

The Burden of Chronic Disease and Injury in North Carolina

An overview of the leading causes of morbidity and mortality and their costs

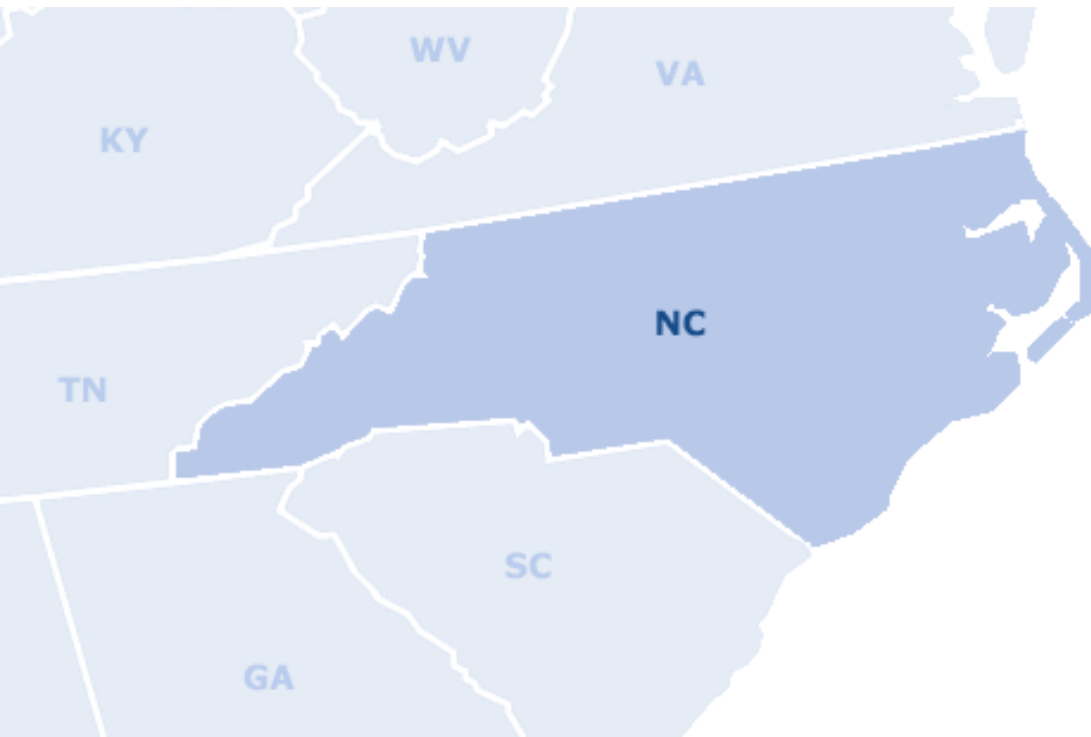


Topics To Be Covered

- CDI Leading Causes of Death
- Economic Burden
- Determinants and Risk Factors of Health
- Heart Disease and Stroke
- Cancer
- Injury
- Diabetes
- Asthma
- Obesity
- Tobacco
- Prevention

The Burden of Chronic Disease and Injury in North Carolina

CDI Leading Causes of Death



Chronic Diseases and Injury are Leading Causes of Death

- Chronic diseases and injuries are responsible for approximately **two-thirds** of all deaths in North Carolina, or about **50,000 deaths** each year.¹
- Heart disease, cancer, injury, chronic lung disease and stroke make up the **top five** causes of death in the state.

1. North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. North Carolina Vital Statistics Volume II: Leading Cause of Death 2007. Available at: www.schs.state.nc.us/SCHS/deaths/lcd/2007

Chronic Disease and Injury Deaths

- Preventable or premature
- Involve risky behaviors or lifestyles
- Leading *causes* of preventable/premature death:
 - tobacco use
 - unhealthy diet/physical inactivity
 - alcohol misuse, motor vehicles and fire arms

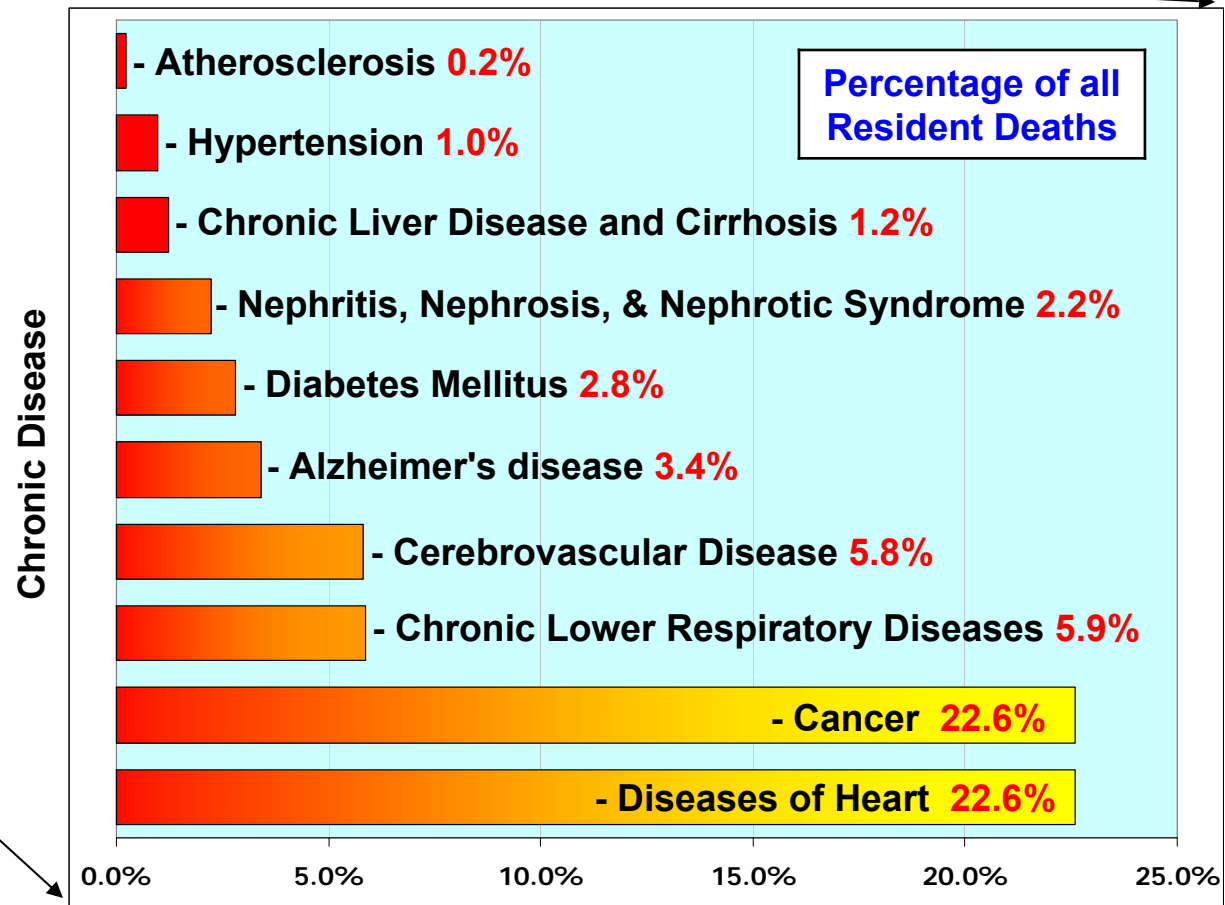
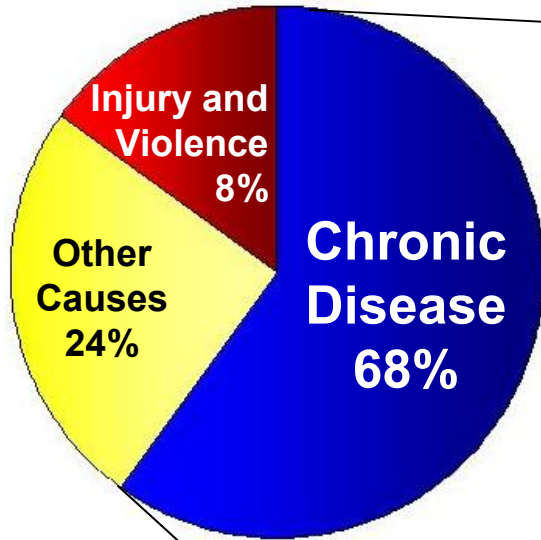
Leading Causes of N.C. Resident Deaths and Years of Life Lost (2008)

Cause of Death	Total Deaths	Average Years of Life Lost *	Total Years of Life Lost *
Diseases of Heart	17,417	2.75	47,904
Cancer	17,403	3.41	59,405
Injury †	6,275	20.26	127,184
Chronic Lower Respiratory Diseases (Asthma, COPD)	4,527	1.41	6,396
Stroke	4,477	1.97	8,830
Alzheimer's disease	2,620	0.08	204
Diabetes Mellitus	2,164	3.44	7,435
Hypertension	757	2.24	1,692
Atherosclerosis	177	0.59	104
Total Deaths (all causes)	77,057	5.14	396,368
Chronic Disease Deaths	52,219	2.75	143,545

* Based on deaths that occurred prior to age 65

† See slide 39 for detailed breakdown of injury deaths and years of life lost

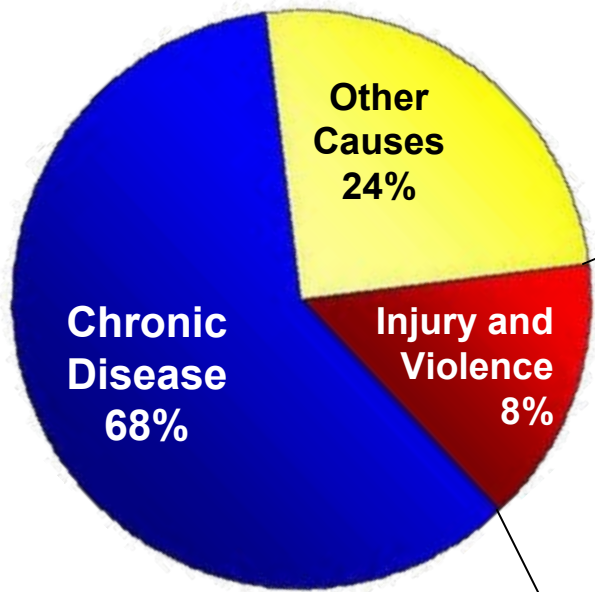
Leading Causes of **Chronic Disease Deaths** in North Carolina, 2008



N.C. Resident Deaths due to Chronic Disease, Injury and Violence and Other Causes in 2008

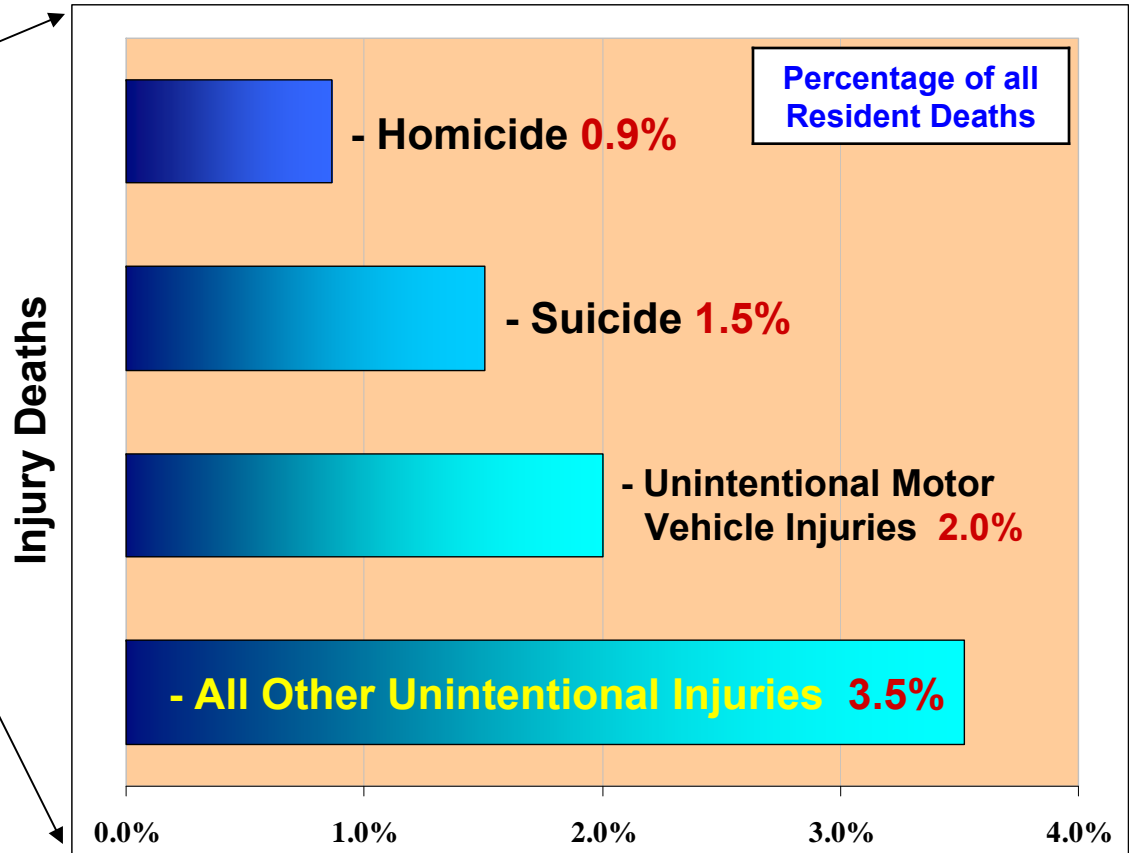
Source: North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. North Carolina Vital Statistics Volume II: Leading Cause of Death 2008, Table E. Available at: www.schs.state.nc.us/SCHS/deaths/lcd/2008/pdf/TblsA-F.pdf

Leading Causes of **Injury Deaths** in North Carolina, 2008



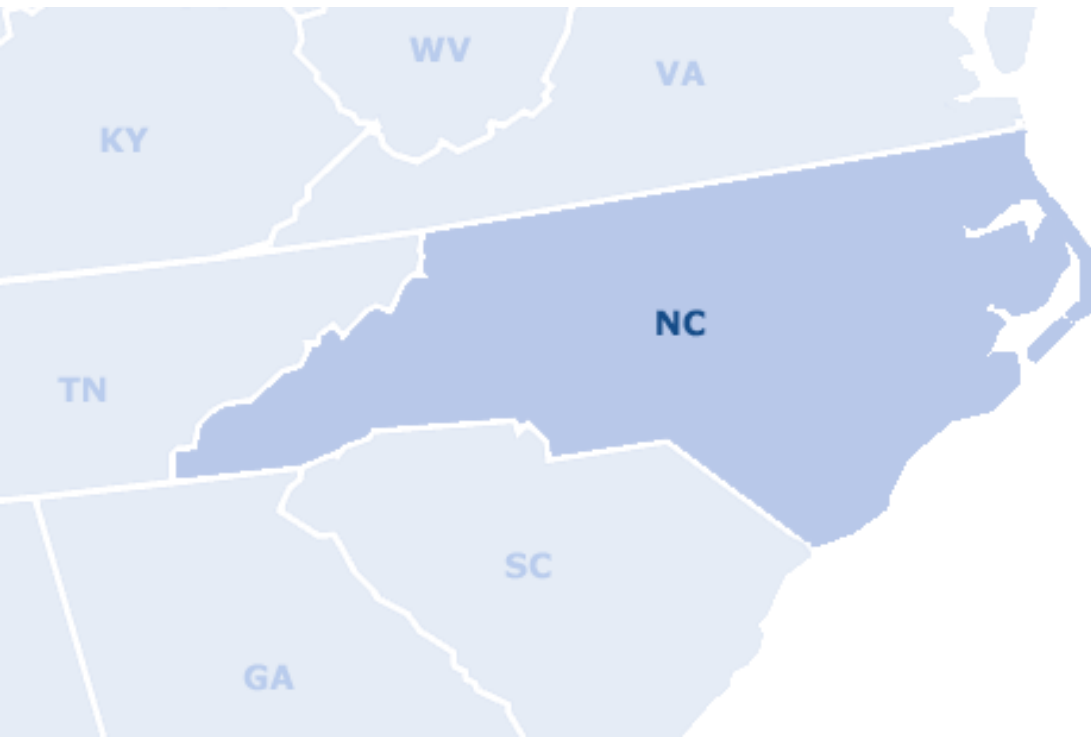
N.C. Resident Deaths due to Chronic Disease, Injury and Violence and Other Causes in 2008

See slide 39 for specific injury breakdown



The Burden of Chronic Disease and Injury in North Carolina

Economic Burden



Chronic Diseases and Injury are Expensive

- The mortality, morbidity and disability caused by chronic diseases and injury have a **large economic impact** in terms of both *direct* and *indirect* costs.
 - *Direct costs* are those associated with hospital care, physician and nursing services, and medications.
 - *Indirect costs* include lost productivity due to morbidity and mortality and are more difficult to estimate.

Chronic Diseases and Injury are Expensive

cont'd

- In North Carolina, the direct medical costs related to *tobacco use, physical inactivity, and poor nutrition* alone are estimated to be at least **\$6 billion per year**.¹
 - In 2004, *tobacco use* cost the state an estimated **\$5.4 billion** in medical and productivity costs.
 - North Carolina's Medicaid costs attributable to *smoking* were estimated to be more than **\$769 million**, or \$119.73 per capita.²

1. North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. Health Profile of North Carolinians: 2007 Update-May 2007. Available at: www.schs.state.nc.us/SCHS/pdf/HealthProfile2007.pdf.

2. Centers for Disease Control and Prevention. State Tobacco Data Highlights Report. Available at: www.cdc.gov/tobacco/data_statistics/state_data/data_highlights/2006/00_pdfs/DataHighlights06table4.pdf. Accessed on 8/1/07.

Chronic Diseases and Injury are Expensive

cont'd

- The economic burden of injury and violence in North Carolina is enormous
 - all told, the cost of injury **exceeds \$27 billion** per year.¹
- This number encompasses:
 - fatal and non fatal injuries' direct medical costs (**\$1.2 billion**)
 - work-loss costs (**\$6.8 billion**)
 - and quality of life costs (**\$19.4 billion**).²



The Chronic Disease Price Tag: Estimated U.S. Annual Direct Medical Expenditures*

CVD and Stroke**	\$314 billion in 2009 ¹
Cancer	\$89 billion in 2007 ²
Smoking	\$96 billion in 2004 ^{***3}
Diabetes	\$116 billion in 2007 ⁴
Arthritis	\$81 billion in 2003 ⁵
Obesity	\$61 billion in 2000 ⁶

* Different methodologies were used in calculating costs.

** Includes heart diseases, coronary heart disease, stroke, hypertensive disease and heart failure combined.

*** Average annual expenditure, 2001–2004.



Chronic Disease Cost Calculator

(Ranked by Total U.S. Medicaid costs)

Chronic Disease	Group	Beneficiaries	Prevalence	Beneficiaries with Disease	Cost per Beneficiary	Total Medicaid Costs
Hypertension	U.S.	55,002,107	13.5%	7,420,068	\$2,180	\$16,183,936,000
	N.C.	1,512,608	14.9%	224,700	\$2,170	\$487,924,000
Diabetes	U.S.	55,002,107	6.8%	3,748,766	\$3,310	\$12,415,769,000
	N.C.	1,512,608	7.6%	115,627	\$3,360	\$388,612,000
Stroke	U.S.	55,002,107	2.4%	1,316,820	\$7,400	\$9,745,191,000
	N.C.	1,512,608	2.5%	37,762	\$7,410	\$279,781,000
Heart Disease	U.S.	55,002,107	6.5%	3,578,268	\$1,320	\$4,714,560,000
	N.C.	1,512,608	7.5%	113,891	\$1,340	\$152,377,000
Cancer	U.S.	55,002,107	2.4%	1,333,551	\$1,570	\$2,088,373,000
	N.C.	1,512,608	2.4%	36,877	\$1,560	\$57,680,000
Congestive Heart Failure	U.S.	55,002,107	1.0%	568,899	\$3,620	\$2,060,876,000
	N.C.	1,512,608	1.1%	16,261	\$3,590	\$58,335,000

Source: Centers for Disease Control and Prevention. Chronic Disease Cost Calculator: Version 1, November 2008.

All Chronic Disease	U.S.	\$47,208,704,000
	N.C.	\$1,424,709,000

Available at: www.cdc.gov/nccdphp/resources/calculator.htm

See notes section for more information 

Inpatient Hospitalization Utilization and Charges for Chronic Diseases*

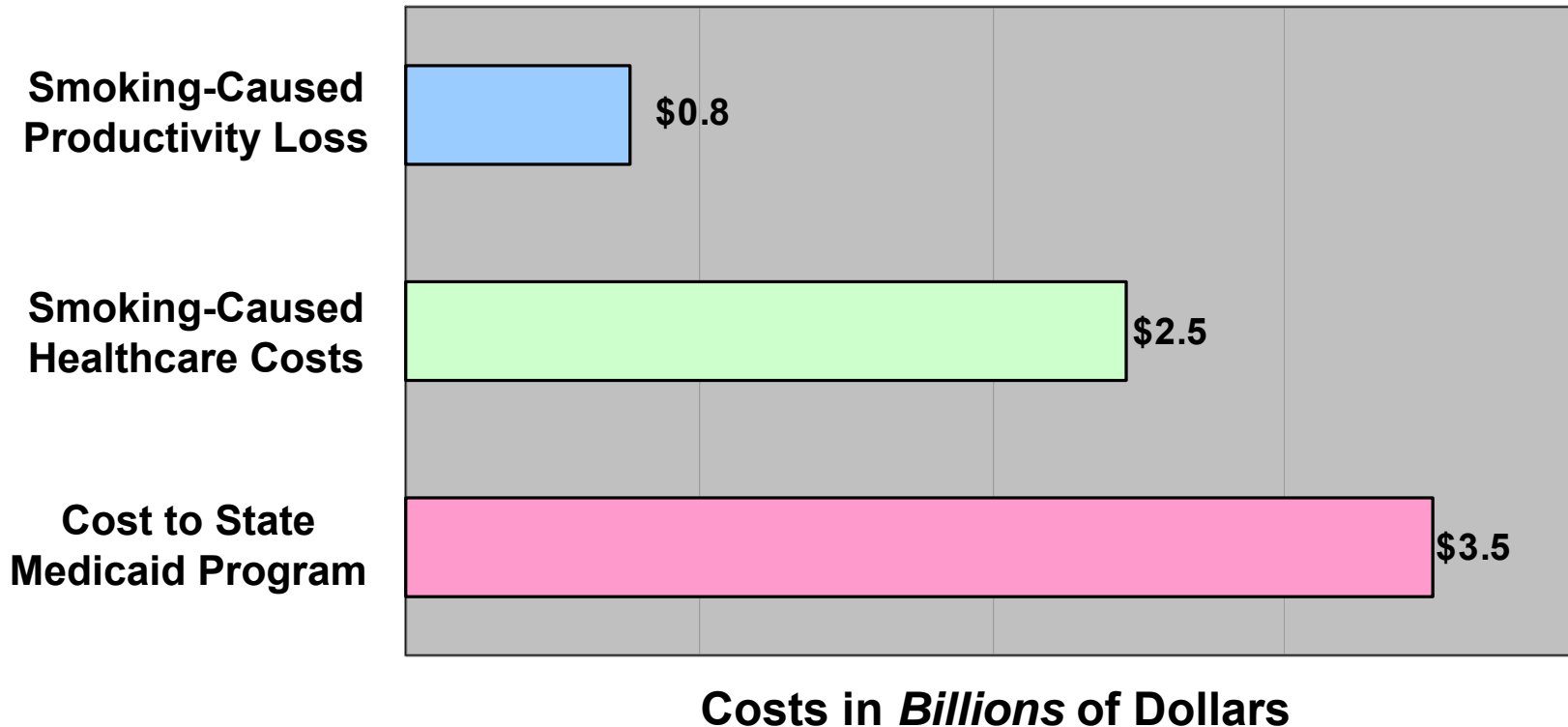
(Ranked by total number of cases[†] in N.C., 2007)

Diagnostic Category	Total Cases	Discharge Rate (per 1,000 pop)	Average Day's Stay	Day's Stay Rate (per 1,000 Pop)	Total Charges	Average Charge per Day	Average Charge per Case
Cardiovascular and Circulatory Diseases	163,242	18.0	4.8	85.8	\$4,679,686,457	\$6,016	\$28,673
Respiratory Diseases	93,840	10.3	5.9	61.2	\$1,921,561,256	\$3,461	\$20,486
- <i>Chronic Obstructive Pulmonary Disease</i>	17,841	2.0	4.8	9.5	\$264,315,878	\$3,069	\$14,823
- <i>Asthma</i>	10,535	1.2	3.6	4.2	\$110,321,725	\$2,930	\$10,478
Injuries & Poisoning	77,998	8.6	5.8	49.9	\$2,290,156,402	\$5,062	\$29,372
Malignant Neoplasms	35,505	3.9	7.0	27.2	\$1,102,127,657	\$4,462	\$31,046
- <i>Female Breast</i>	1,867	0.2	2.8	0.6	\$31,198,778	\$6,007	\$16,711
Diabetes	16,946	1.9	4.9	9.2	\$279,359,049	\$3,344	\$16,491
Benign, Uncertain & other Neoplasms	10,823	1.2	3.8	4.6	\$224,677,064	\$5,439	\$20,763

* Excluding newborns and discharges from out-of-state hospitals

† Calculated using primary diagnosis for hospitalization

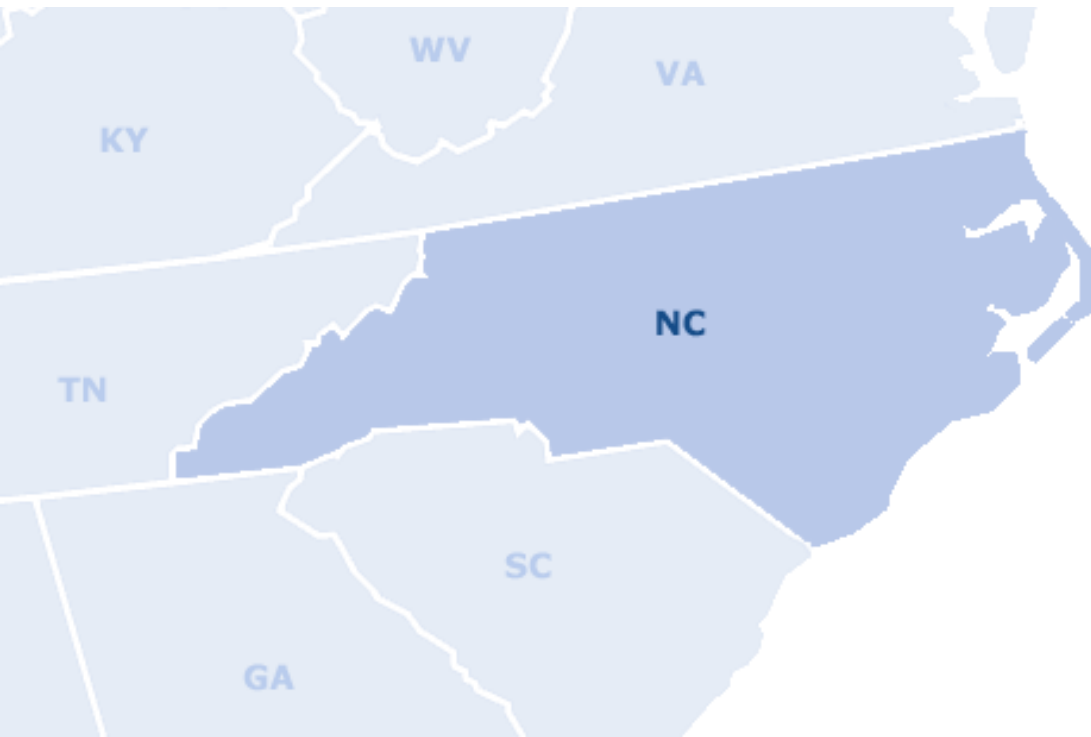
Smoking-Caused Monetary Costs in North Carolina



Does not include costs attributable to secondhand smoke or non-cigarette tobacco products. Costs of smoking caused fire are also excluded. Productivity loss only reflects the expected loss of income resulting from premature death. Negative impact on job performance is not assessed.

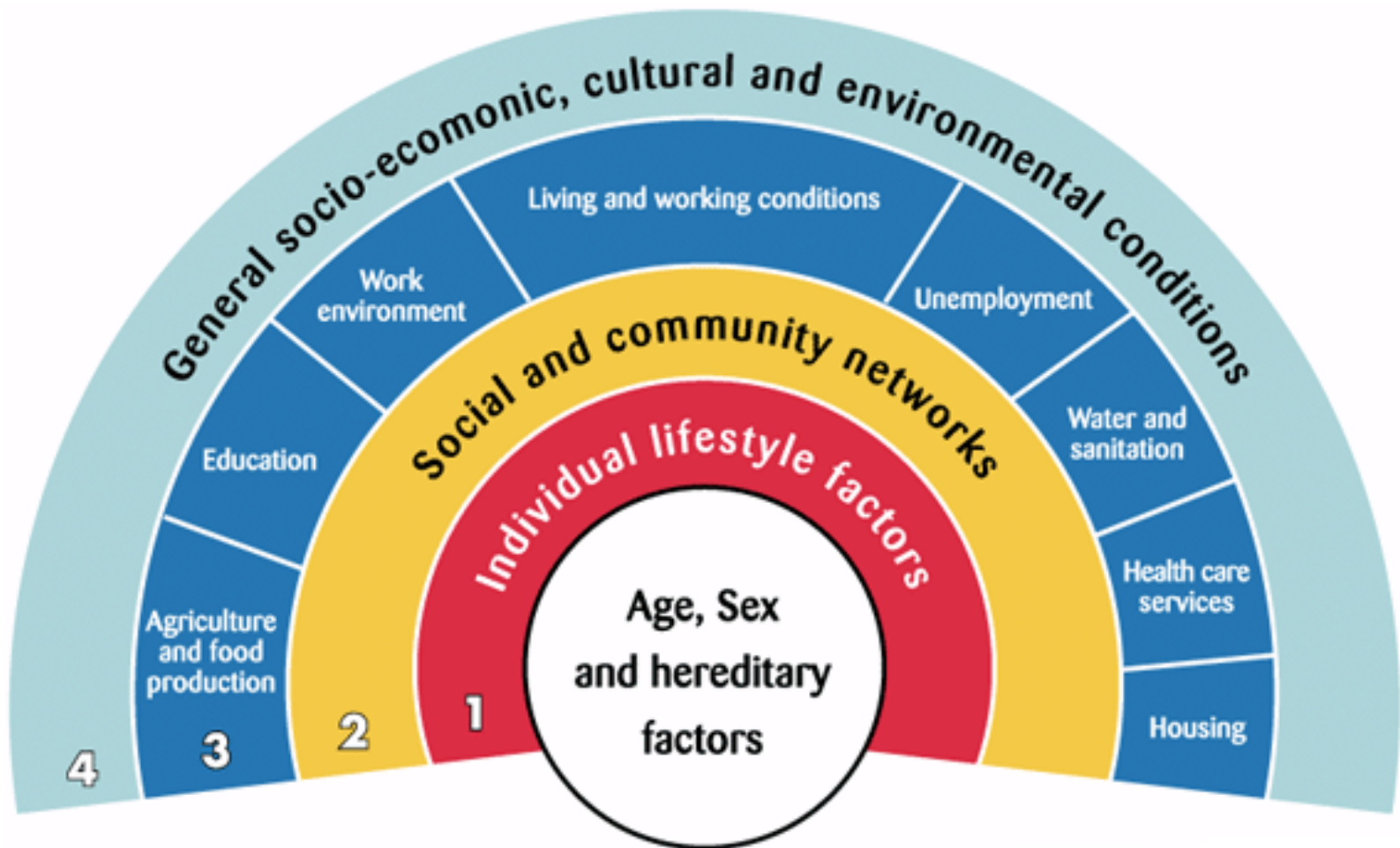
The Burden of Chronic Disease and Injury in North Carolina

Determinants and Risk Factors of Health

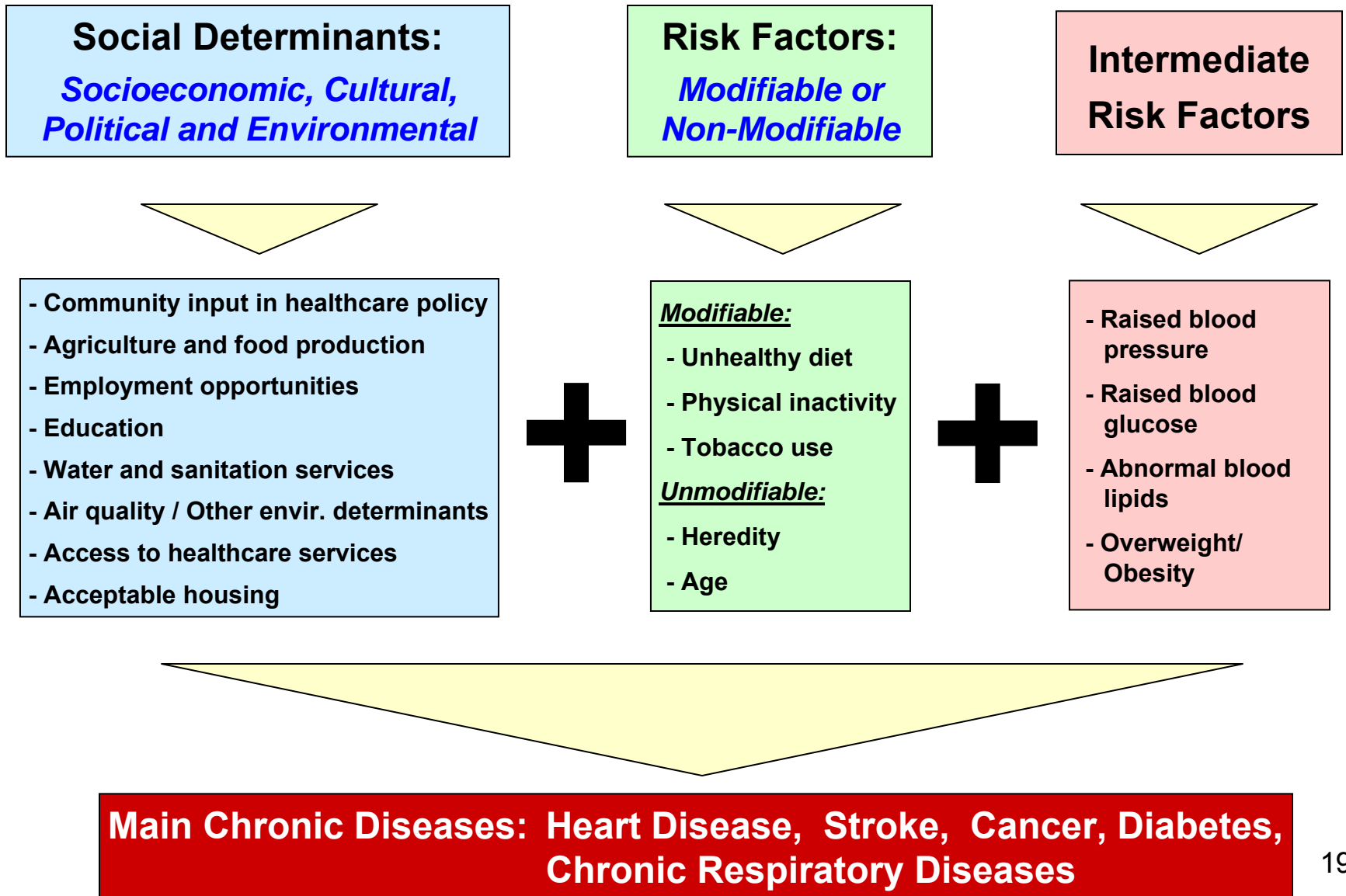


Determinants of Health

Multi-layered determinants impact the health of individuals



Determinants of Health: *Not just behavior*



N.C. Adults with a Chronic Condition Also Have a Higher Prevalence of *Several Other Risk Factors*

		Risk Factor Prevalence Rates					
		Smoking	Physical Inactivity¹	Unhealthy Diet²	Obesity³	Hyper-tension⁴	High Cholesterol⁵
Chronic Condition	Heart Attack	22%	27%	82%	34%	70%	72%
	Coronary Heart Disease or Angina	19%	26%	82%	38%	66%	72%
	Stroke	28%	34%	82%	35%	69%	62%
	Diabetes Mellitus	16%	26%	80%	52%	69%	66%
	Asthma	27%	22%	80%	40%	40%	47%
	Arthritis	25%	21%	78%	37%	49%	54%

Compare with risk factor prevalence rates among the general population:

General Population	21%	14%	78%	30%	29%	40%
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Source: Tabulations of the 2007 and 2008 N.C. BRFSS by the State Center for Health Statistics.

Second-Hand Smoke (SHS) Leads to More Chronic Disease

Treated Prevalence of Conditions Causally Related to SHS Exposure: North Carolina, 2006

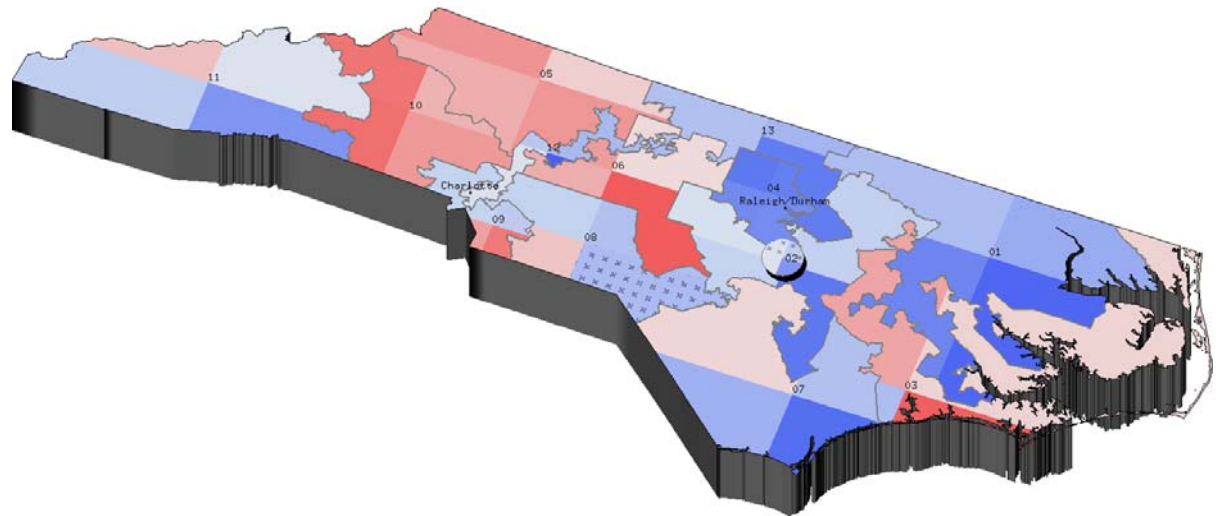
Age	Conditions Treated	% of SHS-Attributable Episodes ¹	# of SHS-Attributable Episodes ²
0–17	Low Birth Weight	9.08%	2,087
	Chronic Obstructive Pulmonary Disease	11.97%	14,158
	Otitis Media & Middle Ear Effusion	16.63%	50,092
	Asthma	4.02%	30,289
18–64	Lung Cancer	0.08%	214
	Heart Attack & Other Heart Diseases	1.87%	7,322
65+	Lung Cancer	0.66%	344
	Heart Attack & Other Heart Diseases	3.50%	2,551

1. BCBSNC prevalence of episodes of care for members who were residents of North Carolina in 2006

2. Based on Population Attributable Risk, [Report of the U.S. Surgeon General](#), CDC, Office of Smoking and Health, 2006

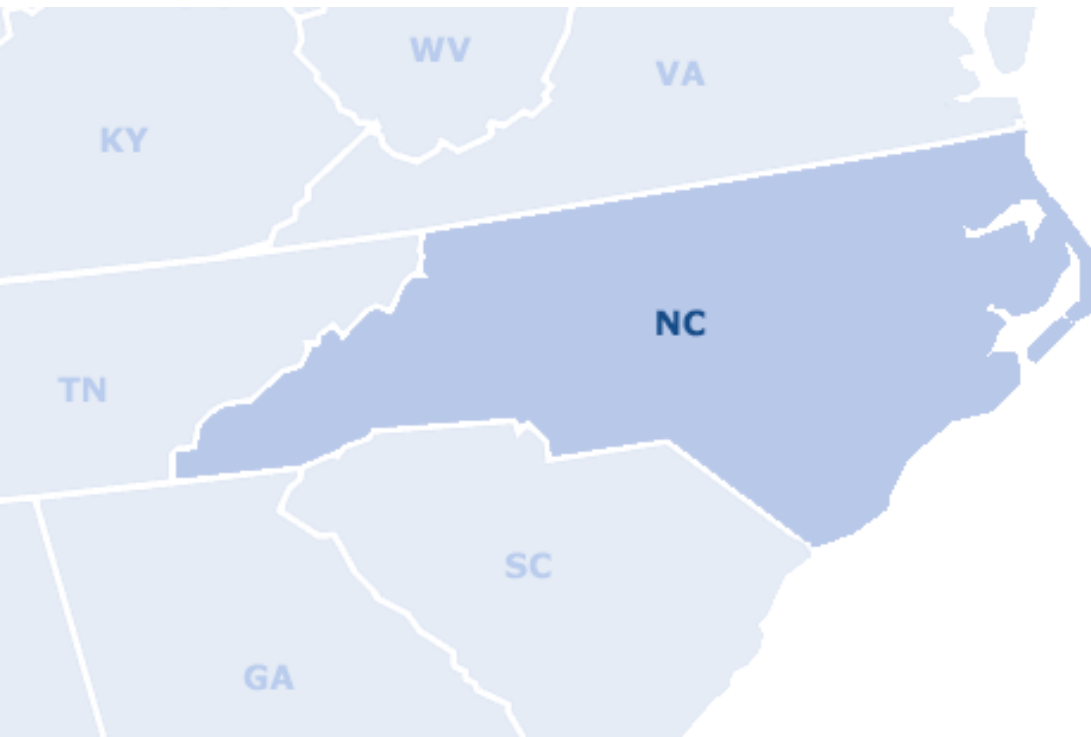
The Branches of the N.C. Chronic Disease and Injury Section

- Heart Disease and Stroke
- Cancer
- Injuries
- Diabetes
- Asthma
- Obesity
- Tobacco



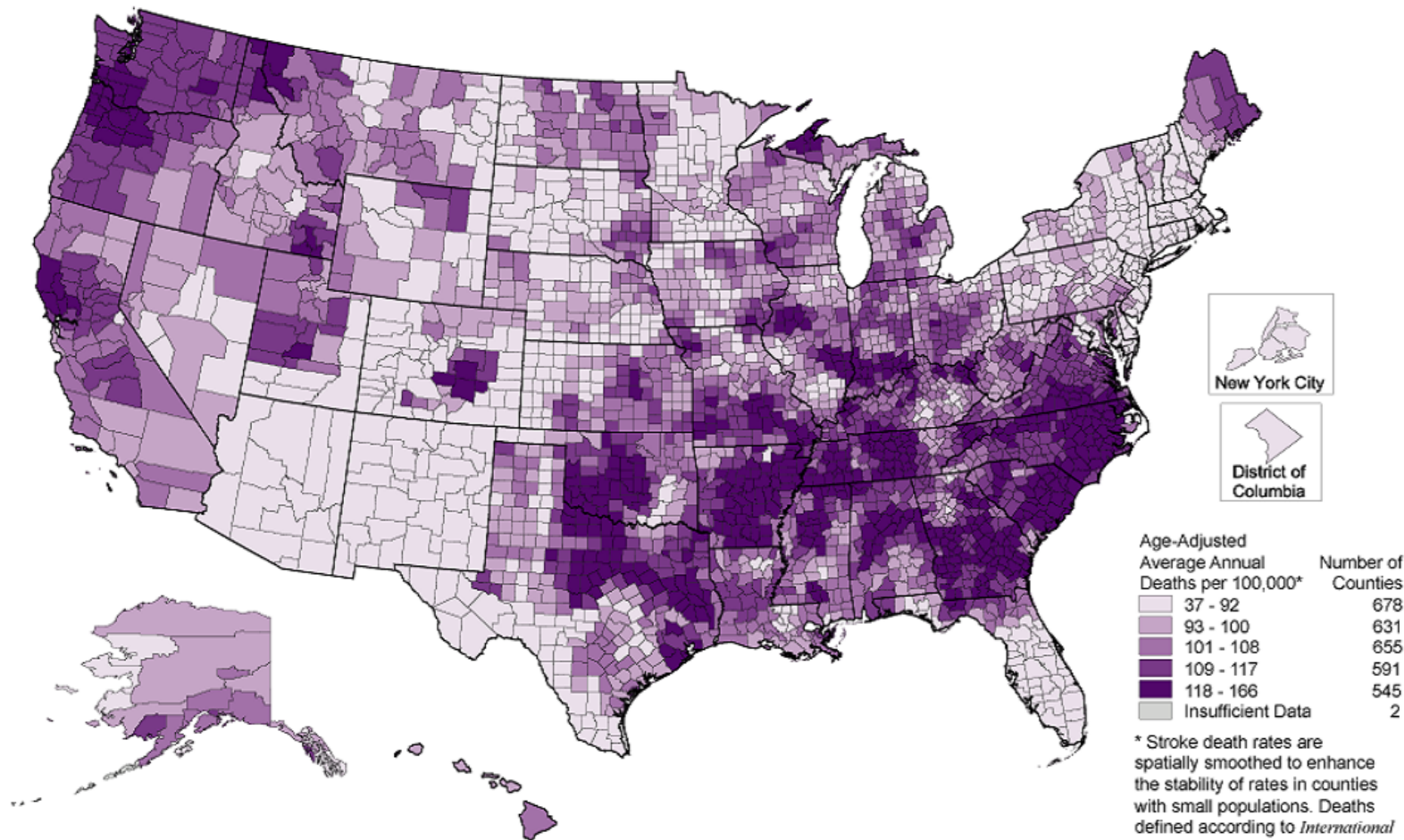
The Burden of Chronic Disease and Injury in North Carolina

Heart Disease and Stroke



Stroke: North Carolina has had some of the very highest stroke death rates in the nation for the past 30 years.

Stroke Death Rates, 2000-2004, Adults Age 35+ Years



* Stroke death rates are spatially smoothed to enhance the stability of rates in counties with small populations. Deaths defined according to *International Classification of Diseases (ICD)* codes: ICD-10: 160-169.

Data Source: National Vital Statistics System, U.S. Census Bureau.

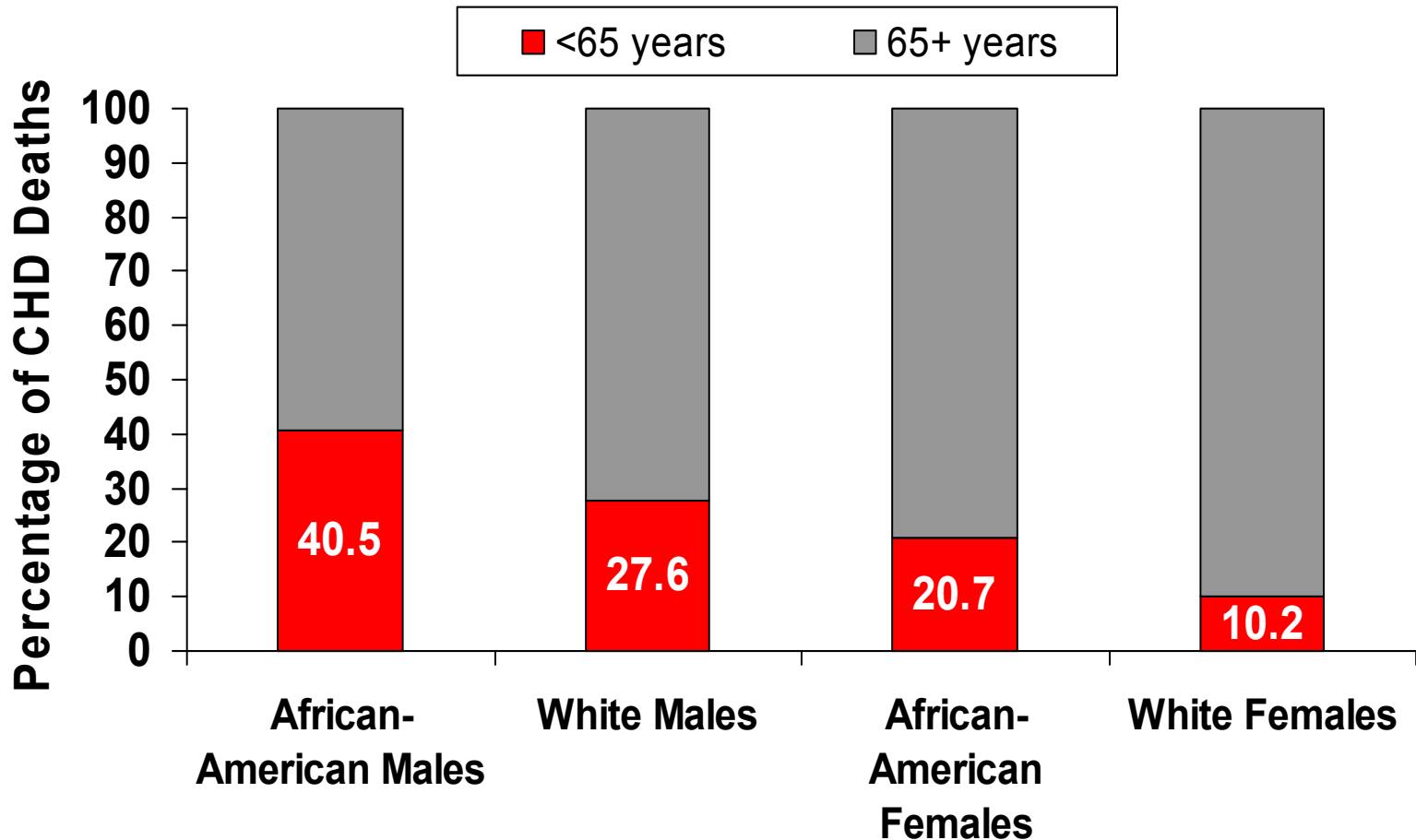


Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
February 2008

See notes section for more information

Coronary Heart Disease (CHD): In North Carolina, African Americans are more likely to die of CHD, and to die of CHD at a young age, than whites.

Percentage of Total Coronary Heart Disease Deaths by Age Group, Race, and Gender, N.C., 2002-2006



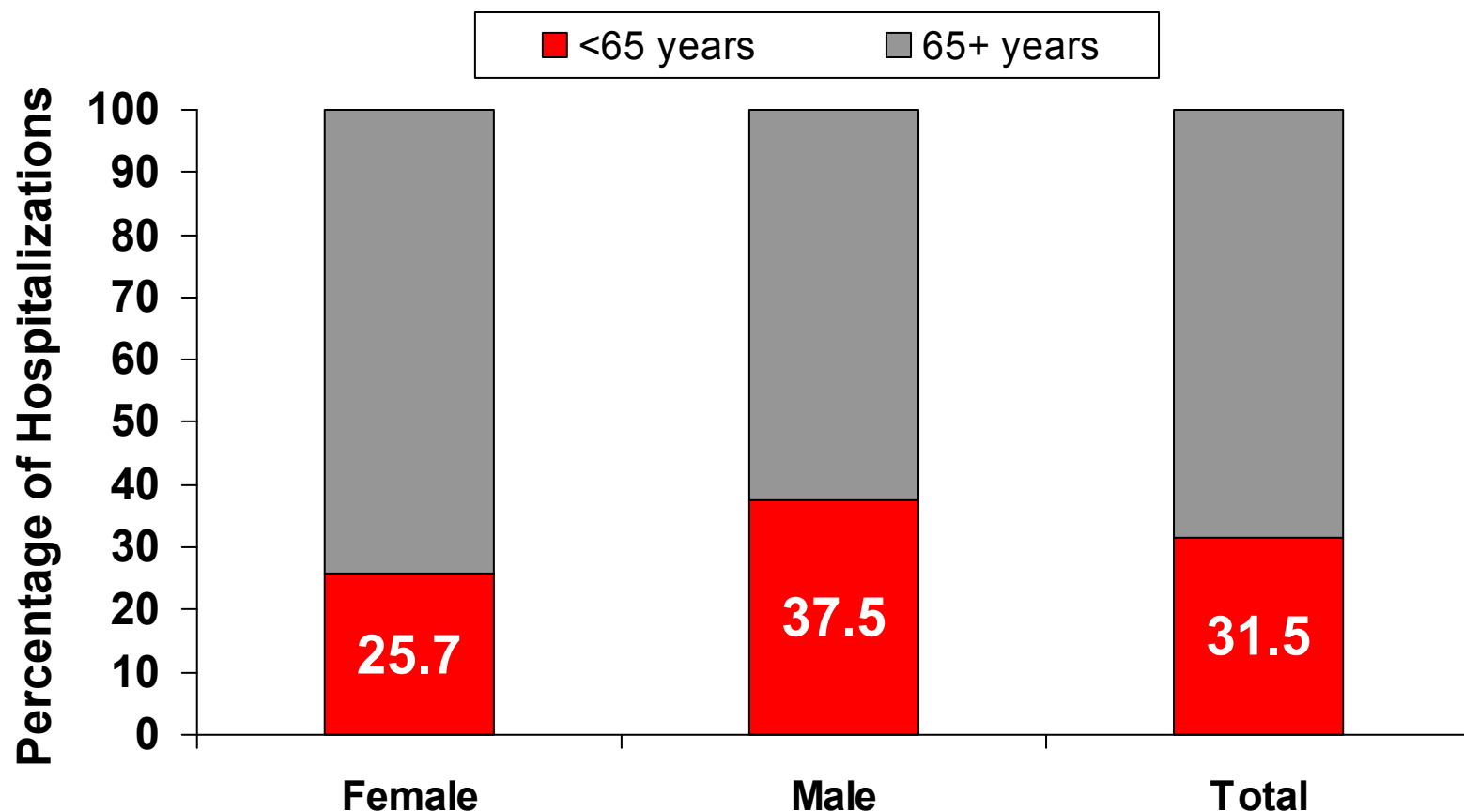
Heart Disease: ICD-10 codes I20-I25.

Source: Compressed Mortality File, CDC Wonder.

See notes section for more information

Heart Failure: Affects people of all ages; nearly 1 in 3 heart-failure hospitalizations are among North Carolinians <65

Percentage of Congestive Heart Failure Hospitalizations by Age Group, N.C., 2006



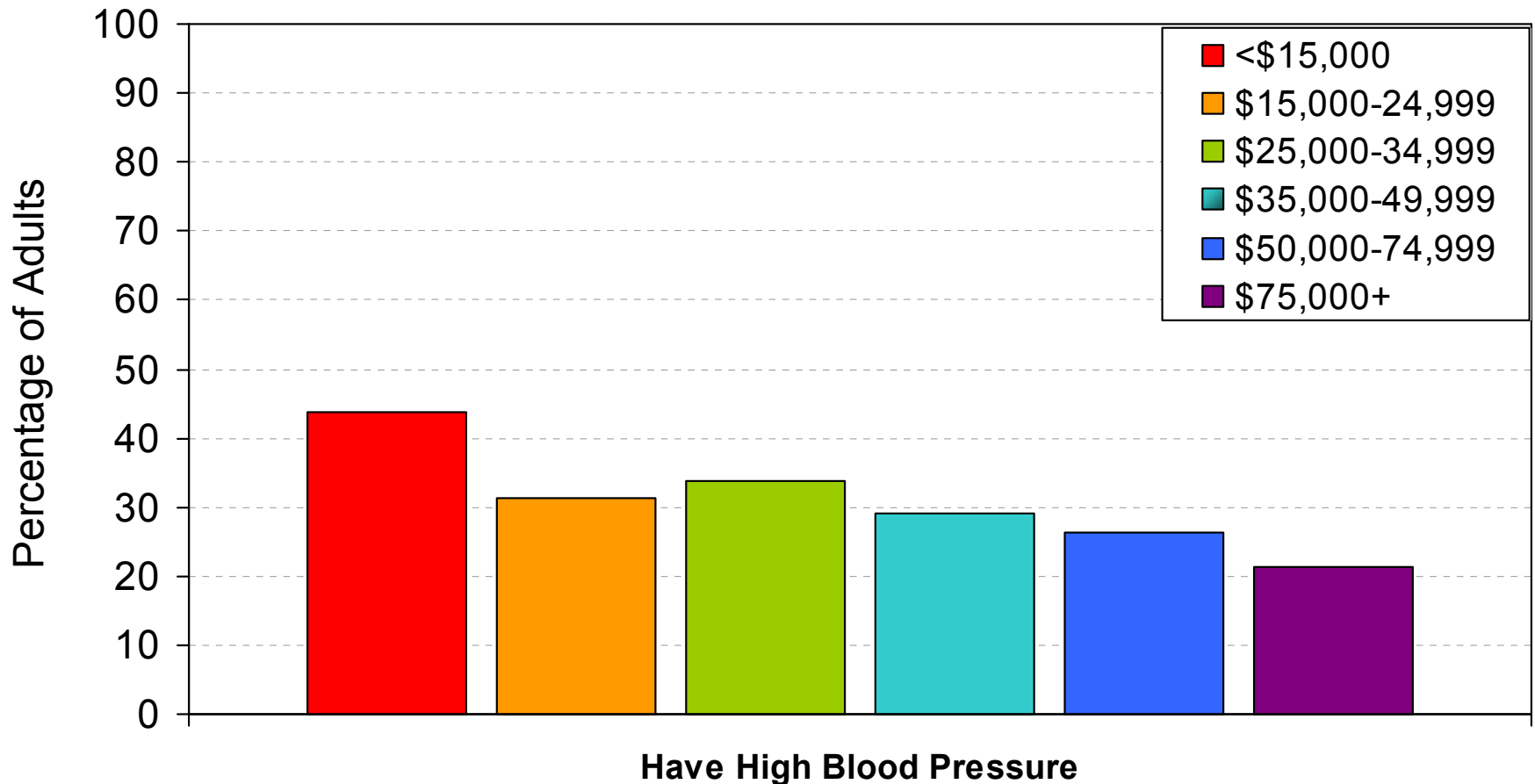
ICD-9-CM 428.0; principal diagnosis only.

Source: N.C. Hospital Discharge Database, State Center for Health Statistics.

See notes section for more information

High Blood Pressure: Significant socioeconomic disparities in blood pressure-related measures exist in N.C.

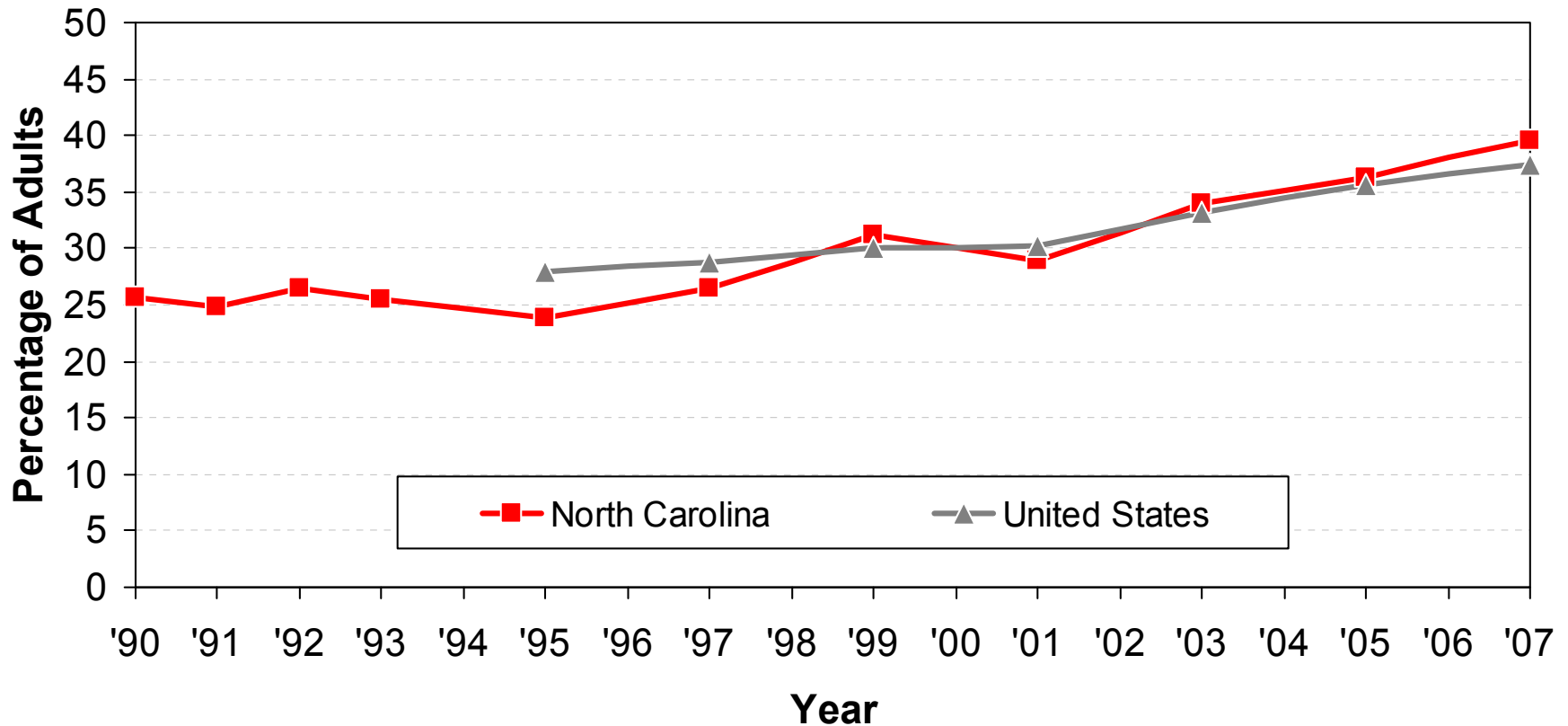
High Blood Pressure Prevalence Among N.C. Adults by Household Income, 2007



Source: N.C. Behavioral Risk Factor Surveillance System. Adults = ages 18+ years.

High Cholesterol: The prevalence of diagnosed high cholesterol among N.C. adults has increased steadily since 1995

High Cholesterol Prevalence, 1990-2007

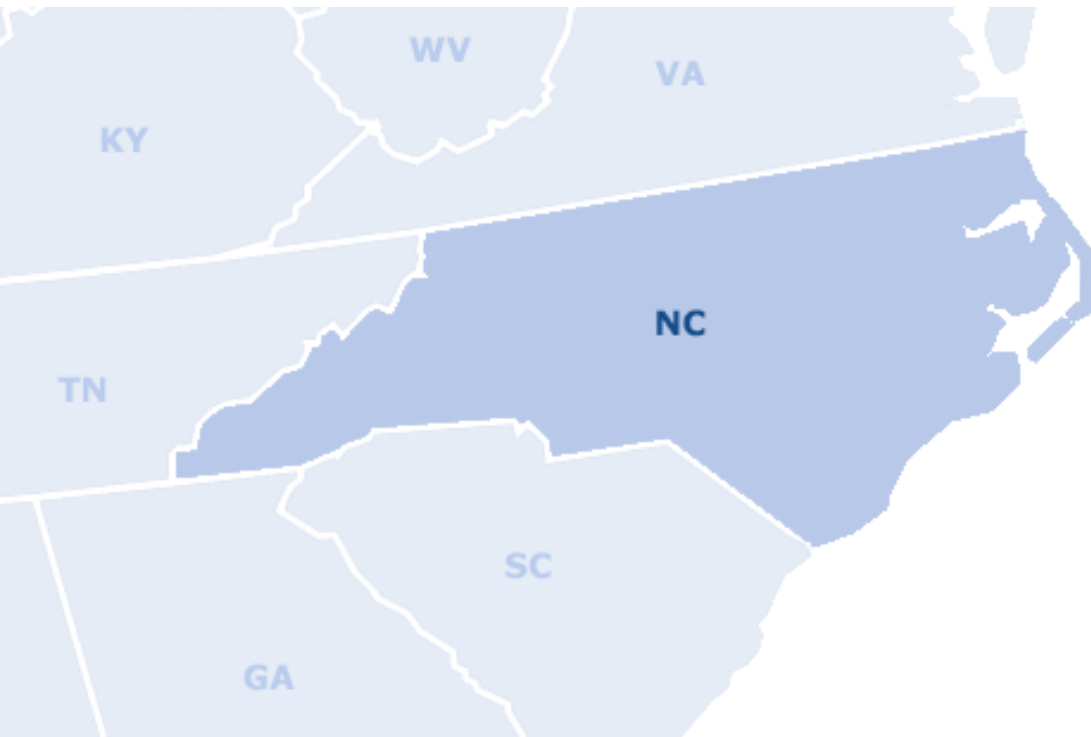


U.S. Data Source: National Behavioral Risk Factor Surveillance System Data, Center for Disease Control & Prevention.
N.C. Data Source: N.C. Behavioral Risk Factor Surveillance System.



The Burden of Chronic Disease and Injury in North Carolina

Cancer



N.C. Cancer *Incidence* for Top 10 Cancer Sites Ranked by Total Cases, 2002-2006

Rank	Cancer Sites	Total	
		Cases	Rate*
1	FEMALE BREAST	35,163	147.2
2	LUNG/BRONCHUS	32,376	75.0
3	PROSTATE	29,402	153.2
4	COLON/RECTUM	20,843	48.4
5	BLADDER	8,302	19.5
6	MELANOMA (SKIN)	7,683	17.7
7	NON-HODGKINS LYMPHOMA	7,641	17.8
8	KIDNEY	6,710	15.3
9	CORPUS UTERI	5,018	20.7
10	ORAL CAVITY	4,877	11.0
	ALL CANCERS	207,251	477.0

* Age Adjusted Rates, Per 100,000 Population. Rates calculated are based on NCHS estimates.

N.C. Cancer *Mortality* for Top 10 Cancer Sites Ranked by Total Cases, 2002-2006

Rank	Cancer Sites	Total	
		Cases	Rate*
1	LUNG & BRONCHUS	25,316	59.4
2	OTHER CANCERS	8,298	19.7
3	COLORECTAL	7,518	17.8
4	FEMALE BREAST	6,110	25.3
5	PANCREAS	4,638	11.0
6	PROSTATE	4,330	28.9
7	LEUKEMIA	2,973	7.1
8	NON-HODGKINS DISEASE	2,919	6.9
9	OVARY	2,116	8.6
10	LIVER	1,925	4.5
	ALL CANCERS	82,648	194.9

* Age Adjusted Rates, Per 100,000 Population. Rates calculated are based on NCHS estimates.

N.C. Cancer Deaths Ranked by Total Years of Life Lost,* 2008

Rank	Cancer Sites	Total Deaths	Mean Years Lost*	Total Years of Life Lost*
1	LUNG/BRONCHUS	5,352	2.58	13,788
2	FEMALE BREAST	1,250	5.34	6,674
3	COLON/RECTUM	1,483	3.58	5,310
4	LEUKEMIA	608	5.41	3,287
5	BRAIN	403	8.05	3,245
8	LIVER	522	4.69	2,450
6	PANCREAS	998	2.43	2,425
7	NON-HODGKINS LYMPHOMA	549	3.10	1,703
9	OVARIAN ¹	411	3.43	1,408
10	PROSTATE ²	895	0.73	654
	TOTAL CANCER DEATHS	17,403	3.41	59,405
	Total YLL Attributable to Top 10 Cancers			40,944
	Percentage of All Cancer-Related YLL Attributable to Top 10			69%

1. YLL only includes females 2. YLL only includes males

* Based on deaths that occurred prior to age 65

Estimated 2005 Economic Burden of Cancer: North Carolina vs. United States

	North Carolina (Actual)¹	United States (Projected)²
Direct medical costs (total of all health costs)	\$2.15 billion	\$74.0 billion
Indirect costs (Cost of lost productivity due to illness and premature death)	\$3.95 billion	\$135.9 billion
Total costs	\$6.1 billion	\$209.9 billion

1. What Every Family Physician Should Know about Cancer, Pocket Guide and Resources. NC Comprehensive Cancer and American Cancer Society. November 2006.

2. National Heart, Lung, and Blood Institute. 2004 NHBLI Fact Book. Accessed at <http://www.nhlbi.nih.gov/about/04factpdfa.pdf>

Breast Cancer Facts

- **Second** leading cause of cancer death in women.*
- **One-in-eight women** will develop breast cancer during her lifetime.
- About **80 percent** of breast cancers occur in women ages **50 and older**.
- More than **2.3 million women** in the United States **survived** breast cancer.
- In the United States in 2009, an estimated **192,370** cases of female invasive breast cancer are expected to have been diagnosed. About **40,370** of women will have died.
- In North Carolina in 2009, **7,843** new cases of female invasive breast cancer are expected to have been diagnosed and about **1,343** North Carolinian women will have died.

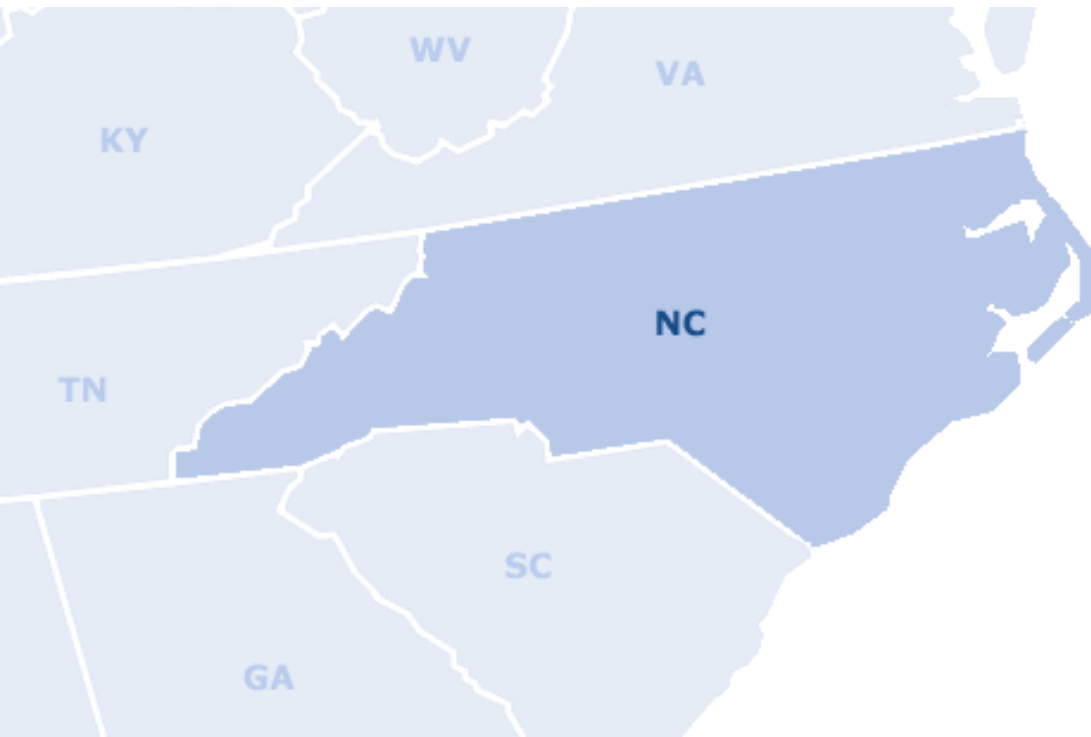
* Ranking is based on 2008 data and should not be confused with data from different years used by other slides in this presentation.

Cervical Cancer Facts

- In the United States in 2009, an estimated **11,270** women will have been diagnosed with invasive cervical cancer and about **4,070** will have died. In North Carolina, **394** will have developed the disease and **124** will have died.
- Incidence rates of cervical cancer remain **30 percent higher** in African American women than in white women.
- Approximately **70 percent** of cervical cancers are caused by **HPV**.
- Invasive cervical cancer is one of the **most treatable cancers** with a five year survival rate of **92 percent**.

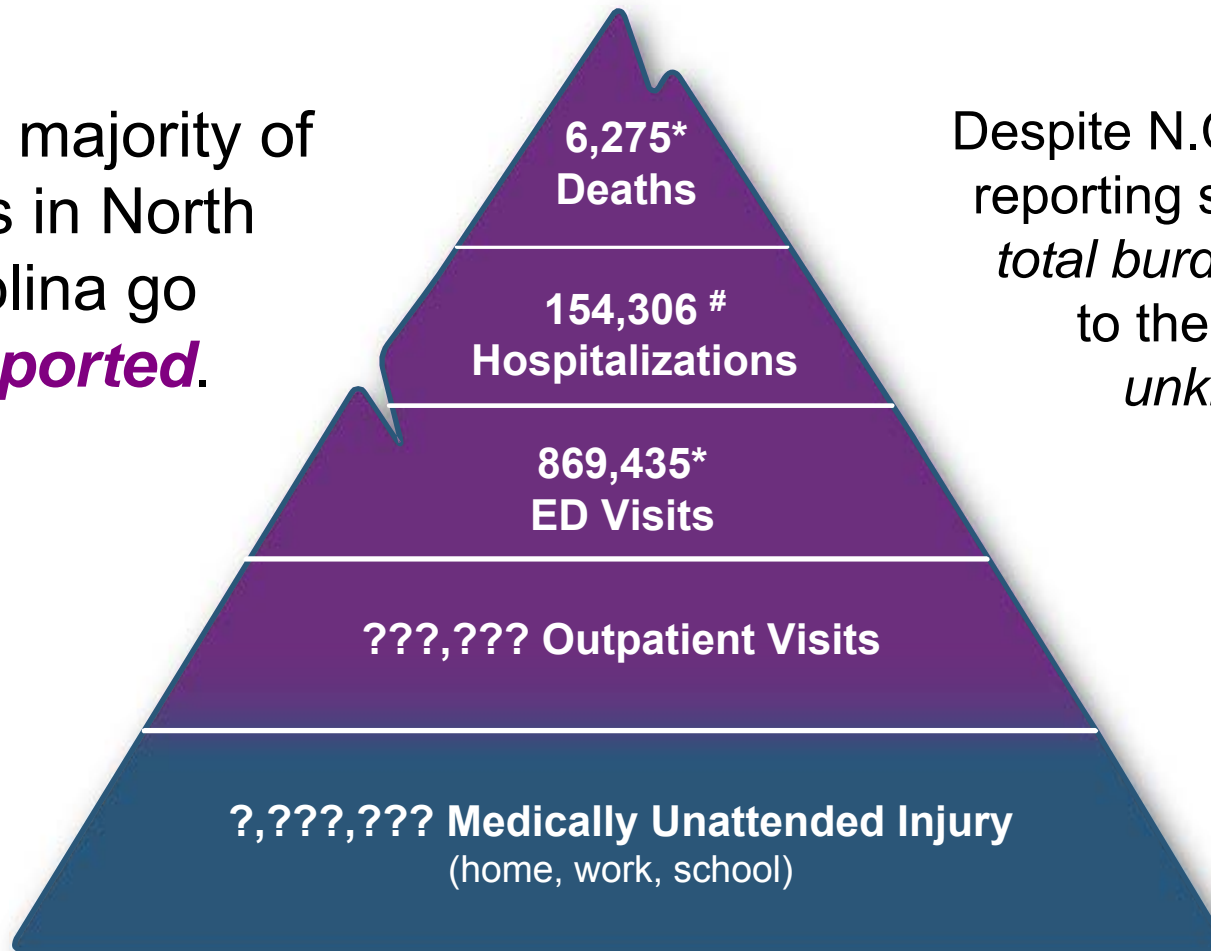
The Burden of Chronic Disease and Injury in North Carolina

Injury



Deaths from Injury and Violence are Only the Tip of the Iceberg

The vast majority of injuries in North Carolina go *unreported*.

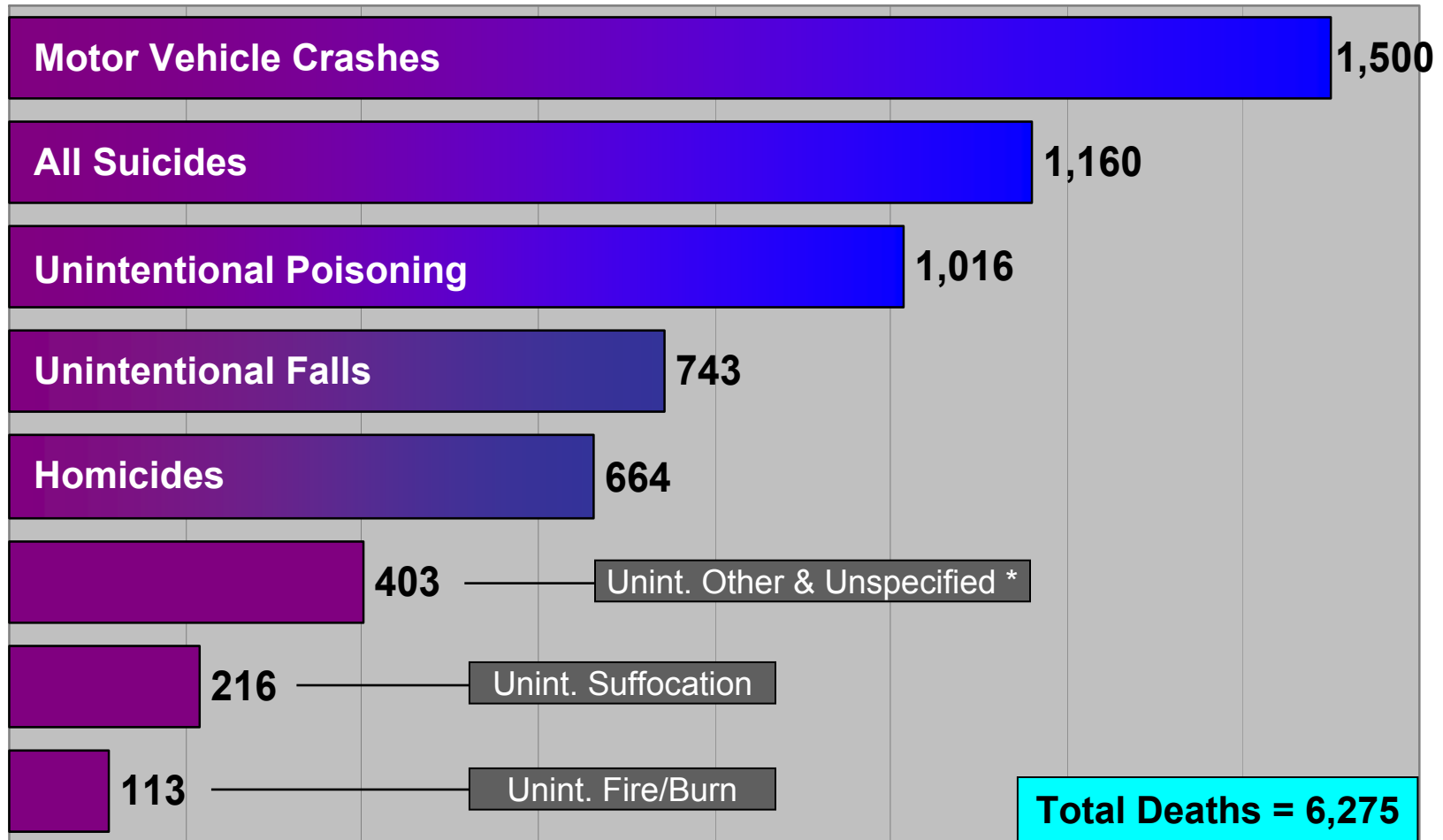


Despite N.C.'s excellent reporting systems, the *total burden* of injury to the state is *unknown*.

INJURY ICEBERG

Leading Causes of Injury Deaths

(by Number of Deaths, All Ages, North Carolina Residents: 2008)



* *Unintentional Other* and *Unintentional Unspecified* are two separate categories. *Other* comprises several smaller defined causes of death, while *Unspecified* refers to unintentional deaths that were not categorized due to coding challenges.

Years of Life Lost* Due to Injury (N.C. 2008)

Average years of life lost is *MUCH* higher among injury deaths than among other chronic diseases

Cause of Death	Total Deaths	Average Years of Life Lost *	Total Years of Life Lost *
Chronic Disease Deaths	52,219	2.75	143,545
Total Injury	6,275	20.26	127,184
Homicide	664	31.51	20,923
Unintentional Motor Vehicle Traffic	1,544	25.32	39,094
Unintentional Poisoning	1,016	24.79	25,183
Suicide	1,160	20.27	23,513
All Other Unint. Injury	954	14.85	14,170
All Other Injuries	194	12.30	2,387
Unintentional Fall	743	2.58	1,914

* Based on deaths that occurred prior to age 65

Source: Prepared by NC DHHS DPH State Center for Health Statistics March 2010

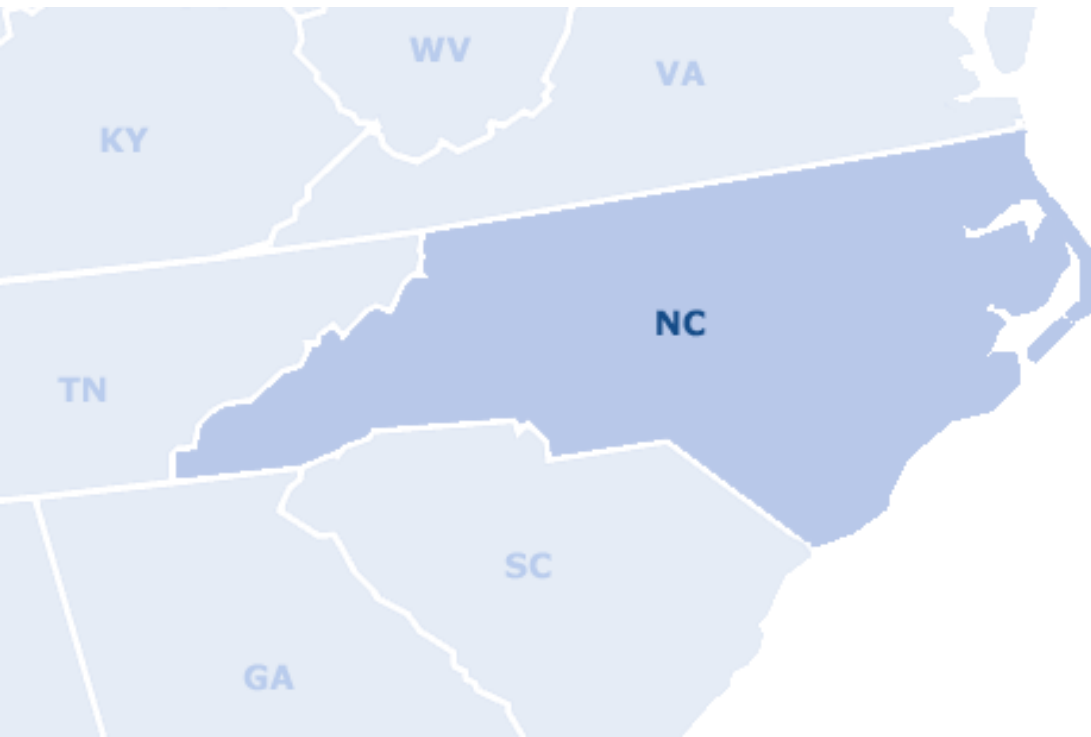
Injury And Violence Are Costly

Cost in billions of dollars per year, nationally

Injuries	Medical Costs	Productivity Costs	Total Costs
Drowning/ Submersion	\$1	\$5	\$6
Fire/ Burn	\$1	\$6	\$7
Cut/ Pierce	\$3	\$12	\$16
Poisoning	\$2	\$23	\$25
Firearm/ Gunshot	\$1	\$35	\$36
Struck By/ Against	\$11	\$37	\$48
Falls	\$26	\$54	\$80
MV/ Road	\$14	\$75	\$89
Other/ Unclassified	\$19	\$76	\$96
Total	\$80	\$326	\$406

The Burden of Chronic Disease and Injury in North Carolina

Diabetes



Three Major Forms of Diabetes

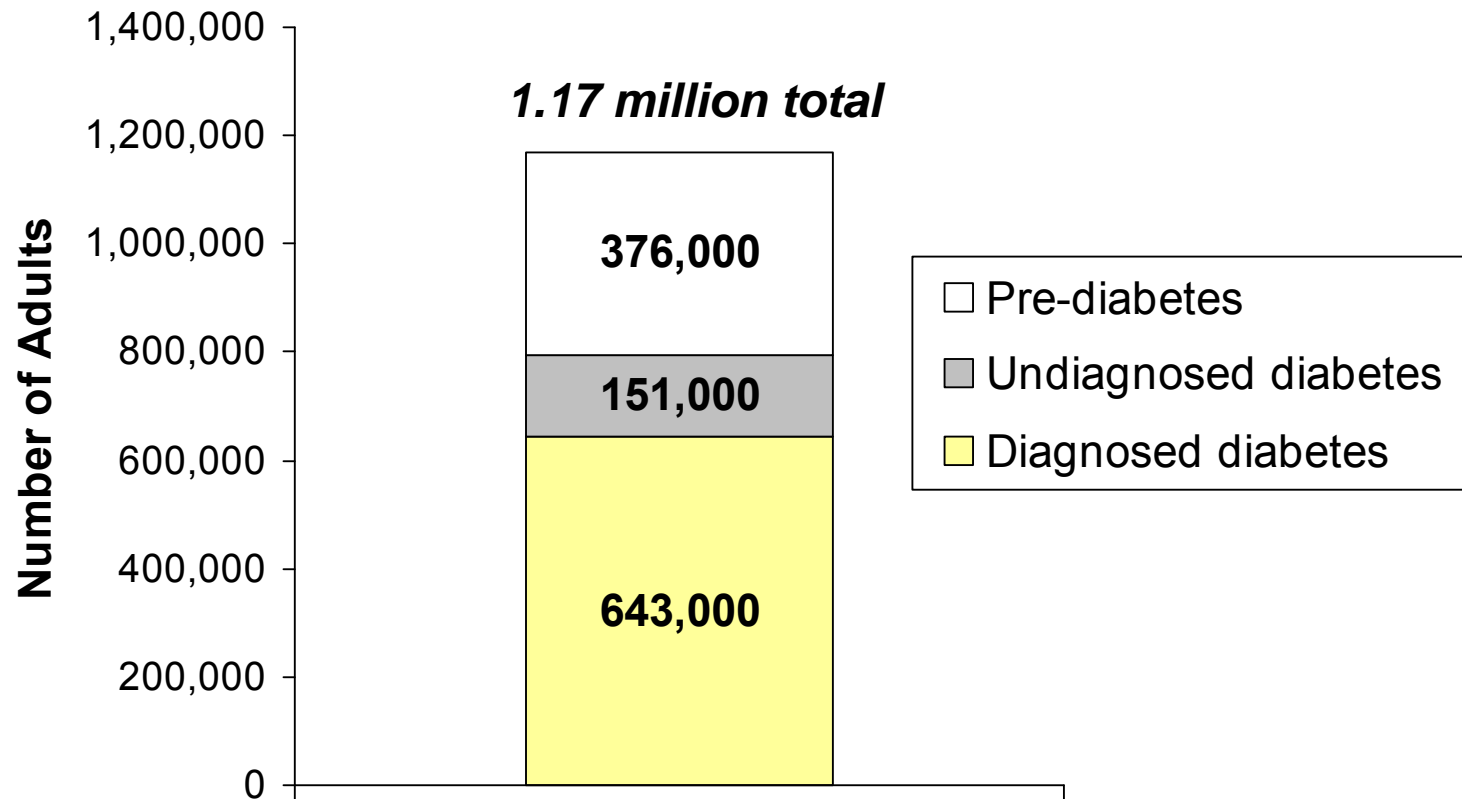
Diabetes is a group of diseases characterized by high levels of blood glucose (blood sugar).

<u>Type 1 Diabetes</u> (Juvenile diabetes)	<u>Type 2 Diabetes</u> (Adult-onset diabetes)	<u>Gestational Diabetes</u>
Generally occurs in children and young people under the age of 30	Generally occurs after the age of 30; increasingly seen among youth now	Occurs in some pregnant women who never had diabetes before
Highest prevalence among non-Hispanic whites	Highest prevalence among African Americans	Highest prevalence among ethnic minority women
Controlled with insulin injections	Controlled with diet, exercise and pills	Controlled with diet, exercise and insulin
5% to 10% of all diabetes cases	90% to 95% of all diabetes cases	3% to 9% of all pregnant women

Source: 2007 National Diabetes Fact Sheet. Centers for Disease Control and Prevention, Atlanta, GA: U.S. Department of Health and Human Services.

Estimated Number of Adults with Chronic High Blood Glucose Levels in North Carolina 2008*

North Carolina was ranked 17th highest in adult diagnosed diabetes prevalence in the U.S. in 2008.



* All numbers rounded to the nearest one thousand

See notes section for references and more information



In North Carolina, **Diabetes** affects minority and low-income groups the most

Demographic Characteristic and Prevalence Rate for N.C. Adults

Race and Ethnicity*		Education		Household Income			
White	8.4%	Less than H.S.	13.6%	<\$15,000	16.7%		
African American	15.6%	H.S. or G.E.D.	10.3%	\$15,000-24,999	11.5%		
Native American	12.4%	Some College	9.2%	\$25,000-34,999	10.5%		
Hispanic	4.5%	College Graduate	6.3%	\$35,000-49,999	9.5%		
<div data-bbox="133 979 1267 1062" data-label="Text"> <p>Diabetes Prevalence for Total Adult Population (18+): 9.3%</p> </div>						\$50,000-74,999	6.3%
						\$75,000+	5.4%

* Race and ethnicity categories are not mutually exclusive.

Source: Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention [2008].

Diabetes-Related Hospital Discharges in North Carolina, 2007

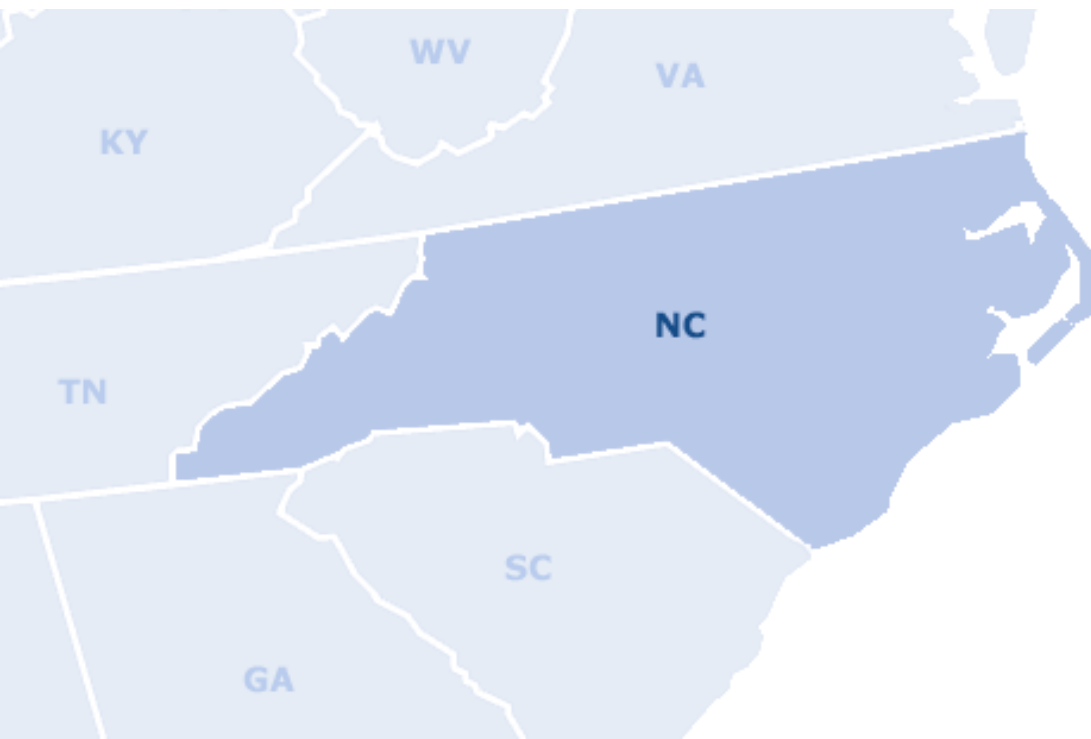
The cost of diabetes-related hospitalizations
is a *huge* burden on the state

Diagnosis Related to Diabetes	Total Discharges	<i>Total Charges</i>	Average Charge per Hospital Stay
Any mention of diabetes in diagnosis	194,493	\$4,046,926,159	\$20,808
Cardiovascular Disease ¹	35,628	\$1,008,711,287	\$28,312
Diabetes as principal diagnosis	16,946	\$279,359,049	\$16,485
Renal Dialysis/Transplant ²	8,959	\$238,693,100	\$26,643
Stroke ³	8,227	\$161,445,995	\$19,624
Lower Limb Amputation ⁴	2,608	\$94,952,645	\$36,408

Source: Provisional 2007 North Carolina Hospital discharges data, State Center for Health Statistics

The Burden of Chronic Disease and Injury in North Carolina

Asthma



In North Carolina, **asthma** affects minority and low-income groups the most

Among Adults

- Native Americans have nearly **twice** the asthma prevalence of whites.¹
- Households with incomes **below \$25K/year** are almost **twice** as likely to have adult asthmatics than higher income levels.¹

Among Children

- African Americans have the highest prevalence (**10.7%**).
- About **12%** of children receiving Medicaid currently have asthma.²

1. Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention [2008].

2. North Carolina Health Assessment and Monitoring Program (CHAMP) Survey Data (2008): State Center for Health Statistics, Raleigh, NC

Asthma-Related Hospital Discharges in North Carolina 2007

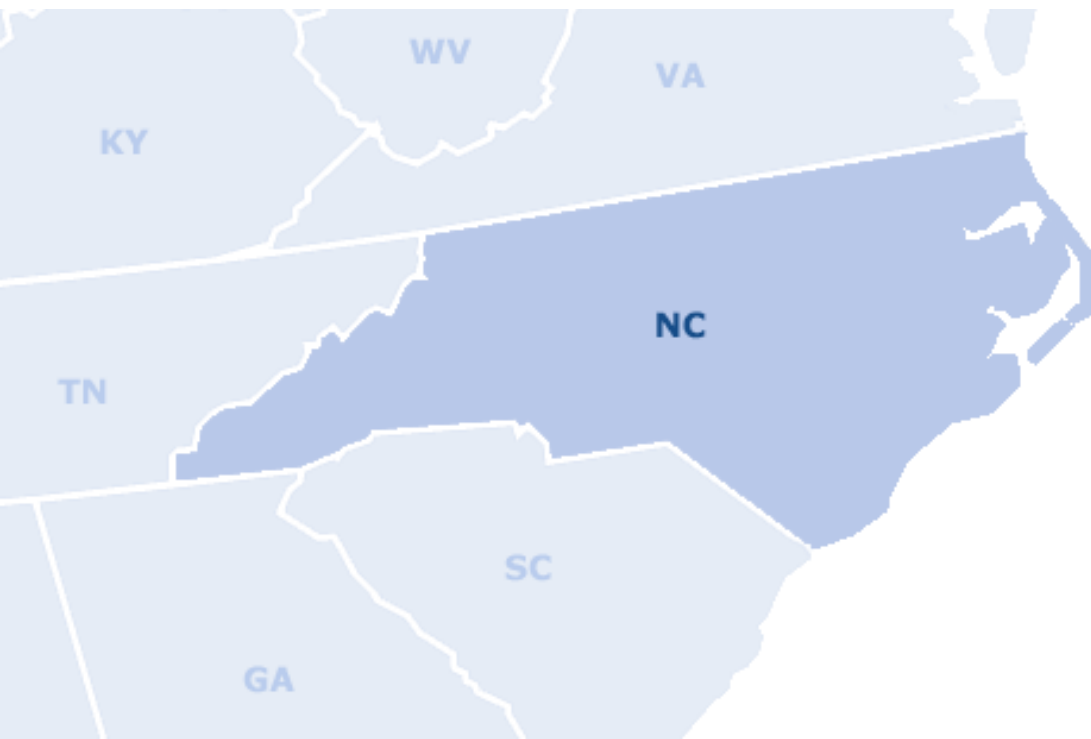
- Total discharges: **10,535**
 - 11.6 per 10,000 population
- Length of stay: **3.6 days**
- Average cost per day: **\$2,930**
- Total cost: **\$110,321,725**

Note: data includes inpatient hospital utilization and charges for asthma in North Carolina

Source: NC SCHS. Provisional North Carolina Hospital Discharge Data, 2007.

The Burden of Chronic Disease and Injury in North Carolina

Obesity



Obesity in North Carolina*

- North Carolina has the **12th** highest percentage of obese adults and **14th** highest percentage of obese and overweight children in the United States.¹
- **66%** of North Carolina adults are overweight or obese.²
- **33%** of North Carolina youth ages ten to seventeen are overweight or obese.³

* **Overweight** is defined as BMI \geq 85 percentile but $<$ 95 percentile for age and sex; **Obese** is defined as BMI \geq 95 percentile for age and sex, or exceeding 30 kg/m²

1. Trust for America's Health. F as in Fat: how obesity policies are failing in America, 2009. Washington, DC: Trust For America's Health; 2009. Available at: <http://healthyamericans.org/reports/obesity2009/Obesity2009Report.pdf>. Accessed October 26, 2009.

2. Behavioral Risk Factor Surveillance System. North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. 2008. Available at: <http://www.schs.state.nc.us/SCHS/brfss/2008/nc/all/rf1.html>. Accessed on October 26, 2009.

3. North Carolina Child Health Assessment and Monitoring Program (CHAMP), State Center for Health Statistics. Available at: <http://www.schs.state.nc.us/SCHS/champ/2008/bmi.html>. Accessed on October 26, 2009.

Obesity Adds to Sky-Rocketing Medical Costs¹

Annual medical costs in North Carolina continue to increase, due in part to the high costs of obesity.

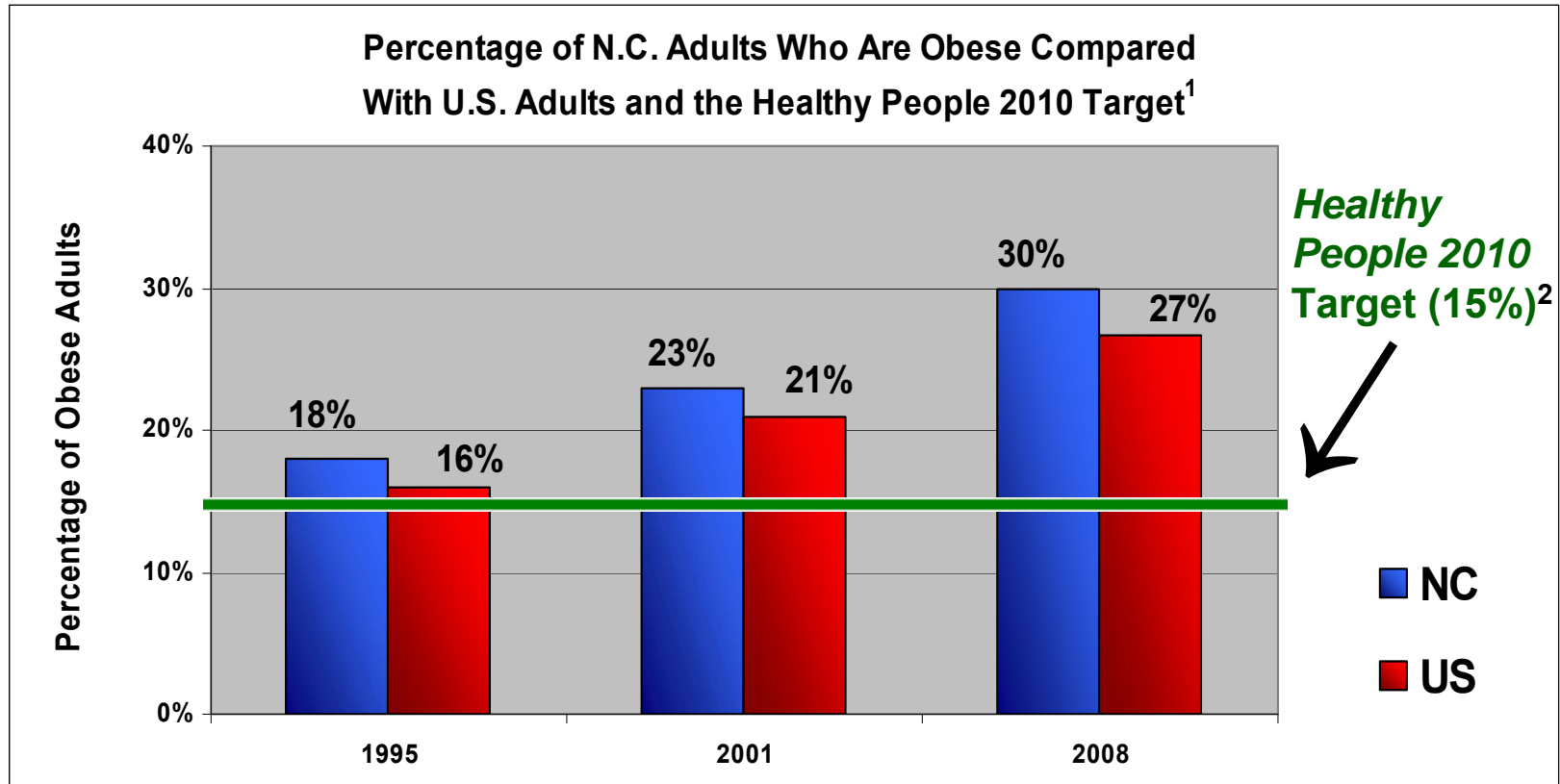
Year	<i>Adult Obesity: Direct Medical & Indirect Costs</i>	<i>Youth Obesity (10-17): Direct Medical Costs</i>
2006	\$57 billion	\$105 million
2011 (projected)	\$76 billion	\$165 million
2015 (projected)	\$94 billion	\$205 million

Increases almost \$20 billion every five years

Increases almost \$50 million every five years

1. **Tipping the Scales: How obesity and unhealthy lifestyles have become a weighty problem for the North Carolina economy.** Chenoweth & Associates, June 2008 and available at http://209.200.69.140/threepersent/download/Tipping_the_Scales.pdf

Thirty percent of North Carolina adults are obese, up from 18 percent in 1995. The nation has seen a similar trend.

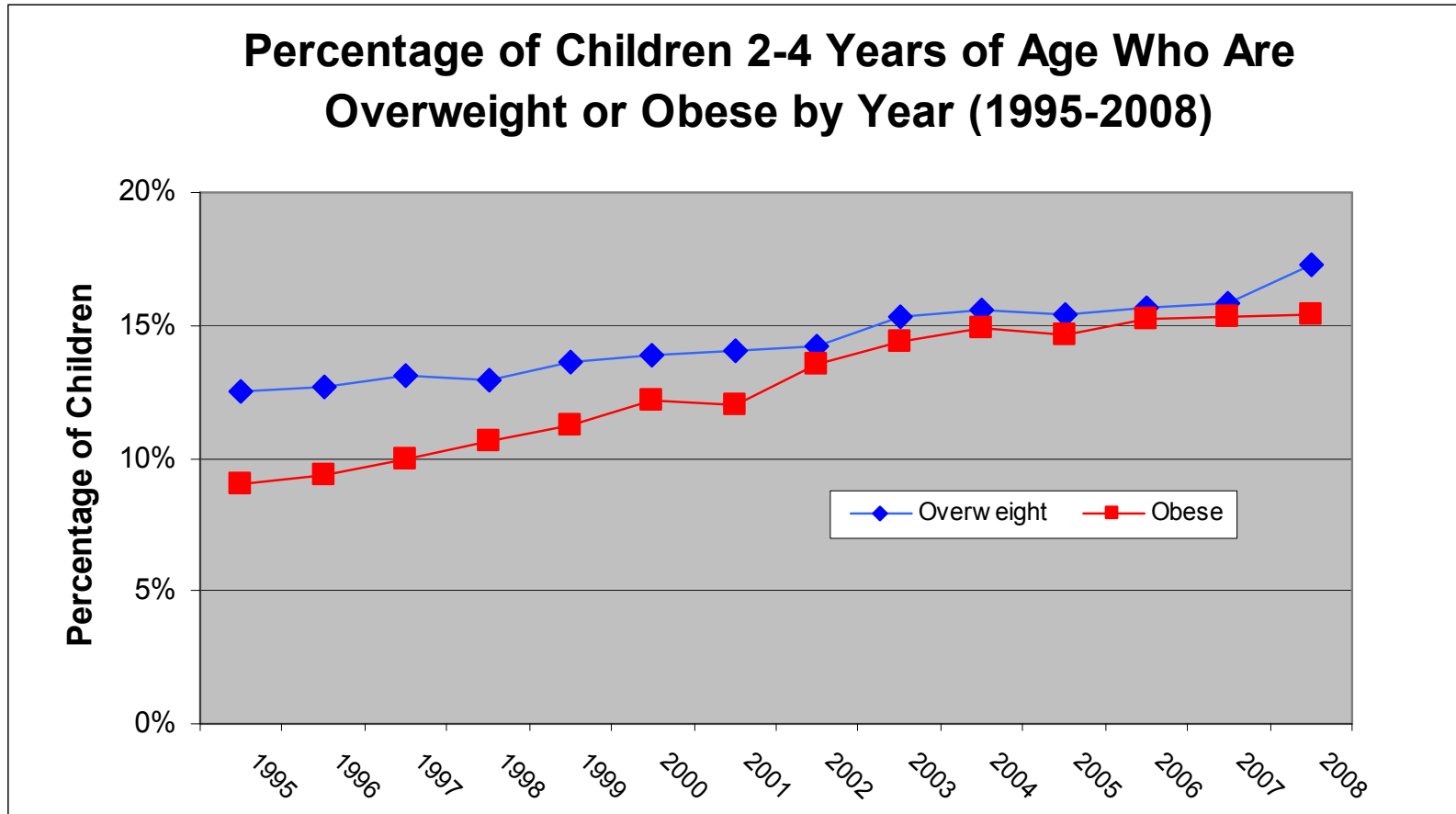


1. Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention [2008].

2. Centers for Disease Control and Prevention (CDC). DATA2010 The Healthy People Database. Retrieved December 2, 2009 from <http://wonder.cdc.gov/data2010/obj.htm>

Obesity in Young Children

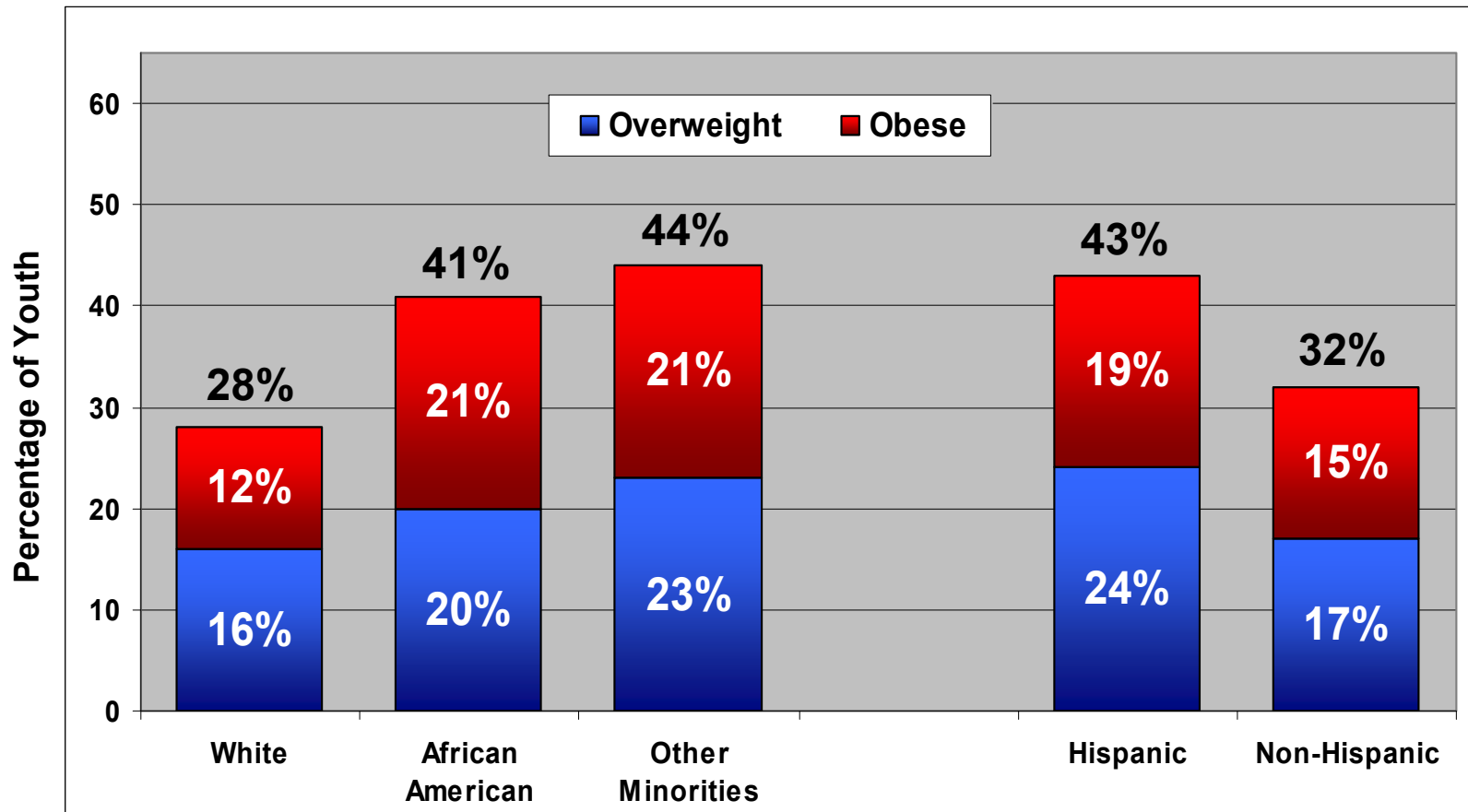
A growing percentage of North Carolina children are overweight or obese by the time they start school.



Source: North Carolina-Nutrition and Physical Activity Surveillance System (NC-NPASS) includes data on children seen in North Carolina Public Health Sponsored WIC and Child Health Clinics and some School Based Health Centers. (1995-2007).

In North Carolina, minority youth are at *increased* risk for overweight and obesity.

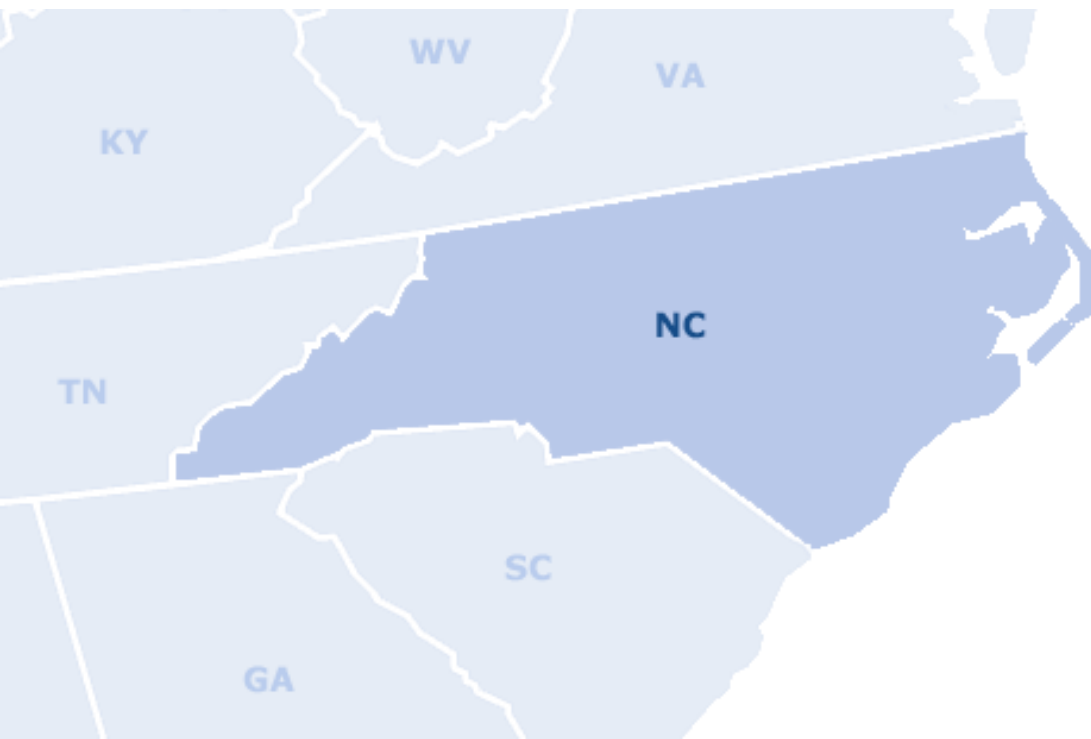
Percentage of N.C. Youth (Ages 10-17) Who Are Overweight or Obese by Race and Ethnicity (2008)



Source: North Carolina Health Assessment and Monitoring Program (CHAMP) Survey Data (2008): State Center for Health Statistics, Raleigh, NC

The Burden of Chronic Disease and Injury in North Carolina

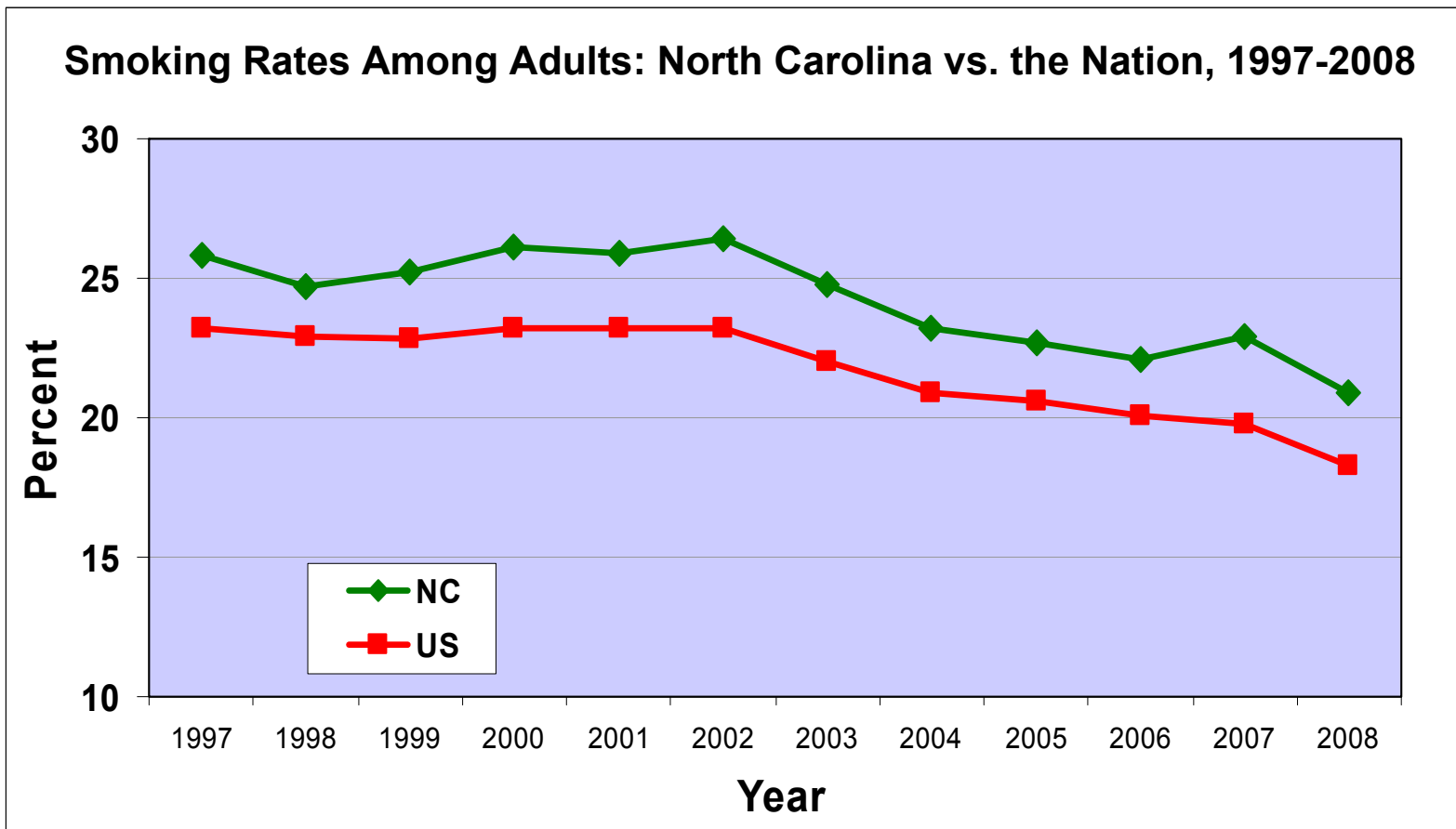
Tobacco



Tobacco's Toll in North Carolina

- Tobacco use remains the **leading** preventable cause of death in North Carolina and the nation.
- **1 out of 5 deaths** is attributable to smoking.
- For every death, **20 more** are sick or disabled due to smoking.

North Carolinians are more likely to smoke than the rest of the nation



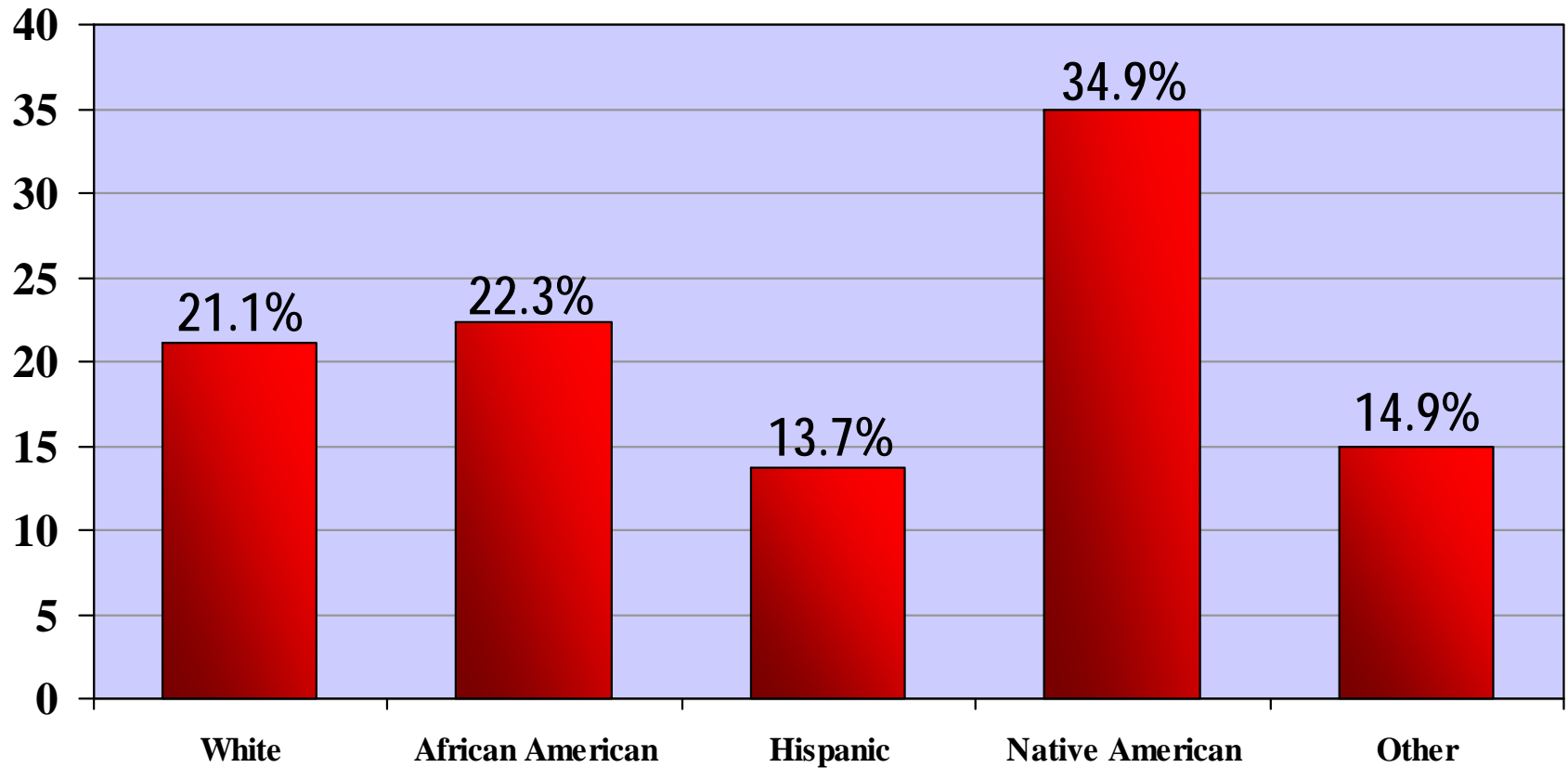
Sources: CDC. "STATE Trend Report for North Carolina: 1997–2008" State Activity And Tracking System (BRFSS Data) December 2009

CDC. "Current Smoking Among Adults Aged 18 years and Over in United States, 1997 – June 2008" National Health Interview Survey, December 2008

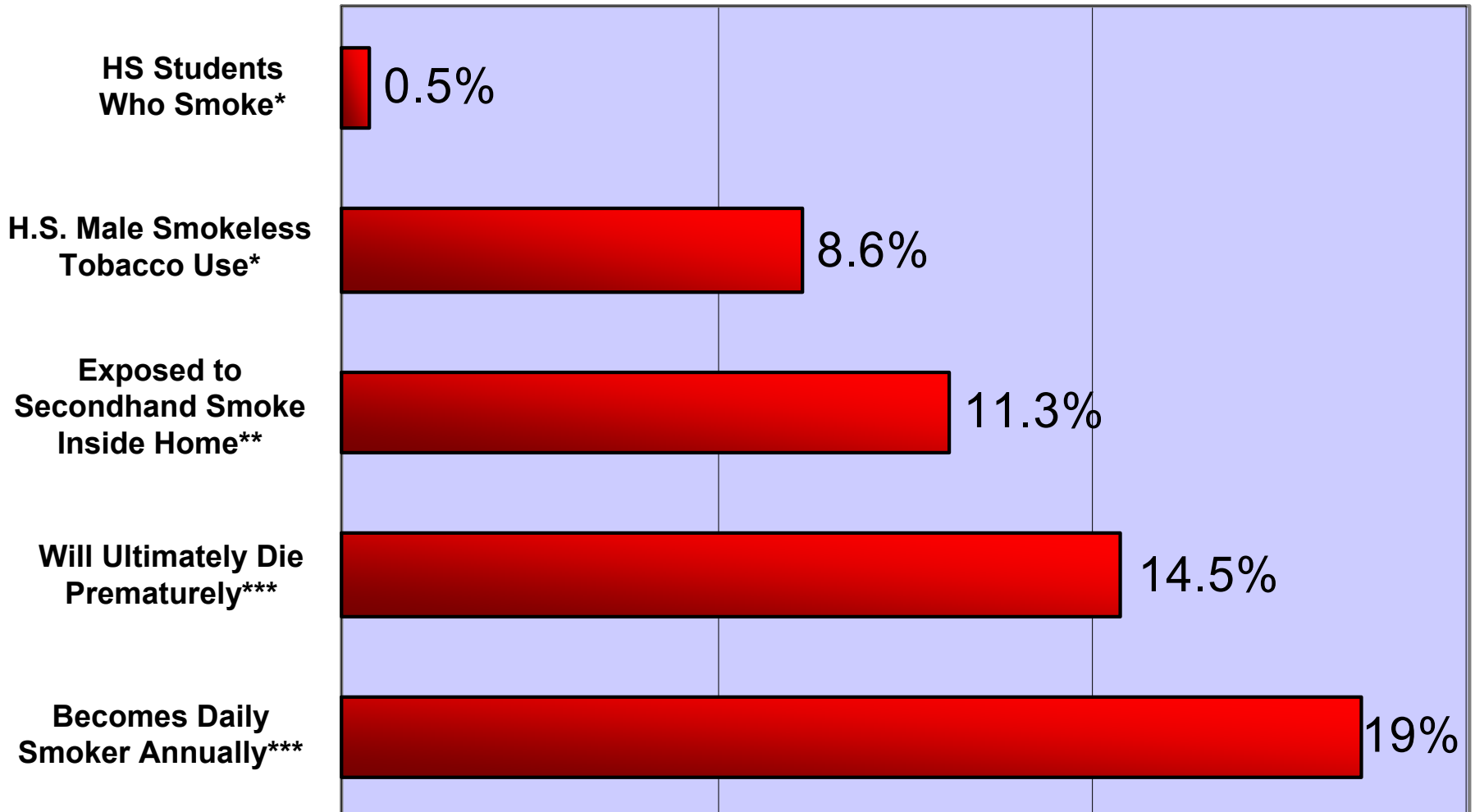
See notes section for more information



Percentage of N.C. Adults Who Smoke Cigarettes, by Race and Ethnicity



Youth Tobacco Toll in North Carolina



Sources:

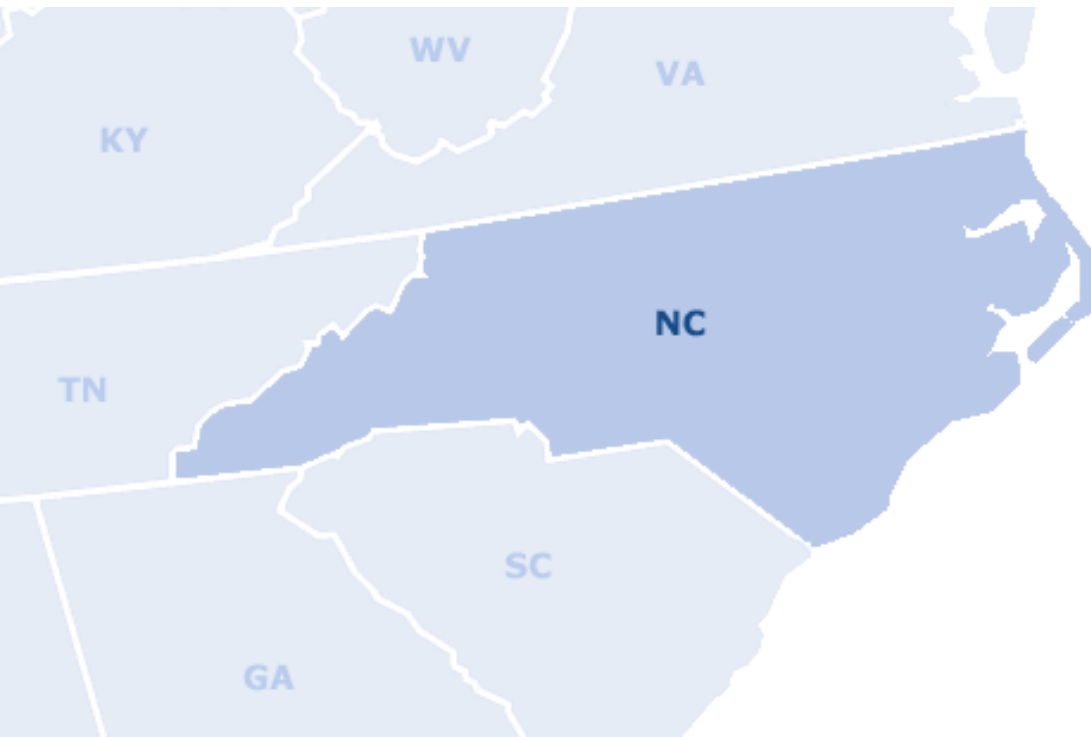
* North Carolina 2007 Youth Tobacco Survey

** 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health Website: Exposure to SHS at home

*** Campaign For Tobacco Free Kids: The Toll of Tobacco Use in North Carolina: Youth, October 2009 Web Based Report

The Burden of Chronic Disease and Injury in North Carolina

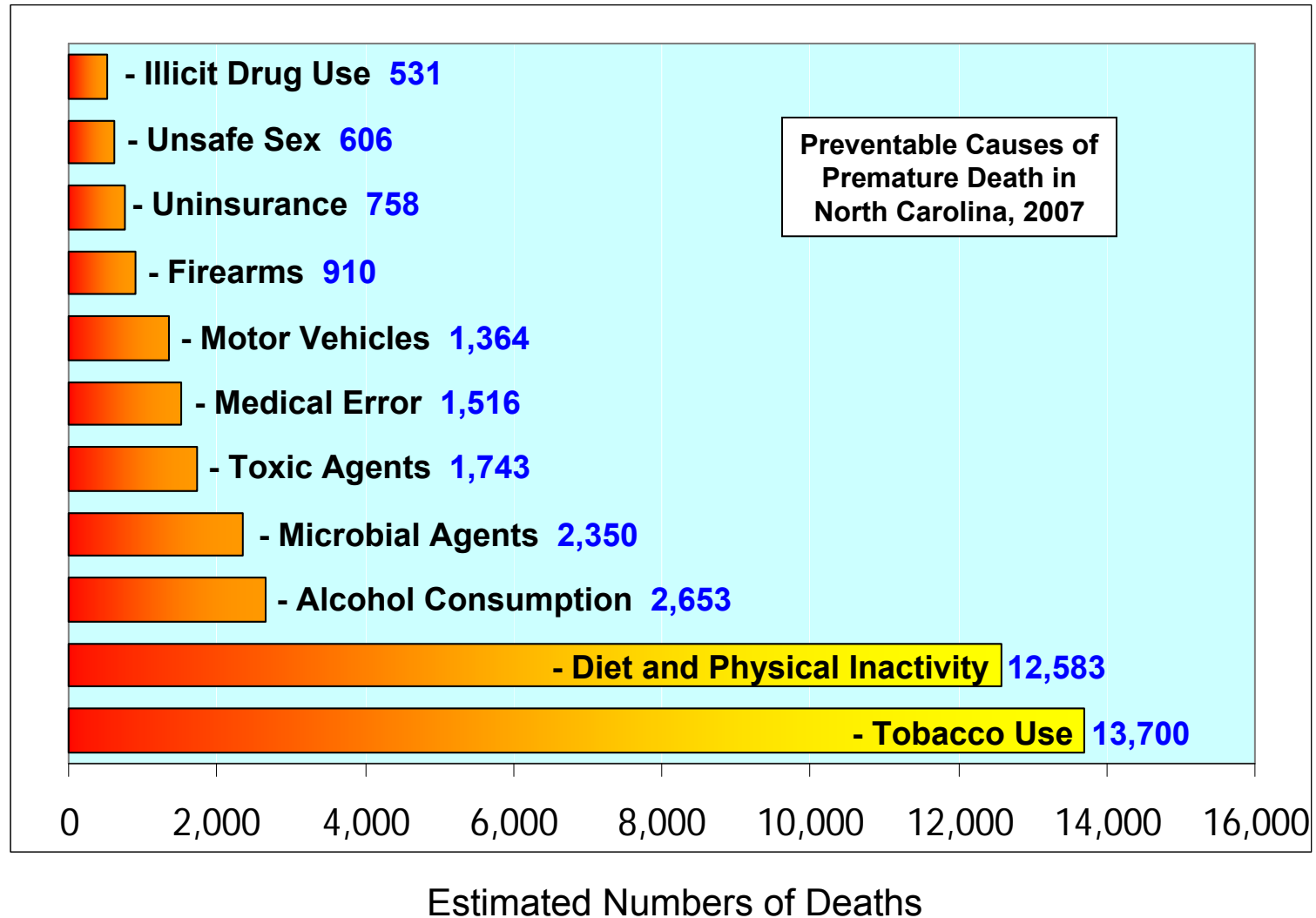
Prevention



The Need for Prevention in North Carolina

- **N.C. ranks 40th** (*almost the bottom!*) among states for life expectancy at birth
 - Chronic diseases are the leading causes of adult mortality and morbidity
 - Injuries are one of the leading causes of death for the young
- The best way to treat diseases and injuries is to **prevent them** from occurring in the first place
 - In our state (and nation), we mostly pay for health problems *after they occur*, not before.
- North Carolina spends **13.8%** of its gross state product on health care
 - National average is 13.3%

More than half (68%) of all premature death in North Carolina is **preventable**.



NC Institute of Medicine Task Force's **Policy Recommendations**

- 1. Reduce Tobacco Use**
- 2. Promote Healthy Eating and Physical Activity**
- 3. Reduce Risky Sexual Behaviors**
- 4 & 5. Prevent Substance Abuse and Improve Mental Health**
- 6. Decrease Environmental Risks**
- 7. Reduce Unintentional and Intentional Injuries**
- 8. Reduce Vaccine-Preventable Diseases and Food-Borne Illnesses**
- 9. Eliminate Racial and Ethnic Disparities**
- 10. Reduce Socioeconomic Health Disparities**

Prevention Through Evidence-Based Strategies

- Implementing *evidence-based strategies* will improve population health.¹
- *Evidence-based strategies* are subject to rigorous evaluation and produce positive outcomes.¹
- We can implement *evidence-based prevention strategies* in schools, worksites and clinical settings
 - safe routes to school to promote physical activity²
 - worksite *Assessment of Health Risks with Feedback* (AHRF) to change employee health³
 - Quitline and other tobacco cessation services²



Prevention programs must work across:

- *life span & settings*
- *risk factors*
- *diseases*

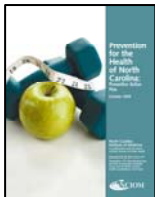
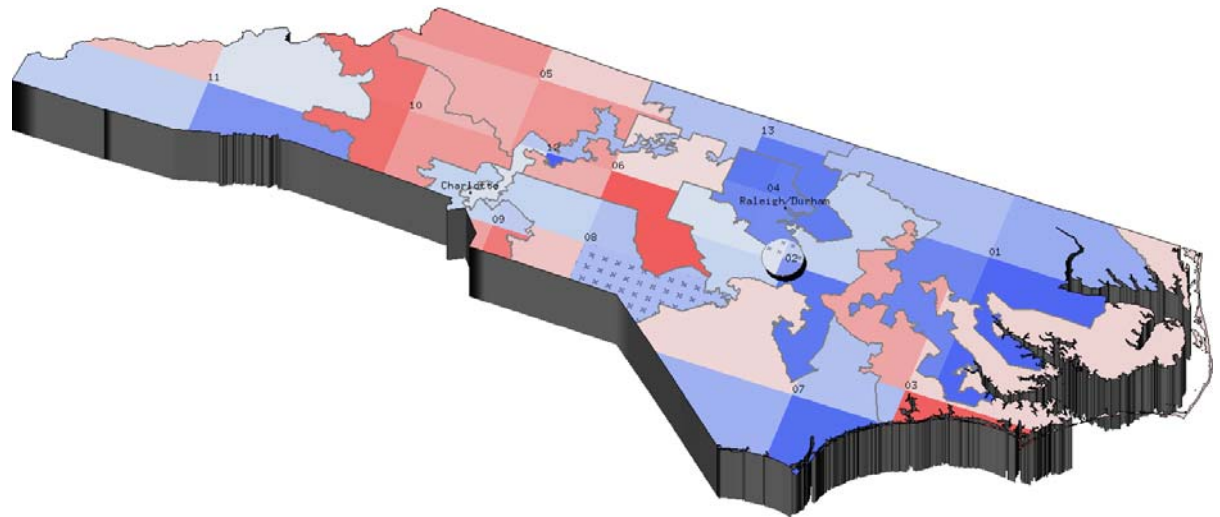
Because...

- The *same* risk factors cause multiple chronic diseases.
- The *same* populations at risk for one chronic disease are often at risk for other diseases.
- The *same* intervention strategies can combat multiple chronic diseases and risk factors.

Thank You!

The North Carolina Chronic Disease and Injury Section appreciates your support!

[Return to Beginning](#)



For questions or more information, please email Rocky.Payne@dhhs.nc.gov