive smoking is a cause of bronchitis, pneumonia, coughing and wheezing, asthma attacks, middle ear infection, cot death, and possibly cardiovascular and neurobiological impairment in children (129) Asthma is the most common chronic disease of childhood. There is now compelling evidence that passive smoking is a risk factor for the induction of new cases of asthma as well as for increasing the severity of disease among children with established asthma. Infants of mothers who smoke have almost five times the risk of dying from Sudden Infant Death Syndrome compared to those whose mothers do not smoke. Parental smoking is also responsible for a 20%-40% increased risk of middle ear disease in children (128).

A University of North Carolina at Chapel Hill survey showed that childhood smoking and exposure to environmental tobacco smoke were responsible for about 15 percent of asthma cases in the youngsters surveyed and resulted in an estimated $1.34 million in excess medical costs. Statewide, there are an estimated 2,659 cases of asthma attributable to environmental tobacco smoke and 198 cases attributable to current childhood cigarette use in this survey. Since the annual cost of treating a single active asthma case in North Carolina in that age group is $471 (in 2001 dollars), parents and others spend $1.34 million a year to provide care for the excess asthma cases resulting from tobacco exposures (130).

According to CDC data (131), in 1996 25.7% of adults responding to the North Carolina BRFSS self-identified as “current smokers”. In that same year, 10.1% of North Carolina households had an adult smoker and children living in the home. According to CDC estimates, 23.1% of all

children under 18 in the United States were exposed to ETS in the home; in North Carolina the comparable exposure figure was 26.1% (Table 14).

Table 14. Prevalence of Cigarette Smoking Among Adults, and Children's Exposure to Environmental Tobacco Smoke, North Carolina and United States, Percent of Households except as noted, 1996

	Current Smoker % of Adults ≥18	Current Smoker and Children in the Home	Smoking Allowed in All or Some Areas of the Home	Children Exposed to ETS in the Home	
				No. Children	% Children
North Carolina	25.7%	10.1%	87.5%	416,544	26.1%
United States	23.6%	9.8%	87.5%	229,446	23.1%

Source: Centers for Disease Control and Prevention. (November 7, 1997). State-Specific Prevalence of Cigarette Smoking among Adults, and Children's and Adolescents' Exposure to Environmental Tobacco Smoke – United States, 1996. *MMWR. Weekly Report, 46*(44), 1038.

According to the 2006 Behavioral Risk Factor Surveillance System Survey, 22.% respondents statewide self-identify as "current smokers". According to BRFSS data for Forsyth County, 23.3% of respondents self-identified as "current smokers" (132).

As noted in Table 14 above, in 1996, 87.5% of households in North Carolina and the United States allowed smoking in all or some areas of the home. According to 2004 BRFSS data, the percent of North Carolina households allowing smoking in all or some areas of the home, or without rules about smoking had decreased dramatically to 27.7%; the percent dropped even further by 2006, to 24.8% (133)). The percentage of households allowing smoking in Forsyth County was 32.6% in 2004 and 25.6% in 2006 (Table 15).

Table 15. BRFSS Results: Household Smoking Policies, Percent of Responses, 2004 and 2005

	Not Allowed Anywhere		Allowed in Some Places		Allowed Anywhere		No Rules About Smoking	
	2004	2006	2004	2006	2004	2006	2004	2006
Forsyth County	67.4	74.4	10.5	7.8	5.6	5.0	16.5	12.8
North Carolina	72.3	75.2	8.1	8.2	7.0	4.2	12.6	12.4

Source: NC State Center for Health Statistics. 2004 & 2006 BRFSS Survey Results: North Carolina. Second Hand Smoke Policy. NC Statewide; Forsyth County. Available at http://www.schs.state.nc.us/SCHS/brfss/2006/index.html. (Accessed October 2007).

Indoor Air Quality Regulations and Policies

Smoke-Free Workplaces

North Carolina does not have a complete inventory of smoke free workplaces. However, WorkingSmokeFree.com is a website where workplaces may voluntarily register their smoke free status. There are no workplaces in Forsyth County on record as being officially smoke free (134) Similarly, StepUp NC provides a voluntary registry of smoke free restaurants available at http://stepupnc.com/do/smokefreedining.htm (135)

Data summarized by the American Lung Association (136) indicates that as of August 3, 2006 North Carolina had no overarching state laws regulating clean indoor air in public places or in private workplaces. Legislation passed in 2006, however, effectively regulates the use of tobacco products in government buildings. NC General Statute §§ 143-595 et seq. (2006) stipulates:

> *The following areas may be designated as non-smoking areas in buildings owned, leased, or occupied by the state government. A library or museum open to the public; an area established as a non-smoking area, as long as at least 20 percent of the interior area, of equal quality, is required to be designated as a smoking area; any indoor space in an auditorium or arena except a designated smoking area shall be established in the lobby; any educational buildings primarily involved in health care instruction, and certain buildings/areas in University of North Carolina schools. Existing physical barriers and ventilation systems shall be used for non-smoking areas. All areas of any buildings occupied by the General Assembly are also smokefree. Exempt from this law are primary or secondary schools or day care centers -- except for a teacher's lounge, enclosed elevators, public school buses, hospitals, nursing homes and other rest homes, local health departments and the grounds of local health departments, local departments of social services and the grounds of local departments of social services, tobacco manufacturing, processing or administrative facilities, indoor arenas with a seating capacity greater than 23,000 people, state correctional facilities operated by the Department of Correction, community colleges and nonprofit organizations whose primary purpose is to discourage the use of tobacco products by the general public. Individuals who continue to smoke in a non-smoking area, despite notice by the person in charge, will be guilty of an infraction and be fined no more than $25. This law does not supersede any local law, rule, or ordinance enacted prior to October 1, 1993. After this date, local laws, rules, or ordinances shall not be amended or enacted to contain restrictions regulating smoking, which exceed those in this law.*

In addition, according to NC General Statute § 148-23.1 (2006):

> *No person may use tobacco products inside of a state correctional facility, except for authorized religious purposes. Inmates in violation of this section are subject to disciplinary measures to be determined by the department, including the potential loss of sentence credits earned prior to that violation. Employees in violation are subject to disciplinary action by the department. Visitors in violation are subject to removal from the facility and loss of visitation privileges.*

The State has had enabling legislation on the books since 2003 (NC General Statute §§ 115C-407) permitting local boards of education to adopt and enforce policies prohibiting the use of all tobacco products in public school buildings, in school facilities, on school campuses, or at school-related or school-sponsored events, and in or on other school property.

School-Focused Policies

An issue of growing importance these days is the air quality in our nation's schools. A study published by the US Government Accounting Office and the Department of Health and Human Services estimates that 8.4 million students attend schools with poor indoor air quality. Poor air quality can affect children's desire and ability to learn and can cause them to miss valuable days of school (137) According to the National Association of State Boards of Education, the State of North Carolina does not have any statutes specifically addressing indoor air quality in schools; however, North Carolina general Statute §130A-236 (1998) requires the Commission for Health Services to adopt rules establishing sanitation requirements, which include cleanliness, adequate lighting, ventilation, and waste disposal, for public, private, and religious schools, and requires the Department of Environmental and Natural Resources to conduct an annual inspection of schools (138)

Tobacco-Free Schools

One factor greatly affecting indoor air quality in schools is the school district's or Board of Education's school tobacco policies. Having a tobacco-free school environment is important in achieving physical, mental, and social health goals for students, staff, the school and the district. On July 18, 2007, Governor Easley signed Senate Bill 1086 which requires all North Carolina public schools to be 100% tobacco-free by August 2008 (139) As of September 2007, 86 of North Carolina's 115 School districts already had adopted 100% Tobacco-Free policies, and Forsyth County Schools were among them (140)

Health Effects of Air Pollution

Air pollution poses many health risks and different pollutants can lead to respiratory problems, exacerbated allergies, asthma, and increased incidence of cardiovascular disease. This is especially true for vulnerable populations such as children, the elderly, pregnant women, those with heart or lung disease, and people with weakened immune systems.

Sick Building Syndrome/Building Related Illness

According to the US EPA (1), the term "sick building syndrome" (SBS) is used to describe situations in which building occupants experience acute health and comfort effects that appear to be linked to time spent in a building, but for which no specific illness or cause can be identified. The complaints may be localized in a particular room or zone, or may be widespread throughout the building. In contrast, the term "building related illness" (BRI) is used when symptoms of diagnosable illness are identified and can be attributed directly to airborne building contaminants.

A 1984 World Health Organization Committee report suggested that up to 30 percent of new and remodeled buildings worldwide may be the subject of excessive complaints related to indoor air quality (IAQ). Often this condition is temporary, but some buildings have long-term problems. Frequently, problems result when a building is operated or maintained in a manner that is inconsistent with its original design or prescribed operating procedures. Sometimes indoor air problems are a result of poor building design or occupant activities.

Indicators of SBS include:

- Building occupants complain of symptoms associated with acute discomfort, e.g., headache; eye, nose, or throat irritation; dry cough; dry or itchy skin; dizziness and nausea; difficulty in concentrating; fatigue; and sensitivity to odors.
- The cause of the symptoms is not known.
- Most of the complainants report relief soon after leaving the building.

Indicators of BRI include:

- Building occupants complain of symptoms such as cough; chest tightness; fever, chills; and muscle aches.
- The symptoms can be clinically defined and have clearly identifiable causes.
- Complainants may require prolonged recovery times after leaving the building.

It is important to note that complaints may result from other causes. These may include an illness contracted outside the building, acute sensitivity (e.g., allergies), job related stress or dissatisfaction, and other psychosocial factors. Nevertheless, studies show that symptoms may be caused or exacerbated by indoor air quality problems (141).

A number of factors have been cited as causing or contributing to SBS, among them:

- Inadequate ventilation.
- Chemical contaminants from indoor sources (adhesives, carpeting, upholstery, manufactured wood products, copy machines, pesticides, and cleaning agents, especially those emitting volatile organic compounds; environmental tobacco smoke; respirable particulate matter; and combustion products such as carbon monoxide and nitrogen dioxide from unvented kerosene and gas space heaters, woodstoves, fireplaces and gas stoves).
- Chemical contaminants from outdoor sources (pollutants from motor vehicle exhausts; plumbing vents, and building exhausts that enter buildings through poorly located air intake vents, windows, and other openings or garages).
- Biological contaminants (bacteria, molds, pollen, and viruses that may breed in stagnant water in ducts, humidifiers and drain pans, or where water has collected on ceiling tiles, carpeting, or insulation; also in insect or bird droppings).

In order to establish a cause and effect relationship between the symptoms of an illness and a contaminant of an indoor environment it is necessary to conduct an investigation that demonstrates both (a) the presence of a contaminant in the environment and, and (b) that the physical or mental complaint is actually caused or exacerbated by that contaminant. Proving such relationships is exceedingly difficult.

An Industrial Hygiene Consultant in the Occupational and Environmental Epidemiology unit in the Epidemiology Section of the NC Division of Public Health maintains a database of city and county level data on indoor air quality complaints received during intake calls, including the type of facility, the type of complaint, and the complainant. However, it is important to note that this database requires the initiative of complainants and therefore may be subject to fluctuations of public awareness about indoor air quality hazards. In 2005 and 2006, there were twenty-four indoor air quality complaints in Forsyth County. The majority of complaints (17) were for mold, three complaints were for fuel oil spills, two for sewage odors, one for flood damage, and one for fire damage (142)

Asthma

Asthma is a chronic respiratory disease characterized by episodes or attacks of inflammation and narrowing of small airways in response to asthma “triggers.” Asthma attacks can vary from mild to life-threatening and involve shortness of breath, cough, wheezing, chest pain or tightness, or a combination of these symptoms.

Sources of indoor and outdoor air pollution can trigger asthma attacks. Some of the most common indoor asthma triggers include secondhand smoke, dust mites, mold, cockroaches and other pests, and combustion byproducts (143) Outdoor triggers include high levels of ozone and particulate pollution, which have been associated with 10-20% of all respiratory hospital visits and admissions (144).

/Asthma Mortality

According to data from the CDC (145) in 2002, 4,261 people died from asthma in the United States. Among children, asthma deaths are rare. Nationwide, 187 children aged 0-17 years died from asthma in 2002. That indicates a mortality rate of 0.3 deaths per 100,000 children, compared to 1.9 deaths per 100,000 adults aged 18 and over. Non-Hispanic blacks were the most likely to die from asthma, and had an asthma death rate over 200% higher than non-Hispanic whites and 160% higher than Hispanics. National estimates for Hispanic subgroups,

such as Puerto Ricans and Mexicans, are not available. Females had an asthma death rate about 40% higher than males.

In 2005, there were 7,617 respiratory disease deaths statewide, 107 of which were attributed to asthma. In Forsyth County in 2005 there were 299 deaths due to respiratory diseases, three of which were specifically attributed to asthma (146)

Asthma Morbidity

Prevalence. The prevalence of asthma in the US increased by more than 73% between 1980 and 1999, during which interval children and certain racial groups, especially African Americans, experienced relatively greater increases in asthma prevalence (147).

According to CDC data based on the national BRFSS Survey, in 2002, 12.9% of the adult respondents in North Carolina reported having been diagnosed with asthma at some point in their lifetime, compared to a national average of 10.1% (148). According to the 2006 BRFSS Survey, the lifetime prevalence of asthma in Forsyth was 9.7%; statewide, the comparable figure for lifetime asthma prevalence was 10.9% (149)

According to the National Survey of Children's Health, in 2003 9.0% of North Carolina children currently suffered from asthma, compared to 8.9% of children nationwide (150) In School Year 1999-2000 the North Carolina School Asthma Survey was conducted statewide in North Carolina 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 children in the seventh and eighth grades. According to the results of that survey, the prevalence of asthma among school-aged children in Forsyth County is 10.3%, while the prevalence of undiagnosed wheezing is 16.4%. Based on these findings, Forsyth County ranks 61st of all NC counties for prevalence of diagnosed asthma, and 38th for undiagnosed wheezing (151).

The burden of asthma in a community can also be assessed by reviewing rates of hospitalizations and emergency department admissions and discharges for acute asthma events. In 2005, there were 322 asthma-related hospital discharges among the total population in Forsyth County, equaling a hospitalization rate of 98.7 per 100,000, compared to a rate of 128.5 per 100,000 for the State as a whole. Among children aged 0-14, the 2005 Forsyth County hospitalization rate was 125.2 per 100,000, compared to a statewide hospitalization rate of 164.6 per 100,000 (152)

Cardiovascular and Respiratory Events

During the last decade, epidemiological studies conducted worldwide have shown a consistent, increased risk for cardiovascular events, including heart and stroke deaths, in relation to short- and long-term exposure to outdoor air pollution, especially particulate matter. Elderly patients, people with underlying heart or lung disease, lower socioeconomic populations and diabetics may be at particularly increased risk. Investigations of adverse effects of particulate air pollution have found a 1% increase in total mortality for each 10 mg/m^3 increase in particulate matter, with respiratory mortality increasing 3.4% and cardiovascular mortality increasing 1.4% (151)

Rates of cardiovascular and respiratory disease in Forsyth County are discussed thoroughly in Volume 1 (Demographic, Socioeconomic and Health Data) of the Forsyth County Community Health Assessment. At the present time there is no simple mechanism for linking cardiovascular or respiratory events to air pollution at the county level.

Toxic Chemical Releases

Toxic Release Inventory

Over 6.5 billion pounds of toxic chemicals are released into the nation's environment each year. The US Toxic Releases Inventory (TRI), created in 1986 as part of the Emergency Planning and Community Right to Know Act, is the tool the US EPA uses to track these releases. Certain industrial facilities are required to report estimates of their environmental releases and waste generation annually to the TRI. Their reports estimate the facilities' releases of any of approximately 650 toxic chemicals to air, water, and land, as well as the quantities of chemicals they recycle, treat, burn or dispose of in any way on-site or off-site. These reports do not cover all toxic chemicals, and they omit pollution from motor vehicles and small businesses. Because TRI facilities in North Carolina and most other states are not required to report the quantities of toxic chemicals actually *used* (inputs), and report only *estimates* of emissions rather than actual outputs, TRI data may not be entirely realistic (154)

In 2002, North Carolina ranked among the 20% dirtiest states in the US in terms of total major chemical releases to the environment, ranking 12th out of 56 US states and territories (155) Of the 80 North Carolina counties ranked in 2002, Forsyth is listed as 20th and it ranks among 30% of dirtiest counties in the nation. Davie County was considered the best county in the State in terms of total environmental releases while Person County was considered the worst (156) Table 16 compares the releases among these three counties. Total Forsyth County Releases decreased 78% between 1988 and 2002.

Table 16. Comparison of TRI Pollution, 2002

County	Ranking in NC (out of 80)	Pounds Released	Top Pollutant Released	Pounds of Top Pollutant Released	Primary Method of Release
Person	1	19,125,859	Hydrochloric Acid	14,802,518	Air/Land
Forsyth	20	1,263,106	Glycol Ethers	339,837	Air
Davie	80	1	Lead Compounds	1	Air

Source: Scorecard, Pollution Locator, Toxic Chemical Releases. Available at: http://www.scorecard.org/ranking/rank-counties.tcl?fips_state_code=37&type=mass&category=total_env&modifier=na&how_many=100 (Accessed January 2007).

North Carolina ranks fourth out of 56 US states, territories and protectorates which release chemicals to the air, seventh out of 54 for chemical releases to water, and 18th out of 55 with regards to chemical releases to land. Eighty-one percent of the State's total emissions were air releases, which include all TRI chemicals emitted by a plant from its smoke stacks and from "fugitive sources" such as leaking valves, spills and evaporative losses (155). The majority (99.9%) of TRIs in Forsyth County are released into the air (155) Water releases, which include discharges to streams, rivers, lakes, oceans and other bodies of surface water, account for approximately 7% of the total in North Carolina (**Error! Bookmark not defined.**), but 0% of the total in Forsyth County (157) Land releases, which include all the chemicals disposed on land in landfills, via farming, in surface impoundments, and via accidental spills or leaks, comprise the second most important category of releases in North Carolina (11%) (155), and make up 0.1% of releases in Forsyth County (157). The following section identifies the primary point sources and health risks associated with the most abundant pollutants emitted in Forsyth County.

In 2002 the Forsyth County facilities releasing the most TRI chemicals were, in decreasing order of significance, Rexam Beverage Can Co. in Winston-Salem (481,052 pounds of primarily glycol ethers), R.J. Reynolds Tobacco Co. in Tobaccoville (305,362 pounds of primarily hydrochloric acid), and R.J. Reynolds Tobacco Co. Whitaker Park Consolidated Units in Winston-Salem

(176,449 pounds of primarily hydrochloric acid) (158) It should be noted that all total TRI chemical releases in these facilities were reduced between 1988 and 2002, by 32%, 58%, and 0.5% respectively (158)

Forsyth County ranks 5th in the State (out of 81 ranked counties) in terms of production related waste – 22,704,098 pounds compared to the worst county, New Hanover with almost 174 *million* pounds of total production-related waste (156) Total production-related waste is the sum of all non-accidental chemical waste generated at a facility, and includes on-site environmental releases, on-site waste management (recycling, treatment and combustion for energy recovery) and off-site transfer for any purpose). The Forsyth County facilities generating the most production-related waste include, in decreasing order of significance: Douglas Battery Manufacturing Co. in Winston-Salem (10,978,629 pounds of primarily lead compounds), Johnson Controls Battery Group, Inc. in Kernersville (6,044,307 pounds of primarily lead compounds), and Highland Industries In Kernersville (2,907,539 pounds of primarily toluene) (158). Of these facilities, the first two reduced their production-related waste from 1991 to 2002 by 74% and 42% respectively. Highland Industries increased its production-related waste by 55% over the same time period (158).

For purposes of relating chemical releases to the health of the public, TRI chemicals are categorized as having "cancer risks" or "noncancer risks". The ranking system, based on pounds of releases, uses a weighting factor so chemical releases can be compared on a common scale that takes into account both exposure and toxicity. The weighted result, referred to as a Toxic Equivalency Potential (TEP), is a relative measure of human health risk associated with a release of one pound of subject chemical compared to the risk posed by the release of one pound of a reference chemical. All releases of carcinogens are converted to pounds of benzene equivalents; all releases of chemicals that cause noncancer health effects are converted to pounds of toluene equivalents. Each chemical's TEP is multiplied by its release quantity (in pounds) to determine the chemical's local risk score (159)

Forsyth County ranks 12th in North Carolina in overall cancer risk score (160) and 9th in overall non-cancer risk score (161) Table 17 and Table 18 list the cancer (162) and non-cancer risk scores (163) and sources of the major chemical releases in Forsyth County. Chromium and lead compounds were the leading cancer and noncancer risk TRI releases.

Table 19 details the health effects of the chemicals contributing most to the cancer and non-cancer risk scores of TRI releases in Forsyth County (164).

Table 17. Forsyth County Major Cancer Risk TRI Releases, 2002

Chemical	Cancer Risk Score (pounds of benzene-equivalents)	Major Source	Cancer Risk Score from Major Source
Chromium	66,000	Advanced Turbine Components, Inc.	33,000
Lead Compounds	53,000	Douglas Battery Mfg. Co.	29,000
Lead	200	Tyco Electronics Corp. Bldg 067	190
Nickel	63	Advanced Turbine Components, Inc.	28
Nickel Compounds	48	Tyco Electronics Corp. Bldg 067	48

Source: Environmental Defense. Scorecard. Pollution Rankings, Toxic Chemical Releases, Ranked by Cancer Risk Score. Available at: http://www.scorecard.org/env-releases/county-health-impact-detail.tcl?fips_county_code=37067&cancer_p=1 (Accessed April 2007).
Source: Environmental Defense. Scorecard. Pollution Locator. By Counties in North Carolina. Facilities Contributing to Cancer Hazards. Available at: http://www.scorecard.org/ranking/rank-facilities-in-county.tcl?how_many=100&drop_down_name=Cancer+risk+score&fips_state_code=37&fips_county_code=37067&sic_2=All+reporting+sectors (Accessed April 2007).

Table 18. Forsyth County Major Noncancer Risk TRI Releases, 2002

Chemical	Noncancer Risk Score (Pounds of toluene-equivalents)	Major Source	Pounds of Toluene-Equivalents
Lead Compounds	1,100,000,000	Douglas Battery Mfg. Co.	600,000,000
Mercury Compounds	500,000,000	R.J. Reynolds Tobacco Co.	380,000,000
Hydrochloric Acid	4,200,000	R.J. Reynolds Tobacco Co.	2,600,000
Lead	4,100,000	Tyco Electronics Corp. Bldg 067	4,000,000
Copper	3,800,000	R.J. Reynolds Tobacco Co. Pkg 200	3,100,000
Chromium	1,200,000	Turbocare, Inc.	620,000

Source: Environmental Defense. Scorecard. Pollution Rankings. Toxic Chemical Releases. Ranked by Noncancer Risk Score. Available at: http://www.scorecard.org/env-releases/county-health-impact-detail.tcl?fips_county_code=37067&cancer_p=0. (Accessed April 2007).
Source: Environmental Defense. Scorecard. Pollution Locator. By Counties in North Carolina. Facilities Contributing to Non-cancer Hazards. Available at: http://www.scorecard.org/ranking/rank-facilities-in-county.tcl?how_many=100&drop_down_name=Noncancer+risk+score&fips_state_code=37&fips_county_code=37067&sic_2=All+reporting+sectors (Accessed April 2007).
NB: This table does not list all the non-cancer hazards in Forsyth County. For the complete list please see the first source.

Table 19. Health Effects of TRI Chemicals Released in Forsyth County

Chromium	Suspected carcinogen, gastrointestinal or liver toxicant, immunotoxicant, kidney toxicant, reproductive toxicant, respiratory toxicant, and skin or sense organ toxicant.
Copper	Suspected cardiovascular or blood toxicant, developmental toxicant, gastrointestinal or liver toxicant, kidney toxicant, reproductive toxicant, and respiratory toxicant.
Hydrochloric Acid	Suspected gastrointestinal or liver toxicant, immunotoxicant, musculoskeletal toxicant, respiratory toxicant, and skin or sense organ toxicant.
Lead	Recognized carcinogen, developmental toxicant, and reproductive toxicant; suspected cardiovascular or blood toxicant, endocrine toxicant, gastrointestinal or liver toxicant, immunotoxicant, kidney toxicant, neurotoxicant, respiratory toxicant, and skin or sense organ toxicant.
Lead Compounds	Recognized carcinogen and developmental and reproductive toxicant; suspected cardiovascular, gastrointestinal, kidney and neuro- and immuno-toxicant.
Mercury Compounds	Recognized developmental toxicant; suspected carcinogen, cardiovascular or blood toxicant, and neurotoxicant.
Nickel	Recognized carcinogen; suspected cardiovascular or blood toxicant, developmental toxicant, immunotoxicant, kidney toxicant, neurotoxicant, reproductive toxicant, respiratory toxicant, and skin or sense organ toxicant.
Nickel Compounds	Recognized carcinogen; suspected cardiovascular or blood toxicant, developmental toxicant, immunotoxicant, reproductive toxicant, respiratory toxicant, and skin or sense organ toxicant.

Source: Environmental Defense. Scorecard. Chemical Profiles. Available at: http://www.scorecard.org/chemical-profiles/index.tcl (Accessed April 2007).

Land Contamination

Superfund Sites

Forsyth County currently does not have any sites on EPA's National Priorities List (NPL), commonly known as the Federal "Superfund" Program List. Superfund sites are some of the nation's worst toxic waste sites, made eligible by law for long-term remediation. North Carolina currently has 31 superfund sites, just above the national average for all states. The 31 North Carolina Superfund Sites are scattered statewide in 20 counties and of those, none in the same region as Forsyth County (165)

Brownfields

The US EPA began the Brownfields Initiative in 1995 to encourage the clean-up and reuse of abandoned contaminated properties. A Brownfields site is any real property that is abandoned, idle or underutilized where environmental contamination, perceived or real, hinders redevelopment. Loans are very difficult to obtain when property comes with potential environmental cleanup liability; the NC Brownfields program aims to alleviate that liability for possible developers. As of May 10, 2007, 97 Brownfields Agreements had been negotiated in North Carolina; there were 119 active eligible projects and 26 more pending. Seven active eligible projects are located in Forsyth County (Table 20) (166).

Table 20. Active Eligible Brownfields Projects in Forsyth County

Project Name	Address	Location
Airport Exxon	3305 N Liberty Street	Winston-Salem
Millennium Fund	923 Brookstown Ave	Winston-Salem
Piedmont Triad Research Park	Vine Street	Winston-Salem
Piedmont Triad Research Park	401 E 3rd Street	Winston-Salem
Stratford Metal-New	807 S Marshall Street	Winston-Salem
TFI Finishing Building West	1200 Patterson Ave	Winston-Salem
West End Village	201 N Broad Street	Winston-Salem

Source: NC Department of Environment and Natural Resources. Division of Waste Management. North Carolina Brownfields Project. Program Inventory as of 3/31/07. Available at http://www.ncbrownfields.org/project_inventory.asp. (Accessed April 2007).

Inactive Hazardous Sites

In 1987 the North Carolina General Assembly enacted the North Carolina Inactive Hazardous Sites Response Act, establishing a program to protect the public and the environment from uncontrolled and unregulated hazardous waste sites that are not addressed by other environmental programs. The Inactive Hazardous Site Branch (IHSB) of DENR can deal with any site where hazardous substance or waste contamination exists that isn't already under the jurisdiction of another program. IHSB assesses sites, maintains the list of current sites and oversees the remediation process. There are twenty-seven such sites in Forsyth County (Table 21) (167).

Table 21. Inactive Hazardous Sites in Forsyth County

Site Name	Address	City
AMP INCORPORATED	4798 KINNAMON ROAD	CLEMMONS
AMP INCORPORATED	3900 REIDSVILLE ROAD	WINSTON-SALEM
BOWMAN GRAY-FRIEDBURG CAMPUS	WELFARE ROAD	WINSTON-SALEM
CAROLAWN COMPANY	1426 W MOUNTAIN ST	KERNERSVILLE
DOUGLAS BATTERY MANUFACTURING CO.	500 BATTERY DR	WINSTON-SALEM
FLAKT PRODUCTS	200 LOWERY STREET	WINSTON-SALEM
HAYES-ALBION CORP/BRIGGS-SHAFFNER	3760 KIMWELL DR	WINSTON-SALEM
HIGHLAND INDUSTRIES/BURLINGTON IND.	215 DRUMMOND ST/SR 2089	KERNERSVILLE
INDUSTRIAL METAL ALLOY	20 E ACADIA AVE	WINSTON-SALEM
JOHNSON CONTROLS GLOBE BATTERY	OLD GREENSBORO ROAD	WINSTON-SALEM
P&B DISTRIBUTION CHEMICAL FIRE	744 CHATHAM RD	WINSTON-SALEM
PIEDMONT HAWTHORNE	3817 N LIBERTY ST	WINSTON-SALEM
RJR ARCHER, INC.	CUNNINGHAM AVE	WINSTON-SALEM
RJR ARCHER, INC.	220 EAST POLO ROAD	WINSTON-SALEM
SHERWOOD TREATING CO., INC.	1660 SILAS CREEK PKWAY	WINSTON-SALEM
SOUTH MAIN ST SEWER LINE EXT	4660 FOLLANSBEE RD	WINSTON-SALEM
SPRUANCE SOUTHERN, INC.	HWY 8	WINSTON-SALEM
STEWART-WARNER CORP/BASSICK-SACK	2941 INDIANA AVE	WINSTON-SALEM
STRATFORD METAL FINISHINGS, INC.	807 S MARSHALL ST	WINSTON-SALEM
STROH/CHITTY FARM	OLD MILWAUKEE LANE	WINSTON-SALEM
SUN CHEM CORPORATION/GPI DIV	2400 0LD LEXINGTON ROAD	WINSTON-SALEM
SUPERIOR ELECTRO FINISHES	115 EAST POLO ROAD	WINSTON-SALEM
THIELE-ENGDAHL, INCORPORATED	1100 FAIRCHILD RD	WINSTON-SALEM
VARCO-PRUDEN BUILDINGS	1140 WEST MOUNTAIN STREET	KERNERSVILLE
VC CHEMICAL	N LIBERTY ST	WINSTON-SALEM
WINSTON-SALEM COAL GAS PLANT NO. 1	BETWEEN EAST 3RD & 4TH	WINSTON-SALEM
WINSTON-SALEM COAL GAS PLANT NO. 2	HIGH STREET & BRANCH AVE	WINSTON-SALEM

Source: NC Department of Environment and Natural Resources. Division of Waste Management. Superfund Section. Inactive Hazardous Sites Branch. Available at http://www.wastenotnc.org/sfhome/ihsbrnch.htm. (Accessed January 2007).

Hazardous Substances Emergency Events

Since 1990, the Agency for Toxic Substances and Disease Registry (ATSDR) has maintained an active, state-based Hazardous Substances Emergency Events Surveillance (HSEES) system to describe the public health consequences associated with the release of hazardous substances. The North Carolina Division of Public Health has participated in the system since 1991, collecting information on acute hazardous substances emergency events.

Through this program, public health professionals study and describe the public health effects associated with releases of hazardous substances such as ammonia, chlorine, acids, pesticides, paints, and dyes, but *not* petroleum products (168).

Although the data presented below is dated, it is included here as a baseline for comparison with data in future assessments.

HSEES Events in North Carolina

A total of 1,087 statewide hazardous substances emergency events were reported to the HSEES system between 1998 and 2001 by the N.C. Division of Public Health, Occupational and Environmental Epidemiology Branch. Approximately 2% of these events were threatened releases. Thirty-four percent of the events occurred at fixed facilities, and 66% were transportation-related events.

Fixed-facility events occur in various areas of the facilities; approximately 27% occurred in above-ground storage areas, 22% in piping, 13% in material handling, and 10% in process vessels. In transportation-related events, 92% occurred during ground transport (for example, truck, van, or tractor), and 7% involved transport by rail. The remaining transportation-related events involved water, air, or pipeline transport. Human error was a contributing factor in 41% of the events, 23% involved equipment failure, 16% involved improper filling or loading, and the remaining events were attributable to other factors. (Information on factors contributing to transportation events was not collected until 2000.) The most commonly reported hazardous substances released were in the category “Other” (24%); 19% of the events involved volatile organic compounds, 9% involved acids, and 13% involved other inorganic compounds. During this reporting period 106 events resulted in a total of 417 victims, four of whom died. The most common adverse health effects experienced among the survivors were respiratory irritation (264 victims), eye irritation (100 victims), gastrointestinal problems (68 victims) and trauma (42 victims). One-hundred thirty-eight, or almost 13% of the 1087 events required evacuation (169).

HSEES Events in Forsyth County

There were 77 such events for Forsyth County reported between 1998 and 2001: 25 (31.5%) were fixed facility and 52 (67.5%) were transportation-related (169). No injury data are available for these events.

Lead Hazards

Lead is a highly toxic metal that was used for many years in products found in and around the home. Elevated exposure to lead can cause serious health effects, particularly by disrupting normal neurological development in young children. Lead exposure typically occurs in and around the house as a result of deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated soil. Recent news coverage has directed attention to lead levels in children's toys.

Housing Units at Risk

One way to estimate the potential burden of lead hazards is to examine local housing and demographic indicators to identify areas with housing at high risk of lead hazards. Studies have demonstrated that housing built prior to 1950 and households with income below the poverty threshold have an elevated risk of lead contamination. The 2000 US Census provides data for both of these risk factors to help estimate potential lead hazards in housing (170). When Forsyth County is compared to other North Carolina counties, it ranks 3rd of the 50 counties ranked for number of housing units with a high risk of lead hazards; it ranks 4th out of 50 for number of housing units built before 1950; it ranks 5th out 50 for number of housing units with low income; it ranks 5th out of 50 for the number of children under 5 living below the poverty level. Forsyth County is not ranked for the other risk factors as shown in Table 22 (171) However, data for these risk factors are still available.

Table 22. Forsyth County Lead Hazard Indicators, 1999

Housing Units at High Risk for Lead Hazards		Housing Units Built Before 1950		Housing Units with Low Income		Children < 5 Living Below Poverty Level	
No.	**%**	**No.**	%	**No.**	%	**No.**	**%**
1,900	2	17,000	n/a	13,000	11	4,800	24

Source: Scorecard, Pollution Rankings. Lead Hazards. County Report. Available at http://scorecard.org/env-releases/lead/county.tcl?fips_county_code=37067. (Accessed February 2007).

Childhood Blood Lead Levels

According to statistics provided by the State, the percentage of Forsyth County children screened for lead has been above the State average for children aged one and two years for the two most recent reporting periods (Table 23). Of those children screened during this period, a lower or equivalent percentage of children in the county tested positive for elevated blood lead levels than in the State as a whole in the two most recent years cited. Table 24 presents the screening results for children ages six months to six years. The percentages of children with high blood lead levels (10-19 µg/dL) in Forsyth County were higher than North Carolina in the two most recent reporting periods. Blood lead levels >20 µg/dL were higher in Forsyth County than in North Carolina in all but one of the four most recent reporting periods (172)

Table 23. Forsyth County Childhood Lead Screening Results, Ages 1 and 2 years

Year	Location	Target Population	No. Screened	% Screened	% Screened among Medicaid	No. >10 µg/dL	% >10 µg/dL
2005	Forsyth	9,225	4,249	46.1	56.2	38	0.9
	NC	238,065	96,623	40.6	56.1	873	0.9
2004	Forsyth	9,148	3,875	42.4	-	43	1.1
	NC	235,599	92,057	39.1	-	1,167	1.3
2003	Forsyth	9.164	3,210	35.0	50.5	66	2.1
	NC	235,419	87,993	37.4	55.9	1,716	2.0
2002	Forsyth	9,232	2,859	31.0	47.5	61	2.1
	NC	238,359	86,212	36.2	54.5	1,614	1.9

NB: Dashes indicate data are not available.
Source: NC Division of Environmental Health. Children's Environmental Health Branch. Available at http://www.deh.enr.state.nc.us/ehs/Children_Health/Lead/Surveillance_Data_Tables/surveillance_data_tables.html. (Accessed January 2007).

Table 24. Forsyth County Childhood Lead Screening Results, Ages 6 Months to 6 years

Year	Location	No. Screened	No. Confirmed 10-19 µg/dL	% Confirmed 10-19 µg/dL	No. Confirmed >20 µg/dL	% Confirmed > 20 µg/dL
2005	Forsyth	4,727	8	0.17	4	0.08
	NC	128,249	299	0.23	53	0.04
2004	Forsyth	4,494	11	0.24	1	0.02
	NC	124,486	349	0.28	52	0.04
2003	Forsyth	3,752	18	0.48	6	0.16
	NC	121,697	467	0.38	38	0.03
2002	Forsyth	3,555	14	0.39	2	0.06
	NC	120,966	461	0.38	68	0.06

Source: NC Division of Environmental Health. Children's Environmental Health Branch. Available at http://www.deh.enr.state.nc.us/ehs/Children_Health/Lead/Surveillance_Data_Tables/surveillance_data_tables.html. (Accessed January 2007).

Agricultural Pollution

Growing crops successfully involves the application of a variety of chemicals, some of which have environmental effects beyond their intended use. Unfortunately, most of these effects are deleterious. Livestock production also requires chemicals, mostly in the form of food additives and antibiotics, but at the present time the major environmental issue connected with livestock production is the generation of animal waste. In order to understand the effect of a county's agricultural production on the environment, it is first necessary to understand the nature of the crops being grown and livestock being raised.

Forsyth County Agricultural Census

In 2002 Forsyth County was home to 783 farms, totaling 51,598 acres, 18,493 of which is harvested cropland. The average farm size in Forsyth County is 66 acres. Crops in Forsyth County include tobacco, soybeans, corn, wheat, and hay. (Note: grapes and Christmas trees and other horticultural products are not considered crops *per se*, and will be discussed separately.) Livestock raised in the county includes cattle, beef cows, and milk cows. Crops account for the majority of cash receipts, bringing in $12 million in 2004 and ranking 73rd in the State (173). A summary of agricultural crop production in Forsyth County for 2006 is shown in Table 25; livestock production for 2002 is summarized in Table 26. Cash receipts for 2004 are shown in Table 27.

Table 25. Crops Grown in Forsyth County, 2006

Crop	Acres Planted	Acres Harvested	Yield per Acre	Production	State Rank
Tobacco, lbs.	Not Available	45	1,555	70,000	38
Cotton, 480 lb. bales	-	-	-	-	-
Soybeans, bu.	3,200	3,100	36	112,000	62
Corn, bu.	1,700	1,600	119	190,000	48
Corn for silage, tons	-	-	-	-	-
Peanuts, lbs.	-	-	-	-	-
Wheat, bu.	1,300	900	47	42,000	66
Barley, bu.	-	-	-	-	-
Oats, bu.	-	-	-	-	-
Sweet potatoes, Cwt.	-	-	-	-	-
Irish potatoes, Cwt.	-	-	-	-	-
All hay, tons	Not available	8,000	2.00	16,000	38
Sorghum, bu.	-	-	-	-	-

NB: Harvests of less than 15 acres tobacco, 100 acres peanuts, and 200 acres other crops are not shown in table.
Source: NC Department of Agriculture and Consumer Services. Agricultural Statistics Division. County Estimates. County Estimates by Commodities. Available at http://www.agr.state.nc.us/stats/cnty_est/cnty_est.htm. (Accessed January 2007).

Table 26. Livestock Raised in Forsyth County, 2002

Stock		Number of animals
Cattle		5,771
Hogs and pigs		63
Poultry	Broilers and other meat type chickens	0
	Layers*	204
	Turkeys	32
Sheep and lambs		262
Total		**6,332**

NB: Asterisks indicates data is from 1997 because 2002 data is not available.
Source: United States Department of Agriculture. National Agricultural Statistics Service. 2002 Census of Agriculture – Volume 1 Geographic Area Series Census, State – County Data. Forsyth County: Tables 11, 12, 13, 16. Available at: http://www.nass.usda.gov/Census/Create_Census_US_CNTY.jsp . (Accessed February 2007).

Table 27. Cash Receipts in Forsyth County, 2004

Cash Receipts	Dollars	State Rank
Livestock, Dairy, and Poultry	4,860,000	77
Crops	12,036,000	73
Government Payments	127,000	83
Total	17,023,000	81

Source: NC Department of Agriculture and Consumer Services. Agricultural Statistics Division. County Estimates. County Estimates by Commodities. Available at http://www.agr.state.nc.us/stats/cnty_est/cnty_est.htm. (Accessed January 2007).

Pesticides

A pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Though often misunderstood to refer only to insecticides, the term pesticide also applies to herbicides, fungicides, and various other substances used to control pests. Under United States law, a pesticide is also any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant (174)

By their very nature, most pesticides create some risk of harm to humans, animals, or the environment because they are designed to kill or otherwise adversely affect living organisms.

Pesticide Usage on Crops

Table 28, Table 29, and Table 30 list the agricultural chemicals applied to the three major crops (in terms of acres planted) in Forsyth County in 2006 according to the NC Department of Agriculture and Consumer Services (NCDACS) (175) Note: the Department does not list agricultural chemicals applied to tobacco.

In 2006, there were 6,368 pounds of pesticides applied to soybean crops, with glyphosate being the most heavily applied pesticide. There were 21,896 pounds of pesticide applied to corn in 2006, with alchlor being the most heavily applied pesticide. In 2006, there were 1,651 pounds of pesticides applied to wheat crops, with 2,4-D being the most heavily applied.

Table 28. Soybeans: Agricultural Chemical Applications, Forsyth County, 2006

Chemical	Rate per Application	Rate per Crop Year	Pounds per Year
	Pounds per Acre		
Herbicides			
Glyphosate	0.71	0.98	3,136
Imazethapyr	0.04	0.04	128
Paraquat	0.39	0.39	1,248
Pendimethalin	0.53	0.53	1,696
Total herbicides	**-**	**-**	**6,208**
Insecticides:			
Esfenvalerate	0.03	0.03	96
Lambda-cyhalothrin	0.02	0.02	64
Total insecticides	-	-	**160**

NB: Values in "Pounds per Year" column were calculated by multiplying the rate per crop year by the acres planted for the crop (found in Table 25).
Source: NC Department of Agriculture and Consumer Services. Agricultural Statistics Division. Environmental Statistics. Agricultural Chemical Applications. Available at http://www.agr.state.nc.us/stats/otherept.htm#county (Accessed January 2007).

Table 29. Corn: Agricultural Chemical Applications, Forsyth County, 2006

Chemical	Rate per Application	Rate per Crop Year	Pounds per Year
	Pounds per Acre		
Herbicides:			
2,4-D	.36	0.40	680
Alachlor	1.82	1.82	3,094
Ametryn	1.12	1.12	1,904
Atrazine	1.18	1.22	2,074
Dichlorprop	0.26	0.31	527
Glyphosate	0.69	1.00	1,700
Linuron	0.80	0.80	1,360
Metolachlor	1.35	1.35	2,295
Nicosulfuron	0.02	0.02	34
Paraquat	0.50	0.52	884
Rimsulfuron	0.01	0.01	17
S-Metolachlor	1.10	1.10	1,870
Simazine	1.14	1.14	1,938
Total herbicides			**18,377**
Insecticides			
Chlorpyrifos	1.06	1.06	1,802
Terbufos	1.01	1.01	1,717
Total insecticides			**3,519**

NB: Values in "Pounds per Year" column were calculated by multiplying the rate per crop year by the acres planted for the crop (found in Table 25).
Source: NC Department of Agriculture and Consumer Services. Agricultural Statistics Division. Environmental Statistics. Agricultural Chemical Applications. Available at http://www.agr.state.nc.us/stats/otherept.htm#county. (Accessed January 2007).

Table 30. Winter Wheat. Agricultural Chemical Applications, Forsyth County, 2006

Chemical	Rate per Application Pounds per Acre	Rate per Crop Year Pounds per Acre	Pounds per Year
Herbicides:			
2,4-D	0.66	0.66	858
Diclofop-methyl	0.58	0.58	754
Thifensulfuron	0.02	0.02	26
Tribenuron-methyl	0.01	0.01	13
Total herbicides			**1651**

NB: Values in "Pounds per Year" column were calculated by multiplying the rate per crop year by the acres planted for the crop (found in Table 25).
Source: NC Department of Agriculture and Consumer Services. Agricultural Statistics Division. Environmental Statistics. Agricultural Chemical Applications. Available at http://www.agr.state.nc.us/stats/otherept.htm#county (Accessed January 2007).

Health Effects of Pesticides

The health effects of pesticides depend on the type of pesticide. Some, such as the organophosphates and carbamates, affect the nervous system. Others may irritate the skin or eyes. Some pesticides may be carcinogens. Others may affect the hormone or endocrine systems in the body (176).

Below in Table 31 is the EPA's assessment of the health risks and health effects of the herbicides, insecticides, and fungicides applied on Forsyth County crops as listed in the agency pesticide re-registration database (177). The list is not comprehensive of all pesticides used; only those used most heavily by weight are included.

Table 31. Characteristics of Pesticides in Highest Use (by weight) in Forsyth County

Pesticide	Lbs/Year	Class	Toxicity	Health Risks/Effects
Herbicides				
Glyphosate	3,136	Non-selective herbicide; growth regulator	III	Relatively acute toxicity (eye and skin contact irritation); non-carcinogenic, minimal dietary risk
Alachlor	3,094	Non-residential weed control; "restricted" due to groundwater and surface water contamination concerns	III (oral) or IV (dermal)	Protection required for handling liquid formulation; toxic to fish; established tolerances for residues on food
Metolanchlor	2,295	Broad-spectrum weed control, including residential uses; incorporates into soil	III	Livestock may not be grazed in treated areas; possible human carcinogen and developmental toxicant; possible systemic toxicity from immediate exposure; established tolerances for residues on food; protection required for handlers due to dermal sensitization
Atrazine	2,074	Triazie herbicide registered for control of broadleaf weeds and some grassy weeks; inhibits photosynthesis	Unavailable	Low acute toxicity; acute and chronic dietary risk from food is not of concern; not expected to be significant contributor to drinking water risk; acute dietary assessment is delayed ossification in offspring and delayed body weight gain in adults; toxicity endpoint for short term occupational and residential assessment is delayed puberty; toxicity endpoints for chronic dietary, occupational, and residential assessments is surge of pre-ovulatory lutenizing hormone (LH); slightly acutely toxic to birds and mammals; moderately toxic to freshwater fish; highly acutely toxic to aquatic invertebrates
Simazine	1,938	Selective systematic pre-emergent herbicide applied to soil	III (oral) or IV (dermal)	Not an eye or skin irritant, or a dermal sensitizer; neuron-endocrine mechanism of toxicity; possible reproductive and developmental toxicant; minimal drinking water or dietary risk
Ametryn	1,904	Herbicide for non-residential use	III (oral) or IV (dermal)	Established tolerances for residues on food; low drinking water of dietary risk; protection recommended for handlers
S-Metolachlor	1,870	Broad-spectrum herbicide in crops, turf and ornamentals; incorporated into the soil	III (oral) or IV (dermal)	Slightly toxic by the oral, dermal and inhalation routes; non-irritating to the eyes and skin; possible carcinogen and developmental toxicant; dermal sensitizer; established tolerances for residues on food; protection required for handlers
Insecticides				

Pesticide	Lbs/Year	Class	Toxicity	Health Risks/Effects
Chlorpyrifos	1,802	Organophosphate used on food and feed crops; not for residential use		Can cause cholinesterase inhibition and at very high exposures can cause respiratory paralysis and death; low drinking water and food risk; protection required by handlers; multiple exposures increase risks to wildlife
Terbufos	1,717	Insecticide for controlling soil insects; not for residential use		Can cause cholinesterase inhibition and at very high exposures can cause respiratory paralysis and death; low drinking water and food risk; high acute risks for wildlife species (a leading cause of fish kills)

NB: There are four classes of acute toxicity, ranging from I (very highly or highly toxic) to IV (practically non-toxic).
Source: Environmental Protection Agency. Pesticides. Regulating Pesticides. Re-registration. Re-registration Status. Available at http://cfpub.epa.gov/oppref/rereg/status.cfm?show=rereg. (Accessed January 2007).

Pesticide Residues in/on Food

According to an employee of the NCDACS Product Testing unit (178) in 2005 four food samples tested were in violation of regulations for pesticide residues for safe consumption. According to the contact, these positive samples represented less than 1% of all samples tested.

Pesticide-Related Poisonings

There was one accidental death due to pesticide poisoning in North Carolina in 2005, however it was not in Forsyth County. None occurred statewide between 2000 and 2004, but one occurred in 2000; this poisoning also was not in Forsyth County (179)

Viticulture

North Carolina ranks 10th in the United States for wine and grape production and has a total of 61 wineries in 34 counties. The State had 1,300 bearing acres of grapes in 2006, with a production rate of 3.52 indicating total production at 4,580 tons. This is a marked increase from ten years earlier where there were 480 bearing acres, a production rate of 2.50, and a production of 1,200 tons. The North Carolina Wine Council lists one winery in Forsyth County: Westbend Vineyards (180).

The NCDACS does not collect county-level data on grape production, nor does it provide information on pesticide application to grape crops. However, NC State University provides data on commonly used pesticides as shown in Table 32 (179)

Table 32. Commonly Used Grape Pesticides

Application Time	Name	Type of Pesticide	Level of Toxicity
Dormancy – Shatter	Mancozeb	Fungicide	Slightly toxic; less than one pint can kill an adult
	Nova	Fungicide	Moderately toxic; less than two tablespoons can kill an adult
	Abound	Fungicide	Slightly toxic; less than one pint can kill an adult
	Vangard	Fungicide	Slightly toxic; less than one pint can kill an adult
	Sevin	Insecticide	Moderately toxic; less than two tablespoons can kill an adult
	Princep	Herbicide	Slightly toxic; less than one pint can kill an adult
	Surflan	Herbicide	Slightly toxic; less than one pint can kill an adult
	Gramoxone Max	Herbicide	Highly toxic; less than one teaspoon can kill an adult
	Roundup Ultramax	Herbicide	Slightly toxic; less than one pint can kill an adult
First Cover – Harvest	Nova	Fungicide	Moderately toxic; less than two tablespoons can kill an adult
	Elevate	Fungicide	Slightly toxic; less than one pint can kill an adult
	Vangard	Fungicide	Slightly toxic; less than one pint can kill an adult
	Captan	Fungicide	Highly toxic; less than one teaspoon can kill an adult
	Sevin	Insecticide	Moderately toxic; less than two tablespoons can kill an adult
	Imidan	Insecticide	Moderately toxic; less than two tablespoons can kill an adult
	Lorsban	Insecticide	Moderately toxic; less than two tablespoons can kill an adult
	Pyramite	Insecticide	Moderately toxic; less than two tablespoons can kill an adult
	Gramoxone Max	Herbicide	Highly toxic; less than one teaspoon can kill an adult
Post Harvest	Mancozeb	Fungicide	Slightly toxic; less than one pint can kill an adult
	Kerb	Herbicide	Slightly toxic; less than one pint can kill an adult
	Select	Herbicide	Moderately toxic; less than two tablespoons can kill an adult

Source: North Carolina State University. Department of Environmental and Molecular Toxicology. Extension. Links of Interest. Publications. Pesticides and human health: grapes. Names and Application Times of the Most Common Grape Pesticides. Available at http://www.tox.ncsu.edu/extension/pdfs/Grape-English.pdf. (Accessed August 2007).

Horticulture

North Carolina ranks 2nd in the United States for Christmas tree production and provided $57.6 million in revenue in 2002. Information regarding the total acreage of Christmas tree production in the state and Forsyth County was not available at press time (180).

As with viticulture, the NCDACS does not provide information on pesticide application in horticulture. However, NC State University and NC Cooperative Extension provide data on commonly used pesticides. On average, 0.5 ounces of pesticides are used over the life of a Christmas tree. Based on two surveys distributed to members of the Christmas tree industry (in total representing over 600 growers and 21,000 acres), Table 33 lists pesticides and associated health effects that are used on at least 3% of Christmas tree acreage (181).

Table 33. Commonly Used Christmas Tree Pesticides

Chemical Name	Toxicology Information
Insecticide	
Di-Syston 15 G	Highly toxic via ingestion, inhalation, and dermally in humans. No chronic effects were noted, however rats showed reproductive effects and at high levels, teratogenic effects. Mutagenic effects were noted on bacteria. There is no evidence of a carcinogenic effect.
Lindane	Moderately toxic via ingestion, inhalation, and dermal exposure in humans. No observable chronic effects in mice, rats, or dogs. Rats showed reproductive and teratogenic effects. No mutagenic or carcinogenic effects were found in mice.
Dimethoate	Moderately toxic via ingestion, inhalation, and dermally in humans. No chronic effects were noted, however, in mice there were both reproductive and mutagenic effects. Rats showed teratogenic and carcinogenic effects.
Asana	Moderately toxic orally, slightly toxic dermally, non-toxic via inhalation in humans. No chronic, reproductive, teratogenic, mutagenic, or carcinogenic effects were shown in laboratory animals.
Lorsban	Moderately toxic ingestion and inhalation, and in a limited capacity dermally, in humans. Chronic toxicity resulted in the same effects as acute exposure. No reproductive, teratogenic, mutagenic, or carcinogenic effects were found in laboratory animals.
Savey	Not available
Morestan	Not available
Herbicides	
Roundup	Nontoxic via ingestion and dermal exposure. Moderately toxic via inhalation in humans. No chronic, reproductive, teratogenic, mutagenic, or carcinogenic toxic effects were noted in laboratory animals.
Simazine	Slightly toxic via ingestion, inhalation, and dermal exposure in humans. No reproductive, teratogenic, mutagenic, or carcinogenic effects were shown in laboratory animals.
Goal	Not available
Vantage	Slightly toxic via ingestion. Nontoxic via ingestion and inhalation in humans. Reproductive effects were shown in laboratory animals, although teratogenic, mutagenic, and carcinogenic effects were not.
Stinger	Not available
Garlon	Not available
Crossbow	Not available

Sources: NC State University. North Carolina Cooperative Extension. Mountain Horticultural Crops Research and Extension Center. Programs. Christmas Trees. Christmas Tree Production in North Carolina. Christmas Tree Production and the Environment. Available at: http://www.ces.ncsu.edu/fletcher/programs/xmas/environment/pesticides.html. (Accessed August 2007).

Agricultural Animal Waste

In 1997 North Carolina had the dubious distinction of being among the 20% of states with the highest levels of animal waste, with especially high rates of waste production from hogs and poultry and comparably high amounts of nitrogen and phosphorus released to the environment. Of the 98 North Carolina counties ranked for animal waste generation, Forsyth County is ranked 78th with an output of 51,000 tons (184) Animal waste generation of between 1.5 and 4.5 *million* tons occurs in the North Carolina counties at the top of the ranking: Duplin, Sampson, Bladen and Wayne. Table 34 and Table 35 detail the animal waste production in the County. The data for these tables comes from the National Agricultural Statistics Services (NASS). NASS publishes an agricultural census every five years; the most current census report available is from 2002. Although other assessments are conducted annually, methods vary from year to year, therefore the NASS dataset offers the most comprehensive and consistent data available.

Table 34. Inventory of Livestock Animal Head and Waste Production for Forsyth County, 1997 and 2002

		Number of Animals		Waste Production (tons/year)		Waste Rate (tons/year/head)
		1997	2002	1997	2002	
	Cattle	7,702	5,771	63,927	47,899	8.3*
	Hogs and pigs	107	63	203	120	1.9
Poultry	Broilers and other meat type chickens	13	0	0	0	0.024
Poultry	Layers	204	NA	10	NA	0.047
Poultry	Turkeys	NA	32	NA	4	0.112
	Sheep and lambs	151	262	60	105	0.4
	Total	8,177	6,128	64,200	48,127	-

NB: NA = Data are not available to prevent disclosing information on individual farms.
NB: Because the category of cattle is not subdivided into meat and dairy, the waste rate for beef cattle was used so that the total waste production would be an underestimate. The waste rate for dairy cattle (22.3) is almost three times the rate for beef cattle.
NB: Waste Production is equal to the number of animals times the waste rate.
Source: United States Department of Agriculture. National Agricultural Statistics Service. 2002 Census of Agriculture – Volume 1 Geographic Area Series Census, State – County Data. Forsyth County: Tables 11, 12, 13, 16. Available at: http://www.nass.usda.gov/Census/Create_Census_US_CNTY.jsp . (Accessed February 2007).
Source: NC State University. 2005 North Carolina Agricultural Chemicals Manual. Livestock Manure Production Rates and Nutrient Content. Available at: http://www.lib.clemson.edu/agnic/pdfs/LIVESTOCKMANUREPRODUCTIONRATESANDNUTRIENTCONTENT.pdf. (Accessed February 2007).

Table 35. Percent of Total Livestock Number and Waste Production for Forsyth County, 1997 and 2002

		Percent of Animal Head		Percent of Waste Production	
		1997	2002	1997	2002
	Cattle	94.2%	94.2%	99.6%	99.5%
	Hogs and pigs	1.3%	1.0%	0.3%	0.2%
Poultry	Broilers and other meat type chickens	0.2%	0.0%	0.0%	0.0%
Poultry	Layers	2.5%	NA	0.0%	NA
Poultry	Turkeys	NA	0.5%	NA	0.0%
	Sheep and lambs	1.8%	4.3%	0.1%	0.2%

NB: Percentages calculated from Table 34.
Source: United States Department of Agriculture. National Agricultural Statistics Service. 2002 Census of Agriculture – Volume 1 Geographic Area Series Census, State – County Data. Forsyth County: Tables 11, 12, 13, 16. Available at: http://www.nass.usda.gov/Census/Create_Census_US_CNTY.jsp . (Accessed February 2007).
Source: NC State University. 2005 North Carolina Agricultural Chemicals Manual. Livestock Manure Production Rates and Nutrient Content. Available at: http://www.lib.clemson.edu/agnic/pdfs/LIVESTOCKMANUREPRODUCTIONRATESANDNUTRIENTCONTENT.pdf. (Accessed February 2007).

As of 2002, 94.2% of livestock in Forsyth County were cattle, making up 99.5% of the waste production (185,186) Waste from animals whose digestive system more closely resembles the human digestive system is considered more of a threat to human health. Cattle are herbivores and their digestive system is dramatically different from a human's. Likewise with chickens, whose digestive system is slightly more like a human's than a cow's. Hogs, like humans, are omnivores, and so their digestive system is more like that of a human; therefore hog waste is considered more dangerous to humans than either cattle or poultry waste.

Between 1997 and 2002, livestock farming in Forsyth County did not change appreciably, and as a result neither has animal waste production (Table 34). Cattle production decreased from 7,702 to 5,771 head and hog production decreased from 107 to 63 head. Sheep and lamb production increased from 151 to 262 head. Trend data was not available for laying hens and turkeys.

It is important to note that concerns about the potential for contaminated air, groundwater, and drinking water from lagoon and sprayfield waste management systems in rural counties have led to a moratorium on hog farms. Since August of 1997, legislation has placed a temporary ban on the construction or expansion of hog farms that employ the use of lagoons and sprayfields. The moratorium was intended to allow counties to establish zoning ordinances that would regulate the citing of hog farms. Over the past ten years, the moratorium has been extended four times. In 2000, researchers began to explore technologies that more effectively treat and distribute agricultural waste (187,188)

Waste Management

Solid Waste Management

County Solid Waste Management

In FY 2004-2005, Forsyth County managed 514,550 tons of solid waste for a rate of 1.60 tons *per capita*. This figure represented an increase of 50% from the comparable *per capita* rate for 1991-1992. It is significant to note that during this same period the overall state *per capita* solid waste management rate increased approximately 21% from 1991-1992 to 2003-2004 (189)

Landfills, Waste Drop-Off, and Recycling

Forsyth County currently operates sixteen waste facilities. Additionally, the county has three inactive facilities and fifty-five closed facilities. Table 36 lists these facilities, their status, and addresses (190)

Table 36. Solid Waste Facilities in Forsyth County, June 2007

Facility Type	Status	Name	Address
CDLF	OPEN	OLD SALISBURY ROAD CDLF	OLD SALISBURY ROAD WINSTON-SALEM
COMPOST	OPEN	OVERDALE YARD WASTE FACILITY	OLD MILWAUKEE LANE WINSTON-SALEM
COMPOST	OPEN	REYNOLDS PARK ROAD COMPOST FACILITY	REYNOLDS PARK ROAD WINSTON-SALEM
COMPOST	OPEN	VULCAN MATERIALS	CLEMMONSVILLE ROAD WINSTON-SALEM
HHW	OPEN	RESOURCE RECOVERY AND REDUCTION, CO.	1401 S. MLK, JR. DRIVE WINSTON SALEM
INDUS	OPEN	ATLANTIC SCRAP AND PROCESSING	WEST MOUNTAIN STREET KERNERSVILLE
LCID	OPEN	H G MYERS	LEWISVILLE
LCID	OPEN	JOE & FRANK SLATER	WINSTON SALEM
LCID	OPEN	MYERS LCID LANDFILL	7775 SHALLOWFORD ROAD LEWISVILLE
MSWLF	OPEN	HANES MILL ROAD LANDFILL	325 HANES MILL ROAD WINSTON SALEM
MWP	OPEN	PCM FULP ROAD C&D TRANSFER	139 FULP ROAD KERNERSVILLE
TIRETP	OPEN	T I R E S INC	617 WAUGHTOWN ST. WINSTON-SALEM
TP	OPEN	ATLANTIC SCRAP AND PROCESSING, LLC	PO BOX 608 KERNERSVILLE
TP	OPEN	MYERS LCID TREATMENT AND PROCESSING	7775-7805 SHALLOWFORD ROAD LEWISVILLE
TP	OPEN	LOWDER RECYCLING AND DISPOSAL,LLC	2810 GRIFFITH ROAD WINSTON SALEM
TRANSFER	OPEN	OVERDALE ROAD TRANSFER STATION	5000 OVERDALE ROAD WINSTON SALEM

Facility Type	Status	Name	Address
LCID	Inactive	WILLIAM FREDRICK	CLEMMONS
LCID	Inactive	DIANE LAWSON	WINSTON SALEM
LCID	Inactive	DAVID LAWSON	KERNERSVILLE
DEMO	CLOSED	MT VIEW ROAD	MT VIEW ROAD WINSTON-SALEM
DEMO	CLOSED	WALTER S FOSTER	WINSTON SALEM
DEMO	CLOSED	CLINT BODFORD	WINSTON SALEM
DEMO	CLOSED	GORRELL B APPERSON	CLEMMONS
DEMO	CLOSED	J R YARBROUGH	WINSTON SALEM
DEMO	CLOSED	FRANK EDWARDS	CLEMMONS
DEMO	CLOSED	CITY OF WINSTON SALEM	WINSTON SALEM
DEMO	CLOSED	D W REDDING	CLEMMONS
DEMO	CLOSED	CARL STEWART	LEWISVILLE
DEMO	CLOSED	DEAN WEATHERMAN	LEWISVILLE
DEMO	CLOSED	ED SHAMEL	TOBACCOVILLE
DEMO	CLOSED	R J CRUTCHFIELD	OLD HAZELWOOD DRIVE FORSYTH
DEMO	CLOSED	DENNIS HIX	1312 OLD HOLLOW RD FORSYTH
DEMO	CLOSED	HAROLD FULP RUBBLE SITE	OLD HOLLOW ROAD FORSYTH
DEMO	CLOSED	CLEARENCE SPEAKS RUBBLE SITE	4974 BECKEL ROAD FORSYTH
DEMO	CLOSED	KENNETH PARKS/JOHN EAST	COBBLESTONE RD FORSYTH
DEMO	CLOSED	HAWKS LANDFILL SITE	NC 65 RURAL HALL
DEMO	CLOSED	A G SHORE COMPANY INC	HAMPTON INDUSTRIAL FORSYTH
DEMO	CLOSED	BILL LACKEY RUBBLE SITE	UNIVERSITY PARKWAY FORSYTH
DEMO	CLOSED	CITY OF W-S RECREATION DEPT	NW CRAWFORD PLACE FORSYTH
DEMO	CLOSED	R ROBERTS & S DOTSON	527 BLUFF SCHOOL RD FORSYTH
DEMO	CLOSED	PHILLIP A SHELTON	SPORTSMANS DRIVE FORSYTH
DEMO	CLOSED	J D VICKERS	LIBERTY ST FORSYTH

Facility Type	Status	Name	Address
DEMO	CLOSED	G T CAMPBELL	TWIN CREEK RD FORSYTH
DEMO	CLOSED	WALTER C SCHULTZ	OGDEN SCHOOL ROAD FORSYTH
DEMO	CLOSED	ALVIN OLIVER	1540 E SEDGFIELD DR FORSYTH
DEMO	CLOSED	B H WHITMAN	4691 VIENNA DOZIER PFAFFTOWN
DEMO	CLOSED	GERTRUDE S HINE	GAYLAND PARK FORSYTH
DEMO	CLOSED	CHARLIE BROWN	1549 MT PLEASANT FORSYTH
DEMO	CLOSED	DUNN-FOSTER & SPAINHOUR	1519 STADIUM DRIVE FORSYTH
DEMO	CLOSED	BERNIE SMITH	HWY 66-OLD HOLLOW RD FORSYTH
DEMO	CLOSED	MR NASH	PINEVIEW DRIVE FORSYTH
DEMO	CLOSED	GORDON MANOR DEVELOPMENT	VERITA COURT FORSYTH
DEMO	CLOSED	MR NASH	PINEVIEW DRIVE FORSYTH
DEMO	CLOSED	JOHN S WOOTEN	530 MARTY LANE FORSYTH
DEMO	CLOSED	JAMES HARRIS	3435 CARVER SCHOOL R FORSYTH
DEMO	CLOSED	FRANK C SCRIVEN	1523 PLEASANT ST FORSYTH
DEMO	CLOSED	FRANCIS L MANUEL	311 SEDGE GARDEN RD KERNERSVILLE
DEMO	CLOSED	HERMAN KNOTT	2804 EVANS RD FORSYTH
DEMO	CLOSED	JAMES HAMBY	LEWISVILLE-VIENNA RD FORSYTH
DEMO	CLOSED	DOUGLAS BATTERY	STARLIGHT DRIVE FORSYTH
DEMO	CLOSED	CLEVELAND HARRIS	BARBARA JANE AVE WINSTON-SALEM
DEMO	CLOSED	HOWARD M TAYLOR	6304 PINE HALL RD FORSYTH
DEMO	CLOSED	CHRIS SHELTON	END OF CLEMENTINE DR FORSYTH
DEMO	CLOSED	CLARENCE BOSTON	CARVER SCHOOL RD FORSYTH
DEMO	CLOSED	GLENN HART	KERNERSVILLE
DEMO	CLOSED	BARRY SIDDEN	GALES AVENUE FORSYTH
DEMO	CLOSED	C T LONG	4379 SHATTALON DR WINSTON-SALEM
DEMO	CLOSED	BOB CHAMBERS	GROVE AVENUE FORSYTH

Facility Type	Status	Name	Address
INDUS	CLOSED	R J REYNOLDS	SR 1903 RURAL HALL
INDUS	CLOSED	R J REYNOLDS TOBACCO CO	RJR WHITAKER PARK WINSTON-SALEM
MSWLF	CLOSED	WINSTON-SALEM, CITY OF - LANDFILL	OVERDALE ST/OLD MILWAUKEE LANE FORSYTH
MSWLF	CLOSED	KERNERSVILLE, CITY OF - LANDFILL	SR 1970 KERNERSVILLE
MSWLF	CLOSED	PIEDMONT SANITARY LANDFILL	FREEMAN ROAD KERNERSVILLE
TP	CLOSED	HOH CORPORATION	1701 HARGRAVE STREET WINSTON-SALEM

Key: MSWLF = Municipal Solid Waste Landfill CDLF = Construction and Demolition Landfill LCID = Landclearing and Inert Debris HHW = Household Hazardous Waste INDUS = Industrial COMPOST = Compost INCIN = Incinerator INCIN-I = Industrial Incinerator INCIN-M = Medical Incinerator TRANSFER = Transfer station TIRELF = Tire Monofill TIRETP = Tire Treatment and Processing TP = Treatment and Processing MWP = Mixed Waste Processing (recycling) DEMO = Demolition Landfill
Source: NC Department of Environment and Natural Resources. Division of Waste Management. Solid Waste Section. Facility Lists. Permitted Solid Waste Facilities by County. Available at http://www.wastenotnc.org/swhome/. (Accessed April 2007).

As of 2006, the Hanes Mill Road municipal solid waste landfill has a remaining capacity of 8,686,892 tons and an expected life expectancy of 30.2 years (191) This landfill accepts household garbage, bulky items, recyclables (paper, aluminum cans, plastics, glass, cardboard), white goods, and tires (5 per household). Garbage and bulky items are $10/car or $34/ton. The 3RC center on MLK Drive accepts household hazardous waste and electronics for no fee. The construction and demolition landfill on Old Salisbury road accepts waste at $28/ton. The yard waste landfill located on Overdale Road accepts waste at $27/ton. The Overdale Road Transfer Station does not allow waste drop-off (192)

Additionally, there are two recycling centers in Forsyth County located in Kernersville off of Lindsay Street and in Pfafftown off of Yadkinville Road. There are no charges associated with the centers. Curbside recyclable collection is also available in some municipalities (192)

Wastewater Management

According to 1990 Census data (data not available for the 2000 Census), 77,227 Forsyth County housing units (67%) were on a year-round public sewer system and 37,913 residences (33%) had septic tanks or cesspools. An additional 575 housing units (<1%) had some other form of sewage disposal, including individual sewer pipes into creeks, rivers and streams (straight pipes) or outhouses (193)

The City of Winston-Salem has responsibility for the major part of wastewater treatment in Forsyth County. An exception is a small number of residents in the southern part of the county that are served by Davidson County. All sewerage in Forsyth County is controlled by the Utilities Commission. There are two county wastewater treatment plants: the Elledge plant discharges 30 million gallons per day (MGD) into Muddy Creek and the Muddy Creek plant discharges 21 MGD into the Yadkin River. Both plants provide -level treatment (194).

On-Site Wastewater Management

According to 1990 Census data cited above, approximately 67% of the County's residences were connected to year-round public sewer, meaning 33% had septic tanks or cesspools or some other mechanism of sewage disposal. Some commercial and government facilities outside of the sanitary sewer district must depend on on-site wastewater treatment systems, or "package plants" for wastewater treatment.

The Surface Water Protection Section of NC DENR levies civil penalties for discharges from wastewater treatment plants (WWTPs), including package plants, which exceed limits for particular chemical or biological parameters. From January – May 2007, Forsyth County issued eight fines, two fines at the Pierce Management Group – Creekside Manor Rest Home and one fine at each of the following: Head Mobile Home Park, Snider Tire Co., Old Towne LLC, Cap Care Group – Bedford Park and Tinley Park, L R Pine Ridge Association LLC – Pineridge Subdivision, Forsyth County School System – Old Richmond Elementary School, and Senior Residences – Ivy Acres Assisted Living (195).

Local health departments are charged with inspecting and permitting on-site wastewater facilities. During FY 03-04, the Environmental Health Division of the Forsyth County Health Department made a reported 6,587 site visits, and issued 101 citations for violations; 69 permits were revoked or suspended, and 14 inspections resulted in denied construction or improvement permits (196)

Drinking Water

According to the 1990 Census (data not available for the 2000 Census), 100,034 Forsyth County year-round housing units (87%) were on a water source supplied by a city or county water department, a water district, a private water company, or a well serving six or more housing units. Another 15,516 units (13%) had an individual well as the primary source of water. A smaller number of units – 165, or <1%) – obtained water from some other source, such as springs, creeks, rivers, lakes, ponds or cisterns (197).

Water Usage

Table 37 details the annual average rate of water usage in Forsyth County based on data from the 2000 US Census. Domestic water usage includes withdrawal of fresh water from individual wells for domestic uses. Municipal/community water usage is defined as the withdrawal of fresh water from surface and ground water sources by public water supply systems for municipal and commercial uses. Industrial usage is the withdrawal of fresh water from surface and ground water sources or purchases from a water supplier for industrial uses. Irrigation usage refers to water withdrawn from surface and ground sources for agricultural and golf course irrigation, and livestock usage refers to use of surface and groundwater for watering livestock. The total water use is the average annual rate of withdrawal of fresh water from surface and ground water sources for all uses. All figures are reported in millions of gallons per day.

As illustrated in Table 37, total water usage in Forsyth County decreased by approximately 7% from 1995 to 2000, mainly due to a decrease in industrial usage. During this time period livestock usage also slightly decreased, while municipal/community usage and domestic usage increased. Irrigation usage remained the same.

Table 37. Average Annual Rate of Water Usage, Forsyth County, 1995 and 2000 (Millions of gallons per day)

	Domestic Usage	Municipal and Community Usage	Industrial Usage	Irrigation Usage	Livestock Usage	Total Usage
2000	4.30	46.61	0.00	6.23	0.11	57.25
1995	3.10	43.37	8.55	6.23	0.25	61.53

Source: Log Into North Carolina (LINC) Database Search. Topic Group: Environment, Recreation and Resources. Mineral, Water Resources. V1307, V1308, V1309, V1310, V1312, and V1313. Forsyth County. Available at http://data.osbm.state.nc.us/pls/linc/dyn_linc_main.show. (Accessed April 2007).

Drinking Water Systems

Currently, the EPA lists 35 water systems in Forsyth County (198). Twenty-two are *community water systems* that together serve 280,765 people (Table 38). A community water system is one that serves at least 15 service connections used by year-round residents or regularly serves 25 year-round residents. This category includes municipalities, subdivisions and mobile home parks. Two community systems use surface water. The Yorktown S/D uses purchased surface water that originates from the Upper Yadkin watershed. The City of Winston-Salem uses surface water that originates from the Upper Dan watershed.

Table 38. Forsyth County Community Water Systems (April, 2007)

Water System Name	Number Served	Primary Water Source Type
Abington S/D	1,170	Groundwater
Applegate Water System	424	Groundwater
Bethel Forest Water System	25	Groundwater
Bexley Place S/D	25	Groundwater
Bishops Ridge S/D	170	Groundwater
Blue Water Cove S/D	25	Groundwater
Country Club Annex	86	Groundwater
Deerpath S/D	145	Groundwater
Grandview Water System	213	Groundwater
Graystone Forrest Water System	320	Groundwater
Green Acres Mobile Court	46	Groundwater
Kynwood	99	Groundwater
McBride's MHP	188	Groundwater
Mikkola Downs S/D	97	Groundwater
Peabody Forest S/D	30	Groundwater
Pine Knolls Water Supply	66	Groundwater
Smokerise Water System	150	Groundwater
Somerset MHP	239	Groundwater
Stony Point S/D	66	Groundwater
Stonington S/D	58	Groundwater
City of Winston-Salem	276,849	Surface Water
Yorktown S/D	274	Purchased Surface Water

Source: Environmental Protection Agency. Envirofacts. Safe Drinking Water Information System (SDWIS). Safe Drinking Water Query. County Search. Available at http://www.epa.gov/safewater/dwinfo/nc.htm (Accessed January 2007).

Drinking Water Standards Violations

The US EPA records violations of drinking water standards reported to it by states in its Safe Drinking Water Information System (SDWIS). It records violations as either *health-based* (contaminants exceeding safety standards or water not properly treated) or *monitoring- or reporting-based* (system failed to complete all samples or sample in a timely manner, or had another non-health related violation) (198). There were six reported health-based violations in four community systems in the period from 2000 through September of 2006 (Table 39).

Table 39. Forsyth County Public Drinking Water Systems Reporting Health-Based Violations, 2000-2006

System Name	Dates	Type of Violation	Contaminant	Population Served
Bethel Forest Water System	Jan 2006 – Dec 2025	OCCT Study Rec	Lead & Copper Rule	25
Bethel Forest Water System	Jan 2003 – Nov 2004	Public Education	Lead & Copper Rule	25
McBride's MHP	Jan 1994 – Dec 2025	OCCT Study Rec	Lead & Copper Rule	188
Pine Knolls Water Supply	Jan 1994 – Dec 2025	OCCT Study Rec	Lead & Copper Rule	66
Somerset MHP	May 2003	MCL, Monthly	Coliform (TCR)	239
Somerset MHP	Jul 2001 – Dec 2025	Public Education	Lead & Copper Rule	239

Source: Environmental Protection Agency. Envirofacts. Safe Drinking Water Information System (SDWIS). Safe Drinking Water Query, County Search. Available at http://www.epa.gov/safewater/dwinfo/nc.htm. (Accessed January 2007).
NB: To access violation information, you must click on each individual system name.

There is one *non-transient, non-community water systems*, which are systems that serve the same people, but not on a year-round basis in Forsyth County. It serves an estimated 81 people (198).

Transient non-community water systems do not consistently serve the same people, and include sites like rest stops, churches, hotels, restaurants, campgrounds and gas stations. There are twelve such systems in place in Forsyth County, serving an estimated 795 people (198).

Food-, Water-, and Vector- Borne Diseases

A number of human diseases and syndromes are caused or exacerbated by contamination of the natural environment with microbes or chemicals, or by animal vectors. Several of these conditions are among the illnesses that must be reported to health authorities. A number of food-, water-, and vector- borne diseases are of increasing importance because they are either rare but becoming more prevalent, or spreading in geographic range, or becoming more difficult to treat. Among these diseases are Shiga toxin producing *E.coli*, salmonellosis, Lyme disease, West Nile virus infection, Eastern equine encephalitis, and rabies. Table 40 lists the number of cases of major reportable food-, water- and vector-borne diseased reported in Forsyth County from 2002 to 2005. Comparable data for North Carolina are provided for 2005 only. From 2002-2005, there were 166 cases of Salmonellosis, 144 cases of Campylobacter, 69 cases of Shigellosis, 39 cases of Hepatitis A, 19 cases of Rocky Mountain Spotted Fever, twelve cases of Cryptosporidiosis, four cases of Listeriosis, four cases of Lyme Disease, three cases of E. coli O157, three cases of Shiga toxin-producing E. coli, and one case of Erlichiosis (monocytic) in Forsyth County.

Table 40. Forsyth County Reported Cases of Food-, Water-, and Vector- Borne Diseases in Humans, 2002-2005

	2002	2003	2004	2005	NC (2005)
Campylobacter	49	35	18	32	672
Cryptosporidiosis	1	4	2	5	92
E. coli O157	3	0	0	0	--
E. coli (Shiga toxin-producing)	0	1	1	1	64
Encephalitis, California group	0	0	0	0	23
Encephalitis, Eastern equine	0	0	0	0	1
Encephalitis, West Nile Virus	0	0	0	0	2
Erlichiosis (monocytic)	1	0	0	0	29
Hepatitis A	31	4	1	3	84
Listeriosis	0	0	3	1	34
Lyme disease	2	2	0	0	49
Rocky Mountain spotted fever	4	2	7	6	625
Salmonellosis	60	45	25	36	1,701
Shigellosis	33	13	12	9	202

NB: The table is limited to the primary food-, water-, and vector borne diseases found in North Carolina and is not the comprehensive list of diseases found from the following source.
Source: NC Division of Public Health, Epidemiology Section, General Communicable Disease Branch. Communicable Disease Control. Statistics. County Tables: Reported Cases, North Carolina, 2002-2005, County of Residence by Diseases and Year of Report. Available at http://www.epi.state.nc.us/epi/gcdc.html. (Accessed February 2007).

Arboviral Diseases

Arboviral diseases are viral diseases transmitted from an animal host to humans (and sometimes other animals) by the bite of an arthropod, usually a tick or biting fly such as a mosquito. Mosquito-borne diseases are of particular significance in communities where there is a lot of water, since that is the environment in which they breed.
Historically, mosquito-transmitted diseases, most notably Eastern Equine Encephalitis (EEE) and LaCrosse Encephalitis (LAC) are endemic in North Carolina. West Nile Virus (WNV), however, is

relatively new. It first appeared in the US in 1999, but by 2001 it had spread to 28 states. The first North Carolina appearance of WNV was in 2000 in Chatham County, where it was detected in a dead crow. The virus is believed to be carried by migrating flocks of birds and transmitted to other vertebrates and humans via mosquito bites.

The NC Division of Environmental Health's Public Health Pest Management Section manages the State's WNV surveillance program, which is focused on mosquitoes, wild birds and other animals. Because the reservoir for WNV appears to be avian, "sentinel" flocks of birds, primarily chickens, are used as a kind of early warning system. The public also plays a role in surveillance by submitting dead birds for testing.

According to the NC Public Health Pest Management Section, North Carolina reported one positive human case of WNV in 2006, five cases in 2005, 2 cases in 2004, and 23 cases in 2003, none of which occurred in Forsyth County. However, there were ten wild bird cases and four veterinary cases from 2002-2006 (199)

Eastern Equine Encephalitis is a disease of the central nervous system that affects horses and humans. It is transmitted by a species of mosquito that lives in marshes and swamps and feeds on birds in which the virus multiplies. The presence of the disease is monitored by the sentinel flock method. In 2006 there were no positive human cases in North Carolina; there were none in 2005, one in 2004, and one in 2003. There were no human or non human cases of EEE in Forsyth County from 2002-2006 (199).

Both WNV and EEE are considered emerging infectious diseases because their incidence is growing dramatically in the US. There are vaccines for both for horses, but not for humans.

La Crosse Encephalitis is the most common arbovirus affecting North Carolinians (DHHS). Transmission occurs most frequently after being bitten from an infected mosquito. LAC is a disease of the central nervous system with complications ranging from headaches and fever, to tremors and coma. From 2002-2006, there were 104 positive cases of LAC reported in North Carolina. There was one positive case of LAC found in Forsyth County in 2005 (199,200)

Rabies

The Communicable Disease Control Branch reports cases of rabies (201). Table 41 lists the number of cases of rabies in animals in Forsyth County from 2001 through 2006. Selected animal hosts, including all those with reported cases, are shown. From 2001-2006, there were 117 reported cases of rabies in Forsyth County, 79 of which were in raccoons, 19 in skunks, 9 in foxes, 9 in bats, and one in a cat (201).

Table 41. Forsyth County Cases of Rabies in Animals, 2001-2006

	Bat	Cat	Cow	Dog	Fox	Skunk	Raccoon
2006	1	0	0	0	2	3	4
2005	0	0	0	0	3	0	5
2004	1	0	0	0	3	2	9
2003	0	0	0	0	1	5	32
2002	5	0	0	0	0	6	26
2001	2	1	0	0	0	3	3

Source: NC Department of Public Health. Epidemiology. Communicable Disease Control. Rabies. Available at http://www.epi.state.nc.us/epi/rabies/state.html. (Accessed January 2007).

Community Health Opinion Survey

Community Health Opinion Survey

Methodology

The Forsyth County Community Health Opinion Survey was conducted April 19-21, 2007. Volunteers, including community members, staff from the Forsyth County Department of Public Health and members of the local police force conducted the survey door-to-door using handheld computers. Computers were loaded with an electronic version of the survey tool and GPS tracking abilities using ArcMap. Members of the Public Health Response and Surveillance Team, Region 5, assisted by setting up the computers and training the volunteer staff.

Residences were selected for participation in the survey on the basis of geographical positioning system (GPS) coordinates for parcels and structures using the local tax information system. Residences were randomly selected according to CDC's 30-7 rapid needs assessment methodology: thirty census blocks were chosen throughout the county with seven selected household points within each block group. The goal was to reach 210 households; 195 electronic surveys were collected and later supplemented by survey responses collected in the field via staff using pen and paper. All surveys were combined into one dataset. A total of 213 surveys were analyzed.

Survey participants were asked to provide demographic information about themselves as well as their opinions on a number of quality-of-life statements, lists of health problems and behaviors, and community issues. Participants also were asked questions about their personal health and health behaviors. All responses were kept in confidence and survey participants were assured that their names or identities would not in any way be linked to their responses. The survey responses were sent to NCIPH for analysis.

Survey responses were analyzed for frequency of response using the EpiInfo software package. It should be noted that not every respondent answered every question. The number of individuals, as well as the percentage of individuals who chose each response category, is presented in the analysis below.

Some or all of the responses to quality of life, health and environmental issues, and personal health questions are stratified by age, race, and income. Because the stratification process uses more than one category, totals for stratified data may vary slightly as some respondents did not answer all questions in every category.

When participants were allowed to select more than one response to a question, the percent is a reflection of how often each option was chosen and does not indicate how often each response was chosen in combination with any other response. The total of the percent column is greater than 100.

For purposes of logic and flow, the order in which some questions are presented does not match the order in which they were asked.

Survey Participants

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, and who that income supports. This demographic information was collected in order to assess how well the survey participants represented the general population of Forsyth County. The information below presents demographic profile of the survey respondents as compared to that of the general Forsyth County population.

Demographic Comparison of Survey Respondents with the Overall Forsyth County Population (2000 Census)

Population Category	Survey Participants		County Population
	Number	Percent	Percent
Gender (n=213)			
Men	92	43.2	47.8
Women	116	54.5	52.2
Unanswered	5	2.3	n/a
Race (n=213)			
African American/Black	85	40.3	25.6
Asian/Pacific Islander	5	2.4	--
Hispanic/Latino	13	6.2	6.4
Native American	3	1.4	0.3
White/Caucasian	105	48.8	68.5
Other	2	0.9	3.3
Age (n=213)			
18 - 24	21	10.0	6.8 (Age 20-24)
25 - 34	28	13.1	14.9
35 - 44	38	17.8	16.2
45 - 64	81	38.0	22.8
65+	43	20.2	12.7
Unanswered	2	0.9	---
Other (n varies)			
Unemployed	25	11.8	4.9 (6/2007)
Household Income < $20,000	58	28.9	14.3 (1/2007)
Less than HS Diploma or GED	21	10.0	18.0
College Graduates	55	26.1	28.7

Survey Results

Note: The order of some of the questions in the analysis may differ from their order in the actual survey, having been rearranged for clarity.

Demographic Questions

1. Do you work or go to school within Forsyth County? (n=208)

	Number	Percent
Yes	106	51.0%
No	102	49.0%

- Slightly over 50% of respondents work or attend school in Forsyth County.

2. How old are you? (n=211)

Age	Number	Percent
18 - 24	21	10.0%
25 - 34	28	13.3%
35 - 44	38	18.0%
45 - 64	81	38.4%
65 - 74	20	9.5%
75 or Older	23	10.9%

- Approximately 60% of survey respondents were age 45 or older.

3. Are you male or female? (n=208)

Gender	Number	Percent
Male	92	44.2%
Female	116	55.8%

- Females comprised 55.8% of the survey respondents.

4. What is your race or ethnicity? (n=213)

Race or Ethnicity	Number	Percent
African American/Black	85	40.3%
Asian/Pacific Islander	5	2.4%
Hispanic/Latino	13	6.2%
Native American	3	1.4%
White/Caucasian	105	48.8%
Other	2	0.9%

Note: Due to small numbers in some of the groups shown above, subsequent tables will show African American/Black and White Caucasian groups while combining Asian/Pacific Islander, Hispanic/Latino, Native American, and Other into one category called *Other*.

- Minorities comprised 51.2% of the survey respondents.
- Included in the "other" category were respondents who did not specify in what way they fell into a category.

5. What is your marital status? (n=211)

Marital Status	Number	Percent
Married	105	49.8%
Never Married/Single	59	28.0%
Divorced	32	15.2%
Widowed	14	6.6%
Partnership	0	0.0%
Other	1	0.5%

- A plurality of respondents was married.

6. What is the highest level of school, college or training that you have finished? (n=211)

Educational Level	Number	Percent
Less than High School	21	10.0%
High School Diploma or GED	81	38.4%
Associate's Degree or Vocational Training	48	22.7%
College Degree	44	20.9%
Graduate Degree or Higher	11	5.2%
Other	6	2.8%

- 38.4% of respondents had a high school diploma or GED.
- Over 25% of respondents earned a college degree or graduate degree.

7. What was your total household income last year, before taxes? (n=201)

Income	Number	Percent
Less than $20,000	58	28.9%
$20,000- $29,999	37	18.4%
$30,000- $49,999	44	21.9%
$50,000- $74,999	38	18.9%
Over $75,000	24	11.9%

- 28.9% of respondents had a household income of less than $20,000.
- 40.3% of respondents had a household income between $20,000 and $49,999.
- 30.8% of respondents had a household income that was $50,000 or greater.

8. How many people does this income support? If you are paying child support but your child is not living with you, this still counts as someone living on your income. (n=202)

People	Number	Percent
0	2	1.0%
1	64	31.7%
2	79	39.1%
3	22	10.9%
4	21	10.4%
5	9	4.5%
6	4	2.0%
7	1	0.5%

- The highest percentage (39.1%) of respondents answering this question are supporting two people with their household income.
- Most respondents are supporting between one and four people.

9. What is your employment status? Check all that apply. (n=212)

Employment	Number	Percent
Employed Full-Time	78	36.8%
Employed Part-Time	18	8.5%
Retired	65	30.7%
Unemployed	25	11.8%
Disabled	18	8.5%
Student	7	3.3%
Homemaker	13	6.1%
More Than One Job	4	1.9%

Note: Because participants were allowed to select more than one response, the percent is a reflection of how often each option was chosen and does not indicate how often each response was chosen in combination with any other response. The total of the percent column is greater than 100.

- 45.3% of respondents were employed full-time or part-time.
- 30.7% of respondents were retired, 11.8% were unemployed, and 8.5% were disabled.

10. How do you pay for health care, for example when you go to the doctor or emergency room? This does include vision and dental check-ups. (n=212)

Payment Method	Number	Percent
Unable to Pay	7	3.3%
I pay in full with cash or credit card.	35	16.5%
I pay in installments with cash or credit card.	10	4.7%
Private health insurance I bought for myself	26	12.3%
Private health insurance my employer provides	89	42.0%
Private health insurance my spouse's employer provides	18	8.5%
Medicaid	24	11.3%
Medicare	48	22.6%
Veterans' Administration Benefits	12	5.7%
Other	9	4.2%

"Other" write-in responses included: parents (2); parents insurance (1); partners (1); AARP (1); Downtown Health Center (1); vouchers (1).

- 54.3% of respondents had private health insurance provided by their or their spouse's employer
- 11.3% had Medicaid
- 22.6% had Medicare

11. Do you have access to the Internet? (n=212)

	Number	Percent
Yes	147	69.3%
No	65	30.7%

- A large majority of respondents had access to the Internet

Quality of Life Statements

Community members were asked to respond to seven questions focused on local quality of life, choosing their response to each question as one of four Likert Scale choices: strongly disagree, disagree, agree and strongly agree. In the following section the analysis is based only on the population that actually answered each question ("respondents").

1. **There is a good health care system in Forsyth County.** Think about the options you have for healthcare, how easy it is to get in the door, the cost and quality. **(n=212)**

	Number	Percent
Strongly Disagree	5	2.4%
Disagree	35	16.5%
Don't Know	30	14.2%
Agree	119	56.1%
Strongly Agree	23	10.8%

- Over 65% of respondents either agreed or strongly agreed with the statement that there is a good health care system in Forsyth County.

Health Care System by Age	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
18-24	19.0%	14.3%	66.6%
25-34	25.0%	17.9%	57.2%
35-44	31.5%	5.3%	63.2%
45-64	13.6%	17.3%	69.1%
65-74	20.0%	10.0%	70.0%
75 and Over	8.7%	17.4%	73.9%

- When stratified by age (previous table), respondents in all categories tended to agree with this statement by a wide margin, but the older the respondent the higher the proportion of agreement.

Health Care System by Race	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
African American/Black	25.9%	8.2%	65.9%
White/Caucasian	13.6%	19.4%	67.0%
Other	17.4%	13.0%	69.6%

- When stratified by race, again, respondents in all categories tended to agree with this statement by a wide margin and approximately equally.

Health Care System by Income	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
Less than $20,000	25.9%	10.3%	63.8%
$20,000 to $29,999	29.7%	16.2%	54.1%
$30,000 to $49,999	22.7%	13.6%	63.6%
$50,000 to $74,999	5.3%	15.8%	79.0%
Over $75,000	4.2%	12.5%	83.4%

- When stratified by income, the majority of respondents at any income level agreed with the statement that there is a good health care system in Forsyth County, but the highest rate of agreement were in the highest income levels.

2. Forsyth County is a good place to raise children. Think about the quality and safety of the schools and day cares, after school programs, places to play. **(n=212)**

	Number	Percent
Strongly Disagree	5	2.4%
Disagree	14	6.6%
Don't Know	14	6.6%
Agree	149	70.3%
Strongly Agree	30	14.2%

- A large majority of respondents (84.5%) agreed or strongly agreed with the statement that Forsyth County is a good place to raise children.

Raise Children by Age	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
18-24	4.8%	4.8%	90.5%
25-34	14.2%	10.7%	75.0%
35-44	10.5%	10.5%	78.9%
45-64	8.6%	2.5%	88.9%
65-74	10.0%	15.0%	75.0%
75 and Over	4.3%	4.3%	91.3%

- When stratified by age, all age groups responded positively to the statement about Forsyth County being a good place to raise children, with the youngest and oldest age groups agreeing most strongly.

Raise Children by Race	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
African American/Black	12.9%	4.7%	82.3%
White/Caucasian	5.8%	8.7%	85.4%
Other	8.7%	4.3%	87.0%

- When stratified by race, over 80% of all age groups responded similarly to the statement about Forsyth County being a good place to raise children.

Raise Children by Income	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
Less than $20,000	13.8%	3.4%	82.8%
$20,000 to $29,999	8.1%	2.7%	89.2%
$30,000 to $49,999	6.8%	15.9%	77.3%
$50,000 to $74,999	5.3%	5.3%	89.5%
Over $75,000	4.2%	4.2%	91.7%

The vast majority of respondents agreed that Forsyth County is a good place to raise children, regardless of income.

- The lowest propostion of agreement was in the population earning between $30,000 and $50,000 annually.

3. **Forsyth County is a good place to grow old.** Think about elder-friendly housing, transportation to medical services, recreation, elder day care, social support for the elderly living alone, meals on wheels. **(n=212)**

	Number	Percent
Strongly Disagree	2	0.9%
Disagree	21	9.9%
Don't Know	15	7.1%
Agree	136	64.2%
Strongly Agree	38	17.9%

- A total of approximately 82% of respondents agreed or strongly agreed with the statement that Forsyth County is a good place to grow old.

Grow Old By Age	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
18-24	19.0%	9.5%	71.4%
25-34	17.9%	14.3%	67.8%
35-44	7.9%	5.3%	86.9%
45-64	8.6%	7.4%	83.9%
65-74	10.0%	0.0%	90.0%
75 and Over	8.6%	4.3%	86.9%

- When stratified by age, the majority all age groups responded favorably to this statement, with the oldest age groups agreeing most strongly.

Grow Old by Race	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
African American/Black	17.7%	4.7%	77.6%
White/Caucasian	5.9%	7.8%	86.4%
Other	8.7%	13.0%	78.3%

- Whites agreed at a higher percentage than blacks that Forsyth County is a good place to grow old.

Grow Old by Income	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
Less than $20,000	24.1%	6.9%	68.9%
$20,000 to $29,999	13.5%	5.4%	81.1%
$30,000 to $49,999	6.8%	9.1%	84.1%
$50,000 to $74,999	2.6%	7.9%	89.5%
Over $75,000	0.0%	4.2%	95.8%

Respondents in all income levels agree that Forsyth County is a good place to grow old.

- The highest proportion of agreement was among the respondents with the highest income levels; the least agreement occurred among respondents with the lowest income level.

4. There is plenty of economic opportunity in Forsyth County. Think the number and quality of jobs, job training/higher education opportunities, affordable housing. **(n=212)**

	Number	Percent
Strongly Disagree	11	5.2%
Disagree	44	20.8%
Don't Know	24	11.3%
Agree	113	53.3%
Strongly Agree	20	9.4%

- Over 60% of respondents agreed with the statement that there are plenty of ways to make a living in Forsyth County.
- This statement garnered the highest level of disagreement or uncertainty.

Earn a Living By Age	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
18-24	38.1%	9.5%	52.4%
25-34	32.1%	10.7%	57.2%
35-44	28.9%	15.8%	55.2%
45-64	27.2%	7.4%	65.5%
65-74	15.0%	15.0%	70.0%
75 and Over	8.7%	13.0%	78.3%

- Respondents 65 and older tended to agree with this statement more frequently than those in working age groups (i.e., 18-64 year olds). However, over 50% of the respondents in all age groups agreed with this statement.

Earn a Living by Race	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
African American/Black	43.5%	8.2%	48.2%
White/Caucasian	10.7%	9.7%	79.6%
Other	30.4%	26.1%	43.5%

- When stratified by race, the respondents in the White/Caucasian group had the highest percentage (79.6%) of those in agreement with the statement regarding there being plenty of economic opportunity in Forsyth County.

Earn a Living by Income	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
Less than $20,000	34.5%	6.9%	58.7%
$20,000 to $29,999	32.4%	2.7%	64.8%
$30,000 to $49,999	22.7%	15.9%	61.3%
$50,000 to $74,999	21.0%	13.2%	65.8%
Over $75,000	16.7%	12.5%	70.9%

Persons earning less than $20,000 most strongly disagreed with the statement that there are plenty of ways to earn a living in Forsyth County.

5. Forsyth County is a safe place to live. Think about safety at home, in the workplace, in schools, at playgrounds, parks, shopping centers. **(n=212)**

	Number	Percent
Strongly Disagree	4	1.9%
Disagree	22	10.4%
Don't Know	12	5.7%
Agree	149	70.3%
Strongly Agree	25	11.8%

- Approximately 82% of respondents agreed that Forsyth County is a safe place to live.

Safe Place By Age	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
18-24	9.5%	9.5%	80.9%
25-34	14.3%	10.7%	75.0%
35-44	10.5%	5.3%	84.2%
45-64	14.8%	4.9%	80.2%
65-74	10.0%	5.0%	85.0%
75 and Over	8.7%	0.0%	91.3%

- The highest percentages of agreement with the statement that Forsyth County is a safe place to live fell in the two oldest age groups.

Safe Place by Race	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
African American/Black	17.6%	7.1%	75.3%
White/Caucasian	6.8%	2.9%	90.3%
Other	17.4%	13.0%	69.6%

- Whites agreed with the safety statement in significantly higher proportion than blacks and others.

Safe Place by Income	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
Less than $20,000	18.9%	3.4%	77.6%
$20,000 to $29,999	16.2%	5.4%	78.4%
$30,000 to $49,999	6.8%	11.4%	81.8%
$50,000 to $74,999	7.9%	5.3%	86.8%
Over $75,000	12.5%	0.0%	87.5%

- When stratified by income, the majority of all respondents in all income levels, but especially those in the highest income groups, agreed with the statement.

6. There is plenty of support and help for individuals and families during times of stress and need in Forsyth County. Examples include neighbors, support groups, faith community outreach, agencies, organizations, emergency monetary assistance. All those type of things. **(n=212)**

	Number	Percent
Strongly Disagree	3	1.4%
Disagree	18	8.5%
Don't Know	35	16.5%
Agree	122	57.5%
Strongly Agree	34	16.0%

- Over 73% of respondents agreed with the statement that there is plenty of support for individuals and families during times of stress and need in Forsyth County.

Support By Age	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
18-24	9.5%	0.0%	90.5%
25-34	17.9%	25.0%	57.2%
35-44	15.8%	15.8%	68.4%
45-64	6.2%	17.3%	76.5%
65-74	10.0%	10.0%	80.0%
75 and Over	4.3%	26.1%	69.5%

- When stratified by age, agreement varied dramatrically.
- Respondents aged 18 to 24 agreed with this statement more often than other age groups.

Support by Race	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
African American/Black	14.2%	11.8%	74.1%
White/Caucasian	5.9%	17.5%	76.7%
Other	13.0%	30.4%	56.5%

- When stratified by race, whites and blacks agreed at similar percentages, but the group "Other" disagreed far less frequently.

Support by Income	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
Less than $20,000	10.3%	3.4%	86.2%
$20,000 to $29,999	18.9%	21.6%	59.4%
$30,000 to $49,999	4.6%	20.5%	75.0%
$50,000 to $74,999	7.9%	23.7%	68.5%
Over $75,000	12.5%	16.7%	70.9%

- When stratified by income level, those in the $20,000 to $29,999 income level agreed less frequently with this statement when compared to those in the other groups.

7. The environment in Forsyth County is clean, safe and healthy. Examples include: clean air, safe drinking water, no contaminated sites, safe food supply, control of animals (domestic and wild) and insects/rodents under control? **(n=213)**

	Number	Percent
Strongly Disagree	6	2.8%
Disagree	30	14.1%
Don't Know	18	8.5%
Agree	137	64.3%
Strongly Agree	22	10.3%

- Almost 75% of respondents agreed with the statement that the environment in Forsyth County is clean, safe and healthy.

Safe Environment By Age	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
18-24	4.8%	9.5%	71.4%
25-34	25.0%	7.1%	67.8%
35-44	23.6%	2.6%	73.7%
45-64	18.5%	7.4%	74.0%
65-74	15.0%	5.0%	80.0%
75 and Over	0.0%	21.7%	78.3%

- When stratified by age, agreement with this statement varied considerably.
- Respondents aged 65 and over agreed with this statement more often than other age groups.

Safe Environment by Race	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
African American/Black	18.9%	7.1%	73.1%
White/Caucasian	14.5%	7.8%	77.7%
Other	21.7%	8.7%	69.6%

- When stratified by race, whites and blacks aggreed in similar percentages; the category “Other” agreed at a lower percentage.

Safe Environment by Income	% Disagree or Strongly Disagree	% Don't Know	% Agree or Strongly Agree
Less than $20,000	22.4%	8.6%	68.9%
$20,000 to $29,999	18.9%	5.4%	75.7%
$30,000 to $49,999	18.2%	2.3%	79.6%
$50,000 to $74,999	13.1%	13.2%	73.7%
Over $75,000	12.5%	4.2%	83.3%

- When stratified by income level, a majority of the group respondents agreed with this statement, with the highest agreement among the respondents with the highest income, and the lowest agreement among those with the lowest income.

Health Issues

Survey participants were presented an alphabetized list of 34 **health and environmental health issues** and asked to select the **five** they thought had the largest impact on the community as a whole. They also had the option of writing-in a topic of their choice as one of the five.

The list of responses on the following page is arranged in descending order of the frequency with which a named problem was chosen. Some respondents selected more than five, some fewer. A few skipped the section entirely.

Totals for stratified data may vary slightly as some respondents did not answer all questions in every category used in the stratification process.

Ranking of Health and Environmental Health Issues in Forsyth County

Health Problem	Number of Responses	Percent of Responses
1. Cancer[1]	87	41.2
2. Diabetes	81	38.4
3. HIV/AIDS	79	37.4
4. Aging Problems (Alzheimer's, arthritis, hearing or vision loss, etc.)	76	36.0
5. Heart Disease/Heart Attacks	69	32.7
6. Teenage Pregnancy	59	28.0
7. Mental Health (depression, schizophrenia, etc.)	51	24.2
8. Obesity/Overweight	51	24.2
9. Gun-related Injuries	50	23.7
10. Motor Vehicle Accidents	48	22.7
11. Sexually Transmitted Diseases (STDs)	48	22.7
12. Asthma	39	18.5
13. Birth Defects	28	13.3
14. Dental Health	27	12.8
15. Food Safety	27	12.8
16. Safe Drinking Water (wells, public water)	26	12.3
17. Stroke	25	11.8
18. Lung Disease (emphysema, etc.)	23	11.0
19. Infectious/Contagious Diseases (TB, salmonella, pneumonia, flu, etc.)	22	10.4
20. Kidney Disease	16	7.6
21. Mosquitoes	16	7.6
22. Rabies	16	7.6
23. Infant Death	13	6.2
24. Rodents	10	4.7
25. Food Allergies	9	4.3
26. Stomach Illness	9	4.3
27. Failing Septic Systems.	8	3.8
28. Other[2]	7	3.3
29. Other Injuries (drowning, choking, home or work related accidents)	4	1.9
30. Liver Disease	3	1.4
31. Community Pools	3	1.4
32. Public Pools	2	0.9
33. Open Wells	0	0.0
34. Lead Poisoning	0	0.0

[1] Types of cancer named with noteworthy numbers indicated: all kinds (21); breast (16); lung (11); colon (6); prostate (3); prostate (3); ovarian (2); breast and lung (1), breast prostate (1); lung and breast (1).

[2] **"Other" write-in responses included:** all equally important (1); chronic illness (1); drop out rate (1); hormones in milk and meat (1); spinal cord (1); sports (1).

In the following section responses relative to the **leading eight** health problems selected are stratified by demographic category (age, race, and income).

In each of the following tables, the issue chosen most often in each demographic group (i.e., under 18-34, African American/Black, $30,000-$49,999, etc., aka the highest value in a column) will be in ***bold italic*** typeface.

A **grey box** will appear around the highest frequency of selection for each health problem (i.e., which group chose heart disease more often than any other, etc., aka the highest value in a row).

Leading Health Problems, Percent Responses Analyzed by Age				
	18-34	**35-64**	**65 and Over**	**Total Times Selected**
1. Cancer	22.4%	32.8%	***58.1%***	87
2. Diabetes	34.7%	***40.3%***	48.8%	81
3. HIV/AIDS	40.8%	37.8%	41.9%	79
4. Aging Problems	20.4%	31.1%	51.2%	76
5. Heart Disease/Heart Attacks	***42.9%***	38.7%	28.0%	69
6. Teenage Pregnancy	30.6%	31.9%	23.3%	59
7. Mental Health	20.4%	26.1%	23.3%	51
8. Obesity/Overweight	40.8%	29.4%	9.3%	51

- The age group18 to 34 selected heart disease/heart attacks most frequently; the age group 35 to 64 selected diabetes most frequently.
- Those aged 65 and older selected cancer most frequently.
- Cancer, diabetes, HIV/AIDS, and aging problems were selected most often by the 65 and older group. Teenage pregnancy and mental health were selected most often by the aged group, 35 to 64, and obesity/overweight was selected most often by the 18 to 34 aged group.

Leading Health Problems, Percent Responses Analyzed by Race				
	African American/ Black	**White/ Caucasian**	**Other**	**Total Times Selected**
1. Cancer	23.5%	***46.7%***	26.0%	87
2. Diabetes	42.4%	40.0%	34.8%	81
3. HIV/AIDS	43.5%	27.6%	***60.9%***	79
4. Aging Problems	29.4%	37.1%	21.7%	76
5. Heart Disease/Heart Attacks	***52.9%***	23.8%	39.1%	69
6. Teenage Pregnancy	28.2%	33.3%	17.4%	59
7. Mental Health	24.7%	26.7%	8.7%	51
8. Obesity/Overweight	43.1%	21.0%	34.8%	51

- African Americans/Blacks selected heart disease/heart attacks most frequently, and Whites/Caucasians selected cancer most often. Other races combined selected HIV/AIDS most frequently.
- Diabetes, heart disease/heart attacks and obesity/overweight were selected most by African Americans/Blacks while cancer, aging problems, teenage pregnancy, and mental health were selected most by White/Caucasians.

Leading Health Problems, Percent Responses Analyzed by Income						
	Less than $20,000	**$20,000 -$29,999**	**$30,000 -$49,999**	**$50,000 -$74,999**	**Over $75,000**	**Total Times Selected**
1. Cancer	34.5	45.9	31.8	23.7	41.7	87
2. Diabetes	***41.4***	35.1	41.0	***39.5***	***50.0***	81
3. HIV/AIDS	37.9	***48.6***	34.0	***39.5***	29.2	79
4. Aging Problems	29.3	***48.6***	34.0	29.0	45.9	76
5. Heart Disease/Heart Attacks	39.7	40.5	***43.2***	***39.5***	20.8	69
6. Teenage Pregnancy	34.5	32.4	16.0	***39.5***	29.2	59
7. Mental Health	20.7	21.6	18.2	31.6	33.3	51
8. Obesity/Overweight	24.1	37.8	31.8	31.6	16.7	51

- The populations earning less than $20,000, $50,000 to $74,999, and over $75,000 all selected diabetes most frequently. The $50,000 to $74,999 group also selected HIV/AIDS, heart disease/heart attacks, and teenage pregnancy equally frequently as leading health problems. Those in income level $20,000 to $29,999 selected HIV/AIDS and aging problems equally.
- The $30,000 to $49,999 income level group selected heart disease/heart attacks as their choice for leading health problem.
- Cancer, HIV/AIDS, aging problems problems, and obesity/overweight were selected most often by those earning $20,000 to $29,000.
- Heart disease/heart attacks was selected most by those earning $30,000 to $49,999

- Teenage pregnancy was selected most by those from the income level, $50,000 to $74,999.
- Diabetes and mental health were selected most often by those earning over $75,000.

Unhealthy Behaviors

Survey participants were presented an alphabetized list of 17 **unhealthy behaviors** and asked to select the **five** they thought had the greatest overall impact on health in Forsyth County. They also had the option of writing-in a topic of their choice as one of the five. The list of responses below is arranged in descending order of the frequency with which a named problem was chosen. Some respondents selected more than five, some fewer. A few skipped the section entirely.

Ranking of Unhealthy Behaviors in Forsyth County

Unhealthy Behavior	Number of Responses	Percent of Responses
1. Drug Abuse	162	77.5
2. Alcohol Abuse	140	67.0
3. Having Unsafe Sex	95	45.5
4. Reckless/Drunk Driving	86	41.1
5. Lack of Physical Activity	83	39.7
6. Violent Behavior (including rape/sexual assault)	81	38.8
7. Smoking/Tobacco Use	70	33.5
8. Not Washing Hands	52	24.9
9. Poor Eating Habits	48	23.0
10. Not Going to the Doctor for Yearly Checkups and Screenings	44	21.1
11. Not Using Child Safety Seats	40	19.1
12. Not Using Seat Belts	33	15.8
13. Not Going to the Dentist for Preventive Checkups and Care	31	14.8
14. Not Getting Immunizations, (“shots”) to prevent disease	27	13.0

15. Not Getting Prenatal (pregnancy) Care	22	10.5
16. Suicide	15	7.2
17. Other	7	3.3

"Other" write-in responses included: all (1); attitude (1); domestic abuse (1); domestic violence (1); elderly care (1); sexual abuse (1); tailgating, seatbelt required (1); unhealthy foods (1); none (1).

In each of the following tables the issue chosen most often in each demographic group (i.e. under 18-34, African American, $30,000-$49,999, etc., aka the highest value in column) will be in ***bold italic*** typeface.

A **grey box** will appear around the highest frequency of selection for each unhealthy behavior (i.e. which group chose smoking more often than any other, aka the highest value in a row).

Leading Unhealthy Behaviors, Percent Responses Analyzed by Age

	18-34	35-64	65 and Over	Total Times Selected
1. Drug Abuse	***81.6%***	***74.0%***	***67.4%***	162
2. Alcohol Abuse	65.3%	67.2%	65.1%	140
3. Having Unsafe Sex	63.3%	42.9%	30.2%	95
4. Reckless/Drunk Driving	30.6%	45.4%	39.5%	86
5. Lack of Physical Activity	16.3%	10.1%	16.3%	83
6. Violent Behavior (including rape/sexual assault)	38.8%	44.5%	20.9%	81
7. Smoking/Tobacco Use	34.7%	31.1%	37.2%	70
8. Not Washing Hands	20.4%	25.2%	25.6%	52

- All age groups selected drug abuse the most frequently.
- Drug abuse, having unsafe sex, and lack of physical activity were chosen most often by the age group 18 to 34.
- Alcohol abuse, reckless/drunk driving, and violent behavior were chosen most often by 35 to 64 year olds.
- Lack of physical activity, smoking/tobacco use, and not washing hands were chosen most often by the group 65+.

Leading Unhealthy Behaviors, Percent Responses Analyzed by Race

	African American/ Black	White/ Caucasian	Other	Total Times Selected
1. Drug Abuse	***83.5%***	***70.5%***	***74.0%***	162
2. Alcohol Abuse	63.5%	65.7%	***74.0%***	140
3. Having Unsafe Sex	63.5%	31.4%	34.8%	95
4. Reckless/Drunk Driving	26.0%	51.4%	43.5%	86
5. Lack of Physical Activity	17.6%	10.5%	4.3%	83
6. Violent Behavior (including rape/sexual assault)	41.2%	39.0%	21.7%	81
7. Smoking/Tobacco Use	27.1%	36.2%	39.1%	70
8. Not Washing Hands	22.4%	29.5%	8.7%	52

- All racial groups selected drug abuse the most frequently. Alcohol abuse was selected at a similar frequency to drug abuse by the racial group "Other".
- Drug abuse, having unsafe sex, lack of physical exercise, and violent behavior were selected most frequently by African Americans/Blacks.
- Alcohol abuse and smoking/tobacco use were selected most frequently by the racial category, other.
- Reckless/drunk driving and not washing hands were selected most frequently by Whites/Caucasians.

Leading Unhealthy Behaviors, Percent Responses Analyzed by Income

	Less than $20,000	$20,000-$29,999	$30,000-$49,999	$50,000-$74,999	Over $75,000	Total Times Selected
1. Drug Abuse	***86.2%***	***81.1%***	***79.6%***	***71.1***	***66.7***	162
2. Alcohol Abuse	70.7%	75.7%	56.8%	63.2	***66.7***	140
3. Having Unsafe Sex	62.1%	46.0%	31.8%	52.6	25.0	95
4. Reckless/Drunk Driving	27.6%	43.2%	41.0%	42.1	58.3	86
5. Lack of Physical Activity	13.8%	13.8%	6.8%	10.5	8.3	83
6. Violent Behavior (including rape/sexual assault)	37.9%	29.7%	36.4%	42.1	41.7	81
7. Smoking/Tobacco Use	34.5%	24.3%	31.8%	42.1	25.0	70
8. Not Washing Hands	17.2%	27.0%	25.0%	26.3	37.5	52

- Respondents in all income levels selected drug abuse most frequently. Alcohol abuse was also selected by those who earn over $75,000.
- Drug abuse, having unsafe sex, and lack of physical exercise were selected most frequently by those earning less than $20,000.
- Alcohol abuse and lack of physical activity were selected most frequently by respondents in the income level $20,000 to $29,000.
- Reckless/drunk driving, violent behavior, and not washing hands were selected most frequently by persons in the highest income bracket.
- Smoking/tobacco use was selected most frequently by those earning $50,000 to $74,999.

Community Issues

Survey participants were presented an alphabetized list of 30 **community-wide issues** and asked to select the **five** they thought had the greatest overall impact on quality of life in Forsyth County. They also had the option of writing-in a topic of their choice as one of the five. The list of responses below is arranged in descending order of the frequency with which a named problem was chosen. Some respondents selected more than five, some fewer. A few skipped the section entirely.

Ranking of Community Issues in Forsyth County

Community Issue	Number of Responses	Percent of Responses
1. Homelessness	93	45.0
2. Pollution	84	40.6
3. Dropping Out of School	81	39.1
4. Violent Crime (rape, murder, assault, etc.)	76	36.7
5. Neglect and Abuse (Specify elder, child, or domestic violence.)[1]	73	35.3
6. Affordability of Health Services	71	34.3
7. Illegal Dumping	53	25.6
8. Racism	48	23.2
9. Lack of/Inadequate Health Insurance	46	22.2
10. Unemployment	45	21.7
11. Animal Control	44	21.3
12. Availability of Child Care	38	18.4
13. Low Income/Poverty	25	12.1
14. Bioterrorism	23	11.1
15. Mosquito and Rate Breeding Areas	22	10.6
16. Inadequate Housing	21	10.1
17. Unsafe Drinking Water	20	9.7
18. Availability of Healthy Food Choices	19	9.2
19. Transportation Options	19	9.2
20. Lack of Health Care Providers[2]	18	8.7
21. Inadequate Sidewalks	18	8.7
22. Lack of Recreational Facilities	17	8.2
23. Contaminated Streams	16	7.7
24. Unsafe, Unmaintained Roads	15	7.2
25. Lack of Culturally Appropriate Services for Minorities	14	6.8
26. Other[3]	11	5.3
27. Lead Concerns	6	2.9
28. Unlicensed Food Vendors	4	1.9
29. Sewage on Properties	3	1.4
30. Unlicensed Tattoo Artists	3	1.4

[1] The category for "Neglect and abuse" gave the option to write in one or more types of abuse. The choices were elder abuse, child abuse or domestic violence. Of the 73 respondents that wrote in a type or types, 10 indicated elder abuse, 37 indicated child abuse, and 26 indicated domestic violence.

[2] Of the 91 people who selected "lack of health care providers" as a community issue, 11 respondents wrote in a type of provider they felt was lacking. The list includes the following: all (2); any (1); children (1); free and indigent care (1); general practitioners (1); geriatric care that is not based on (1); helping elderly (1); lower income (1); none (1); nurse drs (1).

[3] **"Other" write-in responses for community issues included:** child abuse (6); domestic violence (4); gangs (3); flooding (1); individual input on decision made by officials (1); lack of health care information (1).

In each of the following tables the issue chosen most often in each demographic group (i.e. under 18-34, African American, $30,000-$49,999, etc., aka the highest value in a column) will be in ***bold italic*** typeface.

A **grey box** will appear around the highest frequency of selection for each issue (i.e. which group chose smoking more often than any other, aka the highest value in a row).

Leading Community Issues, Percent Responses Analyzed by Age				
	18-34	**35-64**	**65 and Over**	**Total Times Selected**
1. Homelessness	***53.1%***	***42.9%***	37.2%	93
2. Pollution	32.7%	39.5%	***48.8%***	84
3. Dropping Out of School	49.0%	36.1%	32.6%	81
4. Violent Crime	34.7%	35.3%	39.5%	76
5. Neglect and Abuse	34.7%	28.6%	16.3%	73
6. Affordability of Health Services	34.7%	32.8%	37.2%	71
7. Illegal Dumping	18.4%	25.2%	32.6%	53
8. Racism	28.6%	23.5%	14.0%	48

- Age groups 18-34 and 35-64 selected homelessness most frequently. The age group 65+ selected pollution most frequently.
- Homelessness, dropping out of school, neglect and abuse, and racism were selected most by 18 to 34 year olds.
- Pollution, violent crime, affordability of health services, and illegal dumping were selected most frequently by the 65 and over age group.

Leading Community Issues, Percent Responses Analyzed by Race				
	African American/ Black	**White/ Caucasian**	**Other**	**Total Times Selected**
1. Homelessness	***50.6%***	35.2%	***56.5%***	93
2. Pollution	38.8%	***42.9%***	26.1%	84
3. Dropping Out of School	49.4%	27.6%	43.5%	81
4. Violent Crime	38.8%	35.2%	26.1%	76
5. Neglect and Abuse	35.3%	21.0%	26.1%	73
6. Affordability of Health Services	37.6%	31.4%	26.1%	71
7. Illegal Dumping	14.1%	34.3%	21.7%	53
8. Racism	27.1%	18.1%	26.1%	48

- African Americans/Blacks and the racial group “Other” selected homelessness at the highest frequency. Whites/Caucasians selected pollution most frequently.
- Dropping out of school, violent crime, neglect and abuse, affordability of health services, and racism were selected at the highest frequency by African Americans/Blacks.
- Pollution and illegal dumping were selected most frequently by the White/Caucasian group.
- Homelessness was selected most often by the racial group, other.

Leading Community Issues, Percent Responses Analyzed by Income						
	Less than $20,000	**$20,000-$29,999**	**$30,000-$49,999**	**$50,000-$74,999**	**Over $75,000**	**Total Times Selected**
1. Homelessness	***69.0%***	35.1%	34.1%	31.6%	45.8%	93
2. Pollution	36.2%	***46.0%***	31.8%	***52.6%***	41.7%	84
3. Dropping Out of School	38.0%	***46.0%***	29.5%	44.7%	45.8%	81
4. Violent Crime	38.0%	27.0%	31.8%	36.8%	***50.0%***	76
5. Neglect and Abuse	39.7%	27.0%	16.0%	21.1%	33.3%	73
6. Affordability of Health Services	25.9%	37.8%	***45.5%***	26.3%	45.8%	71
7. Illegal Dumping	19.0%	19.0%	41.0%	21.1%	29.2%	53
8. Racism	22.4%	27.0%	22.7%	34.2%	8.3%	48

- Respondents at income level less than $20,000 chose homelessness most frequently. Respondents in the income category $20,000 to $29,999 selected both pollution and dropping out of school equally frequently. Respondents in the $50,000 to $74,999 group also selected pollution most frequently. The $30,000 to $49,999 group selected affordability of health services while the over $75,000 group selected violent crime.
- Homelessness and neglect and abuse were selected most by those at the income level less than $20,000.

- Pollution and racism were select most by the $50,000 to $74,999 group.
- Dropping out of school was selected at the highest frequency by the $20,000 to $29,999 income group
- Illegal dumping was selected most frequently by the $30,000 to $49,999 income group.
- Violent crime and affordability of health services were selected most by the income group over $75,000

Emergency Preparedness

1. In a disaster, where would you likely look for information? (n=213)

	Number	**Percent**
TV	159	74.6%
Internet	14	6.6%
Radio	30	14.1%
Print Media	2	0.9%
Other	8	3.8%

"Other" write-in responses included: radio (2); don't know (1); fire department (1); newspaper (1); telephone (1); would like siren (1).

- Almost three-quarters of respondents would look to the television for disaster information.

2. How well prepared do you feel your household is to handle an emergency that could have an impact of 72 hours? (n=209)

	Number	**Percent**
Very Prepared	73	34.9%
Somewhat Prepared	89	42.6%
Not Prepared at All	47	22.5%

Only about one-third of respondents reported they were "very prepared" for an emergency lasting 72 hours.

- Almost one-quarter reported they were not prepared at all.

3. Does your family have an emergency supply kit set aside for immediate use that could sustain all members of the family for 72 hours? (n=210)

	Number	Percent
Yes	79	37.6%
No	127	60.5%
Don't Know	4	1.9%

- Over 60% of respondents report they do not have an emergency supply kit built to these specifications.

4. Do you keep emergency supplies in each of your vehicles? *(water, flashlight, first aid kit)* (n=207)

	Number	Percent
Yes	73	35.3%
No	129	62.3%
Don't Know	5	2.4%

- Over 62% of respondents report they do not have emergency supplies in their vehicle.

5. Do you have a plan for how to communicate with family members in the event of an emergency and everyone is away from home? (n=209)

	Number	Percent
Yes	127	60.8%
No	80	38.3%
Don't Know	2	0.9%

- Approximately 61% of respondents report their family has an emergency communication plan.

6. Are you aware of an evacuation plan at your workplace? (n=213)

	Number	Percent
Yes	68	31.9%
No	118	55.4%
Not currently employed (outside the home)	27	12.7%

7. If you have children, have their schools or day-care facilities communicated an emergency preparedness plan with you? (n=200)

	Number	Percent
Yes	42	21.0%
No	47	23.5%
I don't have children or children not in school or day care.	111	55.5%

- Approximately half of the parents of children in day care or school have had that facility communicate an emergency preparedness plan with them.

8. Are you aware of an evacuation plan for your community? (n=213)

	Number	Percent
Yes	24	11.3%
No	184	86.4%
Don't Know	5	2.3%

- A large majority (~86%) of respondents report they are not aware of a community evacuation plan.

9. Are you aware of any emergency preparedness plans of your state or local government? (n=213)

	Number	Percent
Yes	35	16.4%
No	173	81.2%
Don't Know	5	2.3%

- A large majority (~81%) of respondents report they are not aware of a state or local government emergency preparedness plan.

10. Now we have some questions about your attitudes and opinions. Please indicate which of the following statements best describes you: (n=206)

	Number	Percent
Emergencies are so rare- they are unlikely to affect me personally.	10	4.9%
I feel prepared for most emergency situations.	62	30.0%
I want to be more prepared for emergency situations- I just don't know how.	50	24.3%
I know I should take more steps to be more prepared for emergency situations- I just haven't gotten around to it.	64	31.1%
There's no point in preparing for emergencies since they are so unpredictable.	20	9.7%

- Similar percentages of respondents (~30%) report they are either prepared for most emergencies or know they should do more to be prepared.
- Almost one-quarter of respondents would like to be more prepared but report they don't know how.

11. Which emergency situation concerns you most? (n=211)

	Number	Percent
Bio-Terror Attack	72	34.1%
Fire/Explosions	24	11.4%
Hurricane or Other Natural Disaster	85	40.3%
Pandemic Influenza	26	12.3%
Other	4	1.9%

"Other" write-in responses included: any (1); earthquakes (1); fire (1); gun violence (1); hurricane (1); hurricane, flu (1); na (1); none (1); terror.

- Respondents appear to be most concerned by the threat of a hurricane or other natural disaster (40.3%), followed by a bioterror attack (34.1%)

Personal Health

A portion of the Forsyth County Community Survey collected information on respondents' personal health behaviors. The results of this portion of the survey offer some insight into lifestyle factors that affect the health of individuals in Forsyth County.

Note: When participants are allowed to select to select more than one response for a question, the percent is a reflection of how often each option was chosen and does not indicate how often each response was chosen in combination with any other response. The total of the percent column is greater than 100.

1. How would you rate your own personal health? Please choose only one of the following ratings. (n=210)

	Number	Percent
Very Healthy	41	19.5%
Healthy	77	36.7%
Somewhat Healthy	75	35.7%
Unhealthy	12	5.7%
Very Unhealthy	5	2.4%

- A low percentage (8.1%) of respondents rated themselves as unhealthy or very unhealthy.

2. During the past 12 months, was there any time that you did <u>not</u> have any health insurance or coverage? (n=209)

	Number	Percent
Yes	52	24.9%
No	157	75.1%

- Three-quarters of respondents had health insurance or coverage during the past 12 months.

3. Where do you go most often when you are sick or need advice about your health? Please choose only one. (n=209)

	Number	Percent
Doctor's Office	136	65.1%
Health Department	5	2.4%
Forsyth Hospital	13	6.2%
Community Health Care	0	0.0%
Walk-In Clinics (e.g., PrimeCare, Urgent Care)	13	6.2%
North Carolina Baptist Hospital	14	6.7%
Downtown Health Plaza	17	8.1%
Other	11	5.3%

"Other" write-in responses included: VA (4); Forsyth (1); I call my grandmother (1); internet (1); stay home (1); Veteran Affairs (1); Winston American (1); W-S Health Care(1).

- The majority (65.1%) of respondents seeks the care of a doctor when sick or need advice about their health.

4. What city or town is this place in? (n=207)

	Number	Percent
Winston-Salem	168	81.2%
King	6	2.8%
Clemmons	6	2.8%
Kernersville	6	2.8%
Forsyth County	4	1.9%
Greensboro	3	1.5%
Lewisville	2	1.0%
Rural Hall	2	1.0%
Advance	1	0.5%
Baptist	1	0.5%
Brooklyn, NY	1	0.5%
Charlotte	1	0.5%
Durham	1	0.5%
Lewisville	1	0.5%
Maryland	1	0.5%
Mooresville	1	0.5%
Stratford	1	0.5%
Stokes	1	0.5%

- The majority of respondents seek care in Winston-Salem.

5. About how long has it been since you last visited a doctor for a routine checkup? This does <u>not</u> include any times you visited the doctor because you were sick or pregnant. (n=210)

	Number	Percent
Within the Past Year	146	69.5%
1-2 Years Ago	51	24.3%
3-5 Years Ago	8	3.8%
5 or More Years Ago	3	1.4%
I have never had a routine checkup.	2	1.0%

- The majority (69.5%) of respondents have had medical checkups within the past year.

6. In the past 12 months, did you have a problem getting the health care you needed? (n=209)

	Number	Percent
Yes	26	12.4%
No	183	87.6%

- 12.4% of respondents (26 individuals) had a problem getting needed health care in the past year.

7. If answering yes, [to the question about having a problem accessing needed health care] which of these problems did you have? You may <u>choose as many</u> of these as you need to. (N=30, 4 respondents more than answered "Yes" to #6.)

Problem accessing health care	Number Yes Responses	Percent Yes Responses
I didn't have health insurance.	15	50.0
My insurance didn't cover what I needed.	4	13.3
My share of the cost (deductible/co-pay) was too high.	6	20.0
Doctor would not take my insurance or Medicaid.	0	0.0
Hospital would not take my insurance.	1	3.3
I didn't have a way to get there.	1	3.3
I didn't know where to go.	1	3.3
I couldn't get an appointment.	1	3.3
No Child Care	1	3.3
Language Barrier	0	0.0
Other	0	0.0

Note: There were no write-in responses in the "Other" category.

- The highest percentage of respondents who had a problem accessing medical care in the last 12 months reported it was because they didn't have health insurance.
- Cost of care was also an important barrier.

Didn't Have Health Insurance for Health Care - Stratified		
	Yes	**No**
Age		
18-34	12.2%	87.8%
35-64	7.6%	92.4%
65 and Over	0.0%	100.0%
Race		
African American/Black	14.1%	85.9%
White/Caucasian	1.0%	99.0%
Other	8.7%	91.3%
Income		
Less than $20,000	13.8%	86.2%
$20,000-$29,999	10.8%	89.2%
$30,000-$49,999	6.8%	93.2%
$50,000-$74,999	0.0%	100.0%
Over $75,000	0.0%	100.0%

The age group 18 to 34 had the highest percentage of respondents who had a problem accessing medical care in the last 12 months because they didn't have health insurance.

- Of the three race groups, African Americans/Blacks had the highest percentage of respondents with this health insurance issue.
- The highest percentage of respondents with no health insurance in the last 12 months was among those earning less than $20,000.

8. In the past 12 months, did you have a problem filling a medically necessary prescription? (n=207)

	Number	Percent
Yes	17	8.2%
No	190	91.8%

- 8.2% of respondents (17 individuals) had a problem filling a medically necessary prescription.

9. If answering yes, [to the question about having a problem filling a medically necessary prescription] which of these problems did you have? You may <u>choose as many</u> of these as you need to. (N=21, 4 respondents more than answered "Yes" to #8.)

Problem obtaining a prescription	Number Yes Responses	Percent Yes Responses
I didn't have health insurance.	6	28.6%
My insurance didn't cover what I needed.	5	23.8%
My share of the cost (deductible/co-pay) was too high.	5	23.8%
Pharmacy would not take my insurance or Medicaid.	1	4.8%
I had problems with Medicare D coverage.	1	4.8%
I didn't have a way to get there.	0	0.0%
I didn't know where to go.	0	0.0%
No Child Care	0	0.0%
Language Barrier	0	0.0%
Other	3	14.3%

"Other" reasons respondents couldn't get prescriptions filled: mix up(1); more generics (1).

- The highest percentage of those who had a problem filling a prescription indicated it was because of no health insurance followed by insurance didn't cover what was needed and their share of the cost was too high.

Didn't Have Health Insurance for Rx - Stratified		
	Yes	**No**
Age		
18-34	4.1%	95.9%
35-64	3.4%	96.6%
65 and Over	0.0%	100.0%
Race		
African American/Black	3.5%	96.5%
White/Caucasian	1.9%	98.1%
Other	4.3%	95.7%
Income		
Less than $20,000	3.4%	96.6%
$20,000-$29,999	2.7%	97.3%
$30,000-$49,999	6.8%	93.2%
$50,000-$74,999	0.0%	100.0%
Over $75,000	0.0%	100.0%

- The highest percentage of respondents who had a problem filling a prescription in the last 12 months because they didn't have health insurance were in the age group 18-34.
- The racial group "Other" had the highest percentage of respondents with this prescription filling issue, followed by African Americans/Blacks.
- The income level with the highest frequency of this problem was the $30,000 to $49,999 group.

10. About how long has it been since you last visited a dentist for a routine checkup? Do not include times you visited the dentist because of an emergency. (n=211)

	Number	**Percent**
Within the Past Year	116	55.0%
1-2 Years Ago	52	24.6%
3-5 Years Ago	15	7.1%
5 or More Years Ago	23	10.9%
Never had a Routine Checkup	5	2.4%

- Almost 80% of respondents had been to the dentist for a routine checkup within the past two years.
- Just over 13% of respondents either had never been to the dentist for a checkup or had not been within the last five years.

11. Was there a time during the past 12 months when you needed to get dental care, but could not? (n=211)

	Number	**Percent**
Yes	31	14.7%
No	180	85.3%

- Approximately 15% of respondents (31 individuals) reported having had a problem accessing dental care in the past 12 months.

12. If answering yes, [to the question about having a problem getting dental care] why could you not get dental care? You may <u>choose as many</u> of these as you need to. (N=35, 4 more respondents than answered "Yes" to #11.)

Problem accessing dental care	Number Yes Responses	Percent Yes Responses
I didn't have dental insurance.	17	48.5%
My insurance didn't cover what I needed.	5	14.2%
I couldn't afford the cost.	7	20.0%
Dentist would not take my insurance or Medicaid.	1	2.9%
I didn't have a way to get there.	0	0.0%
I didn't know where to go.	1	2.9%
I couldn't get an appointment.	1	2.9%
No Child Care	0	0.0%
Language Barrier	1	2.9%
Other	2	5.7%

"Other" reasons respondents couldn't get dental care: Infection (1).

- The highest percentage of those who had a problem getting dental care indicated it was because they didn't have dental insurance

Didn't Have Dental Insurance - Stratified		
	Yes	**No**
Age		
18-34	12.2%	87.8%
35-64	9.2%	90.8%
65 and Over	0.0%	100.0%
Race		
African American/Black	11.8%	88.2%
White/Caucasian	5.8%	94.2%
Other	4.3%	95.7%
Income		
Less than $20,000	15.5%	84.5%
$20,000-$29,999	10.8%	89.2%
$30,000-$49,999	4.5%	95.5%
$50,000-$74,999	0.0%	100.0%
Over $75,000	4.2%	95.8%

- The highest percentage of respondents who had a problem getting dental care in the last 12 months because they didn't have health insurance came from the age group 18-34.

- African Americans/Blacks were the racial group with the highest frequency of lack of dental insurance.
- The income group with the highest percentage of respondents lacking dental insurance was those making less than $20,000.

13. If a friend or family member needed counseling for a mental health, or a drug/alcohol abuse problem, who would you tell them to call or talk to? You may <u>choose as many</u> of these as you need to. (Total responses =235)

	Number	Percent
CenterPoint Human Services	47	20.0%
Private Counselor or Therapist	28	11.9%
Doctor	55	23.4%
Minister/Religious Official	44	18.7%
School Counselor	4	1.7%
Support Group (e.g., AA, Al-Anon)	20	8.5%
Other	7	3.0%
Don't Know	30	12.8%

"Other" write-in responses included: MH_OTHT (1);.ER (1); health plaza (1); parents (1); policeman (1); probation (1); rehabilitation.

- The greatest number of respondents indicated they would suggest a doctor if a friend or family member needed mental health counseling.
- 12.8% of respondents indicated they did not know where they would suggest a friend or family member go for mental health counseling.

14. During the past 30 days, other than your regular job, did you engage in any exercise activity that lasted at least a half an hour? (n=211)

	Number	Percent
Yes	126	59.7%
No	85	40.3%

- 40.3% of respondents said they did not engage in exercise activity that lasted at least a half an hour.

15. Since you said yes, how many *times* would you say you engaged in this activity in the past 30 days? (n=213)

	Number	Percent
Less than 10 [Note: apparently including zero times]	138	64.8%
10-20	40	18.8%
21-40	30	14.1%
41 or More	5	2.3%

- 28% (n=35) of the 126 respondents who said they exercised did so more than 20 times in the past 30 days.

16. Where do you go to engage in physical activities? (N=147, 21 more respondents than answered "Yes" to #14.)

	Number	Percent
Public Recreation Center	12	8.2%
Forsyth County Parks	18	12.2%
Home	75	51.0%
Private Gym	24	16.3%
Other	18	12.2%

Note: There were no write-in responses in the "Other" category.

- The greatest number (51.0%) of respondents indicated the location they use for exercise is "at home".

17. Since you answered "no" to question #14 *[getting exercise in an average week]*, why don't you? You may <u>give as many</u> of these reasons as you need to. (N=99, 14 more respondents than answered "No" to #14.)

	Number	Percent
My job is physical or hard labor.	17	17.2
Exercise is not important to me.	11	11.1
I don't have access to a facility that has the things I need, like a pool, golf course, or a track.	2	2.0
I don't have enough time to exercise.	14	14.1
I would need child care and I don't have it.	1	1.0
I don't know how to find exercise partners or teams.	1	1.0
I don't like to exercise.	16	16.2
It costs too much to exercise (equipment, shoes, gym costs).	3	3.0
There is no safe place to exercise.	1	1.0
I'm too tired to be physically active.	11	11.1
I'm physically disabled.	8	8.0
Other	14	14.1

"Other" write-in responses included: age (2); lazy (2); don't want to (1); health reason (1); pregnant (1); too-sorry (1); transportation (1); time required.

- The most common reasons reported by respondents for not exercising were job is physical or hard labor and they don't like to exercise.

18. Not counting juice, think about how often you eat fruit in an average week? (n=210)

	Number	Percent
1-2	42	20.0%
3-4	45	21.4%
5-10	79	37.6%
More than 10	22	10.5%
Never	22	10.5%-

- 41.4% of respondents indicated they eat one to four servings of fruit in an averageweek.
- 10.5 % of respondents reported not consuming any servings of fruit in an average week.

19. Not counting lettuce salad and potato products, think about how often you eat vegetables in an average week. How many servings per week would you say you eat? (n=210)

	Number	Percent
1-2	12	5.7%
3-4	35	16.7%
5-10	112	53.3%
More than 10	43	20.5%
Never	8	3.8%

- Over 50% of respondents indicated they eat five to ten servings of vegetables in an average week.
- Only 3.8 % of respondents reported not consuming any servings of vegetables in an average week.

20. During the past 30 days, how many days per *week* or per *month* did you have at least one drink of any alcoholic beverage? (n=210)

	Number	Percent
None	117	55.7%
1-2 Days	33	15.7%
3-7 Days	21	10.0%
8-29 Days	39	18.6%
Everyday	0	0.0%

- Over 55% of respondents indicated they had no alcoholic beverage in the past 30 days.

21. And how many times during the past 30 days did you have more than 5 drinks in a *day*?

	Number	Percent
1 Time	159	77.2%
2 Times	13	6.3%
3 Times	8	3.9%
4 Times	16	7.8%
5-6 Times	10	4.9%
Don't Know	0	0.0%

- Approximately 5% of respondents self-reported having had more than five alcoholic drinks in a day five to six times in the past 30-day period.

22. Do you smoke cigarettes? (N=180; not including those who smoke more than "occasionally"; see follow-up question.)

	Number	Percent
Never	118	65.6%
Occasionally	43	23.9%
I used to smoke but have quit.	19	10.6%

- Over 75% of respondents that answered this question reported they either never smoked or no longer smoke cigarettes.

If you smoke more than one pack a day, how many packs do you smoke in a day?

- Of the 24 responses to this question, 19 respondents indicated they smoked one pack daily, four respondents indicated they smoked two packs daily, and one respondents indicated three packs daily.

23. Where are you exposed to secondhand smoke? You may choose as many of these as you need to. (Total responses=265)

Second Hand Smoke Exposure	Number	Percent
Home	69	26.0%
Workplace	22	8.3%
Hospital	6	2.3%
Restaurants	68	25.7%
School (Building/Grounds)	6	2.3%
Other	28	10.6%
Not Exposed	66	24.9%

"Other" write-in responses included: friends home (2); car (1); club (1); family (1); friends (1); neighbors (1); shelter (1); social (1); store front (1).

- Over 25% of responses indicated exposure to secondhand smoke at home or in restaurants.
- About 31% of the 213 survey respondents (n=66) report they are *not* exposed to second-hand smoke.

24. Are you in support of tobacco free environments (e.g., schools, hospitals, restaurants)? (n=206)

	Number	Percent
Yes	147	71.4%
No	59	28.6%

- Over 70% of respondents are supportive of tobacco free environments.

25. How often do you currently use chewing tobacco or snuff (smokeless tobacco)? (n=194)

	Number	Percent
Every Day	6	3.1%
Some Days	3	1.5%
Never	185	95.4%

- Only a very few respondents (9) use chewing tobacco or snuff.

26. If you currently smoke or use smokeless tobacco, where would you go for help in order to quit? (Total responses=123)

	Number	Percent
Doctor	26	21.1%
Church	5	4.1%
Don't know	12	9.8%
Quit Now NC	2	1.6%
Not applicable (I don't want to quit.)	46	37.4%
Pharmacy	3	2.4%
Private Counselor/Therapist	0	0.0%
Health Department	5	4.1%
Other	14	11.4%
I don't smoke or use smokeless tobacco.	10	8.1%

"Other" write-in responses included: on my own (12); centerpoint (1); cold turkey (1); himself (1); Jesus (1).

- Based on the responses from those who would like to quit smoking tobacco products, "Doctor" was the first choice for a resource.

27. Have you ever been told by a doctor, nurse, or other health professional that you have any of these conditions?

Diagnosis	Number
Arthritis	56
Asthma	34
Depression	40
High Blood Pressure	73
High Cholesterol	75
Overweight/Obesity	45
Osteoporosis	17
Diabetes (not during pregnancy)	21

Note: If you answered "Yes" to diabetes, continue to answer Questions #28-32. If you answered "No" to diabetes, skip to Question #33.

- High cholesterol, high blood pressure and arthritis were the most frequently reported diagnoses among respondents.
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	Arthritis	Asthma	Depression	High Blood Pressure	High Cholesterol	Overweight/Obesity	Osteoporosis	Diabetes
Age								
18-34	8.2%	18.4%	16.3%	12.2%	16.7%	12.2%	2.0%	2.0%
35-64	23.5%	17.6%	21.8%	33.6%	35.3%	25.2%	4.2%	10.9%
65 and Over	55.8%	9.3%	14.0%	62.8%	60.5%	20.9%	25.6%	16.7%
Race								
African American/Black	31.8%	21.2%	14.1%	37.6%	32.9%	22.4%	2.4%	12.9%
White/Caucasian	24.3%	13.6%	23.3%	34.0%	40.8%	22.3%	12.6%	7.8%
Other	36.4%	18.2%	36.4%	45.5%	45.5%	27.3%	18.2%	18.2%
Income								
Less than $20,000	32.8%	25.9%	17.2%	37.9%	29.3%	20.7%	5.2%	6.9%
$20,000-$29,999	21.6%	5.4%	21.6%	37.8%	27.0%	21.6%	5.4%	21.6%
$30,000-$49,999	25.0%	20.5%	22.7%	27.3%	27.3%	13.6%	4.5%	4.5%
$50,000-$74,999	21.1%	10.5%	13.2%	15.8%	39.5%	28.9%	10.5%	5.3%
Over $75,000	25.0%	12.5%	20.8%	54.2%	62.5%	29.2%	4.2%	16.7%

Arthritis

- Age: The proportion of respondents with arthritis is largest in the 65 and over age group.
- Race: Respondents in the “Other” racial group had the highest percentage diagnosed with arthritis.
- Income: Respondents earning less than $20,000 reported being diagnosed with arthritis more frequently than respondents of other income levels.

Asthma

- Age: The proportion of respondents with asthma is largest in the 18-34 age group.
- Race: African American/Black respondents had the highest percentage diagnosed with asthma.
- Income: Respondents earning less than $20,000 reported being diagnosed with asthma more than respondents of other income levels.

Depression

- Age: The age group 35 to 64 had the highest proportion of respondents with depression.
- Race: The racial group “Other” had the highest proportion of respondents diagnosed for depression.
- Income: The highest frequency of the depression diagnosis was among respondents in the middle income group.

High Blood Pressure

- Age: The proportion of respondents diagnosed with high blood pressure increases as age increases. While 12.2% of 18-34 year olds were diagnosed with high blood pressure, 62.8% of those aged 65 and older reported the same diagnosis.
- Race: Individuals in the racial category “Other” report being diagnosed with high blood pressure at the highest frequency.
- Income: Respondents earning over $75,000 had the highest proportion of respondents diagnosed with high blood pressure.

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High Cholesterol

- Age: As age increases the proportion of respondents reporting a diagnosis of high cholesterol also increases. The age group, 18 to 34 reported 16.7% diagnosed with high cholesterol while the 65 and over aged group reported a percentage of 60.5.
- Race: The racial group “Other” had the highest proportion of respondents diagnosed for high cholesterol.
- Income: Respondents earning over $75,000 had the highest proportion of respondents diagnosed with high cholesterol.

Overweight/Obesity

- Age: The age group 35-64 had the highest percentage of respondents diagnosed as overweight or obese.
- Race: There is no clear trend for race and an overweight/obesity diagnosis.
- Income: The highest frequencies of a diagnosis of overweight/obesity diagnosis occurred in the two highest income groups.

Osteoporosis

- Age: The highest percentage of respondents by far reporting osteoporosis was in the 65+ age group.
- Race: The White/Caucasian group reported the highest percentage of osteoporosis. No reports of osteoporosis were reported for the “Other” racial group.
- Income: The highest proportion of respondents reporting a diagnosis of osteoporosis was among those earning $50,000 to $74,999.

Diabetes

- Age: The highest percentage reporting being diagnosed with diabetes was in the 65+ age group.
- Race: The racial group “Other” reported being diagnosed with diabetes more than any other racial group.
- Income: Respondents earning $20,000 to $29,999 reported being diagnosed with diabetes more than respondents of other income levels.

Overall Comparison

- Respondents in the 18 to 34 aged group reported asthma as their highest diagnoses from the selections. The 35 to 64 aged group reported high cholesterol more than the other diagnoses. Respondents aged 65 and older reported high blood pressure more than any other aged group.
- African American/Black respondents had the highest percentages of diagnosis for high blood pressure while the White/Caucasians respondents' highest percentage was for high cholesterol. The racial group “Other” indicated both high blood pressure and high cholesterol were their highest diagnosis.
- Respondents earning less than $20,000 and respondents earning $20,000 to $29,999 indicated high blood pressure as their highest diagnosis. The income level, $30,000 to $49,999, reported both high blood pressure and high cholesterol most often. Respondents earning $50,000 to $74,999 and those earning over $75,000 selected high cholesterol as their highest diagnosis.

28. About how many times in the past 12 months have you seen a doctor, nurse, or other health professional for your diabetes? (n=21)

	Number	Percent
1-5 Times	18	85.7%
6-11 Times	1	4.8%
12 + Times	2	9.5%
Never	0	0.0%

- A large majority of the 21 respondents with diabetes report seeing a medical professional about their condition 1-5 times annually.

29. About how often do you check your blood sugar? (n=21)

	Number	Percent
1 or More Times/Day	12	57.1%
1 or More Times/Week	4	19.0%
1 or More Times/Month	4	19.0%
1 or More Times/Year	0	0.0
Never	1	4.8%

- Over half of the 21 respondents with diabetes report checking their blood sugar 1 or more times per day.

30. About how often do you check your feet for sores or irritations? (not counting when you go to the doctor to have it checked) (n=21)

	Number	Percent
1 or More Times/Day	17	80.9%
1 or More Times/Week	3	14.3%
1 or More Times/Month	1	4.8%
1 or More Times/Year	0	0.0%
Never	0	0.0%

- Just over 80% of the 21 diabetic respondents report checking their feet once or more per day.

31. A test for "A one C" measures the average level of blood sugar over the past 3 months. About how many times in the past 12 months has a doctor, nurse, or other health professional checked you for "A one C."? (n=21)

	Number	Percent
1 or More Times/Day	3	14.3%
1 or More Times/Week	5	23.8%
1 or More Times/Month	8	38.1%
1 or More Times/Year	3	14.3%
Never	2	9.5%

- Approximately 38% of the 21 diabetic respondents report they have their "A one C" checked once or more per month; another 24% report being checked once or more per week.

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32. When was the last time you had an eye exam in which your pupils were dilated? This would have made you temporarily sensitive to bright light? (n=21)

	Number	Percent
Within the Past Month	5	23.8%
Within the Past 2 Years	3	14.3%
Within the Past Year	12	57.1%
2 or More Years Ago	0	0.0%
Never	1	4.8%
Don't Know	0	0.0%

- Approximately 57% of the 21 diabetic respondents have had an eye exam with pupil dilation within the past year. For another 24% their last exam was in the past month.

33. If you are a male age 40 or older, do you have an annual prostate exam (e.g., PSA test or digital exam)? (*Qualifying* n = 65)

Annual Prostate Exam	Number	Percent
Yes	46	70.8%
No	19	29.2%
Total	65	100%

- 29.2% of male respondents who answered this question reported they do not have an annual prostate exam.

Annual Prostate Exam - Stratified		
	Yes	**No**
Age		
35-64	66.7%	33.3%
65 and over	82.4%	17.6%
Race		
African American/Black	56.5%	43.5%
White/Caucasian	80.0%	20.0%
Other	50.0%	50.0%
Income		
Less than $20,000	33.3%	66.7%
$20,000-$29,999	60.0%	40.0%
$30,000-$49,999	66.7%	33.3%
$50,000-$74,999	92.9%	7.1%
Over $75,000	84.6%	15.4%

Note: Due to the age-grouping ranges, some male respondents who are less than 40 may be included in this stratification.

- Age: Men aged 65 and older had the highest proportion of respondents indicate they have an annual prostate exam.
- Race: White/Caucasian respondents had the highest proportion of respondents indicating they had an annual prostate exam.
- Income: Men in the income level group less than $20,000 had the lowest percentage reporting an annual prostate exam.

34. If you are female age 40 or over, do you get an annual mammogram (breast x-ray)? (*Qualifying* n = 86)

Annual Mammogram	Number	Percent
Yes	66	76.7%
No	20	23.3%
Total	86	100%

- Slightly over three-quarters of women who responded to this question reported having an annual mammogram.

Mammogram – Stratified		
	Yes	**No**
Age		
35-64	75.4%	24.6%
65 and Over	80.0%	20.0%
Race		
African American/Black	82.4%	17.6%
White/Caucasian	70.5%	29.5%
Other	87.5%	12.5%
Income		
Less than $20,000	75.0%	25.0%
$20,000-$29,999	69.2%	30.8%
$30,000-$49,999	72.2%	27.8%
$50,000-$74,999	77.8%	22.2%
Over $75,000	100.0%	0.0%

Note: Due to the age-grouping ranges, some female respondents who are less than 40 may be included in this stratification.

- Age: Women aged 65+ had the highest proportion of respondents indicating they have mammogram every 1-2 years.
- Race: Women in the category “Other” report the highest proportion of annual mammograms, followed by African Americans/Blacks.
- Income: The highest proportion of mammography occurs among respondents in the two highest income groups, followed by women in the lowest income group.

35. If you are a female age 21 or older, do you have a pap smear at least every other year? (*Qualifying* n = 117)

Pap Smear	Number	Percent
Yes	94	80.3%
No	23	19.7%
Total	117	100%

- Approximately 70% of the eligible (female age 21 or older) respondents have a bi-annual Pap test.

Pap Test – Stratified		
	Yes	**No**
Age		
18-34	92.3%	7.7%
35-64	86.2%	13.8%
65 and Over	53.8%	46.2%
Race		
African American/Black	82.4%	17.6%
White/Caucasian	78.0%	22.0%
Other	81.3%	18.7%
Income		
Less than $20,000	80.6%	19.4%
$20,000-$29,999	76.2%	23.8%
$30,000-$49,999	79.2%	20.8%
$50,000-$74,999	90.5%	9.5%
Over $75,000	80.0%	20.0%

Note: Due to the age-grouping ranges, some female respondents who are less than 21 may be included in this stratification.

- Age: Respondents aged 18-34 had the highest percentage of individuals reporting they have a bi-annual Pap test.
- Race: African Americans/Blacks report the highest percentage of bi-annual Pap testing.
- Income: The highest proportion of bi-annual Pap testing occurs in the $50,000-$74,999 income group.

36. Males and females: If you are age 50 or older, have you ever had a colon cancer screening (e.g., fecal occult blood test, sigmoidoscopy, colonoscopy)? (*Qualifying* n = 116)

Colon Cancer Screening	Number	Percent
Yes	84	72.4%
No	32	27.6%
Total	116	100%

- 72.4% of eligible (age 50 or older) respondents indicated they have had a test or exam for colon cancer.

Colon Cancer Screening – Stratified		
	Yes	**No**
Age		
45-64	71.9%	28.1%
65 and Over	81.4%	18.6%
Race		
African American/Black	71.8%	28.2%
White/Caucasian	75.4%	24.6%
Other	50.0%	50.0%
Income		
Less than $20,000	58.3%	41.7%

Colon Cancer Screening – Stratified		
	Yes	**No**
$20,000-$29,999	63.2%	36.8%
$30,000-$49,999	76.0%	24.0%
$50,000-$74,999	82.6%	17.4%
Over $75,000	93.8%	6.2%

Note: Due to the age-grouping ranges, some respondents who are less than 50 may be included in this stratification.

- Age: Respondents aged 65 and older were more likely to report being screened for colon cancer than those aged 50-64.
- Race: When stratified by race, respondents in the "Other" group had a significantly lower percentage of colon cancer screening than the other racial groups.
- Income: The highest level of colon cancer screening occurred in the highest income group; the lowest level occurred in the lowest income group.

37. Are you caring for the following people in your home? (Total responses = 44)

	Number
Elderly or Disabled Parent	**3**
Grandchild	**6**
Disabled Spouse	**5**
Disabled Child	**0**
Foster Child(ren)	**1**
Other	**3**
Family Member	**26**

"Other" write-in responses included: children (1); none (1).

- Respondents report caring for at least 44 special needs person in their home, most commonly a family member.

38. Skip this question if you are not caring for any of the above including the category, other. In the past 12 months, did you have a difficult time finding care for the person or people indicated above? (Yes/ No) (Total responses = 36)

	Number	**Percent**
Yes	5	13.9%
No	31	86.1%

If you did, what was the main reason you had this problem?

- Of the four responses to this question, one respondent indicated finances, one respondent indicated nowhere to go, one respondent indicated trans, finance, access, and one respondent indicated transport.

Questions for Parents

One section of the survey was directed only to parents of children between the ages of 9 and 19. Because there were no other questions asked about parental or family status it is not possible to double-check any of the response numbers, or to ascertain to how many children of what ages the responses apply.

39. Do you have children between the ages of 9 and 19? (Total responses = 182)

	Number	Percent
Yes	49	26.9%
No	133	73.1%

- 49 respondents reported having a child in the age range described.

40. Do you think your child is engaging in any of the following high risk behaviors? (Total responses = 57)

	Number	Percent
Alcohol Use	5	8.8%
Criminal Activities	1	1.8%
Drug Abuse	2	3.5%
Eating Disorders	0	0.0%
Gangs	0	0.0%
Negative/Risky Internet Abuse	0	0.0%
Reckless Driving/Speeding	2	3.5%
Sexual Activity	9	15.8%
Tobacco Use	6	10.5%
Truancy (skipping school)	0	0.0%
I don't think my child is engaging in any high risk behaviors.	32	56.1%

- Over 56% of respondents with children in the qualifying age range thought their child was not engaging in any of the high risk behaviors listed.
- Among parents who thought their children *were* engaging in high risk behaviors, sexual activity, tobacco use, and alcohol abuse were the behaviors most commonly named.

41. Are you comfortable talking to your child about the risky behaviors listed above? (N = 50, 1 more respondent than answered "Yes" to #39.)

	Number	Percent
Yes	43	86.0%
No	7	14.0%

- 86% of respondents with children in the qualifying age group indicated they feel comfortable talking to their children about high-risk behaviors.

42. Do you think your child or children need more information about the following issues? (Total responses = 110)

	Number	Percent
Alcohol	10	9.1%
Dating Violence	10	9.1%
Drug Abuse	11	10.0%
Eating Disorders	6	5.5%
HIV	8	7.3%
Internet Safety	11	10.0%
Mental Health Issues	6	5.5%
Reckless Driving/Speeding	8	7.2%
Sexual Activity	12	10.9%
STDs	12	10.9%
Teen Pregnancy	9	8.2%
Tobacco	7	6.3%

- Respondents indicated they thought their children needed more information about primarily sexual activity, STDs, drug abuse, and internet safety.

Community Stakeholder Interviews

Community Stakeholder Interviews

Methodology

In 2007 from July to September, NCIPH staff conducted telephone interviews with stakeholders representing 22 organizations in Forsyth County. The interviewees worked in key sectors of the community, including healthcare, education, business, law enforcement and support services. Stakeholders were assured that their personal identities were protected and would not be connected to the report during the interview consent. Respondents shared information about the services they provided and their observations on the changes in the community in terms of demographics and emerging needs. Each community leader or service provider was asked to share their perspective on the strengths of Forsyth County, as well as general and health specific challenges. Qualitative data was recorded in narrative form in Microsoft Word, and then analyzed using Atlas.ti for emerging themes. Illustrative quotes that reflected the themes were identified as well, but may have been altered slightly to protect the identities of those interviewed. The interview results are summarized below according to the main topics of *Quality of Life, Community Strengths and Challenges, Programs and Services,* and *Heath Concerns.*

Interview Participants

Representatives from the following agencies and organizations participated in the stakeholder interviews:

Assistant Chief of Police
Board of Health
Chamber of Commerce
Chief of Police
Council on Aging
County Manager
Department of Pediatrics
Department of Social Services
Domestic Violence Service
Forsyth County Parks & Recreation
Forsyth Medical Center
Forsyth Tech College
Forsyth Tech Hispanic Center
Healthy Carolinians
Hispanic Interaction
Institute for Dismantling Racism
Medical Society
Salem College
Smart Start
Superintendent of Schools
United Way
WFU Baptist Medical Center

Interview Responses

Quality of Life Statements

Safety: *Forsyth County is a safe place to live.*

All the interview subjects agreed that the county is a safe place to live. Respondents complimented the police and sheriff's departments on working to address crime through preventative efforts with a citizen's police academy and center for community safety, as well as effective law enforcement. Despite the reputation as being a safe place to live, responses indicated that certain areas in the county have higher crime rates. While many interviewees praised law enforcement, a recent increase in crime was a source of concern for many. There have been increased reports of drug and gang activity in neighborhoods and schools, particularly in communities of lower socioeconomic status. It was also noted that there has been some increase in crimes of sexual violence.

> *We have a very good quality of life in the county and do not have an abundance of fear of crime.*

Raising Children: *Forsyth County is a good place to raise children.*

All but one stakeholder agreed that Forsyth County is a good place to raise children. The responses showed a consensus that the county is a family oriented community with an extensive school system, a low crime rate, a strong health system, and plenty of cultural and social activities for children.

However, some concern was expressed over the quality of the school system. Many participants felt that the system is deteriorating and that there are increasing disparities between public schools in richer areas and those in poorer parts of Forsyth County. In addition, a few respondents expressed the belief that limited means may inhibit some families from enjoying the community's resources and support systems.

> *For the children that have a support system who can advocate for them it's wonderful, but for those without it we see a lot of kids fall through the cracks who would likely be fine with a little push.*

Employment: *There are plenty of ways to earn a living in Forsyth County.*

More than half the respondents agreed that there are plenty of employment opportunities in Forsyth County. Medical, banking, and other business fields currently offer the greatest employment options as professional career opportunities continue to grow. With the many medical centers in the county, it is no surprise that healthcare services are the most prominent employers. Additionally, bringing large companies such as Dell to the area is promising increased job opportunities in the future.

Yet despite the agreement, responses revealed that there is a distinct advantage for the job seeker with a college degree. Forsyth County is currently in the process of transitioning from a manufacturing economy into a service-based economy. Historically known as a tobacco town, the county has seen a lot of change as factories such as R.J. Reynolds, Sara Lee, and textile

factories have closed down. Several interviewees expressed the belief that with the changes in the county and the effect of globalization on the nation, the current job market does not meet the needs of county residents. The issue is not finding a job opportunity, but rather finding a job that provides a living wage. For the residents who experienced layoffs from industry closings, the challenge is transitioning from the higher pay scale in industrial jobs to the lower scale of service jobs.

> *The issue is earning a living. For those getting into the job market without a higher education, the amount that they can expect to earn is much less, as opposed to what they could've earned 20 years ago*

While Forsyth County may have a low unemployment rate, the interviewees reflected a need for growth in the job opportunities providing living wage employment and training opportunities.

Aging: *Forsyth County is a good place to grow old.*

The overwhelming majority of the respondents agreed that Forsyth County is a good place to grow old, citing the specialized medical resources as one of the main reasons. With a department of gerontology at Grey Bowman Medical Center and other groups focusing on aging, there are medical services designed to meet the needs of the aging. The county was also recognized as having exemplary retirement and assisted living facilities, according to interviewees having recently being rated among the top retirement centers in the United States. Other identified benefits of the community were the mild climate and convenient proximity to the mountains, coast, and other major cities in North Carolina. In addition, Winston-Salem offers the amenities of a metropolitan center, such as cultural events, sports and entertainment events, but without the high crime, cost of living, and traffic found in other urban centers. As one participant expressed:

> *I would describe the county as a community of a lifetime -- from the position of birth through retirement*

However, many interviewees qualified their statements by recognizing that financial resources play a key factor in the accessibility of specialized support. While there are human service programs that attempt to meet these needs such as Meals on Wheels and consumer credit counseling, responses indicated that there is a gap in services according to resources. Indeed, those that expressed ambivalence toward aging in the county also brought up the issue of limited financial resources. If a person does not have money, their options for support as they age are limited. Stakeholders expressed that there is a need for more geriatricians in the county, as well as more support services to meet the needs of older residents with low financial means.

Community Support: *There is plenty of support for individuals and families during times of stress and need in Forsyth County..*

More than half of the interviewed stakeholders agreed that the county provides adequate support services for individuals and families in need of support. Faith-based and other non-profit organizations were most commonly cited as providing support; examples mentioned included the Red Cross and United Way. However, government-provided services such as those of the county Department of Social Services, the Health Department, and the Police Department were also recognized for providing valuable support.

Despite the number of agencies and organizations providing social support, many respondents felt that accessibility and awareness are barriers for those in need. Stakeholders commented that

inadequate public transportation service impedes county residents' ability to access services. Additional barriers identified included decreased funding for services, lack of communication across agencies, language barriers for non-English consumers, and agencies struggling to keep up with increasing needs. Overall, stakeholders feel there is an abundance of social support services in the community, but there needs to be improvement in the delivery of those services.

> *I agree that there are lots of support services and agencies available, but there are issues around people knowing about services and how to access them. The connection to people in need is lacking.*

Environment: *Forsyth County has clean air and water.*

Interviewees were asked to share their opinions regarding water and air quality in the community. Some respondents expressed hesitancy about answering the question, a few deferring to experts and others claiming ignorance. Overall, more stakeholders felt comfortable commenting on the air quality in Forsyth County than the water quality.

There was an overall consensus that the water quality in Forsyth County is good. Responses included praise for the water treatment facilities and appreciation for the Yadkin River. Only a few responses revealed distrust with the water supply and felt that the county needs to do a better job.

Conversely, over half of the respondents felt that the air quality is in need of major improvement. Many people commented that there were recent Code Orange alerts for air pollution in the community during the week and sometimes on the day of their interview. Factors that contribute to air pollution include the industrial pollutants from factories and power plants, car emissions, and the fact that the geographical location of the county hinders cross-state airflow and leads to "stale" air.

> *Today has terrible air. In general the air quality has improved over the years and it will continue to … but there are challenges around air quality.*

Emergency Communication: *What is the most effective way to communicate with citizens in the case of a public emergency?*

Stakeholders were asked their opinions on the most effective way to communicate with citizens in the case of an emergency such as Hurricane Katrina. The overwhelming response was that using different forms of media communication in both English and Spanish would be the best option, including the radio, television, and Internet news. In the absence of electricity, respondents suggested having a cellular phone network that people could tap into to obtain information. Other suggestions included identifying community centers, such as the YMCA, who could provide information to their clientele. For hard to reach communities, targeted outreach was identified as the best approach, including putting information on public airway systems. A few respondents expressed the importance of having a pre-conceived plan of action targeted to each community.

Community Strengths

The People: Many stakeholders highlighted the residents themselves as Forsyth County's greatest strength. The population was praised for its willingness to work together to improve the community, committing money to support services, dedicating time as volunteers, being well educated, and for being caring and good people.

> *... the community commitments; there are a lot of people who put in time, energy and money to make it a quality community.*

The Services: Forsyth County stakeholders also prided themselves on the array of services that are offered to residents. Generous funding from foundations and residents contributes to the wealth of services, as does the strong leadership that has worked to identify county needs and to address them.

Additional community strengths identified included the geographically central location of the county, the faith-based organizations, the diversity of people and resources, the creative minds working in research and economic vitalization, the healthcare system, and the arts community.

> *In diversity of offerings … from education to healthcare, to quality of life, there's a wonderful balance of things that make the community strong.*

Community Challenges

Growth and Population

Certain challenges have become more of a concern as the county has continued to grow. Participants identified the need for careful city planning as the county becomes a major metropolitan area. Despite the growth, a few respondents asserted that the county should do more to keep and attract young adults in the 20-to-40 year-old age group. It was suggested that the county create more entertainment activities that cater specifically to this group and continue to encourage the arts.

Immigration policies and services for the growing Spanish-speaking population were identified as major issues by most interviewees. One person suggested more productive community dialogue, instead of the current dialogue that tends to be divisive. In addition, as this immigrant population grows, services will need to grow with it. Respondents indicated that there is a need for more services for immigrants, including health care, interpreters, language programs, and health care for children.

Economy

The economic shift from an industry-based economy into one that is centered on service and knowledge has resulted in financial difficulties for many residents. Many interviewees identified the installation of a living wage, rather than minimum wage, as one way to address issues related to underemployment. One respondent suggested that private and public entities do more to facilitate the community's transition to a knowledge-based economy. Many supported job re-training programs to employ residents previously employed in industries. Expanding the job market to include more living wage jobs was another suggestion.

> *We are losing more jobs than we are creating, and the ones we are creating aren't of as good quality.*

Addressing educational needs was cited as another way to addresses the economic transition. The increasing high school drop out rate was consistently raised as an issue. As knowledge-based employment opportunities rise, it is increasingly important to educate the population. This includes addressing educational disparities between schools and providing preventative programming – such as confidence and skill building activities – that keeps high school students in school. In addition, providing educational opportunities for adults can help them transition into better paying jobs.

Socioeconomic, Racial, and Political Concerns

Issues around race relations and poverty were consistently raised in the interviews. Participants advocated more efforts to address race relations in the county, particularly around health and educational disparities. A non-partisan school board and more integrated schools were offered as mechanisms to reduce contentious educational issues. Integration was also seen as a way to bring diverse

socioeconomic and political groups together to "think outside the box" about ways to facilitate diversity and address disparities. Another suggestion was for more programs on building understanding:

[The community experiences] continual struggle with diversity issues. [People} often still get hung up debating and spend a great deal of time struggling with diversity and not as much time coming up with solutions to the inequities that exist because of racial/cultural diversity or perceived inequities.

Service Delivery

Though one of the county's strength is the plethora of services available for residents, many interview responses revealed that service delivery remains a challenge for social and health services. One issue is the overlap in services, which impacts the effectiveness and efficiency of service delivery. Other suggestions for facilitating increased service use included improved communication between programs, through assisted transportation, more affordable family services, increased personnel, and better communication to the community about available services.

A lack of services may not be the issue … we need to strive to make sure the necessary services are being delivered as effectively and efficiently as possible.

Environment

As the county grows, having a perspective toward not only the current needs but the future needs of the population will be imperative. Respondents recognized this need in their interviews, suggesting that the county clean the air, become more energy efficient, and strengthen the infrastructure. There was a lot of interest in improving the built environment by protecting and expanding green space, and providing more recreational parks and sidewalks to residents. Public transportation that is affordable and handicap accessible was promoted. Increased funding for county and government services, such as the police, was another identified need.

The Health Care System and Health Challenges

Stakeholders were asked to comment on the quality of the health care system in Forsyth County, as well as on community health needs and potential solutions. Overwhelmingly favorable, the responses indicated the health care system provides excellent medical care. However, due to barriers such as language and financial means, many residents are unable to access this care. Responses showed that the strongest aspects of the health care system are the knowledgeable medical staff, the resources offered through the hospitals and universities, medical research, and the network of services offered throughout the county.

We probably have one of the largest medical systems in the county and in the Triad. There is an adequate healthcare system; the problem is access.

Among the responses that revealed disapproval with the health care system, the most frequent issue was accessibility. For the many residents who are uninsured or underinsured, accessing preventative and regular care is extremely difficult. While the county does offer services targeted to these groups, funding cuts can limit the availability and accessibility for these services. Vulnerable groups such as immigrants and the elderly may have difficulty accessing services to meet their special needs.

While achieving it would be a major challenge, the majority of stakeholders advocated accessible and affordable preventative care for the whole population. To address this a few interviewees advocated that the county take more of a social approach to medicine. Suggestions included universal health coverage, particularly for children, and more preventative health education around issues such as smoking, sexually transmitted infections, and chronic diseases. Increased numbers of social workers and school nurses were also promoted as a way to reach families. Responses also encouraged more free services and affordable medications in the county, reducing the costs of medical services, and assisting residents in navigating medical services.

> *I think there is a good health care system for those who have insurance, and there is an effort to meet the needs of those who don't have insurance … but I'm not sure if that effort suffices.*

Health problems such as smoking and the increasing incidence of obesity, diabetes, and heart disease were related to the poor lifestyle choices that many Americans make. Many respondents asserted that health education programs that teach the value of physical activity and nutrition need to be implemented in the community so that residents can learn how to live healthier and make better choices. The workplace and general media were proposed venues for health messages. Schools were identified as an ideal place to reach the community through the children. Reducing carbonated beverages in schools and making campuses smoke free were cited examples of the schools promoting healthier lifestyles.

> *Healthcare providers and institutions need to implement wellness programs that emphasize eating and exercise and start in elementary schools … we can educate the society by beginning with children.*

Another frequently raised health concern was the infant mortality rate in Forsyth County. Underlying factors included teenage pregnancies and poor prenatal care. Recommended solutions included effective health education on sexual health and personal responsibility to prevent first and multiple pregnancies. Outreach approaches to health education were applauded as effective strategies in the past.

Unmet mental health needs continue to be a challenge as the North Carolina mental health system transitions into community based services. Funding complications have led to concentrated service provision for the most severely affected, thus reducing care for those with emerging or mild to moderate issues. Interviewees indicated a need for more mental health services that are affordable and available to the community.

A few stakeholders took a political or policy view of health concerns. A few said it is not enough to provide health education, but it is also necessary to have policies that support healthier lifestyles. Policies need to provide more public funding for preventative and affordable services that will meet the current and growing needs in the community. One respondent encouraged a more transparent political process that allowed residents to understand how funding decisions are made so that the community can be more engaged in advocating for needs. Transparency would also increase the county's accountability to the underserved population. Community advocacy for children and the aging could be an effective means for improving the health care system.

Respondents also advocated asserting political action for improving the environment. As poor air quality contributes to asthma and other respiratory conditions, air control is a means to improving health. Both regulations and public transportation were identified ways to reduce automobile

emissions. Energy conservation and alternate energy sources also were recommended as ways to make the environment healthier.

Other interviewees applied an economic perspective to addressing health concerns. As poverty exists as both a health and economic problem, addressing the needs of the impoverished can improve the health and economy of a community. Recommended actions included providing incentives to public and private entities to encourage healthier business and workplace practices, and increasing minimum wage or instituting a living wage. One respondent observed that as the economy transitions into a more global economy, there is an opportunity for partnerships between institutions to combine efforts and address community challenges.

> *Because of low income or poverty, it causes families to struggle with access due to lack of medical insurance, access to good diets, healthy lifestyles, not working and lack of education opportunities … a living wage would hopefully address the issue of poverty and the challenges it creates …*

Ultimately, the majority of the expressed concerns were related to service access as it relates to funding. Be it funding for services or the financial resources of individuals and families, financial concerns continue to limit the quantity and quality of services available to county residents.

Community Action Plans

2007 Healthy Carolinians Action Plan
School Nutrition

County: Forsyth **Partnership:** Forsyth County Healthy Community Coalition **Period Covered:** June 2004- July 2015

LOCAL PRIORITY ISSUE

- Priority issue: Health Promotion
- Was this issue described in your county's most recent Community Health Assessment? X Yes __ No
- List other sources of information about this priority issue: 2005 NC Youth Risk Behavior Survey, 2006 NC-NPASS

LOCAL COMMUNITY OBJECTIVE - Please check one: __ New X_ Ongoing from last re/certification

- By: 2010/2011
- Objective: To increase the number of elementary schools from 23 to 46 in the Winston-Salem Forsyth County system that offer lower fat and lower sugar choices on the lunch line in accordance with the *Dietary Guidelines for Americans.*
- By: 2014/2015
- Objective: To increase the number of middle schools from 2 to 16 in the Winston-Salem Forsyth County system that offer lower fat and lower sugar choices on the lunch line in accordance with the *Dietary Guidelines for Americans*
- Original Baseline: Five(5) elementary and Two (2) middle schools
- Date and source of original baseline data: 2004 WSFC Healthy Alliance Program
- Updated information (For continuing objective only): Twenty three (23) elementary and Two(2) middle schools
- Date and source of updated information: 2007/8 WSFC Healthy Alliance Program

POPULATION(S)

- Local population(s) experiencing disparities in relation to this local objective: Elementary and Middle School students (< 18 years of age)
- Describe the local population(s) that will benefit: Elementary and Middle School students
- Total number in population: 35,300
- Number you plan to reach: 15,065

NC 2010 FOCUS AREA AND NC 2010 HEALTH OBJECTIVE ADDRESSED

Check **one** NC 2010 focus area:

__ Access to Health Care	__ Environmental Health	__ Injury
__ Chronic Disease	X_ Health Promotion	__ Mental Health
__ Community Health	__ Infant Mortality	__ Older Adult Health
__ Disability	__ Infectious Diseases	__ Oral Health

__ Other - Please Describe:

NC 2010 Health Objective: To decrease the percent of students who eat high sugar snack foods on a given day.

INTERVENTIONS, SETTING, & TIMEFRAME	COMMUNITY PARTNERS' Roles and Responsibilities	EVALUATION MEASURES
1. Marketing/Communication activities related to this community objective: Marketing and Communication activities will be through the WSFC school system in collaboration with the WSFC School Wellness Committee and the School Health Advisory Council (SHAC). Appendices of the School Wellness Policy will be distributed to all schools and PTAs. Appendices include healthy snack lists, healthy fundraising ideas, brown bag lunch tips and a nutrition reading list.	Lead agency: WSFC schools Other agencies: The WSFC School Wellness Committee has representatives from the health department, YMCA, YWCA, parents, students, Chartwells foodservice company, school principals, Assistant Superintendent, and Board of Education. The SHAC has representatives from Forsyth Medical Center, WFUBMC, Mental Health, Adolescent Pregnancy Prevention, Superintendent, Board of Education, Health Department, PTA Council, and schools.	Progress to date in marketing these interventions: Marketing and Communication efforts are ongoing. Because the school system is the lead agency, they will take the responsibility in disseminating information to the schools through the principals and PTA presidents.

2. **Intervention**: The Lifestyle/Behaviors Working Group, Forsyth County Healthy Community Coalition (FCHCC) will support Chartwells Foodservice Company and the Wellness Policy Committee in offering healthier choices on the lunch line in elementary and middle schools. YEAR 1 : 7-01-04 through 6-30-05 Setting: 5 elementary and 2 middle schools Activities: The pilot program includes, but is not necessarily limited to, offering healthy meals, beverages**,** a la carte and snack items instead of meals, beverages, a la carte or snack items that have low nutritional quality, high sugar and/or calorie content. This program was named the Healthy Alliance Program. YEAR 2 : 7-01-05 through 6-30-06 Setting: 12 elementary and 2 middle schools participating in Healthy Alliance. Activities: Expand the Healthy Alliance Program to 14 schools. Offer healthy meals, beverages**,** a la carte and snack items instead of meals, beverages, a la carte or snack items that have low nutritional quality, high sugar and/or calorie content. YEAR 3: Data not collected YEAR 4: 7-01-07 through 6-30-08 Setting: 23 elementary and 2 middle schools participating in Healthy Alliance. Activities: Expand the Healthy Alliance Program to 25 schools. Offer healthy meals, beverages**,** a la carte and snack items instead of meals, beverages, a la carte or snack items that have low nutritional quality, high sugar and/or calorie content. End date: Goal 2010/2011 school year for elementary schools. 2014/2015 school year for middle schools. There are 42 elementary schools and 16 middle schools in the WSFC school system. Goal is to have all elementary schools participating in Healthy Alliance. Middle schools will expand their participation in Healthy Alliance after 75% of elementary schools are participating in the program.	Lead agency: WSFC schools Other agencies: WSFC School Wellness Committee FCHCC Lifestyle/Behavior Team Forsyth County Dept. of Public Health Chartwells Foodservice Company PTA Parent volunteers *Roles of all partner agencies are to encourage the school system to implement the policy change*.	This intervention is: _ New X Ongoing _ Completed Process: 1. A 6-month planning process with representatives of SHAC and the FCHCC Lifestyle/Behaviors Team took place beginning January 2004. The result was to pilot a minimum of 3 schools with healthier meal/la carte/beverage choices (known as the Healthy Alliance Program). This pilot program was included in the WSFCS contract with Chartwells Foodservice Management Company. We exceeded the 3 school minimum and had 7 schools participate the 1st year of the pilot (by lottery of interested principals). 2. A survey of the 7 Healthy Alliance schools was conducted in May 2005 by various members of the SHAC/Lifestyle Behaviors Team to assess how healthy meal and a la carte items were promoted in the schools. Survey result summary attached. **Even though WSFCS lost revenue with the pilot project, they are committed to serving healthier meal/snack/a la carte items and expanded the number of schools participating in 2005-2006.** 3. A notebook containing nutrition related public service announcements, newsletter articles, healthy snack list, and bulletin board ideas was given to principals at each of the Healthy Alliance Schools to promote sound nutrition practices among teachers, faculty, students, parents, and community in December 2005. 4. For specific process objectives, see Year 1-4 under Intervention Column. Output/ Impact: • The contract with the WSFC school vendor, Chartwells, HAS been altered to incorporate healthier snacks into the offerings and to eliminate high sugar and/or high calorie content foods in Healthy Alliance schools. • Children in the Healthy Alliance schools are eating healthier foods as recommended in the USDA *Dietary Guidelines for Americans* because low-nutrient/high-calorie a la carte

		snack and beverage items have been eliminated from the cafeteria line. Health/ Safety Outcomes: Children in Healthy Alliance schools will maintain or lower their BMI. Note: BMI project was initiated in the 2007-2008 school year by the Sara Lee Center for Women's Health of Forsyth Medical Center. We will be able to track BMI's over time as this project continues.
3. **Intervention**: 100% implementation of the School Wellness Policy. School Wellness Policy was adopted June 2006 by the Board of Education. Setting: All WSFC schools. Start Date – June 2006 End Date – ongoing (adopted policy) Setting: WSFC schools Activities: The School Wellness Chair and Committee is organizing a mandatory meeting in February 2008 that will include representatives (PTA, Administrator, and PE teacher) from all WSFC schools on the components of the School Wellness Policy.	Lead agency: WSFC schools Other agencies: Chartwells Foodservice Company WSFC School Wellness Policy Committee (includes representatives from health department, YMCA, YWCA, parents, students, Chartwells foodservice company, school principals, Assistant Superintendent, and Board of Education).	This is X New_ Ongoing _ Completed Process: In Spring 2007, a survey was conducted in all WSFC schools about the implementation of the school wellness policy. Results showed that implementation of the policy varied drastically among schools in the school system. Few schools were in compliance with the policy per survey results. Output/ Impact: Increase the number of schools in compliance with the school wellness policy. Measure: Repeat survey in Spring 2008. Health/ Safety Outcomes: Increase the number of schools with a designated wellness coordinator. Increase the number of schools that have implemented the School Wellness Policy as measured by survey results. Progress to Date: As a result of the survey, the WSFC school Superintendent is educating principals on the school wellness policy at Principal meetings. Additionally, the February 2008 School Wellness Workshop will be conducted as a means to increase the number of schools in compliance with the Wellness Policy.
4. **Intervention**: Implement a teacher wellness program in the WSFC schools. (Note: this is a requirement of the Wellness Policy). Setting: WSFCS Start Date - End Date: 7/2008 -6/2009. We anticipate this program will continue into the 2009/2010 school year. The goal is to have wellness activities and programs available to faculty and staff throughout the school year. Each partner agency will sponsor a 3 to 4 month long health challenge during the school year. Aug-Nov – Step Up Forsyth (FCDPH) Dec – Feb – YMCA Challenge March – May – Best Health Challenge	Lead agency: WSFC schools and FCDPH Other agencies: Behealthy Coalition partners: YMCA Best Health of WFUBMC	This is X New _ Ongoing _ Completed Process: The Wellness Policy Committee will implement a teacher/staff wellness program. A Wellness Toolkit and program will be developed by the FCDPH, YMCA, and Best Health of WFUBMC. • 6,000 teachers, faculty, and staff will receive sound health information as a result of the School Wellness Program. Output/ Impact: Development of Wellness Toolkit and Wellness Calendar. Wellness Challenges implemented in 2008-2009 school year. • Increase physical activity Health/ Safety Outcomes: Improved

In addition, a Wellness toolkit will be developed to help the Wellness Committee Chair disseminate sound health information to the 6,000 faculty and staff of the WSFC schools.		overall health and quality of life among Wellness Program participants Progress to Date: This project is in the research and development phase. Lead agency and partners have met to discuss what they can contribute to the Wellness Toolkit and Fitness Challenge Calendar. Toolkit and Wellness Calendar will be introduced at February 2008 School Wellness meeting.

2007 Healthy Carolinians Action Plan
Step Up Forsyth: Physical Activity

County: Forsyth **Partnership:** Forsyth County Healthy Community Coalition **Period Covered:** 2004- 2009

LOCAL PRIORITY ISSUE

- Priority issue: Health Promotion
- Was this issue described in your county's most recent Community Health Assessment? X Yes __ No
- List other sources of information about this priority issue: 2005 BRFSS

LOCAL COMMUNITY OBJECTIVE - Please check one: __ New X Ongoing from last re/certification

- By: 2009
- Objective: To increase the proportion of adults (18years and older) who engage in physical activity for at least 30minutes on 5 or more days of the week
- Original Baseline: 42.4% of Adults, 18 years and older engage in moderate physical activity for 30 or more minutes per day, five or more days per week
- Date and source of original baseline data: 2001 BRFSS
- Updated information (For continuing objective only): 41.5% of Adults, 18 years and older engage in moderate physical activity for 30 or more minutes per day, five or more days per week
- Date and source of updated information: 2005 BRFSS

POPULATION(S)

- Local population(s) experiencing disparities in relation to this local objective: Adults (18years and older)
- Describe the local population(s) that will benefit: Adults (18years and older)
- Total number in population: 250,212
- Number you plan to reach: 2,500

NC 2010 FOCUS AREA AND NC 2010 HEALTH OBJECTIVE ADDRESSED

- Check **one** NC 2010 focus area:

__ Access to Health Care	__ Environmental Health	__ Injury
__ Chronic Disease	X Health Promotion	__ Mental Health
__ Community Health	__ Infant Mortality	__ Older Adult Health
__ Disability	__ Infectious Diseases	__ Oral Health
__ Other - Please Describe:		

- NC 2010 Health Objective: To increase the proportion of adults (18years and older) who engage in physical activity for at least 30minutes on 5 or more days of the week by 25%

INTERVENTIONS, SETTING, & TIMEFRAME	COMMUNITY PARTNERS' Roles and Responsibilities	EVALUATION MEASURES
1. Marketing/Communication activities related to this community objective: The BeHealthy Coalition will be the lead agency for marketing and promoting Step Up Forsyth. Coalition partners will participate in promoting Step Up Forsyth within their respective worksites or groups. Articles and paid advertising regarding Step Up Forsyth will be placed in local newspapers as part of the marketing effort. In addition to previous marketing efforts, the 6,000 employees in the WSFC school system will be targeted for Step Up **Forsyth as part of teacher/staff wellness.**	Lead agency: Behealthy Coalition Other agencies: Forsyth County Healthy Community Coalition WFUBMC City of Winston-Salem Recreation and Parks Planning Dept. WS Dept. of Transportation (paid advertising) WSFC schools Chair, WSFC schools Wellness Policy	Progress to date in marketing these interventions: Step Up Forsyth is a ready-to-go program that has been implemented for the past 4 years.
2. **Intervention**: Setting: Increase physical activity among	Lead agency: Behealthy Coalition Other agencies:	This intervention is: _ New X Ongoing _ Completed

Forsyth County residents by offering a community-wide walking program (called Step Up Forsyth). Individuals or teams may participate in this program. Start Date - End Date: (Step Up Forsyth runs mid-September to mid-November annually. Program was started in the Fall of 2004. Activities: - Design a community-wide walking program that encourages team or individual participation - create and place advertising to promote the program - create and distribute evaluation tools to track participation - design incentive items to distribute to participants upon completion of the program. Give prizes to the team that has the most participation. - solicit donations from community funding sources & businesses to pay for incentives End Date: Conduct campaign annually until 2009. Assess participation each year and change strategies if participation drops significantly.	Forsyth County Healthy Community Coalition WFUBMC City of Winston-Salem Recreation and Parks Planning Dept. WS Dept. of Transportation WSFC schools Chair, WSFC Schools Wellness Policy Roles and Responsibilities: BeHealthy Coalition will: - set dates for event, draft all materials, order incentives (Health Department budget) Other partners will: - recruit walkers and team captains for their organizations if people are interested to have a walking team - publicize Step Up Forsyth within their own networks	***Please refer to instructions:*** Process: The BeHealthy Coalition begins planning for Step Up Forsyth in late Spring each year. Numerous planning and logistical meetings are held prior to the event kick-off. Output/Impact: 2005 Step Up Forsyth! statistics: 549 participants a total of 19,784 days walked a total of 1,003,216 minutes logged = 16,721 hours that is an average of 50.7 minutes per day and 1827.4 minutes per person 2006 Step Up Forsyth! statistics: 574 participants a total of 22 teams participated a total of 317 logs were turned in a total of 461,176.42 minutes were logged in = 7,687 hours 2007 Step Up Forsyth! statistics: 798 participants a total of 23 teams participated a total of 396 logs were turned in a total of 777,432.31 minutes were logged in = 12,958 hours Health/ Safety Outcomes: Long-term goal: By 2009, the number of participants in the community walking program will increase by 250%. Progress to Date: Step Up Forsyth has been successful for two years and has engaged almost 1,500 residents in physical activity. The Coordination group is now considering new strategies to encourage even more residents to be physically active.

Note: There are numerous programs throughout the Winston-Salem community that strive to increase individual wellness and physical activity. These include, for example, worksite wellness programs (such as Action Health and Wake Forest University Baptist Medical Center) and a wide variety of community activities (organized through the Winton-Salem Parks and Recreation Department). Leaders of these and other groups are active members of the BeHealthy Coalition, a coalition that works in partnership with the Lifestyle and Behavior team of the Healthy Community Coalition.

2007 Healthy Carolinians Action Plan
Tobacco Cessation

County: Forsyth **Partnership:** Forsyth County Healthy Community Coalition **Period Covered:** January 2008 to June 2011

LOCAL PRIORITY ISSUE

- Priority issue: Health Promotion
- Was this issue described in your county's most recent Community Health Assessment? X Yes __ No
- List other sources of information about this priority issue: 2005 YRBSS, 2005 NC Youth Tobacco Survey, 2006 NC Restaurant Heart Health Survey, Restaurant Inspection Reports, 2006 FC BRFSS

LOCAL COMMUNITY OBJECTIVE - Please check one: X New X Ongoing from last certification

- By: 2011
- Objective 1: Educate health care providers about the NC Quitline and encourage them to offer Quitline information to their patients.
- Objective 2: To Increase the number of smoke-free restaurants by 20%, from 250 to 300.
- Objective 3: To Increase the number of health care providers who have received 5As training (for counseling people to quit smoking) by 50 individuals.
- Original Baseline: 100 Smoke-free Restaurants
- Date and source of original baseline: 2003 Forsyth County Infant Mortality Reduction Coalition

POPULATION(S)

- Local population(s) experiencing disparities in relation to this local objective: Minority women, youth, lower income adults
- Describe the local population(s) that will benefit: All youth and adults in Forsyth County who are current tobacco users or are exposed to cigarette smoke.
- Total number in population: 350,000.
- Number you plan to reach: 50,000 general public

NC 2010 FOCUS AREA AND NC 2010 HEALTH OBJECTIVE ADDRESSED

- Check one NC 2010 focus area:

__ Access to Health Care	__ Infant Mortality
__ Chronic Disease	__ Infectious Diseases
__ Community Health	__ Injury
__ Disability	__ Mental Health
__ Environmental Health	__ Older Adult Health
_X_ Health Promotion	__ Oral Health

__ Other - Please Describe:

- NC 2010 Health Objective: 1 = Reduce tobacco use by high school students. 2 = Reduce tobacco use (cigarette smoking) by adults.

INTERVENTIONS, SETTING, & TIMEFRAME	COMMUNITY PARTNERS Roles and Responsibilities	*EVALUATION PLAN &* PROGRESS TO DATE
1. In order to secure the active involvement of the priority population(s), our Partnership will: Ensure that youth and adults are engaged in planning and implementation of promotion for smoke free restaurants, houses of worship, and worksites. Ensure that health care providers are involved in designing outreach strategies for promoting Quitline and 5 As counseling for providers.		Progress to Date: Numerous new initiatives.

2. Marketing/Communication activities related to this community objective: Hold press conferences; call individual reporters at local TV, print, and radio media; highlight smoke-free restaurants on the FCIMRC website, the FCHCC website, the NEW smokefreeforsyth.org website and link to the list from the Department of Public Health website.		Progress to Date: Significant press coverage of the smoke-free restaurant list on the Forsyth County Infant Mortality Reduction Coalition's website (www.HelpOurBabies.org) has been generated. Additional media coverage of the tobacco free schools issue has run.
3. Intervention 1: Encourage local health care provides to: 1. give information on the free Quitline to patients who smoke and encourage patients to call for quit assistance; 2. facilitate offering the 5 A counseling trainings and/or implement the 5 A strategies for counseling patients who smoke. Settings: Health Care providers offices, regional meetings, health department Dates: January 2008 to 2011 Activities: Call on specific providers as well as working through networks of providers. Use relationships of Healthy Community Coalition members to offer information to specific providers.	Lead agencies: FC Department of Public Health Other agencies: Coalition for Drug Abuse Prevention FCHCC Roles and Responsibilities: FCDPH will: - devote staff time from the Health Policy Unit to build relationships with networks of providers throughout Forsyth County	This is X New _ Ongoing _ Completed Process: Number of community partners engaged in distributing information about the Quitline and about 5 A counseling Impact: Number of calls from Forsyth county residents to the Quitline. Number of participants in the 5 A training. Health/ Safety Outcomes: There will be a 5% reduction in Forsyth County adults who use tobacco by the end of 2011 Progress to Date: New initiative.
4. Intervention: Encourage local restaurants to cut out their smoking section and encourage community residents to eat at smoke-free restaurants. Settings: restaurants Dates: present to 2011 Activities: - Offer free listing of smoke-free restaurants by creating a web-based smoke-free restaurant list - hold press events to draw attention to smoke-free restaurants - engage youth, pregnant women, and families with young children to participate in press events and meetings with restaurant owners and managers.	Lead agencies: FC IMRC FCDPH - Youth Tobacco Prevention Other agencies: FCHCC Community volunteers Roles and Responsibilities: FCIMRC and FCDPH will: - coordinate volunteer training and equip community members with the information and resources to approach local restaurant owners - maintain a website to list smoke-free restaurants	This is: _ New X Ongoing Completed Process: The smoke-free web site listing was created in 2003. 250 restaurants are now listed. Publicity in the form of earned (free) media for restaurants that switch to non-smoking will continue 2 times per year throughout the coming years. Impact: Workers and customers are now more likely to have an environment free of second hand smoke in which to eat and work. Health/ Safety Outcomes: By 2011, the number of Forsyth County adults who report that they smoke will decrease by at least 5%. Progress to Date: The Advocacy team of the FCIMRC created the Smoking & Babies Just Don't Mix campaign when we realized that the high percentage of minority pregnant women who smoke was one major contributor to our high infant death rate. The policy piece of the campaign focused on promoting smoke-free restaurants. Campaign ran in 2003 and continues to receive local media attention.

2007 Healthy Carolinians Action Plan
Preventing Repeat Premature Birth

County: Forsyth **Partnership:** Forsyth County Healthy Community Coalition **Period Covered:** 2008 – 2011

LOCAL PRIORITY ISSUE

- Priority issue: Infant Mortality
- Was this issue described in your county's most recent Community Health Assessment? X Yes __ No
- List other sources of information about this priority issue: NC State Center for Health Statistics, Hospital data, UNC Center for Maternal and Infant Health

LOCAL COMMUNITY OBJECTIVE - Please check one: __ New X Ongoing from last re/certification

- By: 2011
- Objective: To reduce the incidence of low birth weight
- Original Baseline: 10.8% of Live births *(538 Births)*
- Date and source of original baseline data: 2006 NC Reported Pregnancies, 2006 Forsyth County Vital Statistics
- Updated information (For continuing objective only):
- Date and source of updated information:

POPULATION(S)

- Local population(s) experiencing disparities in relation to this local objective: Women who have already had a premature baby, Minority women,
- Describe the local population(s) that will benefit: All women of childbearing age who have had at least one premature baby and are therefore at highest risk to have another premature baby should they become pregnant again
- Total number in population: 70,800 (Females Ages 15-44)
- Number you plan to reach: 1,000

NC 2010 FOCUS AREA AND NC 2010 HEALTH OBJECTIVE ADDRESSED

- Check one NC 2010 focus area:

__ Access to Health Care	_X_ Infant Mortality
__ Chronic Disease	__ Infectious Diseases
__ Community Health	__ Injury
__ Disability	__ Mental Health
__ Environmental Health	__ Older Adult Health
__ Health Promotion	__ Oral Health
__ Other - Please Describe:	

- NC 2010 Health Objective: Reduce the incidence of low birth weight.

INTERVENTIONS, SETTING, & TIMEFRAME	COMMUNITY PARTNERS Roles and Responsibilities	EVALUATION PLAN & PROGRESS TO DATE
1. In order to secure the active involvement of the priority population(s), our Partnership will: Ensure that women of reproductive age and minority women are on the planning team that selects and designs the intervention.		Progress to Date: The Reproductive Health team of the Forsyth County Healthy Community Coalition (FCHCC) joined forces with the Advocacy Team of the Forsyth County Infant Mortality Reduction Coalition (FCIMRC) to create an intervention to address this objective. The combined team does include women of color, women of child-bearing age, low income women as well as both women and men who have had a premature baby and/or had a premature baby who died.

2. Marketing/Communication activities related to this community objective: The Preventing Repeat Premature Birth initiative will share information and work for protocol change by working with medical care providers, case management systems, and sharing education through community outreach.		Progress to Date: Relationships have been / are being built with case management systems and numerous healthcare providers throughout the Forsyth County community who serve clients who have had a premature baby. Sample materials will be developed and pilot tested before use with the community. Press releases and attempts to engage the general public will begin in late 2008.
3. Intervention : Ask health care providers who interact with either women who have had premature babies or children who were born premature (their parents being the target audience) to ask their obstetricians if 17 P might be right for them should they ever become pregnant again. Settings: Health care providers' offices Dates: December 2007 to 2011 Activities: - Develop relationships with a variety of individual health care providers in multidisciplinary settings. - Research 17 P progesterone, its use, effectiveness, and ability to prevent a repeat premature birth. - Initiate meetings with local health care providers to determine their willingness to incorporate the proposed protocol. - Offer in-service training of "Preventing Repeat Premature Birth" to providers - Design education materials for providers. - Collect and offer sample patient education materials to providers. Rationale: Prematurity and low birth weight are the leading causes of infant death in Forsyth County. In over half of all premature births in the United States, the mother had no known risk factors. The highest risk group for having a premature baby is women who have ALREADY HAD one premature baby. 17 P is a new use of progesterone, an intervention that has just recently been shown to decrease the risk of repeat premature birth **by over 30%** in women who had a spontaneous premature delivery of a singleton pregnancy. To date, 17 P education has only been done with obstetricians. Other health care providers who interact with patients who may be helped by this medication in future pregnancies have the opportunity to encourage women to advocate for their own care and ask if the medication might be right for them.	Lead agencies: Forsyth County Infant Mortality Reduction Coalition (FCIMRC), Healthy Community Coalition, UNC Center for Maternal and Infant Health, Forsyth County Department of Public Health Other partners: Neonatologists Pediatricians Obstetricians Midwives Nurse Practitioners Roles and Responsibilities: FCIMRC will: - build relationships with providers - develop materials - coordinate meetings FCHCC and FCDPH members will use their connections to help establish relationships and meetings with private providers they know to gain entry for the FCIMRC. UNC Center for Maternal and Infant Health will offer technical assistance and expertise and share information on current research.	This is X New _ Ongoing _ Completed

17 P has the potential to save babies' lives and literally millions of dollars each year in Forsyth county by delaying or preventing repeat premature birth.		
4. <u>Intervention :</u> Work with a variety of case management systems that interact with premature babies and their parents or women of childbearing age to change their protocols to include information about 17 P.	<u>Same as above</u>	
5. <u>Intervention</u> : Create a community education campaign to educate members about the possibilities of 17 P <u>Dates</u>: December 2007 to Summer 2008 <u>Settings</u>: community forums, press conferences, faith based institutions, other community locations <u>Activities:</u> - AFTER numerous local providers have changed their protocol and women have begun to hear of emergency contraception from their providers, launch a public education campaign to further raise awareness. Repeat as resources are available until 2011	<u>Same as above</u> FC HCC FC DPH <u>Roles and responsibilities:</u> FCIMRC will: - tabulate date - establish press talking points and organize a press conference - offer community education sessions at numerous locations - create educational materials for the community Other partners will: - encourage interested volunteers to send in letters to the editor, attend presentations, attend press conferences, put up flyers or posters in their organizations	This is X New Process: campaign to be created in 2007/2008

2007 Healthy Carolinians Action Plan
Domestic Violence

County: Forsyth **Partnership:** Forsyth County Healthy Community Coalition **Period Covered:** 2008 - 2011

LOCAL PRIORITY ISSUE

- Priority issue**:** Domestic Violence
- Was this issue described in your county's most recent Community Health Assessment? _X_ Yes __ No
- List other sources of information about this priority issue: FC County Book NC SCHS; WSSU Center for Community Safety; Family Services DV Program & Local Law Enforcement Agencies

LOCAL COMMUNITY OBJECTIVE - Please check one: __ New _X_ Ongoing from last re/certification

- By: 2009
- Objective: To decrease the incidence of Domestic Violence in the WS/FC area by 5% through more coordinated community efforts and effective monitoring
- Original Baseline: Approximately 4,400 reported cases of Domestic Violence in Forsyth County
- Date and source of original baseline data: 2002, FC Sheriff's Office, Winston-Salem Police Dept., Kernersville Police Dept.
- Updated information (For continuing objective only): 2006 -Approximately 4,550 reported cases of DV in Forsyth County, 1,010 restraining orders served, (**Note**: Increase in the number of reports of abuse and increase in the number of restraining orders demonstrates that the improved system is working to make it easier for victims to come forward and get help).
- Date and source of updated information: FC Sheriff's Office, Winston-Salem Police Dept., Kernersville Police Dept.

POPULATION(S)

- Local population(s) experiencing disparities in relation to this local objective: Racial / Ethnic Minorities, Economically Disadvantaged, 80% women and children
- Describe the local population(s) that will benefit: Racial / Ethnic Minorities, Economically Disadvantaged, 80% women -
- Total number in population: + 5,000
- Number you plan to reach: 25,000

NC 2010 FOCUS AREA AND NC 2010 HEALTH OBJECTIVE ADDRESSED

Check one NC 2010 focus area:

__ Access to Health Care	__ Infant Mortality
__ Chronic Disease	__ Infectious Diseases
__ Community Health	_X_ Injury
__ Disability	__ Mental Health
__ Environmental Health	__ Older Adult Health
__ Health Promotion	__ Oral Health

__ Other - Please Describe: _____

- NC 2010 Health Objective: To increase the number of victims of intimate partner violence seeking and receiving services by 25%

INTERVENTIONS, SETTING, & TIMEFRAME	COMMUNITY PARTNERS Roles and Responsibilities	EVALUATION PLAN & PROGRESS TO DATE
1. In order to secure the active involvement of the priority population(s), our Partnership will: Engage victims and survivors in various levels of leadership and implementation of Domestic Violence Community Council (DVCC) planning and activities.	**Lead Agency:** Domestic Violence Community Council	**Progress to Date:** Survivors' input is regularly solicited for developing programs and strengthening programs in the Safe Relationships Division. In addition to the solicitation of opinions from DV Survivors, a Survivor Representative currently serves on the DVCC Advisory Committee.

2. Marketing/Communication activities related to this community objective: Dissemination of information related to local resources through community services agencies, healthcare providers, churches, school system, and legal system; Collaboration with Family Violence Prevention Fund to distribute localized PSA's to all media outfits serving Forsyth County.	**Lead agency:** Domestic Violence Community Council, Family Services **Other agencies:** Family Violence Prevention Fund, City of Winston-Salem	**Progress to Date:** Continuing to work with local agencies and civic sectors to distribute information about local resources; Working with local media outfits to encourage airing of PSA's. A Domestic Violence Information Page has been created for social internet websites MySpace and Facebook in recognition of Domestic Violence Awareness Month. The purpose of the information pages is to build awareness and education about the topic for potential victims, perpetrators, and bystanders in the 12-24 age group. The Silent Witness project was displayed the entire month of October at Family Services location generating several media interviews, and inquiries from the general public and discussion amongst abuser intervention participants. Silent Witnesses were also displayed at over 14 different off - site locations including Forsyth County District Court, churches, YWCA Blow the Whistle on Domestic Violence Week. This year, the Annual Domestic Violence Community Council Meeting and Training featured national advocate, activist and trainer, Kit Gruelle. Over 100 people attended. The meeting also highlighted the accomplishments of the DVCC and Family Services for 2006-2007. Throughout the year, the Family Services Staff has participated in several health fairs, community day events, and community education opportunities.
3. **Intervention:** To develop policies and procedures for better reporting and response to Domestic Violence cases. **Activities:** Co-locate law enforcement, victim advocates, and court system services for domestic violence victims in one location to reduce barriers for women who are trying to address violence by their intimate partner. **Setting:** Winston-Salem Police Dept. DV Unit FC Sheriff's Office DV unit Kernersville Police Dept. FC Dept. Social Services FC Court System **Start Date** 2004 **End Date:** 2011	**Lead agency:** Domestic Violence Community Council, Family Services, Safe on Seven include: Legal Aid of NC, The Children's Law Center and the WSSU Center for Community Safety **Other agencies:** District Attorney's Office Forsyth County Sheriff's Office Winston-Salem Police Dept. DV Unit Human Services Agencies FC Court System **Responsibilities:** Forsyth County Hall of Justice will dedicate one floor of the building to the Domestic Violence Center. The District Attorney's office will locate the section of family court where victims must come to get a 50-B protective order against their abuser on this floor. Sheriff's office and Police Department will also locate services for victims on this	**This intervention is:** _ New _X_ Ongoing _ Completed **Process:** **Output/ Impact:** Creation of Safe on Seven Forsyth Domestic Violence Center, co-located services in the Hall of Justice for DV victims. Reporting guidelines included in Forsyth County Child Abuse and Neglect Protocol; New Statewide DSS protocol implemented locally – Family Services and DSS collaborated to train DSS staff. Department of Social Services (DSS) staff now located at Safe on Seven Forsyth Domestic Violence Center. Ongoing dialogue between DSS, Family Services, and law enforcement agencies about ways to strengthen coordination of services. **Health/ Safety Outcomes:** The number of reports of domestic violence and the number of 50-B restraining orders serves has increased since Safe on Seven opened - showing that women in the community ARE accessing the services more to help them end violence in their homes and/or escape from abusive partners. **Progress to Date:** The Safe on Seven

	floor.	(SOS) Domestic Violence Center has been created. It opened in October, 2005.
4. **Intervention:** Expand violence prevention curriculum into middle school for every child in public school (curriculum already addressed in brief during 5th grade and somewhat more extensively in high school). *House Bill 1354 which was passed in 2004 requires each school throughout the School Safety and Climate section to report its plan to prevent and address domestic violence affecting the school AND include a plan to train staff about domestic violence. The NC Coalition Against Domestic Violence has partnered with the NC Dept. of Public Instruction and offered training throughout the state on how to assist school districts and service providers on implementing this change for the 2008-2009 school year* **Activities:** Work with Winston-Salem/Forsyth County Schools to integrate relationship violence education into the middle school health curriculum and continue and expand current dating violence prevention and intervention programs in all Winston-Salem/Forsyth County high schools through LifeSkills classes. **Setting:** Health Agencies Schools **Start Date** October 2005 **End Date**: 2011	**Lead agency:** DVCC & Family Services **Other agencies:** WS/FC School System FC Healthy Community Coalition **Responsibilities:** Develop curriculum and educational structure. Train school faculty and staff. Increase community support for integration of the curriculum into health classes.	**This intervention is:** __ New _X_ Ongoing _ Completed **Process:** Meetings with local school officials to build relationships and determine possibility of curriculum integration. Additional meetings with school officials held in October 2005 to discuss next steps and potential pilot sites. Positive feedback from school system officials. Ongoing discussion regarding how to integrate curriculum. **Output/ Impact:** Goal: By 2008-9, offer a total of 30 minutes of violence prevention curriculum to all 7th graders in Forsyth County public school each year. **Health/ Safety Outcomes:** Long term Goal: Reduce the incidence of domestic violence reports in Forsyth County. **Progress to Date:** Due to academic teaching time at a premium in WSFC Schools, efforts to provide on site continuing education in the area of domestic violence for students has been forestalled.
5. **Intervention:** Collaborate with Winston-Salem/Forsyth County Council on Services for the Homeless to increase affordable and available permanent and transitional housing in Winston-Salem and Forsyth County. **Activities:** Support efforts to increase affordable and available permanent and transitional housing in Winston-Salem and Forsyth County, specifically The Campaign for Housing Carolina and North Carolina Housing Trust Fund. **Setting:** Health Agencies Housing Units Business City/County Government **Start Date** November 2005 **End Date:** 2011	**Lead agency:** WS/FC Council on Services for the Homeless **Other agencies:** DVCC FC Healthy Community Coalition Partners with the Homeless Council: Housing Authority Bethesda Center Salvation Army WS Rescue Mission Communities Helping All Neighbors Gain Empowerment (CHANGE) **Responsibilities:** Collaborate with other agencies to ensure affordable and available permanent and transitional housing in the Forsyth County community. This initiative is very new specific agency roles are not yet defined.	**This intervention is:** _X_ New __ Ongoing _ Completed **Process: Progress to Date:** Meeting with Council on Services for the Homeless Board in January 2006 to discuss concerns and collaboration. City of Winston-Salem adopted 10 Year Plan to End Chronic Homelessness in April 2006. **Output/ Impact:** Goal: By 2009, an additional 75 semi-permanent housing units will be available for chronically homeless individuals. **Health/ Safety Outcomes:** Long-term Goal: Improve quality of life for individuals who are currently chronically homeless and for the rest of community.

2007 Healthy Carolinians Action Plan
Economic Injustice

County: Forsyth **Partnership:** Forsyth County Healthy Community Coalition **Period Covered** 2008-2012

LOCAL PRIORITY ISSUE

- Priority issue**:** Economic Injustice
- Was this issue described in your county's most recent Community Health Assessment? _ X_ Yes (
- List other sources of information about this priority issue: 2000 US Census Bureau, US DHHS Poverty Guidelines, NC Justice Center and ACORN.

LOCAL COMMUNITY OBJECTIVE - Please check one: __ New X Ongoing from last re/certification

- By: 2012
- Objective 1: To increase voter registration, voters education and voters participation.
- Original Baseline: About 193,853 (77%) of Forsyth County citizens who are registered to vote, of which 24% are black and 3% are either Hispanic, Native American, Asian, or of a non-reported race.
- Date and source of original baseline data: Public records, FC Board of Elections
- Objective 2: To increase the minimum wage paid by top 5 major Forsyth County employers to at least $9.93 per hour
- Original Baseline: None of the major employers in Forsyth County currently have a $9.93 per hour minimum wage with health insurance benefits, or $12.93 per hour without health insurance benefits. A working family with children in Forsyth County needs to earn, on average, a total of $17.27/hour to cover basic living expenses.
- Date and source of original baseline data: Public records, NC Justice Center, US DHHS Poverty Guidelines.
- Objective 3: To promote public awareness and dialogue on issues relevant to poverty and health such as neighborhood assets among the low income minority residents; thereby increasing involvement and advocacy for their neighborhood's built environments: greenways, sidewalks, parks & grocery stores.
- Original Baseline: Several neighborhoods and communities in FC lack the identified components needed to foster healthy living. In addition, large numbers of rundown vacant lots misuse property and decrease the general appeal of the surrounding community.
- Date and source of original baseline data: City-County Planning Board publications
- Updated information (For continuing objective only): 2007 FPL $9.93/hour for family of four; fewer grocery stores, FDIC banks and more liquor stores, fast food outlet and Brownfield in the low income minority neighborhoods.
- Date and source of updated information: 2008 FC Board of Elections, NC Justice Center, US DHHS Poverty Guidelines, FC Tax Office

POPULATION(S)

- Local population(s) experiencing disparities in relation to this local objective: Low income, Racial / Ethnic Minorities
- Describe the local population(s) that will benefit: Low income, Racial / Ethnic Minorities
- Total number in population: (Minority 95,000)
- Number you plan to reach: + 20,000 (Low income, minorities)

NC 2010 FOCUS AREA AND NC 2010 HEALTH OBJECTIVE ADDRESSED Check one NC 2010 focus area:

__ Access to Health Care	__ Infant Mortality
__ Chronic Disease	__ Infectious Diseases
_X_ Community Health	_ _ Injury
__ Disability	__ Mental Health
__ Environmental Health	__ Older Adult Health
__ Health Promotion	__ Oral Health
__ Other - Please Describe:	

_____

- NC 2010 Health Objective: Healthy Carolinians cites the World Health Organization definition of a healthy and safe community as one that "strives to provide a thriving economy and opportunities for individuals and families while adequately addressing public health, medical care, and other essential needs of its population. In addition, a healthy community demonstrates an element of interconnectedness…linking public, private, and nonprofit sectors to address the underlying causes of poor health."

INTERVENTIONS, SETTING, & TIMEFRAME	COMMUNITY PARTNERS' Roles and Responsibilities	EVALUATION PLAN & PROGRESS TO DATE
1. Marketing/Communication activities related to this community objective: The Racial Disparity team will provide information regarding voter's registration prior to deadline to increase public awareness on the Forsyth County human services agencies and the FCHCC's website: www.healthycommunity.ws/ They will inform the community about the City of Winston-Salem Area plan and their neighborhood assets through newspaper articles, presentations, websites and reports concerning targeted issues that affect their community.	**Lead agency:** Forsyth County Department of Public Health, Forsyth County Healthy Community Coalition's Racial Disparity Team	Progress to Date: The Development of the Northeast Area Plan to give a more detailed scoped for future growth, appropriate land usage, and infrastructure at a community and neighborhood level. Community presentations held to introduce the Northeast Area Plan to the public. Advertisements regarding the deadline to register to vote posted in designated areas to reach our target population. Recent Health Summit can be viewed on line at www.healthycommunity.ws/ , along with all presentations slides provided by presenters.
2. Intervention: To empower the minority population through voters' registration drives that impact voter turn out and future public policies. **Settings:** FCDPH, FCDSS and other human services agencies in Forsyth County **Start Date - End Date:** April-September 2008	**Lead agency:** Forsyth County Department of Public Health; Forsyth County Healthy Community Coalition; Winston-Salem Voter Coalition	This intervention is: _ New X Ongoing _ Completed **Process:** Voter registration information will be made available at various public venues: outreach programs, fairs, and other high traffic areas to encourage the minority population to register to vote. Solicit community leaders to stress the importance of voter registration, education, and participation to their community residents in discussions, speeches, and daily dialogue. Organize voters to participate in on-going issue campaigns run by grassroots community organizations. Local media services used to bring awareness to connection between issues that matter to the community and the importance of voting. **Output/ Impact**: Previous efforts have led to 400+ newly registered voters increasing the percentage of minorities who are registered voters. **Health/ Safety Outcomes:** Minorities will have a greater voice in political process/ issues that impact their health and become advocates for healthy public policies.
3. Intervention: To enact a living minimum wage ordinance to raise income and improve overall health and economic development in the low income minority community.	**Lead Agency:** Forsyth County Healthy Community Coalition's Racial Disparity Team	This intervention is: _ New X Ongoing _ Completed Continue dialogue with county residents and community leaders concerning ways to increase the living minimum wage.

Settings: Community Centers, neighborhoods, Human Services agencies. **Start Date - End Date:** 2008 - 2012	**Other Agencies:** CHANGE, Minister's Conference, Faith Organizations, City & County Officials, Elected Officials, FC Top Employers	Involve residents by means of local campaigns to raise awareness of the issue. Educate residents on the political gains concerning living minimum wage in other counties. **Output/ Impact**: FCHCC will recommend to the City of Winston-Salem and Forsyth County Government that they should consider and evaluate labor and tax policies to increase income to minimum sustenance levels for the working poor as an explicit public health intervention. The top 5 major Forsyth County employers, the City of Winston-Salem and the Forsyth County Government should pay their employees a living minimum wage; and that those governments require that any contractor they hire, and any business receiving tax abatements or other subsidies from those governments also pay a living minimum wage to their employees. A living minimum wage should be considered the amount a person would need to earn to stay above the federal poverty level. Currently, this amount is $21,200 a year for a family of four, or $10.20 per hour with health benefits, or $13.20 without health benefits for a full-time, year round worker. **Health/ Safety Outcomes:** According to a study on the health benefits, a modest raise in the living wage could decrease the rate of premature death, increase the educational attainment of children and lower the risk of premarital childbirth. It will reduce inequality and poverty among the 41,000 Forsyth County individuals living below poverty level.
4. Intervention: To improve the community through the creation or rebuilding of much needed community establishments. **Settings:** Identified minority neighborhoods and community areas in Forsyth County **Start Date - End Date:** 2008 - 2018	**Lead agency:** City-County Planning Board, Forsyth County Healthy Community Coalition	This intervention is: _X_ New _ Ongoing _ Completed **Process**: Smart Growth approach created to improve how communities grow and develop. Elements of approach include: A range of housing opportunities, walkable neighborhoods, a mixture of land uses, compact building design, the preservation of open space and rural areas, transportation choices including transit, and sound environmental practices. Increase sidewalks, walking/bike paths in selected neighborhood developments through the Urban Corridors

		designation. This designation is meant to increase neighborhood-scaled, attractive, and pedestrian-oriented corridors along major thoroughfares that encourage new development or revitalization. **Output/ Impact:** A Board of health member, Forsyth County Public health Director and senior staff will continue to serve as a health advisory body work with the City-County Planning Board to ensure that development in minority neighborhoods positively impact their overall health. Community development will increase the appearance and general value underdeveloped areas within Forsyth County. In addition, the opportunities for citizens' health and happiness within their own communities will increase. **Health/ Safety Outcomes**: Improvements in community will lead to increased wellness and exercise opportunities.

2007 Healthy Carolinians Action Plan
Homelessness/ Mental Health

County: Forsyth **Partnership:** Forsyth County Healthy Community Coalition **Period Covered:** 2008 – 2016

LOCAL PRIORITY ISSUE

- Priority issue**:** Mental Health with emphasis on Homelessness & Access to Mental Health Care
- Was this issue described in your county's most recent Community Health Assessment? __ Yes X No
- List other sources of information about this priority issue: Baptist Hospital, Forsyth Hospital and Local Law Enforcement Agencies

LOCAL COMMUNITY OBJECTIVE - Please check one: _X_ New __ Ongoing from last re/certification

- By: 2016
- Objective 1: To increase public awareness through information about available mental health services
- Objective 2: To decrease the rate of chronic homelessness in Winston-Salem/Forsyth County by addressing the need for available mental health care.
- Original Baseline: Approximately 1,800 people experience homelessness in Winston-Salem Forsyth County each year.
- Date and source of original baseline data: 2006 City of Winston-Salem and WSFC Blue Ribbon Task Force's Ten-Year Plan to End Chronic Homelessness; Forsyth Hospital, Baptist Hospital, FC Sheriff's Department.
- Updated information (For continuing objective only):
- Date and source of updated information:

POPULATION(S)

- Local population(s) experiencing disparities in relation to this local objective: Racial / Ethnic Minorities, Economically Disadvantaged, Veterans, Families, unaccompanied youth
- Describe the local population(s) that will benefit: Racial / Ethnic Minorities, Economically Disadvantaged, Veterans, Families, unaccompanied youth
- Total number in population: + 1,800
- Number you plan to reach: 600

NC 2010 FOCUS AREA AND NC 2010 HEALTH OBJECTIVE ADDRESSED

Check one NC 2010 focus area:

__ Access to Health Care	__ Infant Mortality
__ Chronic Disease	__ Infectious Diseases
__ Community Health	__ Injury
__ Disability	_X_ Mental Health
__ Environmental Health	__ Older Adult Health
__ Health Promotion	__ Oral Health

__ Other - Please Describe: _____

- NC 2010 Health Objective: 1 = To increase the proportion of adults with mental illness who receive treatment. Objective 2 = To increase the proportion of adults over 65 with mental illness who receive treatment. Objective 3: Increase the proportion of children and adolescents, birth to age 18, with serious emotional disturbances who receive treatment

INTERVENTIONS, SETTING, & TIMEFRAME	COMMUNITY PARTNERS Roles and Responsibilities	EVALUATION PLAN & PROGRESS TO DATE
1. Marketing/Communication activities: • Work to change the perception of local management entities (LME) and strive to better serve the community, consumers, and providers through the creation of a Marketing & Public Relations position. • Creation and distribution of information related to LME's services, upcoming events, and role in the community	**Lead Agency:** CenterPoint Human Services **Other agencies:**	**Progress to Date:** The Representative logo for CenterPoint has been redesigned in efforts to project a more professional appearance to the public. This new logo will also be used to show unity amongst all materials, such as brochures, letterhead, business cards, etc. Informational pieces *The Friday Email* and *The Point Quarterly* serves as a new means of distributing information to the community, consumer and provider network. Both electronic documents have received positive impact both internally and externally. An "Information Booklet" has been created outlining CenterPoint's functions as an LME, including funding overview, ACCESS, consumers' rights, ways of volunteering on community committees, and ways to receive electronics information from CenterPoint. Overall, the eight page booklet explains the role of CenterPoint in regards to the community. In addition to the above stated electronic documents, employees also receive *The Point,* the quarterly report which includes important information concerning the service system and the community. In addition to the vital information included in this report, personal anecdotes from staff members are also included to increase moral. Improved relationships between LME and media partners. In light of this LME have been able to drive coverage, placing more emphasis on accomplishments and positive outcomes. Press releases are issued regularly to highlight positive areas. Creation of CenterPoint Website that will increase the public's ability to gain information.
2. **Intervention**: Collaborate with Winston-Salem/Forsyth County Council on Services for the Homeless to increase affordable and available permanent and transitional housing in Winston-Salem and Forsyth County. **Activities:** Support efforts to increase affordable and available permanent and transitional housing in Winston-Salem and Forsyth County, specifically The Campaign for Housing Carolina and North Carolina Housing Trust Fund. **Setting:**	**Lead agency:** WS/FC Council on Services for the Homeless **Other agencies:** DVCC FC Healthy Community Coalition Partners with the Homeless Council: Housing Authority Bethesda Center Salvation Army WS Rescue Mission Communities Helping All Neighbors	**This intervention is:** _ New _X_ Ongoing _ Completed **Process:** Meeting with Council on Services for the Homeless Board in January 2006 to discuss concerns and collaboration. City of Winston-Salem adopted 10 Year Plan to End Chronic Homelessness in April 2006. **Output/ Impact:** Goal: By 2009, an additional 75 semi-permanent housing units will be available for chronically homeless individuals

Health Agencies Housing Units Business City/County Government **Start Date** November 2005 **End Date:** 2011	Gain Empowerment (CHANGE) **Responsibilities:** Collaborate with other agencies to ensure affordable and available permanent and transitional housing in the Forsyth County community. This initiative is very new specific agency roles are not yet defined	**Health/ Safety Outcomes:** **Progress to Date:**

2007 Healthy Carolinians Action Plan
Illegal Dumping

County: Forsyth **Partnership:** Forsyth County Healthy Community Coalition **Period Covered:** 2008 – 2010

LOCAL PRIORITY ISSUE

- Priority issue: Illegal Dumping
- Was this issue described in your county's most recent Community Health Assessment? _x Yes __ No
- List other sources of information about this priority issue: Complaint and inspection data, Forsyth County Environmental Health Division, Winston-Salem Neighborhood Services Department, NCDENR Solid Waste Division, local municipal government employees & Community groups

LOCAL COMMUNITY OBJECTIVE - Please check one: X__ New __ Ongoing from last re/certification

- By: 2010
- Objective 1:To reduce the number of illegal dumping incidents in Forsyth County & its municipalities by 25%
- Objective 2: To increase public awareness through education and outreach
- Original Baseline: About 13,00 Illegal dumping complaints in past 12 months, of which 75% were within the City of Winston-Salem
- Date and source of original baseline data: FCDPH Environmental Health Division and City of Winston-Salem & Municipalities of Forsyth County within past 12 months
- Updated information (For continuing objective only): N/A
- Date and source of updated information: N/A

POPULATION(S)

- Local population(s) experiencing disparities in relation to this local objective: All citizens of Forsyth County
- Describe the local population(s) that will benefit: Residents that live, commute, work and use recreation facilities in affected areas as well as those residents that experience an incident of illegal dumping in their neighborhood.
- Total number in population: 332,000+
- Number you plan to reach: 9,000

NC 2010 FOCUS AREA AND NC 2010 HEALTH OBJECTIVE ADDRESSED

Check one NC 2010 focus area:

__ Access to Health Care	_X_ Environmental Health	__ Injury
__ Chronic Disease	__ Health Promotion	__ Mental Health
__ Community Health	__ Infant Mortality	__ Older Adult Health
__ Disability	__ Infectious Diseases	__ Oral Health

_x_ Other - Please Describe: **Emerging Issues- I**llegal dumping.

Environment: Illegal dumping is an environmental crime. Environmental exposures can have a tremendous impact on the public's health. Already respiratory diseases such as asthma are on the increase because of air pollution. Climate changes, such as global warming, are resulting from human activity. Changing the topography, for example, grading and paving over wetlands, changes entire ecosystems, threatening the existence and diversity of many plant and animal species. Extreme weather, such as hurricanes and floods, also change the environments. Agribusiness and other industries threaten the quality of the air, water, and soil. While much of the environment is regulated by federal law, it will still be the goal of each state and county to educate its citizenry about the effects these environmental challenges have on health and well-being. Human behavior, as well as business practices, needs to change to assure that the air, water and soil remain clean enough to sustain quality of life.

- **NC 2010 Health Objective:** Not Yet Developed
- **FC 2010 Health Objective:** To reduce the number of illegal dumping incidents in Forsyth County & its municipalities by 25%.

INTERVENTIONS, SETTING, & TIMEFRAME	COMMUNITY PARTNERS' Roles and Responsibilities	EVALUATION PLAN & PROGRESS TO DATE
1. Marketing/Communication activities Contact community partners for data, educate the public through various mediums (TV, Channel 13, radio, billboard, mailings, bill stuffers, school curriculum etc.)	**Lead agency:** Forsyth County Department of Public Health, Environmental Health Division and Forsyth County Healthy Community Coalition's Environmental Team	**Progress to date in marketing these interventions:** The Environmental Team has been waiting for data from the 2007 Community Health Opinion Survey as well as focus group and stakeholder group information before deciding on an environmental issue to pursue. Now that the data is in, it is clear that illegal dumping is that issue.
2. Intervention: Over the next 3 years, increase education and awareness through various marketing/communication activities listed above. **Rationale:** Important public health issue largely overlooked which results in an increase in environmental contamination and vector borne diseases. During a random sampling of 216 residents of Forsyth County it was noted that 32.6% of the respondents aged 65 and over cited illegal dumping as a major community issue and ranked it in the top 7 community wide issues. **Activities:** Targeted medium including mailings, bill stuffers, billboard, radio, print, school curriculum, Channel 13, etc. **Settings:** Schools Targeted neighborhoods **Start date:** February 2008 **End date:** 2010	**Lead agency:** : Forsyth County Department of Public Health, Environmental Health Division **Other agencies**: Winston-Salem Neighborhood Services as well as members of the Healthy Community Coalition's (HCC) Environmental Team (includes WSFC Schools, Cooperative Extension, Environmental Affairs, Stormwater Education Division of the City of Winston-Salem). Also with Piedmont Environmental Alliance, Garbage Haulers and Municipalities within Forsyth County. **Responsibilities:** • Research data using the Environmental Team of the HCC • Develop informational packets for school system and others and produce an educational video to run on Channel 13 • Secure funding for roadside billboard to increase public awareness of illegal dumping • Develop other initiatives to improve community awareness and increase the reporting of illegal dumping activities.	This intervention is: x_ New_ Ongoing _ Completed **Process:** • In the next 6 months, the Environmental Team will research the illegal dumping issue • Over the next year, the Environmental Team will educate the public through various mediums. **Output/ Impact:** • Over the next year, the Environmental Health Division will improve data collection utilizing more advanced technologies (i.e. GIS and CDP) • By 2010 the Environmental Health Division will increase the ease of reporting incidents of illegal dumping for the public **Health/ Safety Outcomes:** By increasing awareness, reporting and abatement there should be a decrease in the potential for breeding of vectors thus a decrease in infectious diseases and reduced potential for contamination of soil, water and air resulting from improper waste disposal.

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Appendices

Forsyth County, North Carolina
2007 Community Health Assessment
Focus Group Summary

Analysis of Data and Preparation of the Final Report by
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Forsyth County Department of Public Health
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Introduction

Forsyth County Department of Public Health is required to conduct the public health community assessment on a 4-year cycle which is synchronized with Healthy Carolinians Certification / Recertification process. During the three interim years, the local health department will issue a State-of-the-County Report that will provide updated information about priority health issues specific to the county.

The community health assessment (CHA) is a process by which community members gain an understanding of the health, concerns, and health care systems of the community by identifying, collecting, analyzing, and disseminating information on community assets, strengths, resources, and needs. The CHA process involves analyzing primary data (*focus groups, stakeholders interviews & Community Health Opinion Survey among targeted FC residents)* and secondary data *(data collected by other agencies & the state)*, combining primary and secondary data, selecting top health priorities and creating the CHA document with community health action plans.

The Forsyth County Healthy Community Coalition helps to guide and respond to the work of the CHA team. *Forsyth County Healthy Community Coalition is a community coalition whose mission is to create, build, and sustain efforts that improve the quality of life of the residents of Forsyth County.* The CHA team is made up of community residents and representatives from several organizations which reflect all facets of the community.

The goal of the focus groups is to synthesize the Forsyth County residents' viewpoint and concerns about life in the community, health concerns and other issues important to them into primary themes. These themes are often supported by quotes from the participants. Not all of the comments or themes will emerge into nice, neat categories. The summarized report will help the Forsyth County to identify its strengths, challenges, and future directions.

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Methodology

During March and June of 2007, ten focus groups were conducted by the Community Health Assessment (CHA) team as part of the state-mandated community health assessment process to collect primary data via focus groups in the Forsyth County community. The purpose of the focus groups was to better understand community concerns and to identify barriers that affect the Forsyth County residents' health.

Focus groups agendas were the same across all targeted groups and were conducted by the CHA team who had undergone uniform training to assure consistency of results. Focus groups are informal structured meetings in which community members discuss their thoughts on various community topics through predetermined questions. The focus groups were conducted among targeted population within all geographical regions of the county and to include the diversity of the county population including Hispanics, African Americans, Whites, and individuals from a broad age span (middle/high school students through elderly).

After the target populations were identified, the CHA team recruited focus group participants from the target group. The participants were compensated for their participation. The group size for the focus groups ranged from six (6) to sixteen (16).There were ninety-five participants overall. A list of the focus group target populations, locations, dates, size and racial composition is attached as Appendix A. The research is qualitative and exploratory in nature, therefore, samples were not chosen for statistical validity, but to ensure a diverse cross-section of participants.

Prior to the focus group session, the participants were presented with a written notice of consent form (see Appendix C). The notice of consent informed potential participants that the session would be audio taped and of the need to sign the consent agreement before participating in the session. The form was explained to and read by each participant. All signed consent agreements were submitted and stored in the Forsyth County Department of Public Health.

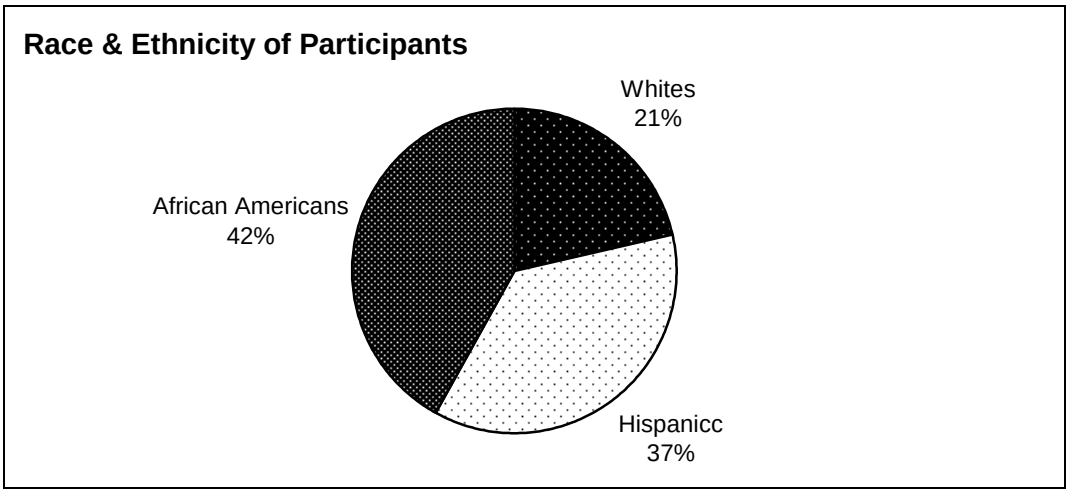
Focus group discussions were conducted in English and Spanish. Participants were referred to by first name only to ensure confidentiality. Each session was between 60 minutes to 90 minutes in duration. The focus group guides *(English & Spanish)* developed by the CHA team, were used to guide each session (see Appendix B). Each group session began with brief introductions from each participant.

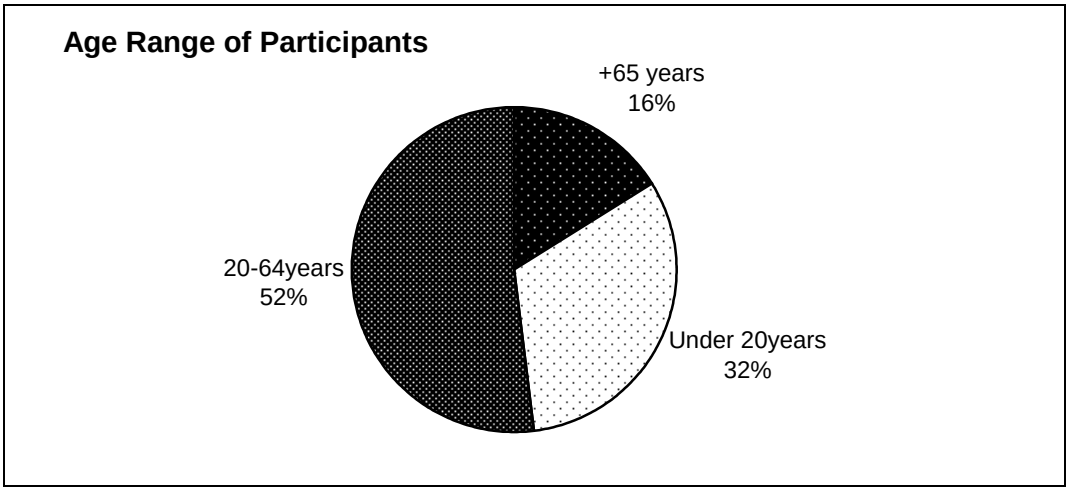
This report is a fair and accurate report of what was observed and discussed in each session. Actual
respondent verbatim responses accompany most, if not all, points made in the report. Highlights of individual sessions are presented below. Respondent quotations are italicized. The text under the section
heading for individual focus group is a summary of group comments and is not the opinion of the author. The discussion questions and topic were used as the organizing format for the analysis. An assessment was made of group responses to all the questions addressed in the meeting.

Demographics of Participants

Eighty-six percent (86%) of the participants were female and fourteen percent (14%) males. Out of the 95 focus group participants, forty-one percent were African Americans; thirty-seven percent were Hispanic and twenty-one percent were Whites. Thirty-two percent (32%) were under 20 years of age and sixteen percents were 65 years and older. Participants were from the groups listed below:

- FTCC Hispanic Students
- Hispanic Adult Men & Women from Iglesia Nueva Vita
- Parents in the Baby Love Parenting Class
- Mature African American Women in a Book Club
- Ex-offenders from Faith Seeds Reentry Program
- Middle/High School students in the Teen Talk Program
- Teens in the After School Program at the YWCA Empowering Family Center
- Hispanic Mothers in ESL program at Latham Elementary
- Seniors in the Healthwise Program at the Rural Hall Library
- Seniors in the Healthwise Program at the Kernersville Library





Conclusion/Recommendations

The participants identified specific areas of needs related to specific populations, concerns and barriers that affect their health. A number of common themes to all the focus groups emerged:

Overall Community concerns included overall safety/security/law enforcement presence in community & school, community resources/assistance for Hispanic, Seniors and families; discrimination/equity in justice system, unhealthy lifestyles and behaviors (*lack of sidewalks, walking & bike trails)*, affordable youth activities; affordable healthcare, WSFCS system/education; lack of public transportation; mental health issue, air pollution and job opportunities.

Community concerns among ***Hispanic*** participants included cultural differences, bureaucracy in the health care system, language barrier, immigration issues, discrimination, affordable health care services and financial constraints.

Community concerns among ***Teenage*** *participants* included race relations, discrimination, obesity, unhealthy lifestyles & behaviors, renovations &repairs in the WSFCS schools, equity in the WSFCS schools and gang-related issues.

Community concerns among ***African American*** *participants included* mistrust, stigma to certain illnesses, angry youths, closing of grocery stores in certain neighborhood and increased dropout rates.

Community concerns among ***Senior*** *citizens included* air/noise pollution, traffic congestions, urban sprawl, networking for seniors and readily available information on health care services.

Specific recommendation for *resources/activities that they would to like see in their community* included
recreation/youth activities, public transportation, more access to education, employment/income, safety and substance abuse, healthcare, aging and housing services

Specific recommendation for *best ways to get information to people particularly during a community emergency* included utilizing the electronic media: TV, radio, phone, PC, having a disaster plan readily available, community/police going door to door, alarm/siren, printed media *(English and Spanish)* such as flyers, PSA, newspaper in various public sectors and Ads on billboards .

Specific recommendation for *community change or improvement over next 5 years* included affordable youth activities/ recreation, increased law enforcement & reduced crime, affordable health care services, better job opportunities, educational opportunities, and public safety (increase public transportation & reduce traffic congestion).

FINDINGS

Voices of….. Hispanic Mothers taking the ESL Classes at Latham Elementary School

When asked about the strengths and weakness of their community, majority responded that their community was well organized, peaceful, clean and calm. They said they received lots of help and support particularly through the healthcare system by providing interpreters. However, they expressed their concerns about the criminal activities such as gangs and drug dealing in their neighborhoods. Most of them were concerned about their safety, lack of transportation, discrimination, lack of affordable health care services and their immigration status which impedes them from obtaining drivers licenses. In the future, they would like to see affordable health care services for poor people, more safety in the parks, schools and sidewalks and better job opportunities.
"We receive a lot of help. We took our children to the hospitals and they provided interpreters"
"Healthcare services are very expensive and there is not a government place where poor people can pay a reduced amount for healthcare services"
"More policemen in the schools protecting & prevent against drug use in Middle School and High School"

When asked about what things affects and influences their health and their neighbors' health and keeps them from being healthy, they unanimously reported that it was both financial constraints and lack of health insurance. They also said that criminal and drug-related activities, lots of garbage in the yards and filthy property affect their health. Some said there was too much bureaucracy in getting through the healthcare services, that they would rather self- medicate themselves, ask family or friend or not seek help.
"The hospitals bills are very expensive and so we can't always go to the hospital or clinic. And that is bad because sometimes it is life threatening"

When asked about what type of resources they used when they needed help, majority said they relied on Mexican stores, Que Pasa, El Annuciante, faith community, library, family and friends. Safer parks, better transportation and housing conditions were resources they would like to see not yet available. The complexity of the system, financial barriers and transportation were mentioned as what makes it hard for people to get health information and care.
" Radio and newspaper Que Pasa, also from El Anunciante and Mexican stores"
"It is hard to find information regarding where to get financial aid or make arrangement payments to pay medical debts"

When asked about what would be the best ways to get information to people in their community, majority stated that through printed media such as pamphlets, newspaper; electronic media such as Hispanic radio, internet and signs in the schools, stores, laundromats, and hospitals. They suggested in case of a community emergency, such as Hurricane Katrina, getting information to people through person to person and having a disaster plan available.
"A barrier is the language. Information must be in Spanish so the community really could find out what to do. A team could be made up of the police, rescue, etc. and they can mobilize through Hispanic neighborhoods"

Safer public places with increased police surveillance, affordable access to healthcare services and improved transportation were the most important issues that needed to be addressed in their community

Voices of….. African American Middle/High School Students in the Teen Talk Program

When asked about the strengths and weakness of their community, most of them said that their community was safe, clean and friendly with lots of activities and recreation centers. They were concerned about their safety with the increased violent crime, drug dealing and usage, loitering and litter in the street and parks. In the future, they would like to see reduced criminal activities, more businesses, rebuilding neighborhoods and increased safety.
"*What's going to happen regarding our safety?"*

Air pollution, unhealthy diets and behavior such as fast foods and cigarettes were some of the things that affected and influenced their health and their neighbors' health and kept them from being healthy.
They also said financial constraints, no health insurance and no transportation affected the health of people in their community.
"Stop selling cigarettes to younger kids"

When asked about what type of resources they used when they needed help, majority said they relied on their family and friends, church family and teachers. More recreation centers with computer labs, better transportation, more shelters for the homeless people and repairs and renovations to the WSFC schools were resources/ activities they would like to see not yet available in their community: The financial barriers and transportation were mentioned as what makes it hard for people to get health information and care.
"More shelters/fewer homeless people"
"New books (school and library)"

When asked about the best ways to get information to people in their community, their responses varied from electronic media such as phones & cell phones, email to hand delivery. They suggested in case of a community emergency, such as Hurricane Katrina, getting information through word of mouth, radio & TV.

When asked what else they could tell us about their community, they were pleased with the nice black colleges, shopping centers, pretty scenery/art, youth oriented activities. Overwhelmingly, they said the most important issue that needs to be addressed is obesity and unhealthy lifestyle & behaviors.

"Parents must monitor children's diet and health habits"
"Early deaths due to unhealthy diets"
"Playing sports requires being healthy and in good shape"

Voices of….. Teens in the After School Program at YWCA Empowering Family

When asked about the strengths and weakness of their community, they responded that they liked the size and diversity of their community which has lots of good schools. They were concerned about discrimination, their safety and condition of the housing complexes. In the future, they would like to see better housing conditions, cleaner neighborhoods, reduced criminal activities and equity in the schools.
"Size of community, small enough to know each other"
"Police dept. does not always investigate cases thoroughly enough"
"Gang banging needs to cease"

When asked about what things affects and influences their health and their neighbors' health and keeps them from being healthy, most of them said criminal activities, violence and drug dealing/ usage. They said unhealthy behaviors such as poor diet, smoking, drinking and drugs also prevent them from being healthy. However when they have a health problem, they go to the hospitals, doctors offices, and church family.
"*Drug houses; drug house down the street from my school"*
"Unhealthy diets; children eating too much candy & junk food"

When they need help for any reason, they usually rely on their family, faith community and library or just face it alone. Children-friendly facilities, programs & activities, better transportation, jobs and communication were resources/ activities they would like to see not yet available in their community. They also wanted to see more programs to stop drug addiction and smoking. Stigma attached to certain illness, fear and information not readily available makes it hard for people to get health information and care.
"Just face it alone, because people are not always there for you"
"Cigarettes and drugs should stop being made available to little kids"
"Mental health issues are perceived to have stigma attached, especially tough for youth to handle; lots of angry kids don't know what to do"

Electronic media such as TV, emails, websites, printed materials or police/community going door-to door would be the best way to get information to people. They suggested in case of a community emergency, such as Hurricane Katrina, people should get information through an available disaster plan, radio, TV, emails or person to person.
"Going door-to-door to talk or leave door hangers"
"Give information to public before disaster occurs"
"Form a "talking tree", 3 people tells 3 people, etc".

When asked what else they could tell us about their community, they were concerned about school truancy and drug dealing & usage. Discrimination, race relations, drug related activities and lack of equity in the justice were the most important issues that they said needed to be addressed in their community.
"Race relations are affected by different experiences, (white, black and now Hispanic) and must be addressed"

Voices of….. Mature African American Women in a Book Club

When asked about the strengths and weakness of their community, they responded that their community was close to the mountains and beach, has great climate with lots of activities. However, they expressed their concerns about the increased violence and criminal activities such as influx of gangs and gang activities, angry youth, inadequate transportation and grocery stores closing in certain parts of the community. In the future, they would like to see reduced crime, accessible health care services, raised graduation rates and reduced dropout rates, better transportation system, revitalized Downtown and more night life for the 45+ crowd.
"Different art based activities (city is known as Mecca for the arts)"
"Inadequate public transportation (no night or week-end service)"
"Increase access to care for those without insurance"

When asked about what things affects and influences their health and their neighbors' health and keeps them from being healthy, they unanimously responded that it was lack of exercising, lack of access & availability to recreational facilities and walking trails. Majority said financial constraints and lack of access to affordable health care services and air pollution also prevent them from being healthy. However they have a health problem, they seek help from the hospitals, doctors' offices, faith community, family and friends.
"W-S not bike friendly; need more bike trails, bike safety routes and bike racks strategically placed"
"County commissioners' refusal to fund medical facilities for low-income residents (DHP)"
"Churches/Community based health centers "

When asked about what type of resources they used when they needed help, their responses varied from family & friends, the library, and Crisis Control/Salvation Army. Majority agreed that better public transportation, equity in schools and more jobs were resources/ activities they would like to see not yet available in their community. Stigma attached to certain illness, mistrust and information not readily available makes it hard for people to get health information and care.
"Better public transportation"
"All schools should have equal resources and more diversity"
"Trust factor (for various reasons, don't trust available sources)"

When asked about what would be the best ways to get information to people in their community, they said through the public institutions, private sectors and neighborhood associations. They suggested, in case of a community emergency, such as Hurricane Katrina, the best way to get information to people is electronic media, sirens and having a community disaster plan available.
"Mall (kids gather in malls evenings & weekends; have open forum for information)"
"Community plan regarding steps to take in emergencies should be formulated and made available to public".
When asked what else they could tell us about their community, they said more people are moving in the area because of the quality of the schools but the school board should represent the demographics of the community. Overwhelmingly, they said the most important issues that need to be addressed are burden on the WSFC school system with influx of immigrants and the lack of accessible health care services.
"Electing BOE should be changed; instead of district representatives, BOE should reflect demographics of community"
"The burdens placed teachers with students whose parents don't speak English, and cannot help with the student's educational development"

Voices of….. Ex-Offenders in Faith Seeds Re-Entry Program

When asked about the strengths and weakness of their community, they responded that their community has positive people, great weather with lots of information and resources. They were concerned about drug dealing and usage, lack of jobs with living wage, lack of youth activities/programs and increased prevalence of AIDS cases. In the future, they would like to see more community participation and representation in municipal consideration and give ex-felons a chance.
"Good weather; not a lot of natural disasters, hurricanes"
"*Need free youth programs or dedicated funding available for participants"*
"Businesses should try to give ex-felons a chance at employment"

When asked about what things affects and influences their health and their neighbors' health and keeps them from being healthy, most responded that it was lack of physical exercise, drug usage and can not afford to get sick. They also said financial constraints, lack of health insurance, lack of trust, bureaucracy within the system and lack of health information prevents them from being healthy. However when they have a health problem, they go to the hospitals, doctors offices, and church family.
"Can't afford to get sick, so try to maintain an awareness of health"
"Lack of money, transportation, and insurance"
"Bureaucracies are complicated and unfriendly"

When they needed help for any reason, they usually rely on their family, faith community, media and library. Better transportation, job opportunities to become independent are resources/ activities they would like to see not yet available in their community. Mistrust and service provider attitude, complexity of system and information not readily available makes it hard for people to get health information and care.
"Opportunities to become independent"
"System too complex; getting the runaround, need to change protocols @ health dept., keep it simple"

When asked about what would be the best ways to get information to people in their community, they stated that through networking, community advocates, PSA and TV. They suggested in case of a community emergency, such as Hurricane Katrina, getting information through word of mouth, radio & TV and having a disaster plan available.
"Satellite sites to tie communities and agencies together"
"Have a disaster plan in place and make known to citizens"

When asked what else they could tell us about their community, they said everyone is not afforded the same opportunities, the media focuses on negative aspects of their neighborhoods and building structures need to be fixed. Majority said the most important issues that need to be addressed are job opportunities, our children/ youth and second chances for ex-offenders.
"Opening doors for us to help ourselves"

Voices of….. Hispanic Students at Forsyth Technical Community College

When asked about the strengths and weakness of their community, they said their community is calm, clean, and accessible to big cities with lots of educational opportunities and recreational activities. However, they expressed their concerns about the lack of affordable health care services, cultural competence in school system, inadequate public transportation and high drop out rates. In the future, they would like to see accessible & affordable health care services, better public transportation system, jobs and educational opportunities.
"Clean, accessible, more opportunities in comparison with other counties"
"In the schools, it is necessary to have counseling service for children who are experiencing a big cultural change. More psychological support for immigrant students"
"College opportunities for Hispanic students with HSD whose parents are illegal residents"

When asked about what things affects and influences their health and their neighbors' health and keeps them from being healthy, all of them agreed that it was unhealthy lifestyles & behaviors and access to affordable healthcare services. They also said illegal drugs and gang related activities prevented them from being healthy. However when they have a health problem, they usually self-medicate or use home remedies, rely on family & friends or go to the hospital.
"Non balanced food"
"Homemade remedies"
"They go to the stores and buy the available medicine they have from other Latino countries"

When they need help for any reason, they usually relied on family & friends, Hispanic center, church family and yellow pages. Majority agreed that better public transportation, more opportunities for youth recreational activities/centers, and affordable health care services were resources/ activities they would like to see not yet available in their community. The lack of bilingual resources and interpreters not readily available makes it hard for people to get health information and care
"Hispanic center is a source of information about housing, health and legal aid".
"More diurnal and nocturnal recreation centers for adolescents"
"There are no bilingual resources to help in the understanding of medical terms"

When asked about what would be the best ways to get information to people in their community, they stated that through Radio &TV and in school, stores & church settings. They suggested in case of a community emergency, such as Hurricane Katrina, getting information through Radio & TV.

When asked what else they could tell us about their community, they said there needs to be more evaluation or verification of the media content. The most important issues that need to be addressed varied from affordable health care services to media content, recreational activities, housing condition and better educational opportunities for undocumented youths.

Voices of….. Hispanic Men & Women at Iglesia Nueva Vita

When asked about the strengths and weakness of their community, they said their community is safe,
peaceful, centrally located with lots of resources for the Hispanic/Latina people. However, they expressed their concerns about the lack of affordable health care services and affordable sports activities, gang related & criminal activities, and not enough parent involvement in their children's schools. In the future, they would like to see more parent involvement and participation in school system.
"Lots of information & help Hispanic kids with homework from the Library"
"…people being robbed outside their homes, apartments, outside a store, work, and places"
"…children wanting to be involved in sports for school but too expensive"

When asked about what things affects and influences their health and their neighbors' health and keeps them from being healthy, they overwhelmingly said financial constraints, lack of affordable health care services, cultural differences, immigration issues, bureaucracy within the system and lack of health information prevents them from being healthy. However when they have a health problem, they go to community health clinic or hospitals' ER.
"…we don't seek help because we don't have health insurance"
"It's cultural, tradition: elderly people from Mexico do not go to the doctor for a routine checkup"

When they need help for any reason, they usually rely on family, friends, Crisis Control and church family. Majority agreed that affordable opportunities for youth recreational activities/centers, more mental health resources, educational opportunities regardless of legal status, affordable health care services and information on medical resources were resources/ activities they would like to see not yet available in their community.
"Medical insurance, support for Hispanic students with no documentation"
"*Economic resources for young children in terms of sports or recreations for families who don't have resources"*

When asked about what would be the best ways to get information to people in their community, all of them agreed through printed materials in public places, radio and TV. They suggested in case of a community emergency, such as Hurricane Katrina, getting information through radio & TV in Spanish.

When asked what else they could tell us about their community, they said they were concerned about the fear of being deported due to their immigration status and the inability to obtain a driver's license and access to affordable health care services.
"The uncertainty that the Hispanics have regarding politics, crimes. They get robbed but don't report it for fear of being deported"
"People need a driver's license regardless of legal status"

Voices of….. Parents in the Baby Love Parenting Class at Downtown Health Plaza

When asked about the strengths and weakness of their community, they responded that their community is a nice neighborhood with friendly people and convenient to stores and doctors offices and the great support they receive during pregnancy. However, they expressed their concerns about the bad customer service from agencies, increased violence and criminal activities, rundown neighborhoods and excessive speeding in residential areas. In the future, they would like to see reduced crime, affordable child care centers, resources for livable wage jobs, more activities for children and better kept parks and recreational centers.
"Support received during pregnancy (WIC, Health Dept., Doctor's offices)"
"*Customer services staff of social service agencies are not friendly, helpful, negative, and make disparaging comments about recipients of services"*
"Measures instituted to prevent drug dealers from visiting or loitering in parks"
"Create resources to help people find jobs, particularly jobs paying a living wage"

When asked about what things affects and influences their health and their neighbors' health and keeps them from being healthy, their responses varied from unhealthy lifestyles & behaviors, access to affordable healthcare services, air pollution, poor housing conditions, financial constraints, bad customer service and lack of education and information. However when they have a health problem, they usually go to the hospital/doctors office or don't seek care help due to lack of money, time, health insurance or job.
"A lot of construction everywhere; affects lungs and is causing allergies"
"Inside housing – roaches, rats, other infestation and generally poor housekeeping"
"*Cost of health care, can't afford it (getting an inhaler cost $80.00)"*

When they need help for any reason, they usually rely on their family, friends, faith community, ESR and Crisis Control. Better transportation, job opportunities, support & activities for the elderly, resources/support for single parents and constructive activities for teens are resources/ activities they would like to see not yet available in their community. Lack of transportation, service provider attitude, lack of education and information not readily available makes it hard for people to get health information and care.
"ESR, but will not help if requirements not met"
"More things for the elderly; too often they live far away from services"
"Improve public transportation; buses break too often"

When asked about what would be the best ways to get information to people in their community, they stated that through printed materials in public places, person-to-person, discussion groups in different settings, billboards, ads, radio and TV. They suggested in case of a community emergency, such as Hurricane Katrina, getting information through community watch groups, emergency alerts /alarms person-to-person, radio and TV.
"Discussion groups or forums at community centers, churches and rec. centers"
"Alarm that you can hear outside"

When asked what else they could tell us about their community, they said sex offenders should be registered and out of state tuition is too expensive. They overwhelmingly said the most important issue that needs to be addressed is health care. Safety, affordable daycare and resources/support for single parents and the elderly were also mentioned.
"A big concern is having enough resources and support for single parents"
"Want kids to be able to play outside without fear of guns or other violence"

Voices of…..Seniors in the Healthwise Program at the Kernersville Library

When asked about the strengths and weakness of their community, they responded that their community is a quiet, close-knit community with life long friends, good neighbors, and civic-minded people with close proximity to medical services, shopping centers and activities for seniors. Their main concerns included the increased traffic patterns, growth creating congestion, noise pollution, urban sprawl and lack of hospital in Kernersville. In the future, they would like to see a hospital in town, elimination of traffic congestion and be more mindful of the environment.
"Closeness of churches in community"
"Commercial encroachment in formerly residential areas creating noise pollution"
"Be more mindful of environment before cutting trees for new development"

When asked about what things affects and influences their health and their neighbors' health and keeps them from being healthy, majority of them responded that it was traffic congestion, air pollution, lack of sidewalks. They also said the lack of a hospital in Kernersville and affordable healthcare services prevented them from being healthy. However when they have a health problem, those who can, go to the doctors' offices while others do not seek help due to financial constraints and lack of health insurance.
"No sidewalks, can't walk in neighborhoods"
"Clear cutting of trees for development makes atmosphere more vulnerable to air pollution"
"No health insurance or Medicare"

When they needed help for any reason, they usually relied on senior center, church family or call 911. Majority agreed that a hospital within town limits and more public pools were resources/ activities they would like to see not yet available in their community. The lack of affordable health care services and information not readily available/accessible makes it hard for people to get health information and care
"Lack of knowledge of what many agencies do, need more information made available"
"A hospital inside the town limits"

When asked about what would be the best ways to get information to people in their community, they stated that through targeted mailings, printed materials in public places and discussion groups or group meetings. They suggested in case of a community emergency, such as Hurricane Katrina, getting information through person-to-person, loud speaker announcement from helicopters, radio and TV.
"Mailings targeted specifically to elderly"
"Kernersville Insight paper has lots of local information"
"National Guard going house-to-house"

When asked what else they could tell us about their community, they said Salem Lake has limited parking spaces and FedEx in regional airport will create more traffic and noise. They all agreed that the most important issues that need to be addressed are a hospital in town, better public transportation and networking for seniors.
"Progress is not always desirable and can have unintended consequences"
"Effective & reliable information network for seniors"
"Hospital inside town limits!"

Voices of…..Seniors in the Healthwise Program at the Rural Hall Library

When asked about the strengths and weakness of their community, they responded that their community is a secure, friendly with close proximity to doctors' offices, shopping centers, restaurants, churches, lots of recreational opportunities and activities for seniors in the library. However, they expressed their concerns about increased criminal activities, traffic congestion, urban sprawl and influx of immigrants. In the future, they would like to see more law enforcement and reduced crime, programs & activities for youths, a YWCA/YMCA in Rural Hall and a grocery store.

"Library has exercise program, and monthly senior citizen program"
"Growing crime rate and drugs, house broken into in March"
"Need activities to keep children out of trouble, particularly teens"

When asked about what things affects and influences their health and their neighbors' health, most said healthy behaviors & lifestyle, good sanitation procedures and reading to keep the mind active. Majority said high ozone levels, air pollution and unhealthy behaviors such as smoking, drinking, drug usage, poor diet, and lack of exercise prevented them from being healthy. However when they have a health problem, they usually go to the doctors' office, Home Health, Meals on Wheels while others do not seek help due to lack of public transportation and no access to social services in Rural Hall.

"Clear cutting of trees for development makes atmosphere more vulnerable to air pollution"
"Exercise and health classes in community"
"Smoke-free areas are good"

When they need help for any reason, they usually rely on their family, friends, faith community, doctors, Veterans Administration (VA) or call 911. Better transportation, more law enforcement, public pool, recreation center, and sidewalks are resources/ activities they would like to see not yet available in their community. Lack of affordable healthcare services, literacy issues, or not knowing how to where or who to get information from makes it hard for people to get health information and care.

"Need assistance with transportation to grocery store and other shopping"
"Churches often have programs for help with transportation"
"Eligibility for Medicaid prohibiting having savings or assets is set so low; you have to be almost destitute to qualify"

When asked about what would be the best ways to get information to people in their community, they stated that through printed materials in public places & churches, TV ads and mailings. They suggested
in case of a community emergency, such as Hurricane Katrina, getting information through person-to-person, radio/TV, emergency alerts/alarms and having a disaster plan available.

"Newsletters distributed on a regular basis"
"Community volunteers patrolling neighborhoods with loudspeakers and horns"
"Emergency radios, like the weather radios"

When asked what else they could tell us about their community, they said Rural Hall is a good place to live with good medical professionals, great neighbors, and good waste management & recycling services. They overwhelmingly said the most important issue that needs to be addressed is safety with more law enforcement officers. Resources/support for the elderly, recreational centers for youth and readily available information on services were also mentioned.

"Rural Hall is the garden spot of Forsyth County"
"Need provisions for police surveillance of homes when going on vacation because community watches do not really work"

Analysis of each interview questions

Question 1(a): Assessment of the strengths and weaknesses of the community: *What do you like about your community?*

- Lots of resources & support (21)
- Safe, well organized, & peaceful community (18)
- Neighbors, neighborhood, & people (12)
- Vicinity to stores, doctor's offices, other cities & counties (10)
- Recreational activities (6)
- Great climate & weather (4)

"Clean, accessible, more opportunities in comparison with other counties"
"Good weather; not a lot of natural disasters, hurricanes"
"Opportunities for Latinos to enter to the FTCC in the English learning"
"WS Concerned about citizens; providing healthcare services with interpreters"
"Close-knit community with life-long friends"

Question 1(b): Assessment of the strengths and weaknesses of the community: *What are your concerns about your community?*

- Increased crime, violence, traffic violations, influx of gangs (24)
- School system & curriculum (8)
- Urban sprawl (6)
- Lack of affordable youth activities (5)
- Inadequate public transportation (4)
- Lack of jobs opportunities (4)
- Discrimination (3)
- No access to affordable health care (3)
- Bad customer service (2)

"Lack of activities; recreation centers for youth computer labs within our communities"
"Need free youth programs or dedicated funding available for participants"
"In the schools, cultural counseling service and more psychological support for immigrant students"
"Influx of gangs and gang activity"
"Inadequate public transportation (no night or week-end service)"
"Not enough law enforcement officers"

Question 1(c): Assessment of the strengths and weaknesses of the community: *How would you like to see your community change or improve over the next 5 years?*

- Affordable youth activities/ recreation (13)
- Increased law enforcement & reduced crime (11)
- Affordable health care (7)
- Better job opportunities (7)
- Educational opportunities (6)
- Public safety (increase public transportation & reduce traffic congestion) (5)

"More law enforcement officers needed / reduction in crime "
"Need activities to keep children out of trouble, particularly teens"
"Raise graduation rates and reduce drop-outs"
"More jobs and better salary and raise the minimum wage"
"More policemen in the schools protecting& prevent against drug use in Middle School and High School"
"Businesses should try to give ex-felons a chance at employment"
"More public transportation"
"Fewer gangs and drug dealers"

Question 2(a): Health: *What's happening in your neighborhood and community that influences the health of you and your neighbors?*

- Unhealthy lifestyles (16)
- Criminal activities & drugs (7)
- Lack of sidewalks, walking trails, bike trails, & parks (6)
- Clean neighborhood, sanitation & garbage pick up (6)
- Air pollution (5)
- Financial assistance/ no health insurance (4)

"Drug houses; drug house down the street from my school"
"Self-prescription, because sometimes we have not access to medical services"
"No sidewalks in many neighborhoods to allow for safe walking "
"Air quality should be improved; Forsyth County one of areas with poor air quality"
"W-S not bike friendly; need more bike trails, bike safety routes and bike racks strategically placed"
"Lot of non-healthy fast food. We lived in a country that the life is fast"
"40+ years of Tobacco industry/addiction; limited access to health & education"

Question 2(b): Health: *What keeps you and your neighbors from being healthy?*

- Financial constraints (21)
- Unhealthy lifestyles (12)
- Lack of health information/education (9)
- Frustration (7)
- Drugs, crime & gangs (6)
- Air pollution (4)
- Garbage pick up/littering (4)
- Cultural difference (4)
- Lack of trust (3)

"County commissioners' refusal to fund medical facilities for low-income residents (DHP)"
"It's cultural, tradition: elderly people from Mexico do not go to the doctor for a routine checkup".
"Few mainstream doctors and dentists provide care to low-income (Medicaid) patients"
"The hospitals bills are very expensive and so we can't always go to the hospital or clinic."
"Agencies don't communicate what they do or offer"
"Unhealthy diets; children eating too much candy & junk food"
"Garbage in the yard and no respect for the property"
"Smoking, drugs and drinking"

Question 2(c): Health: *What do people that you know do when they have health problems? Do they seek care? If so where do they go? If not why?*

- Hospitals/ Doctors offices (15)
- Do not seek help (7)
- Self medication/home remedies (6)
- Financial constraints/ no health insurance (6)
- Bureaucracy (3)
- Lack of transportation (2)
- Family/friends (2)

"Bureaucracies are complicated and unfriendly"
"Lack of public transportation in town to get to facilities"
"Churches/Community based health centers"
"Indifference or belief in self-healing (home remedies)"
"No health insurance or Medicaid"
"Hospital emergency rooms"

Question 3(a): Resources/Activities: *If you needed help for some reason, how would you resolve it? Who and where would you turn to?*

- Faith& faith community (16)
- Family/friends (13)
- Media/library/books (8)
- Private non-for-profits (7)
- Government (7)
- Lack of services (4)

"Hispanic center is a source of information about housing, health and legal aid".
"Crisis Control/Salvation Army"
"Senior services-good information & help"
"Church for all kinds of help"
"Family/ adult children"
"Library & phone book"
"To share the problem with friends who can be a good guidance and they re-direct you to suitable people"

Question 3(b): Resources/Activities: *What resources or activities would you like to see in your communities that are not here yet?*

- Recreation/youth activities (21)
- Transportation (15)
- Education (8)
- Employment/income (8)
- Safety (4)
- Substance abuse services (4)
- Healthcare services (4)

- Housing services (4)
- Aging services (3)

"Need assistance with transportation to grocery store and other shopping"
"Installation of sidewalks allows children to ride bikes"
"Repairs and renovations to WS/FC schools"
"More diurnal and nocturnal recreation centers for adolescents."
"A system that supports the elderly, they should not have to sell their homes to get food stamps"
"Economic resources for young children in terms of sports or recreations for families who don't have resources"
"More programs to stop drug addiction"

Question 3(c): Resources/Activities: *What makes it hard for people to get health information and care?*

- Complexity of system (9)
- Don't know how (9)
- Financial barriers (6)
- Mistrust/service provider attitude (4)
- Language barrier (3)
- No Transportation (4)

"System too complex; getting the runaround, need to change protocols @ health dept., keep it simple"
"Information not readily accessible or easily available"
"Mental health issues are perceived to have stigma attached, especially tough for youth to handle"
"Inadequate insurance or money"
"There are no bilingual resources to help in the understanding of medical terms".
"Trust factor (for various reasons, don't trust available sources)"

Question 4(a): Communications: *What do you see as best ways to get information to people in your community?*

- Printed media: flyers, PSA, newspaper (church, post office libraries , schools, home (29)
- Electronic media: TV, radio, phone, PC (20)
- Community/police, door-to-door (7)
- ADS- Billboard (6)

"Discussion groups or forums at community centers, churches and rec. centers"
"Satellite sites to tie communities and agencies together"
"Local news should give 15 minutes of news in Spanish for people that don't speak English very well"
"TV advertising and public service announcements"
"Door-to-door, in community; list resources for what people need"

Question 4(b): Communications: *If there were a community emergency, such as what happened with Hurricane Katrina in New Orleans, what do you think would be the best way to get information to people?*

- Electronic media: TV, radio, phone, PC a (15)
- Disaster plan (9)
- Person to person (7)
- Alarm/siren (4)
- Printed media (3)

"Have a disaster plan in place and make known to citizens"
"Sirens (similar to old air raid systems; placed at strategic locations, can be heard all over town) in use now in Illinois and Georgia."
"Emergency radios, like the weather radios"
"Community volunteers patrolling neighborhoods with loudspeakers and horns"

Question 5(a): Closing*: What else do you think we should know about your neighborhood and community?*

- Overall satisfaction with community, services, and amenities provided (21)
- Criminal activities & safety (6)
- Immigration issues (5)
- More youth activities/entertainment (5)

"A good place to live with good people, where neighbors help each other"
"Good garbage, waste management & recycling services"
"More church outreach and youth oriented activities"
"The uncertainty that the Hispanics have regarding politics, crimes. They get robbed but don't report it for fear of being deported"

Question 5(a): Closing: *Of all the issues we have talked about today, which one do you think is the most important for your community to address?*

- Safety/security/law enforcement presence in community & school (11)
- Community resources/assistance for Hispanic, Seniors & families (11)
- Discrimination/equity in justice system (7)
- Unhealthy lifestyles (6)
- Affordable youth activities (6)
- Affordable healthcare (6)
- WSFCS system/education (4)
- Lack of transportation (3)
- Mental health issue (2)
- Jobs (2)

"Want kids to be able to play outside without fear of guns or other violence"
"Judging and labeling people based on stereotypes"
"Alcoholism, attention of this problem in the young people".
"Education – system should have more equity"
"Need more visible security surveillance that people can see and more police patrols"
"More information should be provided on what services are available and where"

APPENDIX A

Focus Groups

Group 1
Date: March 1, 2007
Time: 8.00am
Location: Latham Elementary School
Target Group: Hispanic Women
Racial Composition: Hispanic
Number of Participants: 10

Group 2
Date: March 8, 2007
Time: 4.00pm
Location: YWCA Empowering Families Center
Target Group: Teens
Racial Composition: African American and Whites
Number of Participants: 10

Group 3
Date: March 8, 2007
Time: 5.30pm
Location: FC Health Department
Target Group: Teens
Racial Composition: African Americans
Number of Participants: 10

Group 4
Date: March 9, 2007
Time: 6.00pm
Location: Book Club Member's Home
Target Group: African American Women
Racial Composition: African American
Number of Participants: 6

Group 5
Date: March 15, 2007
Time: 6.00pm
Location: Faith Seeds Reentry Program Center
Target Group: Ex-Offenders
Racial Composition: African Americans & White
Number of Participants: 7

Group 6
Date: March 20, 2007
Time: 12.00Noon
Location: FTCC Technology Building
Target Group: Hispanic Students
Racial Composition: Hispanic
Number of Participants: 10

Group 7
Date: March 21, 2007
Time: 7.00pm
Location: Iglesia Nueva Vita
Target Group: Hispanic Men & Women
Racial Composition: Hispanic
Number of Participants: 16

Group 8
Date: March 28, 2007
Time: 6.15pm
Location: Downtown Health Plaza
Target Group: Expectant Mothers & Fathers
Racial Composition: African Americans & Whites
Number of Participants: 10

Group 9
Date: June 7, 2007
Time: 12.00Noon
Location: Kernersville Public Library
Target Group: Seniors
Racial Composition: Whites
Number of Participants: 8

Group 10
Date: June 11, 2007
Time: 12.00Noon
Location: Rural Hall Public Library
Target Group: Seniors
Racial Composition: Whites
Number of Participants: 7

APPENDIX B

Focus Group Guide
(English & Spanish)

Forsyth County
2007 Community Health Assessment
FOCUS GROUP GUIDE

Opening

- *Thank you* for taking the time to meet with us for this discussion group. We recognize that your time is valuable and we appreciate your participation.
- We are part of a community health assessment team made up of community residents and representatives from several organizations which reflect all facets of the community.

  The purpose of the group is to help the Forsyth County community to identify its strengths, challenges, and future directions.

  My name is _____ and I am from _____*(fill in appropriate agency).* I am here today with _____ from _____, who will be taking notes on what is said during the discussion. The information we gather will be summarized and shared with the community and agencies within Forsyth County. The community assessment will also be used to update the Forsyth County Community Health Assessment Report. A copy of the report will be sent to the NC State Office of the Department of Health and Human Services. The document will be used to support health planning and advocacy needs in Forsyth County. We will share with the community through the local libraries and the Health Department website. If you would like to receive a copy of the executive summary by mail or e-mail, please put your name and address on the sign-up sheet.

- The purpose of speaking with you today is to find out about your thoughts and experiences of living in Forsyth County. We are interested in your opinions. **There are no right or wrong answers.**

- The discussion should last about 60-90minutes.

Confidentiality

- Your comments today will remain confidential. We will be reporting summaries of the comments made by community members but will not identify who said what, nor will we identify the names of the individuals who participate. We would like to only use first names in the discussion, if that is okay.

- We would also like to take notes and tape record this interview. Your input is important and we want to make sure that we accurately record what you tell us. After we are finished using the tapes to summarize what people say, the tapes will be stored at the Forsyth County Department of Public Health. However, your full name will not be attached to the tape. Is this okay with everyone?

Ground Rules

- You are not required to answer any question you may not wish to answer.
- If at any time while we are talking you do not feel comfortable, you do not need to respond.
- Please speak clearly, listen to the responses of other participants, and do not interrupt others.
- If you cannot hear what I am saying or what the other participants are saying, please ask us to speak up.
- Also, please do not discuss responses of the people in this discussion with others when you leave here today – this is one of our confidentiality guidelines.
- Limit your answers to 30 seconds.

Ice-breaker (10min)

The point of this exercise is to have everyone introduce someone else. After forming into pairs, the first person interviews the other person to find out their name and institution/work situation and other non-professional things such as hobbies, pets, or favorite vacation spot. At three minutes, the leader calls time and the second person interviews the first. At three minutes everyone returns to the circle and then each member of the group introduces their partner.

Assessment of the strengths and weaknesses of the community (15 mins)

- What do you like about your community?
- What are your concerns about your community?
  Probe: *housing, recreation activities, transportation, employment, schools, community services, access to resources, air pollution, availability of grocery stores*
- How would you like to see your community change or improve over the next 5 years?

Health (15 mins)

- What's happening in your neighborhood and community that influences the health of you and your neighbors? What keeps you and your neighbors from being healthy?
- What are the main things that affect the health of the people in your community (financial, health, mental, etc.)? ***Probe:*** *What do people that you know do when they have health problems? Do they seek care? If so where do they go? If not why?*

Resources/Activities (15 mins)

- If you needed help for some reason, how would you resolve it? Who and where would you turn to? ***Probe:*** *Support group, church, mosque, family*
- What resources or activities would you like to see in your communities that are not here yet?
  Probe: *housing, recreation activities, transportation, employment, schools, community services, access to resources?*
- What makes it hard for people to get health information and care?

Communications (5 mins)

- One area of concern for service agencies is how best to get information to people. What do you see as best ways to get information to people in your community? ***Probe:*** *Information about health*
- If there were a community emergency, such as what happened with Hurricane Katrina in New Orleans, what do you think would be the best way to get information to people?

Closing (5 mins.)

- What else do you think we should know about your neighborhood and community?
  Probe: *What do you see as strengths or good things about your community?*
- Of all the issues we have talked about today, which one do you think is the most important for your community to address?

Condado de Forsyth
Evaluación de Salud en la Comunidad 2007
GUIA DE ENFOQUE EN GRUPO

Apertura

• Gracias por haber tomado el tiempo de reunirse con nosotros para un intercambio de opiniones en grupo, sabemos que su tiempo es valioso por eso apreciamos su participación.

• Somos parte de un equipo de evaluaciones en salud para la comunidad, formado por residentes y representantes de varias organizaciones que reflejan todas las facetas de la comunidad.

El propósito de este grupo es de ayudar a la comunidad del Condado de Forsyth a identificar cuales son sus puntos fuertes, desafíos y orientación futura.

Mi Nombre es_____ y soy de _____
(llenar la agencia apropiada) Estoy hoy con _____de_____
_____que va a estar tomando nota de lo que sea mencionado durante este debate. De la información obtenida se va hacer un resumen y compartir en la comunidad y con las agencias dentro del Condado. La evaluación en la comunidad también va a ser usada para actualizar el reporte de evaluación de la salud comunitaria del Condado de Forsyth.
Una copia del informe será enviado a la oficina del estado de Carolina del Norte del Departamento de Salud y de Servicios Humanos. El documento será utilizado para apoyar las necesidades de planificación y recomendaciones de salud en el Condado de Forsyth. También compartiremos la información con la comunidad a través de las bibliotecas locales y por la red de Internet (website) del Departamento de Salud. Si usted desea recibir una copia del resumen por correo o correo electrónico, por favor anote su nombre y dirección en la hoja de asistencia.

• El propósito de hablar con ustedes es de conocer sus ideas y experiencias que están viviendo aquí en el Condado de Forsyth, estamos interesados en sus opiniones. No hay respuestas correctas ni incorrectas.

• Este debate tomara un promedio de 60 a 90 minutos.

Es confidencial

• Sus comentarios se mantendrán confidencialmente. Nosotros haremos un resumen de los comentarios hechos por los miembros de la comunidad, pero no se identificará a nadie, ni identificaremos a ningún nombre de los que participen. Solo nos gustaría usar su primer nombre durante nuestro debate, sí es que están de acuerdo
• También nos gustaría escribir notas y usar la grabadora para esta entrevista. Su aportación es importante y queremos asegurarnos de que estamos grabando precisamente lo que nos expresa. Después de que hayamos usado las grabaciones para hacer un resumen de lo que los participantes han mencionado; las cintas serán guardadas en el Departamento de Salud del Condado de Forsyth. No obstante su nombre no estará escrito en la cinta. ¿Están de acuerdo todos?

Reglas generales
• No es requerido que conteste alguna pregunta que no desee responder.
• Si en cualquier momento no se siente cómodo(a) mientras hablamos, no necesita responder.
• Por favor hable claro, escuche las respuestas de los demás participantes y no interrumpa a otros.
• Si en algún momento usted no me escucha o no escucha lo que esta diciendo algún participante, siéntase en confianza de pedir que se hable más alto.
• También les pedimos que al salir de aquí, no discuta con otros las manifestaciones de los demás participantes. Esta es parte de las instrucciones de confidencialidad.
• Limite sus respuestas a **30 segundos**
Actividad de acogida (10 min.)

El punto de este ejercicio es que alguien tiene que presentar a otra persona. Después de formar parejas, la primera persona entrevista a la otra persona para averiguar su nombre y situación del trabajo o la institución y otras cosas no relacionadas a la profesión como los pasatiempos, mascotas, o el lugar preferido para ir de vacaciones. A los tres minutos, el líder suspende la entrevista diciendo "tiempo" y la persona que fué entrevistada ahora entrevista a la que le preguntó. A los tres minutos todos volvemos al círculo y entonces cada miembro del grupo presenta a su compañero.

Evaluación de puntos fuertes y débiles en la comunidad (15 min.)

- ¿Qué es lo que le gusta sobre su comunidad?
- ¿Cuales son sus preocupaciones sobre su comunidad?

Investigue: *Departamento de viviendas, actividades de recreativas, transportación, empleo, escuelas, servicios comunitarios, acceso a recursos, contaminación Ambiental, disponibilidad de tiendas*
¿Cuáles cambios le gustaría ver en su comunidad en los próximos 5 años.?

Salud (15min**)**

• ¿Qué esta pasando en su comunidad y vecindario que influye en la salud de usted y sus vecinos? ¿Qué les impide ser saludables?
• ¿Cuáles son las cosas principales que afectan a la gente de su comunidad (economía, salud, mental, etc.)?
• **Investigue:** *¿Qué hace la gente que usted conoce, cuando tiene problemas de salud? ¿buscan ayuda médica?, ¿si lo hacen a dónde van? ¿ Y si no, porque no?*

Recursos/Actividades (15min)

• ¿Si usted necesita ayuda por alguna razón, ¿Cómo lo solucionaría? ¿A quién y a dónde acudiría?
Investigue: Grupos de apoyo, Iglesias, mezquitas, familia.
• ¿Qué recursos o actividades le gustaría ver en su comunidad que todavía no hay?
Investigue: *Departamento de vivienda actividades recreativas, transportación, empleo, escuelas, servicios comunitarios, acceso a recursos*
• ¿Qué dificultades tienen las personas para recibir información de salud y atención?

Comunicaciones (5 min)

• Un área de preocupación para las agencias de servicio es de cómo distribuir la información a las personas. ¿Qué es lo que usted mira como el mejor modo para dar información a la gente de su comunidad?
Investigue información acerca de la salud
• Si hubiera una emergencia en la comunidad, como el caso del huracán Katrina en Nueva Orleáns, ¿Qué piensa sería la mejor forma de informar a la gente?

Cierre del debate (5min.)

¿Qué otra cosa piensa usted que debemos de saber sobre su comunidad y vecindario?
Investigue: ¿Cuáles puntos fuertes o cosas buenas mira en su comunidad?
• De todos los problemas planteados, ¿Cuál de ellos opina usted que es el más importante, que su comunidad debe de abordar?

APPENDIX C

Informed Consent Forms
(English & Spanish)

INFORMED CONSENT FORM

The Forsyth County Department of Public Health is conducting the 2007 Community Health Assessment process which includes gathering opinions and experiences from Forsyth County residents on community health issues. The purpose of the process is to help the Forsyth County community to identify its strengths, challenges, and future directions.

I AGREE TO PARTICIPATE IN THIS RESEARCH STUDY UNDER THE FOLLOWING CONDITIONS:

1. I understand the purpose of the study is to have a discussion group to find out my opinions about community health issues.

2. I understand the study involves a focus group interview that lasts 60-90 minutes and will be audio taped.

3. My participation will be kept confidential and no reference to my name will be used in any reports or documentation.

4. I agree to arrive on time and stay for the entire discussion.

5. My participation is voluntary.

6. I understand that I may not receive any direct benefit from participating in the study, but that my participation may help others in the future.

7. If I satisfy the above criteria, I will be given a $5.00 WalMart Gift Card.

I have read and understand this information, and I agree to take part in this focus group.

_____ _____

PARTICIPANT'S SIGNATURE DATE

FORMULARIO DE CONSENTIMIENTO E INFORMACIÓN

El Departamento de Salud Publica del Condado Forsyth esta llevando acabo el proceso 2007 de evaluación y sugerencias sobre la Salud de la Comunidad. La cual incluirá una recopilación de opiniones y experiencias de residents del Condado Forsyth sobre temas de salud. El propósito de este proceso es de ayudar a la comunidad del Condado Forsyth a identificar sus puntos fuertes y su orientación futura.

ESTOY DE ACUERDO EN PARTICIPAR EN ESTE ANÁLISIS BAJO LAS SIGUIENTES CONDICIONES:

1. Entiendo que el propósito de este análisis es de tener una discusión en grupo para saber mis opiniones sobre el tema de salud en la comunidad.

2. Entiendo que el estudio envuelve una entrevista de enfoque en grupo que durara de 60 a 90 minutos y será grabado en una cinta.

3. Mi participación se conservara confidencial y no habrá referencias sobre mi nombre, ni será usado en ningún reporte o documentación.

4. Estoy de acuerdo de llegar a tiempo y quedarme hasta que acabe este análisis.

5. Mi participación es voluntaria.

6. Entiendo que quizás no pueda recibir beneficio directo participando en este análisis, pero mi participación puede ayudar a otros en el futuro.

7. Si cumplo con el criterio mencionado arriba , se me dará un certificado de $5.00 de la tienda Wal Mart.

_____ _____

Firma del Participante Fecha

Forsyth Futures
Building Community. Building Futures.

Learning from Listening

COMMUNITY ENGAGEMENT REPORT 2007

Learning from Listening
Community Engagement Report

Summary
Forsyth Futures, a community collaborative of residents, organizations and institutions working together to solve critical issues that no one organization can solve alone, collected community input to better understand issues and concerns important to community members about economic stability, education, health, and safety.

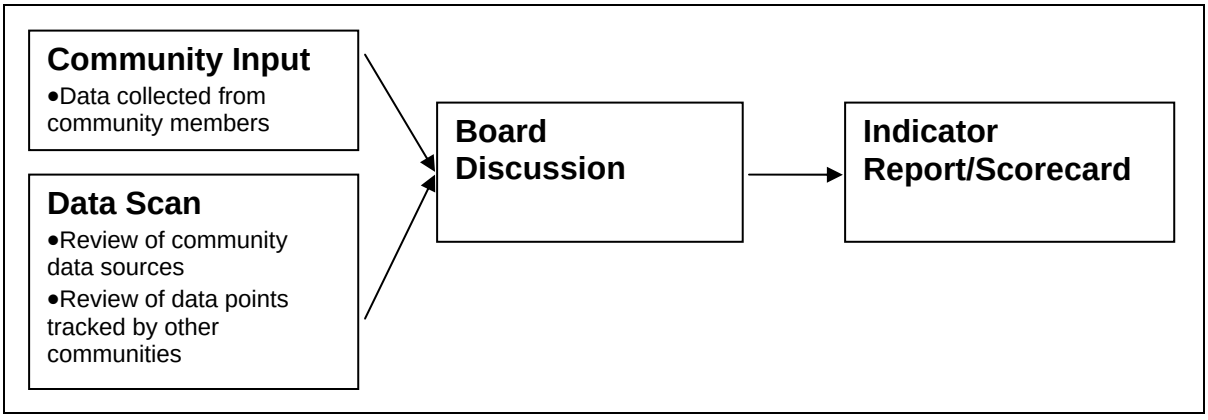
This report is a summary of more than 20,000 points of data collected from over 5,000 community residents during community conversations and surveys in early 2007. The report is intended to reflect early learning and observations from listening to Forsyth County residents.

Guiding Principles
All Forsyth Futures' work is driven by seven guiding principles:

- Improve equal access
- Address racial and other disparities
- Nurture and value diversity
- Treat everyone with respect
- Maximize resources and minimize duplication
- Encourage continuous improvement and innovation
- Share ownership and accountability

Overall Process
Forsyth Futures initiated a process in early 2007 to produce an annual community indicator report reflecting community progress around goal areas[1]. The process for developing the indicator report includes gathering community input, reviewing other community indicator reports, and collecting community data sources. The information collected in the community input and data scan steps will be presented to the Board of Directors for discussion. The Board of Directors will use the input to determine indicators for the report to the community. This report will be released to the community in early 2008.

Diagram One: Process Overview



[1] The Board adopted the terminology "result" for "goal areas" after completing the Community Engagement Process. This report reflects the terminology, goal areas, used during the actual process.

Community Input Process

Forsyth Futures facilitated the Community Input Process for two primary reasons: 1) inform decision-making around developing an indicator report and 2) encourage dialogue with residents for future engagement.

It is important to acknowledge that the process of collecting input from the community was an opportunity to collect perceptions and opinions from residents about life in Forsyth County. The process was not a scientific data collection and was not intended to rank community issues.

Community input was collected through three methods – listening sessions, written surveys, and an online survey. Community members were asked to provide input on issues that were most important to family and Forsyth County in the areas of education, economic stability, health and safety.

Community Engagement Teams (See Appendix Three) facilitated the Listening Sessions. Over forty community members volunteered many hours to conduct listening sessions and review the data collected. Written surveys were distributed at community meetings, in school mailings, and at workplaces. An electronic survey was distributed to community members through community newsletters, media, and existing organizational distribution lists.

A second team of community members reviewed the data points and identified a list of common community issues. The team reviewed all data points, identified common issues, and grouped the common issues into categories for each goal area.

Through the process,

- 40+ volunteers collected & reviewed data
  - Listening Sessions
  - Written Surveys
  - Electronic Surveys
- 5,000+ community members participated
- 20,000+ data points were collected

Key Findings

Several common issues were identified during the Community Engagement Process. A list of the most common identified issues is located in Appendix One. The following were key findings of the Community Engagement Process:

- In addition to the four stated conversation areas of economic stability, education, health, and safety, community issues were raised about:
  - Infrastructure (Land Use/Urban Sprawl/Transportation)
  - Environmental (Air/Water/Green spaces/Pollution)
  - Quality of Life (Art/Recreation/Entertainment/Activities)
  - Government (Civil Servants/Role of Government)
- The goal areas are inter-related. Many issues and concerns crossed goal areas. For example:
  - Education and health issues were raised in conversations about economic stability
  - Safety issues, such as school safety, were raised in conversations about education
  - Education and safety issues were raised in health conversations

    - Economic stability and education issues were raised in safety conversations
- Concerns or issues dealing with specific populations were often expressed. The most identified populations in the responses were:
    - Children/Youth
    - Ex-Offenders
    - Homeless
    - Immigrants
    - Retirees/Older Adults/Elderly
    - Young Adults
- There are several groups and initiatives in the community already working on many of the identified issues. Further exploration is needed to ensure that connections exist between groups working on the same issues throughout the County and/or connections exist between the groups' work and populations in need.

Next Steps

Over the next few months, Forsyth Futures will identify indicators used to track progress on the issues raised in the Community Input Process, develop an indicator report, and begin community planning around the goal areas. Community Engagement will continue to be an important part of the future work of Forsyth Futures. Institutions, organizations, and residents will be central to the community planning and execution processes.

Stay Informed

Input from all residents is important to Forsyth Futures. Please contact Forsyth Futures by any of the following ways to continue to provide input:

By phone: (336)-724-2831
By e-mail: staff@forsythfutures.org
By website: www.forsythfutures.org

Appendix One: Data Collection Results

Responses collected from the Community Engagement Process resulted in the following areas under each goal.

Goal Area: Economic
Forsyth County residents will be economically self sufficient

- Business Development
  - Attracting and Growing Business
  - Attracting and Retaining Young Adults
- Class and Race
  - Diversity
  - Disparity between rich and poor
- Cost of Living/Affordability
  - Child Care
  - Savings/Debt
  - Fuel/Gas Prices
  - Housing
  - Retirement
  - Taxes
- Jobs/Employment/Wages
  - Adequate Pay/Living Wage
  - Availability/Opportunity
  - Job Security
  - Training/Retraining

Most identified populations:

- Ex-Offenders
- Homeless
- Immigrants
- Retirees/Older Adults/Elderly
- Young Adults

Goal Area: Education
Forsyth County residents will be life long learners and productive citizens

- Environment
  - Quality
  - Overcrowding
    - Class sizes
  - Facilities
  - Technology
- Curriculum
  - Quality
  - Testing/No Child Left Behind/EOG
- Teachers
  - Pay
  - Attracting
  - Quality
- Equality
  - Segregation
  - Diversity
  - Race
- Equity
  - Resources
  - Facilities
  - Teachers
- Higher Education
  - Access
    - Continued education for adults
    - Having resources to attend college
  - Cost
  - Quality
  - Preparation
    - Having grades to attend college

Other Issues:

- Dropouts/Graduation Rate
- Achievement Gap

Most identified populations:

- Children/Youth
- Immigrants

Goal Area: Health
All Forsyth County residents will be mentally and physically healthy

- Healthcare
  - Affordability
    - Medical Insurance
      - Jobs providing insurance
    - Prescriptions/Medicines
    - Dental
  - Quality
    -
  - Access
    - Facilities
    - Professionals
    - Transportation
- Individual Issues – Physical and Mental
  - Health Conditions
    - Depression
    - Cancer
    - Stroke
    - Cardiovascular Health
    - Obesity
    - Addiction
- Behavior/Risk Factors
  - Nutrition
  - Exercise
  - Stress
  - Substance Abuse
    - Illegal Drugs
    - Tobacco
  - Overweight
- Public Health Physical and Mental
  - Public Recreation Facilities
  - Control/Improvement of Environment
  - Prevention
  - Infant Mortality
  - Teenage Pregnancy
- Mental Health
  - Needs
  - Treatment

Most identified populations:

- Children/Youth
- Elderly
- Immigrants

Goal Area: Safety
Forsyth County residents will be safe and secure to live, work, learn and play

- Protection
  - Homes
  - Schools
    - Bullies/Violence in Schools
  - Neighborhoods
  - Public Places
- Crime
  - Violent Crime
  - Alcohol
  - Drugs
  - Robberies
  - Sex Offenses
- Law Enforcement
  - Presence
  - Training
- Transportation
  - Lights
  - Sidewalks
  - Road conditions
  - Seatbelts
  - Speeding
- Fire

Other Issues:

- Gangs
- Gun Control

Most identified populations:

- Children/Youth
- Elderly

Other Issues Identified

- Infrastructure
  - Land Use/Urban Sprawl
  - Transportation
- Environmental
  - Air
  - Water
  - Green spaces
  - Pollution
- Quality of Life
  - Art
  - Recreation
  - Entertainment
  - Activities for youth, families, and elderly
- Government
  - Civil Servants
  - Role of Government

Populations Identified

- Ex-Offenders
- Homeless
- Immigrants
- Young Adults
- Retirees/Older Adults/Elderly
- Youth

Appendix Two: Data Issues – Frequency Rates

The following charts reflect frequency of responses collected during the Community Engagement Process.

Summary One:

This is a summary of categories defined grouping several identified sub-categories.

Summary Sheet	Family	Forsyth	Hispanic	Sum
Behavior/Risk Factors	307	425	5	**734**
Business Development	76	264	0	**340**
Civil Servants	69	136	0	**205**
Cost of Living/Affordability	619	271	18	**908**
Crime	436	546	0	**982**
Curriculum	494	343	6	**843**
Educational Environment	561	644	9	**1214**
Environment	534	644	13	**1197**
Environmental	145	109	2	**256**
Equality and Equity	770	811	9	**1590**
General Community Health	219	113	30	**362**
Government	44	115	3	**162**
Health Care	1202	1037	9	**2248**
Higher Education	284	57	1	**342**
Individual Issues: Physical and Mental	357	702	33	**1092**
Infrastructure	73	129	1	**203**
Jobs/Employment/Wages	386	609	39	**1034**
Protection	940	683	10	**1633**
Quality of Life	56	76	0	**132**
Teachers	493	325	0	**818**
Transportation	341	312	2	**653**

Summary Two:

All comments were reviewed and similar comments were groups in sub-categories:

Sub-categories	Family	Forsyth	Hispanic	Sum
Abuse/Assault	60	27	1	88
Access & Quality: Medical Care	0	6	0	6
Access: Continued education for adults	26	4	0	30
Access: Dental Care	5	15	0	20
Access: Facilities	11	32	0	43
Access: Having resources to attend college	124	18	1	143
Access: Medical & Dental Care	1	6	0	7
Access: Medical Care	106	183	3	292
Access: Medical Insurance	21	33	1	55
Access: Mental Health Services	3	50	0	53
Access: Professionals	29	13	0	42
Access: Transportation	5	17	0	22
Accountability/Involvement	115	53	3	171
Achievement Gap	7	181	0	188
Activities for youth, families, and elderly	24	20	0	44
Adequate Pay/Living Wage	109	168	7	284
Administration	45	162	0	207
Affordability: Job Providing Insurance	0	10	0	10
Affordability: Medical Care	415	329	1	745
Affordability: Medical Care & Insurance	11	19	0	30
Affordability: Medical Insurance	313	108	1	421
Affordability: Prescriptions/Medicines	77	26	1	103
Air	10	28	0	38
Air/Water	9	9	0	18
Alcohol/Drugs	144	184	2	330
Arts	12	45	0	57
Attract/Retain	4	24	0	28
Attracting and Growing Business	73	214	0	287
Attracting and Retaining Young Adults	4	46	0	50
Availability/Opportunity	178	332	0	510
Behavior/Risk Factors	35	23	5	63
Busing/Zoning	31	25	0	56
Child Care	15	23	2	40
Children	80	47	2	129
Civil Servants	3	7	0	10
Communication	32	22	1	55
Community Development	0	4	0	4
Community Growth	18	15	0	33
Control/Improvement of Environment	57	52	30	139
Cost	78	32	0	110
Cost of Living/Affordability	195	39	14	248
Crime	24	81	0	105
Crime Rate	32	18	0	50

Dental Care	0	18	2	20
Disciplinary Issues	21	57	1	79
Disparity between rich and poor	14	52	0	66
Diversity	129	145	1	275
Dropouts/Graduation Rate	56	141	1	198
Economic Stability	8	21	2	31
Education	443	398	14	855
Elderly	30	19	0	49
Entertainment	4	2	0	6
Environmental	24	24	0	48
Equality and Equity	111	12	1	124
Exercise	90	57	0	147
Facilities	20	47	3	70
Fire: Prevention	35	6	0	41
Fire: Protection	43	22	0	65
Fuel/Gas Prices	112	29	0	141
Gang Violence	55	82	2	139
General Community Health	9	32	0	41
Government	10	15	0	25
Green Spaces	19	21	0	40
Health	12	7	0	19
Health Care	55	131	11	197
Health Conditions: Aids/HIV	0	20	0	20
Health Conditions: Anorexia	0	3	0	3
Health Conditions: Cancer	29	96	3	128
Health Conditions: Cardiovascular Health	32	91	0	123
Health Conditions: Depression	28	6	4	38
Health Conditions: Diabetes	45	80	4	129
Health Conditions: High Blood Pressure	44	30	1	75
Health Conditions: Mental Illness	51	49	2	102
Health Conditions: Nutrition	0	47	0	47
Health Conditions: Obesity	37	227	9	273
Health Conditions: Other	55	39	8	102
Health Conditions: Stroke	1	25	1	27
Homelessness/Poor	15	43	0	58
Homes	142	33	0	175
Housing	136	59	7	202
Immigration	36	45	1	82
Infant Mortality	5	37	0	42
Job Security	78	22	7	107
Land Use/Urban Sprawl	41	70	0	111
Law Enforcement	1	9	1	11
Law Enforcement: Presence	29	38	0	67
Law Enforcement: Quality	4	19	0	23
Law Enforcement: Response	15	18	0	33
Lights	11	6	2	19
Mental Health	27	30	0	57
Neighborhoods	124	74	3	201

None	12	232	20	264
Overcrowding	155	299	1	455
Overweight	27	38	0	65
Pay	119	146	0	265
Peer Pressure	0	23	0	23
Pollution	67	46	2	45
Preparation	186	12	0	198
Prevention	198	163	3	364
Public Places	68	102	3	173
Public Recreation Facilities	25	11	0	36
Quality Education	0	330	0	330
Quality of Life	30	7	0	37
Quality Teachers	0	154	0	154
Quality Instructions	68	80	9	157
Quality: Medical Care	33	38	0	71
Quality: Mental Health Services	13	65	0	78
Race	126	3	0	129
Racial Disparity	0	9	0	9
Racism	0	10	2	12
Recreation	14	6	0	20
Religion	19	2	0	21
Resources	205	489	4	698
Retirement	77	1	0	78
Road Conditions	62	125	0	187
Robberies	55	56	4	115
Role of Government	43	114	3	160
Savings/Debt	56	9	0	65
Schools: Bullies/Violence in Schools	300	280	2	582
Seatbelts	24	31	0	55
Segregation	117	67	0	184
Sexual Offenses	5	60	0	65
Sexual Orientation	3	2	0	5
Sidewalks	27	23	0	50
Socio-Economic	1	9	0	10
Speeding	38	39	0	77
STDs	1	21	0	22
Stress	42	15	0	57
Stress & Depression	0	8	0	8
Substance Abuse: Alcohol	5	10	1	16
Substance Abuse: Illegal Drugs	4	22	1	27
Substance Abuse: Tobacco	7	131	0	138
Taxes	220	165	2	387
Teachers	10	13	0	23
Technology	4	14	0	18
Teenage Pregnancy	7	31	1	39
Testing/No Child Left Behind/EOG	237	166	0	403
Training/Retraining	9	82	0	91
Transportation	44	87	3	134

Violent Crimes	0	82	1	83
Water	18	16	0	34
Weapons	16	8	0	24

Appendix Three: Acknowledgements

Forsyth Futures extends gratitude to the following community members that participated in both the Community Engagement Teams and the Community Review Team:

Community Engagement Teams

Economic Self-Sufficiency
- Ayo Ademoyero, Health Department
- Deltra Bonner, CHANGE
- Jim DeCristo, North Carolina School of Arts
- Karen Durell, Housing Authority of Winston-Salem
- Keith Grandberry, Winston-Salem Urban League
- Jesse Hymes, Black Chamber of Commerce
- Althea Hairston, Northwest Piedmont Council of Governments
- Linda Jackson-Barnes, City of Winston-Salem
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- Monica Lett, City of Winston-Salem
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- Nancy Griffith, Community Alliance for Education
- Arthur Hardin, Winston-Salem State University
- Judy Horsey, Smart Start of Forsyth County
- Addie Hymes, Winston-Salem/Forsyth County Schools
- Andrea Kepple, Forsyth Tech
- Marilyn Odom, Smart Start of Forsyth County
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- Kyle Robertson, PTA Council of Forsyth County
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- Dr. Ken Simington, Winston-Salem/Forsyth County Schools

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- Lynne Mitchell, Forsyth County Department of Health
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Safety
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- Dean Burgeess, Northwest Piedmont Council of Governments
- Rick Pender, Center for Community Safety, Winston-Salem State University
- Daisy Rodriguez, YMCA – Community Outreach Services
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- Catrina Thompson, Winston-Salem Police Department

Community Review Team
Tonya Atkins, Forsyth Futures
Florence Corpening, YWCA
Sam Evans, Winston-Salem State University
Sandra Fishel-Booth, The Winston-Salem Foundation
Gail Fisher, Community Volunteer
Capri Foy, Wake Forest University
John Gates, Community Volunteer
Nancy Hull, Community Volunteer
Jean Irvin, Forsyth Futures
Linda Jackson-Barnes, City of Winston-Salem
Montez Lane, ECHO Council
Mary McCoin, United Way of Forsyth County
Terry Moore, Forsyth Futures
Pauline Morris, Forsyth Tech

Forsyth County Health Objectives 2010
Priority Areas

Access to Healthcare
- o Health Care Providers
- o Insurance: Adults
- o Insurance: Children
- o School Nurses
- ➢ Fragmentation of care
- ➢ Indigent care providers

Chronic Disease
- o Arthritis/osteoporosis
- o Asthma
- o Cancer
- o Heart disease / stroke
- o Overweight / obesity
- o Chronic lower respiratory disease
- ➢ High blood pressure
- ➢ Type 2 Diabetes

Community Health
- ➢ Affordable housing
- ➢ Communication & collaboration
- ➢ Culturally sensitive services
- ➢ Economic Injustice
- ➢ High school dropout rates
- ➢ Living wage
- ➢ Low interracial trust
- ➢ Low social capital
- ➢ Poverty
- ➢ Racial/ethnic health outcome disparities
- ➢ Racism
- ➢ Sexism
- ➢ Transportation
- ➢ Unemployment

Disability

Environmental Health
- o Air quality
- o Food safety
- o Lead poisoning
- o Soil quality
- o Water quality
- ➢ Illegal Dumping

Health Promotion
- o Nutrition
- o Physical activity
- o Responsible sexual behavior
- o Substance abuse: Adults
- o Substance abuse: Youth
- o Tobacco use

Infant Mortality
- o Racial disparity
- ➢ Unintended pregnancy

Infectious Diseases
- o Immunizations
- o STDs & HIV/AIDS

Injury
- o Child Abuse
- o Motor vehicle injury
- o Violence
- o Sexual Assault/Partner Violence
- ➢ Domestic violence

Mental Health
- o Availability/access to services
- ➢ Childhood behavioral issues
- ➢ Stress management
- ➢ Substance abuse treatment

Older Adult Health
- o End of life care
- o Fiscal well being
- o Home/community care
- o Housing

Oral Health
- ➢ Prevention for children
- ➢ Access care to adults/elderly

o Represents original NC State Objectives and also those identified by FC Community Health Assessment Team
➢ Represents Forsyth County Objectives with added priority areas

Health Problem Prioritization Sheet

Please fill in the Health problem prioritization sheet below. Select only 10 bulleted areas from the attached 2007 identified FC Health Priority areas document. **Rank** each area based on magnitude, seriousness of consequences, and feasibility of correcting the problem. With 10 being the highest and 1 being the lowest value. See **example** at bottom of sheet. Please email it to me @ ademoyat@forsyth.cc or Fax to #336-727-2022. Thank you

Health Problems	Rank Magnitude (1 -10)	Rank Seriousness of the Consequences (1 -10)	Rank Feasibility of Correcting (1 -10)	Total Score
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Magnitude: How many persons does the problem affect, either actually or potentially?

Seriousness of the Consequences: What degree of disability or premature death occurs because of the problem? What are the potential burdens to your community, such as economic or social burdens?

Feasibility of Correcting: Is the problem amenable to interventions (i.e., Is the intervention feasible scientifically as well as acceptable to the community?) What technology, knowledge, or resources are necessary to effect a change? Is the problem preventable?

Example:

Health Problems	*Rank Magnitude (1 -10)*	*Rank Seriousness of the Consequences (1 -10)*	*Rank Feasibility of Correcting (1 -10)*	*Total Score*
1. School nurses	*10*	*10*	*9*	***29***
2. Overweight/obesity	*7*	*3*	*1*	***11***
3. Domestic violence	*2*	*2*	*6*	***10***
4. Racial disparity	*1*	*1*	*2*	*4*
5. Type II diabetes	*3*	*4*	*4*	***11***
6. Indigent care provider	*9*	*8*	*3*	***20***
7. Tobacco use	*4*	*6*	*7*	***17***
8. Poverty	*5*	*7*	*10*	***22***
9. Oral health-elderly	*8*	*9*	*5*	***22***
10. Cancer	*6*	*5*	*8*	***19***

Health Problem Prioritization Sheet

From the above example: School nurses ranks **#1 with 29**; Poverty & Oral health ranks **#2 with 22;** ….etc

Combined Scores

Health Problems	*Priority Areas*	*Total Scores*
Poverty	CH	187
Racism	CH	168
Health Disparities	CH	161
Quality Education	CH	141
Obesity	CD	136
Access to health care	AHC	132
Drug & Alcohol Abuse	HP	124
Tobacco use	HP	114
Chronic Disease	CD	113
Under-employment	CH	112
Unplanned pregnancy	IM	100
Lack of health insurance	AHC	98
General inequities	CH	97
HIV	ID	96
Air Quality	EH	95
Crime	MH	91
Mental Health	MH	88
Diabetes	CD	81
Public transportation	CH	81
Nutrition in schools	HP	69
Built environment/public inactivity	HP	63
Cancer	CP	60
Low birth weight	IM	54
Homelessness	MH	48
Domestic violence	MH	43
Aging population	OAH	41
Suicide	MH	37
Segregated housing patterns	CH	36
Emergency Preparedness	ID	33
Risky (Unsafe) sex	ID	32
Safety/ security in community/schools	CH	31
Homicide	MH	29
Asthma	CD	27
Environmental health concerns	EH	25
Alzheimers & isolation of elderly	OAH	10
Intentional injury		

AH: Access to Healthcare
CD: Chronic Disease
CH: Community Health
EH: Environmental Health
HP: Health Promotion
IM: Infant Mortality
ID: Infectious Diseases
MH: Mental Health
OAH: Older Adult Health

- Health Promotion with emphasis on School Nutrition
- Health Promotion with emphasis on Tobacco Cessation workplaces and restaurants
- Health Promotion with emphasis on Physical Activity
- Environmental Health with emphasis on Illegal Dumping
- Community health with emphasis on Economic Justice
- Injury with emphasis on Domestic Violence
- Mental health with emphasis on Homelessness & Access to Care
- Infant Mortality with emphasis on Preventing Repeat Premature Births