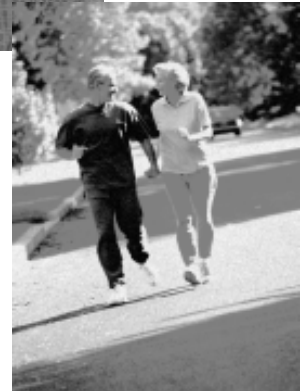
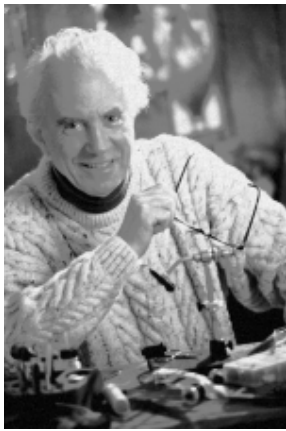


# A Health Profile of Older North Carolinians



A Joint Publication of  
the State Center for Health Statistics  
and  
Older Adult Health Branch  
North Carolina Division of Public Health  
and North Carolina Division of Aging  
North Carolina  
Department of Health and Human Services

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April 2003

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## Executive Summary

This report presents a demographic overview of the older population of North Carolina, using census data. Then several other available data sets are used to profile the health of older North Carolinians, addressing major health issues in this population: general health status, health care access, health behaviors/risk factors, heart disease, stroke, cancer, chronic respiratory disease, Alzheimer's disease, influenza and pneumonia, diabetes, motor vehicle injuries, other unintentional injuries, suicide, arthritis, mental health, and osteoporosis/hip fractures.

The major data sets used for this report are the North Carolina Behavioral Risk Factor Surveillance System (BRFSS) survey, North Carolina death certificate data, North Carolina cancer incidence data, and North Carolina hospital discharge data. Where possible, data are presented for the following four age groups: 50-64, 65-74, 75-84, and 85 and older. The data are also presented by gender and race, except for the hospitalization data where the very incomplete reporting of race does not allow tabulation of the data by racial categories.

In 2001, an estimated 2.3 million North Carolinians were age 50 or older, representing 28 percent of the total population of the state. By 2030, 35 percent of the state's population is projected to be age 50 or older. About 30 percent of persons age 50 and older reported through the BRFSS survey that their health was fair or poor. Nine percent reported that they could not see a doctor in the past year due to cost. The leading causes of death among older North Carolinians are heart disease, cancer, diabetes (as a contributing condition), stroke, and chronic respiratory disease. The major causes of hospitalization are diabetes (as a contributing condition), heart disease, non-motor-vehicle unintentional injuries, cancer, and stroke. Diabetes alone caused or contributed to hospital charges totaling more than \$4.5 billion for the period 1999-2001. Hospital charges for heart disease were nearly \$5 billion. During the three-year period 1997-1999, more than 82,000 new cases of cancer were diagnosed among persons age 50 and older. The types of cancer with the highest numbers of new cases were lung, female breast, prostate, and colon/rectum cancer. Detailed results on these and other topics are presented in the body of this report.

The data in this report are intended to be a resource for health and aging professionals in North Carolina as they prioritize the health issues of older persons and formulate appropriate health services and policies.

# Introduction

This publication presents information about the health of older North Carolinians. The conventional approach of viewing older adults as a single group of persons age 65 and older, largely based on eligibility for Social Security and Medicare, does not reflect the diverse health conditions and needs among different age groups of seniors in North Carolina today. For example, many younger seniors are still healthy and active, whereas older seniors require more support in managing chronic conditions. Data for persons ages 50-64, though not traditionally considered “seniors,” are included here since lifestyle and health management earlier in life have an important impact on health at later ages. Where possible data are presented for the following four age groups: 50-64, 65-74, 75-84, and 85 and older. In general, the data are also presented by race and gender. As the oldest baby boomers turned age 50 in 1996 and will approach age 65 in 2011, North Carolina must move quickly to advance sound health policies and programs to meet the needs of a population that is rapidly growing older.

This report first presents a demographic overview of the older population of North Carolina, using census data. Then several other available data sets are used to profile the health of older North Carolinians, addressing major health issues in this population: general health status, health care access, health behaviors/risk factors, heart disease, stroke, cancer, chronic respiratory disease, Alzheimer’s disease, influenza and pneumonia, diabetes, motor vehicle injuries, other unintentional injuries, suicide, arthritis, mental health, and osteoporosis/hip fractures. Information is presented to quantify the health status and health problems of the older population in these areas. Our intent is that the information provided here will assist health and aging professionals in North Carolina to work together in prioritizing the health issues in this population and in formulating appropriate health services and policies. We do not propose specific programs that might reduce the health problems that are identified.

The major data sets used for this report are the North Carolina Behavioral Risk Factor Surveillance System (BRFSS) survey, North Carolina death certificate data, North Carolina cancer incidence data, and North Carolina hospital discharge data. These data sets are summarized briefly in the following section. More information about the data sets is available from the State Center for Health Statistics.

The North Carolina Behavioral Risk Factor Surveillance System conducts random telephone interviews with North Carolina adults age 18 and older, and reports the survey results annually. A variety of data in this report come from the BRFSS. Due to a limited sample size, the BRFSS data in this report are broken out into only two age groups, 50-64 and 65 and older. It must be noted that BRFSS data tend to underrepresent the level of health problems in the population because the institutionalized population is not included in the telephone sample. Death certificates for North Carolinians are used to compute death rates (per 100,000 population) for the leading causes of death among seniors. Data from the North Carolina Central Cancer Registry on new cases of cancer are used to compute cancer incidence rates for the major types of cancer. The North Carolina hospital discharge data base contains records of hospitalizations occurring in North Carolina. These data are used to compute hospital discharge rates for major causes of hospitalization among older

adults. Hospital charges are also presented. Race is very poorly reported in the hospital discharge data base, so the hospital discharge results are presented by age and gender only. With the exception of data from the BRFSS and the Central Cancer Registry, there is very little information on the general prevalence of various health conditions in North Carolina. We know about most diseases only if they result in hospitalization or death.

The body of this report is organized by health condition or disease, using selected data from several sources that are pertinent to the topic. More detailed data are presented in the Appendices: BRFSS data in Appendix 1, death data in Appendix 2, cancer incidence data in Appendix 3, and hospital discharge data in Appendix 4. In the BRFSS tables, the percentages shown are weighted to reflect the entire population of North Carolina adults,<sup>1</sup> and therefore cannot be calculated exactly from the numbers in the tables.

**A Technical Note:** Some of the rates or percentages in the report may be based on a small number of events in the numerator. Generally, rates or percentages based on fewer than 20 events in the numerator may be statistically unreliable.<sup>2</sup> Please use these rates with caution.

This publication is a cooperative venture involving the North Carolina Division of Aging and the Older Adult Health Branch and State Center for Health Statistics in the North Carolina Division of Public Health. All of these agencies are in the North Carolina Department of Health and Human Services.

## Demographic Overview

Between 1990 and 2000, the population in North Carolina grew by 1.4 million to more than 8 million persons, an increase of 21 percent. The state's population continued to age, as illustrated by the change in median age from 33.0 years in 1990 to 35.3 in 2000. The number of North Carolinians age 85 and older increased dramatically in the past decade, growing by 37,000 – 53 percent – from fewer than 69,000 in 1990 to more than 105,000 in 2000. According to the 2000 census, North Carolina has 1,230 centenarians, 223 men and 1,007 women age 100 and older. In the next 30 years, North Carolina's overall population is expected to increase by 4.4 million people, reaching more than 12.4 million by 2030, with a projected median age of 38.4.

North Carolina ranks 10<sup>th</sup> in the nation in the number of older persons, with about 2.3 million residents age 50 and older. This represents 28 percent of the total North Carolina population. By 2030, 35 percent of North Carolinians will be 50 years old or older. Population projections by age and percent of the total population are shown in Table A for the years 2001 and 2030.



**Table A: Projected North Carolina Population  
by Age Groups, 2001 and 2030**

Age Groups	Population Projections			
	2001		2030	
	Number	Percent	Number	Percent
0-49	5,918,951	72.3	8,057,379	64.7
50-64	1,286,612	15.7	2,168,748	17.4
65-74	534,909	6.5	1,226,595	9.9
75-84	334,741	4.1	727,196	5.8
85-94	104,195	1.3	233,090	1.9
95 and older	8,602	0.1	34,589	0.3
<b>Total</b>	<b>8,188,010</b>	<b>100.0</b>	<b>12,447,597</b>	<b>100.0</b>

Source: North Carolina State Data Center

The life expectancy in North Carolina for those born from 1996 through 2000 was 75.6 years.<sup>3</sup> This figure represents a gain of 2.7 years over the 72.9 years life expectancy for those born during 1979-81. In general, women live longer than men (78.7 versus 72.4 years), and white North Carolinians live longer than persons of minority races (76.8 versus 72.1 years). The lowest life expectancy at birth was recorded among minority men (68.0 years).

For those who reach an older age, the average remaining life expectancy results in a total life expectancy greater than the life expectancy at birth. For the 1996-2000 period, the average remaining life expectancy was 29.1 years for North Carolinians ages 50-54; 24.8 years for ages 55-59; 20.8 years for ages 60-64; 17.1 years for ages 65-69; 13.7 for ages 70-74; 10.6 years for ages 75-79; 7.9 years for ages 80-84 years; and 5.4 years for age 85 and older.<sup>3</sup>

According to the 2000 Census, more than 120,000 North Carolinians age 65 and older had incomes in 1999 below the federal poverty threshold (\$7,990 for a person age 65 or older). This represented 13.2 percent of persons age 65 and older, and was higher than the national average of 9.9 percent. When those with incomes below 200 percent of the poverty level are considered, the number was 337,078, or 36.5 percent of persons age 65 and older; and 172,911 or 44.0 percent of persons age 75 and older had incomes below 200 percent of the poverty level (see Table B). The income profile of the older population today is characterized by a high concentration just above the poverty level. Members of minority races, women, and persons living alone are over-represented among those living in poverty.

**Table B: Percentage of Population Below Selected Poverty Levels, by Age**

Age Group	50% of Poverty Level or Less		100% of Poverty Level or Less		200% of Poverty Level or Less	
	Number	%	Number	%	Number	%
50-64*	46,796	3.8	105,105	8.6	251,234	20.6
65 and older	33,313	3.6	122,248	13.2	337,078	36.5
65-74	15,263	2.9	55,858	10.5	164,167	30.9
75 and older	18,050	4.6	66,390	16.9	172,911	44.0
Total Age 50 and older	80,109	3.7	227,353	10.6	588,312	27.4

Source: 2000 Census. \*Extrapolated information.

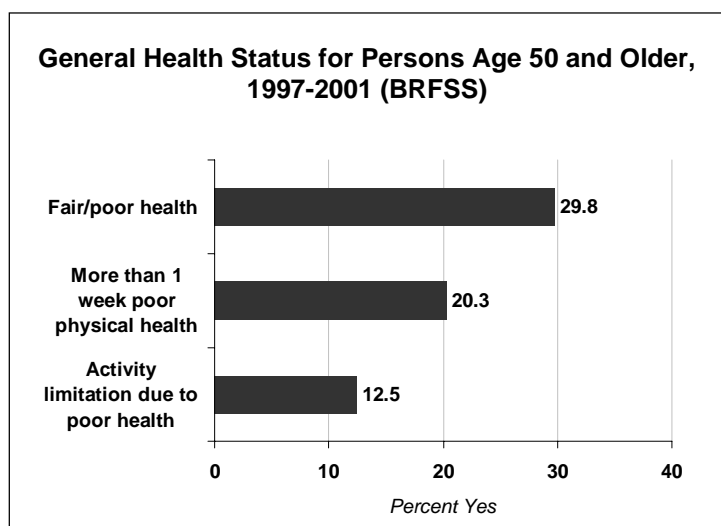
The 2000 Census shows that more than 580,000 (60%) of North Carolinians age 65 and older are women. Less than 40 percent of these women are married and living with a spouse. The other 60 percent were never married, or are widowed, separated, divorced, or institutionalized. The Census also shows that 37 percent of women age 65 and older are living alone. This proportion is much higher than the proportion for men (16%). Of the population age 65 and older, 11,207 men (2.9%) and 33,630 women (5.8%) were living in nursing homes in 2000. The two largest racial groups in North Carolina among adults age 65 and older were Whites (82%) and African Americans (16%), according to the 2000 Census.

In North Carolina, more than 420,000 persons age 65 and older among the civilian non-institutionalized population responded in the 2000 Census that they had at least one disability (46 percent). The 2000 Census defines disability as “a long-lasting physical, mental, or emotional condition. This condition can make it difficult for a person to do activities such as walking, climbing stairs, dressing, bathing, learning, or remembering. This condition can also impede a person from being able to go outside the home alone or to work at a job or business.”

For more information on the older population of North Carolina, visit the web site of the Division of Aging at <http://www.dhhs.state.nc.us/aging>. See also the *State Aging Services Plan*<sup>4</sup> at <http://www.dhhs.state.nc.us/aging/plan.htm>.

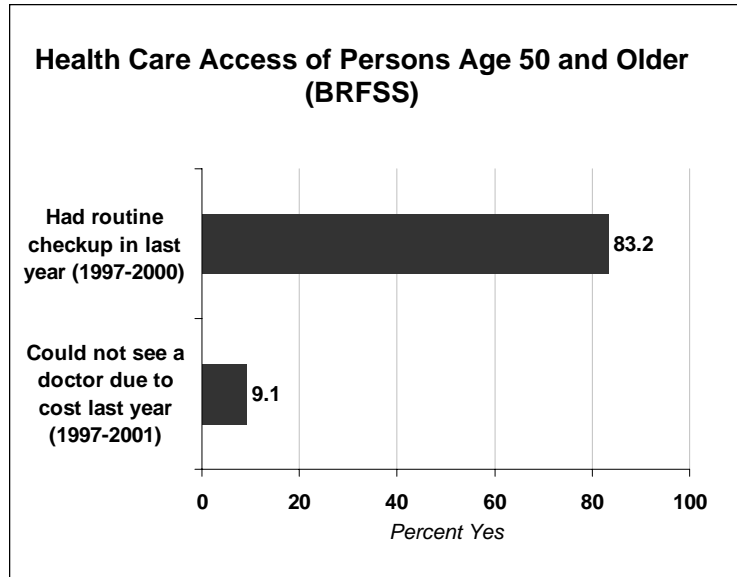
## General Health Status

According to the 1997-2001 BRFSS survey data, 29.8 percent of persons age 50 and older reported that their health was fair or poor. This ranged from 21.0 percent for white males ages 50-64 to 49.3 percent for minority females age 65 and older. Among persons age 50 and older, 20.3 percent reported that they had more than a week of poor physical health in the last month. This ranged from 13.5 percent for white males ages



50-64 to 30.9 percent for minority females age 65 and older. Twelve and one-half percent of older persons reported that they had more than a week of activity limitation due to poor health in the last month, with the lowest percentage for white males ages 50-64 (9.8) and the highest percentage for minority males ages 50-64 (19.2).

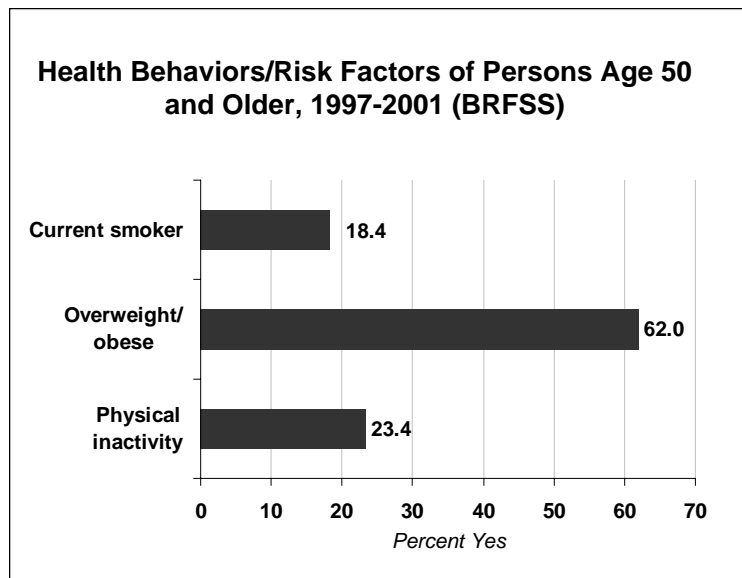
## Health Care Access



Among persons age 50 and older, 83.2 percent reported that they had a routine medical checkup in the last year. White males ages 50-64 had the lowest percentage (74.1), while minority males age 65 and older had the highest percentage (92.2). Nine percent of older persons reported that they could not see a doctor in the past year due to cost. This ranged from 4.4 percent for white males age 65 and older to 18.4 percent of minority females ages 50-64. The highest percentages were among persons ages 50-64, before eligibility for Medicare begins.

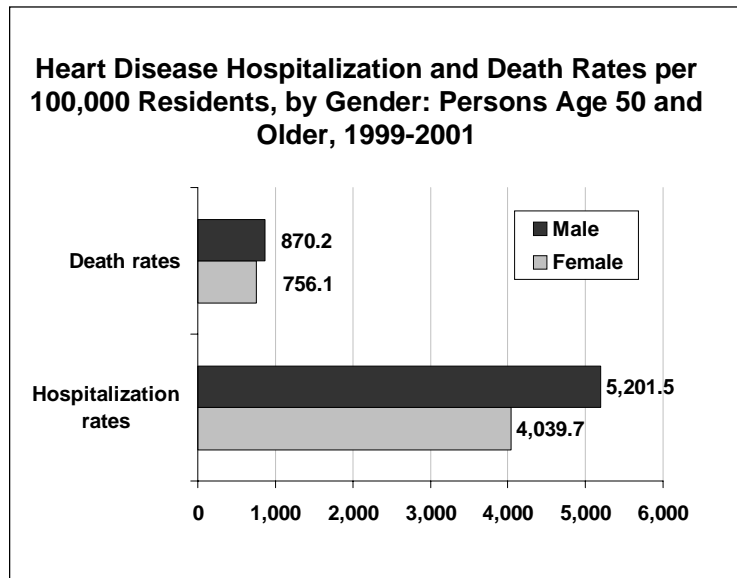
## Health Behaviors/Risk Factors

Smoking, overweight, and lack of physical exercise are risk factors that contribute to a number of diseases among seniors. These behaviors/risk factors are reported through the BRFSS. Among persons age 50 and older, 18.4 percent reported being a current smoker. The rate of smoking is higher in the 50-64 age group than it is among persons age 65 and older, probably in part because of the higher death rate among smokers. Minority females had substantially lower smoking rates than minority males, whereas the rates for white males and females were similar. Sixty-two percent of persons age 50 and older reported a weight and height indicating that they were overweight or obese. The lowest percentage was for white females age 65 and older (49.0) and the highest percentage was for white males ages 50-64 (76.0). About 23 percent of persons age 50 and older



reported that they engaged in no leisure-time physical activity. In general, white females age 65 and older and persons of minority race reported higher rates of physical inactivity.

## Heart Disease



High blood pressure and high cholesterol are significant risk factors for heart disease. Being checked for these risk factors is the first step toward reducing them. More than 97 percent of persons age 50 and older reported that they had their blood pressure checked by a professional in the last two years. Eighty-nine percent had their cholesterol checked in the last 5 years. About twenty-seven percent of older persons reported that they had ever been told that their blood pressure was high, with the highest percentage among minority females age 65 and older (38.2) and the lowest percentage

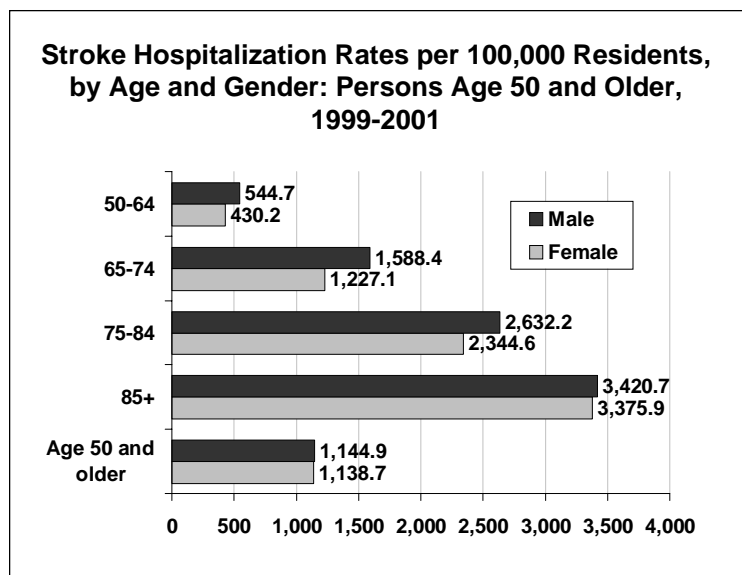
among white females ages 50-64 (22.8). Among persons age 50 and older, 39.6 percent reported that they had ever been told that their cholesterol was high, with fairly small variation across the age-race-sex groups.

The number of hospitalizations during 1999-2001 with heart disease as the primary diagnosis was 306,783 for persons age 50 and older, or more than 100,000 per year. The hospital charges associated with these hospitalizations totaled nearly \$5 billion for the three years. The average length of stay in the hospital was 5 days. Hospital discharge rates (per 100,000 population) for heart disease were substantially higher among males, and increased sharply with age. The average charge per hospitalization was \$16,098.

During 1999-2001, there were 54,324 deaths from heart disease among North Carolina residents age 50 and older, or more than 18,000 per year. The death rates from heart disease increased dramatically with age, and were higher among males and persons of minority race.

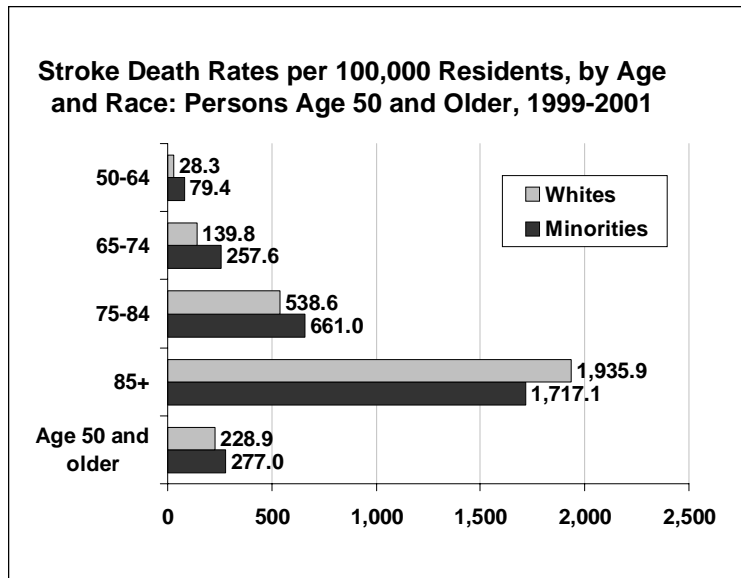
## Stroke

The number of hospitalizations during 1999-2001 with stroke as the primary diagnosis was 76,848 for persons age



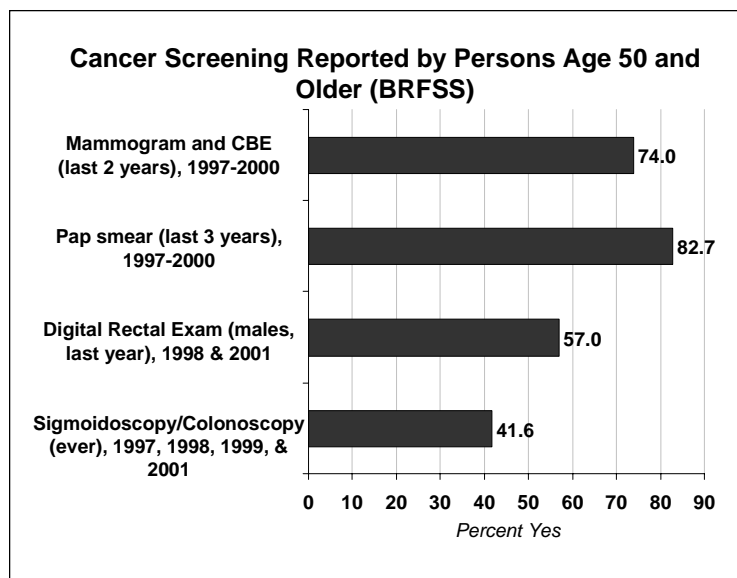
50 and older, or more than 25,000 per year. The hospital charges associated with these hospitalizations totaled more than \$856 million for the three years. The average length of stay in the hospital was 5.6 days. Hospital discharge rates for stroke were higher among males, and increased sharply with age. The average charge per hospitalization was \$11,145.

During 1999-2001, there were 16,031 deaths from stroke among North Carolina residents age 50 and older, or an average of 5,344 per year. The death rates from stroke increased dramatically with age, and minorities had stroke death rates approximately twice as high as whites in the 50-64 and 65-74 age groups.

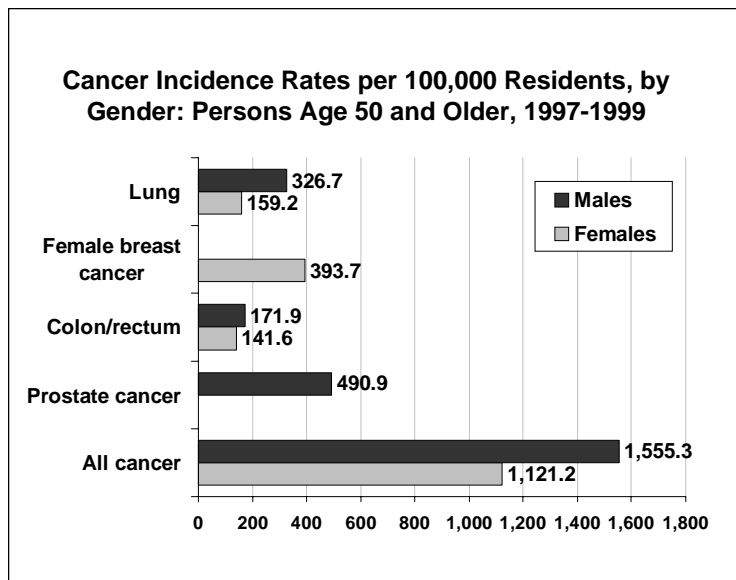


## Cancer

Cancer screening is important to detect cancers at an early stage, which reduces both mortality and medical treatment costs. Among females age 50 and older, 74.0 percent reported having a mammogram and a clinical breast exam in the last two years. Nearly 83 percent of women in this age group reported that they had a Pap smear in the last three years. Fifty-seven percent of male BRFSS respondents age 50 and older reported having a digital rectal exam in the last year. Only 41.6 percent reported that they had ever had a sigmoidoscopy or colonoscopy. The BRFSS tables in Appendix 1 show these results by age, race, and sex.



During 1997-1999, there were 82,331 new cases of cancer reported to the North Carolina Central Cancer Registry for persons age 50 and older. This is an average of more than 27,000 per year. The total cancer incidence rate for the three-year period was 845 per 100,000 population in the 50-64 age group, 2,060 in the 75-84 age group, and 1,635 for persons age 85 and older. The leading cancer types were lung cancer with 14,628 new cases during the three-year period; female breast cancer (13,751 cases); prostate cancer (13,626 cases); and



colon/rectum cancer (9,719 cases). Males had consistently higher rates of cancer than females for total cancer, lung cancer, and colon/rectum cancer. Detailed cancer incidence numbers and rates for the North Carolina population age 50 and older are shown by age group, race, and sex in Appendix 3.

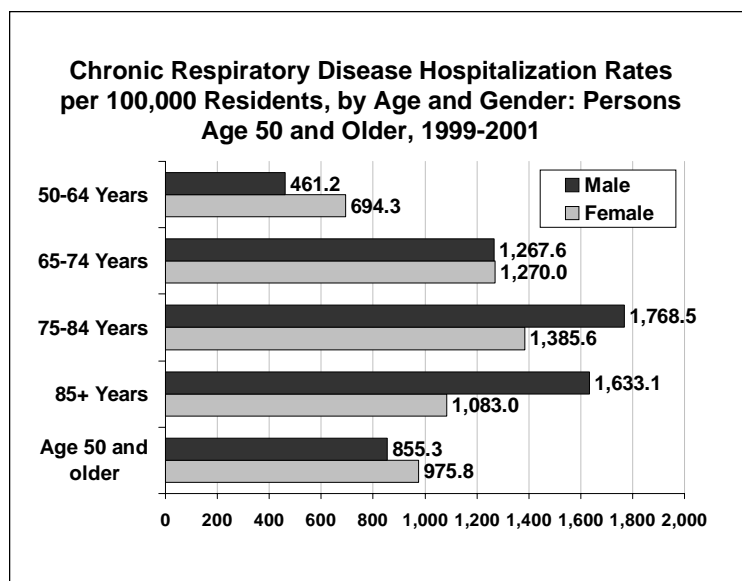
The number of hospitalizations during 1999-2001 with cancer as the primary diagnosis was 82,313 for persons age 50 and older, or more than 27,000 per year. The hospital charges associated with these hospitalizations totaled

nearly \$1.4 billion for the three years. The average length of stay in the hospital was 7.2 days. Hospital discharge rates (per 100,000 population) for cancer were substantially higher among males, and increased with age up to age 85. The average charge per hospitalization was \$16,747.

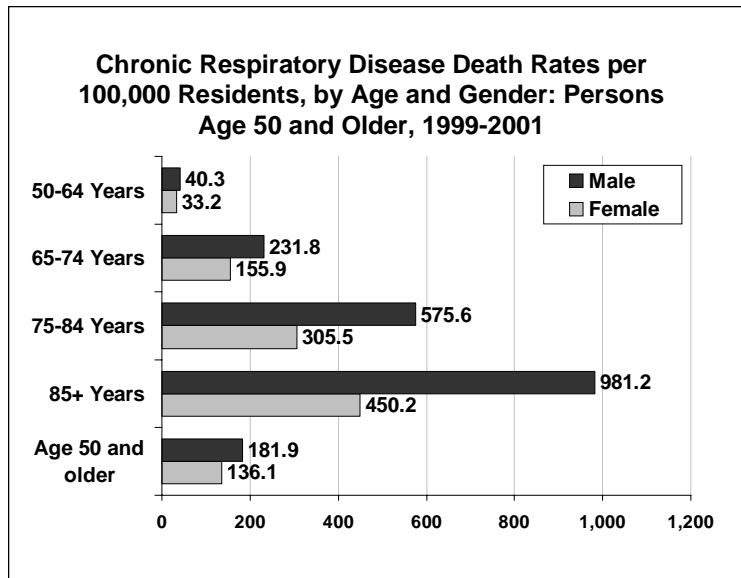
During 1999-2001, there were 43,708 deaths from cancer among North Carolina residents age 50 and older, or more than 14,500 per year. The death rates from cancer were substantially higher for males at each age group.

## Chronic Respiratory Disease

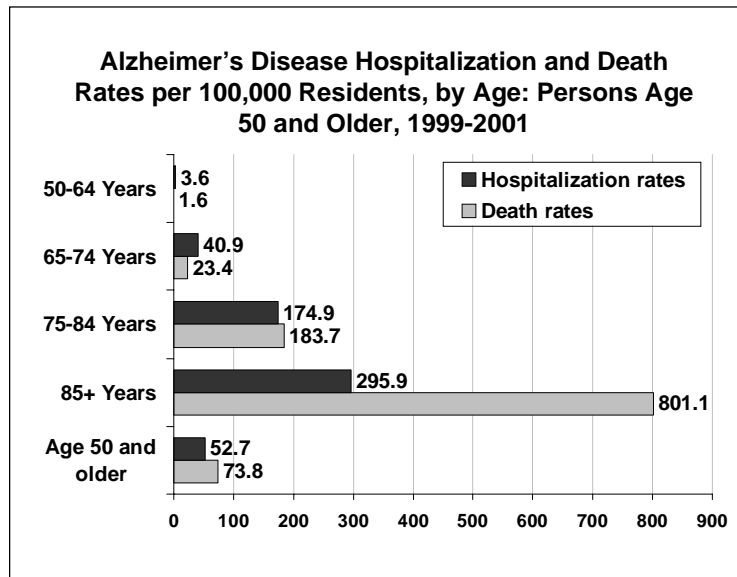
The number of hospitalizations during 1999-2001 with chronic respiratory disease as the primary diagnosis was 62,085 for persons age 50 and older, or more than 20,500 per year. The hospital charges associated with these hospitalizations totaled nearly \$552 million for the three years. The average length of stay in the hospital was 5.4 days. Hospital discharge rates (per 100,000 population) for chronic respiratory disease increased consistently with age up to age 85. The average charge per hospitalization was \$8,891.



During 1999-2001, there were 10,534 deaths from chronic respiratory disease among North Carolina residents age 50 and older, or more than 3,500 per year. The death rates from chronic respiratory disease increased steadily with age and were much higher among males than females, and were higher among whites than persons of a minority race.



## Alzheimer's Disease

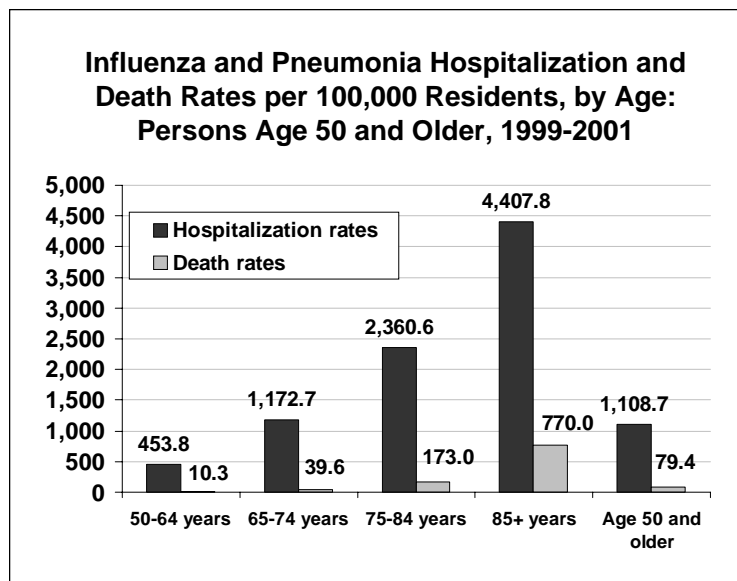
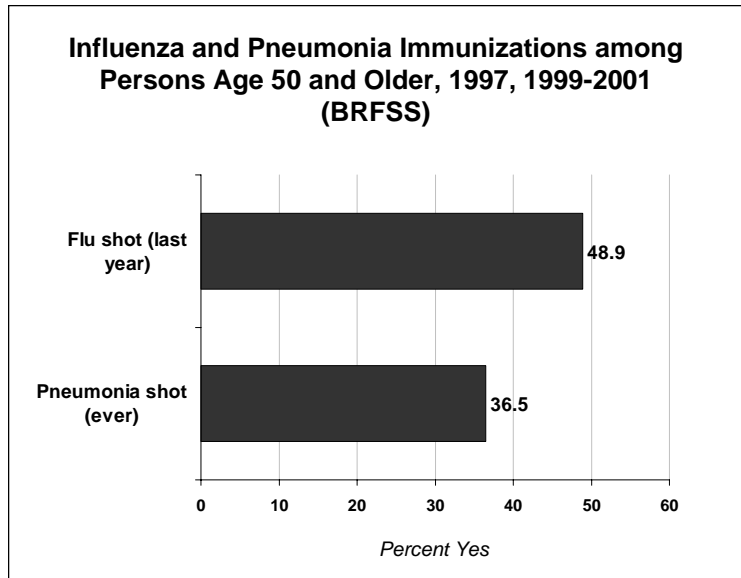


The number of hospitalizations during 1999-2001 with Alzheimer's disease as the primary diagnosis was 3,547 for persons age 50 and older, or nearly 1,200 per year. The hospital charges associated with these hospitalizations totaled nearly \$32 million for the three years. The average length of stay in the hospital was 9.7 days. Hospital discharge rates (per 100,000 population) for Alzheimer's disease increased sharply with age. The average charge per hospitalization was \$9,299. In general, men had higher hospitalization rates for Alzheimer's disease compared to women but their death rates were lower.

During 1999-2001, there were 4,966 deaths from Alzheimer's disease among North Carolina residents age 50 and older, or more than 1,650 per year. The death rates from Alzheimer's disease increased dramatically with age, and were substantially higher among females compared to males and among whites compared to persons of a minority race.

# Influenza and Pneumonia

According to the self-reported BRFSS data, 48.9 percent of persons age 50 and older had a flu shot within the last year. This percentage was consistently higher in the 65 and older age group compared to persons ages 50-64, due to the free vaccination program available through Medicare and Medicaid. In general, a higher percentage of whites reported having a flu shot in the last year compared to persons of a minority race. Only 36.5 percent of North Carolinians age 50 and older reported that they ever had a pneumonia shot. Again, persons 65 and older and whites reported higher levels of pneumonia vaccination. Medical Review of North Carolina (MRNC), based on an analysis of Medicare paid claims, reported somewhat lower immunization rates for the year 2000. According to MRNC, 43.5 percent of North Carolinians age 65 and over had a flu shot, and 35.5 percent of North Carolinians between the ages of 65 and 74 had ever been vaccinated against pneumonia.



The number of hospitalizations during 1999-2001 with influenza or pneumonia as the primary diagnosis was 74,647 for persons age 50 and older, or nearly 25,000 per year. The hospital charges associated with these hospitalizations totaled more than \$855 million for the three years. The average length of stay in the hospital was 6.7 days. Hospital discharge rates (per 100,000 population) for influenza and pneumonia were consistently higher among males compared to females, and increased sharply with age. The average charge per hospitalization was \$11,457.

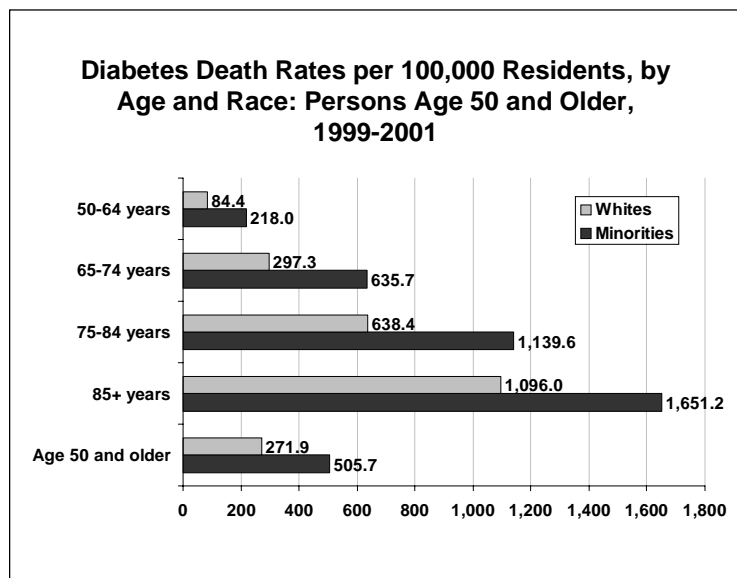
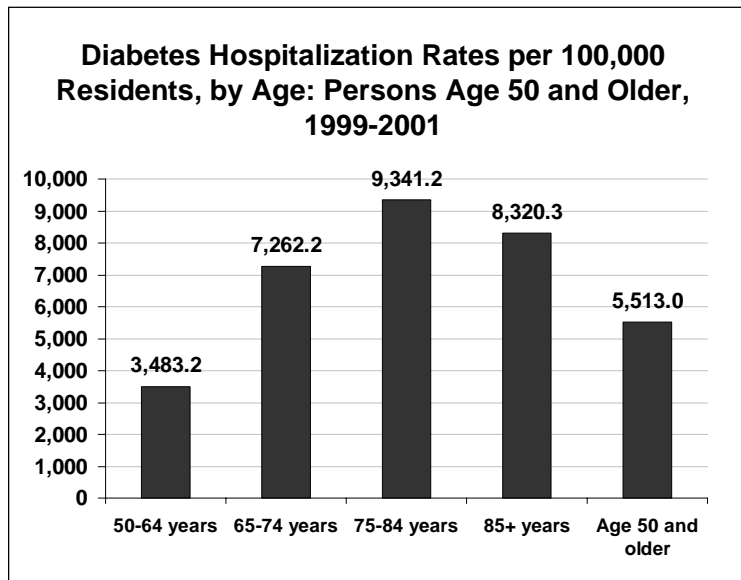
During 1999-2001, there were 5,344 deaths from influenza and pneumonia among North Carolina residents age 50 and older, or an average of 1,781 per year. The death rates from influenza and pneumonia increased dramatically with age, and the differences by race and sex were smaller than for many other causes of death.



# Diabetes

Through the BRFSS, 12.5 percent of persons age 50 and older reported that they had ever been diagnosed with diabetes. The percentages with diabetes were markedly higher among persons of a minority race, with fairly small differences by age and gender.

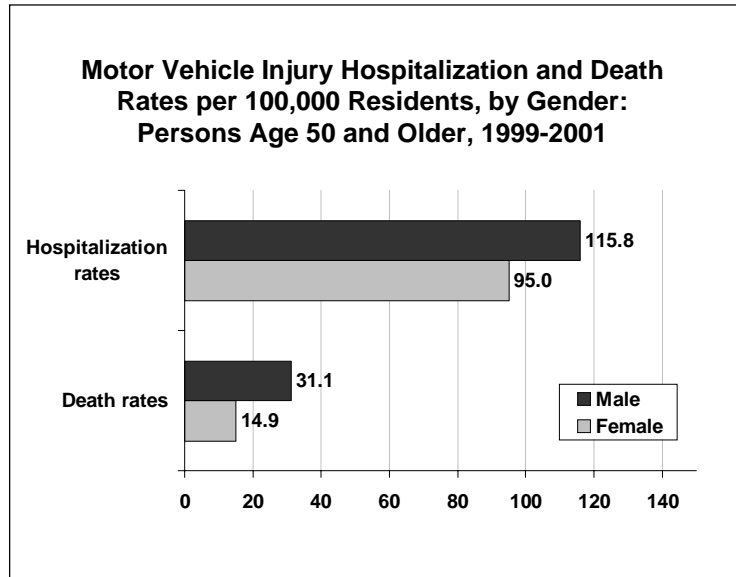
Diabetes contributes to and complicates a number of other diseases, so in examining the hospitalization and death records, we looked at any mention of diabetes on the record, not just diabetes as the primary cause. There were roughly four deaths with diabetes mentioned as a contributing cause for every death with diabetes listed as the primary cause.



The number of hospitalizations during 1999-2001 with diabetes as a mentioned diagnosis was 371,173 for persons age 50 and older, or nearly 124,000 per year. The hospital charges associated with these hospitalizations totaled more than \$4.6 billion for the three years. The average length of stay in the hospital was 5.9 days. Hospital discharge rates (per 100,000 population) increased with age up to age 85 and older, and were similar in magnitude between males and females. The average charge per hospitalization was \$12,417.

During 1999-2001, there were 21,315 deaths with diabetes as a mentioned diagnosis among North Carolina residents age 50 and older, or more than 7,100 per year. The death rates involving diabetes increased steadily with age, and were much higher among persons of a minority race.

## Motor Vehicle Injuries

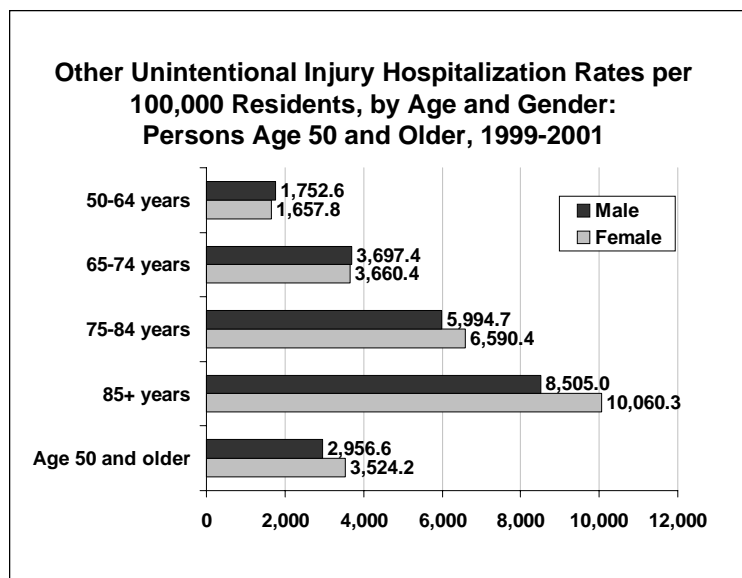


The number of hospitalizations during 1999-2001 attributed to a motor vehicle injury was 7,016 for persons age 50 and older, or an average of 2,339 per year. The hospital charges associated with these hospitalizations totaled more than \$159 million for the three years. The average length of stay in the hospital was 8.0 days. Hospital discharge rates (per 100,000 population) for motor vehicle injuries increased steadily with age, and were higher for males than for females in every age group. The average charge per hospitalization was \$22,695.

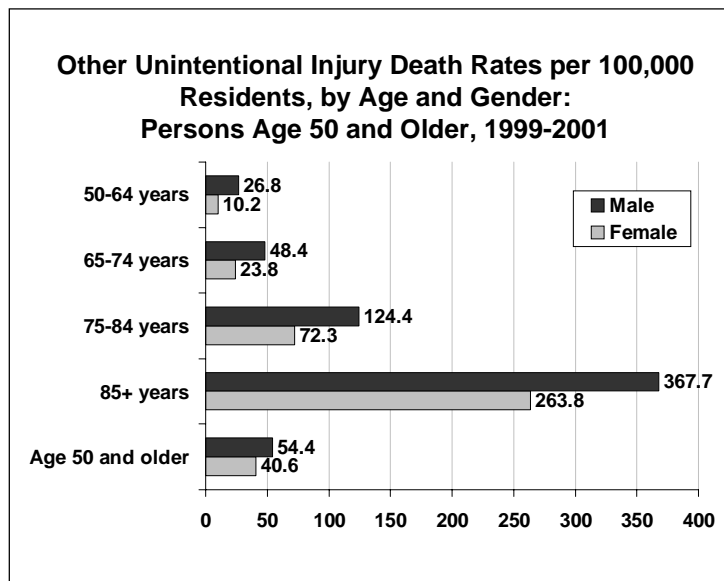
During 1999-2001, there were 1,489 deaths from a motor vehicle injury among North Carolina residents age 50 and older, or approximately 500 per year. The death rates from motor vehicle injury increased with age, and were much higher among males compared to females. There were relatively small differences in these rates by race.

## Other Unintentional Injuries

The number of hospitalizations during 1999-2001 due to other unintentional injuries was 220,270 for persons age 50 and older, or more than 73,000 per year. The leading causes of unintentional injury in this age group were abnormal reactions to surgical and medical procedures (30.5%); adverse effects of drugs, medicines, and biological substances (28.1%); and accidental falls (25.2%). The hospital charges associated with these hospitalizations totaled nearly \$3.7 billion for the three years. The average length of stay in the hospital was 7.3 days. Hospital discharge rates (per 100,000



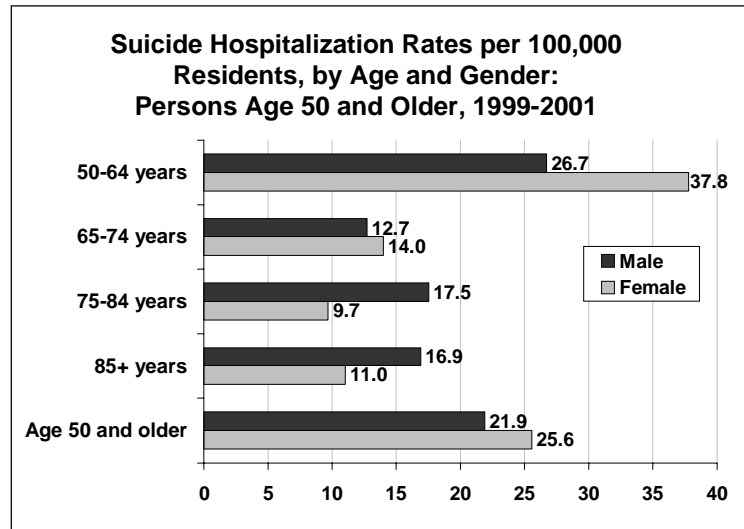
population) for other unintentional injuries increased steadily with age. The hospital discharge rates were substantially higher among females than males after age 75, due partly to the higher incidence of falls among older females. The average charge per hospitalization was \$16,745.



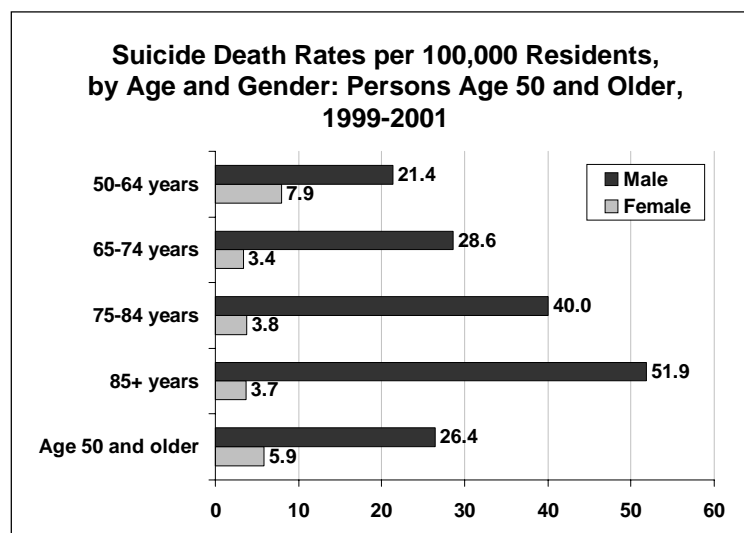
During 1999-2001, there were 3,148 deaths from other unintentional injuries among North Carolina residents age 50 and older, or approximately 1,050 per year. The leading causes of death due to unintentional injuries for persons in this age group were falls (35.1%); accidental exposure to other and unspecified factors (23.6%); and other accidental threats to breathing (14.2%). The death rates from other unintentional injuries increased dramatically with age. The death rates were higher among males compared to females, and were twice as high among minority males compared to minority females.

## Suicide

The number of hospitalizations during 1999-2001 due to a suicide attempt was 1,611 for persons age 50 and older, or approximately 540 per year. The hospital charges associated with these hospitalizations totaled more than \$14 million for the three years. The average length of stay in the hospital was 4.5 days. Hospital discharge rates (per 100,000 population) for suicide attempts were higher for females than males for persons ages 50-74. For persons age 75 and older, the rates for males exceeded the female rates. The average charge per hospitalization was \$8,699.



During 1999-2001, there were 1,009 deaths from suicide among North Carolina residents age 50 and older, or nearly 340 per year. The death rates from suicide are roughly the same across the four age groups, are four times as high among males compared to females (age 50 and older), and are three times as high among whites compared to persons of a minority race.

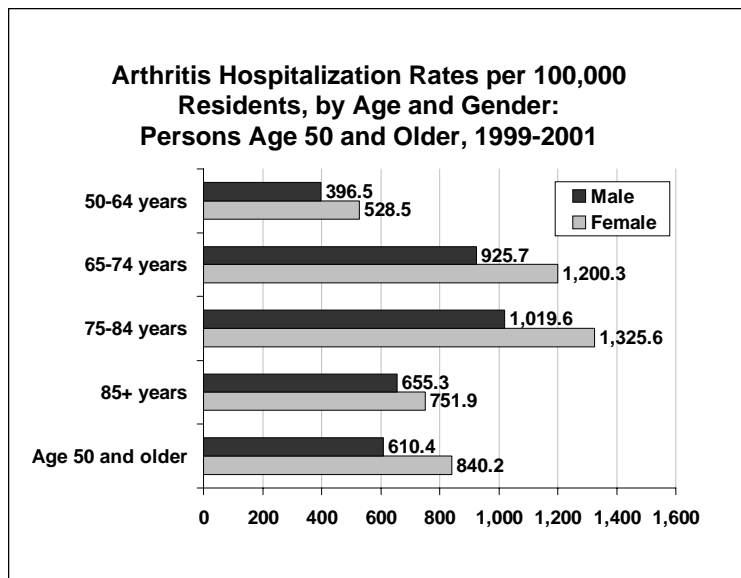
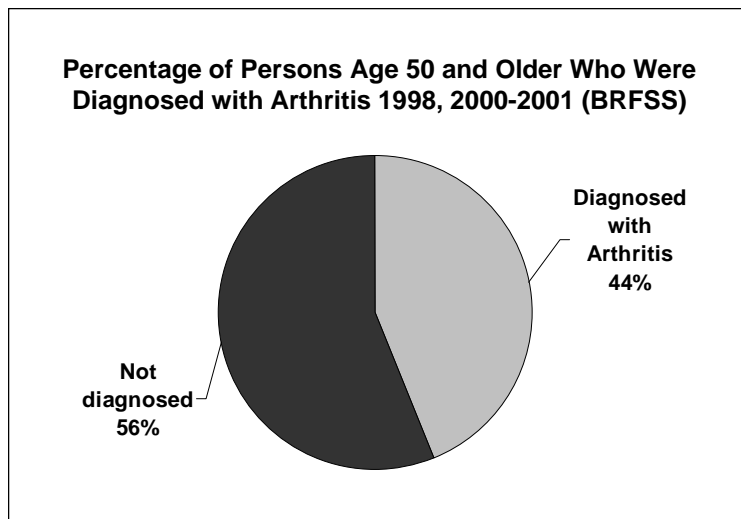


## Arthritis

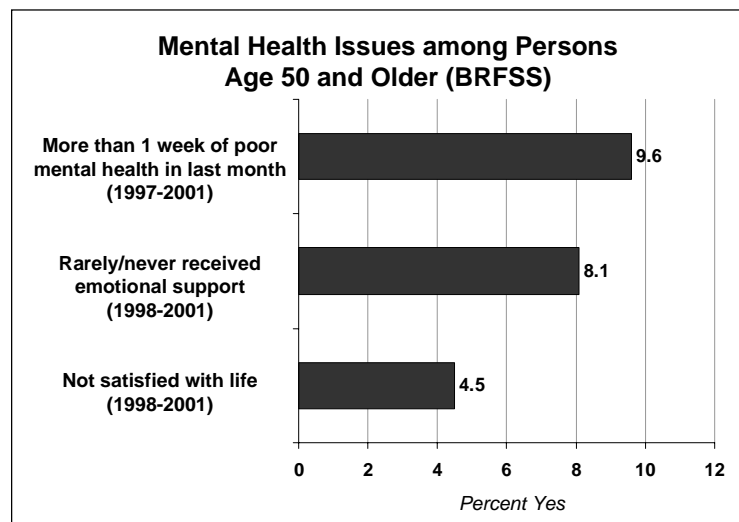
In the BRFSS, 44.0 percent of persons age 50 and older reported that they had been diagnosed with arthritis. The percentages were higher among persons age 65 and older and higher among females compared to males. The rates were similar between whites and minorities.

The number of hospitalizations during 1999-2001 with arthritis as the primary diagnosis was 49,685 for persons age 50 and older, or more than 16,500 per year. The hospital charges associated with these hospitalizations totaled more than \$856 million for the three years. The average length of stay in the hospital was 4.7 days. Hospital discharge rates (per 100,000 population) for arthritis were substantially higher among females, and increased with age up to age 85. The average charge per hospitalization was \$17,238.

Very few death certificates list arthritis as the primary cause of death.

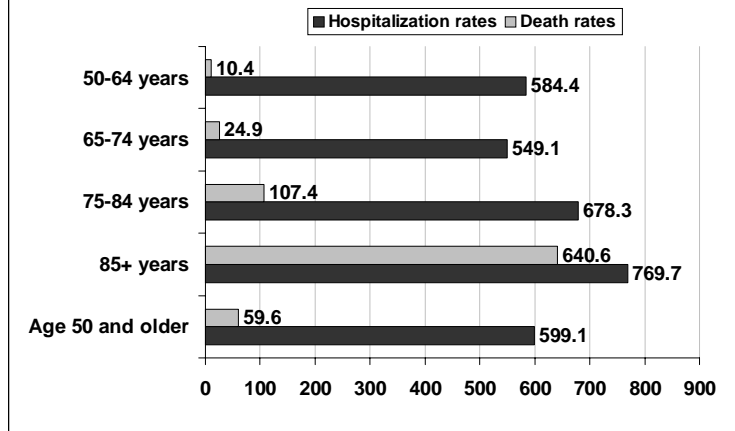


## Mental Health



In the BRFSS, 9.6 percent of persons age 50 and older reported that they had more than a week of poor mental health in the last month. This percentage tended to be higher in the 50-64 age group. About eight percent reported that they rarely or never received emotional support. The percentage rarely or never receiving emotional support did not vary much by race or sex, but was higher in the 65 and older age group compared to persons ages 50-64. Only 4.5 percent of persons age

**Mental Health Hospitalization and Death Rates per 100,000 Residents, by Age: Persons Age 50 and Older, 1999-2001**



50 and older reported that they were not satisfied with life. There was not a consistent pattern by age, race, or sex.

The number of hospitalizations during 1999-2001 with mental disease (including alcohol and substance abuse) as the primary diagnosis was 40,333 for persons age 50 and older, or an average of 13,444 per year. The hospital charges associated with these hospitalizations totaled more than \$312 million for the three years. The average length of stay in the hospital was 8.3 days. Hospital discharge rates (per 100,000 population) for mental disease generally

increased with age but were similar for males and females. The average charge per hospitalization was \$7,750.

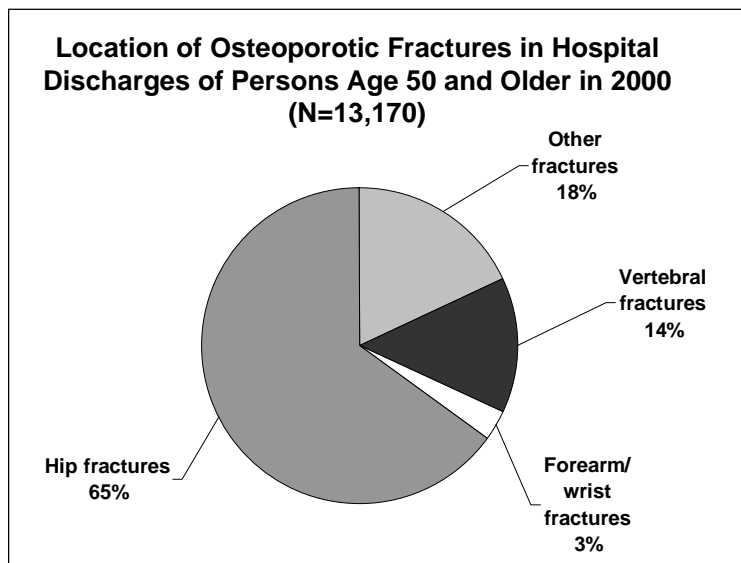
During 1999-2001, there were 4,016 deaths with mental disease (including alcohol and substance abuse) as the primary diagnosis among North Carolina residents age 50 and older, or about 1,340 per year. The death rates from mental disease increased dramatically with age, but there was no consistent pattern by race or sex. Most of the deaths in the 85 and older age group were attributed to unspecified dementia (not including Alzheimer's, which is classified as a disease of the nervous system).

## Osteoporosis/Hip Fractures

*Note: This section uses excerpts of two reports on osteoporosis in North Carolina produced by Procter & Gamble, Inc.<sup>5</sup>*

The vast majority of people with osteoporosis have not been properly diagnosed, and do not receive treatment. This group includes high-risk patients who have already suffered fractures.

There were 13,170 hospital admissions of people age 50 and older in 2000 with a primary diagnosis of osteoporotic fracture. Sixty-five percent of them were hip fractures, 18 percent other fractures, 14 percent vertebral fractures, and about 3 percent were forearm/wrist fractures.



The fracture rate in North Carolina nearly equals the national rate: it is 15.5 fractures per 1,000 people 50 years and older compared to 15.6 fractures per 1,000 for the U.S. (for 2000).

Total osteoporotic fractures in North Carolina in 2000 led to \$166 million charges for inpatient stays. Total medical costs in 2000 are projected to be \$455 million (54 percent are inpatient costs, 37 percent long-term facility costs, and 8 percent outpatient care costs). In 2000, costs per fracture more than double with increasing age (\$7,298 for 50-64 year-olds versus \$19,129 for persons age 85 and older).

In 2000, the average length of hospital stay for osteoporotic fractures was 6.1 days – ranging from 6.9 days on average for a hip fracture, 6.0 days for a vertebral fracture, to 3.2 days for forearm/wrist fractures.

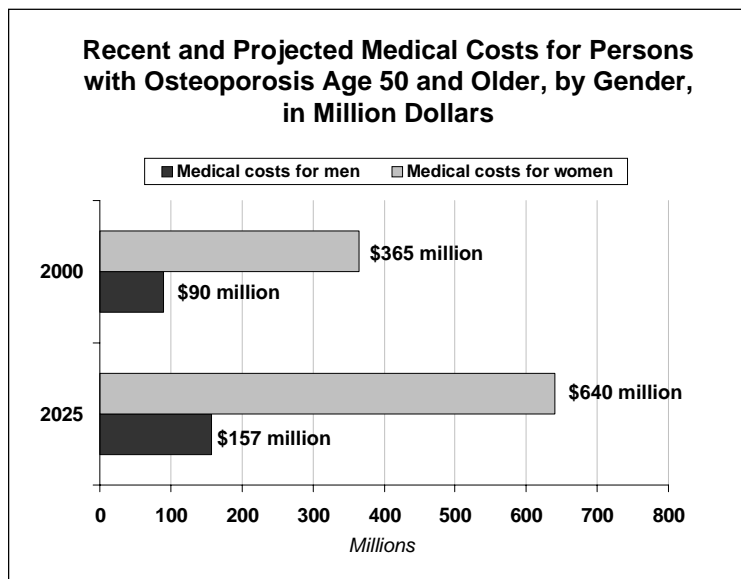
More than half of the hip fracture hospital discharges (55 percent), and about one-third of the vertebral fracture discharges (32 percent) were transferred to a long-term care facility after acute care in the hospital.

Patients age 65 and older account for about 81 percent of the total hospitalized osteoporotic fractures, and about 89 percent of the total medical costs of osteoporosis. The higher the age group, the higher the percentage of long-term care costs in relation to inpatient care costs (22 percent long-term care/69 percent inpatient care for 50-64 year-olds versus 43 percent long-term care/49 percent inpatient care for persons age 85 and older).

### Projections:

1.27 million people in North Carolina were estimated to have osteoporosis or low bone mass (osteopenia) in 2002. As a result of growth of the senior population, the number is expected to increase to 1.59 million people in 2010 (25 percent increase from 2002), and to 1.94 million in 2020 (53 percent increase).

Total osteoporotic fractures are projected to increase from 34,355 in 2000 to 43,380 in 2010 (increase of 26 percent from 2000) and to 60,547 in 2025 (increase of 76 percent). Hip fractures will rise by 75 percent and vertebral fractures by 78 percent by 2025.



Total medical costs for osteoporosis are projected to increase from \$455 million in 2000 to \$514 million in 2005 (increase of 13 percent from 2000), to \$572 million in 2010 (increase of 26 percent), and to \$797 million in 2025 (increase of 75 percent).

There is a projected increase in medical costs for osteoporosis from \$365 million in 2000 to \$640 million in 2025 for women, and from \$90 million in 2000 to \$157 million in 2025 for men. Women account for 80 percent of total osteoporosis costs and 91 percent of total fractures.

Hip fractures account for the majority of costs, but vertebral fractures are much more common and are less likely to result in hospitalization (50 percent of osteoporotic fractures are vertebral fractures). One in five women with a vertebral fracture will have a fracture again within a year, but only a third to half of the vertebral fractures come to clinical attention.

**Note:** The table on osteoporosis hospitalizations in Appendix A4 provides supplemental information to the data presented here. The information in this Appendix is not directly comparable to the data presented in this section for at least two reasons: 1) It covers the three-year time period 1999-2001, and 2) It includes hospitalizations for any diagnosis of osteoporosis (not just the primary diagnosis).

## Conclusion

The leading causes of death among persons age 50 and older during 1999-2001 were heart disease, cancer, diabetes (as a contributing condition), stroke, and chronic respiratory disease. The leading causes of hospitalization among older persons during 1999-2001 were diabetes, heart disease, other unintentional injuries, cancer, and stroke. Keep in mind that the data for diabetes include records with any diagnosis of diabetes, whereas the data for the other causes are based on primary diagnosis. Therefore, many of the diabetes records are also counted among the other records. Nevertheless, diabetes is a major cause of death and hospitalization among older persons in North Carolina.

Health education, health screening, and other prevention programs are extremely important to reduce hospitalizations and other costly medical treatments, and to lower the level of disability later in life.

We hope that the data in this report will be a resource for health and aging professionals in North Carolina as they prioritize the health issues of older persons and formulate appropriate health services and policies.

## References

1. State Center for Health Statistics. *Health risks among North Carolina adults: 1999. A report from the Behavioral Risk Factor Surveillance System*. State Center for Health Statistics, North Carolina Division of Public Health, May 2001.
2. Buescher, PA. Problems with rates based on small numbers. *Statistical Primer*, No. 12, State Center for Health Statistics, April 1997.  
(Available at <http://www.schs.state.nc.us/SCHS/pubs/title.cfm?year=1997>)
3. Buescher PA, Gizlice Z. Healthy life expectancy in North Carolina, 1996-2000. *SCHS Studies*, No. 129, State Center for Health Statistics, North Carolina Division of Public Health, January 2002. (Available at <http://www.schs.state.nc.us/SCHS/pubs/title.cfm?year=2002>)
4. NC Division of Aging. *The Aging of North Carolina: 2003-2007 State Aging Services Plan*, North Carolina Division of Aging, March 2003. (Available at <http://www.dhhs.state.nc.us/aging/plan.htm>)
5. Much of the information in this section is drawn from the following two sources: King AB. *The human and economic costs of osteoporosis in North Carolina*, Procter and Gamble Pharmaceuticals, 2002. Borisov NN, Balda E, King AB. *The cost of osteoporosis in North Carolina: Projections for 2000-2025*, Procter and Gamble Pharmaceuticals, 2002.



# **Appendix 1: BRFSS Data**

Note: In these tables of BRFSS data, “N” refers to the number of respondents in the random survey sample who reported the particular response. These are unweighted numbers, i.e., they do not reflect the numbers of people in the general North Carolina population. These numbers may be used as a guide to the statistical reliability of the associated weighted percentages. Any percentage based on a number (numerator) less than 20 should be regarded with caution.

**North Carolina BRFSS:  
General Health Status – 1997-2001**

Race, Sex, and Age Groups	General Health Status								TOTAL
	Excellent		Very Good		Good		Fair/Poor		
	N	%	N	%	N	%	N	%	
White Male – 50-64	241	17.9	364	28.8	385	32.3	255	21.0	1,245
White Male – 65+	128	12.4	245	23.8	293	28.9	338	34.9	1,004
White Female – 50-64	334	19.4	519	29.6	492	29.3	372	21.7	1,717
White Female – 65+	209	11.0	467	25.3	616	29.6	697	34.1	1,989
Other Male – 50-64	38	14.8	56	21.1	74	29.7	88	34.4	256
Other Male – 65+	14	8.1	26	15.4	54	32.1	76	44.3	170
Other Female – 50-64	39	7.6	85	18.1	189	37.5	172	36.7	485
Other Female – 65+	15	4.2	61	15.8	127	30.7	213	49.3	416
<b>TOTAL</b>	<b>1,018</b>	<b>14.1</b>	<b>1,823</b>	<b>25.5</b>	<b>2,230</b>	<b>30.6</b>	<b>2,211</b>	<b>29.8</b>	<b>7,282</b>

**North Carolina BRFSS:  
More Than a Week Poor Physical Health in the Last Month  
1997-2001**

Race, Sex, and Age Groups	More Than a Week Poor Physical Health in the Last Month				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	167	13.5	1071	86.5	1,238
White Male – 65+	207	20.5	786	79.5	993
White Female – 50-64	325	19.4	1,360	80.6	1,685
White Female – 65+	480	25.5	1,438	74.5	1,918
Other Male – 50-64	48	21.6	203	78.4	251
Other Male – 65+	42	24.1	120	75.9	162
Other Female – 50-64	93	18.4	378	81.6	471
Other Female – 65+	121	30.9	266	69.1	387
<b>TOTAL</b>	<b>1,483</b>	<b>20.3</b>	<b>5,622</b>	<b>79.7</b>	<b>7,105</b>

**North Carolina BRFSS:  
More Than a Week Activity Limitation due to Poor Health in the  
Last Month – 1997-2001**

Race, Sex, and Age Groups	More Than a Week Activity Limitation due to Poor Health				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	110	9.8	1,132	90.2	1,242
White Male – 65+	127	14.2	875	85.8	1,002
White Female – 50-64	184	11.0	1,529	89.0	1,713
White Female – 65+	253	13.1	1,713	86.9	1,966
Other Male – 50-64	43	19.2	212	80.8	255
Other Male – 65+	20	10.9	150	89.1	170
Other Female – 50-64	61	11.7	420	88.3	481
Other Female – 65+	75	18.4	334	81.6	409
<b>TOTAL</b>	<b>873</b>	<b>12.5</b>	<b>6,365</b>	<b>87.5</b>	<b>7,238</b>

**North Carolina BRFSS:  
Routine Checkup – 1997-2001**

Race, Sex, and Age Groups	Checkup in the Last Year				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	574	74.1	215	25.9	789
White Male – 65+	572	86.9	85	13.1	657
White Female – 50-64	881	82.9	117	17.1	1,058
White Female – 65+	1,163	86.9	157	13.1	1,320
Other Male – 50-64	141	78.2	35	21.8	176
Other Male – 65+	110	92.2	10	7.8	120
Other Female – 50-64	276	87.2	35	12.8	311
Other Female – 65+	261	90.6	24	9.4	285
<b>TOTAL</b>	<b>3,978</b>	<b>83.2</b>	<b>738</b>	<b>16.8</b>	<b>4,716</b>

**North Carolina BRFSS:  
There Was a Time Could not See a Doctor Due to Medical Cost  
1997-2001**

Race, Sex, and Age Groups	Time Could not See Doctor Due to Cost in the Last Year				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	108	9.1	1,126	90.9	1,234
White Male – 65+	48	4.4	949	95.6	997
White Female – 50-64	192	12.2	1,511	87.8	1,703
White Female – 65+	104	4.8	1,860	95.2	1,964
Other Male – 50-64	31	11.6	222	88.4	253
Other Male – 65+	23	11.5	145	88.5	168
Other Female – 50-64	90	18.4	386	81.6	476
Other Female – 65+	60	17.2	351	82.8	411
<b>TOTAL</b>	<b>656</b>	<b>9.1</b>	<b>6,550</b>	<b>90.9</b>	<b>7,206</b>

**North Carolina BRFSS:  
Current Smoker – 1997-2001**

Race, Sex, and Age Groups	Current Smoker				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	340	25.9	904	74.1	1,244
White Male – 65+	117	11.0	887	89.0	1,004
White Female – 50-64	401	23.0	1,316	77.0	1,717
White Female – 65+	239	11.7	1,747	88.3	1,986
Other Male – 50-64	87	30.7	167	69.3	254
Other Male – 65+	33	17.9	137	82.1	170
Other Female – 50-64	88	19.5	395	80.5	483
Other Female – 65+	33	7.2	382	92.8	415
<b>TOTAL</b>	<b>1,338</b>	<b>18.4</b>	<b>5,935</b>	<b>81.6</b>	<b>7,273</b>

**North Carolina BRFSS:  
Overweight/Obese – 1997-2001**

Race, Sex, and Age Groups	Overweight or Obese				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	911	76.0	320	24.0	1,231
White Male – 65+	614	64.3	380	35.7	994
White Female – 50-64	853	53.3	750	46.7	1,603
White Female – 65+	911	49.0	956	51.0	1,867
Other Male – 50-64	187	74.1	64	25.9	251
Other Male – 65+	103	64.3	61	35.7	164
Other Female – 50-64	330	72.2	115	27.8	445
Other Female – 65+	250	66.1	114	33.9	364
<b>TOTAL</b>	<b>4,159</b>	<b>62.0</b>	<b>2,760</b>	<b>38.0</b>	<b>6,919</b>

**North Carolina BRFSS:  
Any Leisure Time Physical Activity – 1997-2001**

Race, Sex, and Age Groups	Any Leisure Time Physical Activity				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	701	79.1	121	20.9	822
White Male – 65+	559	78.3	109	21.7	668
White Female – 50-64	1,023	79.9	172	20.1	1,195
White Female – 65+	1,043	75.7	235	24.3	1,278
Other Male – 50-64	120	71.2	38	28.8	158
Other Male – 65+	76	68.5	31	31.5	107
Other Female – 50-64	247	69.2	77	30.8	324
Other Female – 65+	189	67.0	70	33.0	259
<b>TOTAL</b>	<b>3,958</b>	<b>76.6</b>	<b>853</b>	<b>23.4</b>	<b>4,811</b>

**North Carolina BRFSS:  
Blood Pressure Checked by a Professional in the Last 2 Years  
1997-2001**

Race, Sex, and Age Groups	Blood Pressure Checked by a Professional in the Last 2 Years				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	818	95.5	34	4.5	852
White Male – 65+	655	97.6	16	2.4	671
White Female – 50-64	1,138	97.4	24	2.6	1,162
White Female – 65+	1,317	98.5	18	1.5	1,335
Other Male – 50-64	162	95.3	7	4.7	169
Other Male – 65+	107	97.8	3	2.2	110
Other Female – 50-64	316	97.6	6	2.4	322
Other Female – 65+	271	97.9	4	2.1	275
<b>TOTAL</b>	<b>4,784</b>	<b>97.2</b>	<b>112</b>	<b>2.8</b>	<b>4,896</b>

**North Carolina BRFSS:  
Cholesterol Checked in the Last 5 Years – 1997, 1998, 1999, 2001**

Race, Sex, and Age Groups	Cholesterol Checked in 5 Years				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	746	85.8	112	14.2	858
White Male – 65+	603	92.2	55	7.8	658
White Female – 50-64	1,059	90.1	108	9.9	1,167
White Female – 65+	1,208	91.0	105	9.0	1,313
Other Male – 50-64	138	84.5	26	15.5	164
Other Male – 65+	89	77.4	22	22.6	111
Other Female – 50-64	292	89.3	35	10.7	327
Other Female – 65+	225	83.5	37	16.5	262
<b>TOTAL</b>	<b>4,360</b>	<b>88.7</b>	<b>500</b>	<b>11.3</b>	<b>4,860</b>

**North Carolina BRFSS:  
Ever Told that Blood Pressure was High  
1997, 1999, 2001**

*(Hypertension question was asked of everyone in 2001, not just those who had BP checked)*

Race, Sex, and Age Groups	Ever Told Blood Pressure High				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	147	23.6	725	76.4	872
White Male – 65+	130	26.1	554	73.9	684
White Female – 50-64	189	22.8	995	77.2	1,184
White Female – 65+	329	29.1	1,048	70.9	1,377
Other Male – 50-64	43	28.2	130	71.8	173
Other Male – 65+	28	28.8	88	71.2	116
Other Female – 50-64	87	36.0	247	64.0	334
Other Female – 65+	100	38.2	184	61.8	284
<b>TOTAL</b>	<b>1,053</b>	<b>26.8</b>	<b>3,971</b>	<b>73.2</b>	<b>5,024</b>

**North Carolina BRFSS:  
Ever Told that Cholesterol was High  
1997, 1999, 2001**

Race, Sex, and Age Groups	Ever Told Cholesterol High				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	314	36.9	522	63.1	836
White Male – 65+	256	40.1	406	59.9	662
White Female – 50-64	451	39.8	686	60.2	1,137
White Female – 65+	576	43.6	752	56.4	1,328
Other Male – 50-64	54	34.2	109	65.8	163
Other Male – 65+	37	34.2	109	65.8	163
Other Female – 50-64	121	37.1	201	62.9	322
Other Female – 65+	107	41.0	159	59.0	266
<b>TOTAL</b>	<b>1,916</b>	<b>39.6</b>	<b>2902</b>	<b>60.4</b>	<b>4,818</b>

**North Carolina BRFSS:  
Had Mammogram and Clinical Breast Exam in the Last 2 Years  
1997-2000**

Race, Sex, and Age Groups	Had Mammogram and Clinical Breast Exam in Last 2 Years				TOTAL
	Yes		No		
	N	%	N	%	
White Female – 50-64	827	78.9	226	21.2	1,053
White Female – 65+	887	69.8	408	30.2	295
Other Female – 50-64	236	78.4	70	21.6	306
Other Female – 65+	192	67.2	88	32.8	280
<b>TOTAL</b>	<b>2,142</b>	<b>74.0</b>	<b>792</b>	<b>26.0</b>	<b>2,934</b>

**North Carolina BRFSS:  
Had Pap Smear in the Last 3 Years  
1997-2000**

Race, Sex, and Age Groups	Had Pap Smear in the Last 3 Years				TOTAL
	Yes		No		
	N	%	N	%	
White Female – 50-64	501	86.2	81	13.8	582
White Female – 65+	499	79.3	148	20.7	647
Other Female – 50-64	143	91.5	13	8.5	156
Other Female – 65+	117	72.5	43	27.5	160
<b>TOTAL</b>	<b>1,260</b>	<b>82.7</b>	<b>285</b>	<b>17.3</b>	<b>1,545</b>



**North Carolina BRFSS:  
Had Digital Rectal Exam in the Last Year  
1998, and 2001**

Race, Sex, and Age Groups	Had Digital Rectal Exam in the Last Year				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	249	55.0	186	45.0	435
White Male – 65+	214	64.2	117	35.8	331
Other Male – 50-64	37	57.1	34	42.9	71
Other Male – 65+	23	31.9	25	68.1	48
<b>TOTAL</b>	<b>523</b>	<b>57.0</b>	<b>362</b>	<b>43.0</b>	<b>885</b>

**North Carolina BRFSS:  
Ever had Sigmoidoscopy/Colonoscopy  
1997, 1998, 1999, 2001**

Race, Sex, and Age Groups	Ever Had Sigmoidoscopy/Colonoscopy				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	396	34.8	621	65.2	1,017
White Male – 65+	430	52.8	375	47.2	805
White Female – 50-64	539	36.2	859	63.8	1,398
White Female – 65+	774	48.0	799	52.0	1,573
Other Male – 50-64	83	40.9	114	59.1	197
Other Male – 65+	60	42.9	78	57.1	138
Other Female – 50-64	139	35.6	240	64.4	379
Other Female – 65+	125	37.3	195	62.7	320
<b>TOTAL</b>	<b>2,546</b>	<b>41.6</b>	<b>3,281</b>	<b>58.4</b>	<b>5,827</b>

**North Carolina BRFSS:  
Had Flu Shot within the Last Year  
1997, 1999, 2000, 2001**

Race, Sex, and Age Groups	Had Flu Shot within the Last Year				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	366	31.8	718	68.2	1,084
White Male – 65+	565	66.9	286	33.1	851
White Female – 50-64	603	39.5	879	60.5	1,482
White Female – 65+	1,171	68.9	531	31.1	1,702
Other Male – 50-64	78	35.5	146	64.5	224
Other Male – 65+	63	47.0	75	53.0	138
Other Female – 50-64	128	31.7	297	68.3	425
Other Female – 65+	187	51.0	172	49.0	359
<b>TOTAL</b>	<b>3,161</b>	<b>48.9</b>	<b>3,104</b>	<b>51.1</b>	<b>6,265</b>

**North Carolina BRFSS:  
Ever Had a Pneumonia Shot  
1997, 1999, 2000, 2001**

Race, Sex, and Age Groups	Ever Had a Pneumonia Shot				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	182	15.0	873	85.0	1,055
White Male – 65+	504	60.8	328	39.2	832
White Female – 50-64	288	19.8	1,177	80.2	1,465
White Female – 65+	1,084	62.5	604	37.5	1,688
Other Male – 50-64	46	21.6	172	78.4	218
Other Male – 65+	48	39.9	87	60.1	135
Other Female – 50-64	71	18.5	343	81.5	414
Other Female – 65+	151	41.1	198	58.9	349
<b>TOTAL</b>	<b>2,374</b>	<b>36.5</b>	<b>3,782</b>	<b>63.5</b>	<b>6,156</b>

**North Carolina BRFSS:  
Ever Diagnosed with Diabetes  
1997-2001**

Race, Sex, and Age Groups	Ever Diagnosed with Diabetes				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	113	8.5	1,135	91.5	1,248
White Male – 65+	146	14.9	861	85.1	1,007
White Female – 50-64	151	8.9	1,570	91.1	1,721
White Female – 65+	235	11.6	1,760	88.4	1,995
Other Male – 50-64	49	20.1	206	79.9	255
Other Male – 65+	34	19.1	139	80.9	173
Other Female – 50-64	113	22.5	372	77.5	485
Other Female – 65+	100	20.9	316	79.1	416
<b>TOTAL</b>	<b>941</b>	<b>12.5</b>	<b>6,359</b>	<b>87.5</b>	<b>7,300</b>

**North Carolina BRFSS:  
Diagnosed with Arthritis – 1998, 2000-2001**

Race, Sex, and Age Groups	Diagnosed with Arthritis				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	246	31.0	569	69.0	815
White Male – 65+	263	39.0	400	61.0	663
White Female – 50-64	484	41.9	704	58.1	1,188
White Female – 65+	733	58.6	517	41.4	1,250
Other Male – 50-64	51	33.6	105	66.4	156
Other Male – 65+	48	46.9	55	53.1	103
Other Female – 50-64	151	46.1	166	53.9	317
Other Female – 65+	172	64.9	82	35.1	254
<b>TOTAL</b>	<b>2,148</b>	<b>44.0</b>	<b>2,598</b>	<b>56.0</b>	<b>4,746</b>

**North Carolina BRFSS:  
More Than a Week Poor Mental Health in the Last Month  
1997-2001**

Race, Sex, and Age Groups	More Than a Week Poor Mental Health in the Last Month				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	97	8.3	1137	91.7	1,234
White Male – 65+	64	6.1	921	93.9	985
White Female – 50-64	230	12.9	1461	87.1	1,691
White Female – 65+	169	9.1	1762	90.9	1,931
Other Male – 50-64	25	11.4	226	88.6	251
Other Male – 65+	13	5.4	155	94.6	168
Other Female – 50-64	70	13.3	406	86.7	476
Other Female – 65+	40	11.1	361	88.9	401
<b>TOTAL</b>	<b>708</b>	<b>9.6</b>	<b>6,429</b>	<b>90.4</b>	<b>7,137</b>

**North Carolina BRFSS:  
Frequency of Receiving Emotional Support – 1998-2001**

Race, Sex, and Age Groups	Received Emotional Support				TOTAL
	Sometimes or More		Rarely or Never		
	N	%	N	%	
White Male – 50-64	670	92.9	57	7.1	727
White Male – 65+	540	89.2	64	10.8	604
White Female – 50-64	1,014	93.8	61	6.2	1,075
White Female – 65+	1,080	92.4	94	7.6	1,174
Other Male – 50-64	146	91.3	17	8.7	163
Other Male – 65+	86	86.1	15	13.9	101
Other Female – 50-64	260	91.5	26	8.5	286
Other Female – 65+	208	89.4	33	10.5	241
<b>TOTAL</b>	<b>4,004</b>	<b>91.9</b>	<b>367</b>	<b>8.1</b>	<b>4,371</b>

**North Carolina BRFSS:  
Satisfied with Life – 1998-2001**

Race, Sex, and Age Groups	Satisfied with Life				TOTAL
	Yes		No		
	N	%	N	%	
White Male – 50-64	707	95.8	33	4.2	740
White Male – 65+	589	95.0	25	5.0	614
White Female – 50-64	1,007	94.3	67	5.7	1,074
White Female – 65+	1,140	96.5	49	3.5	1,189
Other Male – 50-64	156	96.4	7	3.6	163
Other Male – 65+	99	98.1	3	1.9	102
Other Female – 50-64	271	95.2	15	4.8	286
Other Female – 65+	227	93.7	16	6.3	243
<b>TOTAL</b>	<b>4,196</b>	<b>95.5</b>	<b>215</b>	<b>4.5</b>	<b>4,411</b>

## **Appendix 2: Death Data**

**North Carolina Deaths and Death Rates – 1999-2001  
By Age, Race, and Sex**

Cause	Age	White Male Deaths	White Male Rate	White Female Deaths	White Female Rate	Minority Male Deaths	Minority Male Rate	Minority Female Deaths	Minority Female Rate	White Rate	Minority Rate	Male Rate	Female Rate	Total Deaths	Total Rate
ALZHEIMERS DISEASE	50-64	21	1.4	31	2.0	8	2.3	2	0.5	1.7	1.3	1.6	1.7	62	1.6
	65-74	129	21.3	204	27.9	18	15.4	31	17.6	24.9	16.7	20.3	25.9	382	23.4
	75-84	510	159.9	1,090	211.8	68	115.4	179	158.1	192.0	143.5	153.0	202.1	1,847	183.7
	85+	472	650.4	1,872	940.0	69	428.7	262	568.3	862.7	532.2	610.2	870.2	2,675	801.1
	TOTAL	1,132	46.0	3,197	107.0	163	30.3	474	63.3	79.5	49.5	43.2	98.2	4,966	73.8
CANCER	50-64	4,723	323.2	3,813	247.2	1,654	479.1	1,161	280.4	284.2	370.8	353.0	254.2	11,351	301.6
	65-74	6,131	1,012.4	4,635	633.5	1,548	1,323.3	1,173	667.3	805.1	929.4	1,062.8	640.1	13,487	827.4
	75-84	5,717	1,792.3	5,127	996.4	1,377	2,336.7	1,119	988.2	1,301.0	1,449.7	1,877.2	994.9	13,340	1,326.4
	85+	1,848	2,546.5	2,637	1,324.2	481	2,988.3	564	1,223.4	1,650.7	1,680.1	2,626.7	1,305.2	5,530	1,656.1
	TOTAL	18,419	749.2	16,212	542.6	5,060	941.9	4,017	536.2	635.9	705.6	783.7	541.3	43,708	649.2
STROKE	50-64	468	32.0	382	24.8	344	99.7	259	62.6	28.3	79.4	44.9	32.8	1,453	38.6
	65-74	978	161.5	891	121.8	377	322.3	377	214.5	139.8	257.6	187.5	139.7	2,623	160.9
	75-84	1,845	578.4	2,644	513.8	450	763.6	688	607.6	538.6	661.0	607.3	530.7	5,627	559.5
	85+	1,232	1,697.7	4,028	2,022.7	278	1,727.1	790	1,713.6	1,935.9	1,717.1	1,703.0	1,964.6	6,328	1,895.1
	TOTAL	4,523	184.0	7,945	265.9	1,449	269.7	2,114	282.2	228.9	277.0	199.3	269.2	16,031	238.1
CHRONIC RESPIRATORY DISEASE	50-64	569	38.9	575	37.3	159	46.1	74	17.9	84.4	218.0	131.6	92.7	1,377	36.6
	65-74	1,447	238.9	1,304	178.2	228	194.9	111	63.1	297.3	635.7	419.9	308.9	3,090	189.6
	75-84	1,865	584.7	1,788	347.5	310	526.1	130	114.8	638.4	1,139.6	853.9	646.1	4,093	407.0
	85+	754	1,039.0	1,018	511.2	116	720.7	86	186.5	1,096.0	1,651.2	1,301.5	1,162.5	1,974	591.2
	TOTAL	4,635	188.5	4,685	156.8	813	151.3	401	53.5	271.9	505.7	326.9	308.4	10,534	156.5
DIABETES (any mentioned cause)	50-64	1,520	104.0	1,015	65.8	857	248.3	798	192.7	84.4	218.0	131.6	92.7	4,190	111.3
	65-74	2,224	367.3	1,752	239.5	810	692.4	1,051	597.9	297.3	635.7	419.9	308.9	5,837	358.1
	75-84	2,555	801.0	2,766	537.5	672	1,140.4	1,290	1,139.2	638.4	1,139.6	853.9	646.1	7,283	724.2
	85+	878	1,209.9	2,100	1,054.5	276	1,714.7	751	1,629.0	1,096.0	1,651.2	1,301.5	1,162.5	4,005	1,199.4
	TOTAL	7,177	291.9	7,633	255.5	2,615	486.8	3,890	519.2	271.9	505.7	326.9	308.4	21,315	316.6
HEART DISEASE	50-64	4,183	286.2	1,625	105.4	1,497	433.7	905	218.6	193.4	316.4	314.4	129.3	8,210	218.2
	65-74	5,460	901.6	3,147	430.1	1,440	1,231.0	1,223	695.8	643.7	909.6	954.9	481.6	11,270	691.4
	75-84	7,246	2,271.7	7,299	1,418.5	1,324	2,246.8	1,908	1,684.9	1,745.0	1,877.2	2,267.8	1,466.6	17,777	1,767.6
	85+	4,180	5,760.0	10,207	5,125.6	739	4,591.2	1,941	4,210.2	5,295.0	4,308.8	5,547.8	4,953.5	17,067	5,111.3
	TOTAL	21,069	857.0	22,278	745.7	5,000	930.7	5,977	797.8	795.9	853.3	870.2	756.1	54,324	806.9

**North Carolina Deaths and Death Rates – 1999-2001  
By Age, Race, and Sex**

Cause	Age	White Male Deaths	White Male Rate	White Female Deaths	White Female Rate	Minority Male Deaths	Minority Male Rate	Minority Female Deaths	Minority Female Rate	White Rate	Minority Rate	Male Rate	Female Rate	Total Deaths	Total Rate
INFLUENZA AND PNEUMONIA	50-64	150	10.3	96	6.2	93	26.9	48	11.6	8.2	18.6	13.5	7.4	387	10.3
	65-74	256	42.3	228	31.2	95	81.2	67	38.1	36.2	55.3	48.6	32.5	646	39.6
	75-84	664	208.2	807	156.8	127	215.5	142	125.4	176.5	156.2	209.3	151.2	1,740	173.0
	85+	693	954.9	1,544	775.3	104	646.1	230	498.9	823.3	537.0	898.9	723.4	2,571	770.0
	TOTAL	1,763	71.7	2,675	89.5	419	78.0	487	65.0	81.5	70.4	72.8	84.6	5,344	79.4
MENTAL CONDITIONS	50-64	198	13.5	53	3.4	116	33.6	24	5.8	8.4	18.4	17.4	3.9	391	10.4
	65-74	156	25.8	132	18.0	75	64.1	43	24.5	21.5	40.3	32.0	19.3	406	24.9
	75-84	312	97.8	574	111.6	91	154.4	103	91.0	106.3	112.7	106.6	107.8	1,080	107.4
	85+	391	538.8	1,425	715.6	72	447.3	251	544.4	668.4	519.3	522.2	683.4	2,139	640.6
	TOTAL	1,057	43.0	2,184	73.1	354	65.9	421	56.2	59.5	60.2	47.1	69.7	4,016	59.6
MOTOR VEHICLE INJURIES	50-64	332	22.7	161	10.4	120	34.8	52	12.6	16.4	22.7	27.3	10.9	665	17.7
	65-74	179	29.6	101	13.8	42	35.9	31	17.6	20.9	24.9	38.8	14.5	353	21.7
	75-84	148	46.4	137	26.6	34	57.7	21	18.5	34.2	31.9	75.4	25.2	340	33.8
	85+	69	95.1	42	21.1	9	55.9	11	23.9	40.9	32.2	125.2	21.6	131	39.2
	TOTAL	728	29.6	441	14.8	205	38.2	115	15.4	21.5	24.9	39.0	14.9	1,489	22.1
OSTEOPOROSIS (any mentioned cause)	50-64	7	0.5	45	2.9	1	0.3	1	0.2	1.7	0.3	0.4	2.4	54	1.4
	65-74	18	3.0	112	15.3	2	1.7	5	2.8	9.7	2.4	2.8	12.9	137	8.4
	75-84	40	12.5	377	73.3	3	5.1	9	7.9	50.0	7.0	11.4	61.5	429	42.7
	85+	41	56.5	621	311.8	0	0.0	27	58.6	243.6	43.4	46.2	264.2	689	206.3
	TOTAL	106	4.3	1,155	38.7	6	1.1	42	5.6	23.2	3.7	3.7	32.0	1,309	19.4
OTHER UNINTENTIONAL INJURIES	50-64	333	22.8	163	10.6	152	44.0	37	8.9	16.5	24.9	26.8	10.2	685	18.2
	65-74	272	44.9	155	21.2	78	66.7	61	34.7	31.9	47.5	48.4	23.8	566	34.7
	75-84	395	123.8	393	76.4	75	127.3	61	53.9	94.5	79.0	124.4	72.3	924	91.9
	85+	285	392.7	575	288.7	41	254.7	72	156.2	316.5	181.7	367.7	263.8	973	291.4
	TOTAL	1,285	52.3	1,286	43.0	346	64.4	231	30.8	47.2	44.9	54.4	40.6	3,148	46.8
SUICIDE	50-64	356	24.4	148	9.6	30	8.7	7	1.7	16.8	4.9	21.4	7.9	541	14.4
	65-74	192	31.7	28	3.8	15	12.8	3	1.7	16.5	6.1	28.6	3.4	238	14.6
	75-84	146	45.8	22	4.3	5	8.5	2	1.8	20.2	4.1	40.0	3.8	175	17.4
	85+	45	62.0	8	4.0	1	6.2	1	2.2	19.5	3.2	51.9	3.7	55	16.5
	TOTAL	739	30.1	206	6.9	51	9.5	13	1.7	17.4	5.0	26.4	5.9	1,009	15.0



## **Appendix 3: Cancer Incidence Data**

**North Carolina New Cases of Cancer and Cancer Incidence Rates  
1997-1999  
By Age, Race, and Sex**

Cause	Age	White Male Cases	White Male Rate	White Female Cases	White Female Rate	Minority Male Cases	Minority Male Rate	Minority Female Cases	Minority Female Rate	Total Cases	Total Rate*
ALL CANCERS	50-64	11,895	882.3	11,486	804.1	3,240	1,060.8	2,559	689.2	29,180	845.0
	65-74	13,619	2,341.2	10,464	1,474.5	2,793	2,503.4	1,966	1,762.2	28,842	1,833.0
	75-84	8,275	2,817.0	8,147	1,685.4	1,493	2,644.2	1,488	1,376.4	19,403	2,060.4
	85+	1,506	2,360.0	2,532	1,403.4	347	2,364.2	521	1,266.5	4,906	1,635.1
	TOTAL	35,295	1,543.0	32,629	1,164.5	7,873	1,612.9	6,534	1,033.7	82,331	1,313.4
COLON/RECTUM	50-64	1,340	99.4	925	64.8	321	105.1	311	83.8	2,897	83.9
	65-74	1,372	235.9	1,241	174.9	232	207.9	299	268.0	3,144	199.8
	75-84	1,036	352.7	1,231	254.7	175	309.9	267	247.0	2,709	287.7
	85+	242	379.2	555	307.6	54	367.9	118	286.8	969	323.0
	TOTAL	3,990	174.4	3,952	141.0	782	160.2	995	157.4	9,719	155.0
LUNG/BRONCHUS	50-64	2,436	180.7	1,549	108.4	601	196.8	286	77.0	4,872	141.1
	65-74	3,018	518.8	1,908	268.9	576	516.3	261	233.9	5,763	366.3
	75-84	1,850	629.8	1,171	242.3	323	572.0	154	142.5	3,498	371.5
	85+	223	349.5	200	110.9	40	272.5	32	77.8	495	165.0
	TOTAL	7,527	329.1	4,828	172.3	1,540	315.5	733	116.0	14,628	233.4
FEMALE BREAST	50-64			4,996	349.8			1,047	282.0	6,043	335.8
	65-74			3,622	510.4			576	516.3	4,198	476.9
	75-84			2,379	492.2			409	378.3	2,788	471.4
	85+			602	333.7			120	291.7	722	325.9
	TOTAL			11,599	414.0			2,152	340.5	13,751	393.7
PROSTATE	50-64	3,398	252.1			1,219	399.1			4,617	279.2
	65-74	4,621	794.4			1,235	1,106.9			5,856	844.7
	75-84	2,163	736.3			550	974.1			2,713	774.7
	85+	319	499.9			121	824.4			440	560.6
	TOTAL	10,501	459.1			3,125	640.2			13,626	490.9

\* Note: For calculating the rates for female breast cancer and prostate cancer, female or male population respectively, was used in the denominator.

## **Appendix 4: Hospital Discharge Data**

**Alzheimer's Disease Hospitalizations: Primary Diagnosis.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	53	\$490,281	\$9,251	9.4	2.9
	Female	81	\$827,214	\$10,213	11.1	4.1
	All	134	\$1,317,496	\$9,832	10.4	3.6
65-74 Years	Male	301	\$3,246,310	\$10,785	11.4	41.7
	Female	365	\$3,824,414	\$10,478	11.0	40.2
	All	666	\$7,070,724	\$10,617	11.2	40.9
75-84 Years	Male	669	\$6,879,588	\$10,283	10.6	177.0
	Female	1,090	\$9,355,053	\$8,583	8.9	173.6
	All	1,759	\$16,234,640	\$9,229	9.6	174.9
85+ Years	Male	319	\$2,979,053	\$9,339	9.4	359.8
	Female	669	\$5,381,215	\$8,044	8.3	272.8
	All	988	\$8,360,268	\$8,462	8.7	295.9
All	Male	1,342	\$13,595,232	\$10,131	10.4	44.8
	Female	2,205	\$19,387,896	\$8,793	9.2	59.0
	All	3,547	\$32,983,129	\$9,299	9.7	52.7

**Arthritis Hospitalizations: Primary Diagnosis.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	7,164	\$121,916,745	\$17,032	4.2	396.5
	Female	10,340	\$184,341,727	\$17,831	4.5	528.5
	All	17,504	\$306,258,472	\$17,504	4.4	465.2
65-74 Years	Male	6,689	\$118,946,801	\$17,790	4.7	925.7
	Female	10,892	\$192,165,772	\$17,648	4.6	1,200.3
	All	17,581	\$311,112,573	\$17,702	4.6	1,078.6
75-84 Years	Male	3,853	\$68,104,192	\$17,680	5.3	1,019.6
	Female	8,322	\$138,776,328	\$16,678	4.9	1,325.6
	All	12,175	\$206,880,521	\$16,995	5.0	1,210.6
85+ Years	Male	581	\$8,245,625	\$14,192	5.9	655.3
	Female	1,844	\$23,686,429	\$12,845	5.5	751.9
	All	2,425	\$31,932,054	\$13,168	5.6	726.3
All	Male	18,287	\$317,213,363	\$17,356	4.6	610.4
	Female	31,398	\$538,970,257	\$17,169	4.7	840.2
	All	49,685	\$856,183,620	\$17,238	4.7	738.0

**Cancer Hospitalizations: Primary Diagnosis.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	16,755	\$300,087,743	\$17,915	6.8	927.4
	Female	14,291	\$231,509,856	\$16,204	6.7	730.5
	All	31,046	\$531,597,599	\$17,127	6.7	825.0
65-74 Years	Male	14,598	\$259,492,045	\$17,781	7.3	2,020.3
	Female	12,497	\$204,626,923	\$16,375	7.4	1,377.2
	All	27,095	\$464,118,968	\$17,132	7.3	1,662.3
75-84 Years	Male	9,077	\$153,822,614	\$16,948	7.9	2,402.0
	Female	9,854	\$154,844,316	\$15,715	7.8	1,569.6
	All	18,931	\$308,666,929	\$16,307	7.8	1,882.4
85+ Years	Male	2,053	\$29,332,646	\$14,288	7.4	2,315.4
	Female	3,188	\$44,527,041	\$13,967	7.7	1,300.0
	All	5,241	\$73,859,686	\$14,093	7.6	1,569.6
All	Male	42,483	\$742,735,048	\$17,487	7.2	1,418.1
	Female	39,830	\$635,508,135	\$15,958	7.2	1,065.9
	All	82,313	\$1,378,243,183	\$16,747	7.2	1,222.6

**Chronic Respiratory Disease Hospitalizations: Primary Diagnosis.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	8,332	\$77,215,349	\$9,271	4.9	461.2
	Female	13,584	\$112,680,963	\$8,296	5.0	694.3
	All	21,916	\$189,896,311	\$8,666	5.0	582.4
65-74 Years	Male	9,159	\$86,233,296	\$9,416	5.4	1,267.6
	Female	11,524	\$103,066,428	\$8,944	5.6	1,270.0
	All	20,683	\$189,299,723	\$9,153	5.5	1,268.9
75-84 Years	Male	6,683	\$61,962,754	\$9,272	5.7	1,768.5
	Female	8,699	\$76,647,841	\$8,811	5.9	1,385.6
	All	15,382	\$138,610,595	\$9,011	5.8	1,529.5
85+ Years	Male	1,448	\$12,479,601	\$8,619	5.8	1,633.1
	Female	2,656	\$21,683,208	\$8,164	5.8	1,083.0
	All	4,104	\$34,162,809	\$8,324	5.8	1,229.1
All	Male	25,622	\$237,890,999	\$9,286	5.3	855.3
	Female	36,463	\$314,078,440	\$8,614	5.5	975.8
	All	62,085	\$551,969,438	\$8,891	5.4	922.1

**Diabetes Hospitalizations: Any Diagnosis.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	63,398	\$862,092,850	\$13,602	5.4	3,509.1
	Female	67,677	\$834,279,103	\$12,330	5.6	3,459.2
	All	131,075	\$1,696,371,953	\$12,945	5.5	3,483.2
65-74 Years	Male	53,882	\$723,336,651	\$13,428	5.8	7,457.2
	Female	64,490	\$805,781,252	\$12,496	6.0	7,107.0
	All	118,372	\$1,529,117,903	\$12,920	5.9	7,262.2
75-84 Years	Male	36,324	\$453,828,718	\$12,496	6.2	9,612.1
	Female	57,620	\$655,705,591	\$11,381	6.3	9,178.1
	All	93,944	\$1,109,534,310	\$11,812	6.2	9,341.2
85+ Years	Male	7,824	\$80,780,954	\$10,329	6.4	8,824.1
	Female	19,958	\$192,186,678	\$9,631	6.2	8,138.1
	All	27,782	\$272,967,632	\$9,827	6.2	8,320.3
All	Male	161,428	\$2,120,039,174	\$13,136	5.8	5,388.5
	Female	209,745	\$2,487,952,623	\$11,864	6.0	5,612.8
	All	371,173	\$4,607,991,797	\$12,417	5.9	5,513.0

**Heart Disease Hospitalizations: Primary Diagnosis.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	59,741	\$1,131,432,636	\$18,944	4.4	3,306.7
	Female	35,646	\$561,325,853	\$15,750	4.6	1,822.0
	All	95,387	\$1,692,758,488	\$17,751	4.5	2,534.8
65-74 Years	Male	49,605	\$923,274,968	\$18,617	5.0	6,865.2
	Female	42,539	\$680,666,917	\$16,003	5.2	4,687.9
	All	92,144	\$1,603,941,885	\$17,410	5.1	5,653.1
75-84 Years	Male	36,891	\$614,203,199	\$16,650	5.5	9,762.2
	Female	48,852	\$677,676,026	\$13,874	5.5	7,781.5
	All	85,743	\$1,291,879,225	\$15,069	5.5	8,525.8
85+ Years	Male	9,589	\$110,827,419	\$11,559	5.4	10,814.7
	Female	23,920	\$238,412,514	\$9,968	5.4	9,753.7
	All	33,509	\$349,239,933	\$10,424	5.4	10,035.4
All	Male	155,826	\$2,779,738,222	\$17,843	4.9	5,201.5
	Female	150,957	\$2,158,081,309	\$14,298	5.2	4,039.7
	All	306,783	\$4,937,819,531	\$16,098	5.0	4,556.6

**Hip Fracture Hospitalizations: Any Diagnosis.**  
**Number of Discharges, Total Charges, Average Charges, Average Length of Stay,**  
**and Discharge Rate (per 100,000 population) by Age and Sex**  
**1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	391	\$7,403,339	\$18,983	9.0	21.6
	Female	607	\$11,623,183	\$19,149	8.7	31.0
	All	998	\$19,026,522	\$19,084	8.8	26.5
65-74 Years	Male	440	\$7,637,553	\$17,437	8.3	60.9
	Female	1,139	\$19,333,163	\$16,989	8.5	125.5
	All	1,579	\$26,970,715	\$17,113	8.4	96.9
75-84 Years	Male	868	\$15,122,893	\$17,423	9.3	229.7
	Female	2,691	\$42,657,608	\$15,858	8.2	428.6
	All	3,559	\$57,780,501	\$16,240	8.4	353.9
85+ Years	Male	507	\$8,154,670	\$16,084	8.6	571.8
	Female	2,011	\$28,793,693	\$14,318	7.8	820.0
	All	2,518	\$36,948,362	\$14,674	8.0	754.1
All	Male	2,206	\$38,318,454	\$17,394	8.9	73.6
	Female	6,448	\$102,407,646	\$15,887	8.2	172.6
	All	8,654	\$140,726,100	\$16,271	8.3	128.5

**Mental Health Hospitalizations: Primary Diagnosis.**  
**Number of Discharges, Total Charges, Average Charges, Average Length of Stay,**  
**and Discharge Rate (per 100,000 population) by Age and Sex**  
**1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	10,950	\$71,522,841	\$6,533	7.0	606.1
	Female	11,041	\$80,375,118	\$7,282	8.2	564.3
	All	21,991	\$151,897,960	\$6,909	7.6	584.4
65-74 Years	Male	3,720	\$30,826,453	\$8,291	8.6	514.8
	Female	5,230	\$47,528,818	\$9,089	9.9	576.4
	All	8,950	\$78,355,272	\$8,758	9.3	549.1
75-84 Years	Male	2,358	\$21,137,174	\$8,968	9.0	624.0
	Female	4,464	\$40,302,389	\$9,032	9.7	711.1
	All	6,822	\$61,439,562	\$9,010	9.4	678.3
85+ Years	Male	739	\$6,236,018	\$8,438	8.4	833.5
	Female	1,831	\$14,542,838	\$7,943	8.3	746.6
	All	2,570	\$20,778,855	\$8,085	8.3	769.7
All	Male	17,767	\$129,722,486	\$7,303	7.7	593.1
	Female	22,566	\$182,749,163	\$8,101	8.9	603.9
	All	40,333	\$312,471,649	\$7,750	8.3	599.1

**Motor Vehicle Injury Hospitalizations: ICD-9 Codes E810-E825.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	1,784	\$47,867,652	\$26,832	8.5	98.7
	Female	1,418	\$27,979,439	\$19,759	7.0	72.5
	All	3,202	\$75,847,091	\$23,702	7.8	85.1
65-74 Years	Male	840	\$22,713,328	\$27,040	9.5	116.3
	Female	948	\$20,150,617	\$21,278	7.7	104.5
	All	1,788	\$42,863,945	\$23,987	8.5	109.7
75-84 Years	Male	666	\$15,076,010	\$22,637	8.2	176.2
	Female	935	\$17,073,937	\$18,280	7.7	148.9
	All	1,601	\$32,149,947	\$20,094	7.9	159.2
85+ Years	Male	178	\$4,127,057	\$23,186	6.8	200.8
	Female	247	\$4,151,703	\$16,809	7.1	100.7
	All	425	\$8,278,760	\$19,479	7.0	127.3
All	Male	3,468	\$89,784,046	\$25,889	8.6	115.8
	Female	3,548	\$69,355,696	\$19,570	7.3	95.0
	All	7,016	\$159,139,742	\$22,695	8.0	104.2

**Osteoporosis Hospitalizations: Any Diagnosis.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	2,916	\$44,169,860	\$15,153	5.7	161.4
	Female	8,435	\$104,541,003	\$12,395	5.6	431.1
	All	11,351	\$148,710,863	\$13,103	5.6	301.6
65-74 Years	Male	2,630	\$37,371,846	\$14,215	6.6	364.0
	Female	14,343	\$163,764,441	\$11,421	5.8	1,580.7
	All	16,973	\$201,136,287	\$11,854	5.9	1,041.3
75-84 Years	Male	2,765	\$36,240,363	\$13,116	7.0	731.7
	Female	23,193	\$241,157,615	\$10,398	6.0	3,694.4
	All	25,958	\$277,397,978	\$10,688	6.1	2,581.1
85+ Years	Male	1,234	\$12,583,648	\$10,197	6.4	1,391.7
	Female	15,226	\$138,270,687	\$9,082	6.0	6,208.6
	All	16,460	\$150,854,335	\$9,165	6.0	4,929.5
All	Male	9,545	\$130,365,717	\$13,664	6.4	318.6
	Female	61,197	\$647,733,745	\$10,586	5.9	1,637.7
	All	70,742	\$778,099,463	\$11,001	6.0	1,050.7



**Other Unintentional Injury Hospitalizations: ICD-9 Codes E800-E809, E926-E949.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	31,664	\$631,982,318	\$19,963	7.3	1,752.6
	Female	32,434	\$554,341,244	\$17,096	7.1	1,657.8
	All	64,098	\$1,186,323,562	\$18,512	7.1	1,703.3
65-74 Years	Male	26,716	\$527,287,818	\$19,742	7.7	3,697.4
	Female	33,215	\$554,081,530	\$16,685	7.3	3,660.4
	All	59,931	\$1,081,369,349	\$18,047	7.5	3,676.8
75-84 Years	Male	22,654	\$411,521,392	\$18,167	8.0	5,994.7
	Female	41,374	\$606,341,182	\$14,656	7.3	6,590.4
	All	64,028	\$1,017,862,575	\$15,898	7.5	6,366.6
85+ Years	Male	7,541	\$106,418,255	\$14,114	7.5	8,505.0
	Female	24,672	\$295,939,650	\$11,995	6.9	10,060.3
	All	32,213	\$402,357,905	\$12,491	7.0	9,647.3
All	Male	88,575	\$1,677,209,784	\$18,939	7.6	2,956.6
	Female	131,695	\$2,010,703,606	\$15,270	7.2	3,524.2
	All	220,270	\$3,687,913,390	\$16,745	7.3	3,271.7

**Pneumonia and Influenza Hospitalizations: Primary Diagnosis.  
Number of Discharges, Total Charges, Average Charges, Average Length of Stay,  
and Discharge Rate (per 100,000 population) by Age and Sex  
1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	8,429	\$103,784,838	\$12,316	6.2	466.5
	Female	8,646	\$98,405,550	\$11,383	6.1	441.9
	All	17,075	\$202,190,388	\$11,843	6.2	453.8
65-74 Years	Male	9,839	\$120,001,373	\$12,199	6.7	1,361.7
	Female	9,275	\$105,573,951	\$11,385	6.6	1,022.1
	All	19,114	\$225,575,324	\$11,804	6.6	1,172.7
75-84 Years	Male	11,145	\$132,999,029	\$11,937	7.0	2,949.2
	Female	12,595	\$144,409,493	\$11,467	7.1	2,006.2
	All	23,740	\$277,408,522	\$11,688	7.0	2,360.6
85+ Years	Male	4,935	\$52,600,052	\$10,661	7.0	5,565.8
	Female	9,783	\$97,248,351	\$9,944	7.0	3,989.1
	All	14,718	\$149,848,402	\$10,184	7.0	4,407.8
All	Male	34,348	\$409,385,292	\$11,922	6.7	1,146.5
	Female	40,299	\$445,637,345	\$11,060	6.8	1,078.4
	All	74,647	\$855,022,637	\$11,457	6.7	1,108.7

**Stroke Hospitalizations: Primary Diagnosis.**  
**Number of Discharges, Total Charges, Average Charges, Average Length of Stay,**  
**and Discharge Rate (per 100,000 population) by Age and Sex**  
**1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	9,841	\$122,431,460	\$12,445	5.3	544.7
	Female	8,417	\$99,604,996	\$11,837	5.2	430.2
	All	18,258	\$222,036,456	\$12,164	5.3	485.2
65-74 Years	Male	11,477	\$135,022,744	\$11,765	5.2	1,588.4
	Female	11,135	\$126,889,375	\$11,398	5.5	1,227.1
	All	22,612	\$261,912,119	\$11,584	5.3	1,387.3
75-84 Years	Male	9,947	\$114,034,806	\$11,465	5.8	2,632.2
	Female	14,719	\$153,901,612	\$10,457	5.9	2,344.6
	All	24,666	\$267,936,418	\$10,864	5.9	2,452.6
85+ Years	Male	3,033	\$30,326,173	\$10,005	6.2	3,420.7
	Female	8,279	\$74,089,913	\$8,951	6.2	3,375.9
	All	11,312	\$104,416,086	\$9,234	6.2	3,387.8
All	Male	34,298	\$401,815,183	\$11,717	5.5	1,144.9
	Female	42,550	\$454,485,895	\$10,683	5.7	1,138.7
	All	76,848	\$856,301,078	\$11,145	5.6	1,141.4

**Suicide Hospitalizations: ICD-9 Codes E950-E959.**  
**Number of Discharges, Total Charges, Average Charges, Average Length of Stay,**  
**and Discharge Rate (per 100,000 population) by Age and Sex**  
**1999-2001 North Carolina Hospital Discharge Data**

Age Group	Gender	Total Discharges	Charges		Average Length of Stay in Days	Discharge Rate
			Total Charges	Average Charge per Discharge		
50-64 Years	Male	483	\$4,413,361	\$9,156	4.4	26.7
	Female	740	\$5,362,210	\$7,246	3.8	37.8
	All	1,223	\$9,775,571	\$8,000	4.0	32.5
65-74 Years	Male	92	\$1,252,656	\$13,616	6.5	12.7
	Female	127	\$1,259,374	\$9,916	5.3	14.0
	All	219	\$2,512,029	\$11,470	5.8	13.4
75-84 Years	Male	66	\$784,858	\$11,892	7.4	17.5
	Female	61	\$546,836	\$8,965	5.5	9.7
	All	127	\$1,331,694	\$10,486	6.5	12.6
85+ Years	Male	15	\$199,608	\$13,307	7.1	16.9
	Female	27	\$186,506	\$6,908	5.2	11.0
	All	42	\$386,114	\$9,193	5.8	12.6
All	Male	656	\$6,650,483	\$10,153	5.0	21.9
	Female	955	\$7,354,925	\$7,701	4.1	25.6
	All	1,611	\$14,005,408	\$8,699	4.5	23.9

STATE OF NORTH CAROLINA  
Department of Health and Human Services  
State Center for Health Statistics  
1908 Mail Service Center  
Raleigh, NC 27699-1908

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