

Eastern North Carolina Health Care Atlas: A Resource for Healthier Communities - 1997

Executive Summary

The second edition of the *Atlas* continues the format and plan of the first. It describes the health care problems, needs, and resources of North Carolina's eastern forty-one counties. The *Atlas* has been published by East Carolina University's Center for Health Services Research and Development as an aid to achieving one of the university's missions—improving the health care of people in the eastern region of North Carolina. As a monitoring instrument, the *Atlas* is used at the university to identify where graduates in health sciences are most needed and target applied research. With the publication of the second edition it can now be used as a report card or tool to track trends in rates and make comprehensive comparisons of those rates across counties and regions in research applications.

The *Atlas* may be useful to others involved in administrating health services, reforming our health care system, or planning and developing new health services at the local level. As in the previous edition, the *Atlas* references national and state initiatives to improve health that are described in the US Public Health Service's publication, *Healthy People 2000*, and North Carolina's *Healthy Carolinians 2000: The Report of the Governor's Task Force on Health Objectives for the Year 2000*.

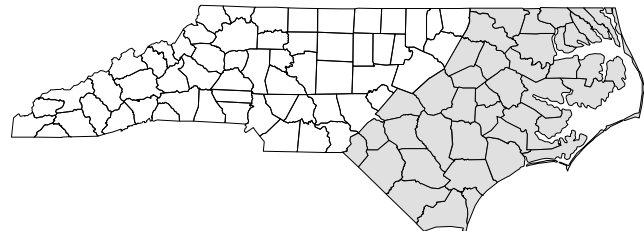
Highlights from *Atlas 97*

Demographic Patterns

Eastern North Carolina is a region of the state with unique characteristics and serious, intractable health problems. This region is comprised of 41 Coastal Plain counties in the eastern portion of the state. The physiographic region also corresponds to an area defined by similar socio-economic, demographic, and cultural attributes. These attributes are reflected in characteristic patterns of health and health care resources.

Within this eastern region there are just over 2,000,000 people, almost a third of the state's population of nearly 7,000,000 people.

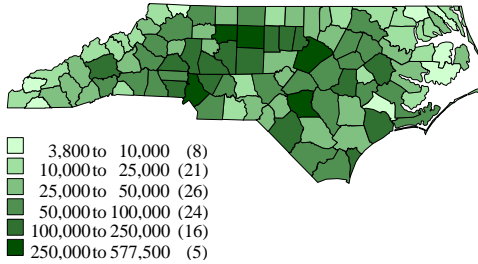
This population has several traits that, when taken together make it a distinctive region with respect to health and health care.



Eastern North Carolina's extreme northeast is the region's least populated.

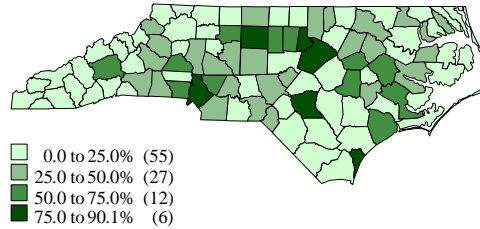
This contrasts to the central and southern areas of the region, which contain the larger towns of the region. Cumberland County is the most populated county in the east and one of the largest counties in the state.

Population 1995



The rural nature of the region is made more discernable by examining the percentages of urban population each county possesses.

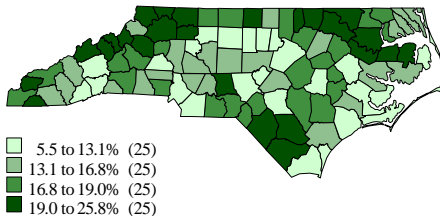
% Urban 1990



Twenty-four counties have less

than 25% of their population classed as urban. An extension of the Piedmont Urban Crescent reaches from the west to the coast cutting through the central and southern parts of Eastern North Carolina.

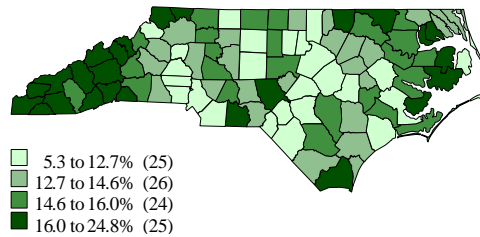
% < 9 Yrs. Education 1990



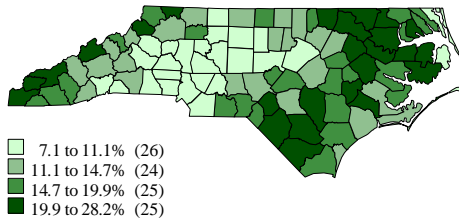
Rural counties tend to have greater percentages of poorly educated people when compared to the more urban counties. The geographic pattern of higher educational level roughly corresponds to the urban pattern, although several rural coastal counties appear to be exceptions. The percentage of people who have less than a 9th grade education in Eastern North Carolina is 13.5%. The percentage for the state is 12.6%

The counties of the northeast of Eastern North Carolina, in addition to being the least populated, have the highest proportions of elderly (65 years and older). This is due primarily to the aging-in-place phenomena together with out-migration of younger people. Some counties along the coast possess higher percentages of elderly due to retirement communities. The percentage of elderly in the Eastern North Carolina in 1995 is 11.9%, compared to 12.6% for the state.

% Elderly 1995



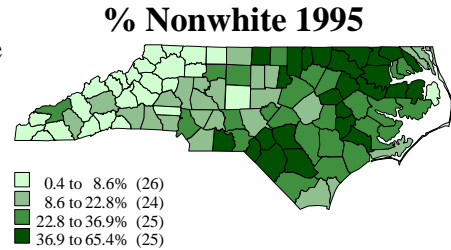
% Poverty 1989



One of the most distinguishing features of Eastern North Carolina is its pervasive poverty. Approximately 17.4% of the region's population live in poverty. The percentage for the rest of the state is 13.0%. At the county level, the relative degree of poverty of the region contrasts to the lack of it in the neighboring Piedmont. Islands of prosperity do exist however, and can be found along the coast and in the region's larger interior towns.

Another important distinguishing feature of Eastern North Carolina is its large proportion of nonwhite population, which comprises 34.1% of the population. The percentage of nonwhites for the state in 1995 is 24.2%. This population is largely comprised of blacks but also includes Native Americans, and a growing number of Hispanics. The northern and

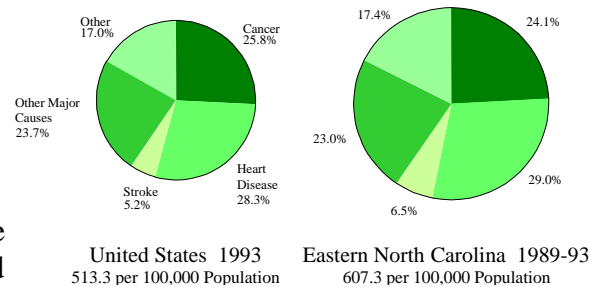
southern portions of the region possess the highest percentages of nonwhites. These areas are vestiges of the old cotton- and tobacco-belt cultures.



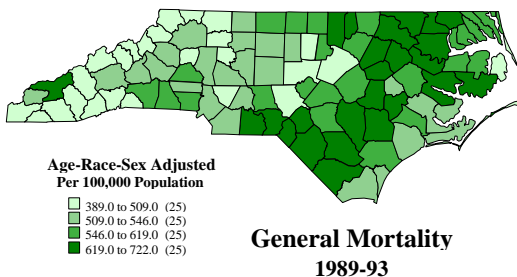
Together these demographic characteristics provide a social context to the particularly serious health problems and issues found in Eastern North Carolina. Rurality, poverty, and low educational attainment contribute to socio-economic and physical isolation from health care resources. Regional diet, behavior, and attitudes about illness and health are culturally embedded and have consequences for the health and well being of individuals.

Mortality Patterns

The relative contribution patterns of the major causes of death in the United States and Eastern North Carolina are similar. What distinguishes the east from the rest of the country is its higher rate of general mortality (age-race-sex adjusted per 100,000 population). Eastern North Carolina’s rate is approximately 18% higher than the U.S. rate and 7% higher than the North Carolina rate. The largest contributors to general mortality are heart disease, cancer, and stroke. Together, these causes comprise approximately 60% of all deaths. Other major causes, that together contribute 23% of all deaths, include liver disease, diabetes, unintentional motor vehicle injuries, unintentional injuries, homicide, and pneumonia and influenza in those 65 years and older. Suicide and chronic obstructive pulmonary disease (COPD) rates in Eastern North Carolina are similar to the nation’s rates. The AIDS rate for the region is considerably lower. The region displays unique patterns for each of these major causes of death.

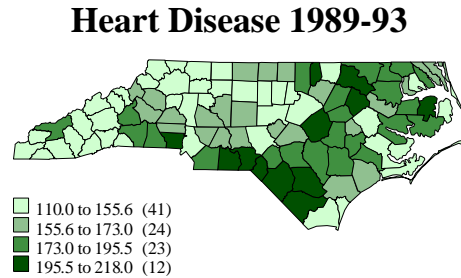


Deaths from heart disease, cancer, stroke (cerebrovascular disease), unintentional motor vehicle accidents (UMVI), and COPD (chronic obstructive pulmonary disease) are the five largest components of general mortality in Eastern North Carolina. Approximately two-thirds of the region’s general mortality can be attributed to these five causes. In the following summaries of the major causes of death, the rates are age-race-sex adjusted with deaths reported on a per 100,000 population basis. A five-year average of reported deaths by cause and mid-point county population (1991) are used in the calculations.

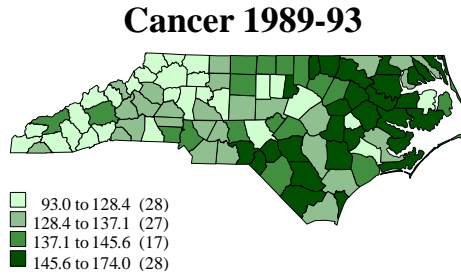


• **Heart Disease.** The largest component (29.0%) of general mortality is death from some form of heart disease. No single county in the region meets or surpasses the *Healthy People 2000* goal of no more than 100 deaths per 100,000 population for this disease. The region’s overall rate is 176.4 per 100,000 population compared to the state and national rates of 158.2 and 145.3, respectively.

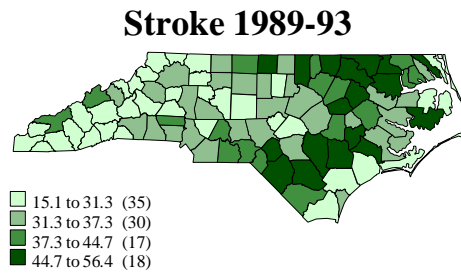
- Cancer.** Death from cancer (all sites) accounts for 24.1% of general mortality. Five counties in Eastern North Carolina meet or surpass the *Healthy People 2000* goal of less than 130 deaths per 100,000 population. Six counties are within 5% of this goal. The region’s overall rate is 146.2, with the state at 135.9 and the nation at 132.6 per 100,000.



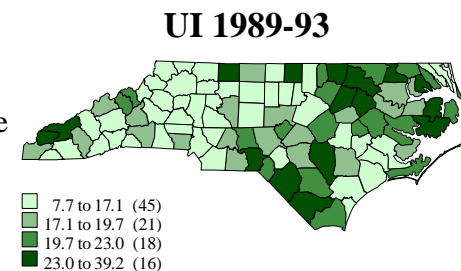
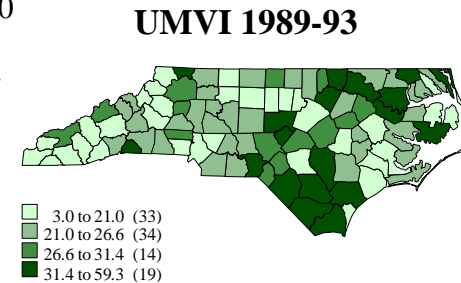
- Stroke.** Deaths from cerebrovascular diseases (stroke) comprise the third largest cause of mortality group (6.5%) within general mortality. Eastern North Carolina is a segment of the “Stroke Belt.” Only one county’s rate in this region is within 20% of the *Healthy People 2000* goal of 20 deaths per 100,000 population. The regional rate is 39.2 while the state and national rate are 34.5 and 26.5 per 100,000, respectively.



- Unintentional Motor Vehicle and Other Injuries.** The fourth most significant cause of death (4.1%) in Eastern North Carolina is the combination of unintentional motor vehicle accidents (UMV) and unintentional injuries (UI). Only two counties exceed the *Healthy People 2000* goal of 29.3 deaths per 100,000 population. The regional rate for deaths due to all unintentional injuries is 25.1 and for injuries alone the rate is 19.3 per 100,000 population. The state rate is 20.6 for UMVI and 16.5 for UI. The U.S. figures for these two causes are 16.0 for UMVI and 14.4 UI. Although only two counties in Eastern North Carolina exceed the *Healthy People 2000* goal, many of the county rates exceed the state and national rates.

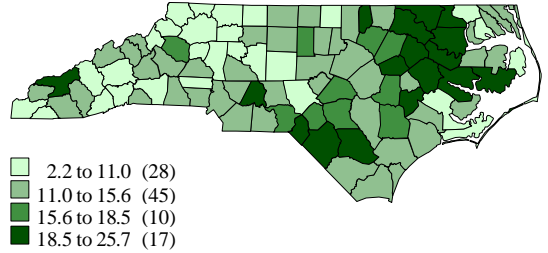


The lesser, but regionally distinctive, contributors to Eastern North Carolina’s general mortality patterns are deaths due to diabetes mellitus, homicide, liver disease, AIDS, pneumonia and influenza, and suicide. The following table is a comparative summary of rates for the remaining major causes of death in Eastern North Carolina.

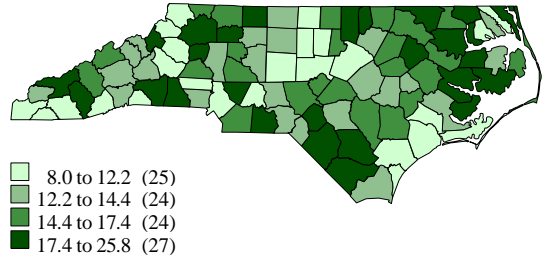


Cause	Deaths\100,000			HP 2000 GOAL
	ENC	NC	US	
Diabetes (Underlying Cause)	16.4	13.6	12.4	--
Pneumonia & Influenza (65 yrs. and older)	14.8	14.1	13.5	7.3
Homicide	13.6	11.9	10.7	7.2
Suicide	11.5	11.8	11.3	10.5
Liver Disease	10.2	8.6	7.9	6.0
AIDS	7.7	7.7	13.8	--

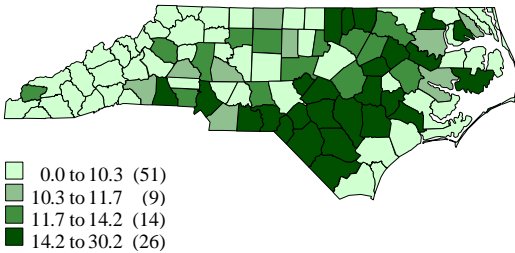
Diabetes 1989-93



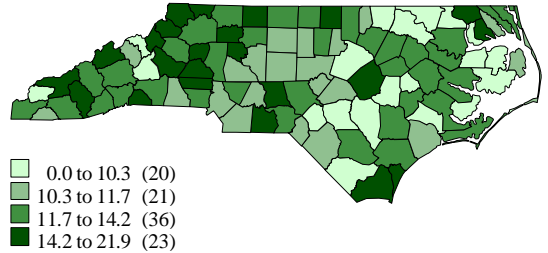
Pneumonia and Influenza 1989-93



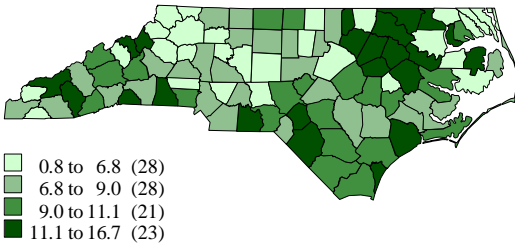
Homicide 1989-93



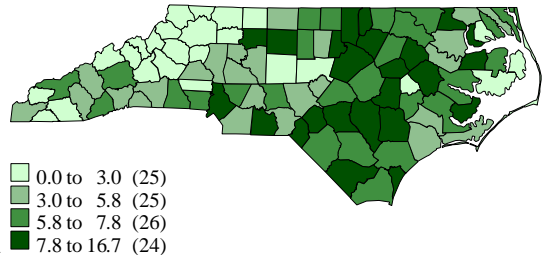
Suicide 1989-93



Liver Disease 1989-93



AIDS 1989-93

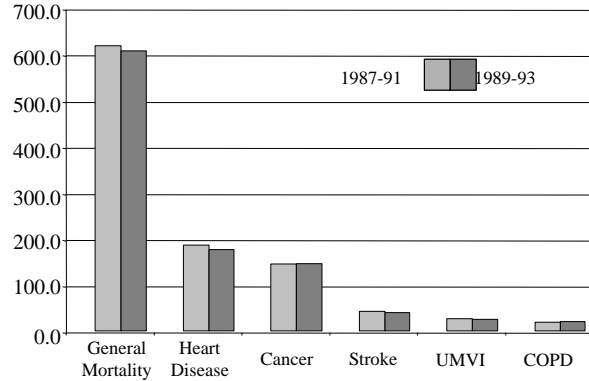


Mortality Comparison between 1987-91 and 1989-93

The accompanying graph shows a comparison of mortality rates between the first

and second editions of the *Atlas*. General mortality and the five largest contributors to mortality in Eastern North Carolina are compared. The graph depicts a 1.8% decrease in age-race-sex adjusted general (all causes) mortality. The largest absolute contribution to the

decrease in general mortality is attributed to a decline in deaths due to heart disease (5.8%). Deaths from cerebrovascular disease (stroke) and deaths due to unintentional motor vehicle accidents and other unintentional injuries declined by 7.5% and 4.9%, respectively. The proportion of all deaths from these three categories of mortality decreased from 41.4% to 39.6%. Cancer shows a slight increase of 0.4% between the two time periods. Chronic obstructive pulmonary disease increased by 5.1%. The proportion of all deaths from these two categories increased from 26.7% to 27.5%. Mortality rates for males, particularly black males, show the least improvement. Although the proportions of contributions to mortality have shifted slightly over time, mortality from the five categories discussed above still account for two-thirds of all deaths in Eastern North Carolina.

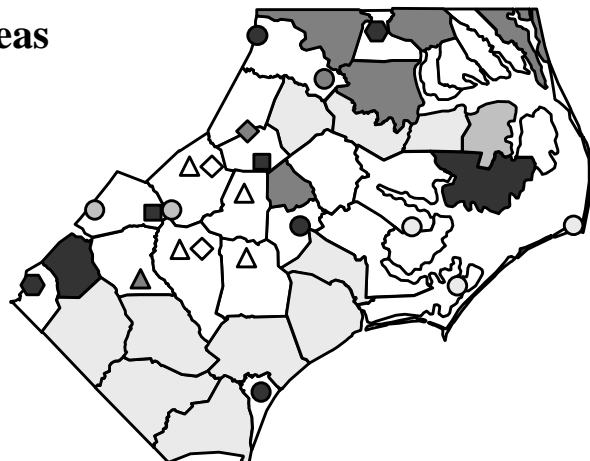
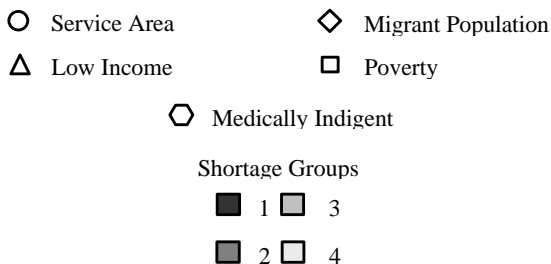


Health Care Resources

While the area has an adequate distribution of hospitals and a sufficient supply of hospital beds, availability of preventive and primary care physicians is an enduring problem in spite of the success of the ECU School of Medicine. There are 1,072 primary care physicians in Eastern North Carolina (1997). One county in the region has no primary care physician. In 1997, 15 counties have no pediatrician and 14 counties have no obstetrician. The previous edition of the *Atlas* reported 17 counties with no pediatrician and 15 counties with no obstetrician.

The federal government designates all or part of 28 of the 41 counties as Health Professional Shortage Areas (HPSAs). A threshold value of 2,000 people per primary care physician is required in order for a county to be taken out of that category. Additionally, numerous counties contain federally designated populations that are not adequately served. In order to balance the distribution of primary care physicians throughout Eastern North Carolina so that each county meets or surpasses the HPSA threshold, 291 physicians are needed now. By the year 2000, 326 physicians will be needed. The ratio of population to

Health Professional Shortage Areas Eastern North Carolina 1995



primary care physician for Eastern North Carolina in 1997 is 2,055. The North Carolina ratio is currently 1,397 people per primary care physician, which includes the higher ratios of the eastern region. To attain this level of parity in the year 2000, Eastern North Carolina would need 732 more physicians. If Eastern North Carolina were to have access equivalent to the remainder of the state, a 197 standard would be 1,269 people to one primary care physician. To achieve this ratio by the year 2000 for all counties in Eastern North Carolina, 878 more primary care physicians would be needed. The preceding calculations do not take into account retirement, out-migration, and death.