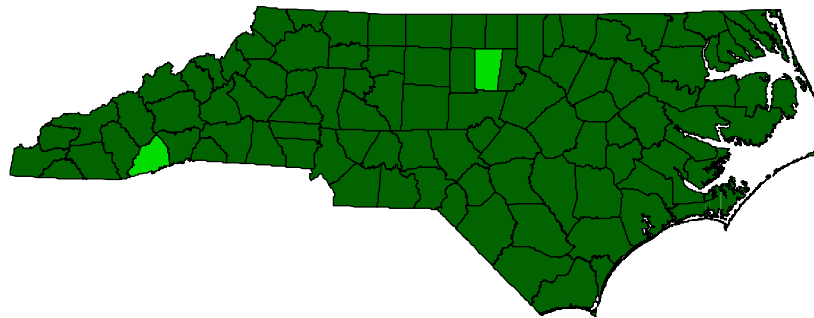
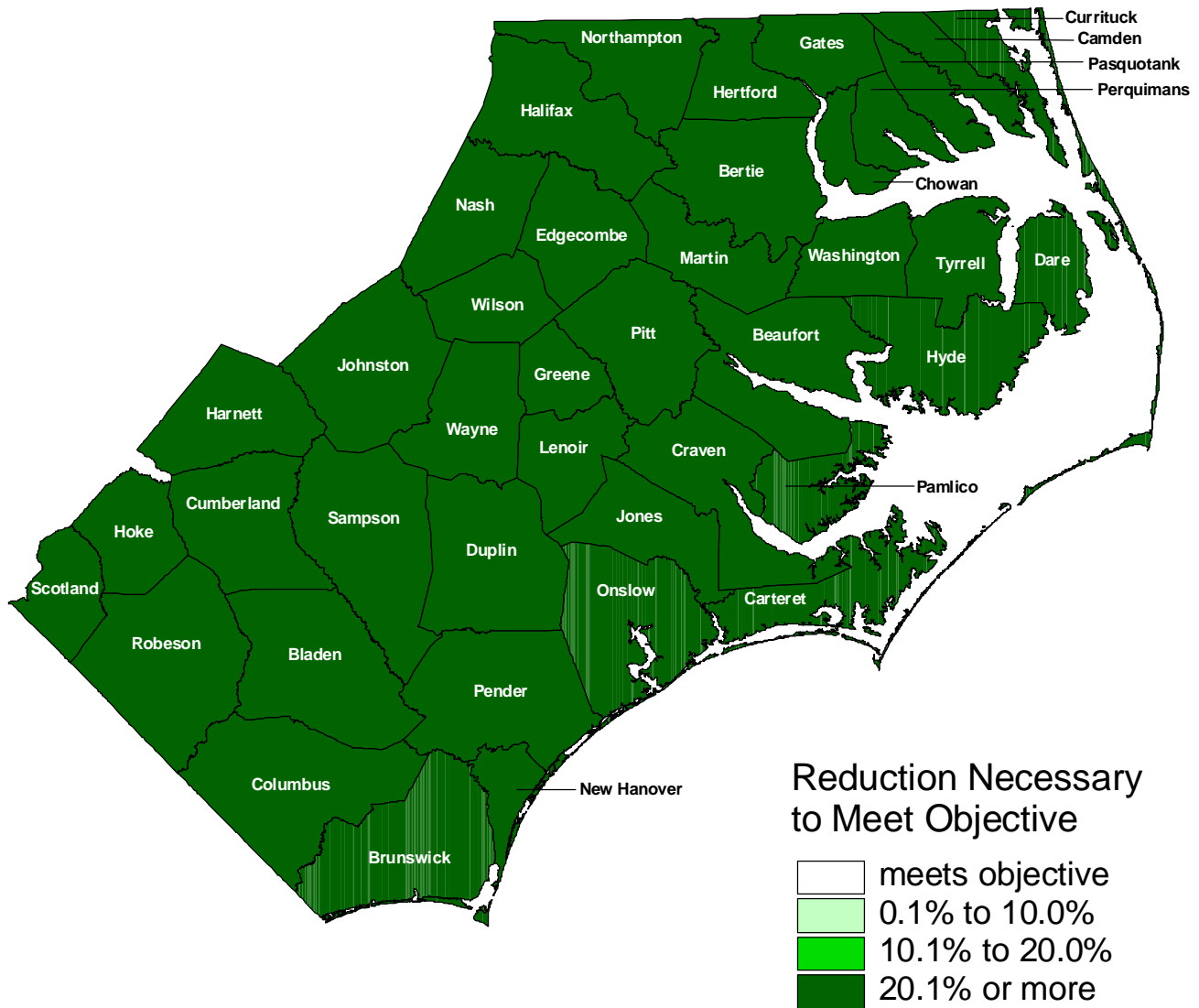


# **Unintentional Injury**

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### Map 10.1 Progress Towards Unintentional Injury Mortality Objective



**HP 2010 Objective for Unintentional Injury Mortality:**  
 Reduce unintentional injury deaths to no more than 17.5 per 100,000 population

Unintentional Injury ICD-9 Codes: E800-E869; E880-E929  
 Based on Five-Year Average, Age-Adjusted Rates Standardized to US 2000 SM

Data Source: NC State Center for Health Statistics

## UNINTENTIONAL INJURY

Accidents, the 5<sup>th</sup> leading cause of death in the United States (US), are a major cause of permanent disability, lost productivity, and premature mortality. Accidents claimed more than 97,800 lives in 1998, with associated costs exceeding \$480 billion dollars. The term accident encompasses a variety of causes of death that can be broadly grouped into the categories of unintentional injuries and adverse effects of medical care. This chapter focuses on the category of unintentional injuries, which includes deaths due to motor vehicle injury, drowning, poisoning, falls, burns, suffocation, firearm injuries, and other causes. Motor vehicle injury, the most common cause of unintentional deaths, is covered in a separate chapter.

Unintentional injuries occur disproportionately among children, adolescents, and young adults. In fact, unintentional injuries are the leading cause of death for people under 35 years of age. Racial minorities and males also have higher rates of injuries as compared to whites and females. Patterns of accidental deaths vary by age, ethnicity, and gender. For example, drowning is a leading cause of accidental death for children, whereas falls are the leading cause of accidental death for the elderly. Racial minorities have higher death rates from motor vehicle injuries than whites. The overall death rate for unintentional injury is two times higher for men than women. Although accidents are commonly perceived to be random or chance events, most accidents can be prevented.

Injury prevention can be achieved through educational interventions, behavior modification, and legal strategies. Educational efforts to prevent injuries may include teaching parents how to child-proof their home or providing school-aged children with bicycle helmets. Individuals can reduce their risk of motor vehicle injury by observing speed limits, wearing seat belts, and driving only when sober. An example of a legal strategy to reduce injury is a state requirement for parents to place their children in child safety seats.

National data suggest progress towards reducing injury-related morbidity and mortality. Of the 26 objectives pertaining to unintentional injuries, six were achieved and progress was made towards nine, including the objective to reduce the unintentional injury death rate. However, disparities in injury morbidity and mortality have persisted. On-going community efforts to prevent injuries will be necessary in order for the nation to reach national objectives by 2010. Efforts to reduce injuries and eliminate disparities in the occurrence of injury will be needed in eastern North Carolina (ENC) as well. All counties in the region will have to reduce their current age-adjusted mortality rate for unintentional injuries by more than 20% over the next decade in order to meet the *Healthy People 2010* objective. Disparities in injury will also have to be reduced (see Map 10.1). Currently, men in ENC have an unintentional injury rate that is 146% higher than the rate for women, and non-whites in the region have an unintentional injury rate that is 20% greater than the rate for whites.

### HP 2010 OBJECTIVE FOR UNINTENTIONAL INJURY MORTALITY

Objective: Reduce unintentional injury deaths to no more than 17.5 per 100,000 population

Baseline: 35.0 unintentional injury deaths per 100,000 population in 1998

Currently, none of counties in the region meet the objective for unintentional injuries.

### **Crude Mortality Rates for Unintentional Injury Mortality, 1994-1998:**

The five-year average, crude mortality rate for unintentional injury mortality in ENC (46.0 per 100,000 population) is 23% higher than the rate (37.5) for all other counties in North Carolina (ONC) and 33% higher than the rate (34.6) for the US, which means the burden of unintentional injuries is greatest in ENC (see Table 10.1). The highest crude rates of unintentional injury mortality in ENC are found in Bertie (69.6), Columbus (68.1), Duplin (67.2), Robeson (65.9), and Gates (64.9) counties. The highest crude mortality rates are clustered along the northern and southern borders of the region (see Map 10.2).

### **Age-Adjusted Mortality Rates for Unintentional Injury Mortality, 1994-1998:**

The five-year average, age-adjusted unintentional injury rate for ENC (47.3) is 25% higher than the rate for the ONC (37.7) and 36% higher than the US rate (34.9). Bertie (69.0), Robeson (68.5), Duplin (67.9), Columbus (67.5), and Gates (64.1) counties have the highest age-adjusted rates in the region. As Map 10.2 shows, age-adjusted mortality rates for unintentional injuries are high throughout the region.

### **Trends in Unintentional Injury Mortality, 1979-1998:**

Over the last 20 years, age-adjusted mortality rates for unintentional injuries have been falling in the ENC, NC, and the US (see Figure 10.1). However, death rates for unintentional injuries have been consistently higher in ENC than in ONC and the US. With further reductions in mortality, women in ENC could reach the objective for unintentional injury mortality by 2010, but it appears unlikely that men in the region will meet the objective. In order to meet the *Healthy People 2010* objective for unintentional injury mortality, all of the counties in the region will have to reduce their current mortality rates by more than 20% (see Map 10.1).

### **Disparities in Unintentional Injury Mortality, 1979-1998:**

Disparities in unintentional injury mortality by race and gender are shown in Figure 10.2 and Map 10.3. As Figure 10.2 demonstrates, men have higher unintentional injury mortality rates than women. In ENC, the rate for men is 146% higher than the rate for women. The figure also shows that rates for non-whites in the region have historically been greater than the rates for whites. Currently, the rate for non-whites in the region is 20% higher than the rate for whites. As Figure 10.1 shows, most of the racial disparity in unintentional injury mortality in ENC occurs among men. Presently, there is virtually no racial disparity in mortality among women in ENC, ONC, or the US (see Figure 10.2). Though disparities still persist among men, there is clearly a trend of declining disparities in ENC, ONC, and the US. Non-white males in ENC have an unintentional injury mortality rate that is currently 40% greater than the rate for white males.

**Table 10.1 Unintentional Injury Mortality in Eastern North Carolina, 1994-1998**

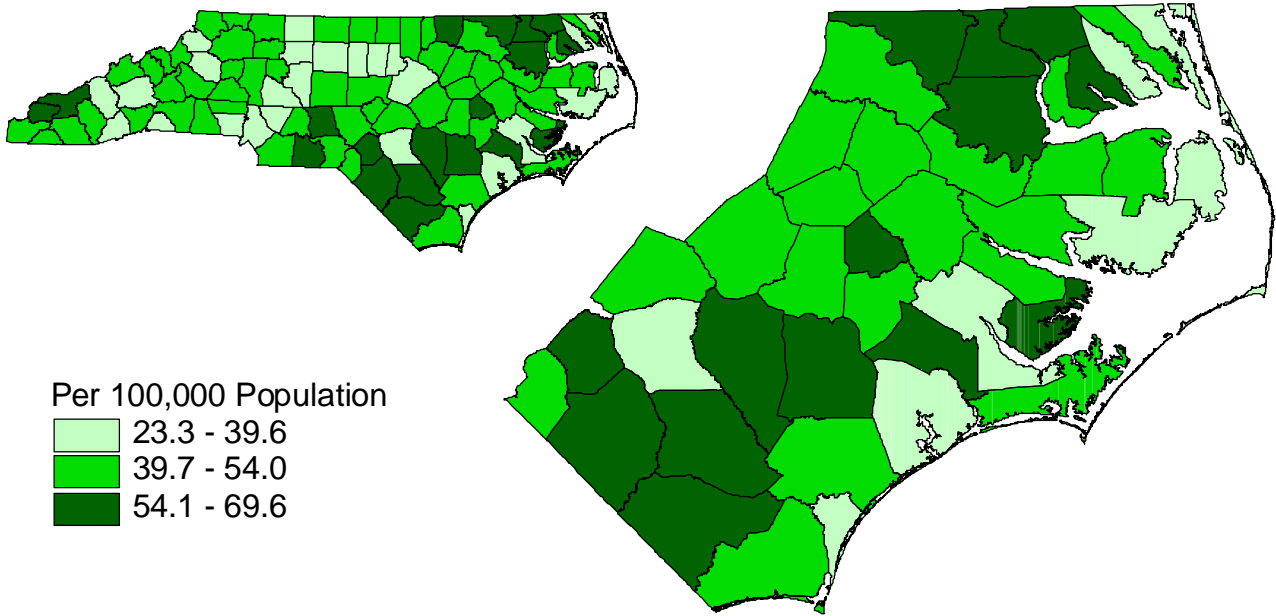
County	Totals			Race-Gender Specific Age-Adjusted Death Rates							
	Deaths	Rates		Non-White Males		Non-White Females		White Males		White Females	
		Crude	Adjusted	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Beaufort	115	53.1	51.5	24	87.2	17	44.4	57	83.0	17	17.9
Bertie	71	69.6	69.0	27	107.7	16	43.5	20	103.4	8	32.7
Bladen	87	57.9	56.8	25	95.4	20	57.4	26	59.5	16	29.9
Brunswick	169	53.7	54.4	25	110.3	6	20.7	88	74.3	50	37.4
Camden	14	44.5	44.1	5	138.0	1	41.9	7	52.7	1	10.0
Carteret	140	48.1	48.1	11	174.0	1	7.5	81	65.3	47	32.5
Chowan	36	50.9	45.9	9	82.7	4	23.7	11	47.7	12	34.8
Columbus	176	68.1	67.5	36	107.4	12	24.2	82	106.0	46	45.1
Craven	167	38.4	39.2	38	75.5	11	18.4	85	55.5	33	20.7
Cumberland	558	38.0	43.2	142	68.0	61	23.3	244	56.9	111	29.4
Currituck	31	38.2	38.9	3	105.4	1	23.3	20	56.9	7	18.7
Dare	45	33.9	37.5	3	100.3	0	0.0	35	68.7	7	11.6
Duplin	146	67.2	67.9	29	93.9	16	41.8	71	102.6	30	37.3
Edgecombe	133	47.6	48.6	49	81.3	23	25.5	30	54.9	31	45.8
Gates	32	64.9	64.1	10	114.3	3	28.9	13	86.9	6	35.0
Greene	54	62.7	63.7	17	98.7	3	17.7	22	92.2	12	39.2
Halifax	134	47.5	48.0	66	99.3	17	22.0	33	53.8	18	20.5
Harnett	192	48.5	49.4	39	115.8	13	28.6	100	71.5	40	24.9
Hertford	63	57.0	55.2	25	86.7	14	38.4	15	71.5	9	23.2
Hoke	83	59.0	62.8	34	104.8	12	31.3	18	60.5	19	67.7
Hyde	8	30.4	28.1	2	52.0	0	0.0	1	11.9	5	49.1
Johnston	241	48.6	49.3	29	86.4	16	34.9	135	68.9	61	27.3
Jones	26	56.5	53.7	7	98.6	3	28.3	10	74.4	6	34.3
Lenoir	142	48.1	47.2	41	86.0	20	28.0	46	57.1	35	32.7
Martin	59	45.8	44.8	23	97.0	12	38.1	14	40.9	10	17.1
Nash	180	42.0	43.1	55	86.2	16	22.4	73	56.8	36	21.6
New Hanover	193	27.0	26.8	27	45.4	14	18.7	102	39.4	50	15.0
Northampton	65	62.6	59.0	29	109.9	17	50.6	15	60.4	4	9.4
Onslow	245	33.1	37.2	29	26.9	19	25.0	138	47.9	59	30.8
Pamlico	38	63.7	63.6	8	137.3	3	37.6	16	69.0	11	42.4
Pasquotank	65	38.2	37.9	18	70.4	13	36.9	20	40.9	14	21.4
Pender	83	46.1	47.2	23	112.1	3	10.0	37	57.5	20	28.4
Perquimans	33	61.3	58.3	12	175.5	2	17.2	11	57.7	8	40.9
Pitt	243	40.5	44.9	57	72.9	22	22.1	104	61.1	60	30.1
Robeson	368	65.9	68.5	173	115.2	71	38.4	91	98.6	33	29.4
Sampson	165	63.9	62.6	45	116.9	17	33.7	66	82.7	37	37.8
Scotland	92	52.7	55.4	28	103.8	8	18.0	39	93.7	17	32.0
Tyrrell	9	48.5	50.4	1	25.4	3	83.9	2	31.1	3	55.9
Washington	31	45.9	46.5	13	87.1	5	28.4	9	50.8	4	21.6
Wayne	235	42.0	43.9	64	83.9	22	22.5	96	54.8	53	29.2
Wilson	153	44.8	45.4	42	84.8	16	21.4	62	65.1	33	27.0
<b>ENC 29</b>	2,713	45.0	45.9	717	83.8	300	27.4	1,117	59.3	579	27.1
ENC 41	5,120	46.0	47.3	1,343	86.5	553	27.9	2,145	61.7	1,079	27.7
ONC	9,536	37.5	37.7	1,357	69.0	611	24.5	4,719	51.0	2,849	24.1
PNC	7,024	35.9	36.9	1,217	68.9	557	24.8	3,235	48.6	2,015	23.8
WNC	2,512	43.0	40.5	140	69.9	54	23.0	1,484	57.6	834	25.3
NC	14,656	40.1	40.6	2,700	76.6	1,164	26.0	6,864	53.9	3,928	25.0
US, 1996	91,776	34.6	34.9	10,264	54.7	4,694	21.8	49,863	48.7	26,955	21.8

Unintentional Injury ICD-9 Codes: E800-E869; E880-E929  
Age-Adjusted Rates Standardized to US 2000 SM  
Total Number of Deaths and Rates for Five-Year Period, except US

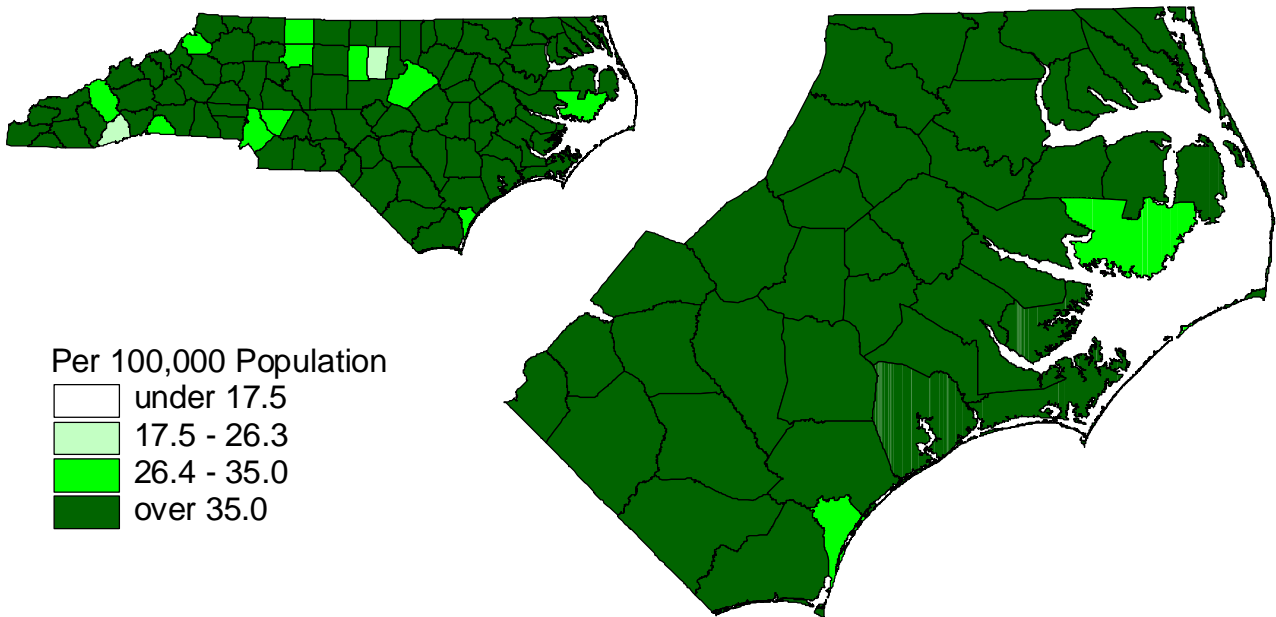
NC Data Source: NC State Center for Health Statistics  
US Data Source: National Center for Health Statistics

### Map 10.2 Crude and Age-Adjusted Unintentional Injury Mortality Rates: North Carolina and Eastern North Carolina, 1994-1998

#### Crude Rate



#### Age-Adjusted Rate

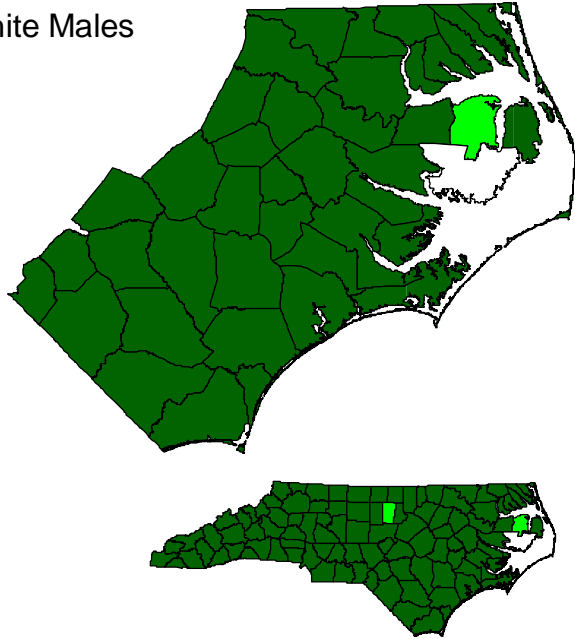


Unintentional Injury ICD-9 Codes: E800-E869; E880-E929  
Five-Year Average, Age-Adjusted Rates Standardized to US 2000 SM

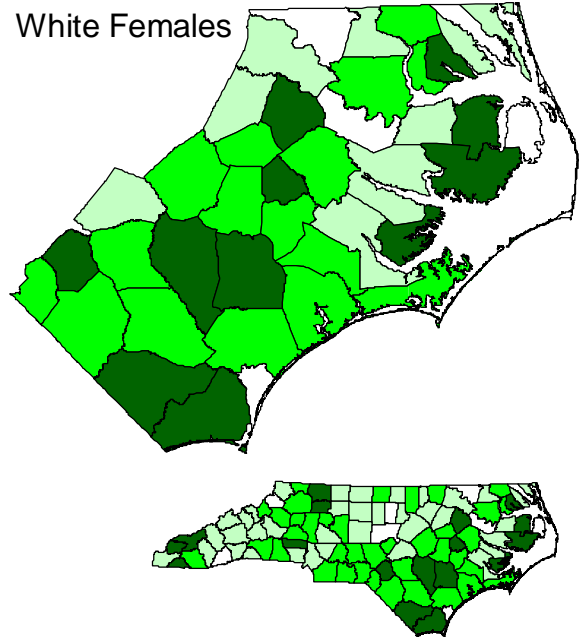
Data Source: NC State Center for Health Statistics

### Map 10.3 Race-Gender Specific, Age-Adjusted Unintentional Injury Mortality Rates: North Carolina and Eastern North Carolina, 1994-1998

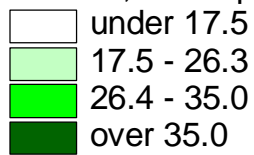
White Males



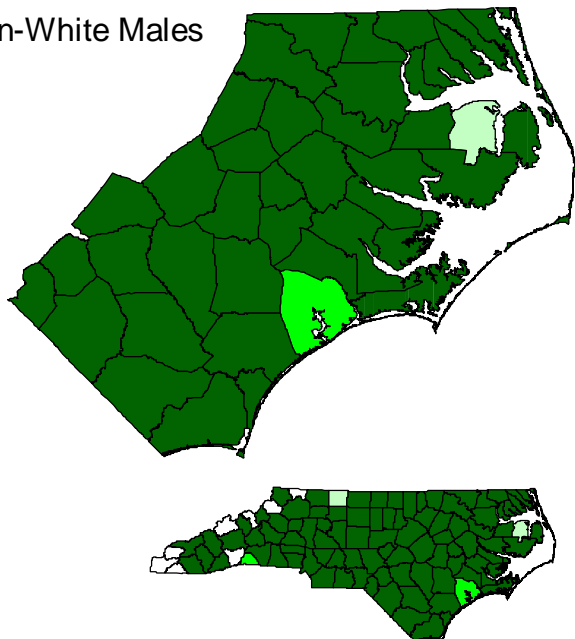
White Females



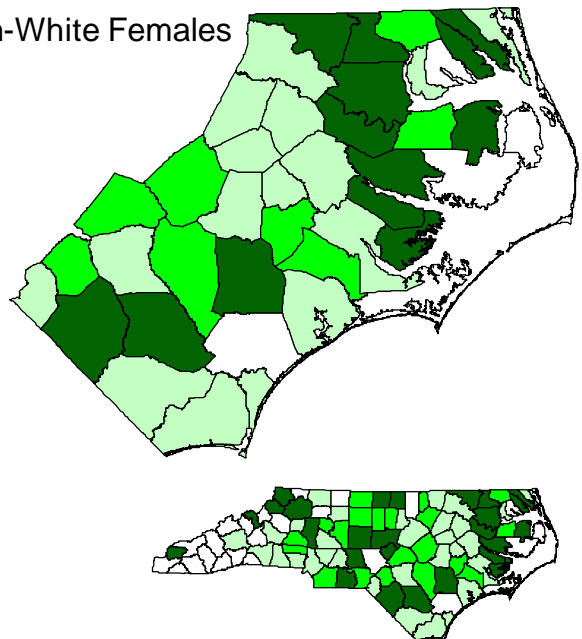
Per 100,000 Population



Non-White Males



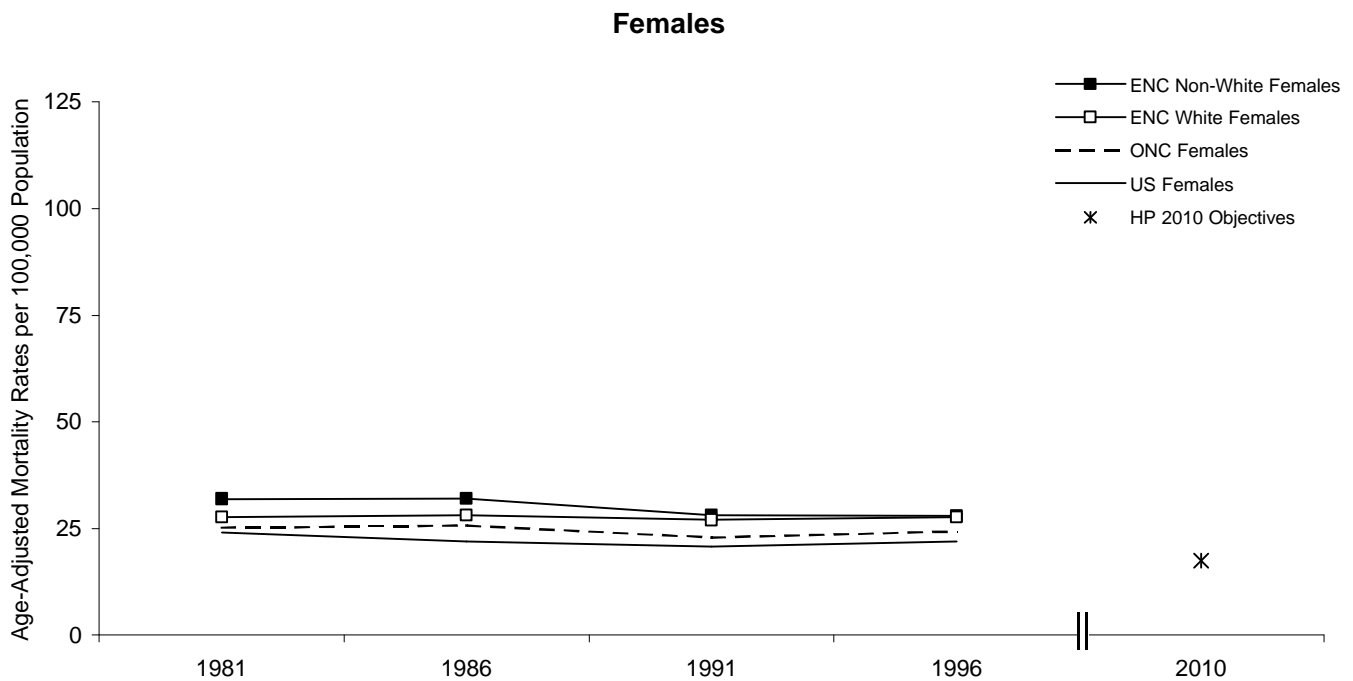
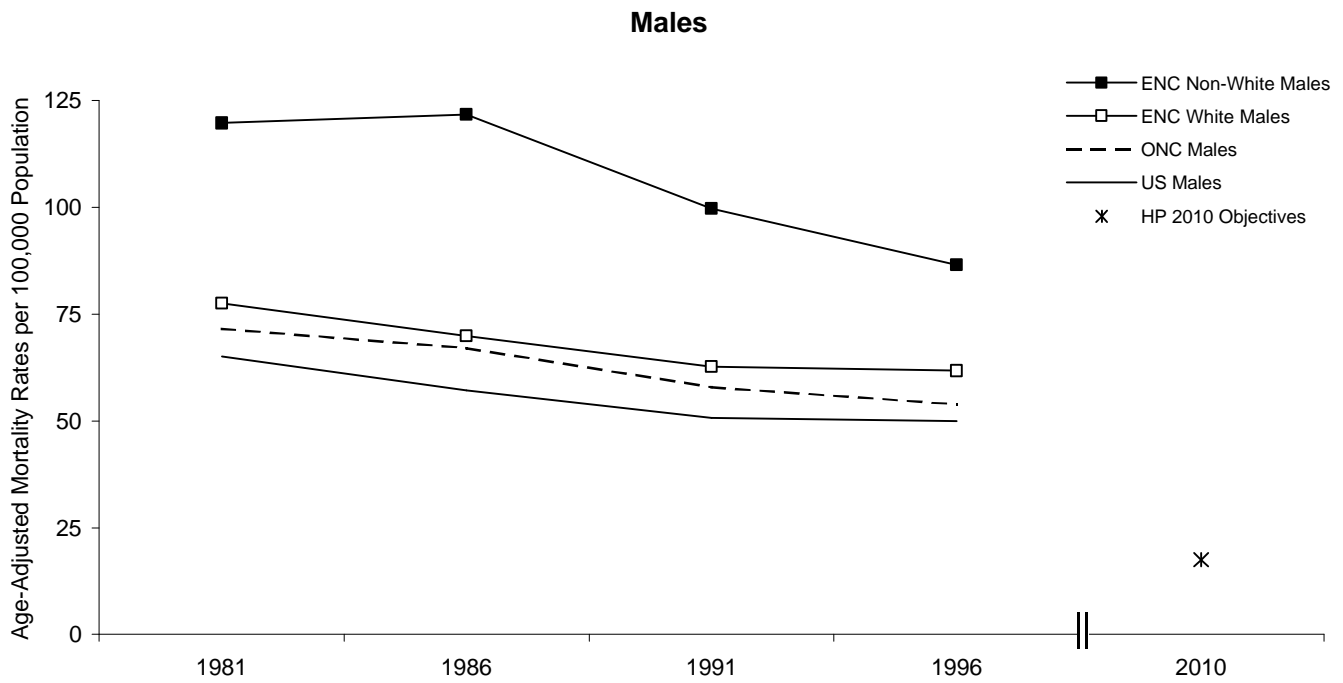
Non-White Females



Unintentional Injury ICD-9 Codes: E800-E869; E880-E929  
Five-Year Average, Age-Adjusted Rates Standardized to US 2000 SM

Data Source: NC State Center for Health Statistics

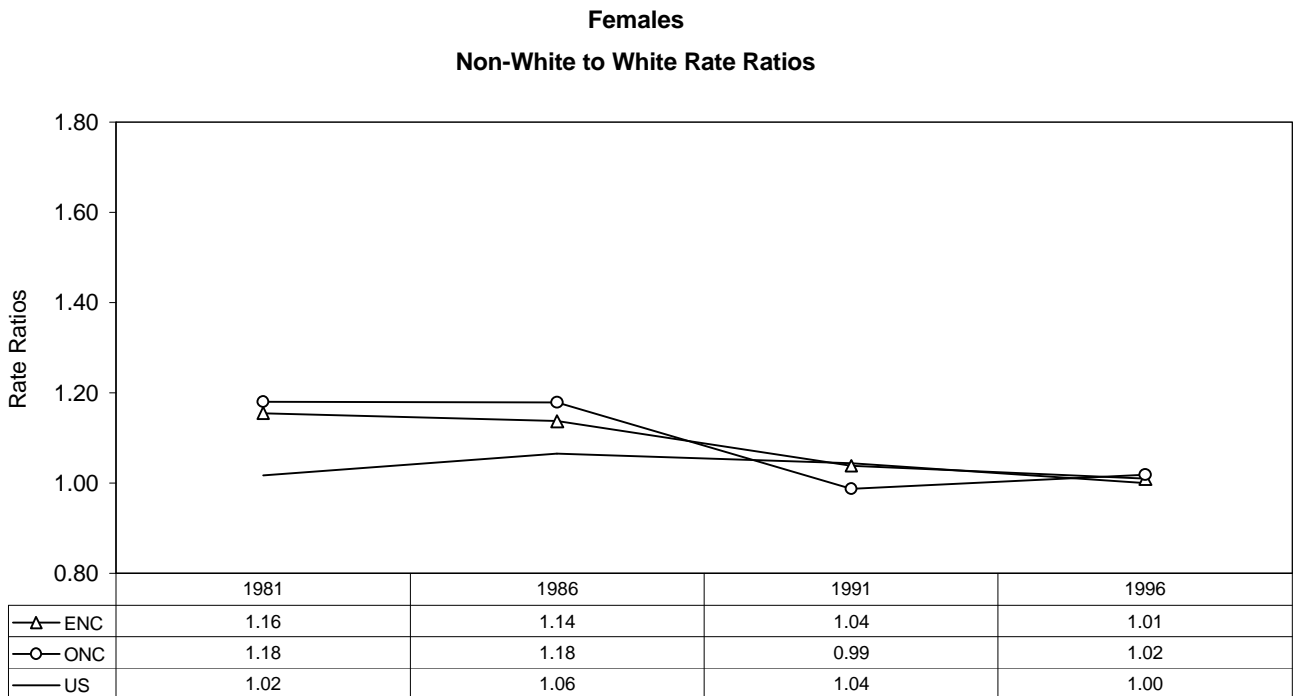
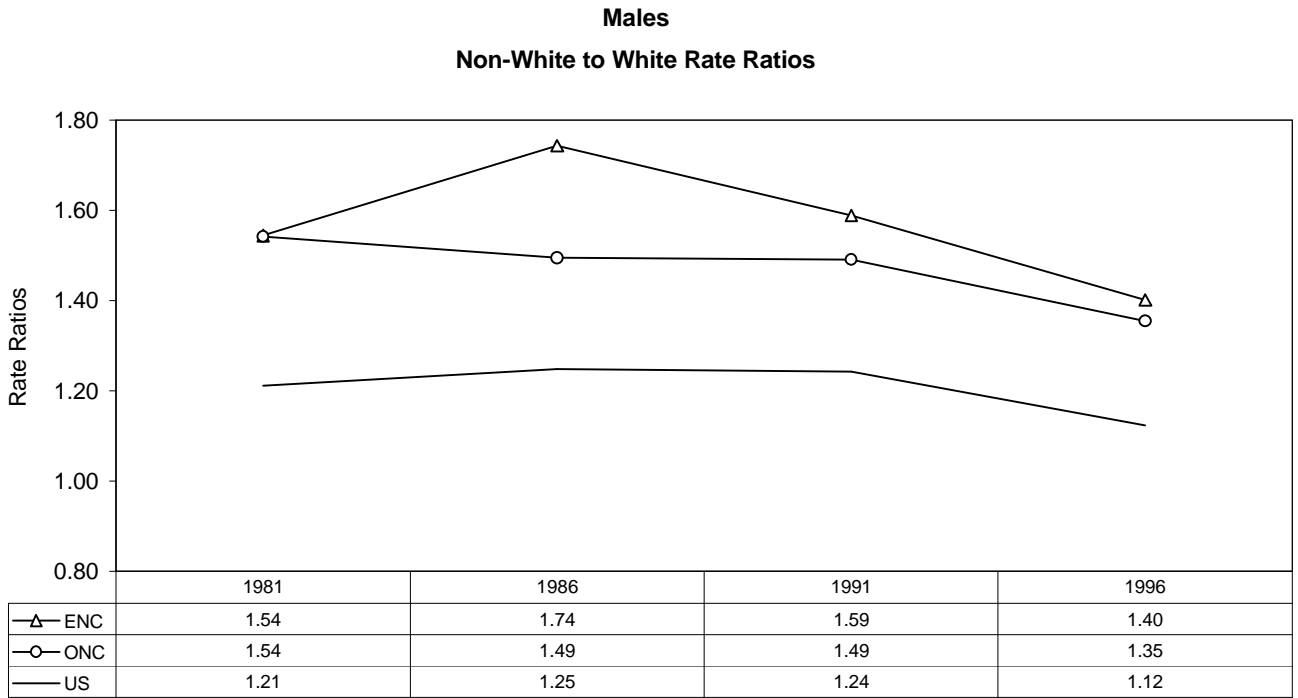
**Figure 10.1 Age-Adjusted Unintentional Injury Mortality Rates by Gender: Regional and National Trends, 1979-1998**



Unintentional Injury ICD-9 Codes: E800-E869; E880-E929  
 Five-Year Average, Age-Adjusted Rates Standardized to US 2000 SM  
 US Rates for Middle Year of Five Year Periods

NC Data Source: NC State Center for Health Statistics  
 US Data Source: National Center for Health Statistics

**Figure 10.2 Racial Disparities in Age-Adjusted in Unintentional Injury Mortality Rates by Gender: Regional and National Trends, 1979-1998**



Unintentional Injury ICD-9 Codes: E800-E869; E880-E929  
Based on Five-Year Average, Age-Adjusted Rates Standardized to US 2000 SM  
US Rates for Middle Year of Five Year Periods

NC Data Source: NC State Center for Health Statistics  
US Data Source: National Center for Health Statistics

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(<http://www.cdc.gov>)

Healthy People 2010  
(<http://web.health.gov/healthypeople>)

National Center for Health Statistics  
(<http://www.cdc.gov/nchs>)

National Center for Injury Prevention and Control  
Centers of Disease Control and Prevention  
(<http://www.cdc.gov/ncipc>)

National Safety Council  
(<http://www.nsc.org>)

North Carolina Center for Health Statistics  
(<http://www.schs.state.nc.us/SCHS>)

## Appendix J

### ICD-9 Codes for Unintentional Injury

E800-E807:	Railway accidents
E810-E819:	Motor vehicle traffic accidents
E820-E825:	Motor vehicle nontraffic accidents
E826-E829:	Other road vehicle accidents
E830-E838:	Water transport accidents
E840-E845:	Air and space transport accidents
E846-E848:	Vehicle accidents not elsewhere classifiable
E849-E858:	Accidental poisoning by drugs, medicinal substances, and biologicals
E860-E869:	Accidental poisoning by other solid and liquid substances, gases, and vapors
E880-E888:	Accidental falls
E890-E899:	Accidents caused by fire and flames
E900-E909:	Accidents due to natural and environmental factors
E910-E915:	Accidents caused by submersion, suffocation, and foreign bodies
E916-E928:	Other accidents
E929:	Late effects of accidental injury