

# North Carolina Minority Health Facts: American Indians



State Center for Health Statistics and Office of Minority Health and Health Disparities

July 2010

The purpose of this report is to present basic health facts about American Indians in North Carolina in the areas of mortality, chronic diseases, HIV and sexually transmitted diseases, health risk factors, access to health care, quality of life, maternal and infant health, and child and adolescent health. But first we give some background information on the American Indian population in the state.

## Age and Geographic Characteristics of American Indians in North Carolina

North Carolina has the largest American Indian population east of the Mississippi River and the sixth largest American Indian population in the nation, according to 2008 U.S. Census Bureau population estimates. According to the census, there were 108,279 American Indian/Alaskan Native residents of North Carolina in 2008. Although the percentage of North Carolina's population that is American Indian has not changed since 1990, the number has increased by nearly 40 percent since 1990 and by 9 percent since 2000. American Indians now represent a little more than 1 percent of the total population of the state.<sup>1</sup>

American Indians in North Carolina are younger than the majority white population. According to the 2008 American Community Survey, the median age of the state's American Indian population was 33.8 years, compared to 40.5 years for the white population of North Carolina.<sup>2</sup>

Although American Indians live in each of North Carolina's 100 counties (see 2008 data on the map, Figure 1), three-fourths of the population lives

in 12 counties, five of which are clustered in the southeastern part of the state. Forty-five percent of North Carolina's American Indian population lives in Robeson County (mostly Lumbee), accounting for 38 percent of that county's total population. Seven percent of North Carolina's American Indians live in Jackson and Swain counties (mostly Cherokee), accounting for nearly 15 percent of the total population in these counties.<sup>1</sup>

Among the American Indian tribes in North Carolina are eight state-recognized tribes: the Eastern Band of Cherokee (who live primarily in Swain, Jackson, and Graham counties), Coharie Tribe (Harnett, Sampson), Haliwa Saponi Indian Tribe (Halifax, Warren, Nash), Lumbee Tribe of North Carolina (Robeson, Scotland, Hoke), Meherrin Indian Tribe (Hertford, Bertie, Gates, Northampton), Occaneechi Band of Saponi Nation (Orange, Alamance), Sappony (Person), and Waccamaw-Siouan Tribe (Columbus, Bladen). The Eastern Band of Cherokee is a federally-recognized tribe, and the only tribe served by the Indian Health Service of the United States Public Health Service. These tribes are referenced in Chapter 71 A of the North Carolina General Statutes. The state-recognized tribes hold membership on the North Carolina Commission of Indian Affairs. The American Indian tribes in Cumberland, Guilford, Johnston, Mecklenburg, and Wake counties are represented through the following associations or organizations: Cumberland County Association for Indian People, Guilford Native American Association, Metrolina Native American Association, and the Triangle Native American Society. In 1956, the United States Congress passed

**Table 1  
Leading Causes of Death Among  
American Indians in North Carolina, 2008**

Rank	Cause of Death	Number of Deaths
1	Cancer	145
2	Diseases of the heart	142
3	Other unintentional injuries	38
4	Motor vehicle injuries	35
5	Diabetes mellitus	31
6	Cerebrovascular disease	28
7	Homicide	25
8	Alzheimer's disease	22
9	Kidney diseases	21
10	Chronic lung diseases	18
	All other causes (residual)	194
	<b>Total Deaths—All Causes</b>	<b>699</b>

the Lumbee Act (HR 4656) which provided federal recognition of the Lumbee tribe, but did not include health services for the Lumbee by the Indian Health Service.

### Social and Economic Well-Being

Low income, low educational level, and unemployment all are associated with a higher rate of health problems. The percentage of American Indian families living below the federal poverty level (\$21,834 annual income for a family of four) in 2008 was 21.2 percent, compared to 6.7 percent for whites and 21.3 percent for African Americans. Approximately 29 percent of American Indian family households were headed by females, compared to 13 percent for white family households and 44 percent for African American family households. Thirty-eight percent of the family households headed by American Indian females lived in poverty, compared to 25 percent of the family households headed by white females and 37 percent by African American females. More than 58 percent of American Indian adults (ages 25 and older) had a high

school education or less, compared to 40 percent for whites.<sup>2</sup> The unemployment rate for American Indians was 7.5 percent, compared to 5.4 percent for whites.<sup>2</sup>

### Mortality

Table 1 shows the leading causes of death for American Indians in North Carolina in 2008.

**Cancer, heart disease, and other unintentional injuries are the top three causes of death, compared to heart disease, cancer, and chronic lower respiratory diseases for the white population.** Motor vehicle injuries (fourth) and homicide (seventh) rank substantially higher as causes of death among American Indians than among whites (10<sup>th</sup> and 19<sup>th</sup>, respectively).

Table 2 shows 2004–2008 age-adjusted death rates (deaths per 100,000 population) for major causes of death, comparing American Indians, whites, and African Americans. **American Indian death rates were at least twice that of whites for diabetes, HIV disease, motor vehicle injuries, and homicide.**

**Table 2  
Age-Adjusted Death Rates\* for Major Causes of Death by  
Race/Ethnicity, North Carolina Residents, 2004–2008**

Cause of Death	American Indian	White	African American
<b>Chronic Conditions</b>			
Heart disease	207.7	192.6	236.0
Cancer	166.4	185.2	224.0
Stroke	54.6	49.2	73.5
Diabetes	45.0	19.5	51.0
Chronic lung disease	30.1	51.1	30.4
Kidney disease	23.5	14.8	36.5
Chronic liver disease	11.8	9.3	8.4
<b>Infectious Diseases</b>			
Pneumonia/influenza	13.5	20.2	19.2
Septicemia	17.1	12.3	22.3
HIV disease	2.9	1.2	16.5
<b>Injury and Violence</b>			
Motor vehicle injuries	39.0	18.1	18.0
Other unintentional injuries	30.9	30.9	21.8
Homicide	20.4	3.6	16.4
Suicide	9.5	14.4	5.0

\* Rates are age-adjusted to the 2000 U.S. standard population and are expressed as deaths per 100,000 population—using underlying cause of death.



**Table 3**  
**Age-Adjusted Rates\* for Cancer Incidence by Race/Ethnicity**  
**North Carolina Residents, 2002–2006**

Site	American Indian	White	African American
Female Breast	45.6	149.5	143.0
Lung / Bronchus	60.5	76.9	69.9
Prostate	84.0	136.8	242.5
Colon / Rectum	30.2	46.9	57.5
Liver	6.2	4.4	5.1
Total Cancer (All sites)	348.7	478.0	497.9

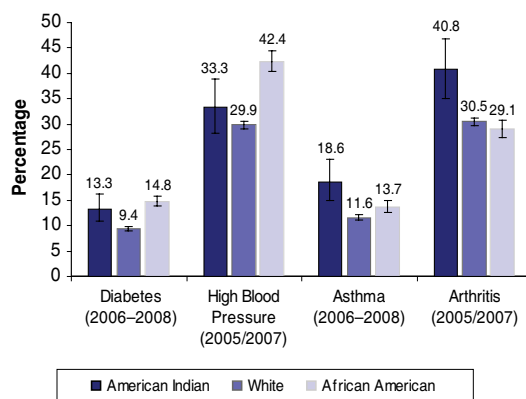
\* Rates are age-adjusted to the 2000 U.S. standard population and are expressed as deaths per 100,000 population. Female and male population estimates, respectively, are used in the denominators of the female breast and prostate cancer incidence rates.

## Cancer Incidence

Table 3 shows the 2002–2006 age-adjusted rates for cancer incidence, comparing American Indians, whites and African Americans. American Indians had substantially lower rates of breast, prostate, lung, and colon cancers, though their age-adjusted liver cancer rate was higher than the rate for whites.

American Indians in North Carolina had a lower rate of new cancer cases during 2002–2006 than whites (age-adjusted rate of 348.7 versus 478.0 for whites). However, there is some indication that American Indian race is not always accurately captured on cancer and other health records (this issue is discussed in the section *Challenges of Collecting Accurate Data*); this may partially account for the lower cancer rate among American Indians.

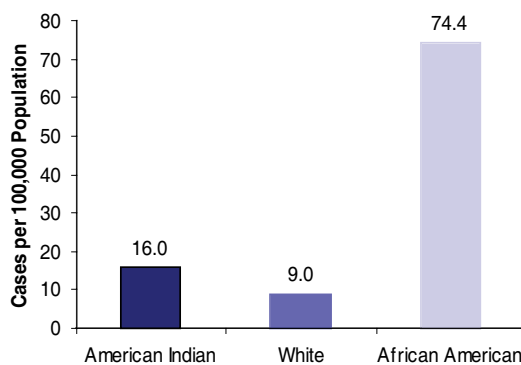
**Figure 2**  
**Percentages of North Carolina Adults**  
**with Selected Chronic Conditions, by Race/Ethnicity**  
**(Based on Weighted 2005/2007 and 2006–2008 BRFSS Survey Data)**



## Chronic Diseases

Figure 2 compares the percentages of adult American Indians, whites, and African Americans who reported that they had certain chronic conditions. American Indians were significantly more likely than whites to report that they had diabetes and arthritis, or that they ever had asthma.

**Figure 3**  
**Rates (per 100,000 Population) of Diagnosed Adult/Adolescent**  
**(Ages 13+) New Cases of HIV**  
**by Race/Ethnicity, North Carolina, 2004–2008**



## HIV and Sexually Transmitted Diseases

Figure 3 shows the rate of newly diagnosed cases of HIV. **The HIV rate for American Indians is nearly 80 percent higher than the rate for whites, but much lower than the rate for African Americans.**

Figure 4 presents the overall rate of certain sexually transmitted diseases (early syphilis, gonorrhea, and chlamydia) for American Indians, whites, and African Americans

during the period between 2004–2008. Rates for American Indians are all at least twice the corresponding rates for whites, but much lower than the rates for African Americans.

### Health Risk Factors

Table 4 presents BRFSS survey data for North Carolina adults who reported selected risk factors or conditions.

**American Indians in North Carolina were significantly more likely than whites to smoke, not engage in leisure-time physical exercise, and to be overweight or obese.**

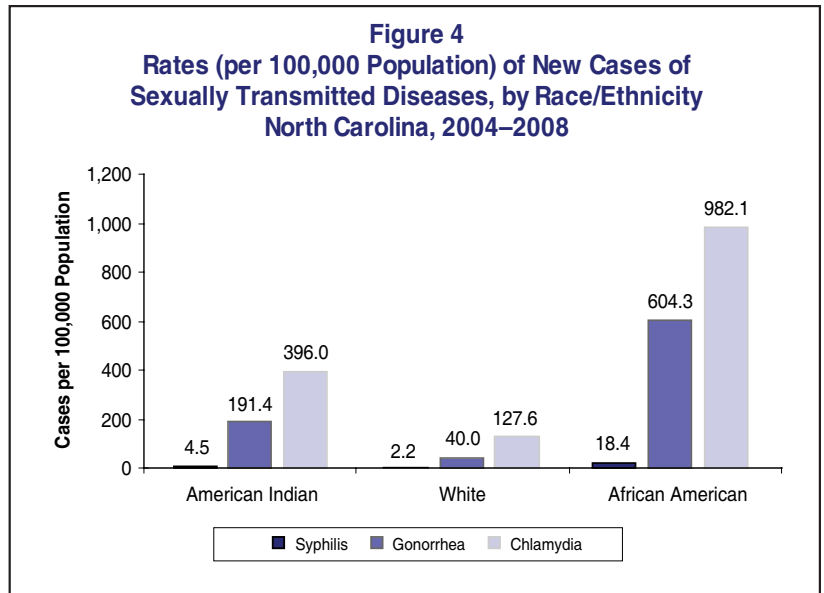
### Access to Health Care

Figure 5 shows the percentages of American, white, and African American adults who reported certain problems related to access to health care, using 2006–2008 North Carolina BRFSS data.

**American Indians were more likely than whites or African Americans to report that they currently had no health insurance and that they could not see a doctor due to cost.**

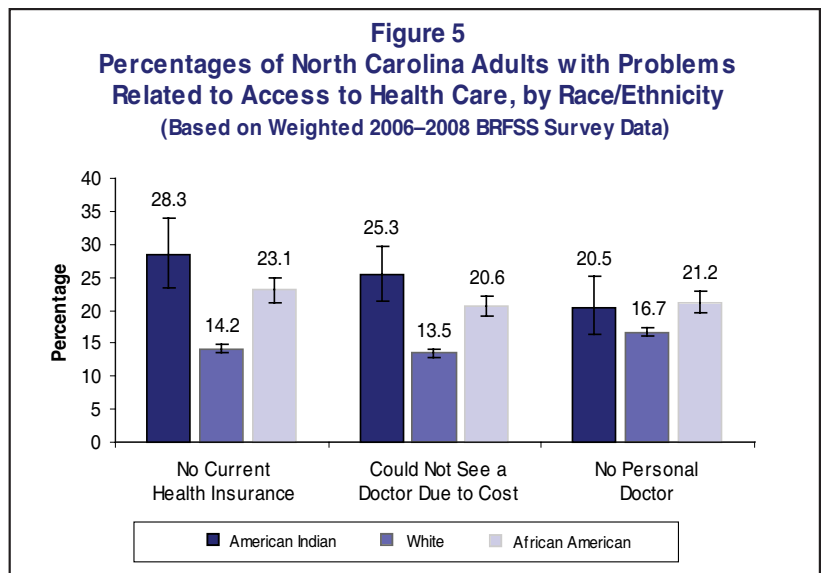
### Quality of Life

Table 5 shows the percentages of American Indian, white, and African American adults with selected indicators related to quality of life, using 2006–2008 North Carolina BRFSS data. **American Indians had the highest percentages of any of the three racial groups for each of these five measures of quality of life:** fair or poor health; self-reported disability; 14 or more poor mental health days in the past month; 14 or more poor



**Table 4**  
Percentages of North Carolina Adults with Selected Risk Factors/Conditions, by Race/Ethnicity (Based on Weighted 2005/2007<sup>1</sup> and 2006–2008<sup>2</sup> BRFSS Survey Data)

	American Indian	White	African American
Current Smoking <sup>2</sup>	36.4	22.2	22.4
Did not get recommended level of physical activity <sup>1</sup>	56.0	53.6	63.6
No leisure-time physical activity <sup>1</sup>	35.4	21.3	29.4
Consumption of less than 5 servings of fruits and vegetables per day <sup>1</sup>	79.2	76.2	82.2
Binge drinking <sup>2</sup>	10.6	12.8	9.5
Overweight or Obese <sup>2</sup>	68.6	62.3	74.9

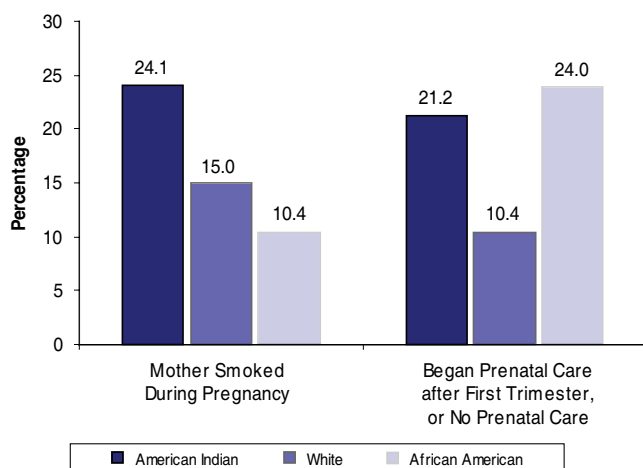




**Table 5**  
**Percentages of North Carolina Adults Reporting Selected Health Indicators, by Race/Ethnicity**  
 (Based on Weighted 2006–2008 BRFSS Survey Data)

	American Indian	White	African American
Fair or poor health	27.5	15.7	21.6
Disability	45.6	31.8	34.3
14 or more poor mental health days in the past month	19.1	10.8	11.4
14 or more poor physical health days in the past month	20.4	11.6	12.2
14 or more days in the past month when the usual activities of daily living were limited	25.1	14.0	16.0

**Figure 6**  
**Percentages of 2004–2008 North Carolina Resident Live Births with Maternal Smoking During Pregnancy and with Late or No Prenatal Care, by Race/Ethnicity**



**Table 6**  
**Percentages of North Carolina Women with a Recent Live Birth Who Had Selected Risk Factors, by Race/Ethnicity**  
 (Based on Weighted 2003–2007 PRAMS Survey Data)

	American Indian	White	African American
Pregnancy was unintended (wanted later or not at all)	58.2	36.7	61.2
Mother did not take folic acid every day before pregnancy	85.7	64.9	80.5
Usual sleeping position for baby was not on back	36.5	31.0	53.1
Mother did not breastfeed at all	47.1	25.3	41.6
Mother reported violence during pregnancy	9.5	3.3	7.4
Mother reported smoking after pregnancy	25.1	18.1	17.0

physical health days in the past month; and 14 or more days in the past month when the usual activities of daily living were limited.

## Maternal and Infant Health

Figure 6 presents data on smoking during pregnancy and prenatal care among live births to American Indian, white, and African American women residing in North Carolina from 2004 to 2008.

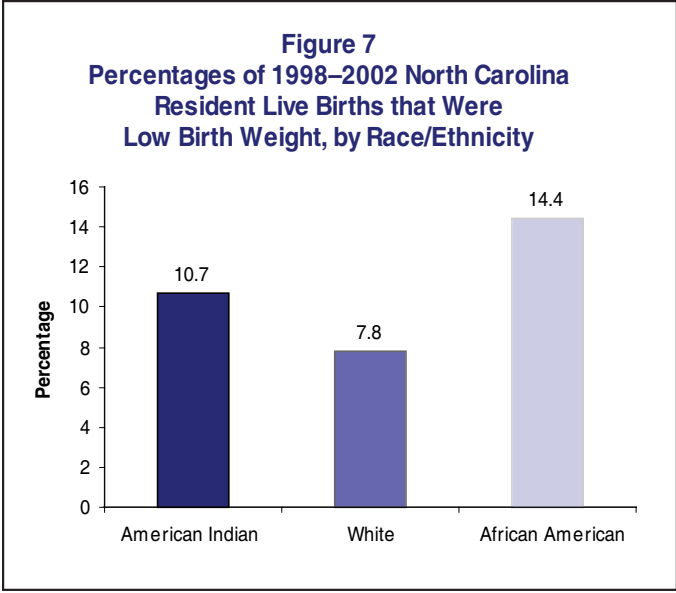
**American Indian women were the most likely to have smoked during pregnancy, and they were twice as likely than white women to have late or no prenatal care.**

Table 6 presents selected 2003–2007 results from the Pregnancy Risk Assessment Monitoring Systems (PRAMS). **American Indian women were at significantly higher risk than white women for (1) unintended pregnancy, (2) mother not taking folic acid every day during the month before pregnancy, and (3) mother not initiating breastfeeding.**

Figure 7 shows the percentage of live births that were low birth weight (less than 5 lbs., 9 oz.) and Figure 8 shows the infant death rate (infant deaths per 1,000 live births), for the three race/ethnicity groups. **Compared with whites, American Indians have higher rates of low birth weight and the American Indian infant mortality rate is more than twice the rate of whites.**

## Child and Adolescent Health

Figure 9 shows the death rate for children ages 1 to 17 years of age (per 100,000 population). **American Indian children had the highest death rate among all**

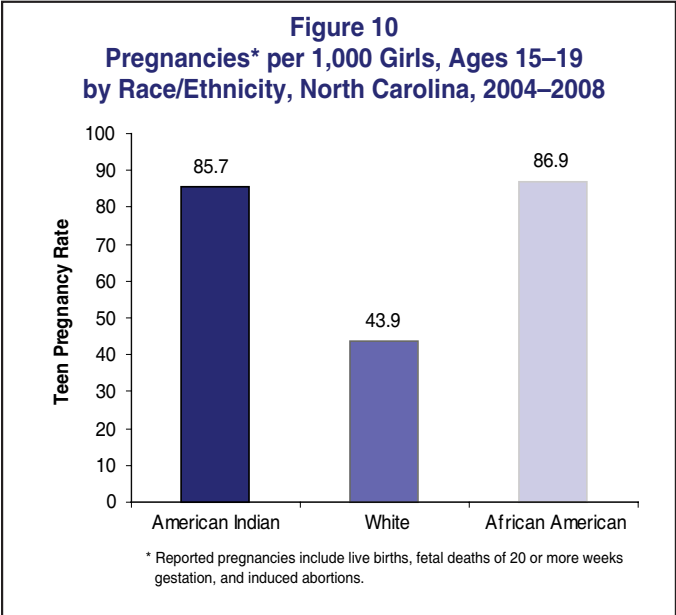
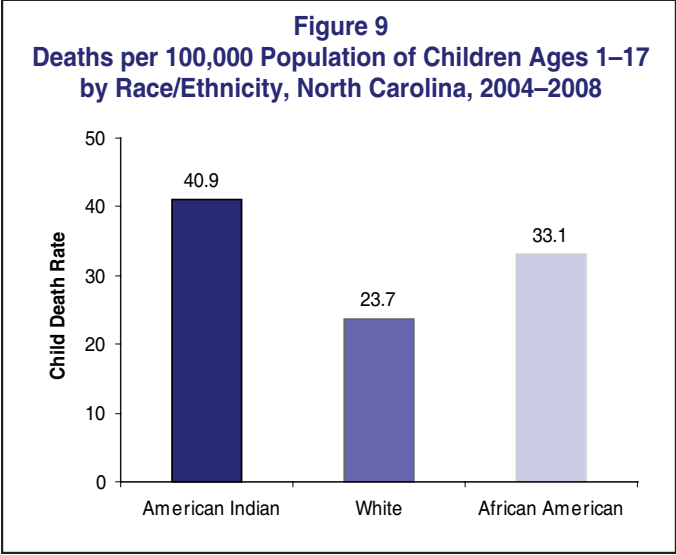
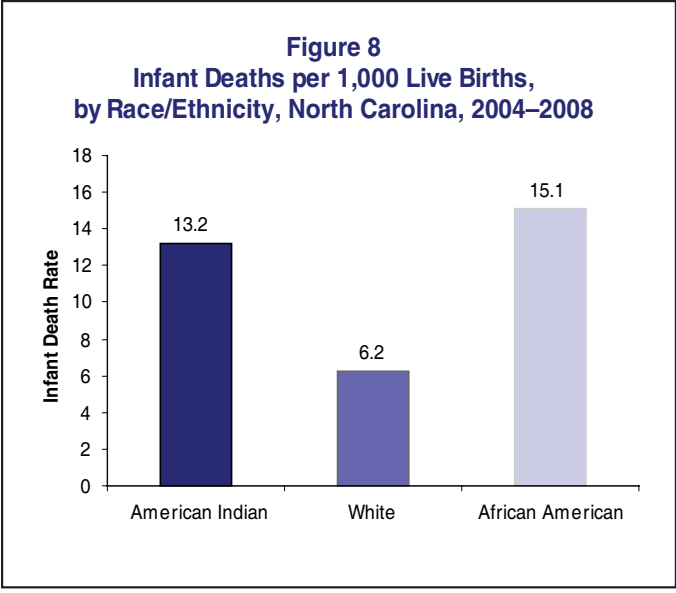


three groups. Figure 10 shows the teen pregnancy rate (reported pregnancies per 1,000 female population for ages 15–19), broken out by the three race/ethnicity groups. **While the American Indian teen pregnancy rate slightly exceeded that of African Americans, their pregnancy rate was almost twice the rate of white girls.**

**Understanding the Data**

In most instances the data presented for American Indians, African Americans, and whites in this report exclude Hispanics and Latinos. Hispanic is considered an ethnicity, not a race, and Hispanics are often included in the white racial category. Removing Hispanics/Latinos from the racial groups allows for a more accurate portrayal of health disparities by race<sup>3</sup> (for data on persons of Hispanic/Latino ethnicity, see the report “North Carolina Minority Health Facts: Hispanics/Latinos”).

Some of the rates presented in this fact sheet are age-adjusted. This is a statistical technique for calculating rates or percentages for different populations as if they all had the age distribution of a “standard” population (in this publication, the 2000 United States population). Rates adjusted to the same standard population can be directly



compared to each other, with differences being attributed to factors other than the age distributions of the populations.

Confidence intervals are displayed for the BRFSS figures (Figures 2 and 5). The confidence interval is the range within which we would expect the “true” population percentage to fall 95 percent of the time. As an approximation, if the confidence intervals of groups being compared do not overlap, then the difference is statistically significant at the 95 percent level.

On most health records, information about the specific tribe to which an American Indian belongs is not requested or reported. For this reason, and also due to problems in obtaining accurate tribe-specific population data to use as denominators in rates, the data in this report are presented for North Carolina American Indians as a whole. In general, whites and African Americans are used as comparison groups. The white population is often used as a point of comparison in the report to determine the health disparities for American Indians, because whites are the majority population in North Carolina and because they often have the best health outcomes. Comparing American Indians to the white majority population does not mean that whites are setting a “gold standard.” The white population in North Carolina also has major health issues that need to be addressed. However, for the majority of health indicators, if American Indians had the same rates as the white population, then significant improvements in health would be made.

### **Challenges of Collecting Accurate Data**

American Indians in North Carolina experience worse outcomes on many health measures than do whites. Some of these measures rely on death certificate data, where there may be misreporting of the race of the decedent.<sup>4</sup> Also, the U.S. Census has historically undercounted minority populations, and low population estimates (based on the Census) in the denominators of rates would lead to overestimation of health problems. A study by

the National Center for Health Statistics found that death rates for minority groups tend to be biased in two directions: upward due to undercounting of the population in the denominator, and downward due to undercounting of health events in the numerator.<sup>5</sup> This study found that the net effect of these two biases was that officially reported death rates for American Indians were understated by 21 percent.

The State Center for Health Statistics recently provided 932,670 North Carolina death certificate records for the 14-year period from 1990–2003 to the federal Indian Health Service (IHS) National Epidemiology Program, which matched the certificates to its national IHS patient database. Only deaths of members of the Cherokee tribe would be expected to match to the IHS patient records, since no other tribes in North Carolina are served by the IHS. Results show that, over this 14 year period, 1,032 North Carolina death certificates that had race recorded as American Indian matched to the IHS patient records. However, another 172 death certificates that did not have race recorded as American Indian also matched to the IHS patient records. Similar results have been found with cancer incidence data that is routinely linked with the IHS, suggesting **an undercounting of American Indian deaths from North Carolina death certificates.**

The survey data used in this report also have limitations. The BRFSS and CHAMP surveys are landline telephone surveys. While only about 5 percent of households in North Carolina do not have a telephone,<sup>6</sup> the surveys will miss all of these households, which often are lower socioeconomic status. This may result in underreporting of certain health problems. In addition, recent increases in the number of cell phone-only households, has implications for traditional landline surveys such as the BRFSS and NC CHAMP. Cell phone only samples are more likely to be male, African American, Hispanic, under the age of 34, employed, of lower income, and unmarried. Both NC BRFSS and NC CHAMP weight their survey data to adjust



for landline sampling deficiencies. Due to a lack of knowledge about a particular question or a tendency to provide socially acceptable answers, some respondents may misreport some health problems.

The BRFSS, CHAMP, PRAMS, and birth certificate data that are presented in this report have the advantage in that the respondent is asked to self-report his or her own race during the survey or on the mother's birth certificate worksheet. For the cancer and HIV/STD case data, however, race may be determined by the health care provider's observation or derived from medical records, which can lead to misclassification.<sup>7</sup> For death certificates, the funeral director should ask a family member or other informant the race of the decedent; however, the race sometimes is assigned just by physical appearance, leading to possible misclassification.<sup>8</sup>

## Conclusion

This report shows that, for most of the measures presented here, American Indians in North Carolina experience substantially worse health problems than whites. For many health measures, American Indians experience problems similar to those for African Americans in the state.

The North Carolina Commission of Indian Affairs has been active in advocating for issues related to American Indian health since 1995. Since 2001, the Commission has organized statewide conferences designed to raise awareness of the health needs of American Indians (Indian Unity Conferences, Indian Health Summits, etc.); developed and implemented health care best practice guidelines; and facilitated networking among health care providers and organizations to increase the awareness of the health needs of American Indians. It also has been instrumental in addressing health concerns in American Indian communities, including promoting diabetes education in American Indian churches, smoking cessation for American Indian youth, and substance abuse awareness in American Indian communities.

The North Carolina American Indian Health Task Force was created in 2004 by the North Carolina Commission of Indian Affairs and the Secretary of the North Carolina Department of Health and Human Services. The purpose of the task force was to identify and study American Indian health issues in North Carolina and to evaluate and strengthen programs and services for American Indians in the state.

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