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**Disparities in Health Status and Health Risk Factors in
Eastern North Carolina: Data from the Behavioral Risk Factor Surveillance
System, 2005-2009 Aggregated**

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Disparities in Health Status and Health Risk Factors in Eastern North Carolina: Data from the Behavioral Risk Factor Surveillance System, 2005-2009 Aggregated

Healthy People 2020 sets goals for achieving healthier lives of all the people in the United States. It also laid out several important areas where health policy can intervene, such as: personal health (biological, psychological, and behavioral), physical and social environments, and health services¹. Within North Carolina, Healthy North Carolina 2020 also set important goals for the health of the state's residents². It has 13 specific focus areas where the state can make improvements, such as reduced tobacco use, improved physical activity, and reduction of chronic diseases. It also includes measurable objectives for tracking changes in these areas.

The purpose of this report is to examine a number of risk factors for health in Eastern North Carolina as compared to the rest of the state. The risk factors include access to health care, obesity, diabetes, hypertension, and smoking status. The report also looks at disparities by other demographic factors, such as income, education, and race/ethnicity.

This publication draws on data from the Behavioral Risk Factor Surveillance System (BRFSS) survey in North Carolina, which is administered by the State Center for Health Statistics, and is a random telephone survey of adults conducted annually in all counties of the state.

To provide valid estimates for the Eastern region, 5-year data (2005-2009) are aggregated for point estimates.

The Eastern region is defined as the 41 counties of the coastal plain (those essentially east of Interstate 95). The Eastern region is compared to the 59 other counties (referred to as the Rest of North Carolina (RNC) and to the state as a whole). The eastern region consists of 41 counties, which exhibit some of the highest mortality rates for the leading causes of death in the nation.

Regional differences are further examined by demographic and socio-economic factors. The annual household income is divided into two categories: those who earn less than \$25,000 per year are classified as low income, and those who earn \$25,000 or more annually are classified as higher income. The education level is divided into the following four categories: those who had not completed high school, those who graduated from high school but had no additional schooling, those with some post high school education and those who graduated from a college or a technical school.

The data is also examined by race and ethnicity. In 2002 North Carolina BRFSS started BRFSS interviews in Spanish as well and included data from both English-speaking and Spanish-speaking Hispanics. The results of the analyses for the two populations show

marked differences in general health and health risk factors, and are presented separately here. Thus, race/ethnicity categories include: non-Hispanic White, non-Hispanic African Americans, non-Hispanic Native American, and Spanish-speaking/English-speaking Hispanic. Other categories (Asians, multiracial, or others) compromised a small percentage in North Carolina and are not shown in the graph here.

In the analyses that follow, means for percentages are presented for groups compared along with 95 percent confidence intervals to provide both point estimates and reveal statistical significance, i.e., 95 of 100 similar random samples would yield an estimate within the confidence interval. Statistically significant ($p < 0.05$) differences are found where confidence intervals do not overlap.

While the annual statewide BRFSS sample is large (about 17,000 respondents) samples for most individual counties are too small to validly describe or compare counties and regions, particularly for single years. Samples for minority population subgroups may also be too small for comparison in individual years. To improve the validity of small county and subgroup comparisons, the 5-year data from 2005 to 2009 were aggregated and analyzed for the Eastern North Carolina region as a whole using SUDAAN, a statistical software package used in research involving complex sampling designs (Research Triangle Institute [2002])⁵. The methodology and the results of this aggregate analysis have been tested and verified against data published by the North Carolina Center for Health Statistics.

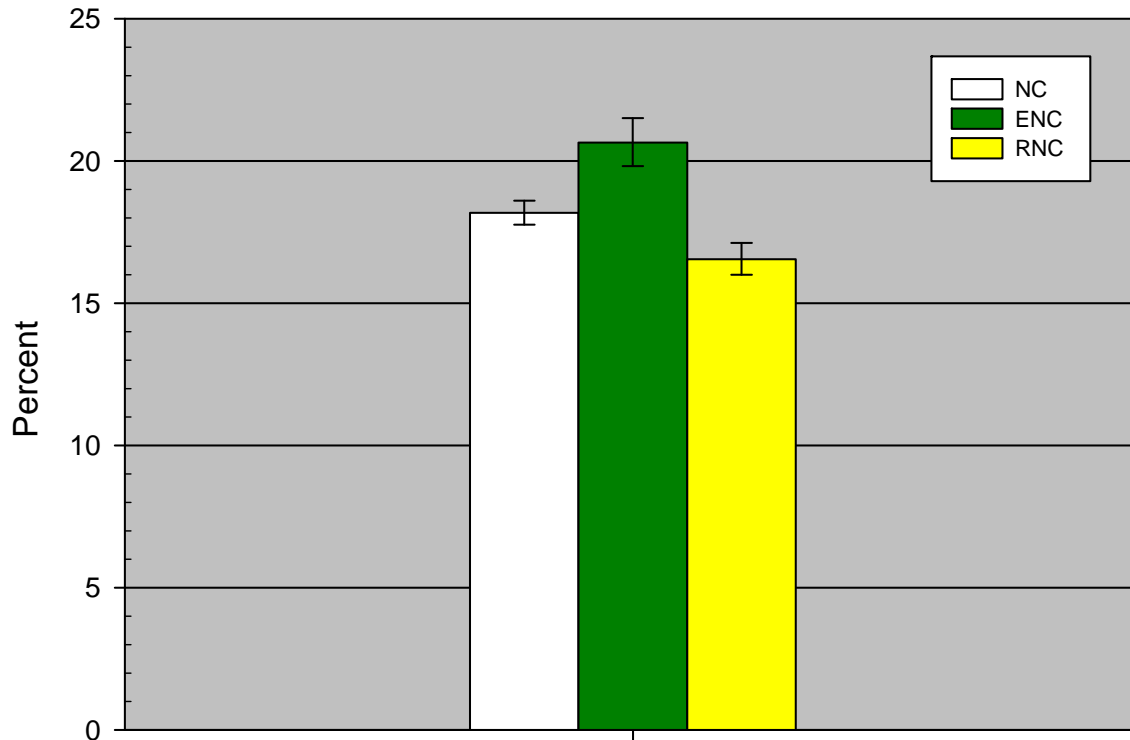
Perceived Health Status

When North Carolinians have been asked to describe their health in general (with response choices: excellent, very good, good, fair, and poor), more respondents in the Eastern region rated their general health to be fair or poor than those in rest of the state. The percent of those who reported fair or poor health is also affected by income, education, and race/ethnicity as well as region.

Regional Disparity - Eastern North Carolina compared to the Rest of the State:

Fewer people in Eastern North Carolina perceive themselves to be in good health than those in the rest of the state. For the years 2005-2009, 21.1% of Eastern North Carolinians reported their health to be only "fair-to-poor" compared to 17.8% of other North Carolinians. The mean difference, 3.3 percentage points, is statistically significant (see Figure 1-a).

**Figure 1-a. Percent Reporting Fair-to-Poor Health by Region
NC BRFSS 2005-2009**



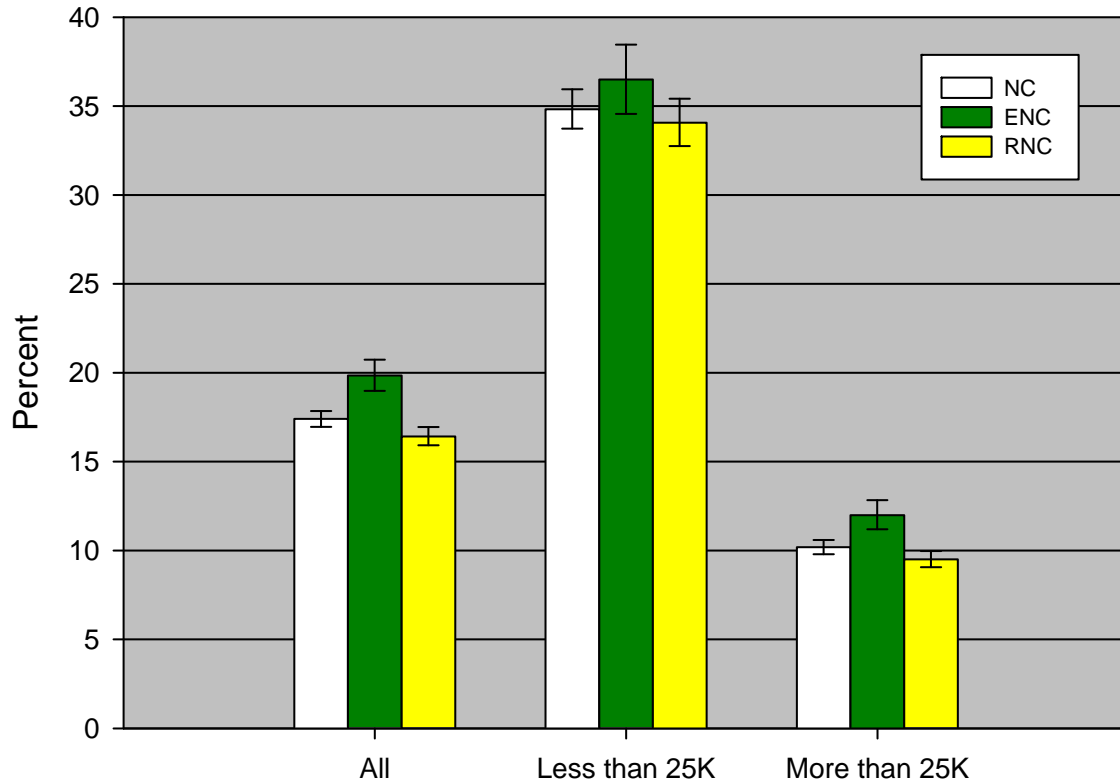
	NC	ENC	RNC
N	15644	5765	9879
Mean	18.7	21.1	17.8
LCI	17.9	20.0	16.8
UCI	19.6	22.3	18.8

Disparity in perceived health by level of income:

Self-rated general health varies significantly by income, with a substantial disparity related to poverty. Across the state, over a third (34.8%) who were poor (less than \$25,000 per family) reported their health to be only fair-to-poor, compared to 10.2% of people who had higher annual income ($p < 0.05$, Figure 1-b).

While there is no significant difference between regions in the percentage of poor people who report their health to be Fair-to-Poor, there is a significant difference for those who had annual income of more than \$25,000; 12.0 percent of those in the Eastern Region vs. 9.5% in the rest of the state.

**Figure 1-b. Percent Reporting Fair-to-Poor Health by Income and Region
NC BRFSS 2005-2009**



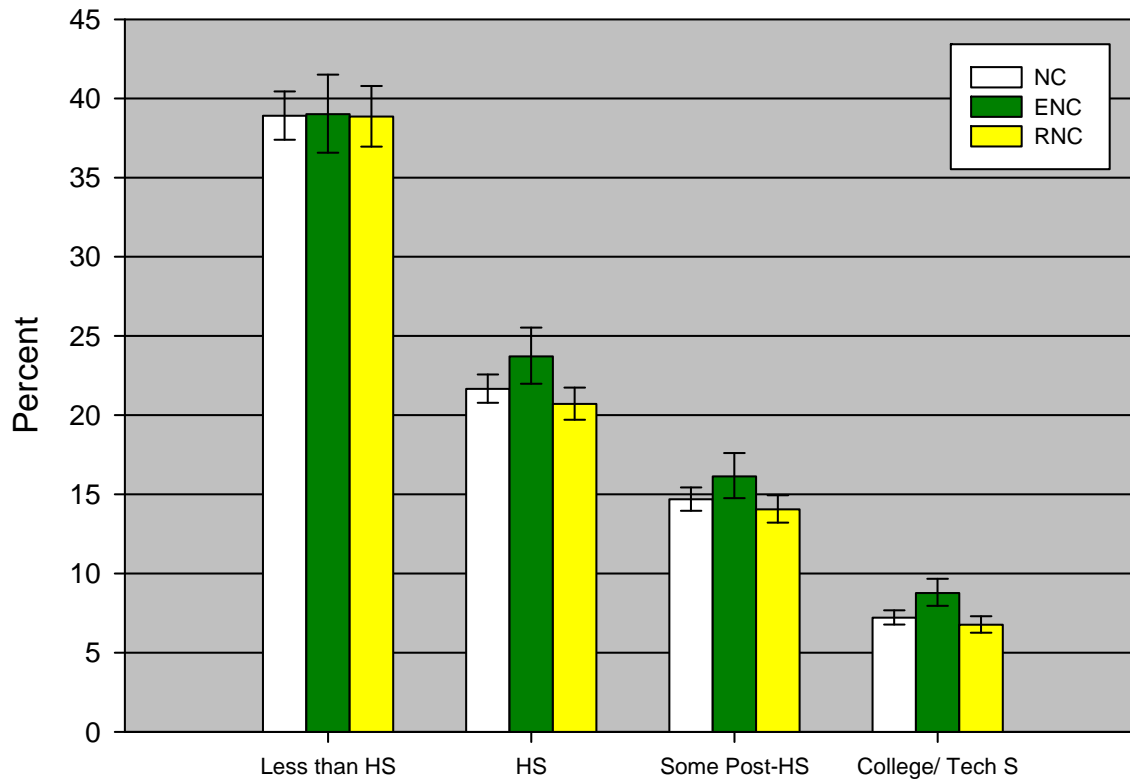
	NC	ENC	RNC		NC	ENC	RNC		NC	ENC	RNC
N	13511	4817	8694		8385	3003	5382		5126	1814	3312
Mean	17.4	19.8	16.4		34.8	36.5	34.1		10.2	12.0	9.5
LCI	17.0	19.0	15.9		33.7	34.6	32.8		9.8	11.2	9.1
UCI	17.8	20.7	16.9		35.9	38.5	35.4		10.6	12.8	10.0

Disparity in perceived health by level of education:

Substantial disparities in general health by education are evident. There are stepwise associations of education with self-rated general health. Across the state, close to 40% of people who had not graduated from high school reported their health to be only fair-to-poor health compared to 22% of those who had graduated from high school (and went no further), and 15% of high school graduates with additional education. Those perceiving themselves to be the healthiest were college or technical school graduates; only 7.2% of those reported their health to be fair-to-poor.

The educational “effect” on health was across the state with no difference by region except for those who were college or technical school graduates. Even the most educated citizens of Eastern North Carolina were less healthy than those in the rest of the state; 9% of college or technical school graduates in the east reported fair-to-poor general health compared to 7% of those in the rest of the state (see Figure 1-c).

**Figure 1-c. Percent Reporting Fair-to-Poor Health by Education and Region
NC BRFSS 2005-2009**



	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	5235	1821	3414	5749	2098	3651	3457	1238	2219	2033	665	1368
Mean	38.9	39.0	38.9	21.7	23.7	20.7	14.7	16.1	14.1	7.2	8.8	6.8
LCI	37.4	36.6	37.0	20.8	22.0	19.7	14.0	14.8	13.2	6.8	7.9	6.3
UCI	40.4	41.5	40.8	22.6	25.5	21.7	15.4	17.6	14.9	7.7	9.7	7.3

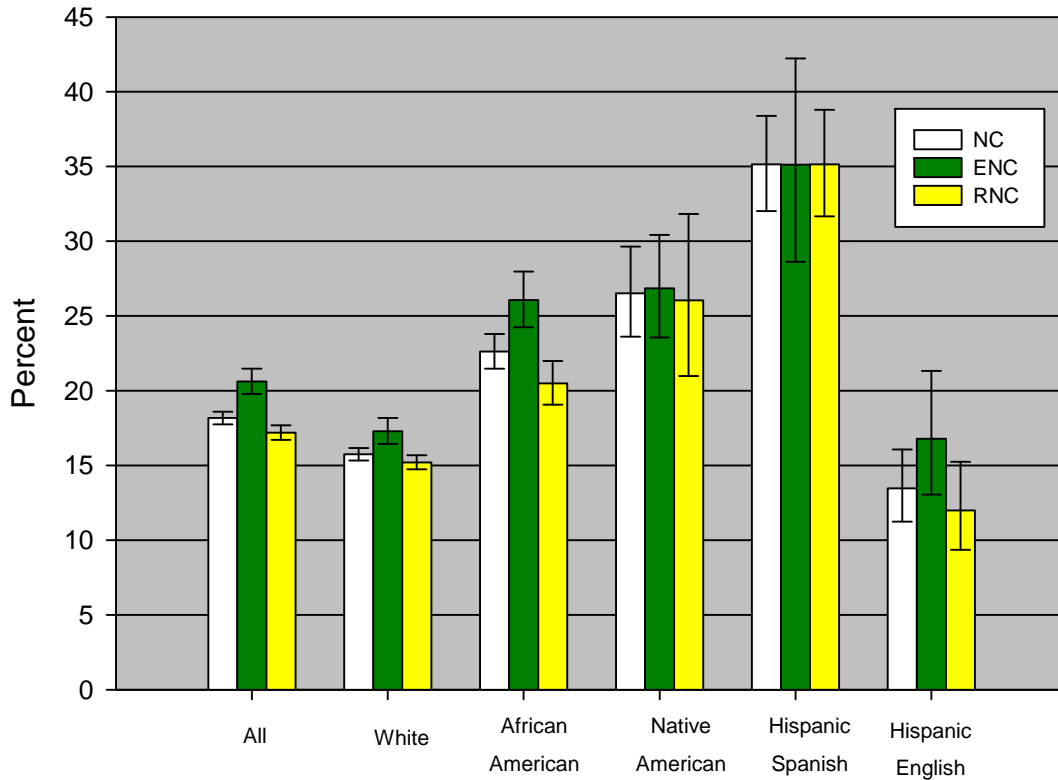
Disparity in perceived health by race and ethnicity:

Substantial disparities exist in self-reported health by race and ethnicity. Across the state, 15.7% of people describing themselves to be White and 13.5% of English-speaking Hispanic said they were in fair-to-poor health, much smaller percentages than any other groups. Least healthy by this measure were Spanish-speaking Hispanics, 35% of whom reported their health to be only fair-to-poor. More African Americans and Native Americans reported fair-to-poor general health (23.4% and 25.2%, respectively) than Whites and English-speaking Hispanics (see Figure 1-d).

Within Eastern North Carolina, the patterns are similar. Statistically significant differences were found between Whites and African Americans, percentages 17.3 and 26.1, respectively. One out of four (26.9%) Native Americans in Eastern North Carolina

say their health was less than good, significantly different from Whites and English - Speaking Hispanics but not from African Americans or Spanish-Speaking Hispanics.

Figure 1-d. Percent Reporting Fair-to-Poor Health by Race/Ethnicity and Region NC BRFSS 2005-2009



	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	16409	5792	10617	11542	3378	8164	3173	1675	1498	482	330	152	782	217	565	232	104	128
Mean	18.2	20.6	17.2	15.7	17.3	15.2	22.6	26.1	20.5	26.5	26.9	26.0	35.1	35.1	35.1	13.5	16.8	12.0
LCI	17.7	19.8	16.7	15.3	16.4	14.7	21.5	24.2	19.1	23.6	23.6	21.0	32.0	28.6	31.7	11.2	13.0	9.4
UCI	18.6	21.5	17.7	16.2	18.2	15.7	23.8	28.0	22.0	29.6	30.4	31.8	38.4	42.2	38.8	16.1	21.3	15.2

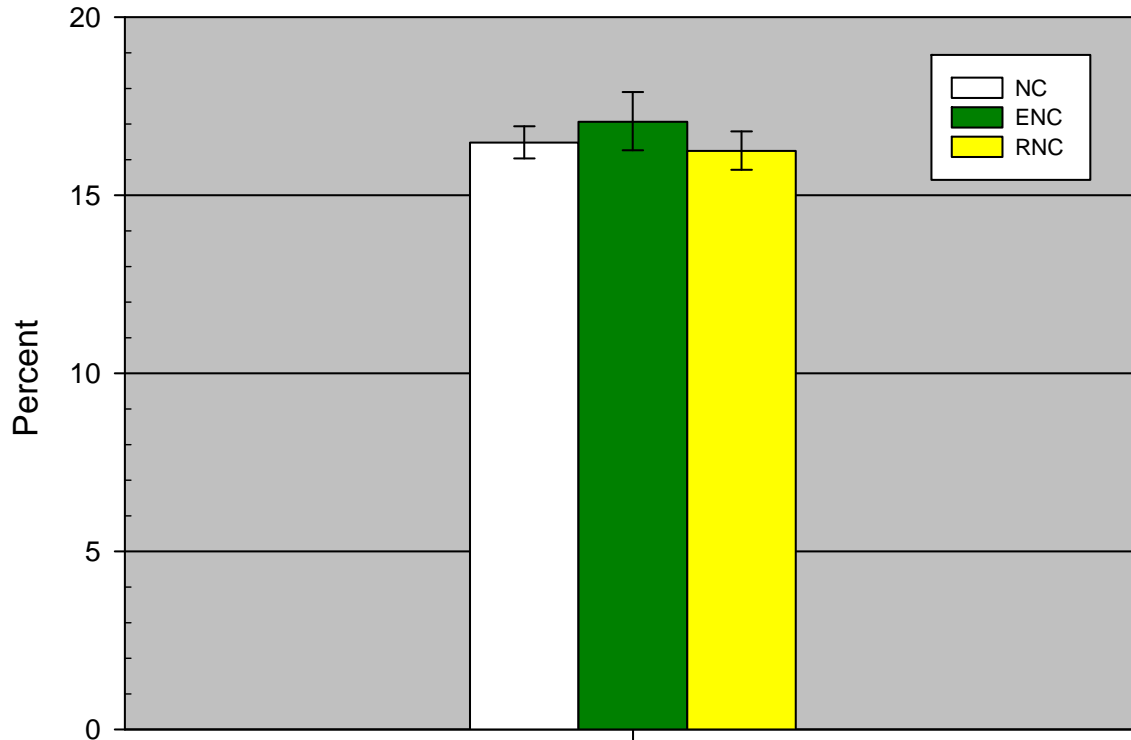
Medical Access

Health care access is crucial to maintain health. Those who report that they could not see a doctor because of cost varies significantly by income, education, race/ethnicity but there are no significant regional differences.

Regional disparity – Eastern North Carolina compared to the rest of the state:

Across the state, 16.5% of people report cost as the reason they could not visit a doctor. There is no regional difference in percentage of people who reported they could not see doctor because of cost.

**Figure 2-a. Could Not See a Doctor Because of Cost by Region
NC BRFSS 2005-2009**

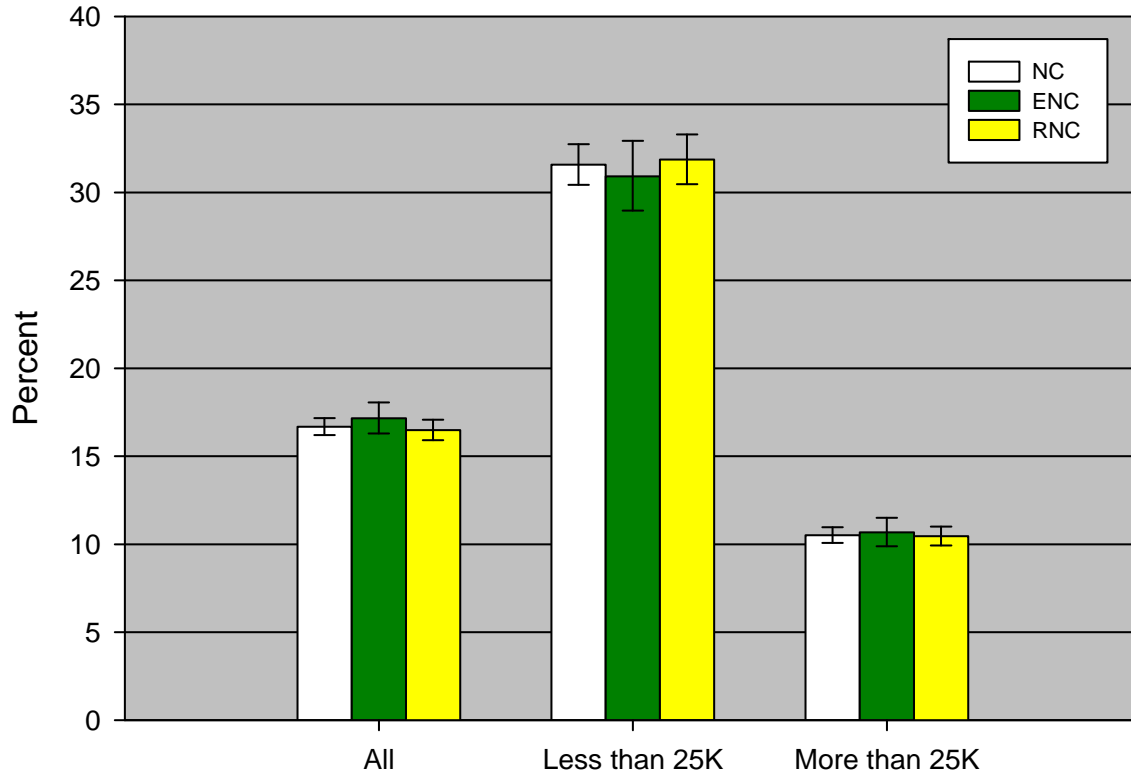


	NC	ENC	RNC
N	10931	3728	7203
Mean	16.5	17.1	16.2
LCI	16.0	16.3	15.7
UCI	16.9	17.9	16.8

Disparity in medical access by income:

The percentage of people who could not afford health care varies greatly by income. Across the state, about a third of people (31.6%) who earn less than \$25,000 annual income could not see a doctor because of cost in contrast to 10.5% of those whose income is above \$25,000.

**Figure 2-b. Could Not See a Doctor Because of Cost by Income and Region
NC BRFSS 2005-2009**

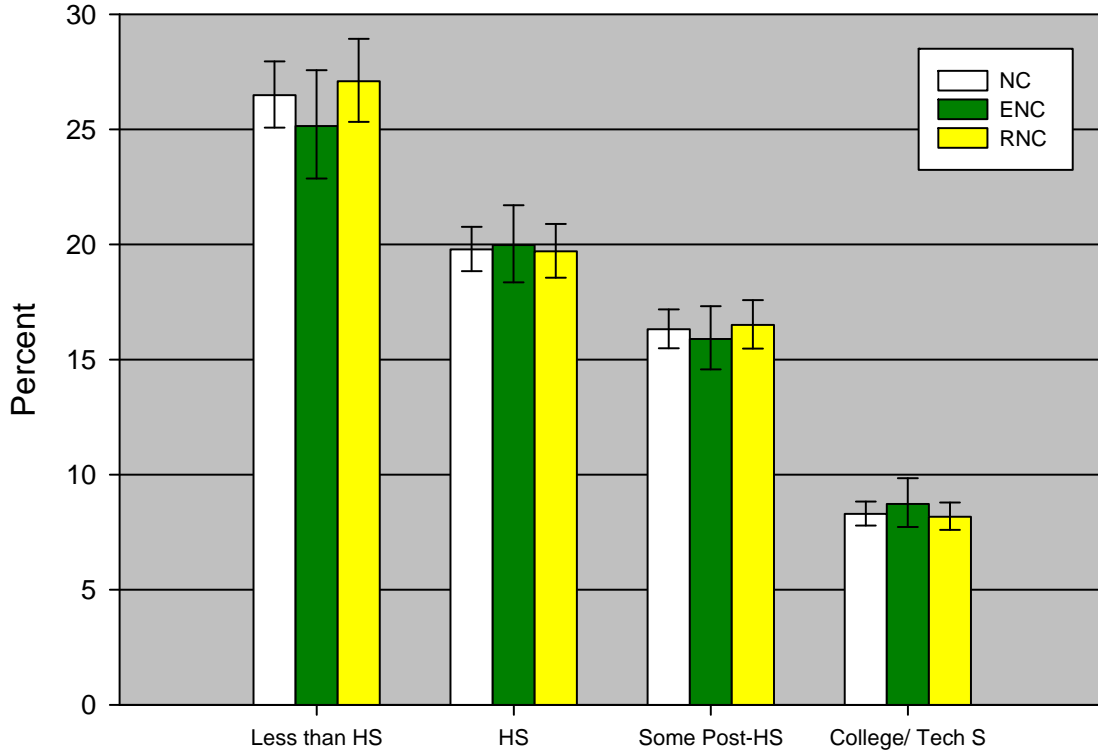


	NC	ENC	RNC		NC	ENC	RNC		NC	ENC	RNC
N	9549	3235	6314		5552	1992	3560		3997	1243	2754
Mean	16.7	17.2	16.5		31.6	30.9	31.9		10.5	10.7	10.5
LCI	16.2	16.3	15.9		30.4	29.0	30.5		10.1	9.9	9.9
UCI	17.2	18.1	17.1		32.7	32.9	33.3		11.0	11.5	11.0

Disparity in medical access by education:

The percentage of people who could not see a doctor because of cost is affected by education. Across the state, 26.5% of those who have less than a high school education report that they could not see a doctor because of cost as compared to 20% of those who are high school graduates, 16.3% of those who have some post-high school education, and 8.3% of those who have a college or technical school education.

**Figure 2-c. Could Not See a Doctor Because of Cost by Education and Region
NCBRFSS 2005-2009**

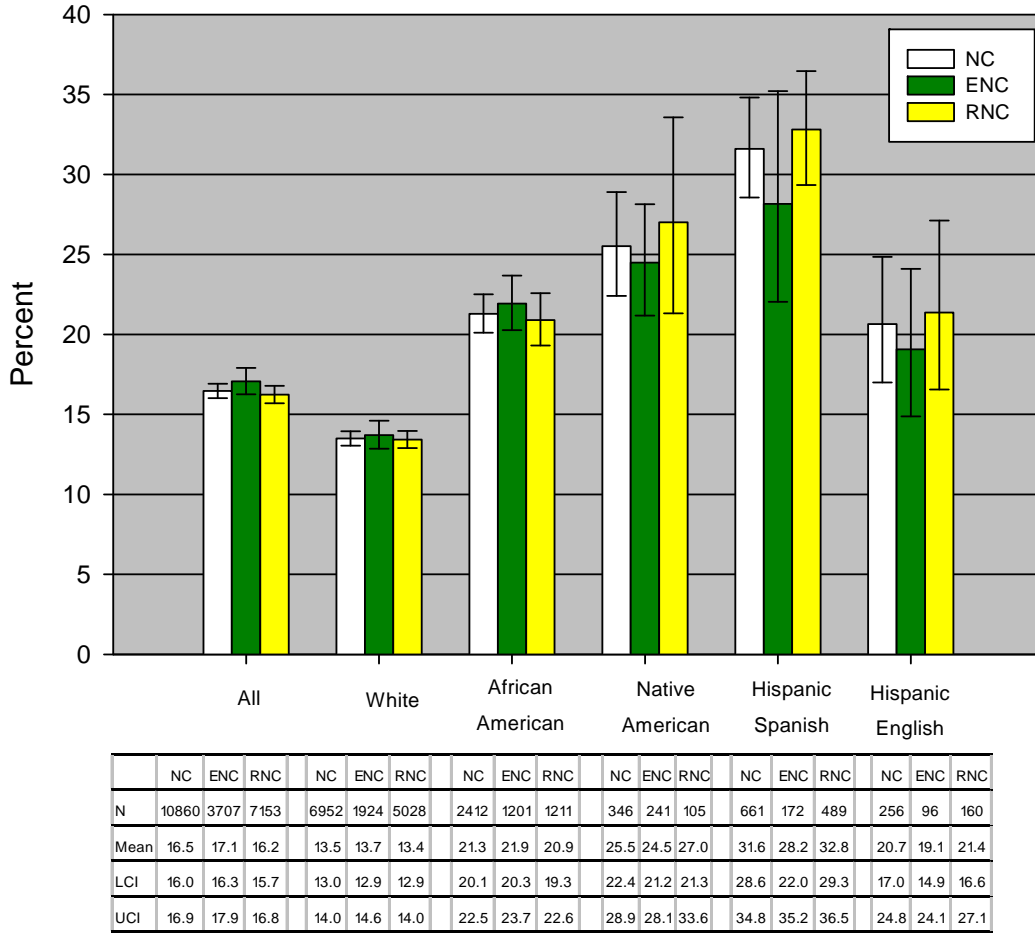


	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	2514	855	1659	3734	1365	2369	2889	1001	1888	1781	504	1277
Mean	26.5	25.1	27.1	19.8	20.0	19.7	16.3	15.9	16.5	8.3	8.7	8.2
LCI	25.1	22.9	25.3	18.8	18.4	18.6	15.5	14.6	15.5	7.8	7.7	7.6
UCI	28.0	27.6	28.9	20.8	21.7	20.9	17.2	17.3	17.6	8.8	9.8	8.8

Disparity in medical access by race/ethnicity:

There are significant differences in health care access by race/ethnicity in North Carolina. More African Americans (21.3%), Native Americans (25.5%) and Hispanics reported that they could not see a doctor because of cost as compared to Whites (13.5%). Among Hispanics, 31.6% of Spanish-speaking Hispanic reported that they could not see a doctor because of cost in contrast to 20.7% of English-speaking Hispanics.

**Figure 2-d. Could Not See a Doctor Because of Cost by Race/ Ethnicity and Region
NC BRFSS 2005-2009**



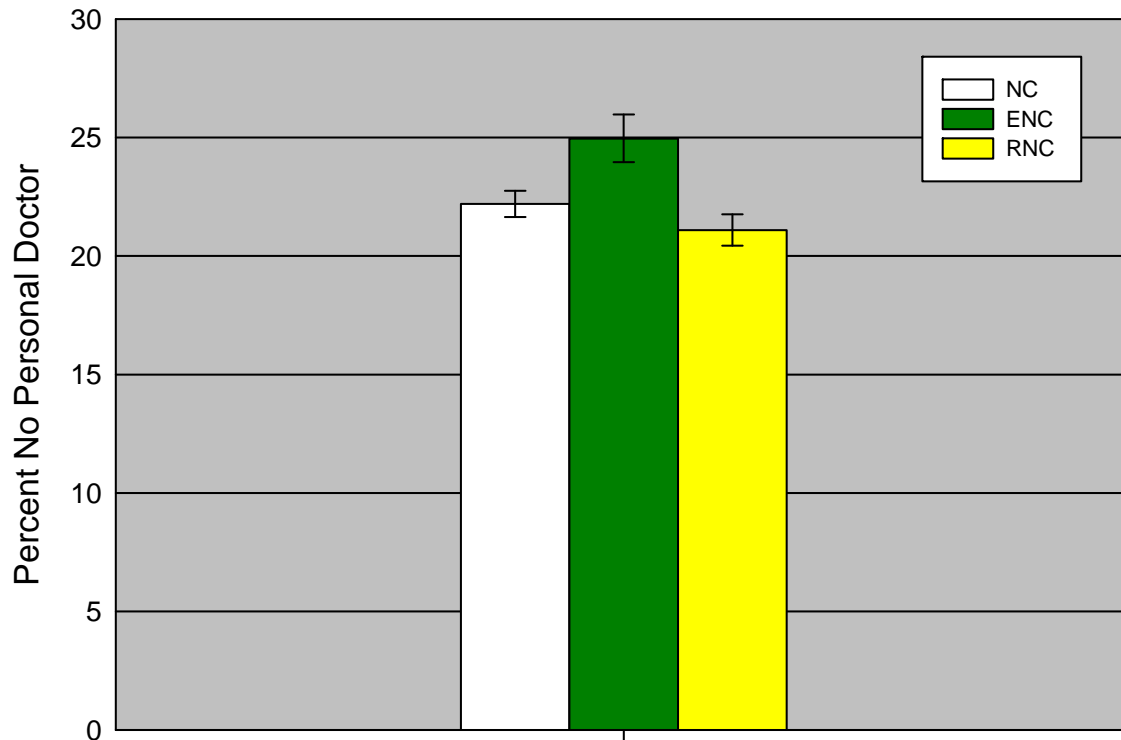
No personal doctor

Many North Carolinians do not have a personal physician. More than 20% of people in the state reported that they do not have a personal doctor.

Regional disparity – Eastern North Carolina compared to the rest of the state:

In Eastern North Carolina, 1 of every 4 people (25%) said they did not have a personal doctor as compared to 21% in the rest of the state.

**Figure 3-a. Percent No Personal Doctor by Region
NC BRFSS 2005-2009**

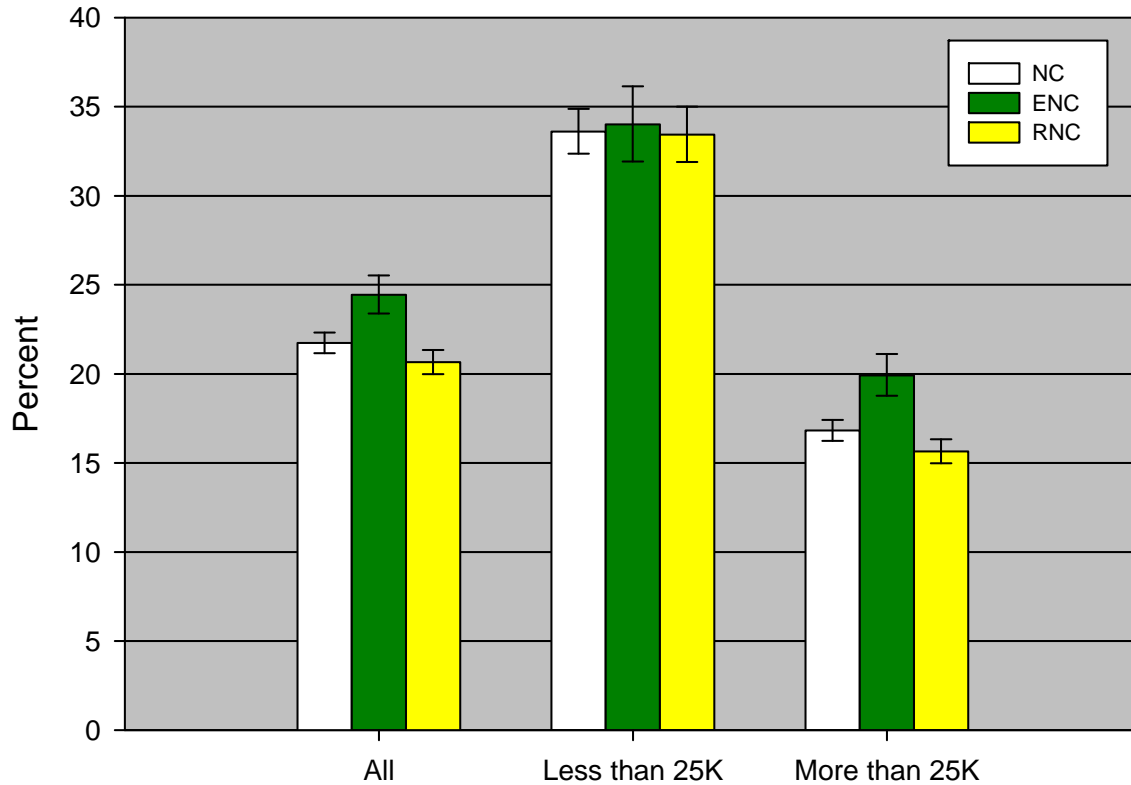


	NC	ENC	RNC
N	76665	24508	52157
Mean	22.2	25.0	21.1
LCI	21.6	24.0	20.4
UCI	22.7	26.0	21.8

Disparity in having a personal doctor by income:

The likelihood of not having a personal doctor varies greatly by income. Across the state, a third of people (33.6%) who are poor have no personal doctor, whereas 16.8% of those whose income is above \$25,000 (8.6%) reported that they had no personal doctor.

**Figure 3-b. Percent No Personal Doctor by Income and Region
NC BRFSS 2005-2009**

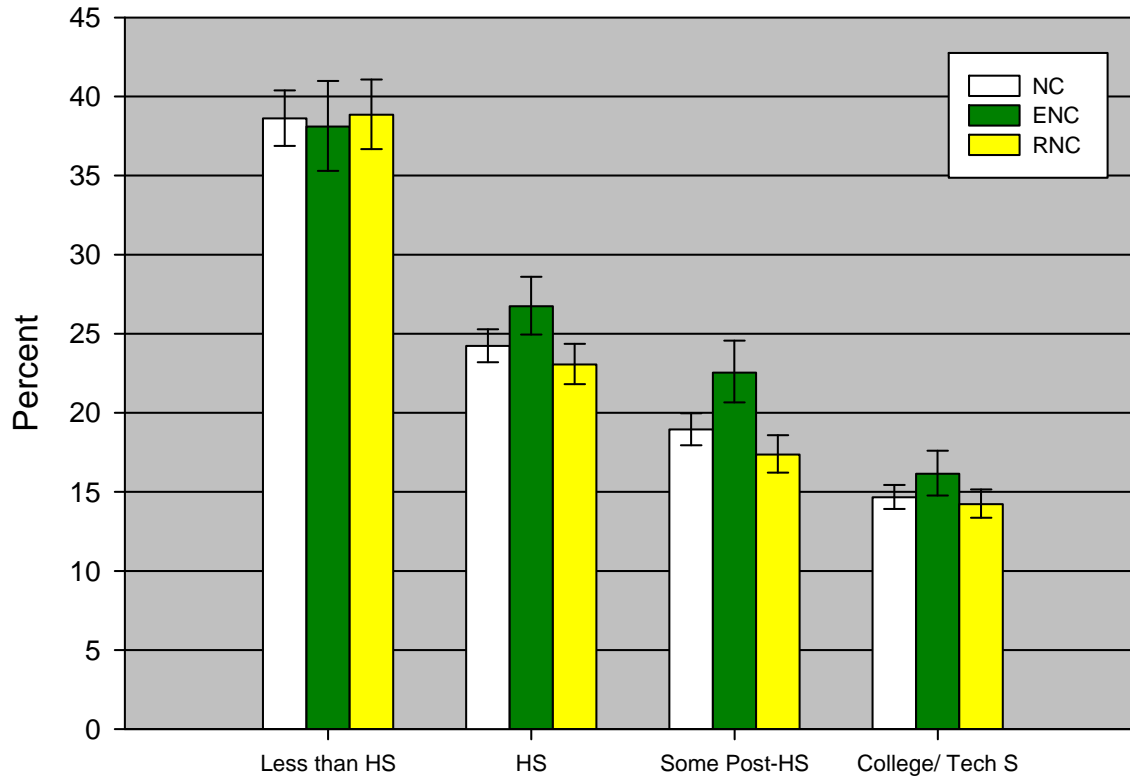


	NC	ENC	RNC		NC	ENC	RNC		NC	ENC	RNC
N	9930	3582	6348		4354	1576	2778		5576	2006	3570
Mean	21.7	24.4	20.7		33.6	34.0	33.4		16.8	19.9	15.6
LCI	21.2	23.4	20.0		32.4	31.9	31.9		16.2	18.8	15.0
UCI	22.3	25.5	21.3		34.9	36.1	35.0		17.4	21.1	16.3

Disparity in having a personal doctor by education:

More than a third of people (38.6%) who did not graduate from a high school have no personal doctor as compared to 24.2% of high school graduates, 16.9% of those with some post high school education, and 14.7% of college or technical school graduates. There are regional differences between Eastern NC and the rest of the state for high school graduates (26.7% vs. 23.1%) and those with some post high school education (22.6% vs. 17.4%).

**Figure 3-c. Percent No Personal Doctor by Education and Region
NC BRFSS 2005-2009**

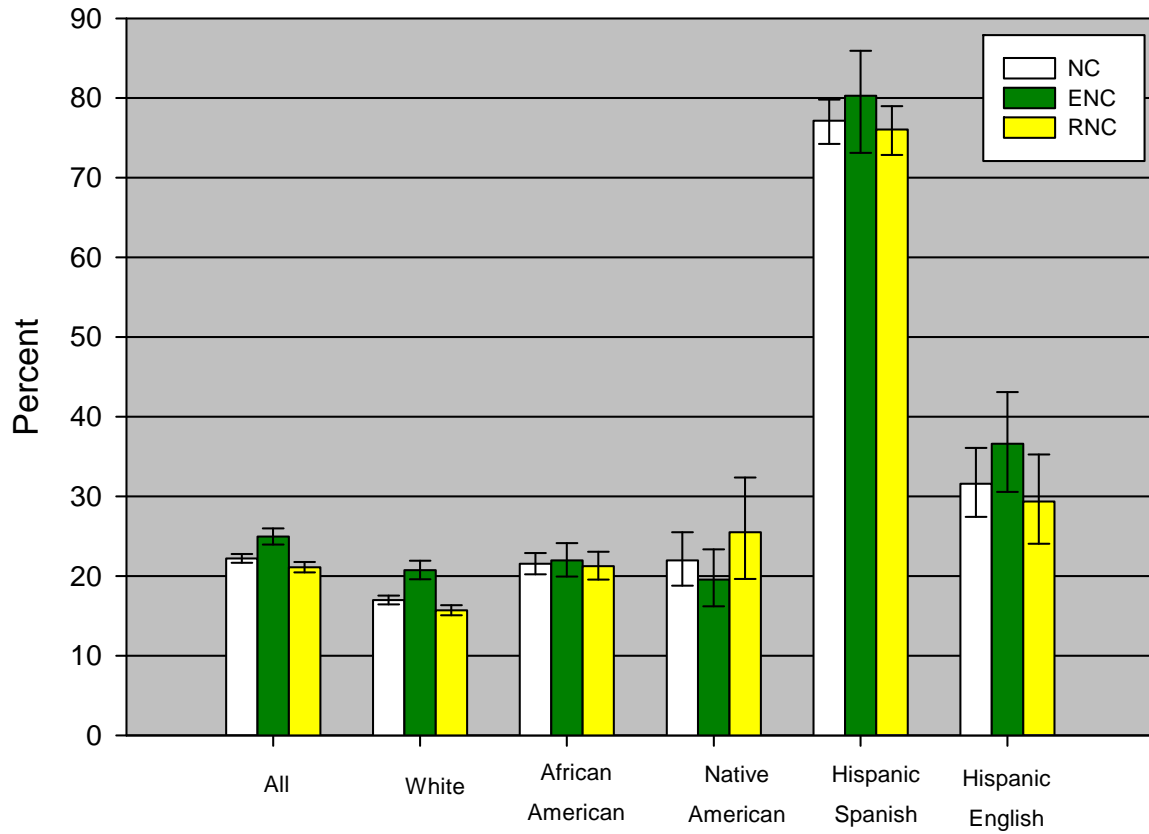


	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	2532	855	1677	3679	1427	2252	2638	1047	1591	2688	829	1859
Mean	38.6	38.1	38.9	24.2	26.7	23.1	18.9	22.6	17.4	14.7	16.1	14.2
LCI	36.9	35.3	36.7	23.2	24.9	21.8	17.9	20.7	16.2	13.9	14.8	13.4
UCI	40.4	41.0	41.1	25.3	28.6	24.4	20.0	24.6	18.6	15.4	17.6	15.1

Disparity in having a personal doctor by race/ethnicity:

Race/ethnicity has an effect on whether or not a respondent has a personal doctor. In North Carolina 17% of Whites, 21.5% of African Americans, 22% of Native Americans, 71% of Spanish-speaking Hispanics, and 31.6% of English-speaking Hispanics reported not having a personal doctor. There is a regional difference between Eastern NC and the rest of the state only among Whites (20.7% vs. 15.7%).

**Figure 3-d. No Personal Doctor by Race/ Ethnicity and Region
NC BRFSS 2005-2009**



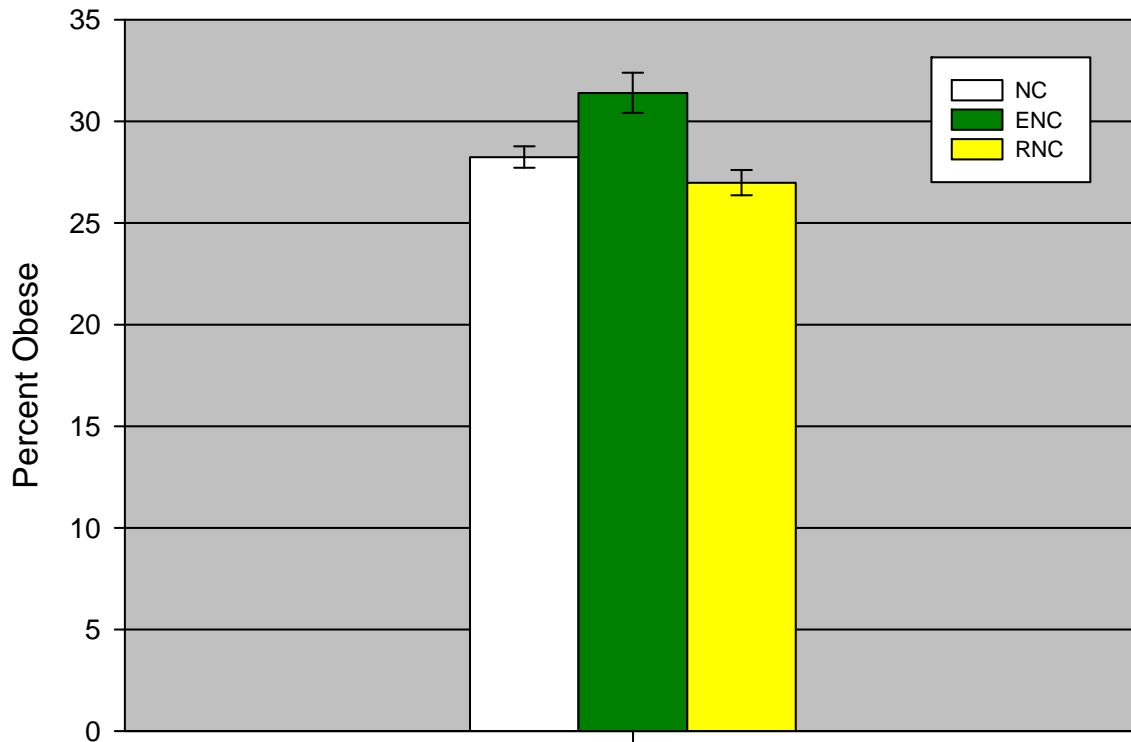
	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	11479	4134	7345	7181	2365	4816	1868	902	966	263	154	109	1532	464	1068	319	132	187
Mean	22.2	25.0	21.1	17.0	20.7	15.7	21.5	22.0	21.3	22.0	19.5	25.5	77.2	80.3	76.1	31.6	36.6	29.4
LCI	21.7	24.0	20.5	16.4	19.6	15.1	20.2	20.0	19.6	18.8	16.2	19.6	74.2	73.1	72.9	27.4	30.6	24.1
UCI	22.8	26.0	21.8	17.6	21.9	16.3	22.9	24.1	23.1	25.5	23.4	32.4	79.8	85.9	79.0	36.1	43.1	35.3

Obesity

The BMI is constructed using two basic anthropometric measures: height and weight from self-report. Height in meters is squared and then divided into weight recorded in kilograms. For adults 20 years and older in this survey, a BMI of 25.0 up to 30.0 is considered overweight, while those with a BMI of 30.0 and greater are considered obese.

Regional disparity – Eastern North Carolina compared to the rest of the state:
 More people who lived in eastern NC are obese (31.4%) than those who lived in the rest of the state (27.0%).

**Figure 4-a. Percent Obese by Region
 NC BRFSS 2005-2009**



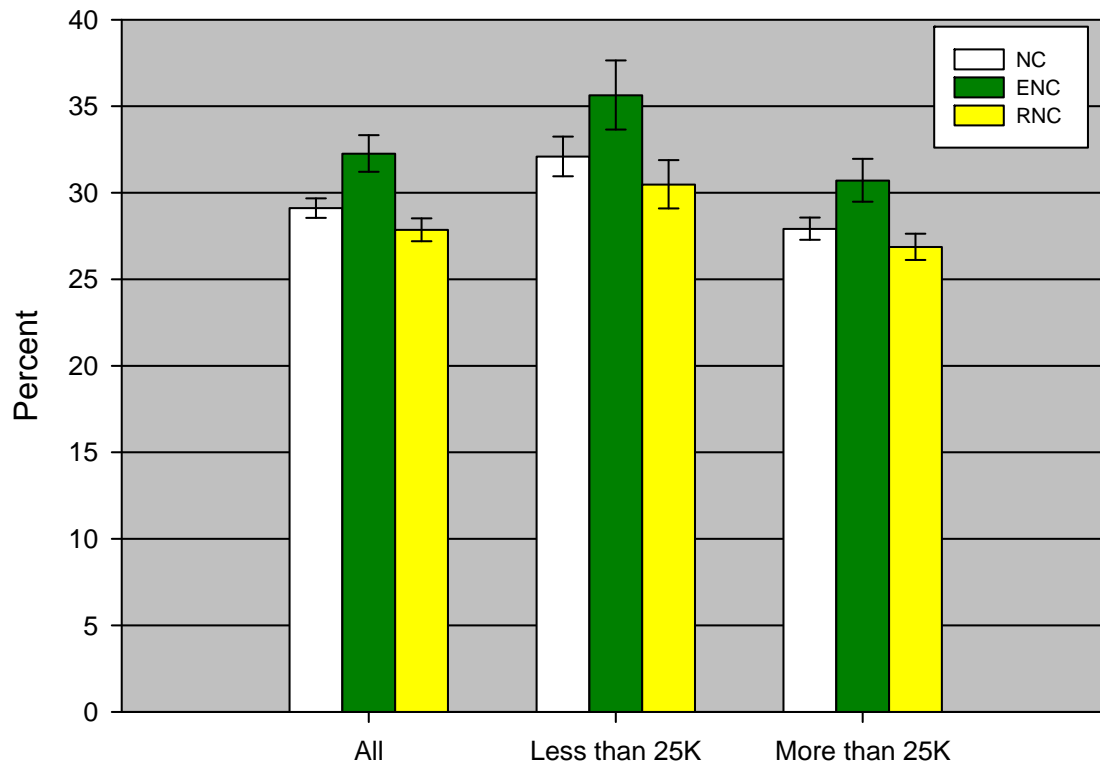
	NC	ENC	RNC
N	20853	7621	13232
Mean	28.2	31.4	27.0
LCI	27.7	30.4	26.4
UCI	28.8	32.4	27.6

Disparity in percent obese by income:

Percent obese varies significantly by income and region. Across the state, more people who are poor (less than \$25,000 per family) are obese (32.1%) than those whose income was above \$25,000 (27.9%).

More people are obese in Eastern NC than the rest of the state across the income levels. The difference in regions (eastern NC vs. the rest of the state) in prevalence of obesity is larger for those with annual income less than \$25,000 than those who earned more.

**Figure 4-b. Percent Obese by Income and Region
NC BRFSS 2005-2009**



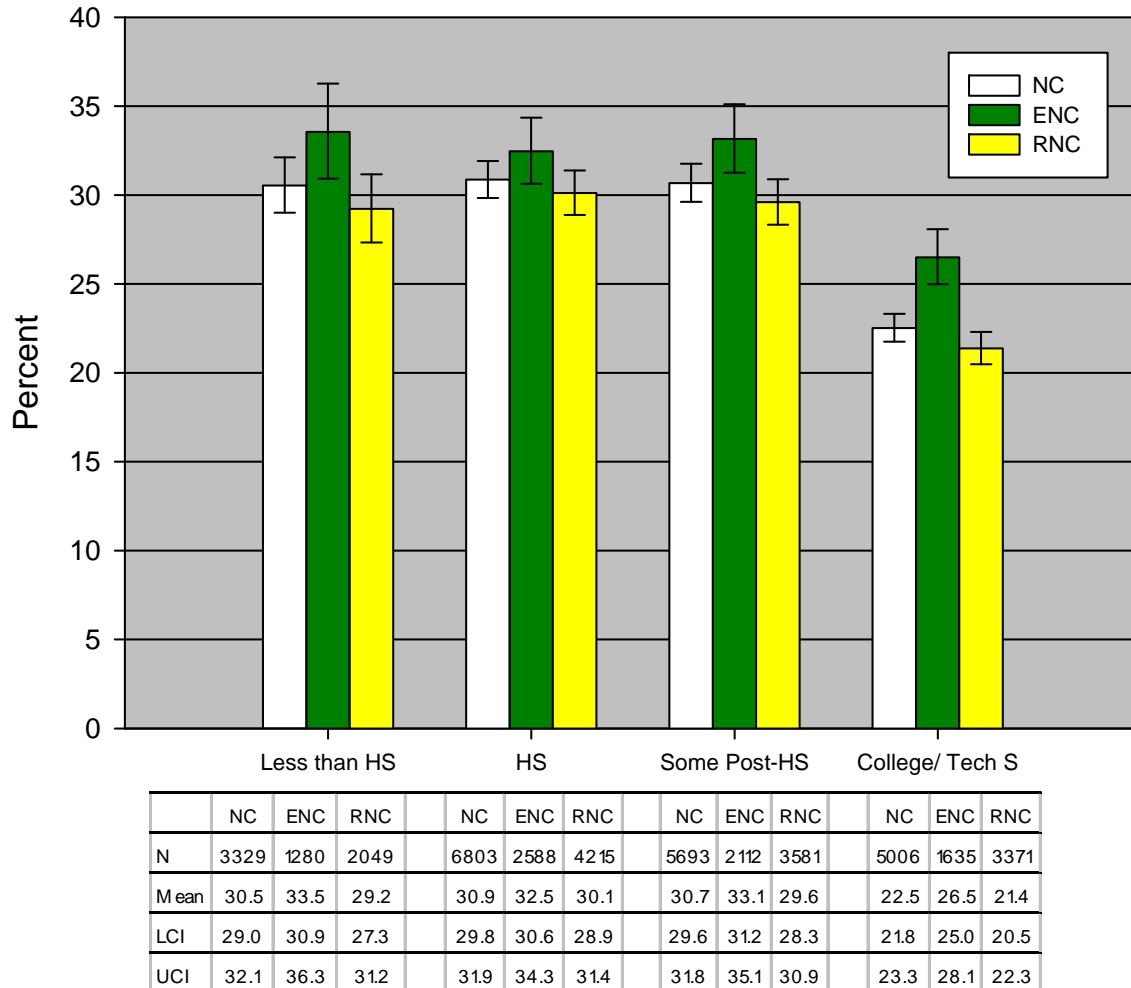
	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	18548	6794	11754	6779	2710	4069	11769	4084	7685
Mean	29.1	32.3	27.9	32.1	35.6	30.5	27.9	30.7	26.9
LCI	28.5	31.2	27.2	31.0	33.6	29.1	27.3	29.5	26.1
UCI	29.7	33.3	28.5	33.2	37.6	31.9	28.6	32.0	27.6

Disparity in percent obese by education:

Significantly fewer people who completed college or technical school (22.5%) are obese than those with a high school education (30.9%), some post-high school education (30.7%) or without high school diploma (30.5%).

Significant regional differences are present for those with some post-high school education and college or technical school education. More people who had graduated from college/technical school, or had a high school education living in eastern NC are obese (26.5% and 33.1%, respectively) than those with comparable education living in the rest of the state (20.5% and 28.3% respectively).

**Figure 4-c. Percent Obese by Education and Region
NC BRFSS 2005-2009**

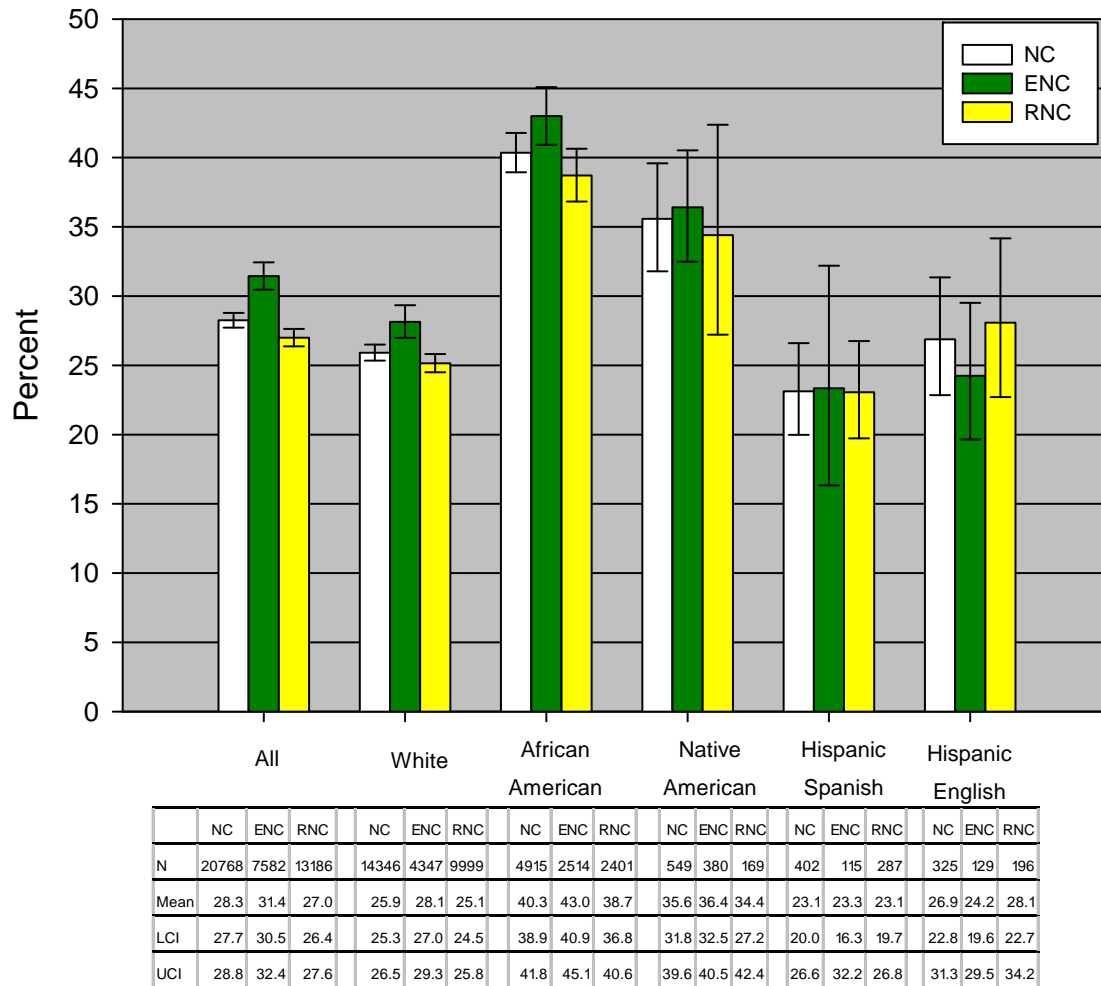


Disparity in percent obese by race/ethnicity:

Prevalence of obesity greatly varies by race/ethnicity. Statewide, more African Americans (40.3%) and Native Americans (35.6%) are obese than Whites (28.3%) or Hispanics (23.1% for Spanish-speaking; 26.9% for English-speaking Hispanics).

The regional difference is significant for Whites and African Americans. More Whites and African Americans living in eastern NC (28.1% and 43.0%, respectively) are obese than those living in the rest of the state (25.1% and 38.7%, respectively).

**Figure 4-d. Percent Obese by Race/ Ethnicity and Region
NC BRFSS 2005-2009**

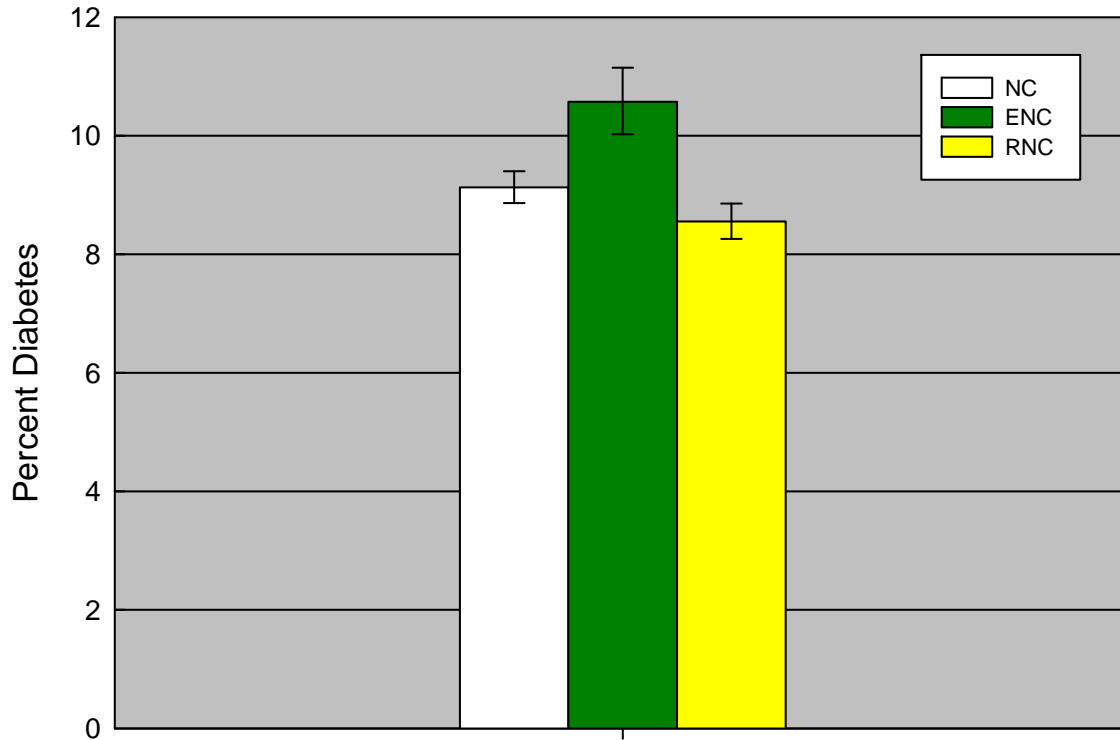


Diabetes

Diabetes is a leading cause of death in NC and the US. The diabetes mortality rates have been increasing and the regional and racial disparities have been widening. Data from the BRFSS contribute importantly to our understanding of prevalence and distribution of this life-threatening disease. Respondents were asked a question, "Have you ever been told by a doctor that you have diabetes?" Prevalence of diabetes varies significantly by region, education, and race/ethnicity.

Regional disparity – Eastern North Carolina compared to the rest of the state:
 More people who live in eastern NC reported having diabetes (10.6%) than those who live in the rest of the state (8.6%).

**Figure 5-a. Diabetes Prevalence by Region
 NC BRFSS 2005-2009**



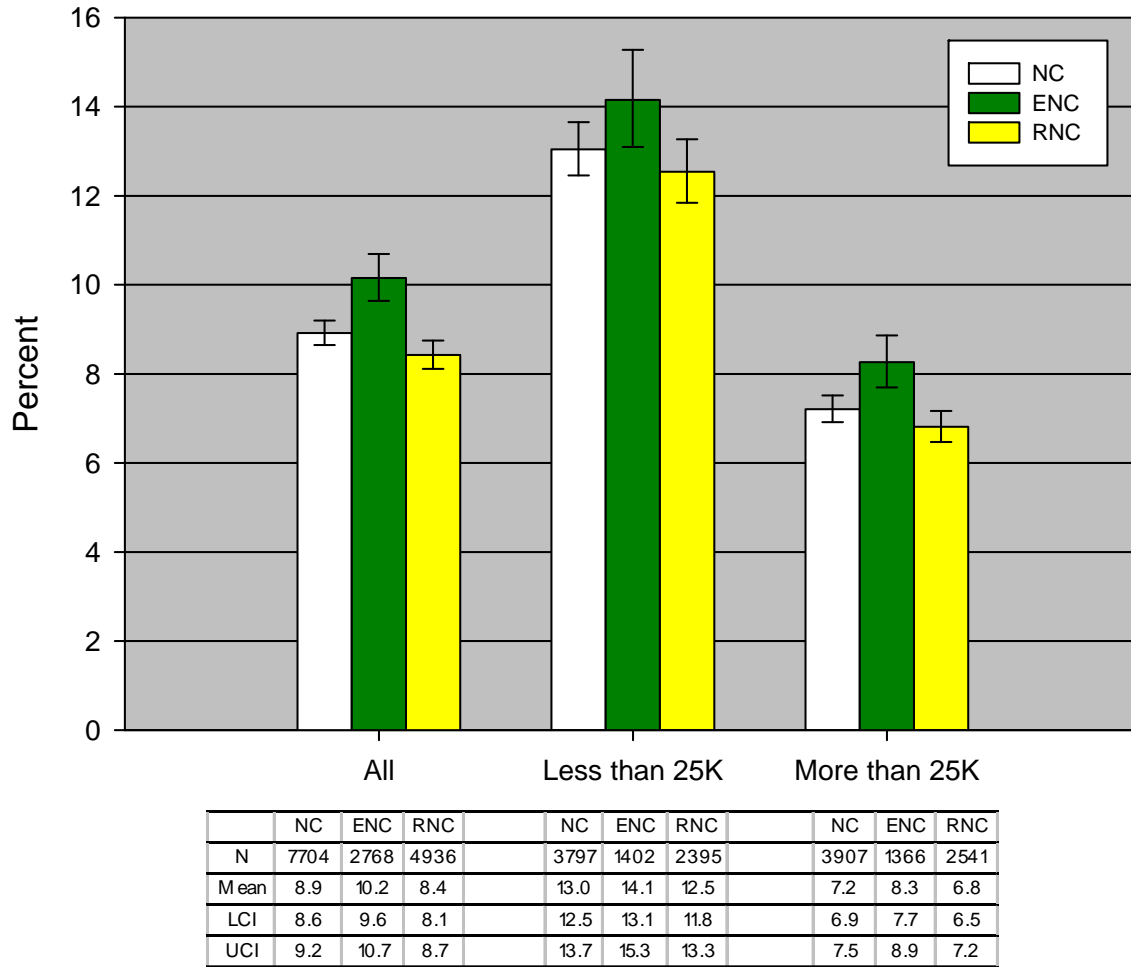
	NC	ENC	RNC
N	9229	3326	5903
Mean	9.1	10.6	8.6
LCI	8.9	10.0	8.3
UCI	9.4	11.1	8.9

Disparity in percent diabetes by income:

The prevalence of diabetes varies by household income. Across the state, significantly more people with lower household income (less than \$25,000) reported having diabetes than people with higher income (13.0% vs. 7.2%).

The difference between this distinction of “rich and poor” is greater in eastern NC. Almost one out of seven (14.1%) people with low income in eastern NC reported having diabetes compared to about one out of 12 (8.3%) people in families making more than \$25,000.

**Figure 5-b. Diabetes Prevalence by Income and Region
NC BRFSS 2005-2009**

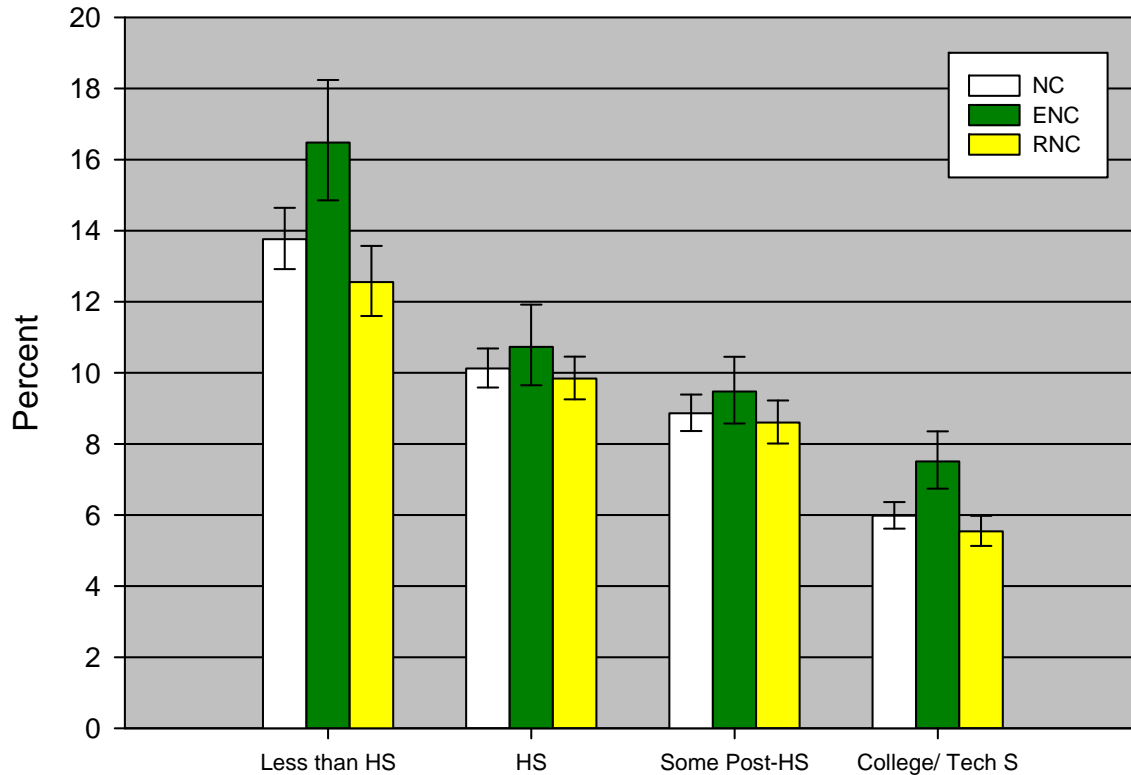


Disparity in percent diabetes by education:

There are stepwise effects of education on reported incidence of diabetes. Across the state, the highest percentage of people with diabetes are those without high school completion (13.8%), followed by those with high school (10.1%) or some post-high school education (8.9%). Those with college or technical school education have the lowest rate of having diabetes (6.0%).

A statistically significant regional difference exists only among those having less than a high school education. Among the less educated there is a difference within the state. In eastern NC, 16.5% of those without high school diploma reported having diabetes as compared to 12.5% of those living in the rest of the state.

**Figure 5-c. Diabetes Prevalence by Education and Region
NC BRFSS 2005-2009**



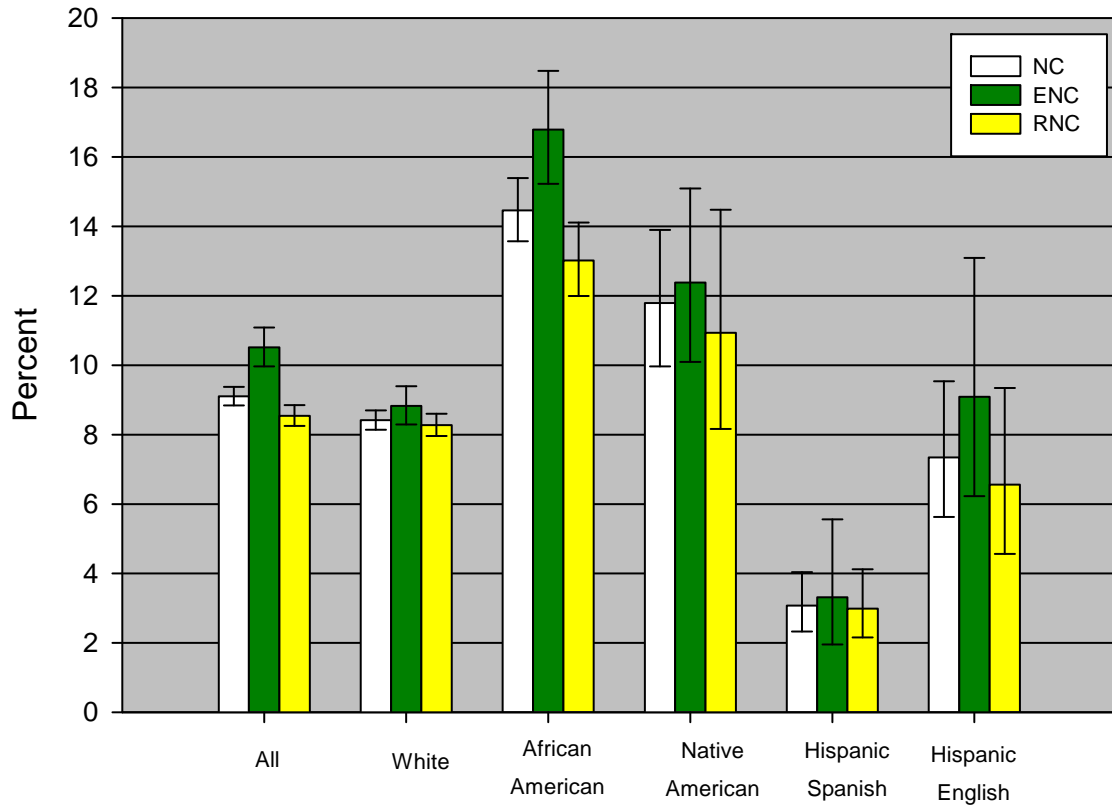
	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	2234	870	1364	3041	1091	1950	2203	787	1416	1724	570	1154
Mean	13.8	16.5	12.5	10.1	10.7	9.8	8.9	9.5	8.6	6.0	7.5	5.5
LCI	12.9	14.9	11.6	9.6	9.6	9.3	8.4	8.6	8.0	5.6	6.7	5.1
UCI	14.6	18.2	13.6	10.7	11.9	10.5	9.4	10.4	9.2	6.4	8.3	6.0

Disparity in percent diabetes by race and ethnicity:

Prevalence of reported diabetes varies substantially by race and ethnicity. Across the state, more African Americans (14.5%) and Native Americans (11.8 %) reported having diabetes than Whites (8.4%). Spanish-speaking Hispanics reported the lowest rate of diabetes (3.1%), much lower than English-speaking Hispanics (7.3%) or Whites (8.4%).

The large disparity in prevalence between Whites and African Americans is even more pronounced in Eastern North Carolina. Diabetes is almost twice as prevalent among African Americans as Whites in the eastern region (16.8% and 8.8%, respectively). All the groups shown here in the eastern region have a higher prevalence than those groups in the rest of the state, but regional effect is only statistically significant among African Americans.

**Figure 5-d. Diabetes Prevalence by Race/ Ethnicity and Region
NC BRFSS 2005-2009**



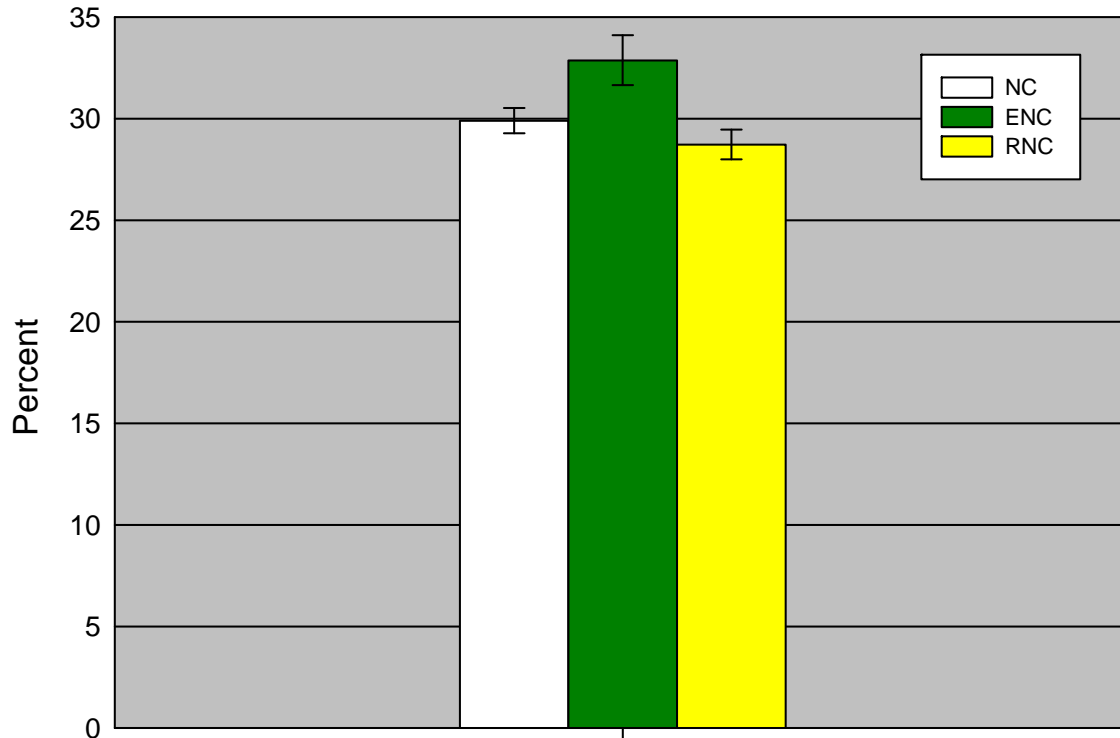
	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	9161	3295	5866	6378	1849	4529	2217	1158	1059	262	163	99	93	32	61	116	52	64
Mean	9.1	10.5	8.5	8.4	8.8	8.3	14.5	16.8	13.0	11.8	12.4	10.9	3.1	3.3	3.0	7.3	9.1	6.6
LCI	8.8	10.0	8.2	8.1	8.3	8.0	13.6	15.2	12.0	10.0	10.1	8.2	2.3	2.0	2.2	5.6	6.2	4.6
UCI	9.4	11.1	8.8	8.7	9.4	8.6	15.4	18.5	14.1	13.9	15.1	14.5	4.0	5.6	4.1	9.5	13.1	9.3

Hypertension

Percent high blood pressure was obtained from BRFSS respondents who answered yes to “Have you EVER been told by a doctor, nurse, or other health professionals that you have high blood pressure?” (excluding female respondents who answered “yes, but only during pregnancy”).

Regional disparity – Eastern North Carolina compared to the rest of the state:
More people who live in eastern NC reported that they have high blood pressure (32.9%) than those who live in the rest of the state (28.7%).

**Figure 6-a. Percent High Blood Pressure by Region
NC BRFSS 2005-2009**



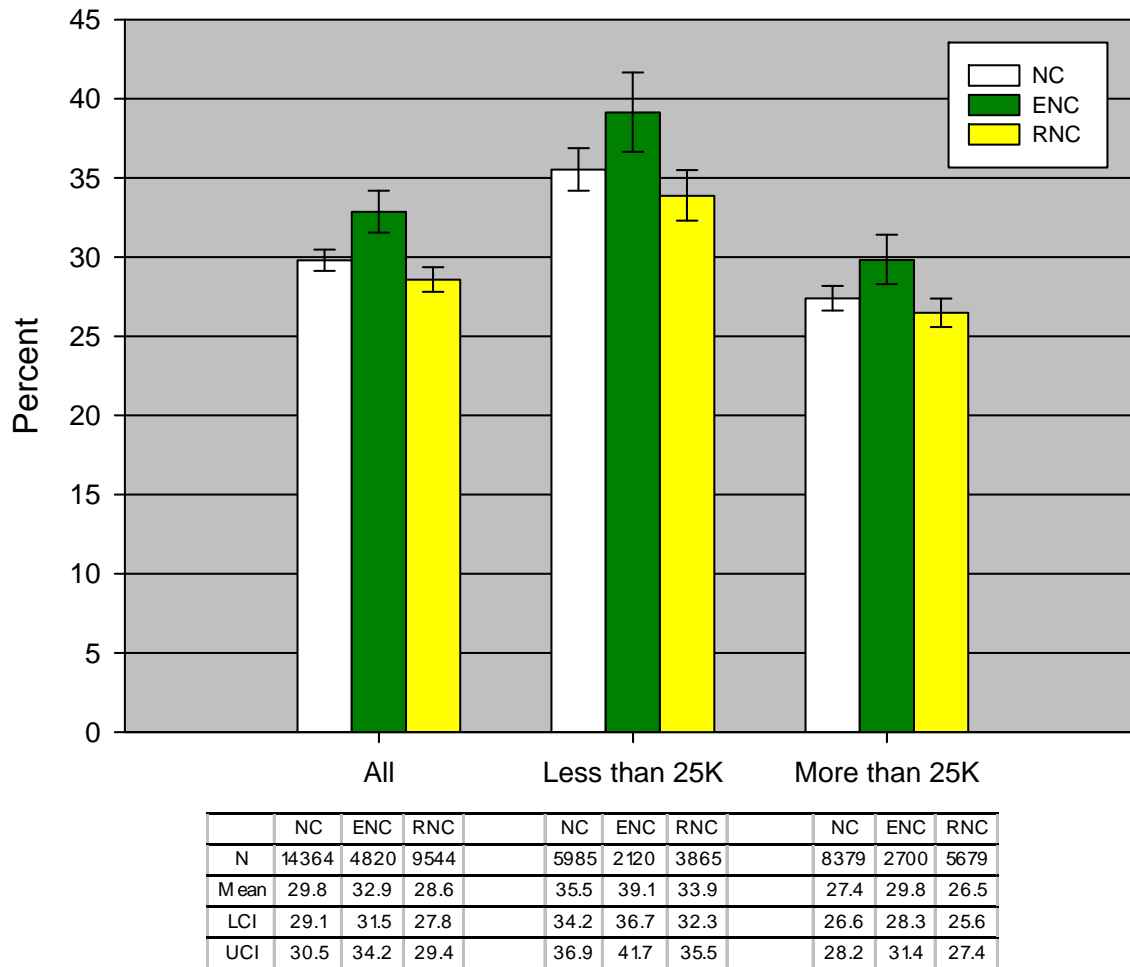
	NC	ENC	RNC
N	17218	5722	11496
Mean	29.9	32.9	28.7
LCI	29.3	31.6	28.0
UCI	30.5	34.1	29.5

Disparity in percent high blood pressure by income:

Percent high blood pressure varies significantly by income and region. Across the state, more people who are poor (less than \$25,000 per family) have high blood pressure (32.1%) than those whose income is above \$25,000 (27.9%).

More people reported having high blood pressure in Eastern NC than the rest of State across the income levels.

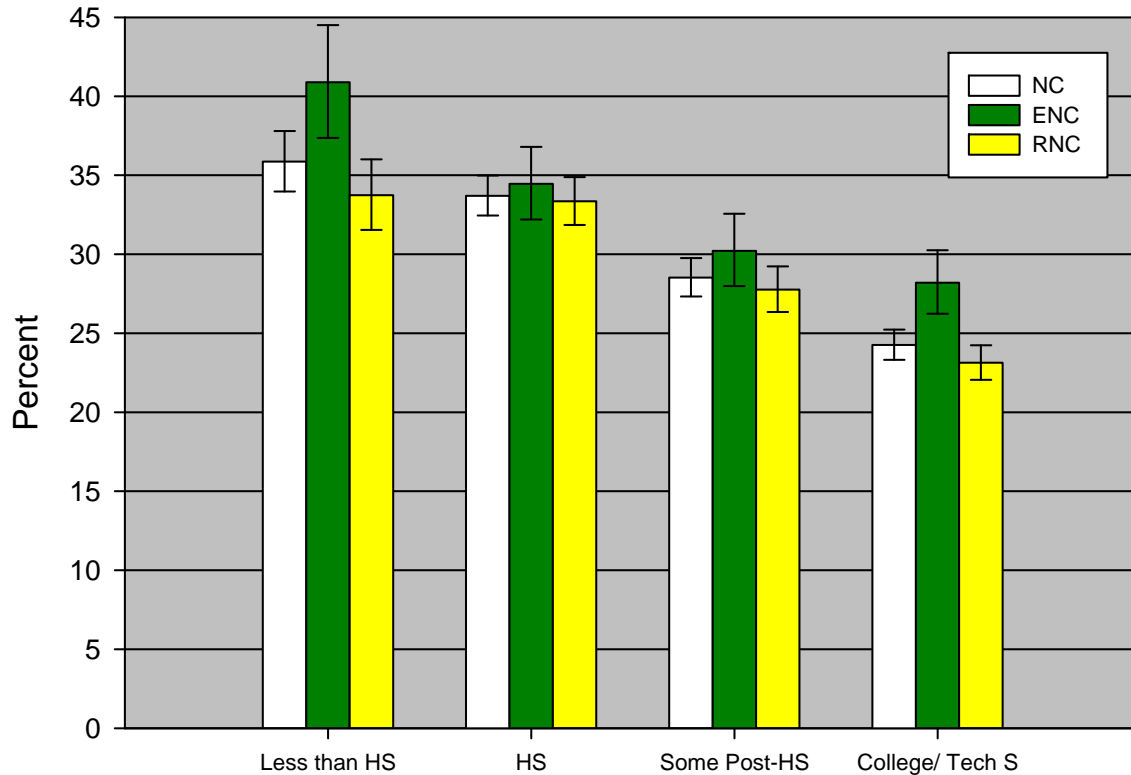
**Figure 6-b. Percent High Blood Pressure by Income and Region
NC BRFSS 2005-2009**



Disparity in percent high blood pressure by education:

There are stepwise effects of education on prevalence of hypertension. In the state significantly more people who completed high school (33.7%) or without high school diploma (35.9%) reported having high blood pressure than those with some post-high school education (28.5%). Least percentage of those who completed college or technical school reported having high blood pressure (24.3%). Significant regional differences are present between eastern NC and the rest of the state for those with college or technical school education (28.2% vs. 23.1%) or for those with less than a high school diploma (40.9% vs. 33.7%).

**Figure 6-c. Percent High Blood Pressure by Education and Region
NC BRFSS 2005-2009**



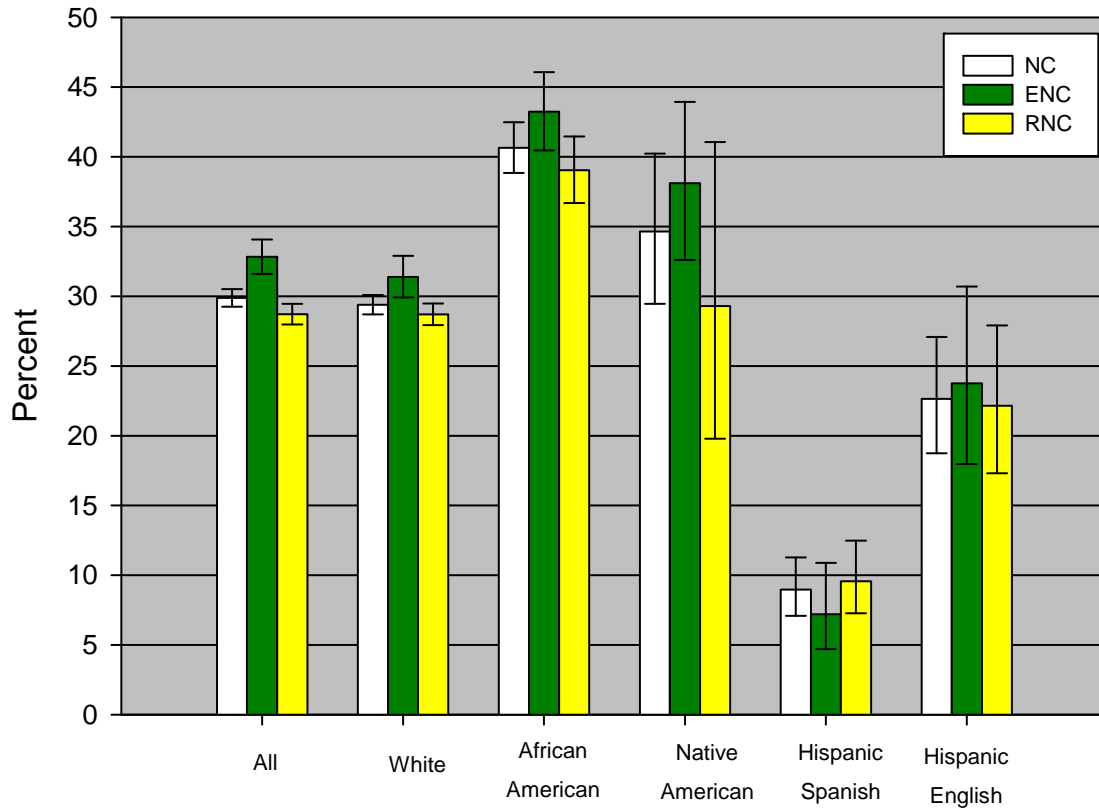
	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	3334	1152	2182	5735	1973	3762	4147	1409	2738	3965	1176	2789
Mean	35.9	40.9	33.7	33.7	34.5	33.4	28.5	30.2	27.8	24.3	28.2	23.1
LCI	34.0	37.4	31.5	32.5	32.2	31.9	27.3	28.0	26.4	23.3	26.2	22.1
UCI	37.8	44.5	36.0	35.0	36.8	34.9	29.8	32.6	29.2	25.2	30.3	24.2

Disparity in percent high blood pressure by race/ethnicity:

Percent high blood pressure greatly varies by race/ethnicity. In statewide, more African Americans (40.6%) and Native Americans (34.6%) reported having high blood pressure than Whites (29.4%). The lowest percentage of Hispanics (9.0% for Spanish-speaking; 22.6% for English-speaking Hispanics) reported having high blood pressure among the racial/ethnic groups listed here.

The significant regional difference between eastern NC and the rest of the state is observed only among Whites. More Whites living in eastern NC had high blood pressure (31.4%) than those living in the rest of the state (28.7%).

**Figure 6-d. Percent High Blood Pressure by Race/ Ethnicity and Region
NC BRFSS 2005-2009**



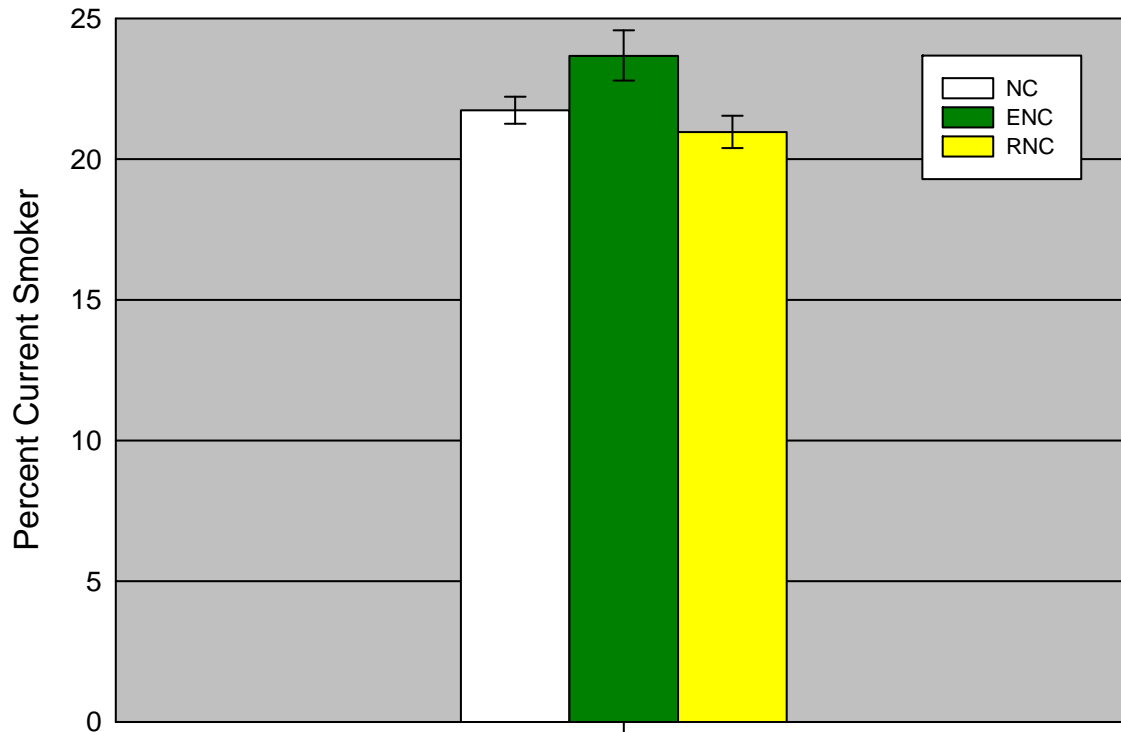
	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	17127	5685	11442	12825	3564	9261	3424	1688	1736	349	246	103	134	38	96	204	81	123
Mean	29.9	32.8	28.7	29.4	31.4	28.7	40.6	43.2	39.0	34.6	38.1	29.3	9.0	7.2	9.6	22.6	23.7	22.2
LCI	29.3	31.6	28.0	28.7	29.9	27.9	38.8	40.4	36.7	29.5	32.6	19.8	7.1	4.7	7.3	18.7	18.0	17.3
UCI	30.5	34.1	29.4	30.1	32.9	29.5	42.5	46.1	41.4	40.2	43.9	41.1	11.3	10.9	12.5	27.1	30.7	27.9

Current Smokers

Smoking holds one of the greatest risks to health. Percent of people currently smoking varies significantly by region, income, education, and race/ ethnicity.

Regional disparity – Eastern North Carolina compared to the rest of the state:
Significantly more people living in Eastern NC are currently smoking than those living in the rest of the state (23.7% vs 21.0%).

**Figure 7-a. Percent Current Smokers by Region
NCBRFSS 2005-2009**

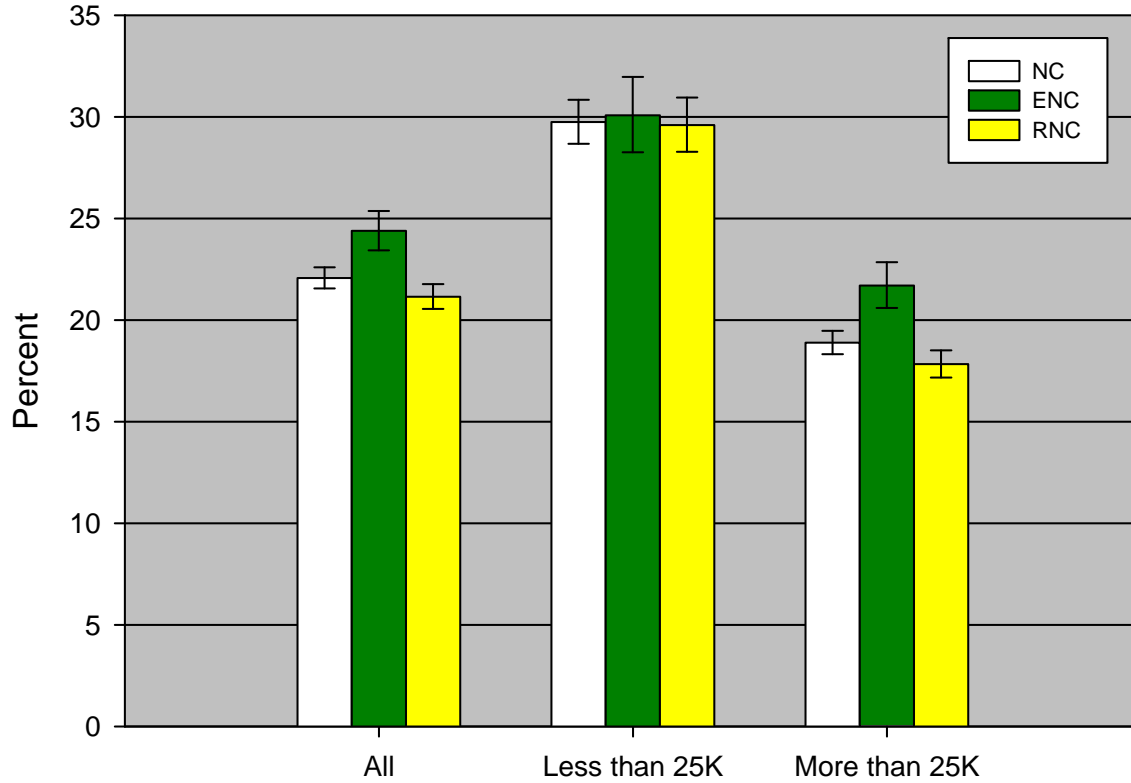


	NC	ENC	RNC
N	14920	5096	9824
Mean	21.7	23.7	21.0
LCI	21.3	22.8	20.4
UCI	22.2	24.6	21.5

Disparity in percent current smokers by income:

Percentage of current smokers varies greatly by income. Across the state, about a third of people (29.7%) who are poor (earning less than \$25,000 annual income) were current smokers as compared to about one in five (18.9%) among those who earn more than \$25,000.

**Figure 7-b. Current Smokers by Income and Region
NC BRFSS 2005-2009**

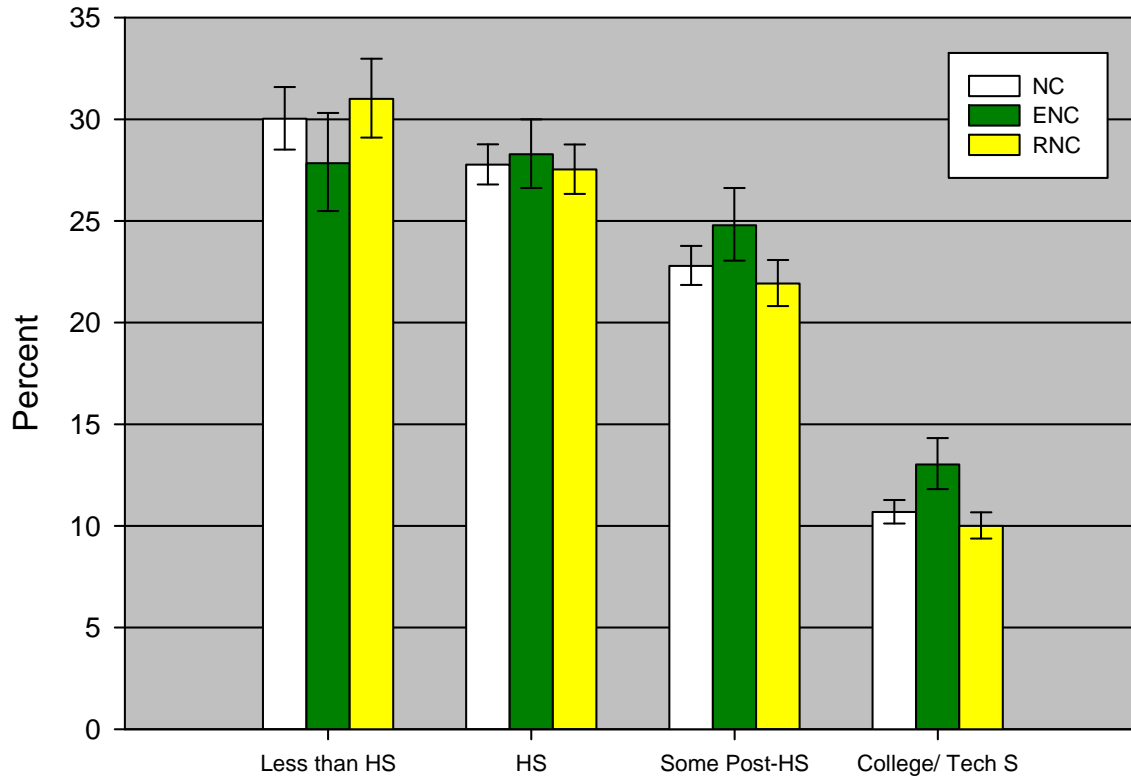


	NC	ENC	RNC		NC	ENC	RNC		NC	ENC	RNC
N	13181	4502	8679		5666	1973	3693		7515	2529	4986
Mean	22.1	24.4	21.1		29.7	30.1	29.6		18.9	21.7	17.8
LCI	21.6	23.4	20.5		28.7	28.3	28.3		18.3	20.6	17.2
UCI	22.6	25.4	21.8		30.8	32.0	30.9		19.5	22.8	18.5

Disparity in percent current smokers by education:

Education has large step-wise effects on smoking. A third of people (30.0%) without completion of high school are current smokers as compared to 27.8% of high school graduates and 22.8% of those with some post high school education. Those with college or technical school education have the lowest percentage of current smokers (10.7%). There is a regional difference between eastern NC and the rest of state for those with college or technical school education (13.0% vs 10.0%).

**Figure 7-c. Percent Current Smokers by Education and Region
NC BRFSS 2005-2009**

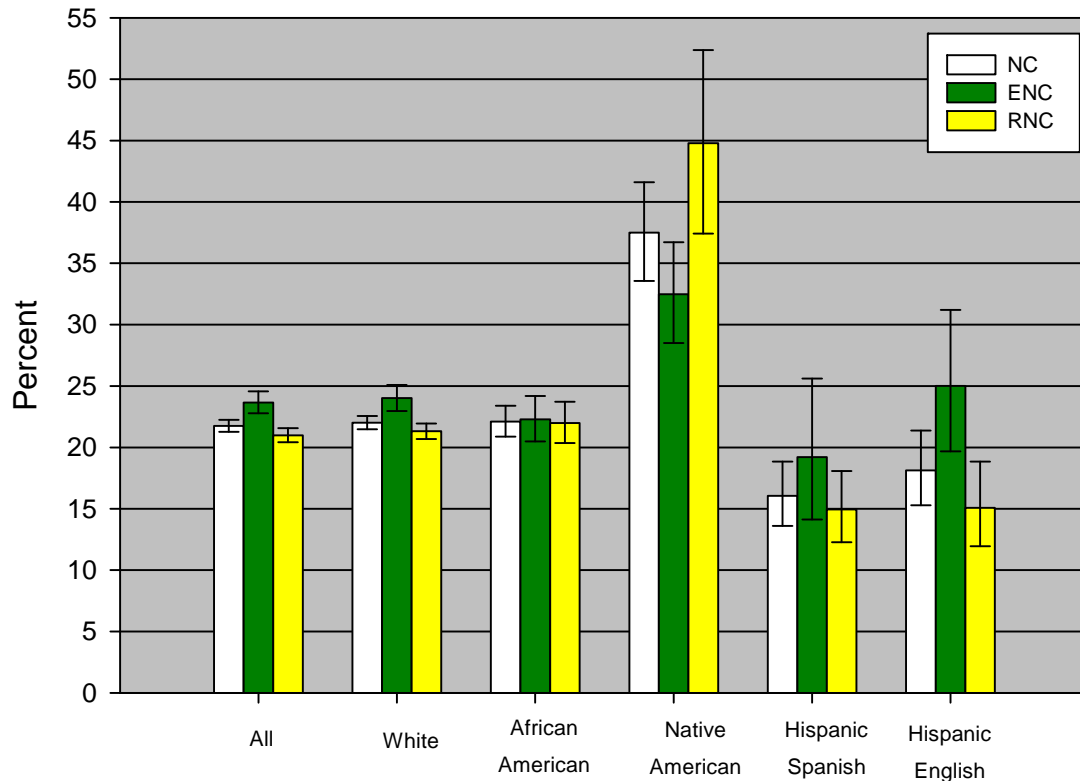


	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	2874	901	1973	5510	1934	3576	4082	1472	2610	2430	779	1651
Mean	30.0	27.8	31.0	27.8	28.3	27.5	22.8	24.8	21.9	10.7	13.0	10.0
LCI	28.5	25.5	29.1	26.8	26.6	26.3	21.8	23.0	20.8	10.1	11.8	9.4
UCI	31.6	30.3	33.0	28.8	30.0	28.8	23.8	26.6	23.1	11.3	14.3	10.7

Disparity in percent current smokers by race/ethnicity:

There are significant differences in percent current smokers by race/ethnicity. In North Carolina, more than a third of Native Americans (37.5%), the highest among all, are reported as current smokers. The percent current smokers were comparable between Whites and African Americans (22.0% vs. 22.1%, respectively). Spanish-speaking Hispanics have the lowest percentage of current smokers. There are significant regional differences between eastern NC and the rest of the state among Whites (24.0% vs. 21.3%), Native Americans (32.5% vs. 44.8%), and English-speaking Hispanics (25.0% vs. 15.1%).

**Figure 7-d. Percent Current Smokers by Race/ Ethnicity and Region
NC BRFSS 2005-2009**



	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC	NC	ENC	RNC
N	14857	5070	9787	11312	3419	7893	2358	1090	1268	463	280	183	258	84	174	225	96	129
Mean	21.8	23.7	21.0	22.0	24.0	21.3	22.1	22.3	22.0	37.5	32.5	44.8	16.1	19.2	14.9	18.1	25.0	15.1
LCI	21.3	22.8	20.4	21.5	23.0	20.7	20.9	20.5	20.4	33.6	28.5	37.4	13.6	14.1	12.3	15.3	19.7	12.0
UCI	22.2	24.6	21.6	22.6	25.1	22.0	23.4	24.2	23.7	41.6	36.7	52.4	18.9	25.6	18.1	21.4	31.2	18.8

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