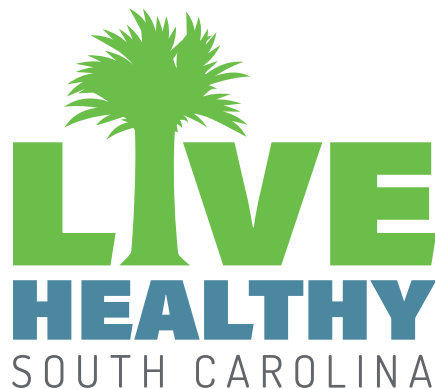


SOUTH CAROLINA

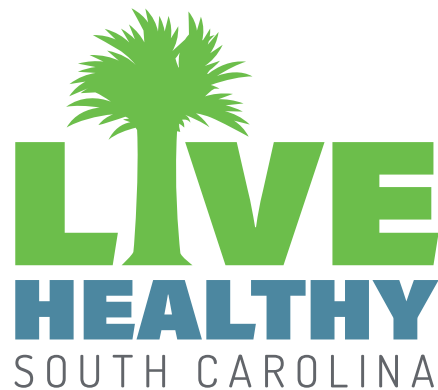
# STATE HEALTH ASSESSMENT



2018



# 2018 State Health Assessment Report



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# JOINT LETTER FROM ALLIANCE LEADERSHIP

**T**he Alliance for a Healthier South Carolina represents a diverse group of more than 50 state and community leaders and organizations and is proud to serve as the backbone organization for Live Healthy South Carolina. We are pleased to present South Carolina's first comprehensive State Health Assessment.

Live Healthy South Carolina is a collaborative process of bringing together the entities and leaders that can effect population health outcomes. A positive impact can be achieved by assessing health outcomes, identifying data-driven priorities for the state and recommending best and promising practices that can be implemented at the state and local levels. Metrics are being developed throughout this process to allow those implementing the strategies an opportunity to evaluate their progress. Since all individuals, systems and institutions in South Carolina share responsibility for – and reap the rewards of – improved health, the time to act is now.

The Live Healthy South Carolina State Health Assessment is a comprehensive description of the health status of South Carolinians and will be used to inform health improvement plans at the state and community levels. It also serves as a resource for organizations that need access to health data.

The findings in this assessment can help South Carolina channel its shared commitment toward ensuring that our state affords the opportunity for health and well-being for everyone who lives, works, worships and vacations here. Working together, our strengths can equip us to better meet the challenges of today and tomorrow and contribute to a culture of health that values every South Carolinian.

Sincerely,

Alliance for a Healthier South Carolina



Schipp Ames



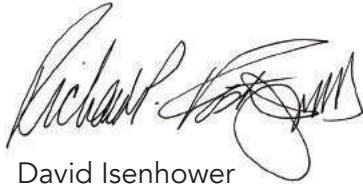
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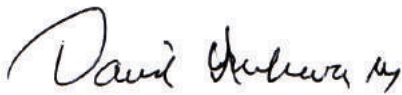
Barry Cross

**Barry Cross**

Rick Foster, MD



David Isenhower



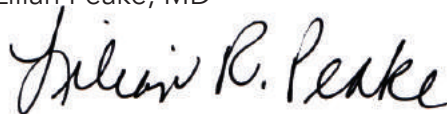
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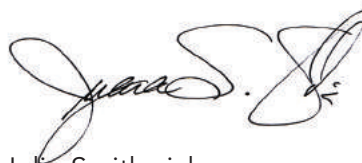
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**Shawn Stinson, MD**

Lisa Wear-Ellington



Megan Weis



Lathran Woodard

**Lathran Woodard**



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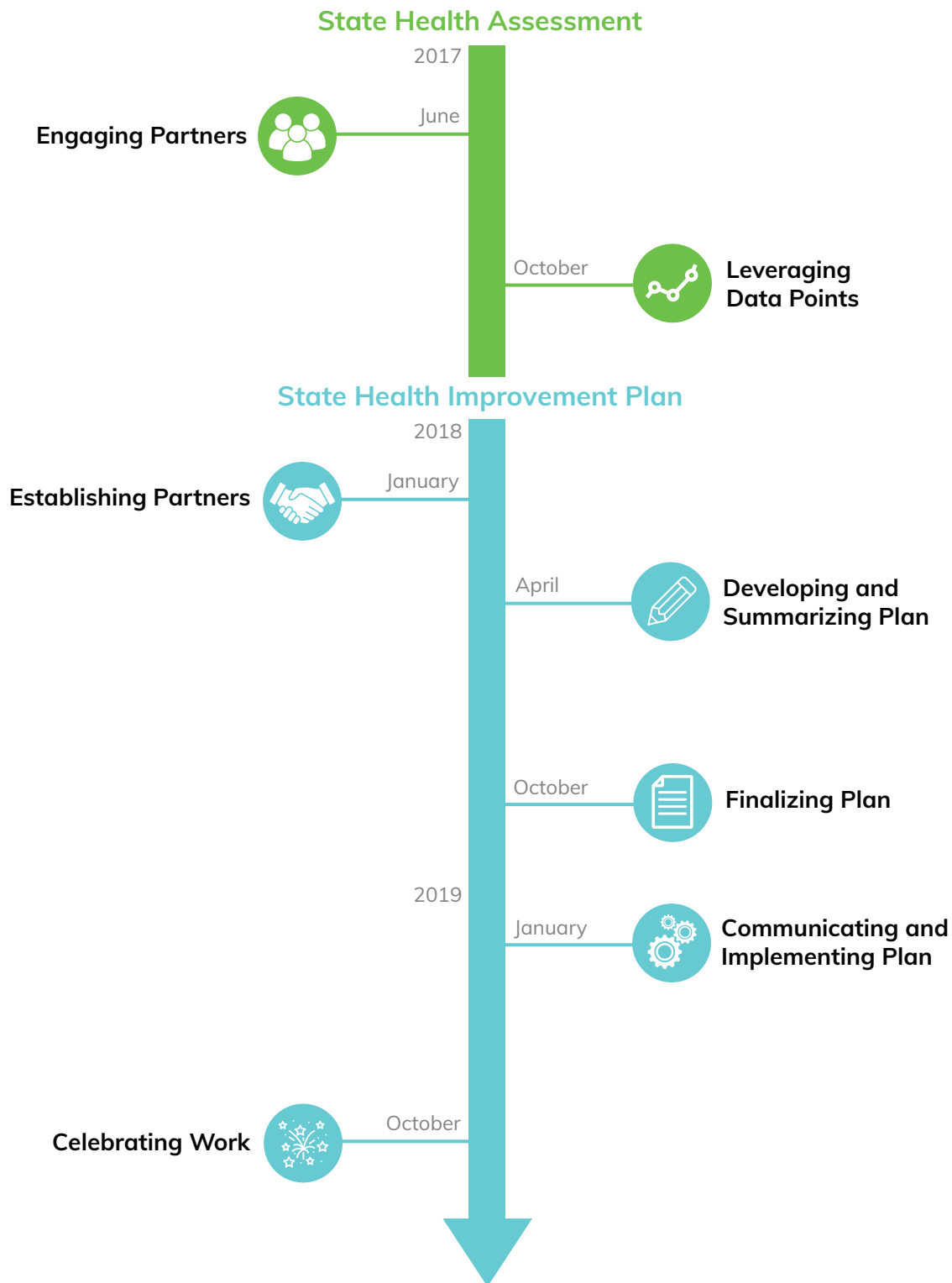
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# Introduction



# INTRODUCTION





## Live Healthy South Carolina

Live Healthy South Carolina is a collaborative process led by the Alliance for a Healthier South Carolina (Alliance) to systematically assess and advance the health of all South Carolinians. South Carolina's first comprehensive state health assessment (SHA) and state health improvement plan (SHIP) were created through this initiative.

The diagram (left) shows the timeline from initiating the development of the SHA to annual review of the SHIP metrics.

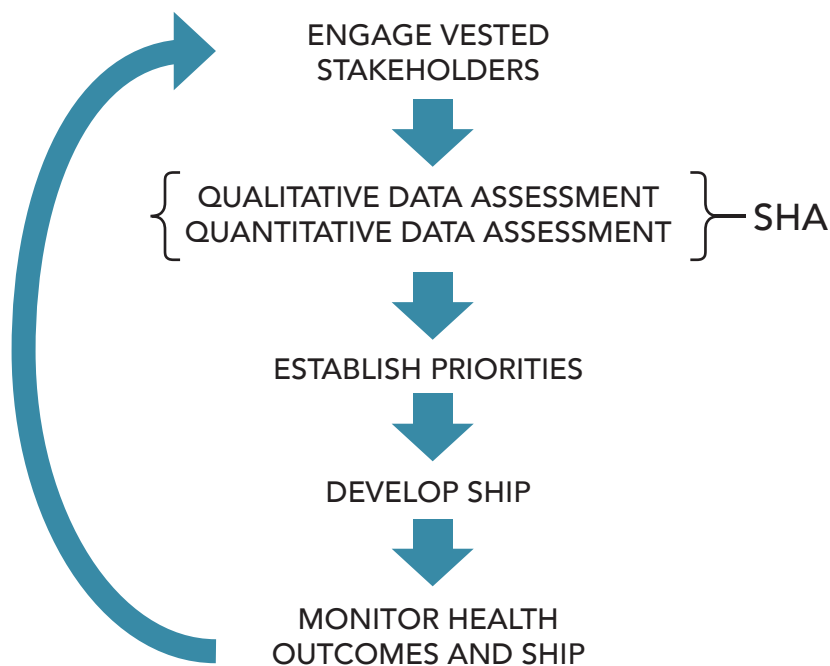
The framework for this process is a modified version of the Mobilizing for Action through Planning and Partnerships (MAPP)

model developed by the National Association of City and County Health Officials (NACCHO).

Live Healthy South Carolina's goals are:

- Every three to five years, assess state-level health outcomes, along with risk and protective factors that affect health
- Identify priority areas for South Carolina to address based on quantitative and qualitative data presented in the SHA
- Identify strategies, based on best practices, for each priority area that could be implemented to move South Carolina forward
- Track population health metrics and the SHIP annually

### SOUTH CAROLINA SHA AND SHIP FRAMEWORK



# INTRODUCTION

## State Health Assessment

The state health assessment (SHA) is a description of the health status of South Carolinians and was used to inform South Carolina's 2018-2023 State Health Improvement Plan. It also provides organizations and individuals access to a comprehensive compilation of state-level data in one location.

The Alliance for a Healthier South Carolina (Alliance) led the development of the SHA, and two member organizations provided key support, the South Carolina Department of Health and Environmental Control (DHEC) and the South Carolina Office of Rural Health (SCORH). The table below provides more information about these three organizations.

**The Alliance for a Healthier South Carolina** is a coalition of approximately 60 executive leaders from diverse organizations across the state working together to ensure that all people in South Carolina have the opportunity for healthier bodies, minds, and communities while reducing the future cost of health care. The Alliance membership consists of organizations from various sectors, including governmental entities, non-profit organizations, professional associations, private businesses, health care entities, educational institutions and community coalitions. See Appendix D for the member list. Additional information about the Alliance can be found at [www.healthiersc.org](http://www.healthiersc.org).

**The South Carolina Department of Health and Environmental Control** (DHEC) is the state regulatory agency charged with promoting and protecting the state's public health and its land, air, coastal resources and water quality as authorized by federal and state law. DHEC's mission is to improve the quality of life for all South Carolinians by protecting and promoting the health of the public and the environment. Just a few of DHEC's services include providing vital health care services, coordinating disease control, monitoring and regulating pollution, ensuring food safety, supporting healthy nutrition, responding to disasters, and providing statistics on the state's health and environment. See Appendix E for the DHEC Data Team bureau listing. More information about DHEC can be found at [www.scdhec.gov](http://www.scdhec.gov).

**The South Carolina Office of Rural Health (SCORH)** is a non-profit organization dedicated to ensuring equitable access to quality health care for all rural South Carolinians. SCORH's vision is that South Carolina's rural and underserved people have optimal health care services that enhance the quality of life and community. In South Carolina, 36 of the state's 46 counties fall outside a metropolitan area, and 44 counties have at least a portion that are medically underserved. The rural health action plan developed by SCORH in 2017 is a comprehensive framework that contains five areas of focus, 15 recommendations, and over 50 action steps to enhance rural health outcomes. More information about SCORH can be found at [www.scorh.net](http://www.scorh.net).

Under the leadership of the Alliance, partners met to review data and consider additional data sources. The SHA includes qualitative and quantitative data from a variety of sources. Demographics, health outcomes and factors that affect health, for example, individuals' health behaviors, community characteristics, the environment, and access to care, are presented. When available, 10-year trends and comparisons at a regional or national level are shown. For more detailed information on the methodology, see Appendix F.

To provide insight into health disparities, when available, indicators are reported by race/ethnicity, sex, age group, income level and/or disability status. Data on populations disproportionately affected by poor health status are also provided. Indicators addressing access to social and economic opportunities where

South Carolinians live, work, learn, and play are also included to further investigate underlying causes of health disparities and health inequities.

An effort was made to also include comparisons to the U.S. Department of Health and Human Services' Healthy People 2020 (HP 2020) targets. Healthy People has provided science-based 10-year national objectives for improving the health of all Americans since 1979. The program establishes benchmarks, monitors progress over time to encourage collaborations across communities and sectors, and measures the impact of prevention activities. HP 2020 objectives are measurable and applicable at the national, state and local levels. Using HP 2020 provides the opportunity to track South Carolina's progress towards the HP 2020 goals. The indicators with an accompanying HP 2020 goal are outlined in Appendix G.

# INTRODUCTION

## Qualitative data were gathered from three assessments:

**SCORH Assessment** - In March 2017 SCORH collected information from residents living in rural and underserved areas of the state through five town hall meetings (100 participants), nine focus groups in seven counties (165 participants), and a written survey (93 responses).

### **Community Assets Assessment**

In October and November 2017 and February 2018, partners participated in “Data for Decision Walk” events to review a snapshot of the health and wellbeing of South Carolinians across the life course and to identify health issues. Partners were also asked to list assets that could support health improvement in the state (see Appendix K).



### **Forces of Change Assessment**

In January 2018, the Alliance members completed a modified SWOT (Strengths Weaknesses Opportunities/Threats) analysis to identify events, trends, and factors that impact the health of South Carolinians. A copy of the questions used in the assessment can be found in Appendix H.

## Quantitative data were gathered through two tracks:

**Public Input Survey** - A written survey to identify public perceptions about the health of South Carolina communities was administered. The survey was distributed electronically and manually in late 2015, and again from July to December in 2017. A total of 4,104 surveys were completed. A copy of the survey can be found in Appendix I.

Participants were first asked to respond to two statements by selecting three responses to each question from a list of potential responses. The questions were: “I think these are the three most important factors for a healthy community” and “I think these are the three most important health concerns for our community”. Next, participants were asked to rate the overall health of their community.

Data were also collected on the respondents’ demographics (age,

race, ethnicity, sex, education level, insurance coverage, and income level) and geographic location (county and ZIP code).

**Health Indicators** - Thirty-four data sources were utilized to collect 90+ indicators. Data were obtained from 16 primary and 18 secondary sources including surveys, vital records, registries, claims/billing or hospitalization data, census, and administrative/program data. Data were collected from a variety

of organizations, including public health, health care, law enforcement, education, mental health, and social services. For a detailed list outlining all data sources SHA (including a description, the strengths and limitations) see Appendix J.

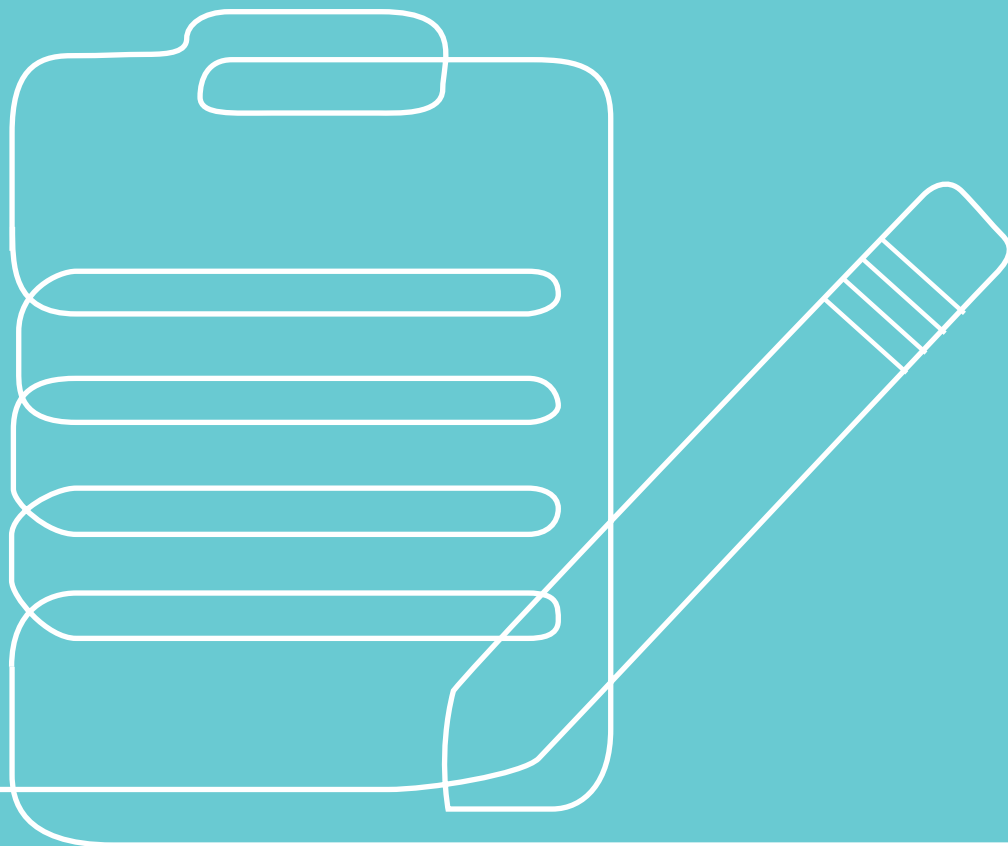
The table below provides a detailed description of the process that was utilized to create the SHA with the foundational principles of health equity, social determinants of health, and HP 2020.

#### South Carolina State Health Assessment (SHA) Development - Roles and Responsibilities





# Assessment Results



# ASSESSMENT RESULTS

## SCORH Assessment Results:

The SCORH conducted a series of focus groups, town hall meetings, and surveys. Five broad areas of need in the state were identified:

- Housing
  - Affordability
  - Safety
- Education
  - Vocational programs
  - All day preschool programs for three and four-year olds
- Access to care
  - Ability to see providers without payment
  - Recruitment and retention of health professionals
  - Drug treatment access
- Economic Development
  - More industry in rural areas
  - Active, coordinated, and diverse economic development
- Community Assets, Leadership, and Engagement
  - Rural management/ leadership training
  - Coordinated local leadership
  - Access to and help applying for grant funds.

## Community Assets Assessment Results:

Assets and resources that can be used to address health issues in South Carolina were identified through the “Data for Decision Walk” events. This list included assets from governmental agencies, professional associations, community-based organizations, and educational systems at the federal, state, and local levels. In cases where assets were not provided, DHEC staff researched additional resources. A complete list of the 124 can be found in Appendix K.

## Forces of Change Assessment Results:

See page 16 for a description of how the assessment was conducted.

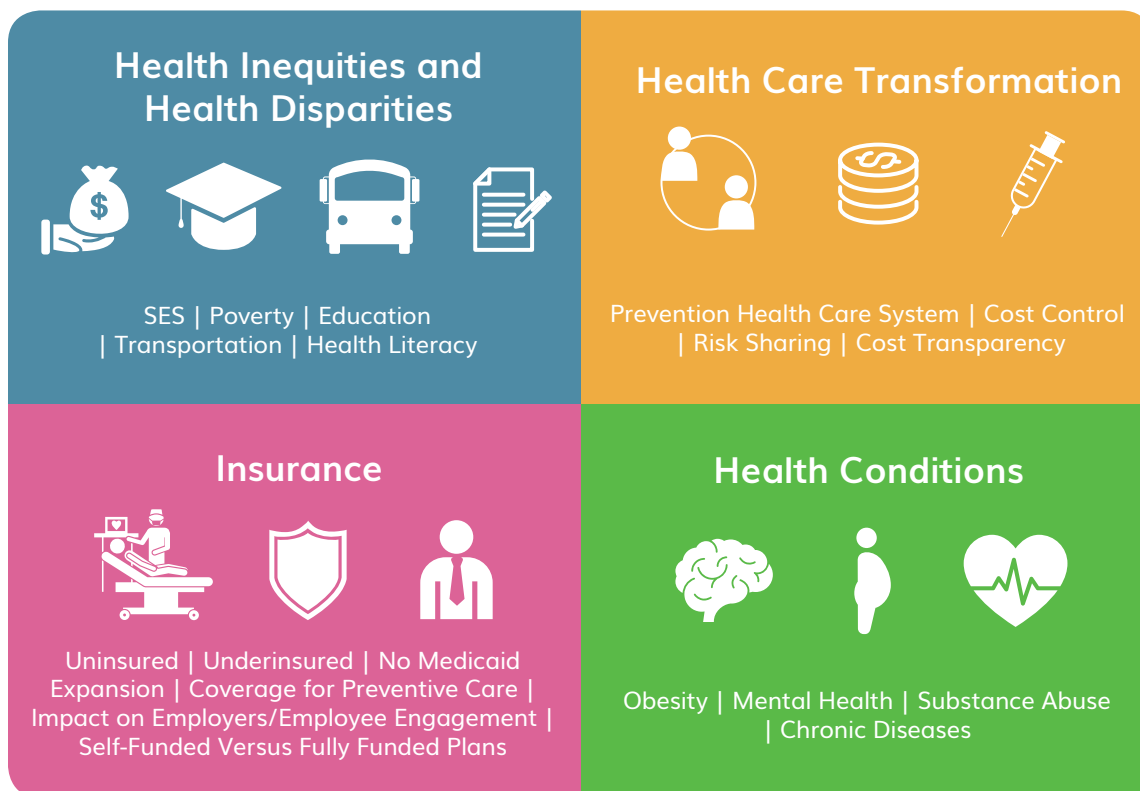
Participants identified these forces as affecting South Carolina’s health:

- Health inequities and disparities
- Changes in the delivery of health care (health care transformation)
- Health insurance
- Chronic health conditions.

Respondents were asked how the health of South Carolinians could be affected during the next three to five years. Respondents cited:

- Health disparities
- Effect of education on health





- Cost of care for chronic conditions
- Access to care
- High-risk groups not seeking care
- Lack of flexible insurance plans.

Potential actions identified that South Carolina could implement in response to these forces were:

- Create opportunities for cross agency collaboration
- Analyze health care costs
- Coordinate focused efforts among businesses, government, and health care partners to address key factors beyond clinical care that support health

- Advocate for access to health care for all residents.

## Public Input Survey Results:

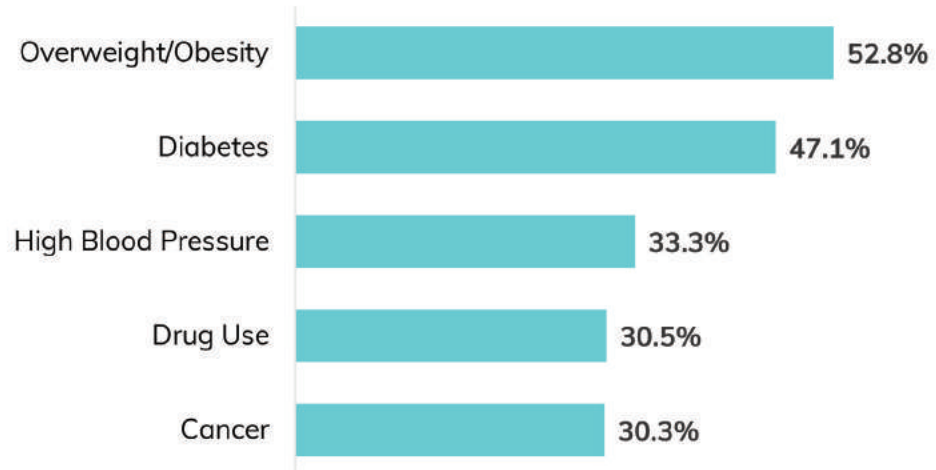
See page 16 for a description of how the survey was conducted.

Only 4.1% of respondents rated the health of their community as very good or excellent, 26% as good, 50.5% as fair and 19.3% as poor.

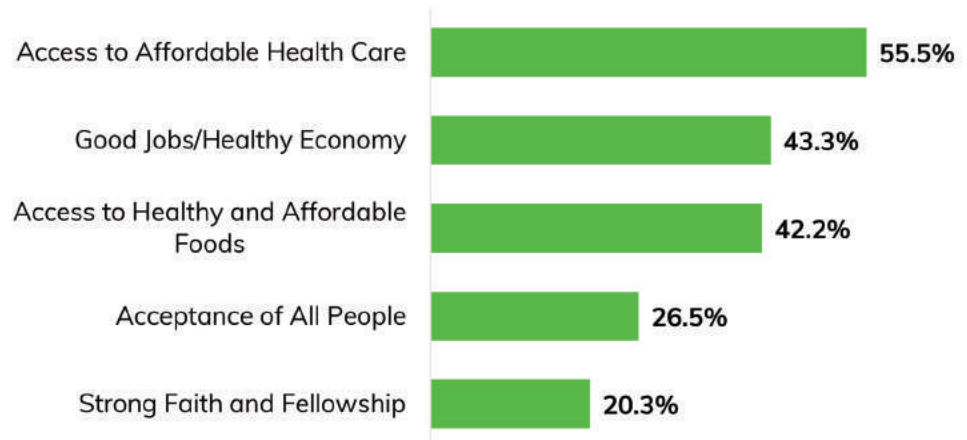
Participants were located in every county in South Carolina except Lee, Abbeville, and McCormick. The greatest number of completed surveys were from Marion, Charleston and Orangeburg. The Black respondent percentage

# ASSESSMENT RESULTS

## Five Most Important Community Health Concerns

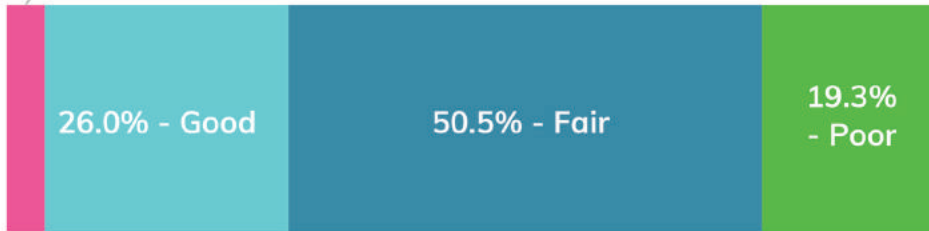


## Five Most Important Factors for a Healthy Community



### How Healthy Is Your Community?

4.1% - Very Good/Excellent



was higher than the overall state population (41.6% vs. 26.8%) and a higher percentage of the respondents were female compared to the overall state population (70.0% vs. 51.5%). While efforts were made to reach out to persons living in under-resourced communities, more respondents were college educated and employed than not (67.6% respondents had a college degree compared to 37%; 68.2% were employed compared to 55.0%). 16.5% of respondents were retired (compared to the 20.5% of the state population) and 4% were students.

### Health Indicators:

The remainder of this document reports quantitative data on the 90+ health indicators. These health indicators are divided into ten sections that are listed in the Table of Contents. These include Demographics, Leading Causes of Death and Hospitalizations, Cross Cutting, Access to Health Care, Maternal and Infant Health, Chronic Disease and Risk Factors, Infectious Disease, Injury, Behavioral Health, and Physical Environment.



# Snapshot of Health Indicators

26	DEMOGRAPHICS
27	CROSS-CUTTING
27	ACCESS TO HEALTH CARE
28	MATERNAL AND INFANT HEALTH
28	CHRONIC DISEASE AND RISK FACTORS
29	INFECTIOUS DISEASE
29	INJURY
30	BEHAVIORAL HEALTH
30	PHYSICAL ENVIRONMENT

# SNAPSHOT OF HEALTH INDICATORS

## Demographics

The Demographics section highlights the socioeconomic characteristics of South Carolina residents by gender, age, race, disability, and veteran status. Demographic information gives communities and states information needed to determine future infrastructure needs, resource allocation, and demand for services, while highlighting the population that comprises South Carolina residents.

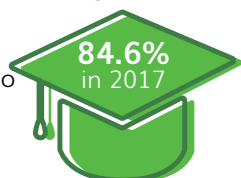


In 2016,  
**15.2% of adults had a disability.**  
Ambulatory difficulty was the most common form of disability



Since 2010, SC has  
**grown 8.6%** to roughly  
**5 million residents**,  
higher than the national  
average rate of 5.5%

The percent of students who graduated from high school has  
**increased**  
from 77.3% in 2002 to



The population of those  
**aged 65 years and older increased**



from 13.7% in 2010 to 16.7% in 2017

## Cross-Cutting

Cross-cutting includes information on a variety of topics that can affect the health of South Carolinians throughout their life course. These topics include but are not limited to: crime, homelessness, income inequality, adverse childhood experiences, and concentrated disadvantage. It is important to study these topics because often poor health outcomes are commonly experienced in those most impacted, and targeted interventions are often needed to reduce these risks.

The violent crime rate **decreased**

**2007** ↓ **786 per 100,000 population**  
**2016** ↓ **488 per 100,000 population**

Though the violent crime rate in SC was worse than the US, the gap narrowed over the last 10 years

Among seven Southeastern states, SC had the **2nd lowest rate** of incarcerated individuals



**Disabled adults were more likely** than non-disabled adults to have adverse childhood experiences that included:

- household dysfunction
- emotional or physical abuse
- sexual abuse



During 2011-2015, **higher levels of income inequality** were in the eastern and southeastern parts of the state



## Access to Health Care

Access to quality health care services are important for promoting and maintaining health, preventing and managing disease, reducing unnecessary disability and premature death, and achieving health equity for all South Carolinians. Access to health care impacts one's overall physical, social, and mental health status and quality of life.

**Decrease in delayed medical care**

among adults due to cost



**Avoidable inpatient hospitalizations**

has decreased:

2006: **1,780 per 100,000 population**  
2015: **1,415 per 100,000 population**



**The percent of 18-64 years old who were insured increased** from 77.9% in 2008 to 83.7% in 2015



The **asthma hospitalization rate** was **4x higher for children of a minority race** compared to White children

Emergency department utilization has increased

**avoidable ED visits:**

2006: **3,732 per 100,000 population**  
2015: **4,362 per 100,000 population**



# SNAPSHOT OF HEALTH INDICATORS

## Maternal and Infant Health

Ensuring the health and well-being of mothers and infants is important because it influences outcomes in the generations to follow. Preconception health status, prenatal and interconception care, and social determinants of health are factors shown to affect pregnancy and its timing, birth outcomes, and maternal behaviors in the postpartum period.



**The infant mortality rate decreased**  
17.6% over the last 10 years



**The teen birth rate decreased**  
2007: 53.6 births per 1,000 females 15-19 years  
2016: 23.8 births per 1,000 females 15-19 years



In 2016,  
**75.3% of mothers received at least adequate prenatal care**



**Breastfeeding initiation at birth increased**  
from 58.1% in 2007 to 76.9% in 2016



In 2016,  
**nearly 1 in 10** infants were born at a low birthweight and  
**1 in 9** infants were born before 37 weeks of gestation

## Chronic Disease and Risk Factors

The prevalence of chronic conditions has increased nationally and in South Carolina. Addressing modifiable risk factors for chronic disease, such as smoking, physical activity, nutrition, and early detection of disease, could reduce the burden of disease and economic impact in South Carolina.



From 2006 to 2015, there was a  
**decrease in the rate of new invasive colorectal cancer cases**



The prevalence of current cigarette use among adults decreased. A decrease was seen in  
**cigarette use among high school youth from 16.0% in 2013 to 9.6% in 2015**



The prevalence of  
**adult obesity increased**  
from 31.6% in 2011 to 33.2% in 2016



In 2016, SC had the  
**6th highest stroke death rate in the nation**

**Non-Hispanic Black women experienced a higher rate of new cases of late-stage breast cancer**  
than non-Hispanic White women





## Infectious Disease

Substantial reductions in the incidence of infectious disease, largely achieved through immunizations and other preventive practices, have contributed to reductions in infectious disease deaths and an increase in life expectancy. However, infectious diseases remain a major cause of illness, disability, and death in South Carolina.



**The number of new HIV cases decreased 32.3%**  
from 1,170 cases in 1998 to 792 cases in 2016



**The number of newly diagnosed infectious syphilis cases in SC increased**  
from 94 cases in 2007 to 314 cases in 2016



In 2016, **54% of HIV patients** were retained in continuous care or had reached viral suppression



In 2016, **SC ranked last in the US** for the percentage of **adolescents aged 13-17 years who received a Tdap (77.5%) booster**, and **female adolescents who were up-to-date with the HPV vaccine series (49.5%)**

## Injury

Both unintentional injuries and those caused by violence are among the top leading causes of death and premature death in South Carolina. Injury and violence also contribute to disability, poor mental health, high medical costs, and loss of productivity. Injuries and violence are significant public health problems limiting the ability of South Carolinians to live to their full potential.



**SC had a higher rate of non-fatal child maltreatment cases** compared to the US  
15.8 cases per 1,000 in SC compared to 9.1 cases per 1,000 in the US



**The death rate due to falls among residents at least 65 years old increased**  
2007: 31.0 per 100,000  
2016: 48.3 per 100,000



The male age-adjusted injury death rate in SC was **nearly three times that of females**



**Over the past 10 years, the suicide rate has increased**  
2007: 11.7 per 100,000  
2016: 15.7 per 100,000

# SNAPSHOT OF HEALTH INDICATORS

## Behavioral Health

Substance use disorder has a major impact on individuals, families, and communities in South Carolina. The effects of substance use disorder are cumulative, significantly contributing to costly social, physical, mental, and public health problems.

**More than one quarter of adults** 25-34 years old reported binge drinking in 2016



**The age-adjusted rate of drug overdose deaths in SC has increased**

2012: 12.2 per 100,000 population  
2016: 18.0 per 100,000 population



**The percent of adults diagnosed with depression increased** from 15.3% in 2011 to 20.5% in 2016



**The percent of adolescents who reported a major depressive episode increased**

from 8.1% between 2010-2011 to 11.0% between 2015-2016

## Physical Environment

Maintaining a healthy physical environment is central to quality of life and years of healthy living. Outdoor air quality, surface and ground water, and toxic substances and hazardous wastes within our homes and communities impact our health and safety.

In 2016,  
**36,083 children were tested for childhood lead poisoning**  
representing a 15.6% increase from 2013  
**2013: 31,223**  
**2016: 36,083**



In 2016, **nearly 92% of South Carolinians** who got their drinking water from Community Water Systems received the benefits of fluoride







# Demographics

34	SOUTH CAROLINA POPULATION
36	URBAN <i>VERSUS</i> RURAL
37	RACE/ETHNICITY
38	EDUCATION
39	MEDIAN INCOME
40	POVERTY STATUS
42	HOUSING
43	MARITAL STATUS
44	FOREIGN-BORN <i>VERSUS</i> NATIVE-BORN
45	LANGUAGE SPOKEN AT HOME
46	DISABILITY STATUS
47	VETERAN STATUS

# SOUTH CAROLINA POPULATION

## South Carolina Population

In 2016, 4,961,119 residents lived in South Carolina. The five most populated counties in the state were Greenville (482,191), Richland (401,743), Charleston (380,673), Horry (300,418), and Spartanburg (294,229; Figure 1.1). Of all 46 counties in the state, 22 had a population of less than 50,000, with Allendale having the smallest population (9,589).

In 2016, males made up 48.5% of the population in South Carolina, while females made up 51.5%. Males outnumbered females in individuals aged 0-24, and females outnumbered males in all other age groups (Figure 1.2).

South Carolina's population is growing. The population in the state has increased from 4.6 million persons in 2010 to about 5 million in 2017, an increase of 8.6% compared to an overall 5.5% increase in the United States. The state's growth is attributable to three main drivers: people within the country moving to South Carolina (accounting for about 67% of the increase), more births to South Carolina residents (accounting for about 23% of the increase), and people outside of the United States moving to the state (accounting for about 10% of the increase). South Carolina's population is also getting older. The proportion of South Carolinians who are over 65 years old increased from 13.7% in 2010 to 16.7% in 2017 (data not shown).

**FIGURE 1.2**  
**South Carolina Population, by Age Group and Sex**

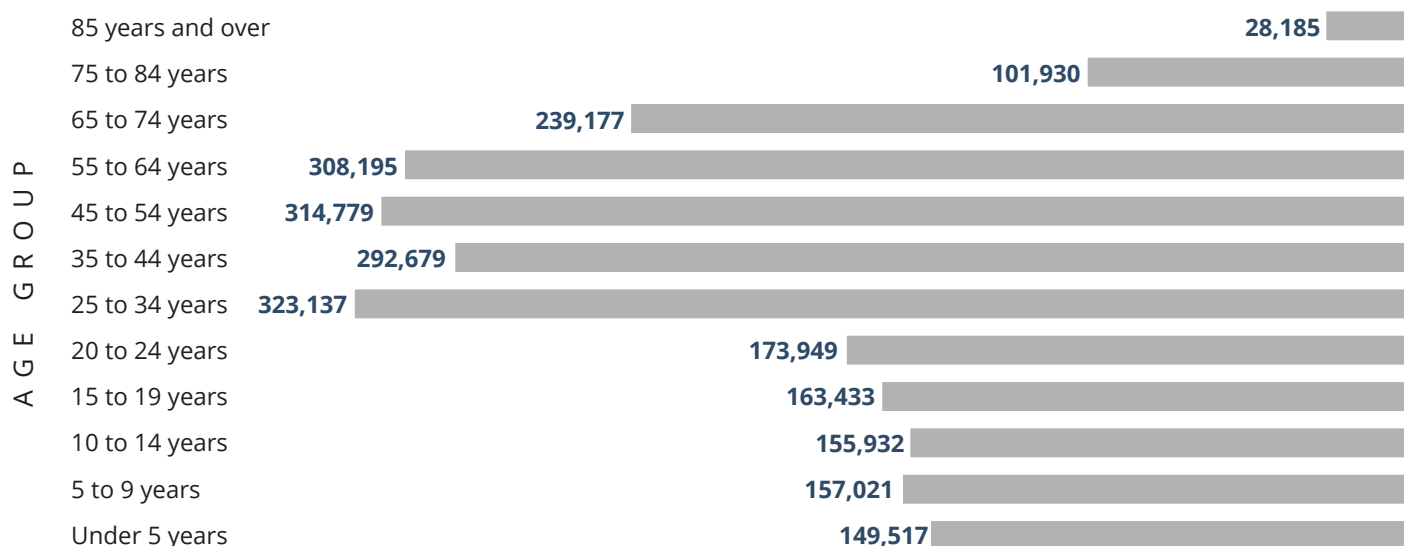
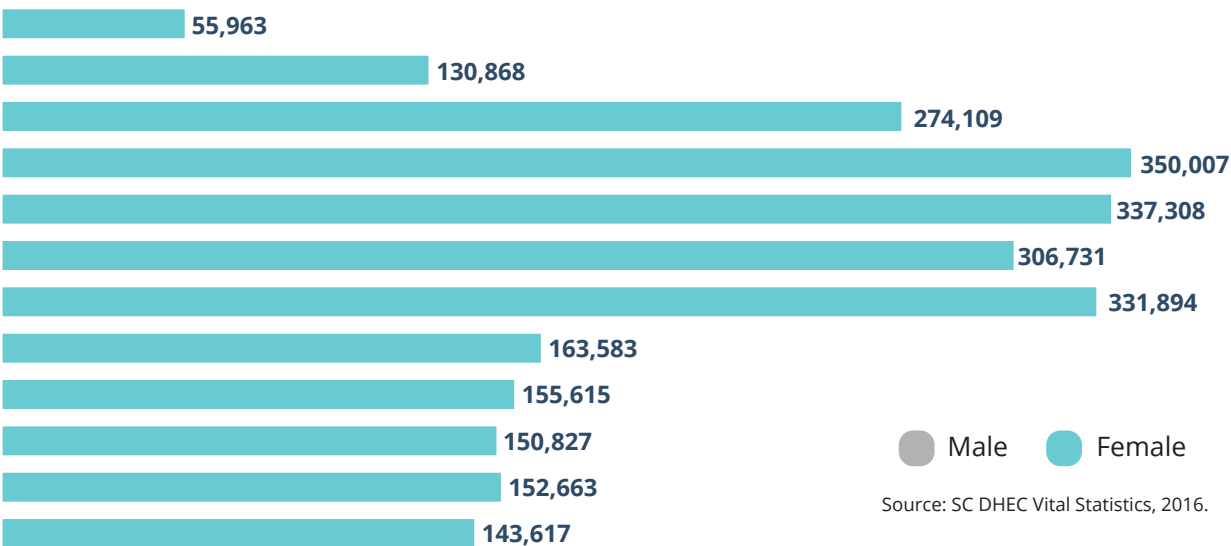
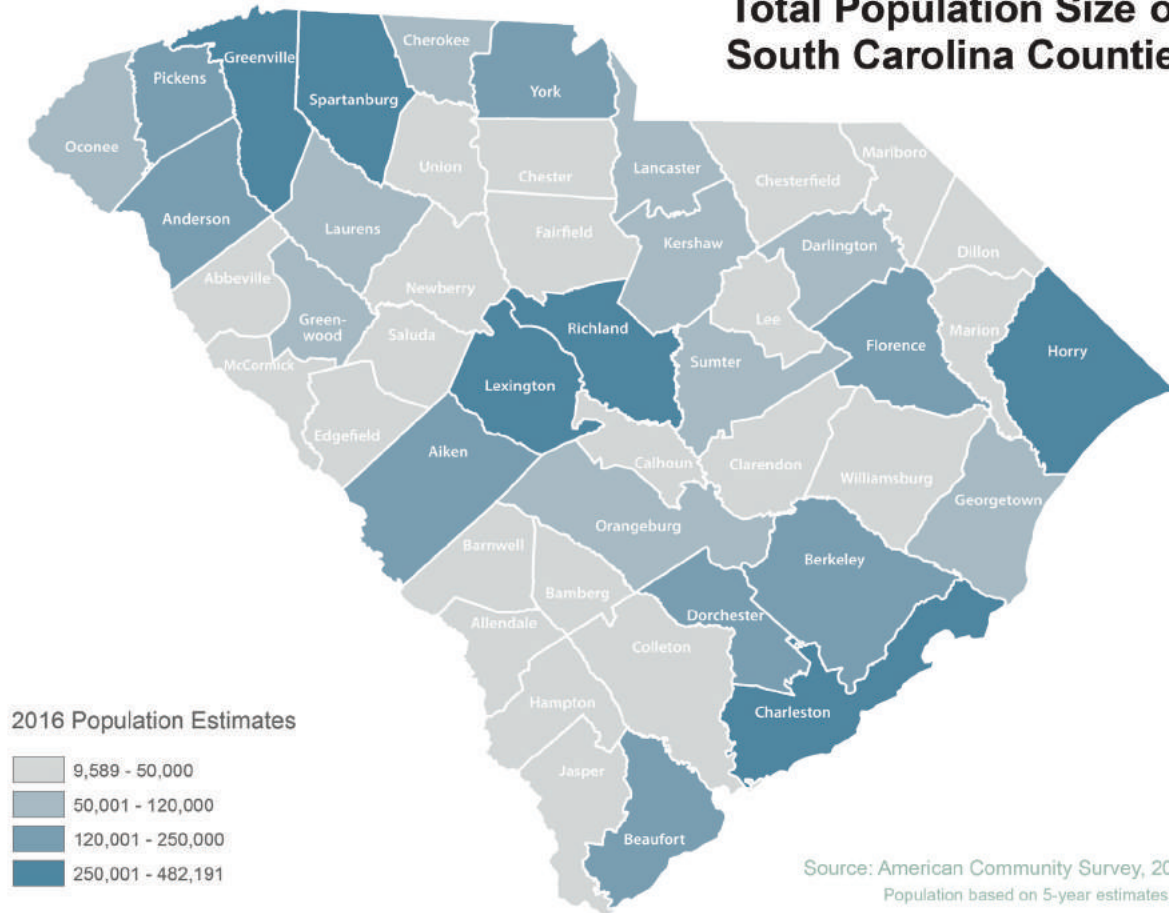


FIGURE 1.1

## Total Population Size of South Carolina Counties



# URBAN VERSUS RURAL

## Urban *Versus* Rural

In SCORH's Rural Health Action Plan, rural communities were defined based on the United States Department of Agriculture's 2010 Rural-Urban Commuting Area, or RUCA codes (Figure 1.3). The RUCA

codes categorized United States census tracts using measures of population density, urbanization, and daily commuting.<sup>1</sup> Based on this definition, rural counties in the state had a total population of 1,317,037 and urban counties had a total population of 3,579,109.

FIGURE 1.3

### Urban vs. Rural by Census Tracts

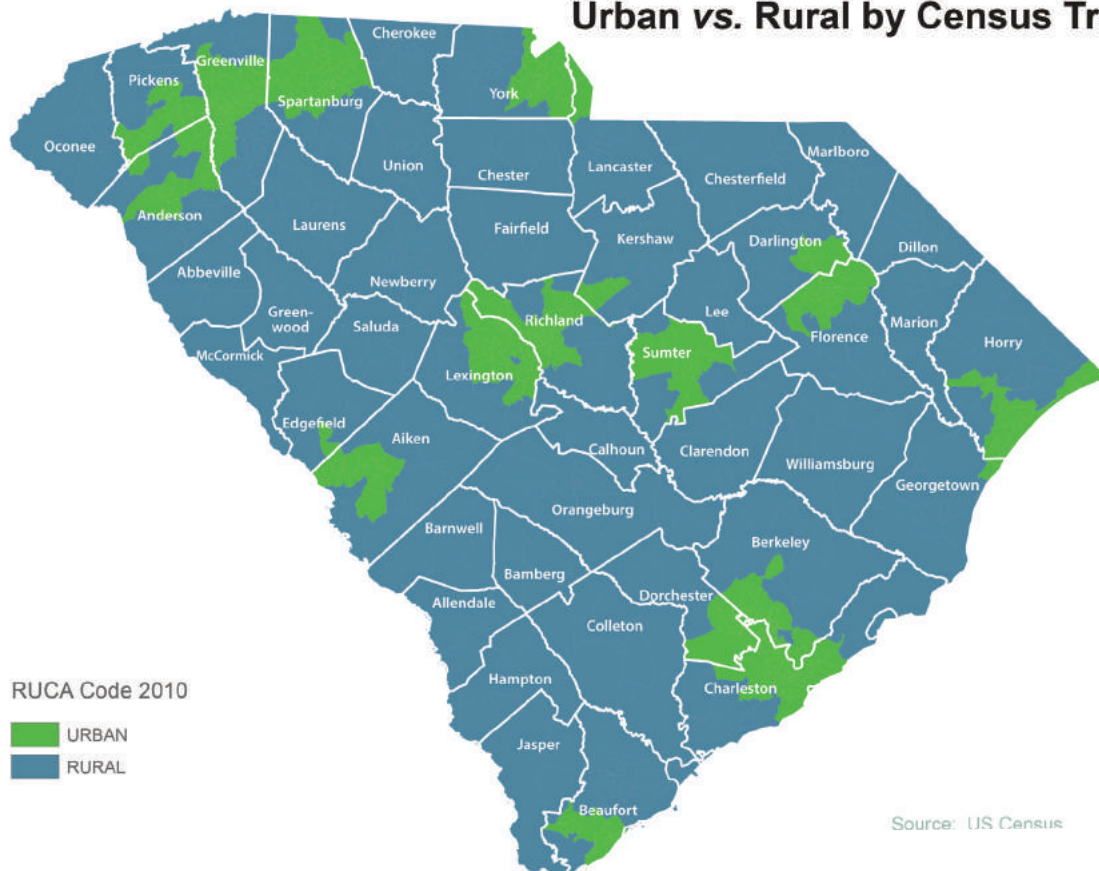
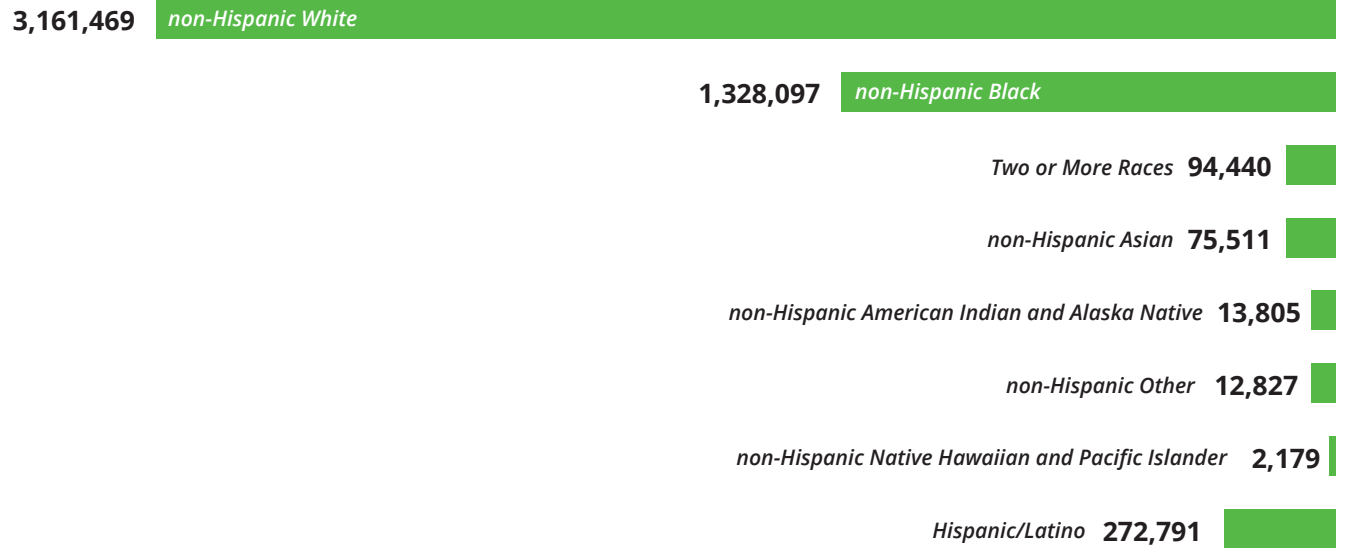




FIGURE 1.4

## Racial/Ethnic Breakdown of South Carolina Population

Source: US Census Bureau ACS, 2016. Note: 1-year estimates.



55.3%  
Mexico

### Race/Ethnicity

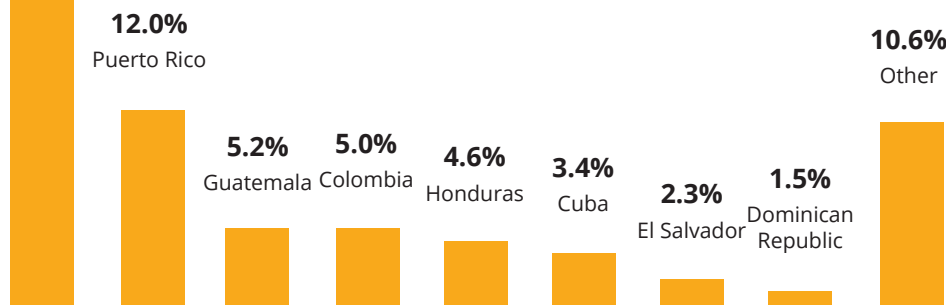
The three largest racial/ethnic groups in South Carolina during 2016 were non-Hispanic Whites (3.1 million residents, 63.7%), non-Hispanic Blacks (1.3 million residents, 27.0%), and Hispanic/Latinos (272,791 residents, 5.5%; Figure 1.4).

Of the 272,791 Hispanic/Latino residents of South Carolina during 2016, 55.3% were of Mexican origin (Figure 1.5). Hispanic/Latinos from Puerto Rico comprised 12.0%, followed by Guatemala (5.2%), Colombia (5.0%), and Honduras (4.6%). South Carolina residents from other Spanish speaking countries made up 10.6% of the Hispanic/Latino population.

FIGURE 1.5

## South Carolina Hispanic/Latino Origin, by Nationality

Source: US Census Bureau ACS, 2016. Note: 1-year estimates.



# EDUCATION

**FIGURE 1.6**  
**High School Graduation**



Source: SC DE Office of Research and Data Analysis.  
Note: Based on academic school year, four-year public high school cohort graduation rates.

## Education

From 2002 to 2017, the percentage of South Carolina students who graduated from high school increased from 77.3% in 2002 to 84.6% in 2017 (Figure 1.6). In 2017, the South Carolina graduation rate was the highest it has been in 17 years.

In 2016, there was a higher percent of adults in South Carolina who did not graduate from high school, compared to the United States (Table 1.1). South Carolina did have a higher percent of adults graduating from high school, or the equivalent combined, (29.0%), attending some college (21.0%), or earning an Associate's degree

**TABLE 1.1**  
**Educational Attainment Among Adults**

Did Not Graduate High School	SC	13.4%
	US	12.6%
High School Graduate (Includes Equivalency)	SC	29.0%
	US	27.2%
Some College, No Degree	SC	21.0%
	US	20.6%
Associate's Degree	SC	9.4%
	US	8.4%
Bachelor's Degree	SC	17.4%
	US	19.3%
Master's or Graduate Degree	SC	9.8%
	US	11.9%

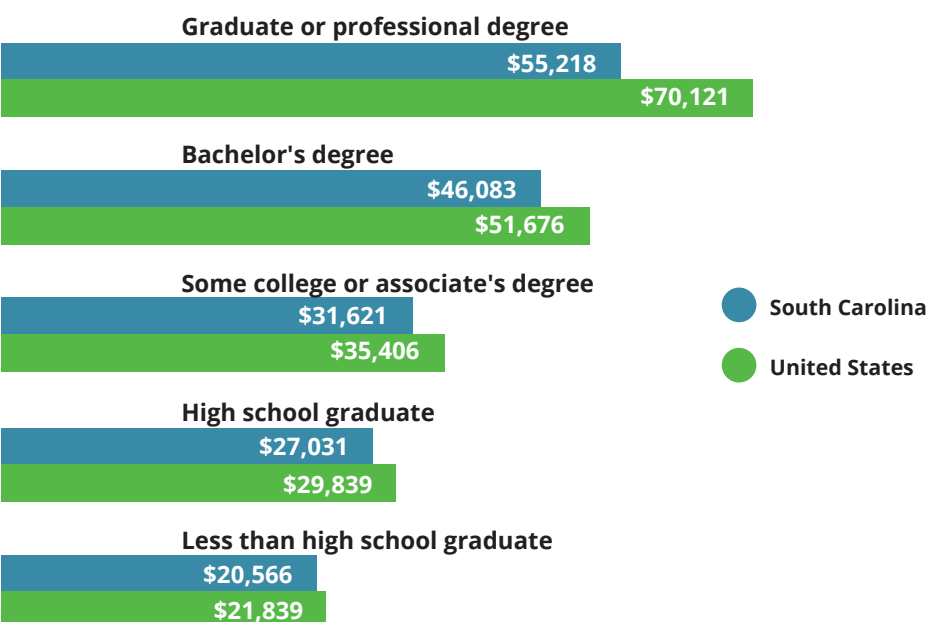
Source: US Census Bureau ACS, 2016. Notes: 1-year estimates, adults 25+.

(9.4%), compared to the United States. South Carolina had lower percentages of adults earning a Bachelor's degree (17.4%), and a Master's or Graduate degree (9.8%), compared to the United States.

The median income for individuals varied based on the level of education obtained (Figure 1.7). As the level of education increased so did the median earnings. This trend was seen in both South Carolina and the United States. However, United States had higher median earnings for all levels of education. Individuals with a bachelor's degree in South Carolina had median earnings of \$46,083, compared to \$51,676 for the United States.

FIGURE 1.7

### Median Earnings in the Past 12 Months, by Education

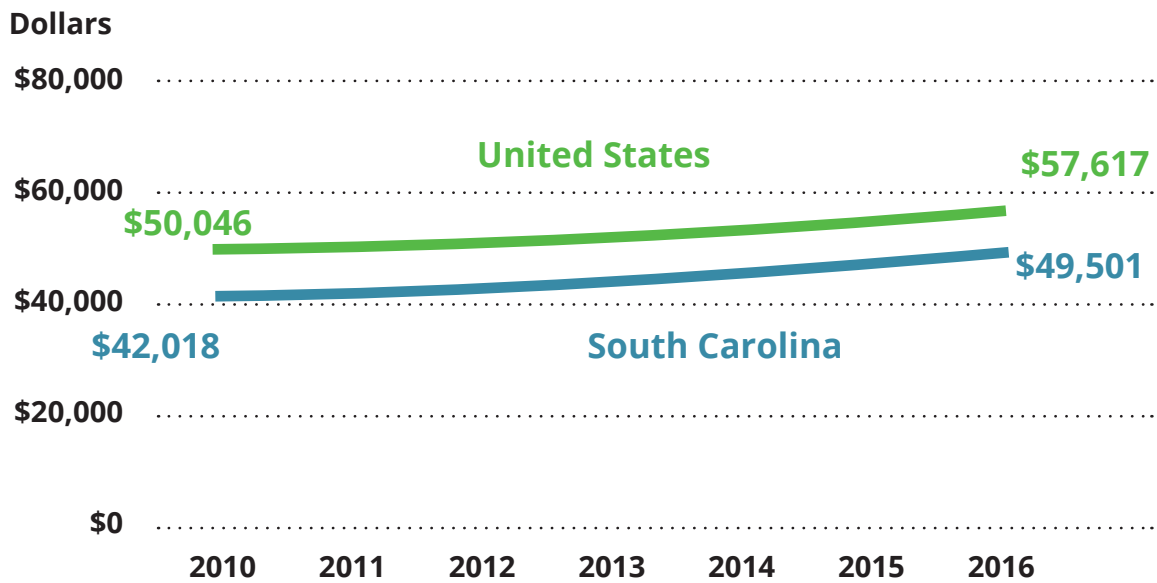


Source: US Census Bureau ACS, 2016.

Notes: 1-year estimates, in 2016 inflation-adjusted dollars, adults 25+.

# POVERTY

**FIGURE 1.8**  
**Median Household Income**



Source: US Census Bureau ACS.  
Note: 1-year estimates

## Median Income

The median household income for both South Carolina and the United States steadily increased from 2010 to 2016 (Figure 1.8). The median household income in South Carolina rose 17.8%, from \$42,018 in 2010 to \$49,501 in 2016. In 2016, the median household income for South Carolina was less than the median household income for the United States (\$57,617).

## Poverty Status

In South Carolina during 2016, 735,960 (15.3%) of individuals lived below the federal poverty level (Table 1.2). The Federal Poverty Level (FPL) is a measure of income issued each year by the United States Department of Health and Human Services, and is used to determine eligibility for certain programs and benefits.<sup>2</sup> The 2018

FPL for individuals is \$12,140, while the FPL for a family of four is \$25,100. South Carolina had a higher percent of the population living below the federal poverty level compared to the United States (14.0%). More than one third of South Carolinians lived under 200% of the federal poverty level (35.4%). This is higher than the percent of United States residents who lived below the 200% poverty level (31.8%).

TABLE 1.2

### Poverty Level Distribution

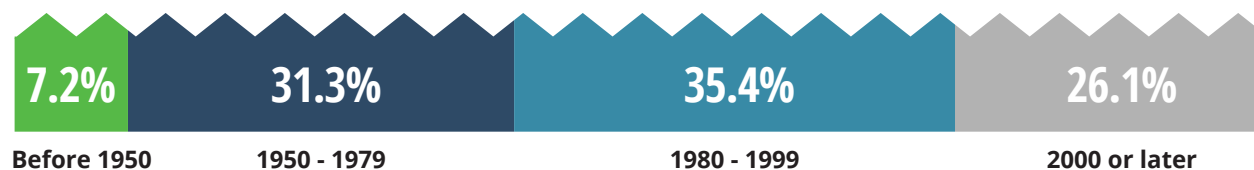
Under 100%	South Carolina	15.3% (765,960)
	United States	14.0%
Under 125%	South Carolina	20.3% (976,167)
	United States	18.6%
Under 150%	South Carolina	25.1% (1,209,339)
	United States	23.0%
Under 185%	South Carolina	32.2% (1,554,173)
	United States	29.3%
Under 200%	South Carolina	35.4% (1,706,302)
	United States	31.8%

Source: US Census Bureau ACS, 2016. Note: 1-year estimates.

# HOUSING

FIGURE 1.9

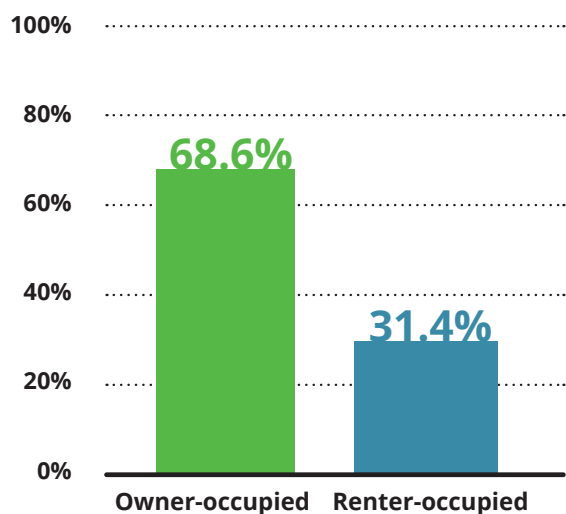
## Housing, by Year of Construction



Source: US Census Bureau ACS, 2016. Note: 5-year estimates.  
Note: 5-year estimates.

FIGURE 1.10

## Occupied Housing, by Occupant Type



Source: US Census Bureau ACS, 2016.  
Note: 5-year estimates.

## Housing

In 2016, the breakdown by year of construction of South Carolina houses: 26.1% built in the year 2000 or later, 35.4% built between 1980 and 1999, 31.3% built between 1950 and 1979, and 7.2% built before 1950 (Figure 1.9).

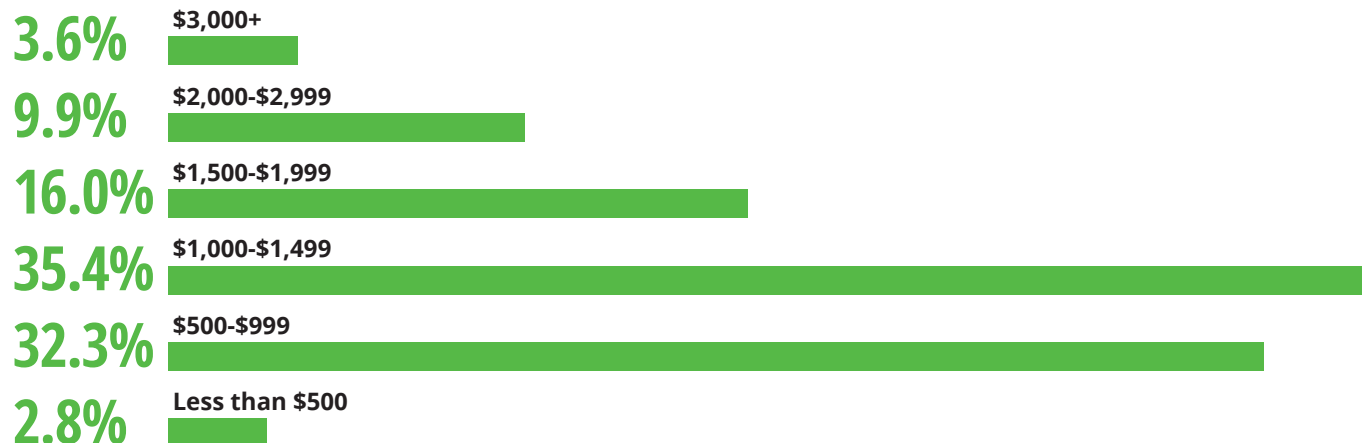
In South Carolina during 2016, 68.6% of homes were owner-occupied, while 31.4% were renter-occupied (Figure 1.10).

In 2016, the median rent was \$841. The highest median rent was seen in Beaufort county at \$1,170 (data not shown).

In 2016, most South Carolinians who owned a home paid between \$1,000-\$1,499 (35.4%) or \$500-\$999 (32.33%) on monthly owner costs (Figure 1.11). Selected monthly owner costs were calculated from the sum of payment for mortgages, real estate taxes, various insurances, utilities, fuels, mobile home costs, and condominium fees. The median South Carolina home owner spent \$1,182 on selected monthly owner costs.

FIGURE 1.11

## Selected Monthly Owner Costs



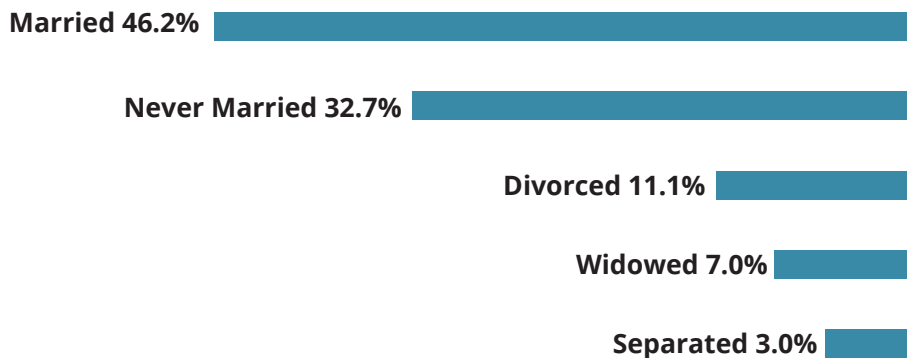
Source: US Census Bureau ACS, 2016.

Note: 1-year estimates, data is based on owner-occupied units with a mortgage and includes the sum of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property; real estate taxes; fire, hazard, and flood insurance on the property; utilities; and fuels.

FIGURE 1.12

## Marital Status

Source: US Census Bureau ACS, 2016.  
Notes: 1-year estimates, individuals 15+



## Marital Status

In 2016, most South Carolina residents, 15 years old and older, were married (46.2%); 32.7% of residents had never been married; 11.1% were divorced; 7.0% were widowed; and 3.0% were separated (Figure 1.12).

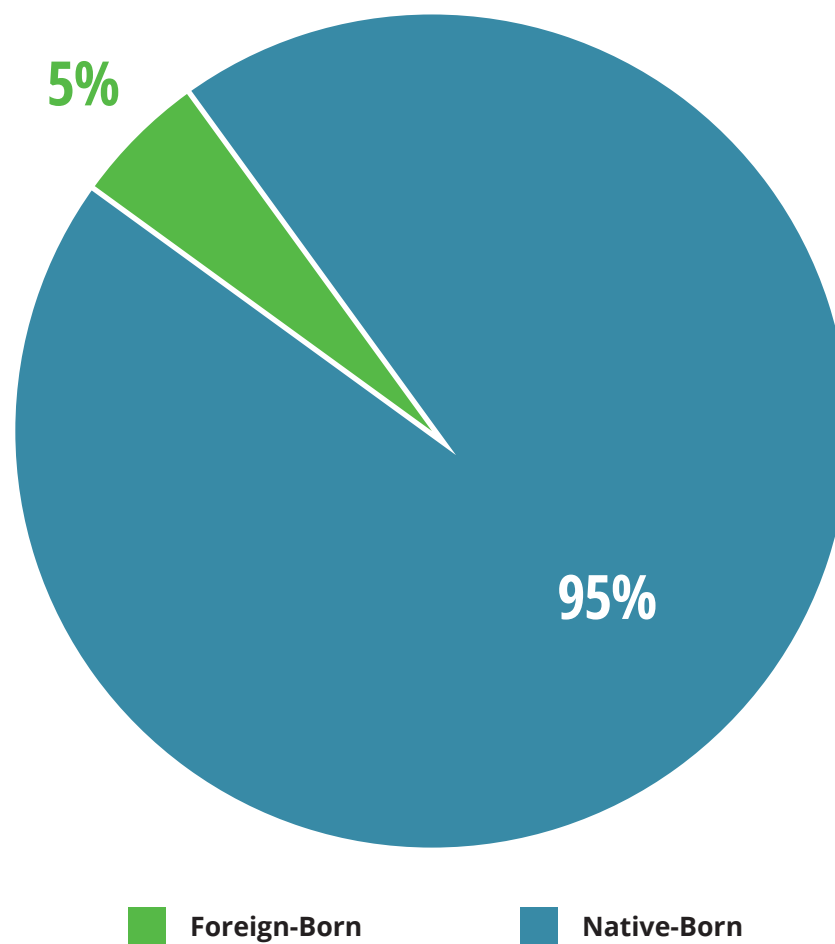
The median age of South Carolina residents at first marriage was 29.9 years for males, and 28.4 years for females (data not shown).

# FOREIGN-BORN VERSUS NATIVE-BORN

## Foreign-Born *Versus* Native-Born

In 2016, of South Carolina's population, 4,723,155 (95%) were native residents while 237,964 (5%) were foreign-born residents (Figure 1.13).

**FIGURE 1.13**  
**Foreign-Born versus Native-Born**



Source: US Census Bureau ACS, 2016.



## Language Spoken at Home

In 2016, the most common language spoken at home was English (93.2%; Table 1.3). Of the 6.8% that spoke another language, Spanish (4.4%) was the most common, followed by other Indo-European at 1.2%.

**TABLE 1.3**  
**Language Spoken at Home**

**93.2%**

Speak Only English

**6.8%**

Speak a Language  
Other than English

**4.4%**

Spanish

**1.2%**

Other Indo-European

**0.9%**

Asian and Pacific  
Island

**0.3%**

Other

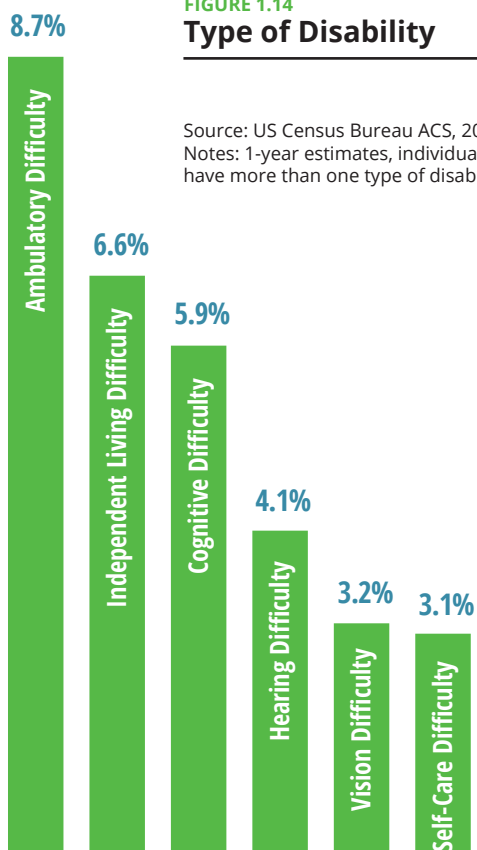
## Disability Status

In South Carolina in 2016, 15.2% of noninstitutionalized individuals had some form of a disability.

Among noninstitutionalized individuals in South Carolina, having ambulatory difficulty (8.7%) was the most common form of disability (Figure 1.14).

Ambulatory difficulty occurs when an individual has trouble walking or climbing stairs. Having difficulty with independent living (6.6%), and cognitive difficulty (5.9%) rounded out the top three conditions cited by disabled residents. Difficulty with independent living occurs when an individual has trouble performing errands (i.e. going to the doctor). Individuals could have more than one disability.

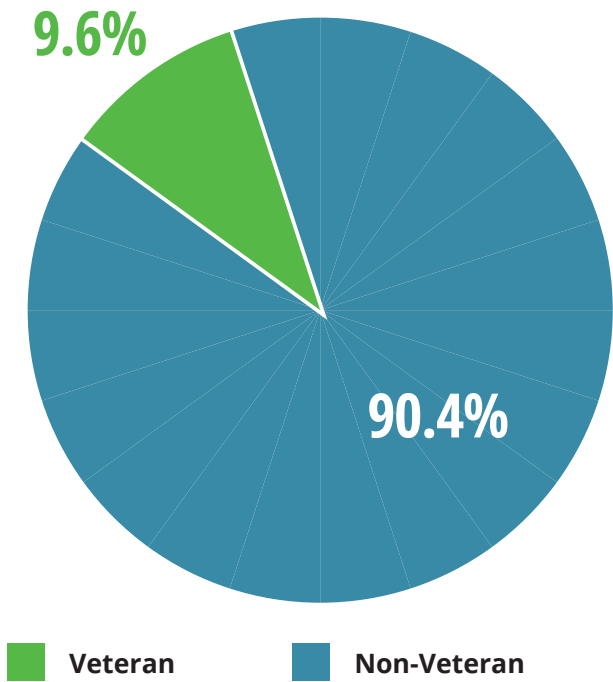
**FIGURE 1.14**  
**Type of Disability**



Source: US Census Bureau ACS, 2016.  
Notes: 1-year estimates, individuals may have more than one type of disability.

# VETERAN STATUS

**FIGURE 1.15**  
**Veteran Status**



Source: US Census Bureau ACS, 2016.  
Notes: 1-year estimates, 18+.

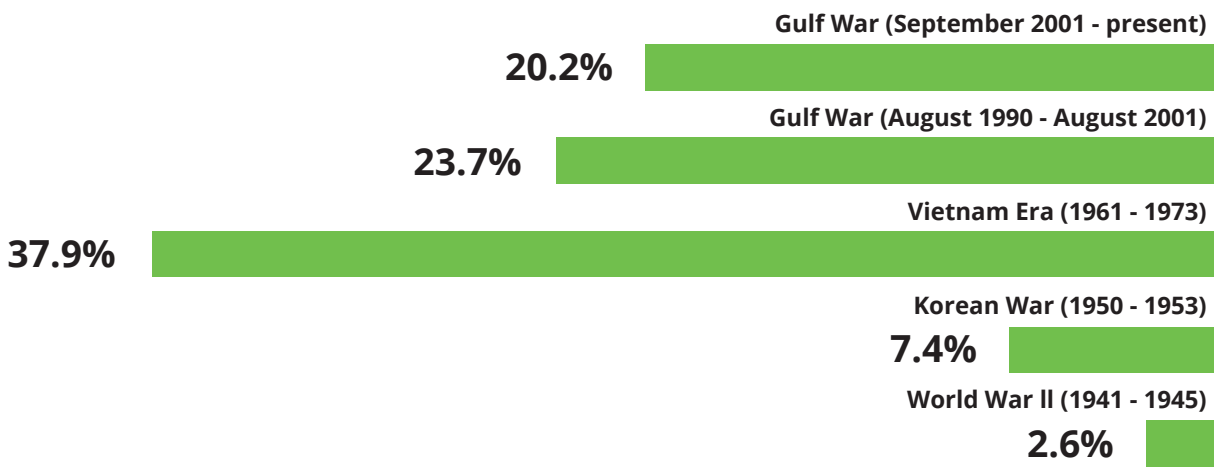
## Veteran Status

In 2016, 9.6% (367,504) of South Carolina adults were veterans (Figure 1.15).

Of the 367,504 veterans in South Carolina, 43.9% served since the Gulf War (August 1990 to present) (Figure 1.16). Over one third of South Carolina veterans served during the Vietnam Era (37.9%), while 7.4% served during the Korean War, and 2.6% during World War II.

**FIGURE 1.16**  
**Period of Service Among Veterans**

*War of Service*



Source: US Census Bureau ACS, 2016.  
Notes: 1-year estimates, adults 18+.

## References

1. Rural-Urban Commuting Area Codes. (2016, October 12). Retrieved April 23, 2018, from <https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx>
2. Federal Poverty Level (FPL) – HealthCare.gov Glossary. (n.d.). Retrieved April 23, 2018, from <https://www.healthcare.gov/glossary/federal-poverty-level-FPL/>



# Leading Causes of Death and Hospitalizations

- 50 LEADING CAUSES OF HOSPITALIZATIONS
- 51 LEADING CAUSES OF DEATH
- 52 YEARS OF POTENTIAL LIFE LOST

# LEADING CAUSES OF DEATH AND HOSPITALIZATIONS

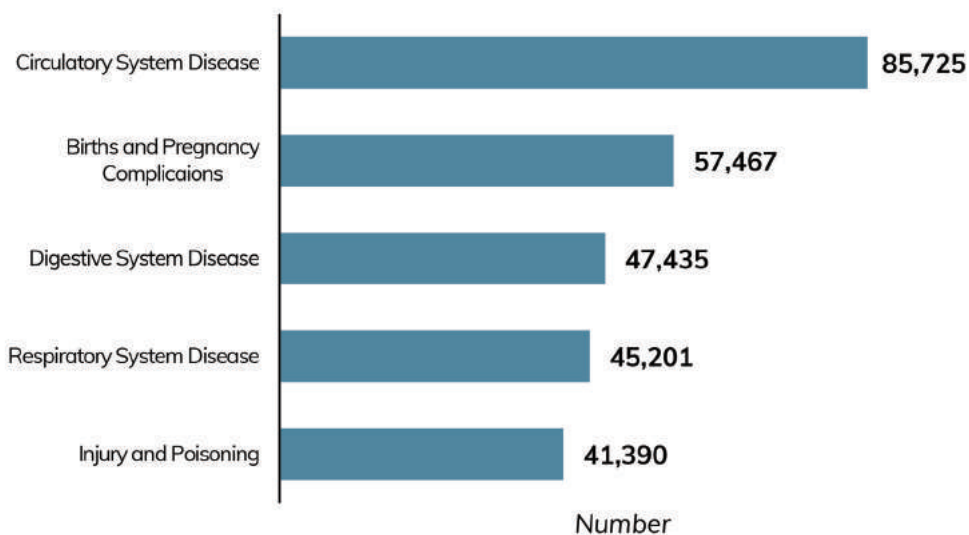
## Leading Causes of Hospitalizations

Monitoring types of hospitalizations provides information about health conditions affecting the community. Programs can be created and implemented to reduce the prevalence of certain preventable causes of hospitalization.

In 2016, the leading cause of hospitalization was circulatory system disease (which includes heart disease and stroke), with 85,725 hospitalizations (Figure 2.1). The next highest hospitalization category was births and pregnancy complications (57,467 discharges). Together, these top two reasons for hospitalization accounted for 29.9% of all hospitalizations.

FIGURE 2.1

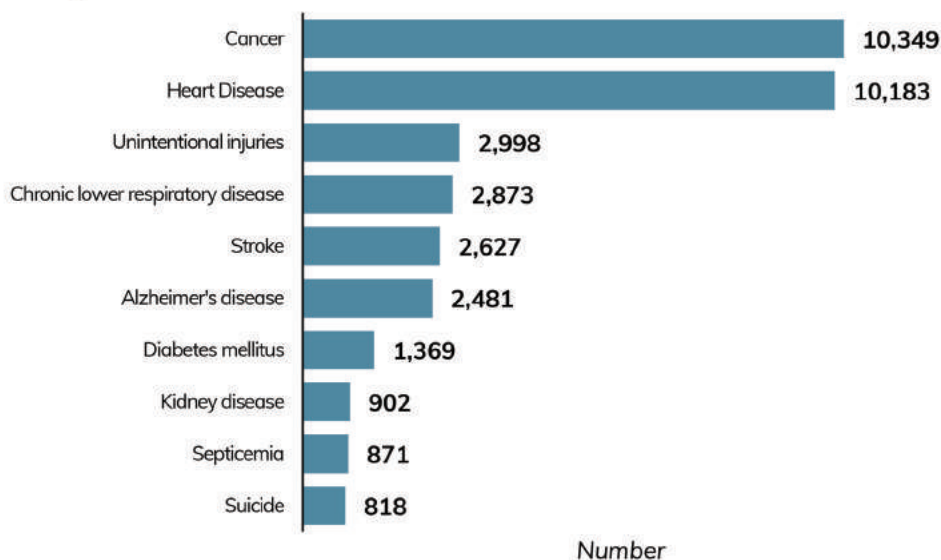
### Hospitalizations



Source: RFA Inpatient Discharges, 2016.  
Note: Federal Fiscal Year.

FIGURE 2.2

### Leading Causes of Death



Source: SC DHEC Vital Statistics, 2016.

## Leading Causes of Death

The leading causes of death in South Carolina are of great importance to describing the health profile of a population, setting priorities for health policy makers, and evaluating the impact of preventive programs. Cancer and diseases of the heart

were overwhelmingly the leading causes of death in South Carolina in 2016 (Figure 2.2). These have been the leading causes of death in the state and the United States for many years. In 2016, South Carolina recorded 10,349 cancer deaths and 10,183 deaths due to diseases of the heart. Together, these two disease conditions comprised 42.6% of all South Carolina deaths.

# YEARS OF POTENTIAL LIFE LOST

## Years of Potential Life Lost

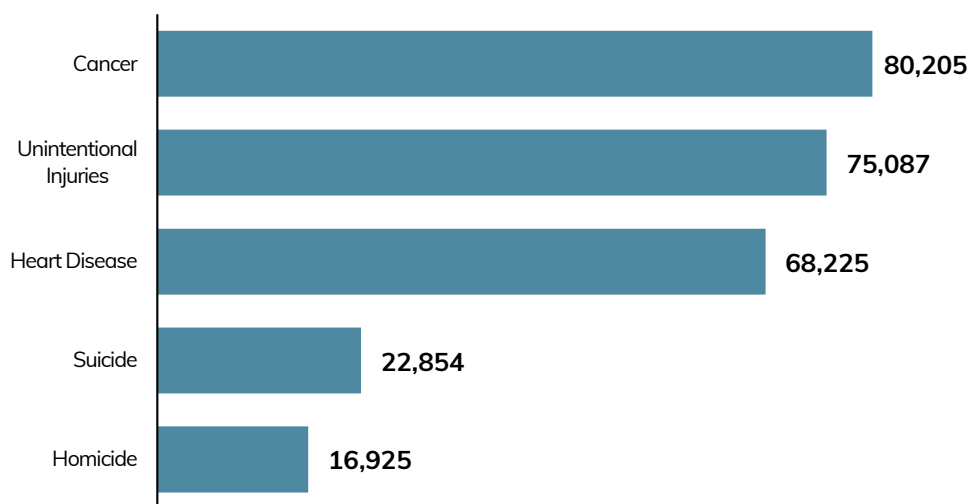
By examining premature mortality rates, resources can be targeted toward strategies that will extend years of life. Many of these causes are considered avoidable or preventable. Premature deaths are deaths that occur before a person reaches the expected age of 75 years.

Years of potential life lost (YPLL) is a cumulative measure based on the average years a person would have lived if they had not died prematurely.

The leading cause of premature death in South Carolina during 2016 was cancer (80,205 YPLL), followed by unintentional injuries (75,087 YPLL), and heart disease (68,225 YPLL; Figure 2.3).

FIGURE 2.3

### Years of Potential Life Lost for Selected Causes of Death



Source: SC DHEC Vital Statistics, 2016.  
Note: Based on deaths before age 75.

Number







# Cross-Cutting

56	HOMELESSNESS
58	INCOME INEQUALITY
60	CONCENTRATED DISADVANTAGE
62	SAFE NEIGHBORHOODS
66	CRIME
68	INCARCERATION
70	TRANSPORTATION
72	ADVERSE CHILDHOOD EXPERIENCES

## Background

Poverty is a powerful social determinant of poor health outcomes, and individuals without stable housing are especially vulnerable to poor health.<sup>1</sup> Poverty and homelessness contribute significantly to ill health by presenting barriers to care and access to health resources.<sup>1</sup> Researchers have found disproportionately higher rates of hypertension, respiratory illness, tuberculosis and HIV among the homeless, when compared to the general population.<sup>1</sup> Homeless individuals are more likely to become sick, have higher hospitalization rates, and a lower life expectancy when compared to the general population.<sup>2</sup> Furthermore, homeless children tend to be sicker and have more academic and behavioral problems.<sup>2</sup> Challenges such as severe medical problems and psychiatric illnesses, drug and alcohol abuse, and economic and social issues create unique challenges for addressing the health concerns of the homeless population.<sup>2</sup>

Individuals who live on the streets or in homeless shelters are more often exposed to communicable

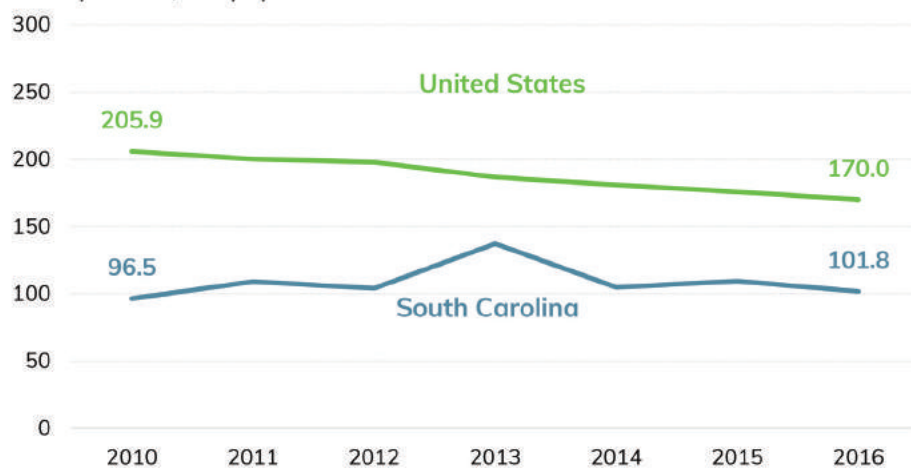
diseases, violence, malnutrition, and exposure to harmful weather.<sup>3</sup> This leads to higher rates of common conditions such as diabetes, asthma, and hypertension among this population.<sup>3</sup> Likewise, behavioral health disorders, such as depression and alcoholism often develop or worsen when people do not have stable housing.<sup>3</sup> These conditions are often co-occurring and complex, creating a mix of severe physical, psychiatric, and social problems, as well as substance use, that worsen overall health for homeless individuals and families.<sup>3</sup>

## Findings in South Carolina

In South Carolina, there was no statistically significant change for the trend in homelessness from 2010 to 2016 (Figure 3.1). The rate of homelessness varied from a low of 96.5 per 100,000 in 2010 to a high of 137.3 per 100,000 in 2013. The rate of homelessness in South Carolina was less than the rate in the United States in 2016. During the same year, twice as many individuals were homeless (3,758) than people in families with children (1,293; Table 3.1).

**FIGURE 3.1**  
**Estimates of Homelessness**

Rate per 100,000 population



Source: US Interagency Council on Homelessness.

**TABLE 3.1**  
**Estimates of Homelessness in South Carolina**

Individuals	3,758
People in Families with Children	1,293
Unaccompanied Youth	266
Veterans	738
Chronically Homeless Individuals	913

Source: US Interagency Council on Homelessness, The 2016 Annual Homeless Assessment Report (AHAR) to Congress.

# INCOME INEQUALITY

## Background

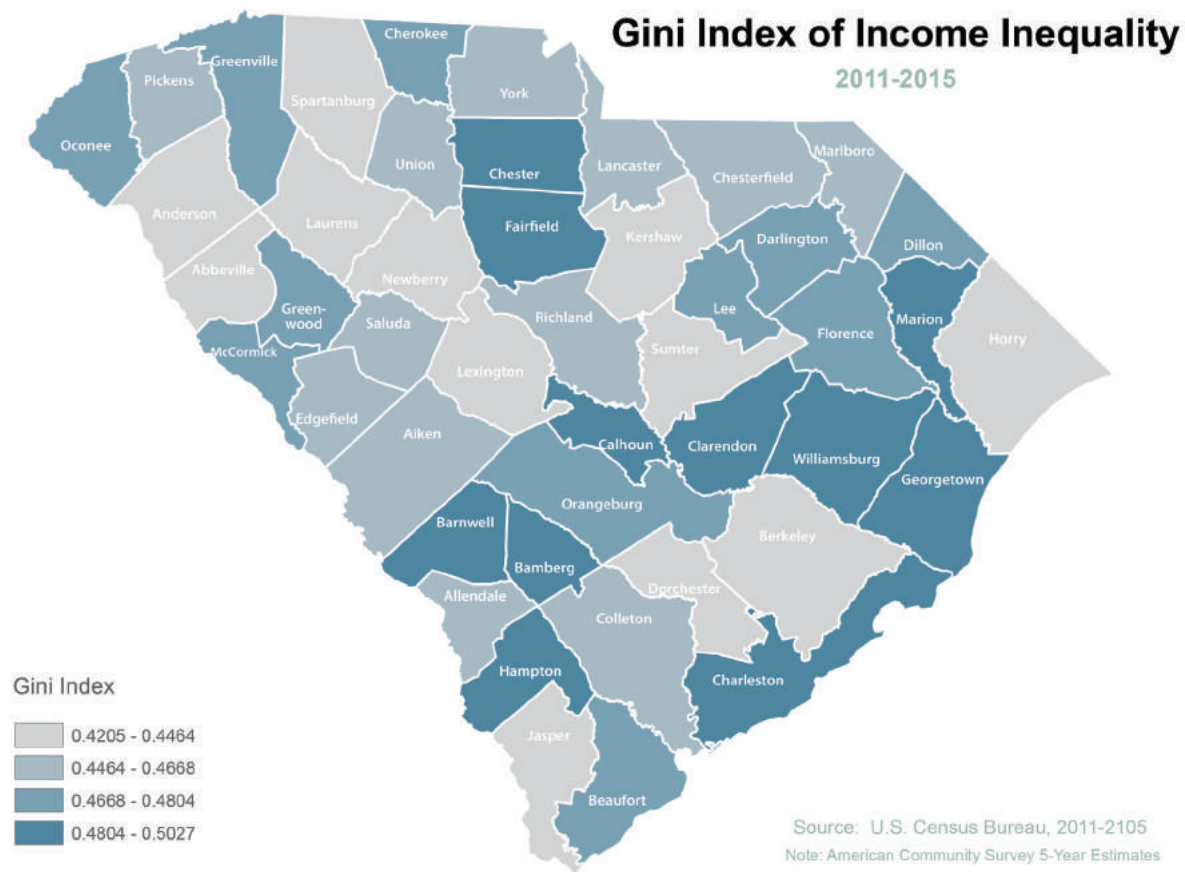
There is a strong link between income inequality and health; societies that are more unequal in the distribution of wealth tend to have poorer health outcomes among their citizens.<sup>4</sup> Studies have shown that poverty is a risk factor for premature morbidity and mortality.<sup>5</sup>

Income inequality not only affects poverty, but also crime, violence, and the cohesiveness of economic and social environments.<sup>6</sup> Strides have been taken to decrease income inequality and its negative effects

in our society, such as raising the minimum wage, increasing child care credits, and expanding the Earned Income Tax Credit.

The Gini Index is a summary measure of income inequality, which describes the dispersion of income across the entire income distribution.<sup>7</sup> The Gini coefficient ranges from 0.0, indicating perfect equality (where everyone receives an equal share), to 1.0, indicating perfect inequality (where only one recipient or group of recipients receives all the income).

FIGURE 3.2



## Findings in South Carolina

In South Carolina, during 2011-2015 combined, higher levels of the Gini Index, or income inequality, were observed in the eastern and southeastern parts of the state

(Figure 3.2). Counties in the Pee Dee region of the state, such as Williamsburg, Georgetown, Marion, and Clarendon, had the highest rates of income inequality.

# CONCENTRATED DISADVANTAGE

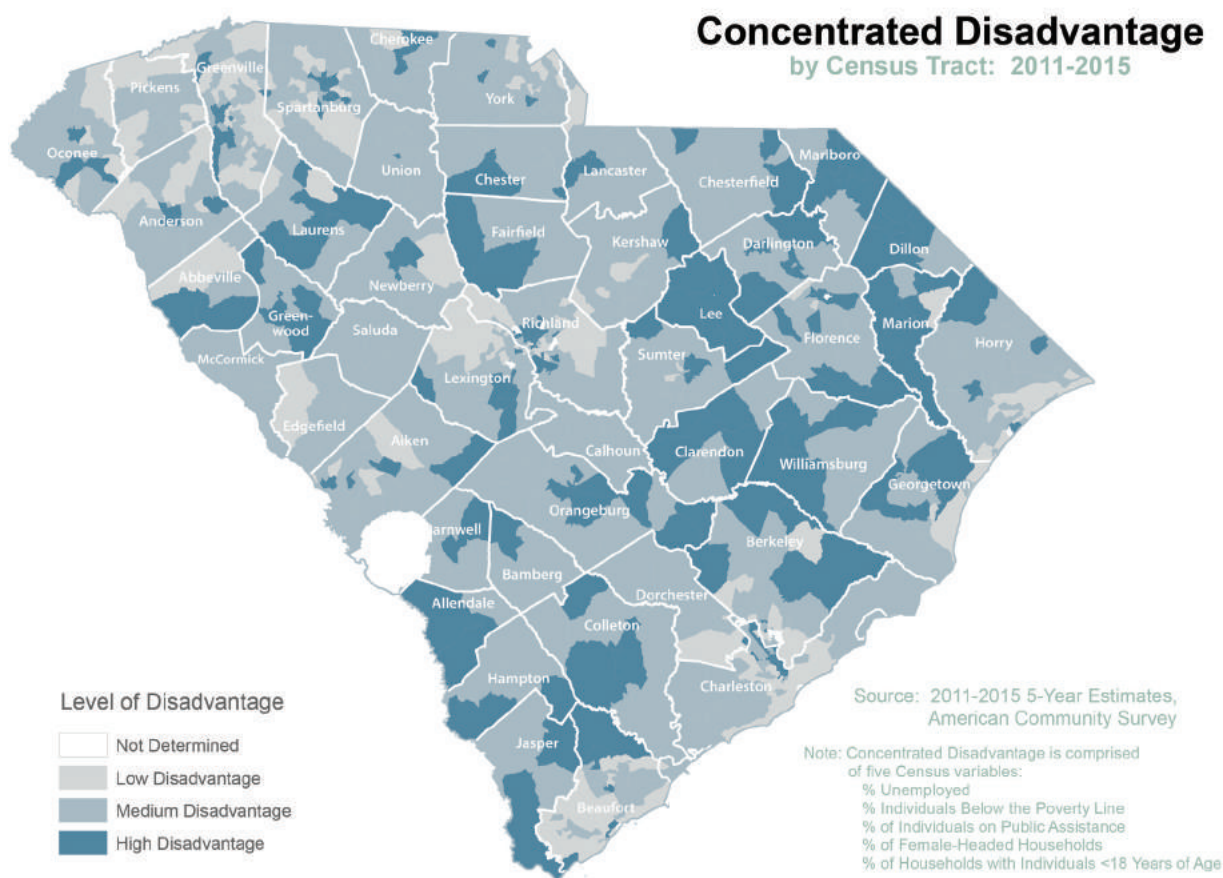
## Background

Concentrated disadvantage is a composite measure of social and economic factors and is comprised of five United States Census variables: percent of individuals below the poverty line; percent of individuals on public assistance; percent of female-headed households; percent of individuals unemployed; and percent of households with individuals less than 18 years of age.<sup>8</sup> Concentrated disadvantage may help identify resource-poor areas that have sustained barriers to health care, education and social services, employment, and healthy foods. The components of concentrated disadvantage have been shown

to be related to each other and together help define economically disadvantaged communities. Concentrated disadvantage is associated with a decrease in overall health and leads to increased rates of high school drop-outs, teen pregnancy, and adolescent delinquency.<sup>9,10</sup> Additionally, adverse birth outcomes, such as infant mortality and low birth weight, and exposure to abuse is higher in communities with high concentrated disadvantage. These neighborhoods often lack access to affordable and healthy food options, safe recreational spaces, and economic resources, which further exacerbate poor health outcomes.



FIGURE 3.3



## Findings in South Carolina

In South Carolina, during 2011-2015 combined, areas of high concentrated disadvantage were largely clustered in the eastern and southeastern regions of the state (Figure 3.3). In some

counties, more than 50% of the census tracts were determined to have a high level of concentrated disadvantage. The areas of high concentrated disadvantage in South Carolina characteristically are also rural and of low-income, and with a higher proportion of minorities compared to areas of less concentrated disadvantage.

# SAFE NEIGHBORHOODS

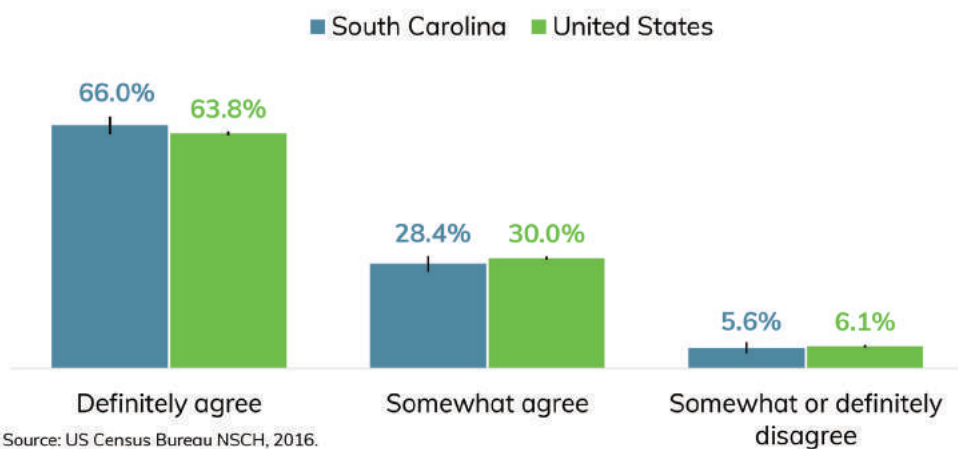
## Background

Conditions in the neighborhood surrounding where people live, eat, and play can have major health effects. Social and economic features of neighborhoods can be linked with mortality, health status, disability, chronic diseases, and health behaviors.<sup>11</sup> Living in unsafe neighborhoods increases the chances of poorer health outcomes and can negatively impact housing, education, job opportunities, and transportation.<sup>11</sup> Studies have shown that a neighborhood's socioeconomic environment is correlated with rates in that community of smoking,

healthy eating, exercise, and teen pregnancy.<sup>11</sup> Neighborhoods that have positive features such as the presence of sidewalks, after-school programs for children and youth, and the availability of affordable and healthy food options can increase the likelihood of individuals engaging in healthy behaviors and thus improving health outcomes.<sup>11</sup> Studies have found a direct correlation between exposure to neighborhood violence and pollution and poorer health outcomes. The chronic stress of living in rundown, dangerous, and polluted neighborhoods can negatively impact parenting styles, children and adolescent behaviors, and disrupt family dynamics.<sup>12</sup>

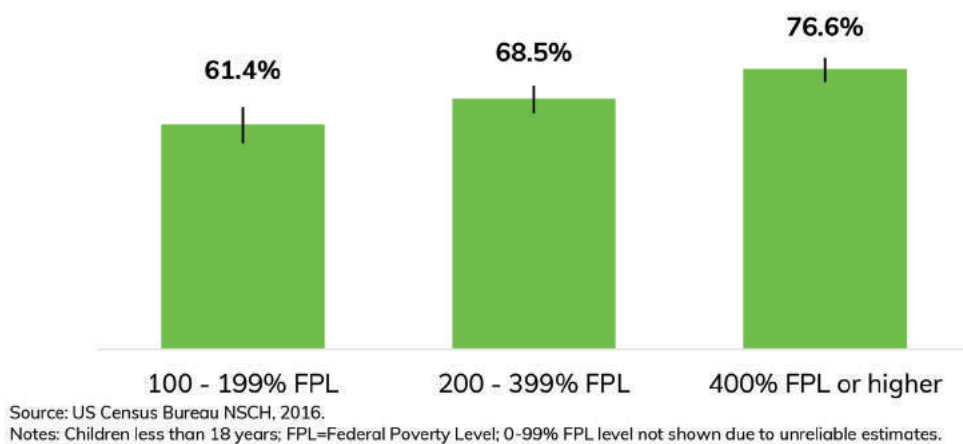
**FIGURE 3.4**  
**Safe Neighborhoods**

Percent



**FIGURE 3.5**  
**Children Living in Safe Neighborhoods, by Household Income Level**

Percent

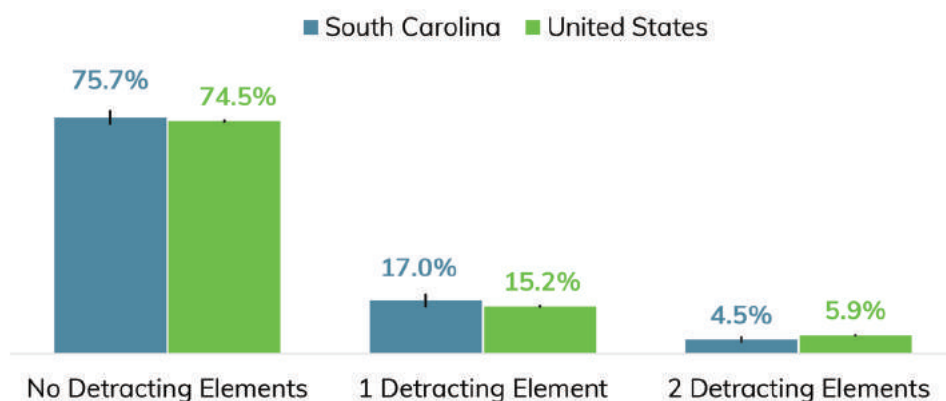


# SAFE NEIGHBORHOODS

FIGURE 3.6

## Presence of Detracting Neighborhood Elements

Percent

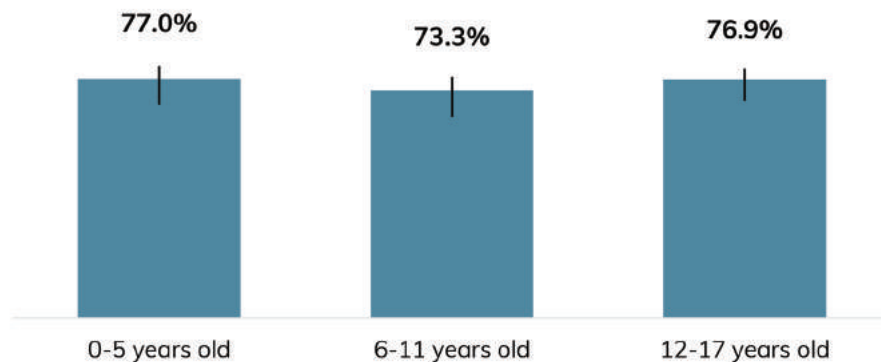


Source: US Census Bureau NSCH, 2016.

FIGURE 3.7

## Children by Age Group Who Live in a Neighborhood with No Detracting Elements

Percent



Source: US Census Bureau NSCH, 2016.

Notes: Children less than 18 years. A detracting element is defined as litter or garbage on the street or sidewalk, poorly kept or rundown housing, or vandalism such as broken windows and graffiti.

## Findings in South Carolina

The National Survey of Children's Health (NSCH) asked parents how often they felt their child was safe in their neighborhood or community. In 2016, there was no statistically significant difference in the percent of South Carolina parents who definitely agreed that their children are safe in their neighborhood (66.0%) compared to the United States (63.8%; Figure 3.4).

In South Carolina, the percent of parents who definitely agreed that their children are safe in the neighborhood during 2016 varied with household income level (Figure 3.5). Among children living in households with an income at or above the 400% federal poverty level, 76.6% of parents agreed that their children are safe in their neighborhood compared to 68.5%

with an income between 200% and 399% and 61.4% with an income between 100% and 199%.

In 2016, there was no statistically significant difference in the percent of South Carolina children who lived in neighborhoods without any detracting elements (vandalism, rundown housing, litter; 75.7%) compared to the United States (74.5%; Figure 3.6).

In South Carolina, the percent of children who lived in a neighborhood without any detracting elements (vandalism, rundown housing or litter) during 2016 varied by age group (Figure 3.7). Among children 0-5 years old, 77.0% lived in a neighborhood without any detracting elements compared to 73.3% and 76.9% of children 6-11 years old and 12-17 years old, respectively.

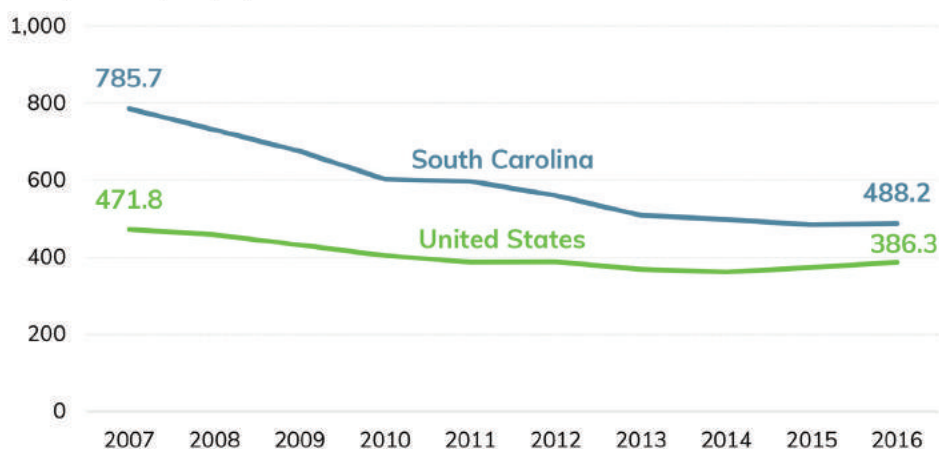
## Background

An individual's quality of life, specifically daily functionality and overall sense of well-being, is critical to better health outcomes. Being a victim of crime may impact quality of life in a variety of ways, for example, impaired functioning, higher rates of unemployment, problematic intimate relationships, and parenting skills.<sup>13</sup> There are

also economic burdens associated with violent crimes, including direct costs such as medical, policing, and legal services, and indirect costs such as lost earnings and productivity, life insurance costs, lost investments in human capital, and decreased quality of life. Factors such as alcohol and drug use, demographics, social and economic inequality, and the availability of firearms can impact the incidence of crime.<sup>14</sup>

**FIGURE 3.8**  
**Violent Crime**

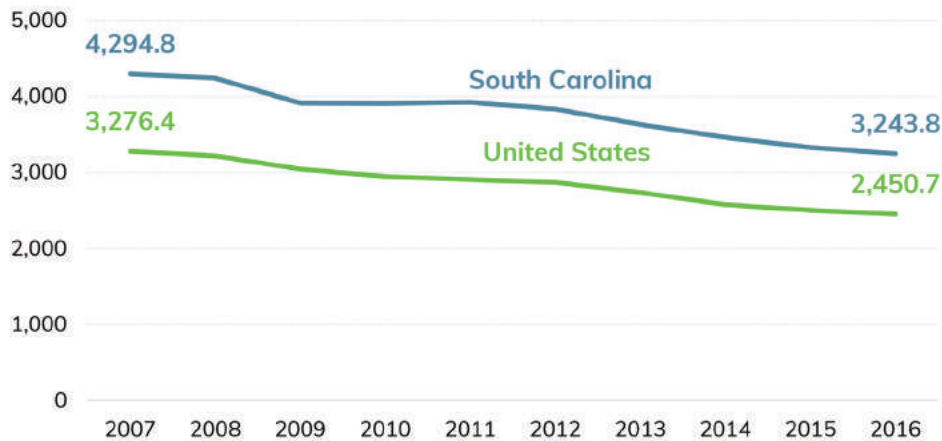
Rate per 100,000 population



Source: FBI Uniform Crime Reporting Statistics; FBI Criminal Justice Information Services Division.

**FIGURE 3.9**  
**Property Crime**

Rate per 100,000 population



Source: FBI Uniform Crime Reporting Statistics; FBI Criminal Justice Information Services Division.

## Findings in South Carolina

In South Carolina, there was a decrease in the violent crime rate from 2007 to 2016 (Figure 3.8). Violent crime rates decreased in South Carolina from 786 per 100,000 in 2007 to 488 per 100,000 in 2016. Although the violent crime rate across the decade was higher in South Carolina compared to the United States, the gap narrowed across the decade. In 2007, the violent crime rate in South Carolina was 66% higher than the national

rate, but by 2016 South Carolina's violent crime rate was only 26% higher than the national rate.

In South Carolina, there was a decrease in the property crime rate from 2007 to 2016 (Figure 3.9). The rate decreased from 4,295 per 100,000 in 2007 to 3,244 per 100,000 in 2016. The property crime rate in South Carolina in 2016 was higher than that in the United States (2,451 per 100,000). The gap between rates in South Carolina and the United States did not change across the decade.

# INCARCERATION

## Background

Incarceration can not only affect the health of the prisoner but also the health and well-being of the prisoner's family members. Incarceration of parents is associated with poor health outcomes for their children and families.<sup>15</sup> Additionally, the incarceration of fathers is linked to instability in male-female relationships, economic hardship, housing insecurity, difficulty meeting basic needs, and the use of public assistance. In addition, the incarceration of fathers increases behavioral problems in children, specifically

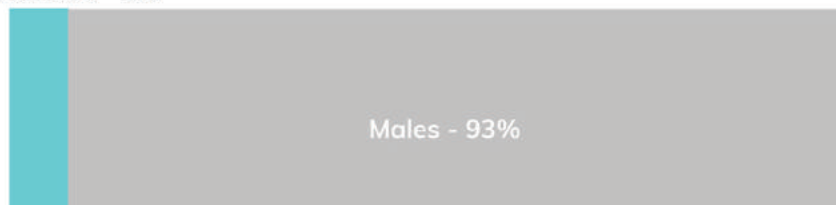
aggression and delinquency, and is associated with lower grades and educational attainment.<sup>15</sup>

Social and economic disadvantages that stem from parental incarcerations tend to be heavily concentrated in specific communities, which leads to strains on existing resources and support systems in those communities.<sup>16</sup> Furthermore, the process to re-enter society is a complex one. Issues such as stigma and discrimination can greatly impact an individual's post-prison adjustment, and this can be further complicated if he or she has a drug or alcohol use disorder, or behavioral health disorder.

FIGURE 3.10

### Incarcerated Inmates, by Sex

Females - 7%



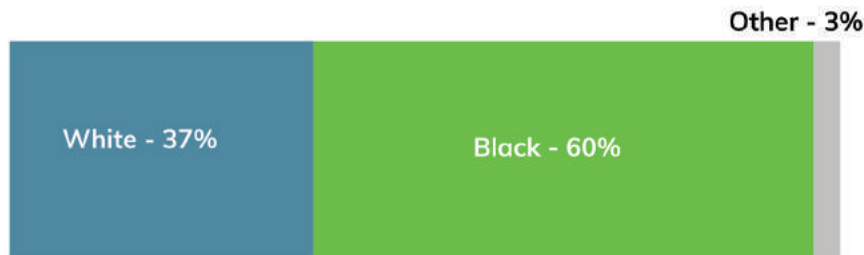
Males - 93%

Source: SC DC, Profile of Inmates in Institutional Count, 2017.



FIGURE 3.11

### Incarcerated Inmates, by Race

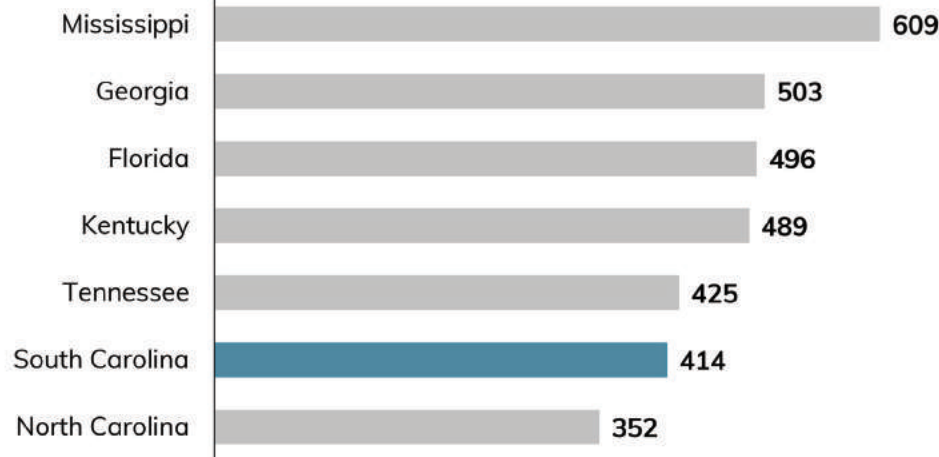


Source: SC DC, Profile of Inmates in Institutional Count, 2017.

FIGURE 3.12

### Incarceration, by State

Rate per 100,000 population



Source: National Institute of Corrections, 2015.

## Findings in South Carolina

In South Carolina, among all incarcerated individuals, males comprised 93%, a value higher than that among females. (Figure 3.10). Among all inmates, 60% were Black

and 37% were White (Figure 3.11). Among seven Southeastern states, South Carolina had the second lowest rate of incarcerated individuals (Figure 3.12). Only North Carolina had a lower rate (352 per 100,000). Among the seven Southeastern states, Mississippi had the highest rate (609 per 100,000 population).

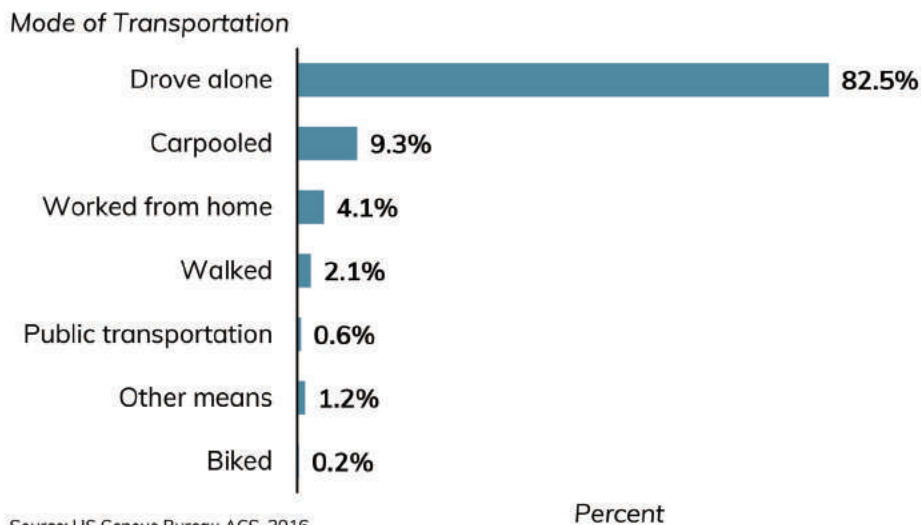
## Background

Transportation is an essential component of any society. It provides opportunities to access goods and services, plays a critical role in economic development, and improves quality of life.<sup>17</sup> Transportation systems can encourage or discourage healthy behaviors and are important in improving population health outcomes.<sup>17</sup>

A lack of transportation options in society impacts economic and health care costs. Transportation is a commonly identified barrier to accessing health care, especially for disadvantaged populations and those who reside in rural areas.<sup>18,19</sup> Minority and special populations, including children, the elderly, and veterans, have frequently reported that transportation barriers affected their health care utilization resulting in lower rates of prescriptions filled, missed appointments, and fewer health care visits.<sup>18,19</sup>

FIGURE 3.13

### Method of Transportation to Work

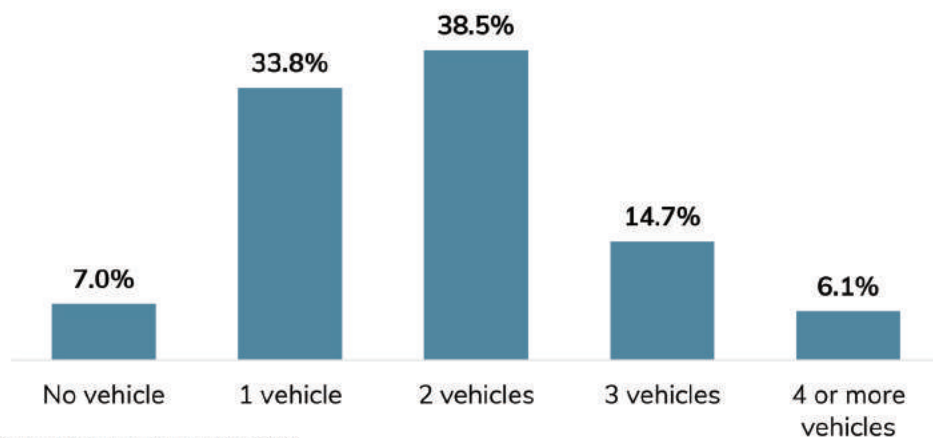


Source: US Census Bureau ACS, 2016.  
Notes: Age 16+; 1-year estimate.

FIGURE 3.14

### Households with a Motor Vehicle

Percent



Source: US Census Bureau ACS, 2016.  
Note: 1 -year estimate.

## Findings in South Carolina

In South Carolina in 2016, 82.5% of residents drove alone to work. Comparatively, only 9.3% carpooled, and another 4.1% worked from home (Figure 3.13). Less than

1.0% of South Carolina residents used public transportation or biked to work.

In South Carolina in 2016, more than one-third (38.5%) of residents owned two vehicles and another third (33.8%) owned one vehicle. In comparison, 7% of South Carolina residents owned no vehicles (Figure 3.14).

# ADVERSE CHILDHOOD EXPERIENCES

## Background

Adverse childhood experiences (ACEs) include three broad categories: household dysfunction, emotional or physical abuse, and sexual abuse. Household dysfunction is defined as parents or adults in the home that have ever slapped, hit, kicked, punched or beat each other, and it also includes household substance abuse, household mental illness, parental separation or divorce, and incarceration of a household member. Emotional abuse is defined as a parent or other adult in the home that has ever swore, insulted, or put down a child. Physical abuse is defined as a parent or other adult in the home that has ever hit,

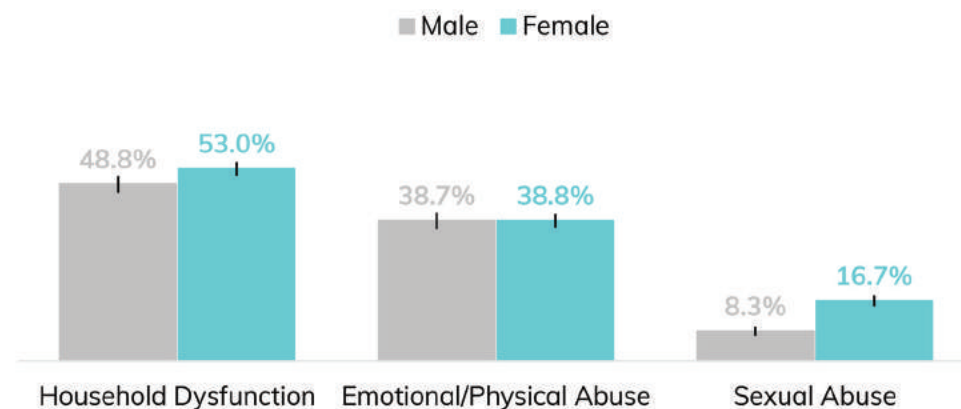
beat, kicked or physically hurt a child. Sexual abuse is defined as an adult or person at least five years old who has ever touched a child in a sexual way, tried to make the child touch their body in a sexual way, or attempted to have sex with the child.

The adulthood consequences of ACEs were first studied by Felitti and coworkers in a population of patients within the Kaiser Permanente managed care organization in California.<sup>20</sup> In this study and many that followed, it was found that people who accumulated ACEs were more likely to develop chronic disease, participate in risky behaviors, and suffer from mental health disorders later in their adult life.<sup>20,21,22,23</sup>

FIGURE 3.15

### Adverse Childhood Experiences, by Sex

Percent

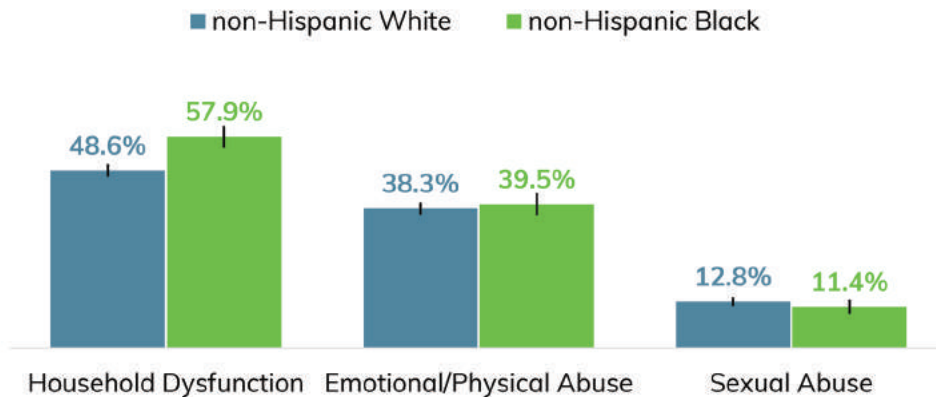


Source: SC DHEC BRFS, 2016.  
Note: Adults 18+.

FIGURE 3.16

### Adverse Childhood Experiences, by Race/Ethnicity

Percent



Source: SC DHEC BRFSS, 2016.

Note: Adults 18+.

## Findings in South Carolina

In South Carolina during 2016, the percent of male adults who reported household dysfunction during childhood (48.8%) was lower than the percent of female adults (53.0%; Figure 3.15). The percent of males who reported emotional/physical abuse as children (38.7%) was not statistically significant from females (38.8%), and the percent of males who reported childhood sexual abuse (8.3%) was lower than the percent of females (16.7%).

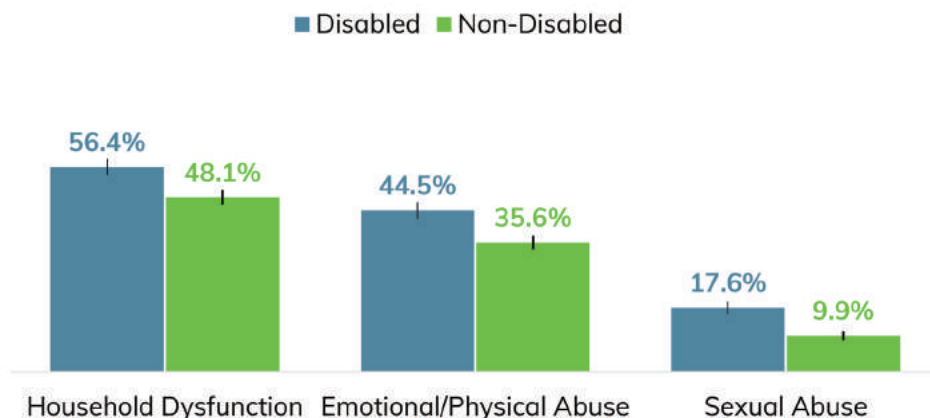
In South Carolina during 2016, the percent of non-Hispanic Black adults who reported household dysfunction during childhood (57.9%) was higher than the percent of non-Hispanic White adults (48.6%; Figure 3.16). There was no statistically significant difference in the percent of non-Hispanic Black adults who reported emotional/physical abuse during childhood (39.5%) than that of non-Hispanic White adults (38.3%). There was not a statistically significant difference in the percent of non-Hispanic Blacks who reported sexual abuse during childhood (11.3%) than that of non-Hispanic Whites (12.8%).

# ADVERSE CHILDHOOD EXPERIENCES

FIGURE 3.17

## Adverse Childhood Experiences, by Disability Status

Percent



Source: SC DHEC BRFSS, 2016.

Note: Adults 18+.

As shown in Figure 3.17, in South Carolina during 2016, the percent of disabled adults who reported household dysfunction (56.4%) was higher than that of non-disabled adults (48.1%). The percent of disabled adults who reported

emotional/physical abuse during childhood (44.5%) was higher than that of non-disabled adults (35.6%). The percent of disabled adults who reported sexual abuse during childhood (17.6%) was higher than that of non-disabled adults (9.9%).

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# Access to Health Care

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# PRIMARY CARE PHYSICIANS

## Background

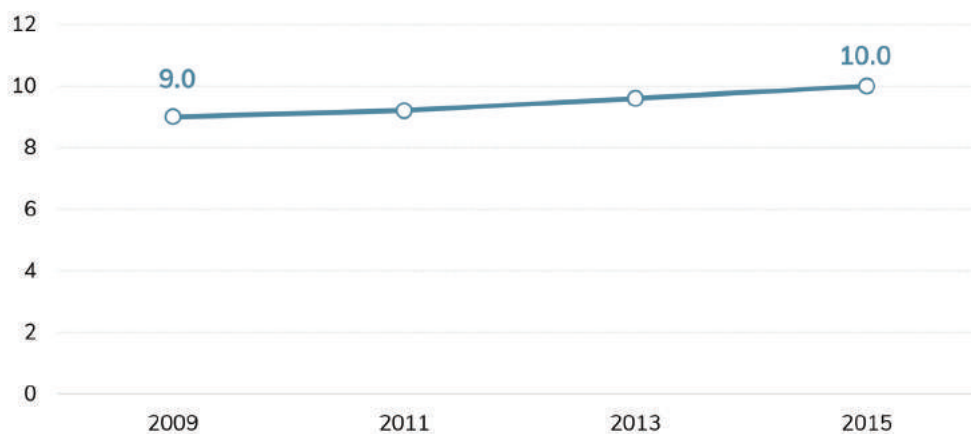
Primary care physicians are defined as those in active practice with the following specialties: family medicine, internal medicine, obstetrics/gynecology, and pediatrics. A primary care physician is responsible for providing preventative care, identifying and treating common conditions, and

making referrals to specialists as needed.<sup>1</sup> Primary care physicians strive to deliver a unique, tailored, patient-centered health plan. By having a familiar primary care physician, patients typically have better chronic disease management, lower overall health care costs, and a higher level of satisfaction with their care.<sup>2</sup>

FIGURE 4.1

### Primary Care Physicians

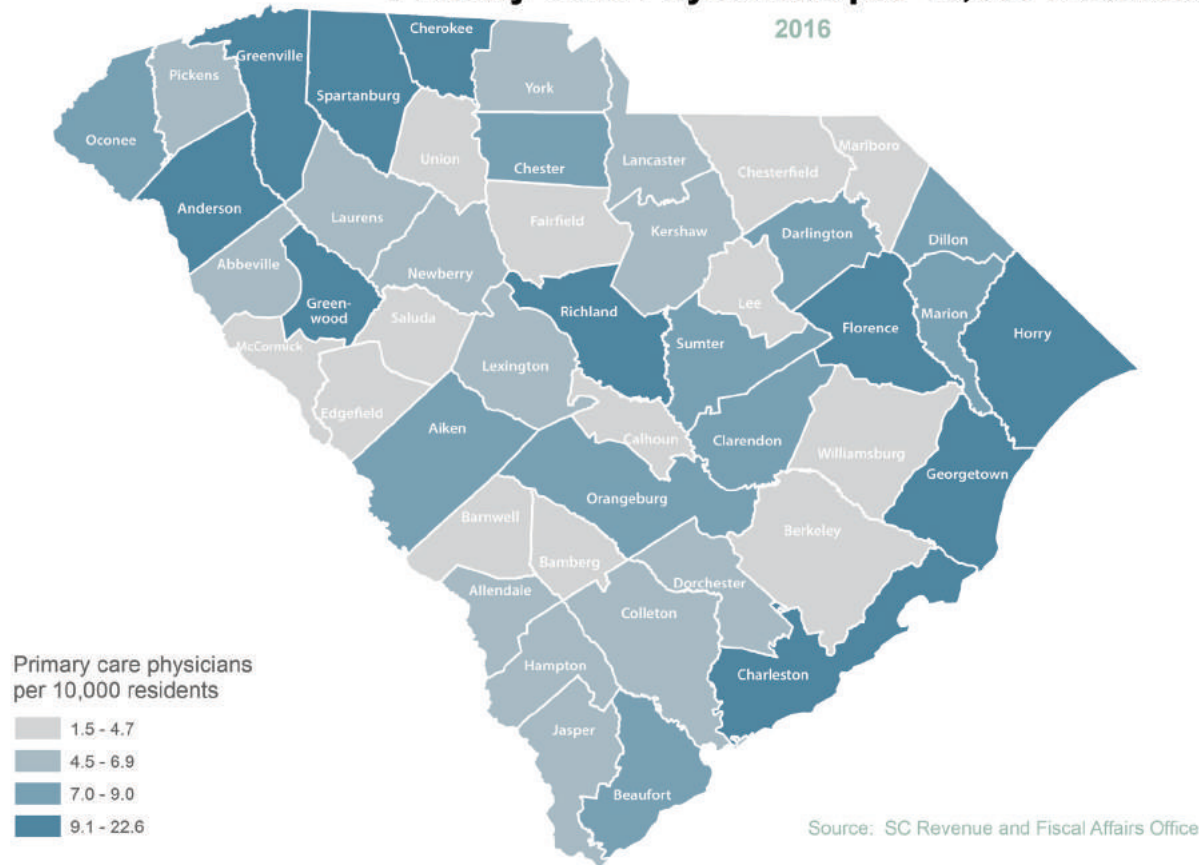
Ratio per 10,000 population



Source: South Carolina Office for Healthcare Workforce, South Carolina Health Professions Data Book, 2009-2016.

FIGURE 4.2

## Primary Care Physicians per 10,000 residents



### Findings in South Carolina

From 2009 to 2015, there was a gradual increase in the ratio of primary care physicians per 10,000 residents in South Carolina (Figure 4.1). In 2009, there were 9.0 primary care physicians per 10,000 residents, compared to 10.0 primary care physicians per 10,000 residents in 2015. According to America's Health Rankings, in 2017, South Carolina ranked 36<sup>th</sup> in the nation for the number of primary care physicians per 10,000 residents.

In 2015, primary care physicians were not equally distributed among the counties of South Carolina (Figure 4.2). The counties with the highest rates of primary care physicians in 2015 were Charleston (22.6 per 10,000 residents), Greenwood (17.2 per 10,000 residents), and Greenville (15.5 per 10,000 residents).

Urban counties had higher rates of practicing primary care physicians compared to rural counties. There were 11.2 primary care physicians per 10,000 urban residents compared to only 5.8 primary care physicians per 10,000 rural residents (data not shown).

# PHYSICIAN ASSISTANTS

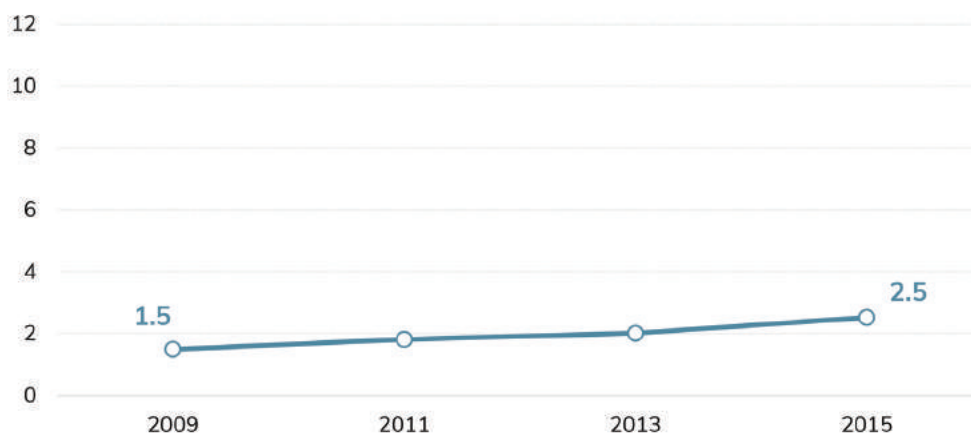
## Background

Physician assistants are certified medical professionals who can deliver medical and surgical care in teams with physicians.<sup>3</sup> Physician assistants can practice under the direction of a physician to diagnose,

treat, and prescribe medicine. Developing clinical care teams that include a combination of physicians and mid-level providers may reduce overall cost of care, alleviate provider shortages and increase the efficiency of the health care delivery system.<sup>3</sup>

**FIGURE 4.3**  
**Physician Assistants**

Ratio per 10,000 population

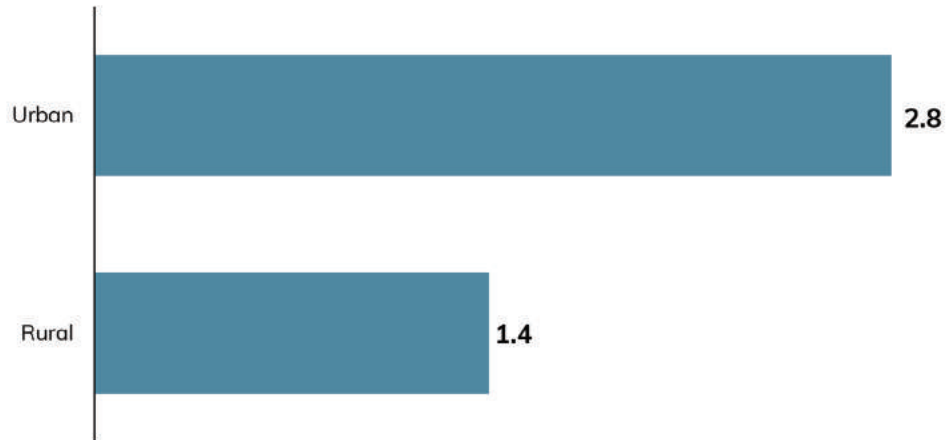


Source: South Carolina Office for Healthcare Workforce, South Carolina Health Professions Data Book, 2009-2016.

**FIGURE 4.4**

### Physician Assistants in Rural and Urban Counties

Ratio per 10,000 population



Source: South Carolina Office for Healthcare Workforce, South Carolina Health Professions Data Book, 2016.

## Findings in South Carolina

The ratio of physician assistants increased from 1.5 physician assistants per 10,000 residents in 2009 to 2.5 physician assistants per 10,000 residents in 2015 (Figure 4.3). There was a 69% increase in the ratio of practicing physician assistants from 2009 to 2015.

In 2015, the number of physician assistants per 10,000 residents was twice as high in urban counties as in rural counties (Figure 4.4). There was a difference in the ratio of practicing physician assistants between rural and urban counties in the state. There were 2.8 physician assistants per 10,000 residents in urban counties, compared to only 1.4 physician assistants per 10,000 residents in rural counties.

# NURSE PRACTITIONERS

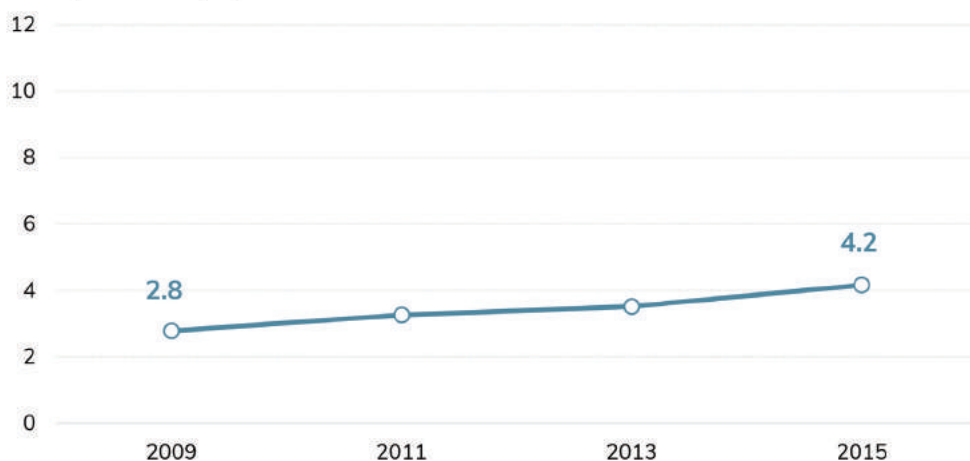
## Background

As the American population ages and the number of people with chronic conditions increases, the demand for providers is increasing. Utilizing nurse practitioners is one avenue to combat primary care provider shortages.<sup>4</sup>

Nurse practitioners have clinical knowledge and skills to provide direct patient care. Studies have shown that nurse practitioners who prescribe medications, are well-suited for providing preventative and chronic illness care.<sup>4</sup> Nurse practitioners can also be utilized in rural communities, which are often lacking primary care providers.<sup>4</sup>

**FIGURE 4.5**  
**Nurse Practitioners**

Ratio per 10,000 population

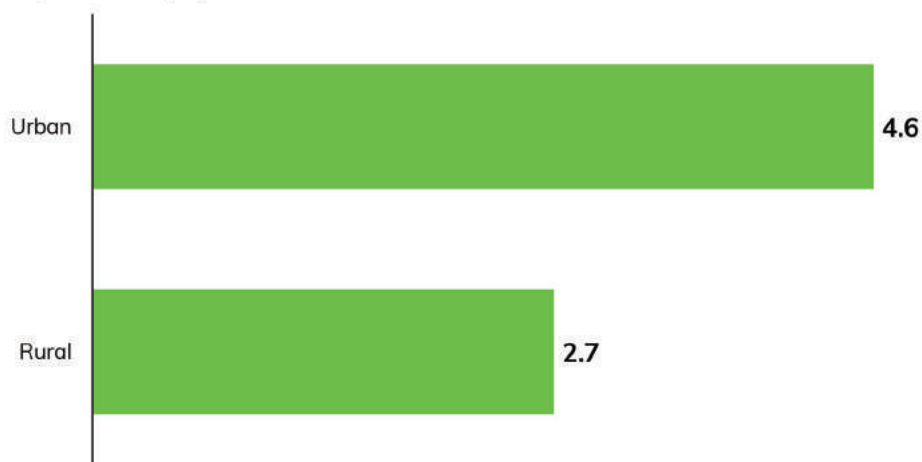


Source: South Carolina Office for Healthcare Workforce, South Carolina Health Professions Data Book, 2009-2016.

**FIGURE 4.6**

### **Nurse Practitioners in Rural and Urban Counties**

Ratio per 10,000 population



Source: South Carolina Office for Healthcare Workforce, South Carolina Health Professions Data Book, 2016.

## **Findings in South Carolina**

The ratio of nurse practitioners practicing in South Carolina has increased from 2.8 nurse practitioners per 10,000 residents in 2009 to 4.2 nurse practitioners per 10,000 residents in 2015 (Figure 4.5). South Carolina saw a

50% increase in the ratio of nurse practitioners from 2009 to 2015.

In 2015, the ratio of nurse practitioners was higher in urban South Carolina counties compared to rural South Carolina counties (Figure 4.6). There were 4.6 nurse practitioners per 10,000 residents in urban counties, compared to 2.7 nurse practitioners per 10,000 residents in rural counties.

# HEALTH INSURANCE COVERAGE AMONG ADULTS

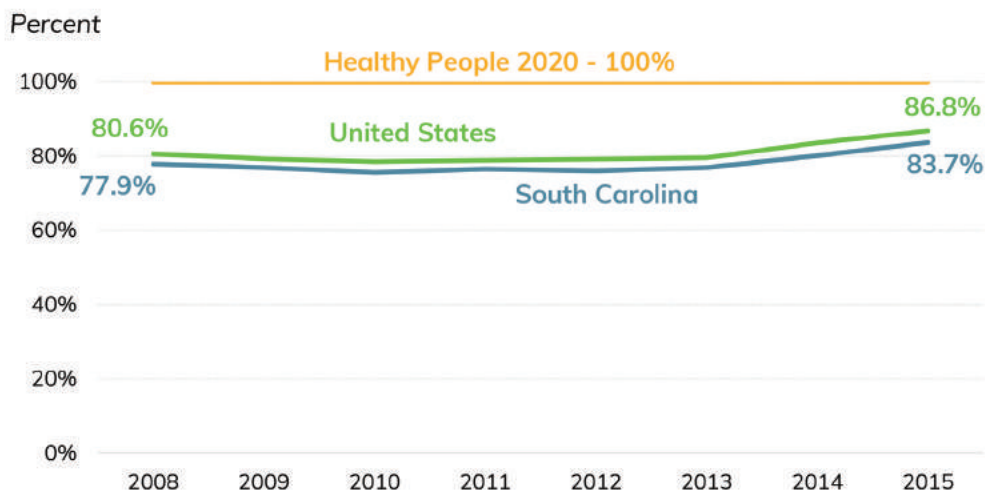
## Background

The Kaiser Family Foundation estimated the number of South Carolinians without health insurance at 550,000 in 2016.<sup>5</sup> Health insurance has been shown to increase access to health care services, improve health outcomes, and reduce the financial strain put

on families and individuals.<sup>6</sup> Insured individuals are more likely to have a regular source of care, increasing the likelihood of obtaining an early diagnosis and treatment, which can improve health outcomes of individuals.<sup>6</sup> Those who are uninsured are more likely to utilize emergency departments, which increases health care expenditures.<sup>6</sup>

FIGURE 4.7

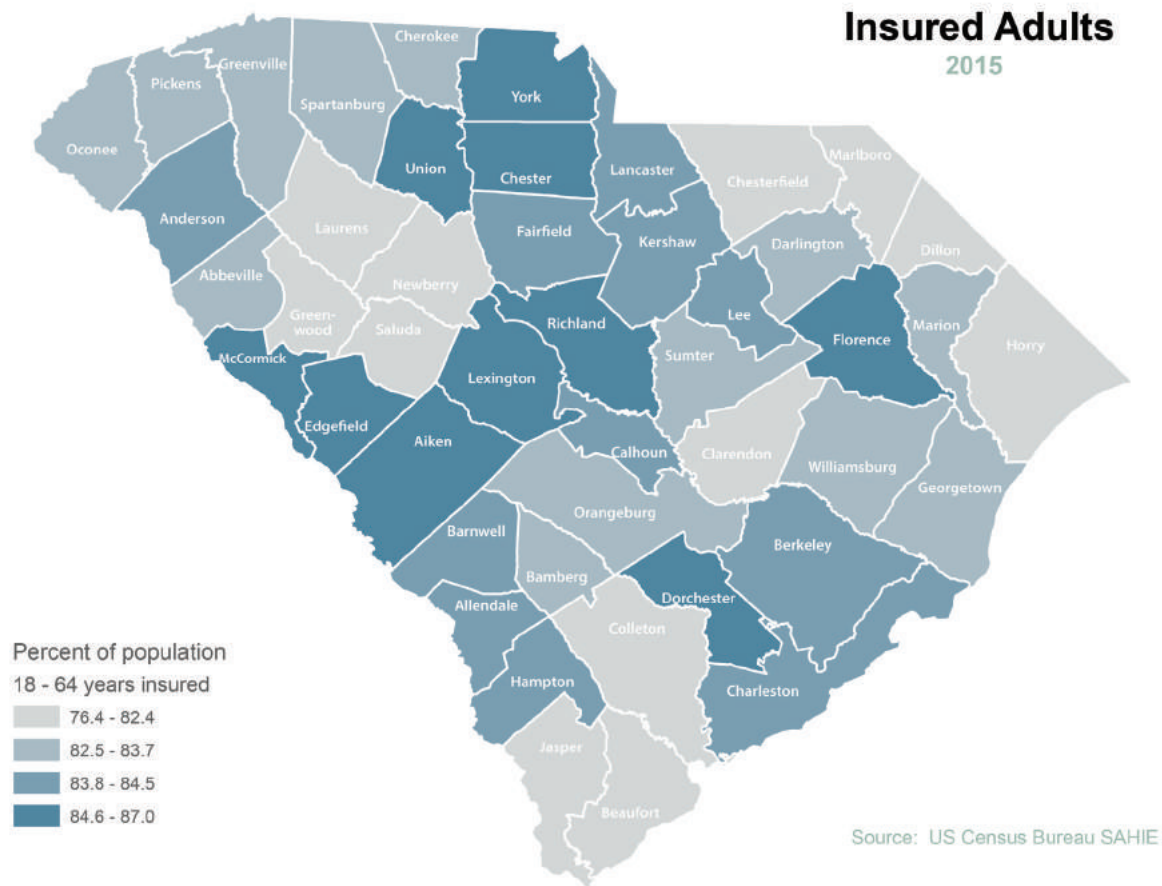
### Health Care Insurance Among Adults



Source: US Census Bureau SAHIE.  
Note: Adults 18-64.



FIGURE 4.8



## Findings in South Carolina

The percent of adults aged 18-64 who were insured increased from 77.9% in 2008 to 83.7% in 2015 (Figure 4.7). This was below both the Healthy People 2020 target of 100% and the United States prevalence of 86.8%.

The percentage of insured adults varied across the state (Figure 4.8).

In 2015, residents of urban counties had a higher percentage of insured adults compared to those living in rural counties. The counties with the highest percentage of insured adults were: York (87.0%), Richland (86.9%), Dorchester (86.3%), and Lexington (86.0%). These four counties were all classified as urban.

In 2015, 85.7% of South Carolina female residents compared to 81.6% of South Carolina male residents were insured (data not shown).

# DELAYED MEDICAL CARE

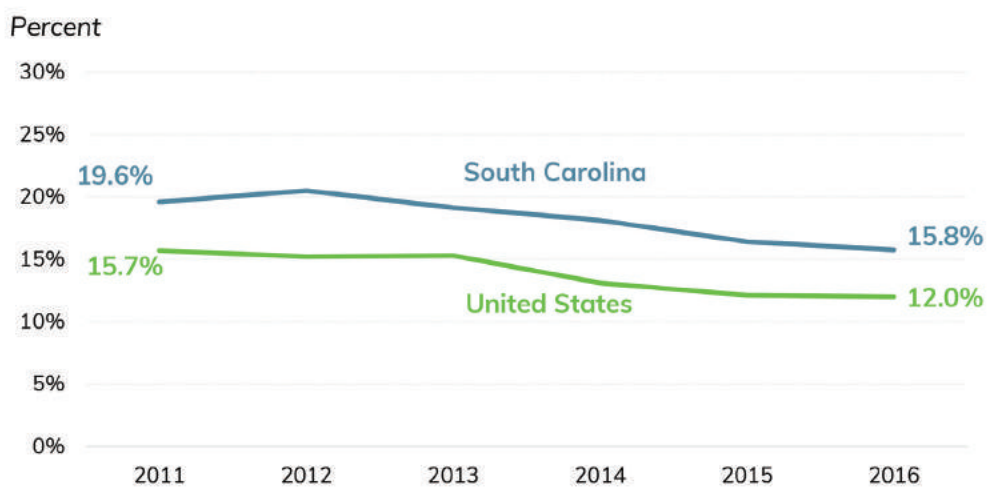
## Background

Delayed medical care due to cost is often associated with worse health outcomes and higher medical expenditures.<sup>7</sup> Late diagnosis and

advanced disease may require more extensive services.<sup>7</sup> Being insured and having access to affordable medical care could increase utilization of preventive health care services.

FIGURE 4.9

### Adults That Delayed Medical Care Due to Cost

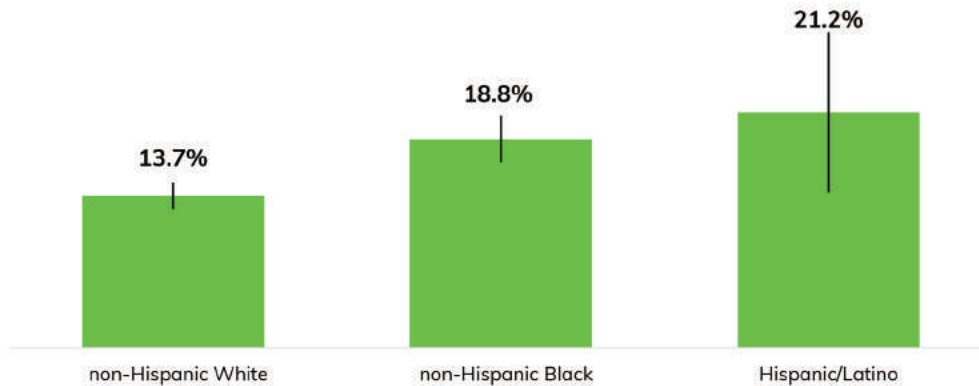


Source: SC DHEC BRFSS, CDC BRFSS.  
Note: Adults 18+.

**FIGURE 4.10**

**Adults That Delayed Medical Care Due to Cost, by Race/Ethnicity**

Percent



Source: SC DHEC BRFSS, 2016.

Notes: Adults 18+, for race/ethnicity categories see Appendix F.

## Findings in South Carolina

In South Carolina, from 2011 to 2016, there was a decrease in the percent of adults who delayed medical care due to cost (Figure 4.9). In 2016, the median prevalence of adults that delayed medical care due to cost was 12.0% in the United States.

In South Carolina in 2016, the prevalence of adults who delayed care due to cost was higher in non-Hispanic Blacks (18.8%) compared to non-Hispanic Whites (13.7%; Figure 4.10).

The prevalence of South Carolina women delaying medical care due to cost was higher than South Carolina males. In South Carolina in 2016, the prevalence of adults who delayed medical care due to cost was higher in individuals who had an annual household income less than \$50,000, compared to those with an annual household income of more than \$50,000. The prevalence of South Carolina adults who delayed medical care due to cost was higher in those less than 65 years of age compared to those 65 years of age and older (data not shown).

# AVOIDABLE HOSPITALIZATIONS AND ED VISITS

## Background

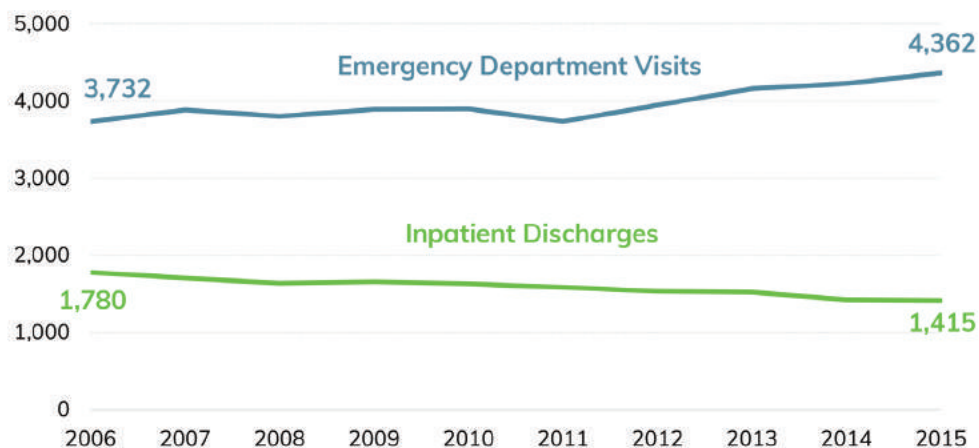
Many emergency department visits and hospitalizations could be avoided, thus saving billions annually.<sup>8</sup> Avoidable hospitalizations are those that could have been prevented through outpatient care,

including disease management, coordination of care, and timely access to care.<sup>9</sup> Access to primary care increases the opportunity for individuals to better protect and manage their health, decreasing the need for emergency department (ED) visits and hospitalizations.

FIGURE 4.11

### Avoidable Hospitalizations and Emergency Department Visits

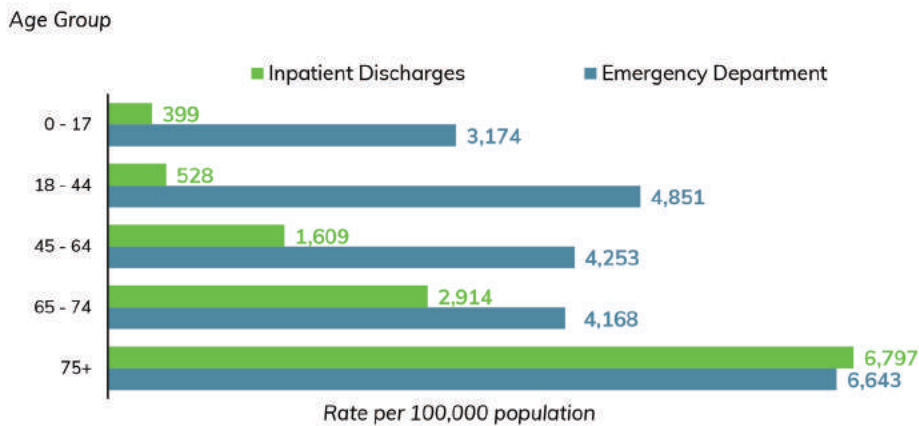
Rate per 100,000 population



Source: SC RFA Inpatient Discharges and ED Visits.  
Note: Federal fiscal year.

FIGURE 4.12

### Avoidable Hospitalizations and Emergency Department Visits, by Age Group



Source: SC RFA Inpatient Discharges and ED Visits, 2015.  
Note: Federal fiscal year.

## Findings in South Carolina

In South Carolina, the rate of avoidable emergency department visits increased 17% from 2006 to 2015 (Figure 4.11). In 2015, there were 4,362 avoidable emergency department visits per 100,000 residents, compared to 3,732 per 100,000 residents in 2006. In contrast, the rate of avoidable inpatient hospitalizations decreased by 20.5% from 2006-2015. In 2006, the rate of avoidable hospitalizations was 1,780 per 100,000 residents, compared to 1,415 per 100,000 residents in 2015.

In 2015, the total cost of avoidable inpatient hospitalizations was \$2.2 billion, with an average stay of

four nights. The total charges of avoidable emergency department visits during 2015 was \$755 million, with a combined charge of almost \$3 billion (data not shown).

In 2015, the rate of avoidable hospitalizations and emergency department visits increased with age (Figure 4.12). The rate of avoidable emergency department visits was lowest for children and youth aged 0-17 at 3,174 per 100,000 residents, and highest for adults 75 and over at 6,643 per 100,000 residents.

Additionally, the rate of avoidable hospitalizations and emergency department visits was higher for females compared to males in 2015 (data not shown).

# ASTHMA HOSPITALIZATIONS

## Background

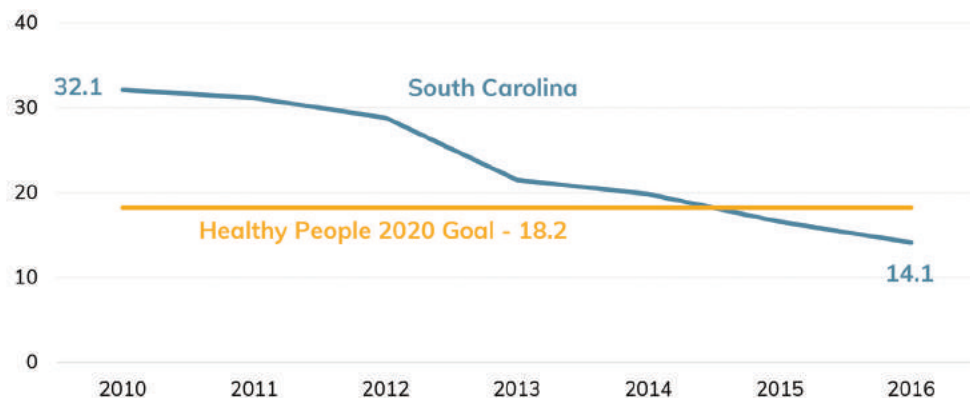
Asthma is both the leading chronic disease found in children, as well as the leading cause of hospitalizations among children.<sup>10</sup> It is documented that asthma-related hospitalizations among children were twice as likely among individuals who did not consult a family physician.<sup>10</sup>

Improving access to medications, avoiding risk factors such as smoking, and increasing access to follow-up care could all reduce hospitalization rates. Additionally, asthma-related absences from school and potential asthma emergencies in the classroom can reduce productivity and negatively affect children's academic performance.<sup>11</sup>

FIGURE 4.13

### Asthma Hospitalizations Among Children Under Five Years of Age

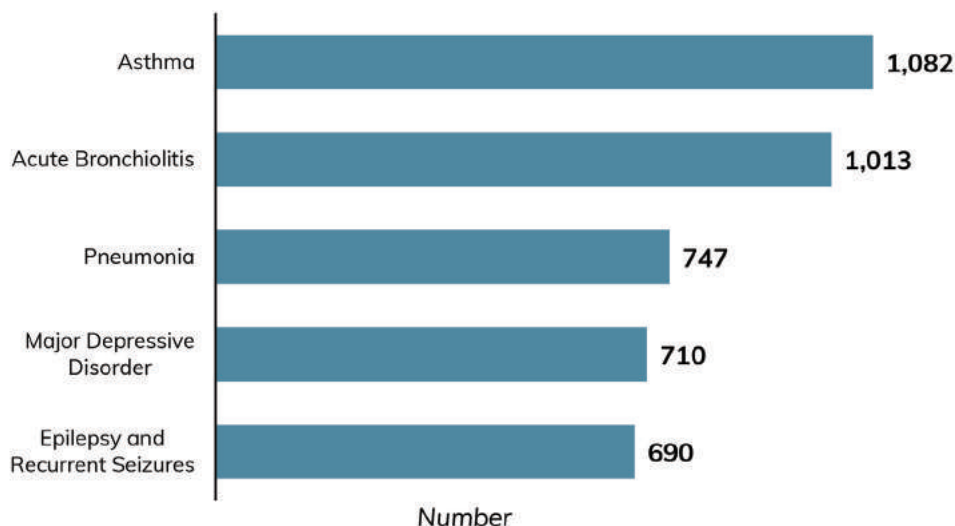
Rate per 10,000 population



Source: SC RFA Inpatient Discharges.  
Note: Federal fiscal year.

**FIGURE 4.14**

**Leading Causes of Hospitalizations Among Children**



Source: SC RFA Inpatient Discharges, 2016.  
Notes: Less than 18 years, federal fiscal year.

## Findings in South Carolina

From 2010 through 2016, the asthma hospitalization rate among children less than five years of age decreased from 32.1 hospitalizations per 10,000 children in 2010 to 14.1 hospitalizations per 10,000 children in 2016 (Figure 4.13). There was a 56% decrease in the asthma hospitalization rate among children five years of age and younger. As of 2016, South Carolina had exceeded the Healthy People 2020 goal of 18.2 asthma hospitalizations per 10,000 children under the age of five.

The asthma hospitalization rate was over four times higher among Blacks and Other children (19.3 per 10,000) compared to White children (4.5 per 10,000). The asthma hospitalization rate among children in 2016 was higher in males (11.8 per 10,000) than females (7.7 per 10,000; data not shown).

In 2016, asthma was the leading cause of hospitalizations among children less than 18 years of age in South Carolina (Figure 4.14).

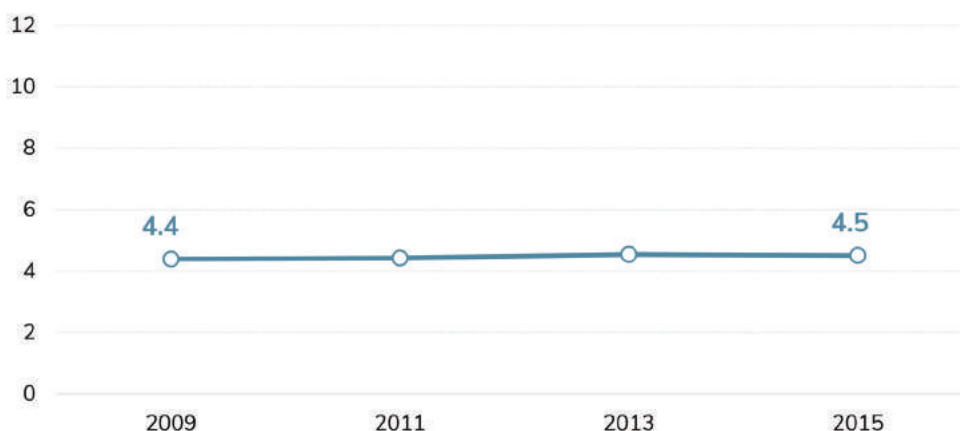
## Background

Oral health is a contributing factor in chronic disease prevention as the risks to health are linked. Oral health has also been associated with other chronic health conditions, including heart disease and diabetes.<sup>12</sup> Dentists are able to identify warning

signs in the mouth that may be indicative of disease elsewhere in the body. Fewer people have dental insurance compared to medical insurance, which creates a barrier to treatment.<sup>13</sup> Additionally, many Americans lack the understanding of the importance oral health plays in maintaining good overall health.

**FIGURE 4.15**  
**Dentists**

Ratio per 10,000 population



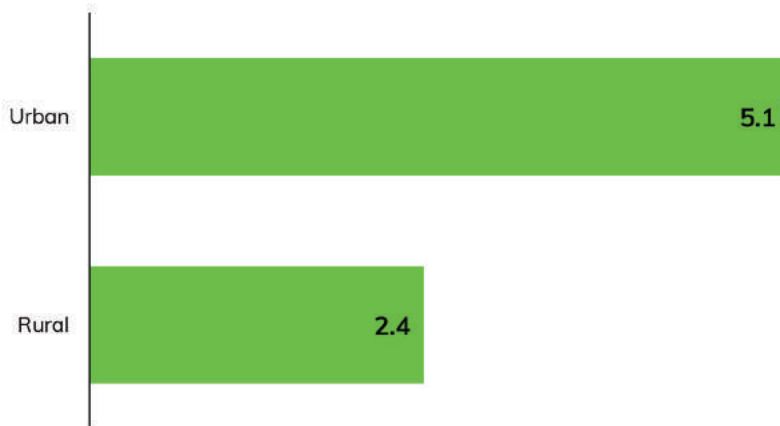
Source: South Carolina Office for Healthcare Workforce, South Carolina Health Professions Data Book, 2009-2016.



**FIGURE 4.16**

### Dentists in Rural and Urban Counties

Ratio per 10,000 population



Source: South Carolina Office for Healthcare Workforce, South Carolina Health Professions Data Book, 2016.

## Findings in South Carolina

The ratio of dentists in South Carolina has remained relatively stable from 2009 to 2015 (Figure 4.15). In 2009, there were 4.4 dentists per 10,000 residents, compared to 4.5 dentists per 10,000 residents in 2015. According to America's Health Rankings, in 2017, South Carolina ranked 42<sup>nd</sup> in the

nation for the number of dentists per 10,000 residents.

There was a lower rate of dentists practicing in rural counties compared to urban counties (Figure 4.16). The ratio of dentists per 10,000 residents was over twice as large in urban South Carolina counties compared to rural South Carolina counties. In 2015, there were 5.1 dentists per 10,000 urban residents compared to 2.4 dentists per 10,000 rural residents.

# DENTAL CARE AMONG ADULTS

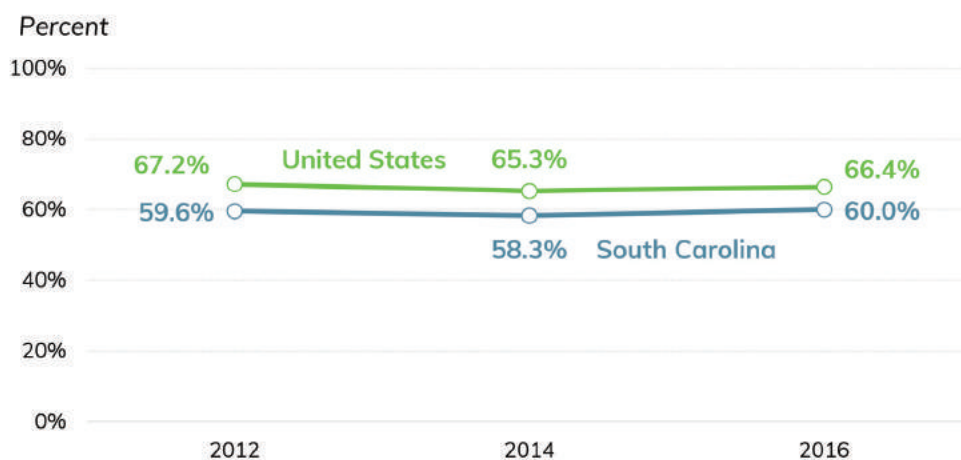
## Background

Many oral health problems (i.e., tooth decay, gum disease, oral cancer) can be prevented by attending routine dental visits. Dentists can detect signs of nutritional deficiencies, bacterial

infections, immune disorders, and cancers.<sup>14</sup> Early detection and diagnosis are key in having a favorable prognosis. By attending yearly routine check-ups with a dentist, adults can have personalized oral care while engaging in preventative disease measures.<sup>15</sup>

FIGURE 4.17

### Adults Who Were Seen by a Dentist in the past Year for a Routine Check-Up

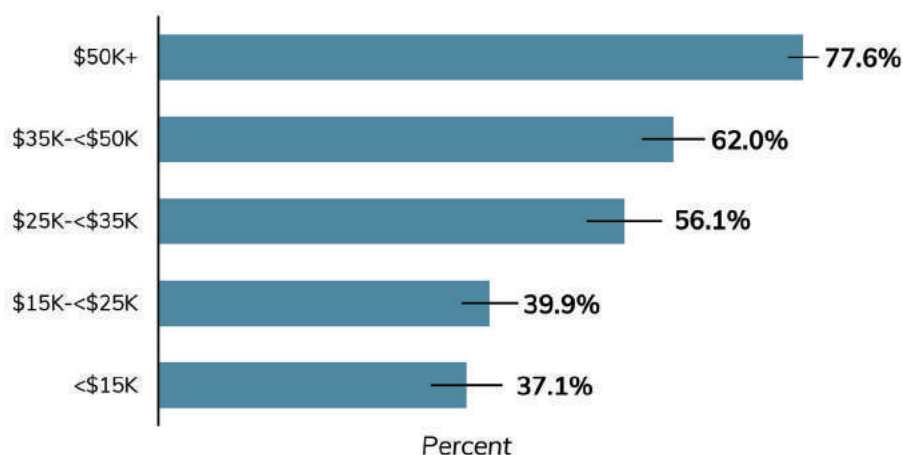


Source: SC DHEC BRFSS.  
Note: Adults 18+.

FIGURE 4.18

### Adults Who Were Seen by a Dentist in the past Year for a Routine Check-Up, by Income

Income Level



Source: SC DHEC BRFSS, 2016.

Note: Adults 18+.

## Findings in South Carolina

There was no statistically significant change in the percent of adults who were seen by a dentist for a routine checkup from 2012 (59.6%) to 2016 (60.0%; Figure 4.17). In 2016, the median prevalence of adults visiting a dentist regularly was 66.4% in the United States.

In 2016, South Carolina residents who had an annual household income of \$50,000 or more (77.6%) were more likely to see a dentist

for a routine check-up compared to those making less than \$50,000 a year (Figure 4.18). Only 37.1% of South Carolina residents who had an annual household income of less than \$15,000 saw a dentist within the past year.

Additionally, non-Hispanic Whites (64.3%) were more likely to see a dentist in the past year compared to non-Hispanic Blacks (52.0%). In 2016, there was no statistically significant difference between age groups and annual dental visits (data not shown).

# DENTAL CARE DURING PREGNANCY

## Background

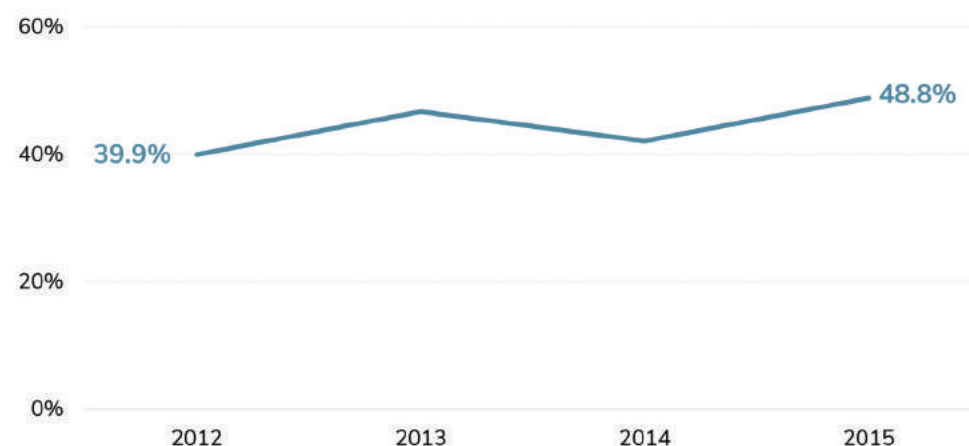
Maintaining good oral health across the lifespan is important to general health. During pregnancy, a woman's body is subjected to many changes that may include her teeth and gums. In these cases, a woman may be more prone to experiencing

dental issues such as gingivitis, loose teeth, periodontitis, pregnancy tumors, tooth decay or even tooth loss.<sup>16</sup> Periodontitis, or gum disease, has been linked to preterm birth.<sup>17</sup> Having a regular visit to the dentist during pregnancy can lead to early detection of dental health problems that may affect the health of both the mom and baby.

FIGURE 4.19

### Women Who Had Their Teeth Cleaned During Their Most Recent Pregnancy

Percent

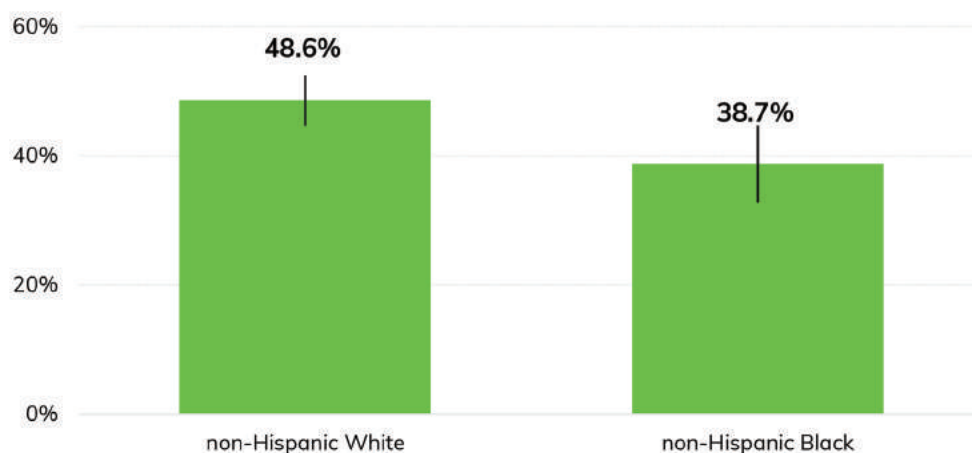


Source: SC DHEC PRAMS.

**FIGURE 4.20**

**Women Who Had Their Teeth Cleaned During Their Most Recent Pregnancy, by Race/Ethnicity**

Percent



Source: SC DHEC PRAMS, 2012-2015.

## Findings in South Carolina

In 2015, 48.8% of women who had recently given birth reported that they had their teeth cleaned during their most recent pregnancy (Figure 4.19). That percentage was higher than those reporting a dental cleaning in 2012 (39.9%); however, this was not a statistically significant difference.

From 2012 to 2015, the percent of women having their teeth cleaned during their most recent pregnancy was higher among mothers 35 years or older (54.1%) than mothers 20-24 years old (36.0%). There was no statistically significant difference in

the percent of women having their teeth cleaned during their most recent pregnancy between mothers 35 years or older (54.1%) and those 25-29 years old (43.6%), or 30-34 years old (49.7%). By income, a higher percent was seen among mothers having an annual household income of at least \$52,000 (67.9%) compared to those having an annual household income of \$15,000 or less (33.4%), \$15,001-\$26,000 (31.8%), and \$26,001-\$37,000 (28.8%; data not shown).

From 2012 to 2015, non-Hispanic White mothers (48.6%) had their teeth cleaned more during their most recent pregnancy compared to 38.7% of non-Hispanic Black women, though not statistically significant (Figure 4.20).

# DENTAL CARE AMONG CHILDREN

## Background

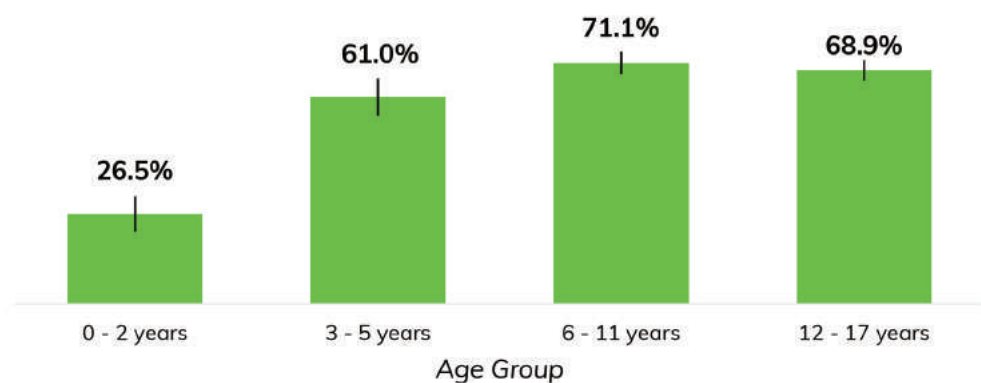
According to the Centers for Disease Control and Prevention, tooth decay, or cavities, is one of the most common chronic conditions facing our children today.<sup>18</sup> Tooth decay that goes untreated can lead to problems with eating, speaking, and learning.<sup>19</sup> The earlier children

begin seeing a dentist regularly, the healthier their mouths will stay as they age.<sup>20</sup> When children visit the dentist regularly, they learn at a young age that oral health is important. This strengthens the chance that they will see dentists regularly when they are older. Seeing a dentist regularly as a child prevents tooth decay that could lead to medical issues later in life.<sup>20</sup>

FIGURE 4.21

### Children Who Were Regularly Seen by a Dentist or at a Dental Clinic, by Age Group

Percent



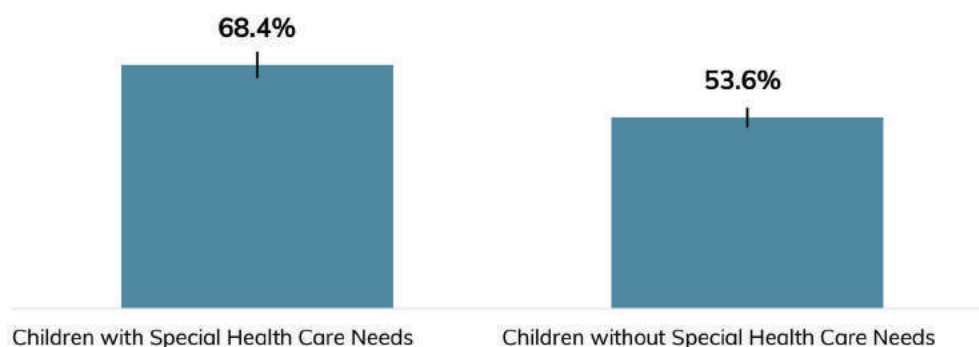
Source: SC DHEC CHAS, 2012-2016.

Note: Less than 18 years.

**FIGURE 4.22**

**Children With and Without Special Health Care Needs Who Were Regularly Seen by a Dentist or at a Dental Clinic**

Percent



Source: SC DHEC CHAS, 2012-2016.

Note: Less than 18 years.

## Findings in South Carolina

From 2012 to 2016 in South Carolina, children less than six years old were less likely to be seen by a dentist or attend a routine dental visit than those children ages six to eleven years (71.1%; Figure 4.21). Around 27% of children ages birth to two years were seen regularly by a dentist or at a dental clinic, while 61.0% of children ages three to five years were seen by a dentist. There was not a statistically significant difference between children ages six to eleven years (71.1%) and those ages 12 to 17 years (68.9%).

From 2012 to 2016 in South Carolina, the prevalence of children

who were regularly seen by a dentist or at a dental clinic differed among special needs status (Figure 4.22). Roughly 68% of children with special needs visited a dentist or dental clinic regularly. This was higher than the 53.6% of children without special needs who visited the dentist or dental clinic regularly.

Additionally, 62.8% of non-Hispanic White children were regularly seen by a dentist or at a dental clinic, compared to 63.4% of non-Hispanic Black children and 58.1% of Hispanic/Latino children. However, there was not a statistically significant difference between racial/ethnic groups. There was no statistically significant difference in the rate of boys (62.2%) seeing the dentist regularly compared to girls (63.5%; data not shown).

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# Maternal and Infant Health

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# INFANT MORTALITY

## Background

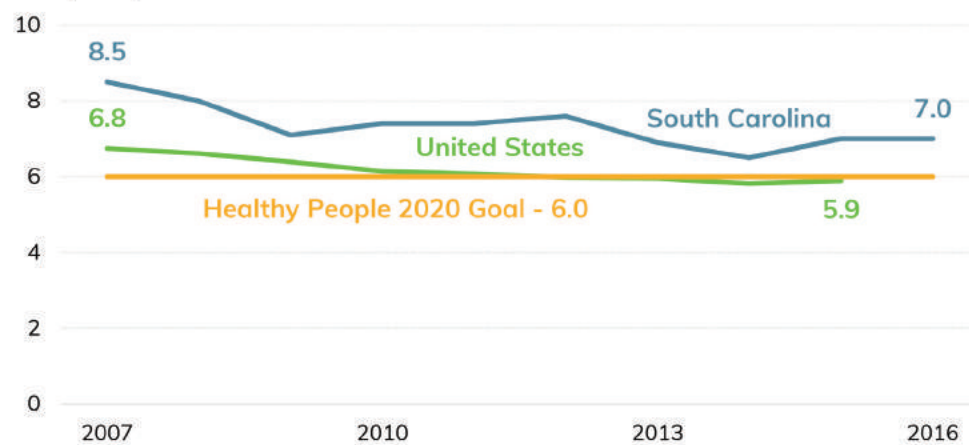
Infant mortality has been a longstanding indicator of the overall health status of society, and its reduction is a leading objective of Healthy People 2020.<sup>1,2</sup> The five leading causes of infant death in the United States are birth defects, preterm birth and low birthweight, maternal complication of pregnancy,

Sudden Infant Death Syndrome (SIDS), and unintentional injuries.<sup>3</sup> The best opportunity for identifying existing health risks and preventing adverse birth outcomes begins with preconception and interconception care.<sup>2</sup> Targeted education and interventions focused on infant death prevention and contributing factors must continue to reach audiences in greatest need.

FIGURE 5.1

### Infant Mortality

Rate per 1,000 live births

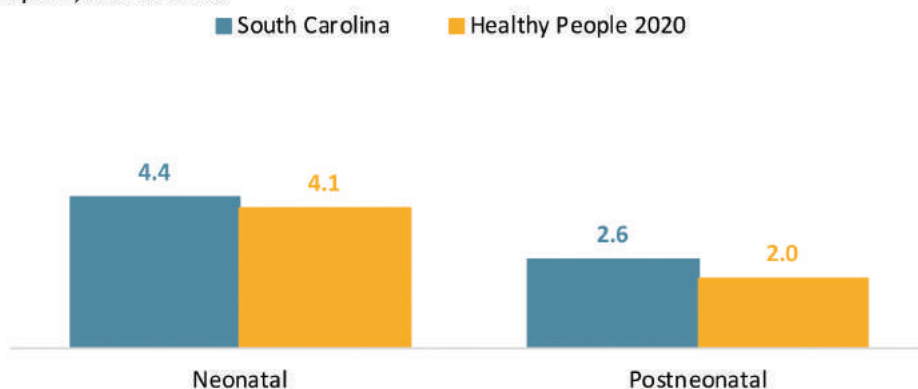


Source: SC DHEC Vital Statistics.

FIGURE 5.2

### Infant Mortality, by Age at Death

Rate per 1,000 live births



Source: SC DHEC Vital Statistics, 2016.

Notes: The neonatal period is the first 27 days after birth. The postneonatal period is 28-364 days after birth.

## Findings in South Carolina

From 2007 through 2016 in South Carolina, the infant mortality rate decreased from 8.5 deaths per 1,000 live births in 2007 to 7.0 deaths per 1,000 live births in 2016, representing an overall decrease of 17.6% over the ten-year period (Figure 5.1). The United States' infant mortality rate in 2015 was 5.9 deaths per 1,000 live births which met the Healthy People 2020 target of 6.0 infant deaths per 1,000 live births.

In 2016, the infant mortality rate within the first month of life (neonatal period) was 1.7 times

higher than the rate in older infants (postneonatal period) (Figure 5.2). Whereas the neonatal mortality rate was 4.4 per 1,000 live births, the postneonatal mortality rate was 2.6 per 1,000 live births (Figure 5.2). The neonatal and postneonatal mortality rates in South Carolina were both above the Healthy People 2020 target of 4.1 and 2.0 deaths per 1,000 live births, respectively.

Non-Hispanic Black births had higher rates of neonatal and postneonatal mortality (7.7 and 3.3 deaths per 1,000 live births, respectively), than non-Hispanic White births (2.9 and 2.2 deaths per 1,000 live births, respectively) and all other racial/ethnic groups (data not shown).

# INFANT MORTALITY

The five leading causes of infant death in South Carolina were birth defects, preterm birth or low birthweight, unintentional injuries, Sudden Infant Death Syndrome (SIDS), and maternal complication of pregnancy (Table 5.1). Of the 401 total infant deaths that occurred in 2016, 21.2% (85) were attributed to birth defects, 14.2% (57) from preterm birth or low birthweight, 9.7% (39) from unintentional injuries, 6.7% (27) from SIDS, and 5.0% (20) from maternal complication of pregnancy.

Sudden Unexpected Infant Deaths (SUIDs) are deaths due to accidental suffocation and strangulation in bed, Sudden Infant Death Syndrome (SIDS), and other ill-defined and unknown causes (Table 5.2). SUIDs are commonly referred to as potentially sleep-related infant deaths. In 2016, infant deaths due to accidental suffocation and strangulation in bed accounted for 46.5% of all SUIDs, followed by SIDS (38.0%).

TABLE 5.1

Leading Causes of Infant Death	Number of Deaths	Percent
--------------------------------	------------------	---------

1. Birth Defects	85	21.2
2. Preterm or Low Birthweight	57	14.2
3. Unintentional Injuries	39	9.7
4. Sudden Infant Death Syndrome	27	6.7
5. Maternal Complication of Pregnancy	20	5.0

<b>Leading Causes of Infant Death</b>	<b>228</b>	<b>56.9</b>
---------------------------------------	------------	-------------

<b>All Infant Deaths</b>	<b>401</b>	<b>100</b>
--------------------------	------------	------------

Source: SC DHEC Vital Statistics, 2016.

TABLE 5.2

Sudden Unexpected Infant Deaths (SUIDs)	Number of Deaths	Percent
---	------------------	---------

Accidental Suffocation and Strangulation in Bed	33	46.5
Sudden Infant Death Syndrome (SIDS)	27	38.0
Hanging, Strangulation, and Suffocation, Undetermined Intent	1	1.4
Other Ill-Defined and Unspecified Causes of Death	10	14.1

<b>All Sudden Unexpected Infant Deaths (SUIDs)</b>	<b>71</b>	<b>100</b>
--	-----------	------------

Source: SC DHEC Vital Statistics, 2016.

Background

Birth defects are common and costly, and babies affected by them are at increased risk for long-term physical, cognitive, and social challenges.<sup>4</sup> Birth defects are consistently one of the leading causes of infant death and morbidity in South Carolina and the United States, and affect people from all economic and racial backgrounds.<sup>3</sup> Families affected by birth defects often deal with complex medical conditions that require surgery and early intervention services

within the first three years of life. The universal newborn screening program is integral in detecting a set of heritable conditions that are present at birth. Strategies to prevent birth defects include maintaining a healthy diet and consuming at least 400 micrograms of folic acid daily, regularly visiting a healthcare provider for chronic disease management and infection prevention, and avoiding exposures to drugs and alcohol.<sup>4</sup> Interventions to prevent birth defects and support families affected by birth defects are tailored to fit the needs of those impacted.

TABLE 5.3

Birth Defects, by Type

	Defects	Percent
1. Cardiovascular	3,352	41.5%
2. Central Nervous System	1,270	15.7%
3. Chromosomal	663	8.2%
4. Orofacial	585	7.2%
5. Musculoskeletal	513	6.4%
6. Renal	484	6.0%
7. Genital	435	5.4%
8. Gastrointestinal	398	4.9%
9. Limb Defects	261	3.2%
10. Eye and Ear Defects	113	1.4%
All Birth Defects	8,074	100

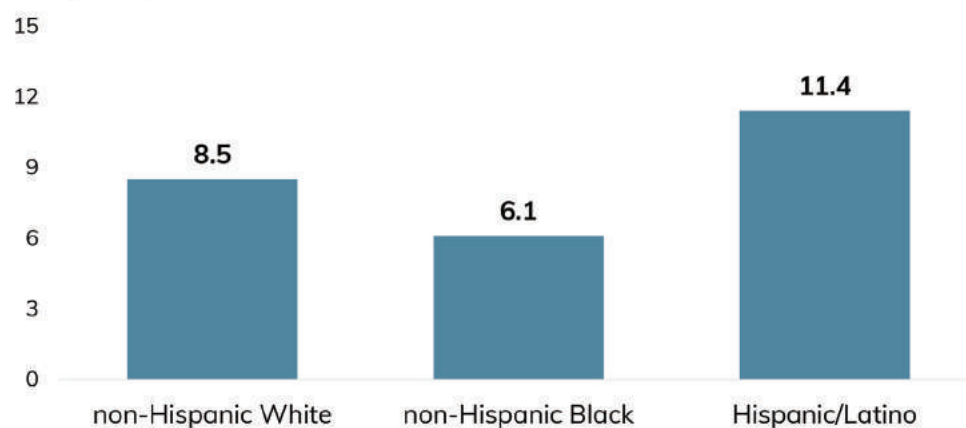
Source: SC BDP, 2009-2015.



FIGURE 5.3

### Neural Tube Defects, by Race/Ethnicity

Rate per 10,000 live births



Source: SC BDP, 2007-2015.

Note: Neural tube defects include spina bifida, anencephaly, and encephalocele.

## Findings in South Carolina

From 2009 to 2015, the South Carolina Birth Defects Program (SC BDP) identified over 8,000 birth defects in nearly 6,000 infants (Table 5.3). Defects affecting the heart (cardiovascular; 41.5%), the brain/spinal cord (central nervous system; 15.7%), genes (chromosomal; 8.2%), and the lip/mouth (orofacial; 7.2%) were the most common (Table 5.3). The remaining birth defects are those affecting the musculoskeletal (6.4%), renal (6.0%), genital (5.4%), and gastrointestinal (4.9%) systems, limb defects (3.2%), and eye and ear defects (1.4%).

Overall, birth defect rates are similar across racial and ethnic groups; however, disparities exist regarding some specific types of defects.

For example, neural tube defects (NTDs), which include spina bifida, anencephaly, and meningocele, have a higher rate of occurrence in pregnancies in Hispanic/Latino women (11.4 per 10,000 live births) than pregnancies in non-Hispanic White (8.5 per 10,000 live births) and non-Hispanic Black (6.1 per 10,000 live births) women in South Carolina (Figure 5.3). This is consistent with national trends.<sup>5</sup> It is recommended that women of child-bearing age consume at least 400 micrograms of folic acid daily to prevent neural tube defects.<sup>2</sup>

## Background

Improving the well-being of mothers and infants is an important health goal for the United States.<sup>2,6</sup> A leading health indicator for the nation is preterm live births, or the birth of a baby before 37 weeks of pregnancy.<sup>2,6</sup> The earlier in pregnancy a baby is born, the greater the chances of having health problems in the short-term and long-term for the newborn. These health problems can include respiratory distress, bleeding of the brain, anemia, or other health issues of varying severity.<sup>6</sup> Racial and ethnic disparities are prevalent in preterm birth.<sup>3</sup> Improving the health of the mother before, during, and between pregnancies, and seeking prenatal care early can improve the health of the mother and give the baby the best start at life.<sup>6,7</sup>

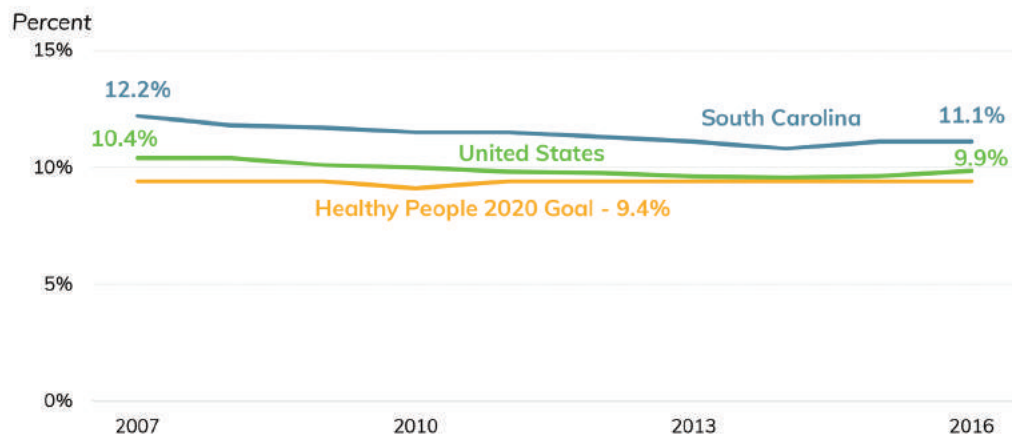
## Findings in South Carolina

From 2007 through 2016, the percent of infants born preterm (<37 weeks) decreased over the ten-year period from 12.2% in 2007 to 11.1% in 2016 (Figure 5.4). In 2016, preterm birth in South Carolina (11.1%) was higher than the United States prevalence of 9.9%. South Carolina did not meet the Healthy People 2020 target of 9.4%.

During 2016 in South Carolina, the percent of infants born preterm (<37 weeks) was 8.4% in non-Hispanic White mothers, 14.7% in non-Hispanic Black mothers, 9.6% in non-Hispanic mothers of other racial groups, and 9.3% in Hispanic/Latino mothers (Figure 5.5). The percent of preterm births was lower in non-Hispanic White mothers than in non-Hispanic Black and Hispanic/Latino mothers.

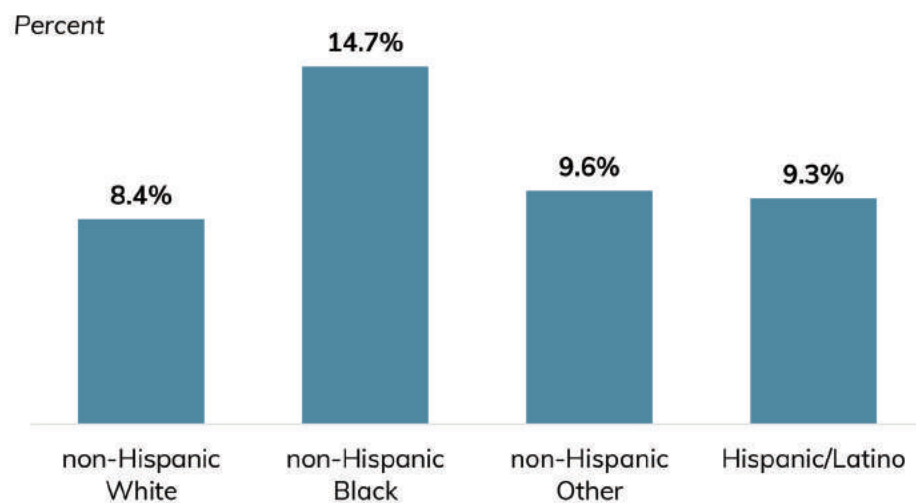
The percent of preterm birth increased as the age of the mother increased. The percent was lower in mothers 15-19 years of age in South Carolina than mothers 20-24 years, 30-34 years, 35-39 years, 40-44 years, and mothers at least 45 years of age (data not shown).

FIGURE 5.4

**Preterm Birth**

Source: SC DHEC Vital Statistics.

FIGURE 5.5

**Preterm Birth, by Race/Ethnicity**

Source: SC DHEC Vital Statistics, 2016.

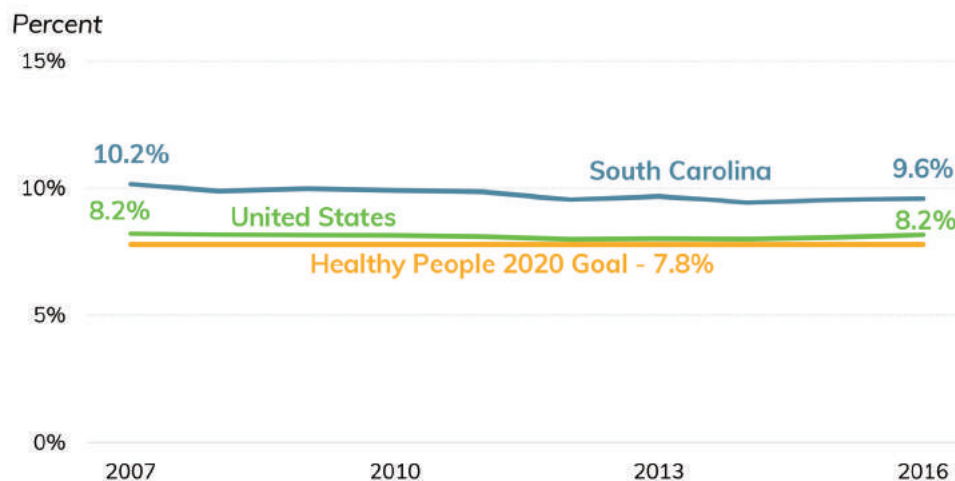
# LOW BIRTHWEIGHT

## Background

Low birthweight is the birth of a baby weighing less than five pounds, eight ounces.<sup>8</sup> Although some low birthweight babies are healthy, others may require special care at birth due to respiratory distress, intestinal complications, bleeding of the brain, or other health problems of varying severity.<sup>8</sup> Babies born at a low birthweight also have increased

risk for developing chronic health conditions later in life.<sup>8</sup> In 2016, the prevalence of low birthweight in South Carolina was 9.6%, with large disparities by race and ethnicity, and by maternal age.<sup>3</sup> Improving the health of the mother before, during, and between pregnancies, and seeking prenatal care early can improve the health of the mother and give the baby the best start at life.<sup>8</sup>

**FIGURE 5.6**  
**Low Birthweight**

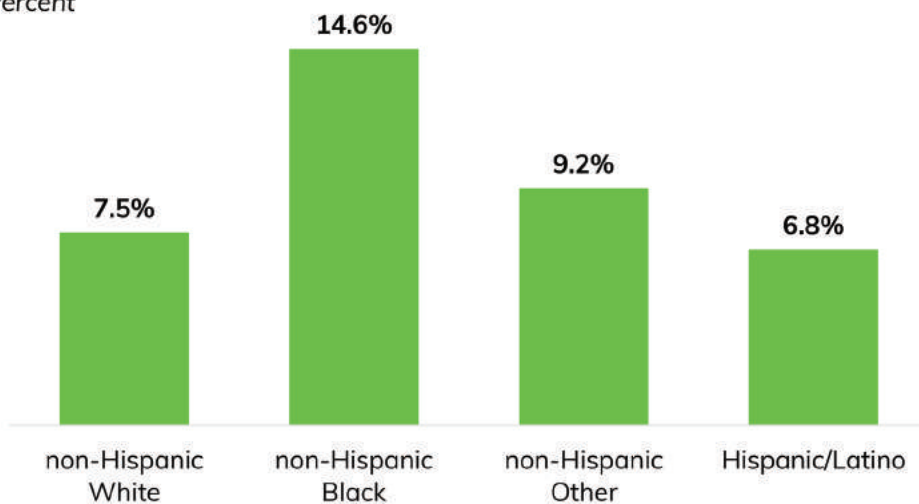


Source: SC DHEC Vital Statistics.

FIGURE 5.7

### Low Birthweight, by Race/Ethnicity

Percent



Source: SC DHEC Vital Statistics, 2016.

## Findings in South Carolina

From 2007 through 2016, the percent of infants born at a low birthweight (<2,500 grams; less than five pounds, 8 ounces) decreased over the ten-year period (Figure 5.6). The percent of low birthweight births in South Carolina during 2016 (9.6%) was higher than the United States percent of 8.2% during the same year. Low birthweight in South Carolina did not meet the Healthy People 2020 target of 7.8%.

During 2016 in South Carolina, the percent of infants born at a low birthweight was 7.5% in non-Hispanic

White mothers, 14.6% in non-Hispanic Black mothers, 9.2% in non-Hispanic mothers of other racial groups, and 6.8% in Hispanic/Latino mothers (Figure 5.7). Overall, the percent of low birthweight births is less in Hispanic/Latino mothers than non-Hispanic White and non-Hispanic Black mothers, and non-Hispanic mothers of other racial groups.

The percent of low birthweight births was lower in mothers 25-29 years of age in South Carolina than mothers 15-19 years, 20-24 years, 35-39 years, 40-44 years, and mothers at least 45 years of age (data not shown).

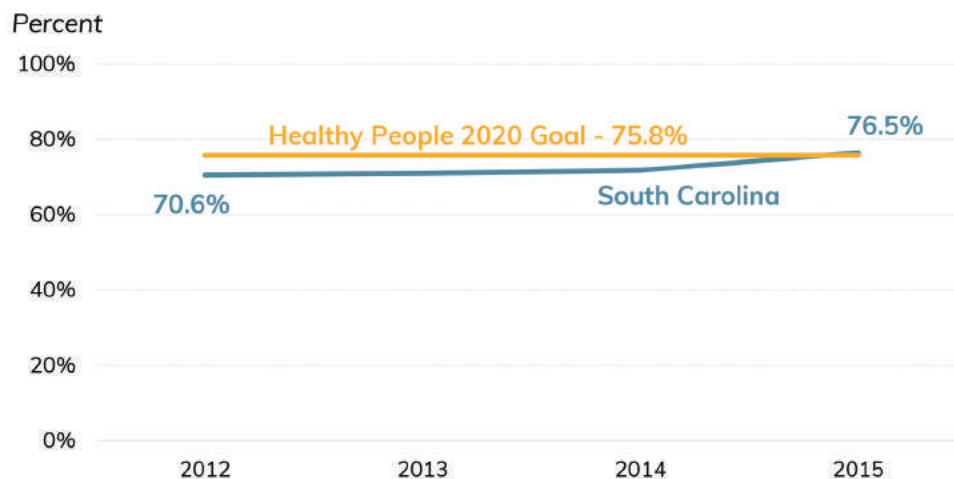
## Background

Sudden Infant Death Syndrome (SIDS) is a leading cause of death for infants in the United States.<sup>3</sup> A safe sleep environment can reduce the risk of SIDS and other sleep-related causes of infant death. It is recommended that infants are

placed to sleep on their backs for naps and bedtime.<sup>9</sup> The Safe to Sleep® campaign (formerly known as the Back to Sleep campaign) is a national effort to raise awareness and educate families, health care providers, and other caregivers about ways to reduce SIDS and other sleep-related causes of infant death.<sup>9</sup>

FIGURE 5.8

### Infants Placed to Sleep on Their Backs Exclusively

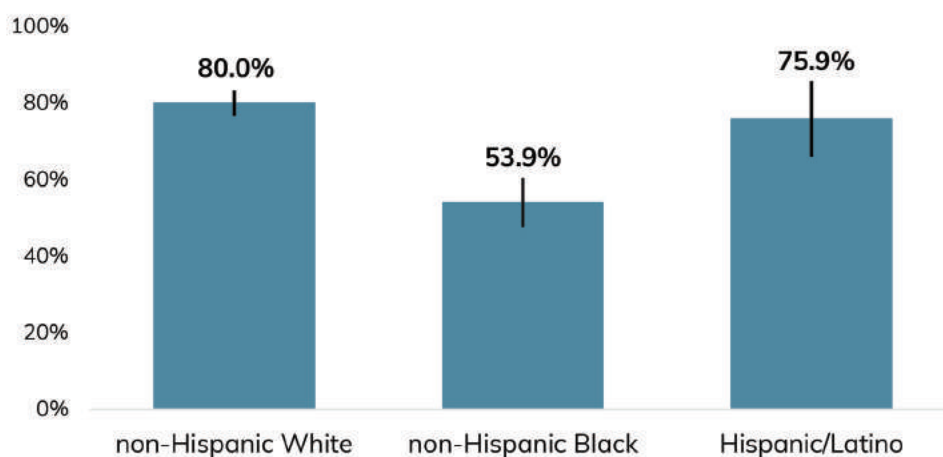


Source: SC DHEC PRAMS.  
Note: Infants less than eight months old.

FIGURE 5.9

### Infants Placed to Sleep on Their Backs Exclusively, by Race/Ethnicity

Percent



Source: SC DHEC PRAMS, 2012-2015.  
Note: Infants less than eight months old.

## Findings in South Carolina

The percent of infants (<8 months old) who were placed to sleep on their backs, exclusively, in South Carolina changed from 70.6% in 2012 to 76.5% in 2015 and is slightly higher than the Healthy People 2020 target of 75.8% (Figure 5.8).

From 2012 to 2015, 80.0% of non-Hispanic White mothers reported placing their infants (<8 months old) to sleep on their backs, exclusively (Figure 5.9). In sharp contrast, the

percent of mothers who reported placing their infant to sleep on their backs was 53.9% in non-Hispanic Black mothers and 75.9% in Hispanic/Latino mothers. Infant back-sleeping in South Carolina was higher in non-Hispanic White mothers and Hispanic/Latino mothers than non-Hispanic Black mothers.

By income, infant back-sleeping was higher in mothers with an annual household income of more than \$52,000 (86.0%) than those having an annual household income of \$26,001-\$37,000 (68.1%), \$15,001-\$26,000 (70.9%), and \$15,000 or less (65.8%).

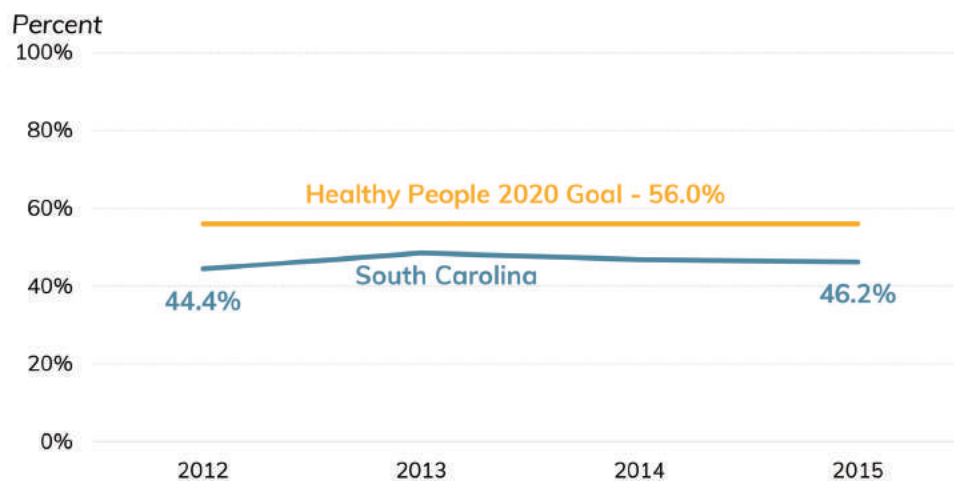
# INTENDED PREGNANCY

## Background

Getting and staying healthy is important for women of all ages. Preconception and interconception care, or the healthcare a woman receives before and between pregnancy, is a critical component of a woman's health, as well as chronic disease prevention.<sup>10</sup> Through regular and appropriate

well-woman counseling, better reproductive life planning can be achieved, chronic diseases can be managed, and unintended pregnancies can be prevented.<sup>11</sup> Encouraging annual well-woman visits for all women of childbearing age and improving access to quality family planning services can prevent medical complications associated with both chronic conditions and unintended pregnancy.

**FIGURE 5.10**  
**Intended Pregnancy**

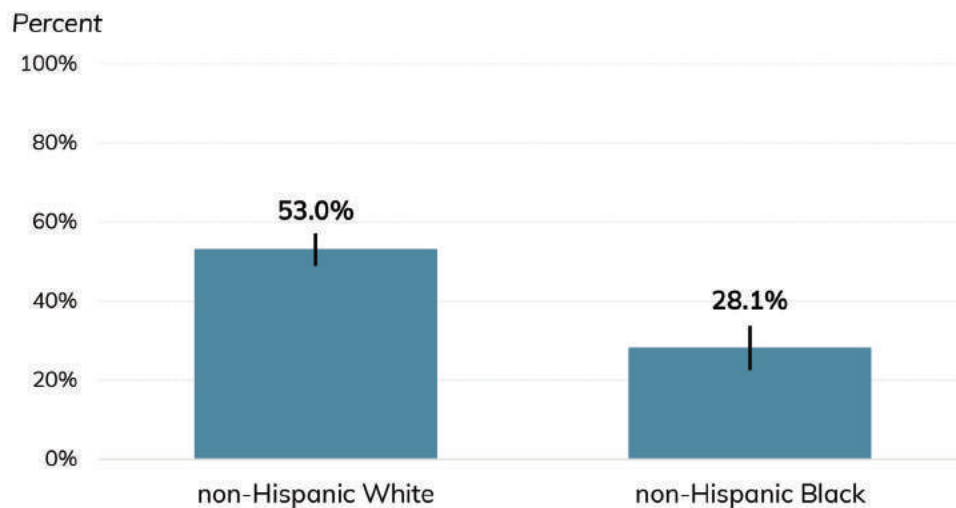


Source: SC DHEC PRAMS.



**FIGURE 5.11**

**Intended Pregnancy, by Race/Ethnicity**



Source: SC DHEC PRAMS, 2012-2015.

## Findings in South Carolina

In 2015, in women of childbearing age (15-44 years old) who had recently given birth in South Carolina, 46.2% reported that their most recent pregnancy was intended (Figure 5.10). Overall, intended pregnancy in South Carolina fell consistently below the Healthy People 2020 target of 56%.

From 2012 to 2015 combined, 53.0% of non-Hispanic White women of childbearing age (15-44 years old) who had recently given birth reported that their most recent pregnancy

was intended, compared to 28.1% of non-Hispanic Black women (Figure 5.11). This measure was higher in non-Hispanic White women than non-Hispanic Black women.

From 2012 to 2015, intended pregnancy was higher in mothers 30-34 years old (62.7%) than mothers 20-24 years old (26.3%). By income, intended pregnancy was higher in mothers with an annual household income of more than \$52,000 (76.8%), than those with an annual household income of \$26,001-\$37,000 (38.5%), \$15,001-\$26,000 (38.5%), and \$15,000 or less (26.4%) (data not shown).

# PRENATAL CARE

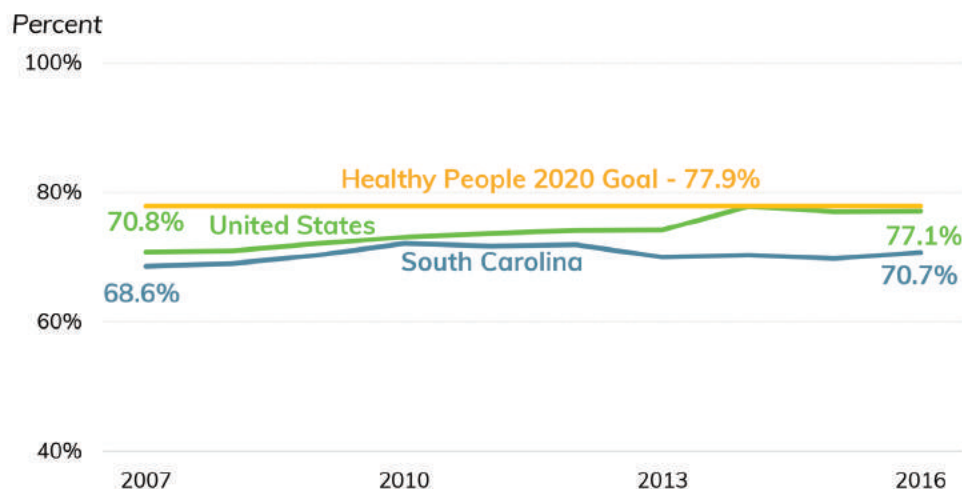
## Background

It is recommended that pregnant women seek prenatal care early and regularly during pregnancy. Early prenatal care is sought by and provided to pregnant women in the first trimester.<sup>12</sup> When seen early, mothers can receive invaluable information and interventions that can improve the health of the mother and their baby. Regular prenatal

care reduces the risk of pregnancy complications, reduces the fetus' risk for complications, and helps to ensure that medications taken during pregnancy are safe.<sup>13, 14, 15</sup> The Healthy People 2020 objective for prenatal care seeks to increase the number of pregnant women who receive prenatal care beginning in the first trimester by 10 percent, from 70.8% to 77.9% by 2020.<sup>2</sup> Barriers to early prenatal care include social, maternal, and economic factors.

FIGURE 5.12

### Mothers Who Initiated Prenatal Care in the First Trimester

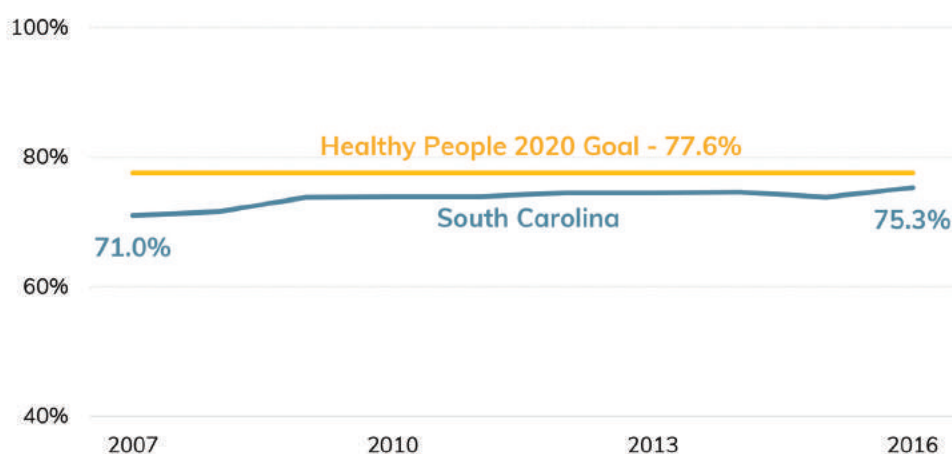


Sources: SC DHEC Vital Statistics, CDC NCHS.

Note: First trimester prenatal care is defined as care initiated in the first three months of pregnancy.

FIGURE 5.13

### Mothers Who Received at Least Adequate Prenatal Care



Source: SC DHEC Vital Statistics.

Note: Adequacy of prenatal care is defined using the Kotelchuck Index, also called the Adequacy of Prenatal Care Utilization Index.

## Findings in South Carolina

There was no statistically significant trend in the percent of mothers who received prenatal care in the first trimester over the ten-year period (2007 to 2016). The United States prevalence of women who received prenatal care in the first trimester was 77.1% in 2016. South Carolina did not meet the Healthy People 2020 target of 77.9% (Figure 5.12). In South Carolina, non-Hispanic White mothers (75.7%) were 1.2 and 1.3 times more likely to receive prenatal care in the first trimester than non-Hispanic Black mothers (65.3%) and Hispanic mothers (56.4%), respectively. Additionally, first trimester prenatal care was higher for mothers of at least 45

years of age (78.8%) than mothers of all other age groups (data not shown).

Though South Carolina did not meet the Healthy People 2020 target of 77.6%, the percent of mothers in South Carolina who received at least adequate prenatal care has increased over the ten-year period (Figure 5.13). Non-Hispanic White mothers (80.0%) were 1.1 and 1.3 times more likely to receive at least adequate prenatal care than non-Hispanic Black mothers (70.7%) and Hispanic mothers (62.3%), respectively. Additionally, the percent who received at least adequate prenatal care was higher in mothers at least 45 years of age (90.6%) than all other age groups (data not shown).

# BREASTFEEDING

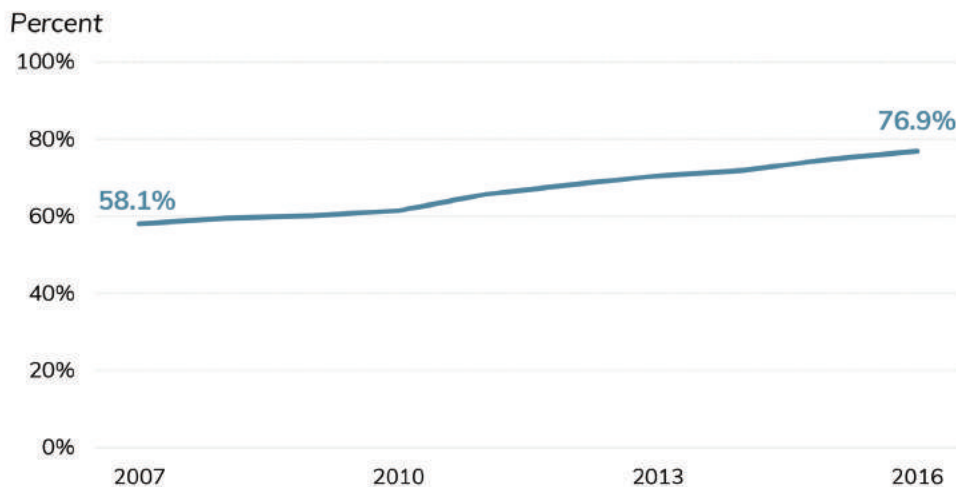
## Background

Breastfeeding is noted as the best source of nutrition for many infants and is mutually beneficial to both mom and baby.<sup>16</sup> The American Academy of Pediatrics recommends that all infants exclusively breastfeed for at least six months.<sup>17</sup> Research has shown that infants who are breastfed have reduced risks of

asthma, type 2 diabetes, ear and respiratory infections, and Sudden Infant Death Syndrome (SIDS).<sup>16</sup> For the mother, these benefits include a reduced risk of heart disease, type 2 diabetes, and ovarian and breast cancers.<sup>16</sup> Hospital practices, workplace breastfeeding policies, education, and support in the form of encouragement are all factors shown to impact breastfeeding initiation and duration.

FIGURE 5.14

### Breastfeeding Initiation

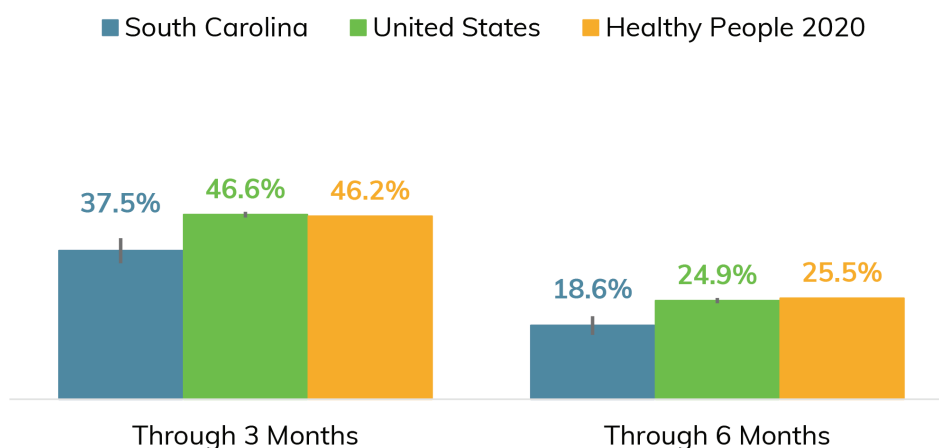


Source: SC DHEC Vital Statistics.  
Note: Among live births.

FIGURE 5.15

### Duration of Exclusive Breastfeeding

Percent



Source: CDC NIS, 2015-2016.  
Note: Among infants.

## Findings in South Carolina

From 2007 through 2016, breastfeeding initiation at birth increased over the ten-year period (Figure 5.14). In 2016, breastfeeding initiation in South Carolina was 76.9%, 19 percentage points higher than in 2007 (58.1%). With respect to age, breastfeeding initiation in 2016 was higher for mothers 30-34 years of age (83.5%) than mothers 15-19 years (63.3%), 20-24

years (69.8%), 25-29 years (77.1%), and 40-44 years (81.0%) (data not shown).

In 2015-2016 combined, 37.5% and 18.6% were breastfed exclusively through three months and six months in South Carolina, respectively (Figure 5.15). Neither measure met the Healthy People 2020 target of 46.2% and 25.5%, respectively. These measures were also lower than those in the United States (46.6% through three months and 24.9% through six months).

## Background

Teen pregnancy continues to be a matter of public concern due to the increased likelihood of lower educational attainment for teen mothers, and the high costs of health care and foster care.<sup>18</sup> The birth rate for teenagers aged 15 to 19 has continuously declined since 1991, reaching historic lows across the United States.<sup>19</sup> Success in the decline may be attributed to increased access to long-acting reversible contraception, delayed

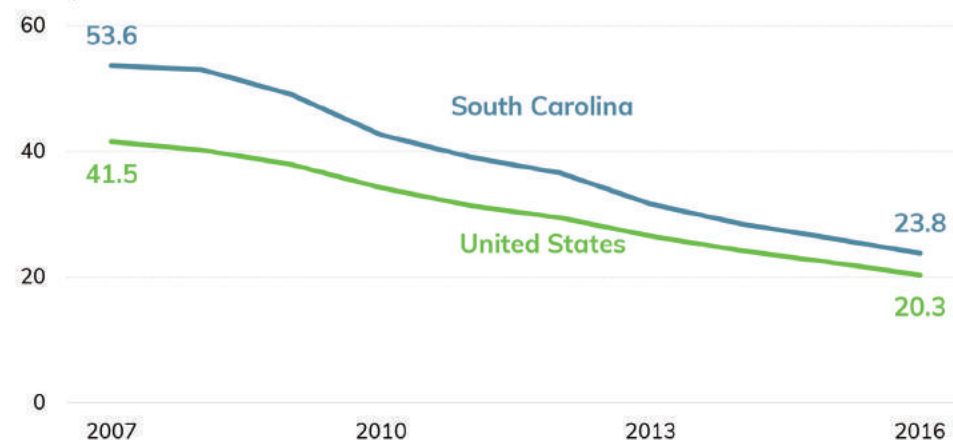
onset of sexual activity, and effective abstinence education.<sup>20</sup>

<sup>21</sup> Despite declines, disparities exist by race and ethnicity.<sup>19</sup> Poverty and educational attainment, among others, are factors associated with increased risk of pregnancy in teens. Teen pregnancy and childbirth is associated with short and long-term impacts on the children of teen mothers, putting them at a greater risk of lower educational attainment, health problems, and unemployment in early adulthood.<sup>22</sup>

FIGURE 5.16

### Teen Birth

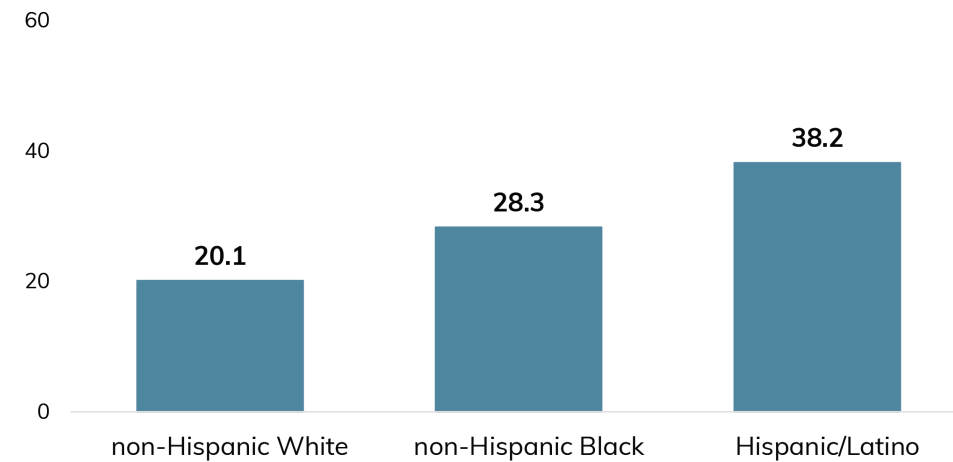
Rate per 1,000 females



Source: SC DHEC Vital Statistics.  
Note: Ages 15-19.

**FIGURE 5.17****Teen Birth, by Race/Ethnicity**

Rate per 1,000 females



Source: SC DHEC Vital Statistics.  
Note: Ages 15-19.

## Findings in South Carolina

From 2007 through 2016, the teen birth rate decreased from 53.6 births per 1,000 female population 15-19 years old to 23.8 births per 1,000 female population 15-19 years, indicating an overall decrease of 56% over the ten-year period (Figure 5.16). The teen birth rate in South Carolina during 2016 was higher than the United States rate of 20.3 births per 1,000 female population 15-19 years old.

In 2016, the teen birth rate (15-19 years old) was 20.1 births per 1,000 female population in non-Hispanic White teens, 28.3 in non-Hispanic Black teens, and 38.2 in Hispanic/Latino teens (Figure 5.17). The birth rate in non-Hispanic White teens was lower than the rate in non-Hispanic Black and Hispanic/Latino teens.

In the 15-17 year old female population, the teen birth rate was 10.0 per 1,000 and 44.3 per 1,000 in the 18-19 year old female population in South Carolina (data not shown).

# PREGNANCY-RELATED DEATH

## Background

A pregnancy-related death is the death of a woman during pregnancy, at delivery, or soon after delivery (within 42 days following birth) from any cause related to pregnancy or its management.<sup>23</sup> Across the United States, approximately 700 women die each year from the result of pregnancy or delivery

complications.<sup>24</sup> Some groups of women experience this tragic event at a much higher rate than other groups.<sup>24,25</sup> To increase the understanding of medical and non-medical contributors to maternal death, many states have convened review committees that are positioned to comprehensively assess these deaths and identify opportunities for prevention.<sup>26</sup>

TABLE 5.4

### Pregnancy-Related Deaths

*Rate per 100,000 live births*

Year	Number of Deaths	Rate
2007	17	27.0
2008	20	31.7
2009	18	29.7
2010	14	24.0
2011	11	19.2
2012	10	17.5
2013	12	21.1
2014	19	33.0
2015	12	20.6
2016	16	27.9
<b>Healthy People 2020 Goal</b>		<b>11.4</b>

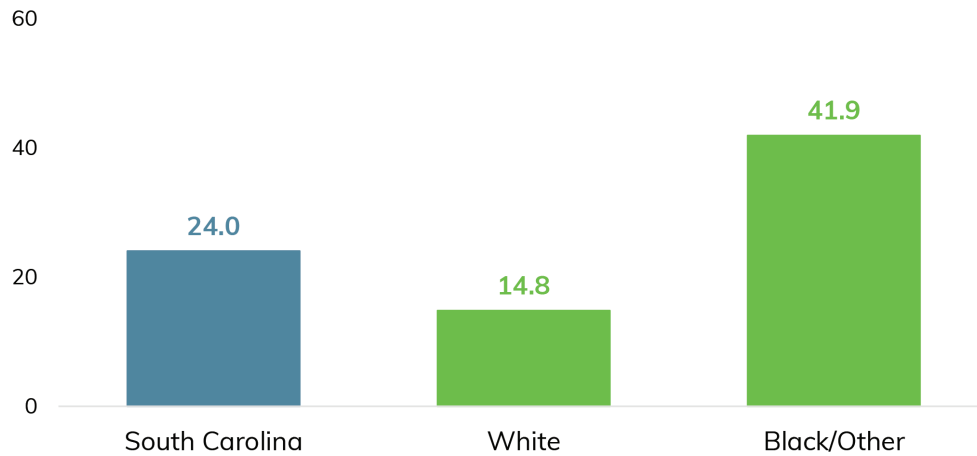
Source: SC DHEC Vital Statistics.



FIGURE 5.18

### Pregnancy-Related Deaths, by Race

Rate per 100,000 live births



Source: SC DHEC Vital Statistics, 2012-2016.

Note: Death within 42 days of giving birth due to causes related to pregnancy.

## Findings in South Carolina

From 2007 through 2016, there was no statistically significant trend in pregnancy-related death over the ten-year period (Table 5.4). In 2016, the pregnancy-related death rate in South Carolina (27.9 deaths per 100,000 live births) was higher than the Healthy People 2020 target of 11.4 deaths per 100,000 live births.

During 2012-2016 combined, there were 24.0 pregnancy-related deaths per 100,000 live births in South Carolina (Figure 5.18). During this period, the pregnancy-related death rate was 2.8 times higher in the Black/Other racial group (41.9 deaths per 100,000 live births), than the White population (14.8 deaths per 100,000 live births).

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# Chronic Disease and Risk Factors

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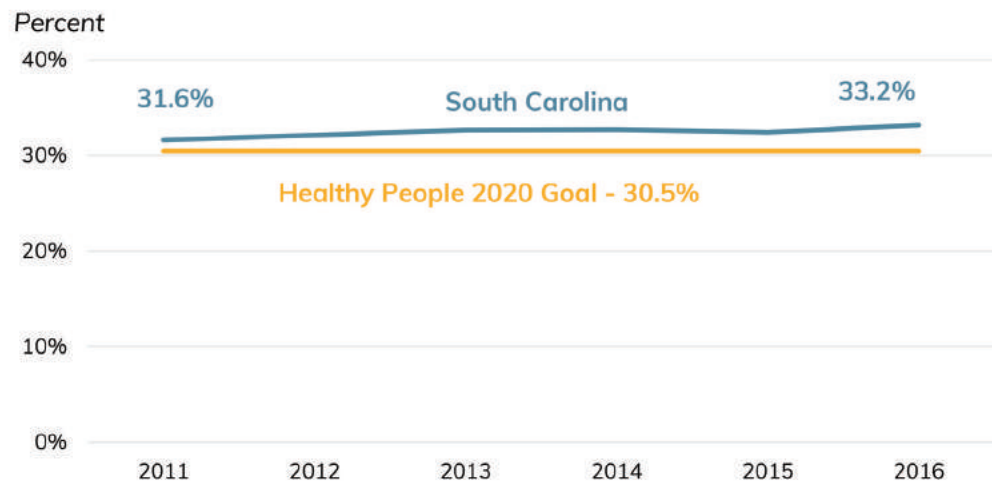
## Background

More than one-third (36.5%) of United States adults are obese.<sup>1</sup> Obesity-related conditions include heart disease, stroke, type 2 diabetes and certain types of cancer. Children who are overweight or obese are at greater risk for high blood pressure, type 2 diabetes and heart disease. Currently, estimates of the medical cost of obesity in the United States range from \$147 billion to \$210 billion per year.<sup>1</sup> Obesity disproportionately affects low-income and rural communities,

as well as certain racial and ethnic groups, including Blacks, Latinos and Native Americans. Obesity threatens our military readiness, as well as the number of individuals capable of serving as first responders, firefighters and police officers. Research indicates that more than 70% of today's youth are not fit to serve in the military due to factors that include obesity or overweight.<sup>2</sup> South Carolina had the 12<sup>th</sup> highest adult obesity rate in the nation in 2016.<sup>3</sup> For adults, overweight was defined as having a BMI 25 to less than 30, and obesity was defined as having a BMI 30.0 or higher.

FIGURE 6.1

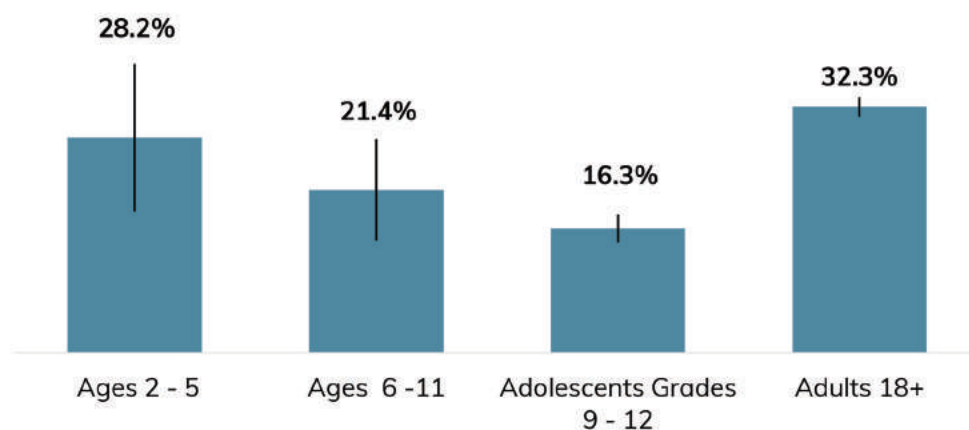
### Adults Who Are Obese



Source: SC DHEC BRFSS.  
Notes: Age-adjusted; adults 20+.

**FIGURE 6.2**  
**Obesity, by Age Group**

Percent



Sources: SC CHAS (children), 2016, SC DE YRBSS (adolescents), 2015, SC DHEC BRFSS (adults), 2016.

## Findings in South Carolina

The prevalence of obesity among adults 20 years of age or older in South Carolina increased from 31.6% in 2011 to 33.2% in 2016; however, this was not statistically significant (Figure 6.1). The prevalence of obesity was higher than the Healthy People 2020 target of 30.5%.

In 2016, the prevalence of obesity among non-Hispanic Blacks was 42.8%, and was higher compared to non-Hispanic Whites (30.2%). The

prevalence of obesity was higher among adults with annual household incomes less than \$15,000 (40.8%) than among those with income \$50,000 and higher (28.4%). In 2016, the prevalence of obesity was higher among adults with a disability (41.2%) than among those without a disability (28.8%; data not shown).

In 2016, 28.2% of children 2 to 5 years of age and 21.4% of children 6 to 11 years of age were obese (Figure 6.2). The prevalence of obesity among students in grades 9-12 in 2015 was 16.3%.

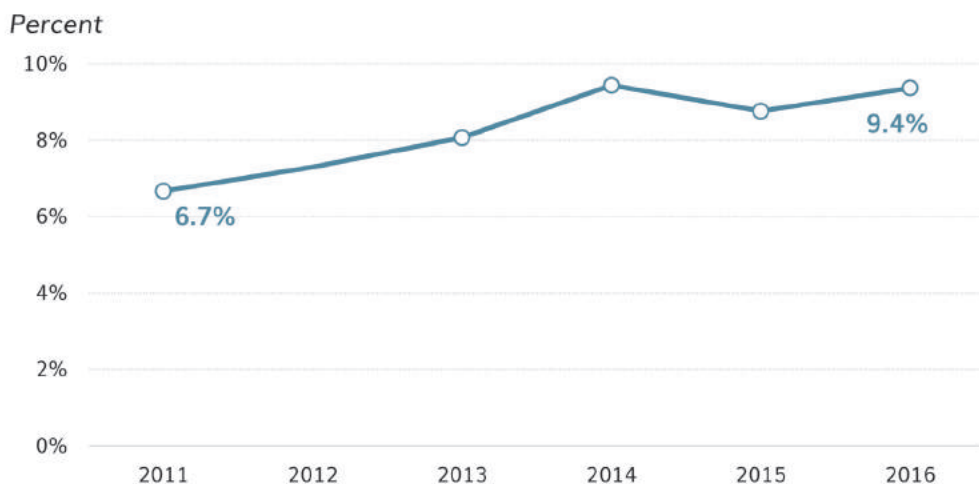
# PREDIABETES

## Background

Prediabetes, sometimes called "borderline diabetes", is a condition in which someone has a blood sugar (glucose) level above normal but not yet in the diabetes range.

People with prediabetes are more likely to develop type 2 diabetes, heart disease, or experience a stroke.<sup>4</sup> Without lifestyle changes to improve their health, 15% to 30% of people with prediabetes will develop type 2 diabetes within five years.<sup>5</sup>

**FIGURE 6.3**  
**Adults with Prediabetes**



Source: SC DHEC BRFSS.  
Note: Adults 18+.



## Findings in South Carolina

The prevalence of adults in South Carolina diagnosed with prediabetes increased from 6.7% in 2011 to 9.4% in 2016 (Figure 6.3).

In 2016, the prevalence of prediabetes was higher in non-Hispanic Blacks (12.5%) compared

to non-Hispanic Whites (8.5%). The prevalence of prediabetes was higher in those with an annual household income of less than \$15,000 (14.0%) than those with an annual household income \$50,000 and higher (7.5%). The prevalence of prediabetes was higher in those with a disability (14.7%), than those without a disability (6.9%; data not shown).

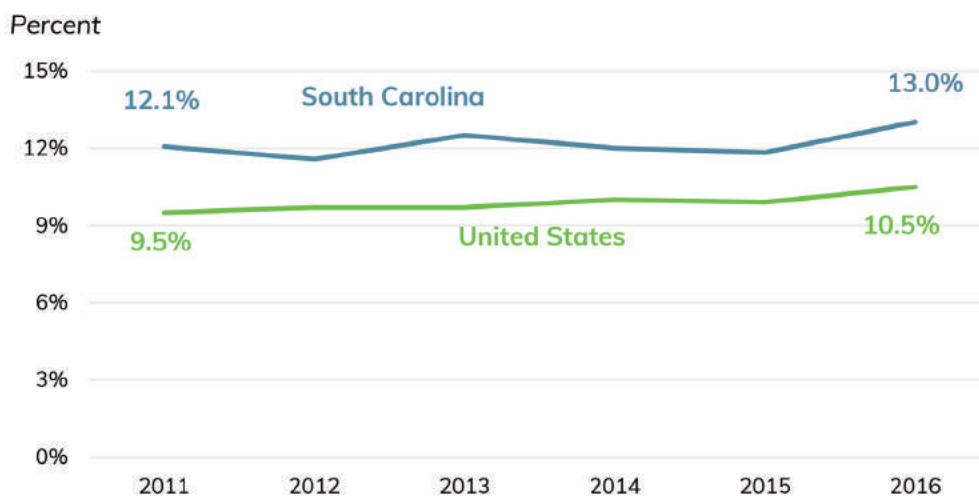
## Background

Diabetes is a costly chronic condition that can be prevented or delayed. Diabetes is disproportionately concentrated among non-Hispanic Blacks, Hispanics/Latinos, and persons of lower socioeconomic status.<sup>6</sup> The prevalence of diabetes in the United States has steadily increased,

and the actual prevalence may be higher because many adults are undiagnosed and thus unaware that they have the condition. People with diabetes have nearly twice the odds of being obese, having arthritis and having hypertension than people without diabetes, and have over four times the odds of a heart attack, a stroke or heart disease than people without diabetes.

FIGURE 6.4

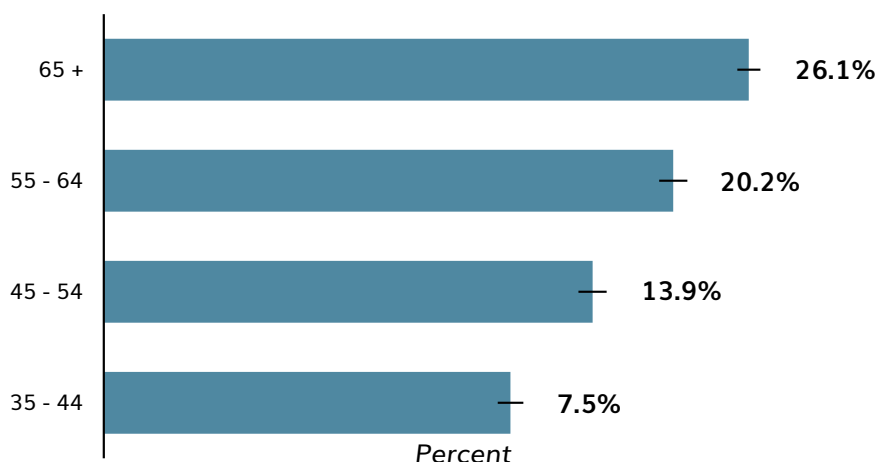
### Adults with Diabetes



Sources: SC DHEC BRFSS, CDC BRFSS.  
Note: Adults 18+.

**FIGURE 6.5****Adults with Diabetes, by Age Group**

Age Group



Source: SC DHEC BRFSS, 2016.

Note: Estimates for age 18-34 respondents were not included due to small numbers.

## Findings in South Carolina

The prevalence of adults with diabetes varied from 12.1% in 2011 to 13.0% in 2016, but the change was not statistically significant (Figure 6.4). In 2016, the median prevalence of diabetes in the United States was 10.5%. The prevalence of diabetes was higher among adults aged 65 or older than among those under age 65 (Figure 6.5).

In 2016, the prevalence of diabetes was higher in non-Hispanic Blacks (16.9%) than in non-Hispanic Whites (11.7%), and higher in those with an annual household income of less than \$25,000 than those with an annual household income of \$50,000 or more (9.4%). The prevalence of diabetes was higher in adults who were disabled (23.5%) than among those who were not disabled (7.7%; data not shown).

# HYPERTENSION

## Background

Hypertension (high blood pressure) is often called the “silent killer” because, with the exception of extreme cases, it has no symptoms.<sup>7</sup> Nearly one in three United States

adults have high blood pressure, and only about half (54%) of these people have their high blood pressure under control.<sup>8</sup> People with uncontrolled high blood pressure are three times more likely to die of heart disease.<sup>9</sup>

**FIGURE 6.6**  
**Adults with Hypertension**

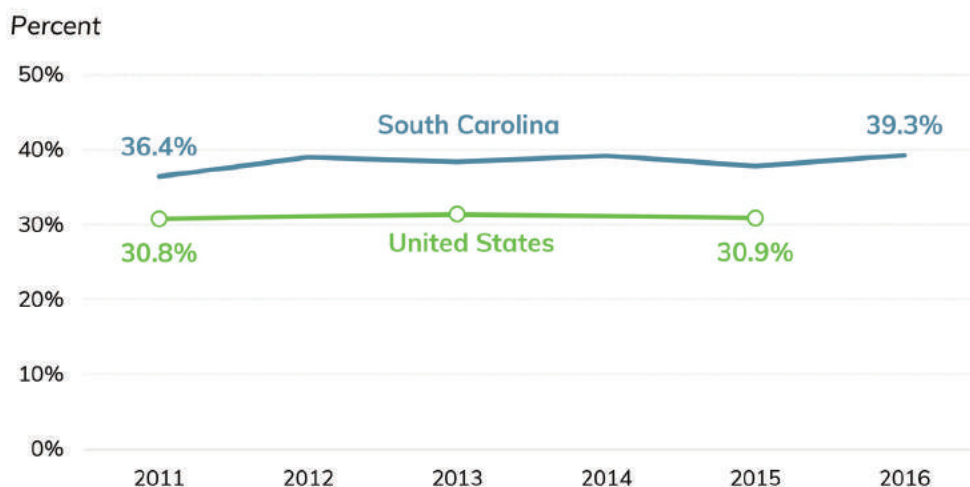
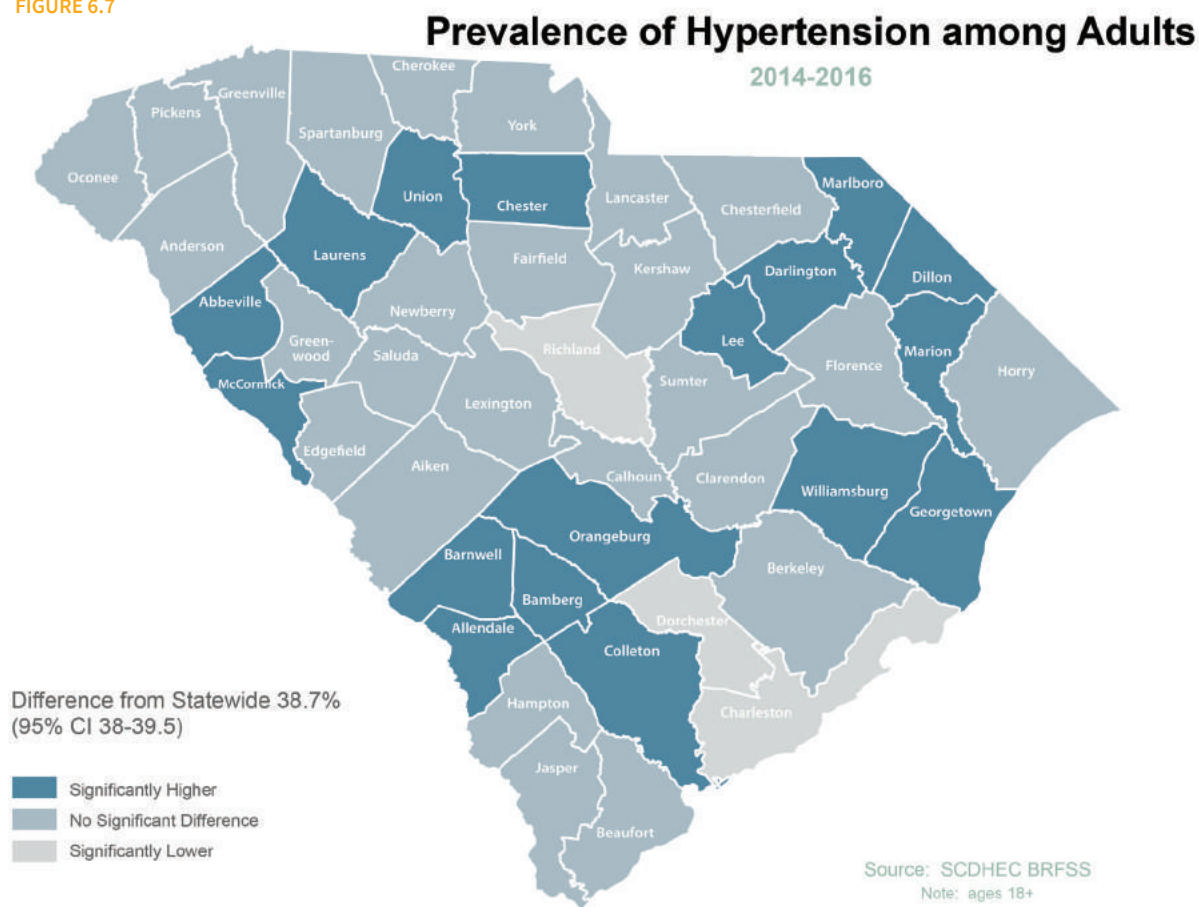


FIGURE 6.7



## Findings in South Carolina

In 2016, more than one-third (39.3%) of adults in South Carolina had hypertension (Figure 6.6). In 2015, the median prevalence in the United States was 30.9%.

In 2016, the prevalence of hypertension increased with age. The prevalence of hypertension was higher in non-Hispanic Blacks (45.2%) than in non-Hispanic Whites (38.1%), but there was no statistically significant difference between

males (39.6%) and females (39.0%). The prevalence of hypertension was higher in those with an annual household income of less than \$15,000 (50.5%), than in those with an annual household income of \$50,000 and greater (32.7%). The prevalence of hypertension was higher in those with a disability (56.2%) than in those without a disability (30.1%; data not shown).

Seventeen counties had a prevalence of hypertension higher than the state average at 38.7% (Figure 6.7).

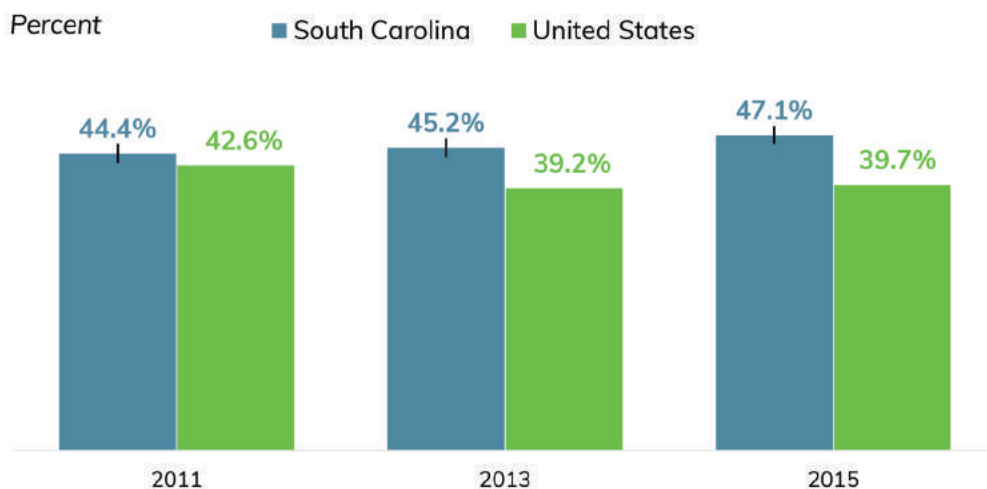
## Background

A healthy diet helps Americans reduce their risks for many health conditions, including overweight and obesity, malnutrition, iron-deficiency anemia, heart disease, high blood pressure, dyslipidemia (poor lipid profiles), type 2 diabetes, osteoporosis, oral disease, constipation, diverticular disease, and some cancers.<sup>10</sup> Good nutrition

is also important for the growth and development of children. Diet reflects the variety of foods and beverages consumed over time and in settings such as worksites, schools, restaurants, and the home. Interventions to support a healthier diet can help ensure that individuals have the knowledge and skills to make healthier choices and can ensure that healthier options are available and affordable.

**FIGURE 6.8**

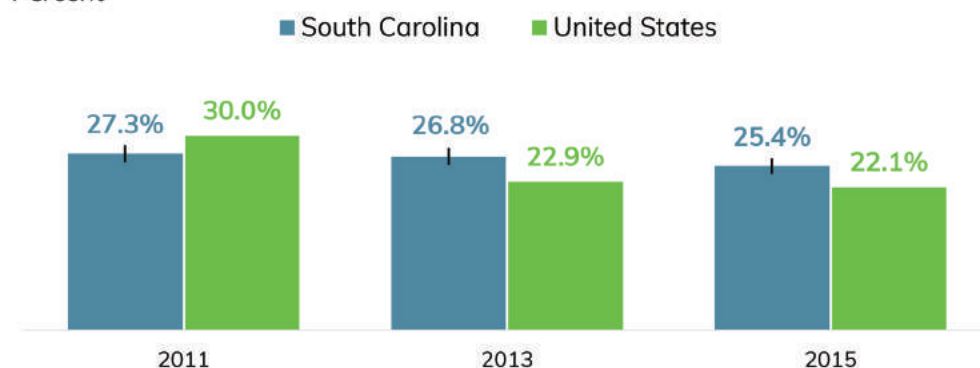
### Adults Who Did Not Eat Fruit at Least Once a Day



Sources: SC DHEC BRFSS, CDC BRFSS.  
Note: Adults 18+.

**FIGURE 6.9****Adults Who Did Not Eat Vegetables at Least Once a Day**

Percent



Sources: SC DHEC BRFSS, CDC BRFSS.

Note: Adults 18+.

## Findings in South Carolina

In South Carolina, the percent of adults who did not eat fruit at least once per day increased from 2011 to 2015, though not statistically significant (44.4% versus 47.1%; Figure 6.8). In 2015, the median percentage of adults not eating fruit at least once a day was 39.7% in the United States.

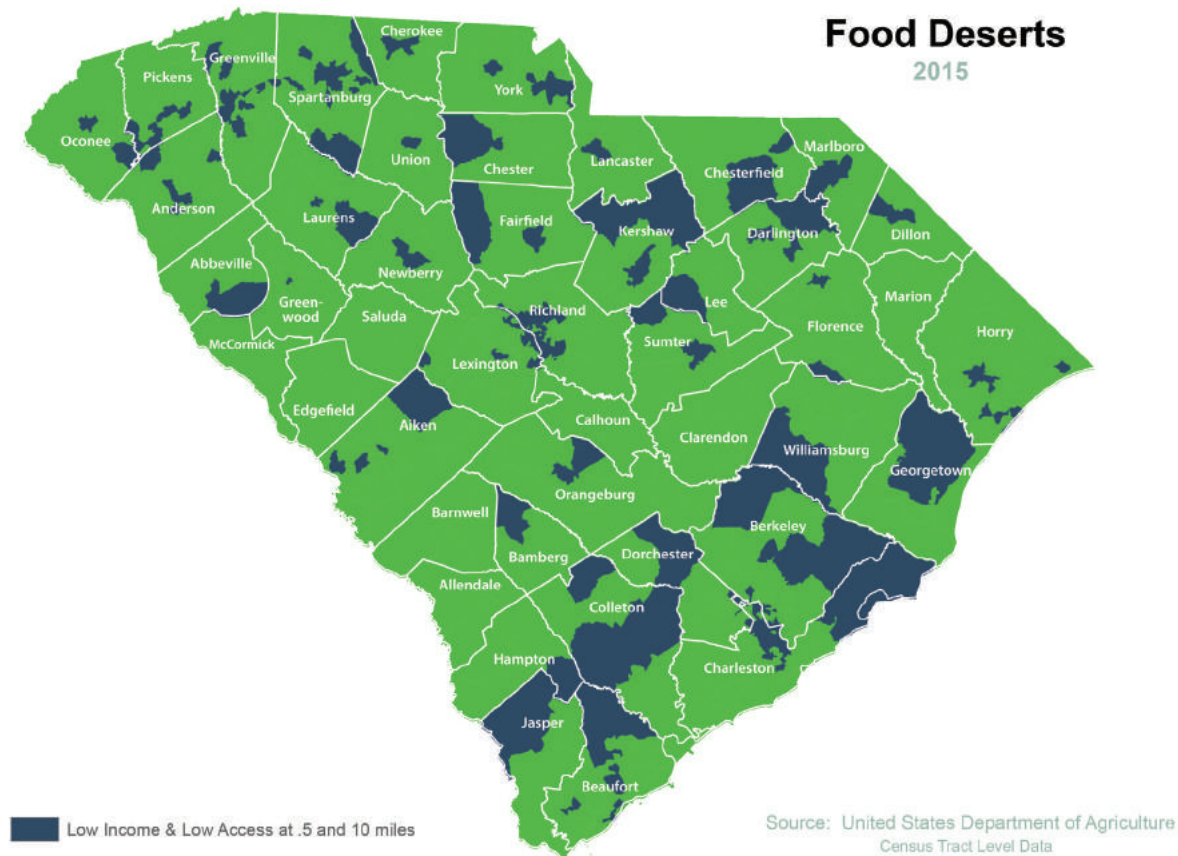
Males (52.3%) had a higher prevalence of not eating fruits than females (42.5%). Disabled adults (49.5%) also reported higher prevalence of not eating fruit at least once a day compared to nondisabled adults (45.9%) in 2015, though not statistically significant. The prevalence of those who consumed fruit less than one time

per day was higher in those less than 25 years old (54.4%) compared to those 65 years or older (40.9%; data not shown).

In South Carolina, the prevalence of adults who consumed vegetables less than one time per day did not statistically change from 2011 to 2015 (Figure 6.9).

The prevalence of those who consumed vegetables less than one time per day was higher in those with an annual household income of less than \$15,000 (37.8%) compared to those with an annual household income of \$50,000 or higher (16.1%). The prevalence of those who consumed vegetables less than one time per day was higher in those with a disability (30.4%) than those without a disability (22.9%; data not shown).

FIGURE 6.10



## Food Deserts

Areas in South Carolina that are considered food deserts, where residents of low-income neighborhoods do not have easy access to a supermarket or large grocery store, are indicated in blue (Figure 6.10). Food deserts are scattered throughout the state, and large areas are found along the coast.





# PHYSICAL ACTIVITY

## Background

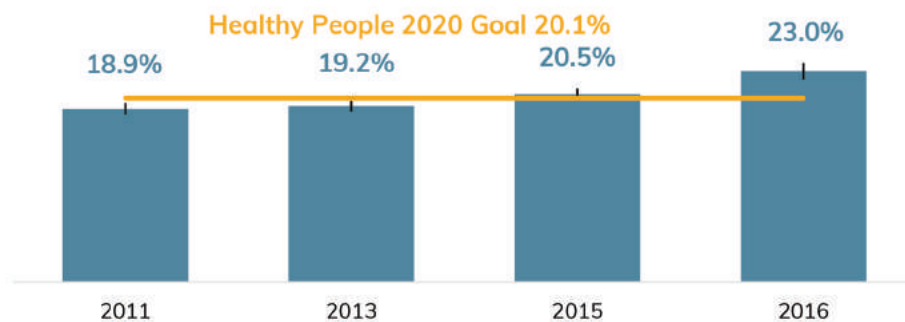
Regular physical activity can improve the health and quality of life of all ages, regardless of the presence of a chronic disease or disability. Among adults and older adults, physical activity can lower the risk of early death, coronary heart disease, stroke, high blood pressure, type 2 diabetes, breast and colon cancer, falls, and depression. However, many adults do not meet the guidelines for aerobic and muscle-strengthening activities.<sup>11</sup> Around \$117 billion in United States health care costs are associated with inadequate physical activity.<sup>12</sup>

Among children and adolescents, physical activity can improve bone health, and cardiorespiratory and muscular fitness. Physical activity can decrease levels of body fat, reduce symptoms of depression, and improve cognitive skills. Environmental influences positively associated with physical activity among children and adolescents include presence of sidewalks, having a destination within walking distance, access to public transportation, low traffic density, and access to neighborhood or school play area and/or recreational equipment.<sup>11</sup>

FIGURE 6.11

### Adults Who Met Physical Activity Recommendations

Percent



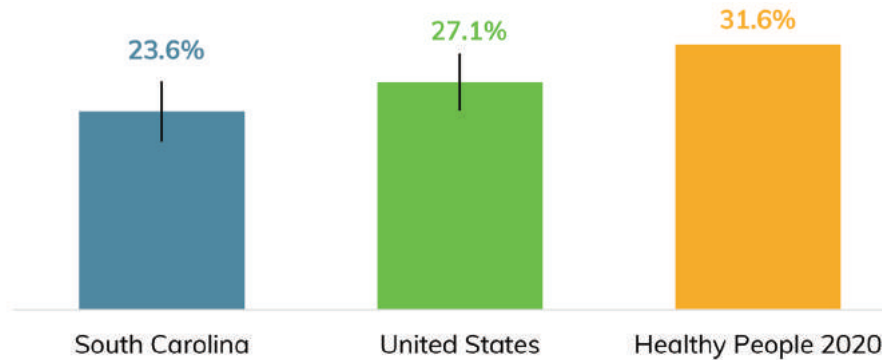
Source: SC DHEC BRFSS.

Note: Adults 18+ who met the objectives for aerobic physical activity (150 minutes per week) and for muscle strengthening activity (2 times per week), age-adjusted.

FIGURE 6.12

### Adolescents Who Met Physical Activity Recommendations

Percent



Sources: SC DE YRBSS, CDC YRBSS, 2015.

Note: High school students in grades 9-12 who were physically active at least 60 minutes per day on all 7 days before the survey.

## Findings in South Carolina

The prevalence of adults who met physical activity guidelines for both aerobic and muscle training increased from 18.9% in 2011 to 23.0% in 2016, and surpassed the Healthy People 2020 objective of 20.1% (Figure 6.11).

In 2016, the prevalence of those meeting both physical activity and strength recommendations was higher in those with an annual household income of \$50,000 or more (31.9%), compared to those with an annual household income of less than \$15,000 (13.3%). There was not a statistically significant difference in the percent of adults that met physical activity recommendations by race (non-Hispanic Blacks (21.3%), non-Hispanic Whites (23.6%) in 2016). Males (28.3%) had a higher prevalence of meeting recommended levels of physical activity than females (18.2%), and the percent of adults who were not

disabled (28.3%) was higher than those with disabilities (13.2%; data not shown).

In 2015, 23.6% of South Carolina high school students met the federal physical activity guidelines for aerobic physical activity (Figure 6.12). As of 2015, South Carolina had not yet met the Healthy People 2020 goal of 31.6% but this was not statistically significantly different than the United States percentage (27.1%).

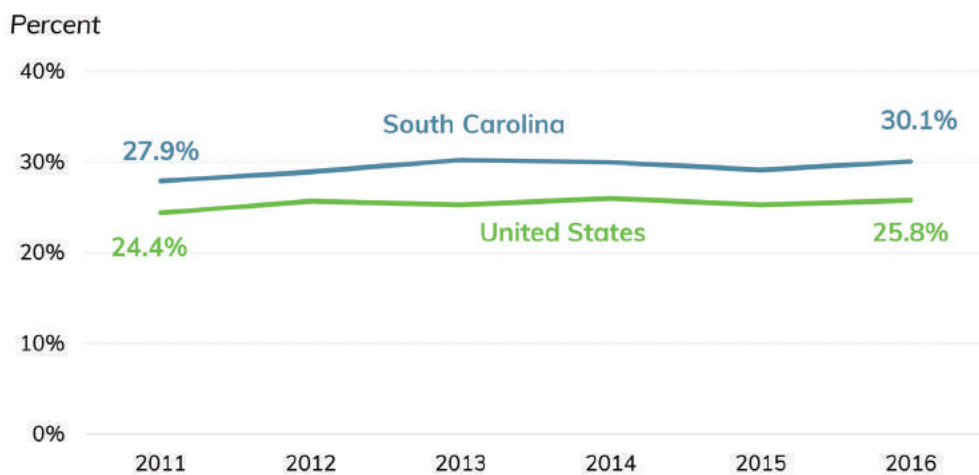
The proportion of high school students who met the federal physical activity guidelines for aerobic physical activity was highest among those in the 12<sup>th</sup> grade at 25.6%, followed by those in the 9<sup>th</sup> grade at 23.9%, 10<sup>th</sup> grade at 23.0%, and 11<sup>th</sup> grade at 22.0%. The prevalence among non-Hispanic White students was higher than among non-Hispanic Black students. Male high school students at 34% were higher than female students at 13.6% to have been physically active for at least 60 minutes daily (data not shown).

## Background

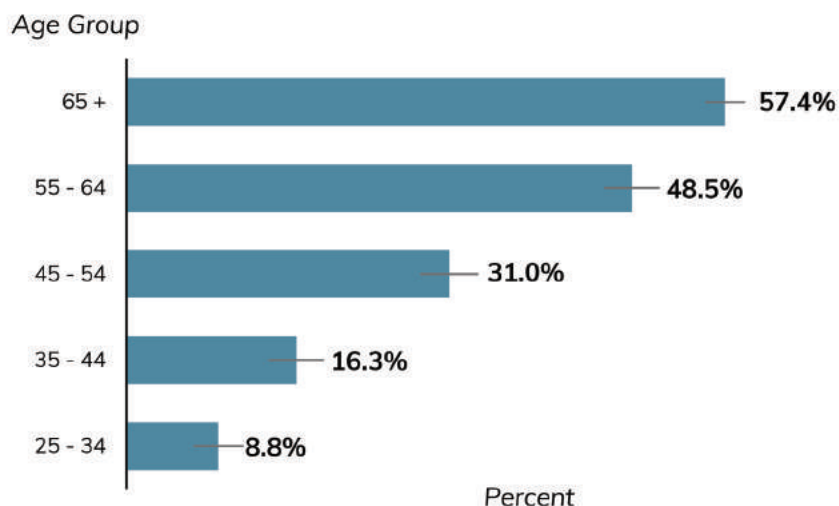
Arthritis is the term used to describe more than 100 diseases and conditions that affect joints, the tissues that surround the joint, and other connective tissue.<sup>13</sup> Symptoms vary depending on the specific form of the disease, but typically include pain, swelling and stiffness in and around one or more joints. Some forms of arthritis affect the immune system and internal organs. Arthritis is an expensive and growing public health issue. An estimated 54.4 million United States

adults have arthritis. In 2013, the total national arthritis-attributable medical care costs and earnings losses among adults with arthritis were \$303.5 billion.<sup>13</sup> Due to joint pain, stiffness, and swelling, many people experience limited range of motion, making it the most common cause of disability in the United States among adults and particularly among persons with multiple chronic conditions. Arthritis is even more common among people with other chronic health conditions, especially obesity, diabetes, and heart disease, making these diseases even more difficult to manage.<sup>14</sup>

**FIGURE 6.13**  
**Adults with Arthritis**



Sources: SC DHEC BRFSS, CDC BRFSS.  
Note: Adults 18+.

**FIGURE 6.14****Adults with Arthritis, by Age Group**

Source: SC DHEC BRFSS, 2016.

Note: Estimates for ages 18-24 respondents were not included due to small numbers.

## Findings in South Carolina

The percent of adults in South Carolina who have been told they have arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia increased from 27.9% in 2011 to 30.1% in 2016, though not statistically significant (Figure 6.13). In 2016, the median percentage of arthritis was 25.8% in the United States.

Non-Hispanic Whites (32.7%) had a higher prevalence compared to non-Hispanic Blacks (26.7%) in 2016. Female adults (33.2%) had a higher prevalence of arthritis than males (26.7%). The prevalence among disabled adults (56.2%) was three times higher than those adults who were not disabled (16.8%; data not shown).

Over 57% of adults ages 65 years or older reported having arthritis in 2016. (Figure 6.14). The prevalence among younger adults was lower than among older adults.

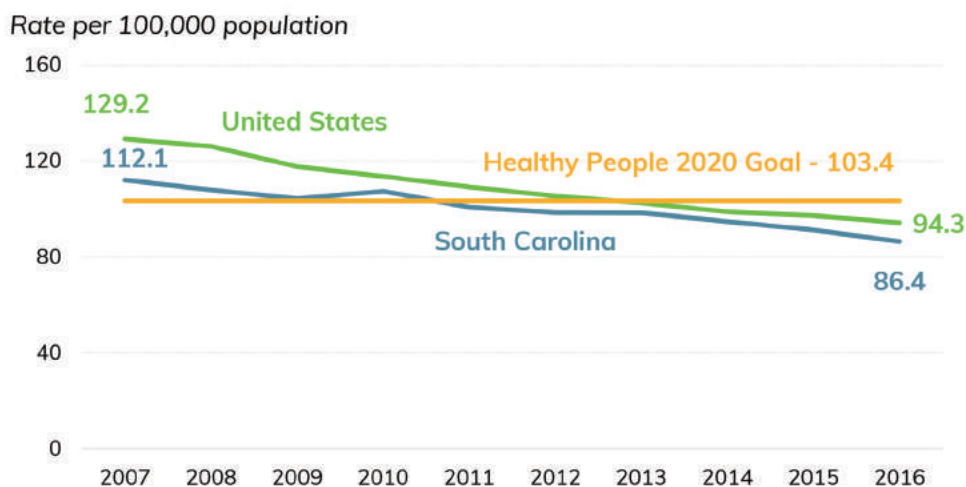
# HEART DISEASE

## Background

About 610,000 Americans die each year from heart disease. Heart disease is the leading cause of death and disability in the United States. Together, heart disease and stroke, along with other cardiovascular diseases, are among the most widespread and costly health problems facing the United States today, annually accounting for approximately \$320 billion in

health care expenditures and related expenses.<sup>15</sup> Fortunately, they are also among the most preventable. The burden of cardiovascular disease is disproportionately distributed across the population. There are significant disparities in gender, age, race/ethnicity, geographic area, and socioeconomic status.<sup>16,17</sup> The most common form of heart disease in the United States is coronary heart disease, which can lead to heart attack.<sup>18</sup>

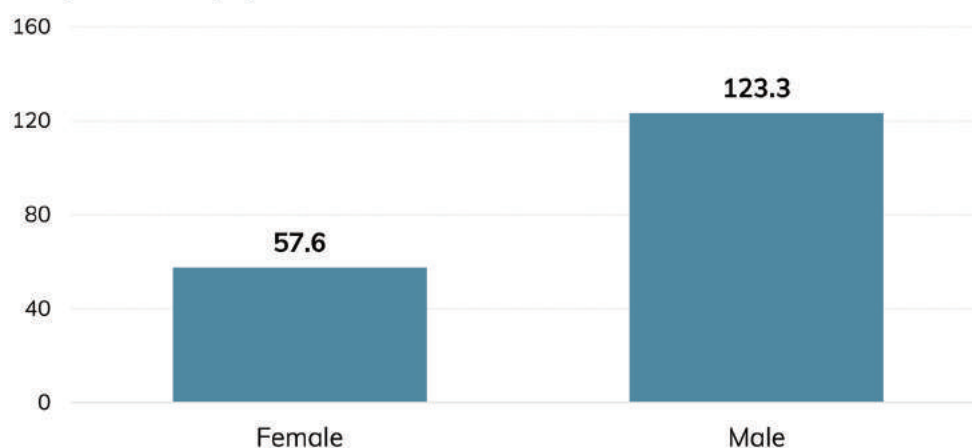
**FIGURE 6.15**  
**Coronary Heart Disease Deaths**



Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.

**FIGURE 6.16****Coronary Heart Disease Deaths, by Sex**

Rate per 100,000 population

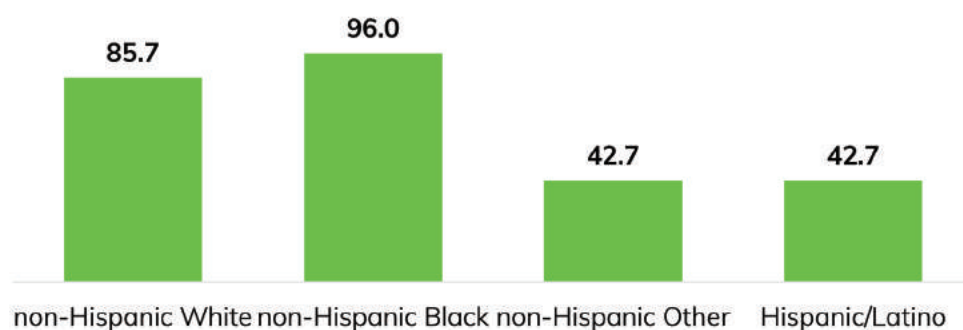


Source: SC DHEC Vital Statistics, 2016.

Note: Age-adjusted.

**FIGURE 6.17****Coronary Heart Disease Deaths, by Race/Ethnicity**

Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2016.

Note: Age-adjusted.

## Findings in South Carolina

From 2007 to 2016, there was a decrease in the death rate of coronary heart disease in South Carolina from 112.1 in 2007 to 86.4 in 2016 (Figure 6.15). South Carolina had a lower death rate compared to the United States (94.3 per 100,000) and met the Healthy People 2020 goal of 103.4 coronary heart disease

deaths per 100,000 population in 2016. Male residents had a higher death rate than female residents (Figure 6.16). Non-Hispanic Blacks (96.0 per 100,000) experienced a higher death rate than non-Hispanic Whites (85.7 per 100,000) in South Carolina (Figure 6.17). Hispanic/Latinos and non-Hispanic Other residents had a lower death rate than non-Hispanic White residents in 2016.

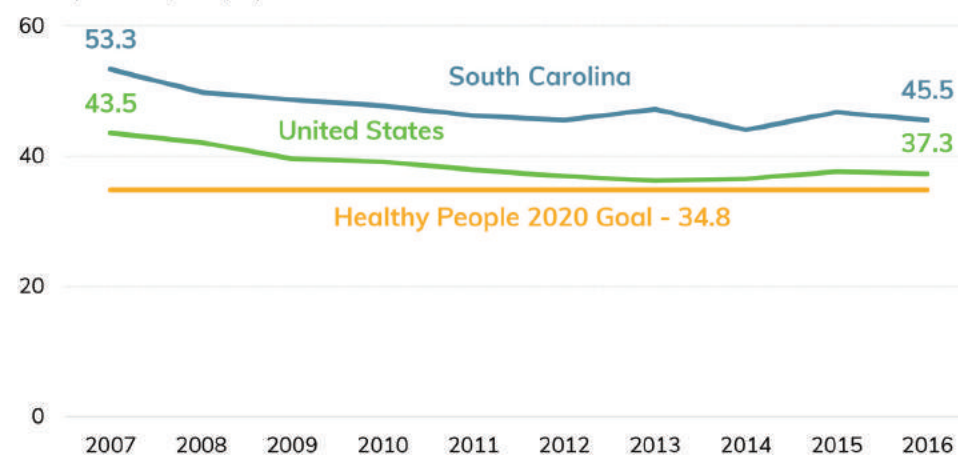
## Background

A stroke occurs when something blocks the blood supply to part of the brain, or when a blood vessel in the brain bursts.<sup>19</sup> Stroke was the fifth leading cause of death in the United States in 2016, and is a leading cause of serious, long-term disability in the United States. About 795,000 people in the United States have a stroke each year.<sup>19,20</sup> According to the most

recent national data available (2016), South Carolina had the sixth highest stroke death rate in the nation and is part of the "Stroke Belt," a group of Southeastern states with high stroke death rates. Stroke was the fifth leading cause of death in South Carolina, resulting in 2,627 deaths in 2016 (see Figure 2.2). Stroke resulted in 16,484 hospitalizations in South Carolina in 2016, with charges of more than \$952 million.

**FIGURE 6.18**  
**Stroke Deaths**

Rate per 100,000 population



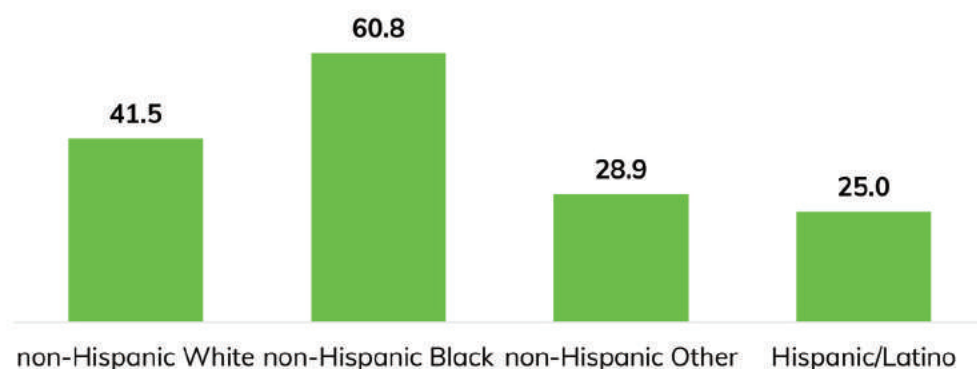
Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.



FIGURE 6.19

### Stroke Deaths by Race/Ethnicity

Rate per 100,000 population



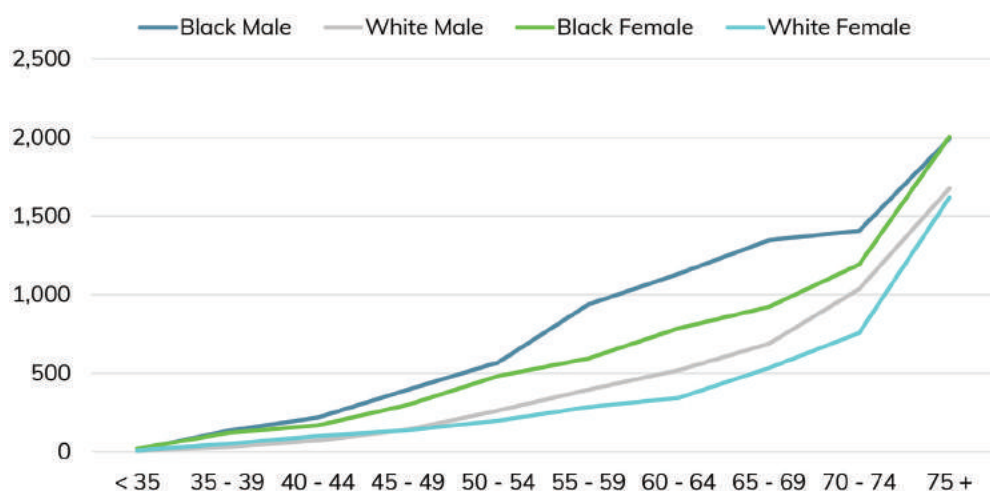
Source: SC DHEC Vital Statistics, 2016.

Note: Age-adjusted.

FIGURE 6.20

### Stroke Hospitalizations, by Race/Sex and Age Group

Rate per 100,000 population



Source: RFA Inpatient Discharges, 2016.

Note: Primary diagnosis.

## Findings in South Carolina

South Carolina has decreased in stroke death from 53.3 per 100,000 in 2007 to 45.5 per 100,000 in 2016 (Figure 6.18). South Carolina had a higher rate than the United States in 2016 (37.3 per 100,000) and did not meet the Healthy People 2020 goal of 34.8 per 100,000. In 2016, the stroke death rate was higher in non-Hispanic Blacks (60.8 per 100,000)

compared to non-Hispanic Whites (41.5 per 100,000; Figure 6.19).

For male and female residents of South Carolina, males (47.0 per 100,000) had a higher death rate than females (43.6 per 100,000) in 2016 (data not shown).

For ages 35 to 75, black males had the highest stroke inpatient hospitalization rates (Figure 6.20). For ages 75 years and older, black females had the highest rate.

Background

Continued advances in cancer research, detection, and treatment have resulted in a decline in both incidence and death rates for all cancers.<sup>21</sup> In the United States, cancer remains a leading cause of death, second only to heart disease.<sup>20,22</sup> In South Carolina, cancer has surpassed heart disease in recent years as the leading cause of death.<sup>23</sup> South Carolina ranks 32<sup>nd</sup>

in the nation for new cases of cancer, however, ranks 14<sup>th</sup> for deaths due to cancer.<sup>24</sup> Approximately 50% to 75% of cancer deaths are caused by three preventable lifestyle factors: tobacco use, poor nutrition, and lack of exercise.<sup>25</sup> Some cancer types cannot be prevented, but there are actions that individuals can take to help reduce their risk and increase the likelihood that if cancer does occur, it can be found at an early, more treatable stage.

TABLE 6.1  
Leading Number of New Cases of Cancer, SC 2015  
Total = 27,234

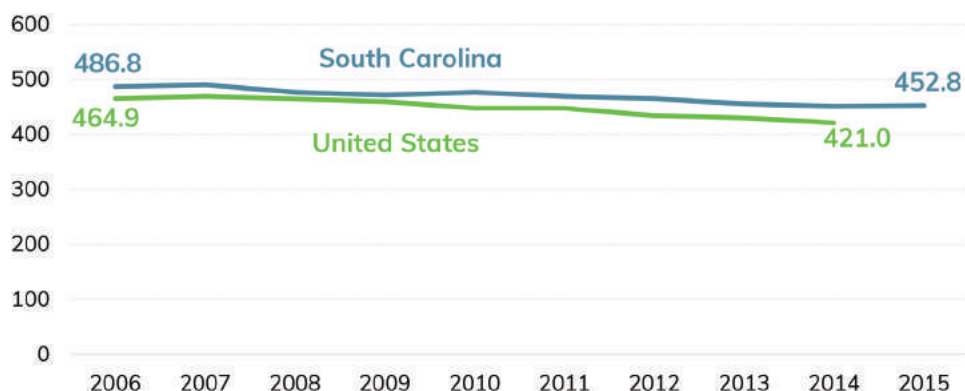
Site	Number
Female Breast	4,077
Lung and Bronchus	4,017
Prostate	3,521
Colon and Rectum	2,320
Melanoma of Skin	1,293

TABLE 6.2  
Leading Number of Cancer Deaths, SC 2016  
Total = 10,349

Site	Number
Lung and Bronchus	2,701
Colon and Rectum	880
Female Breast	743
Pancreas	739
Prostate	532

**FIGURE 6.21****Cancer New Cases**

Rate per 100,000 population



Sources: SC DHEC CCR, SEER\*Stat Database: NPCS and SEER Incidence - Public Use Data.  
 Note: Age-adjusted.

## Findings in South Carolina

In 2015, there were 27,234 new cases of cancer in South Carolina (Table 6.1). In 2015, female breast cancer, and cancer of the lung and bronchus, and prostate cancer contributed the greatest number of new cases among South Carolina residents, followed by cancer of the colon and rectum, and melanoma of skin.

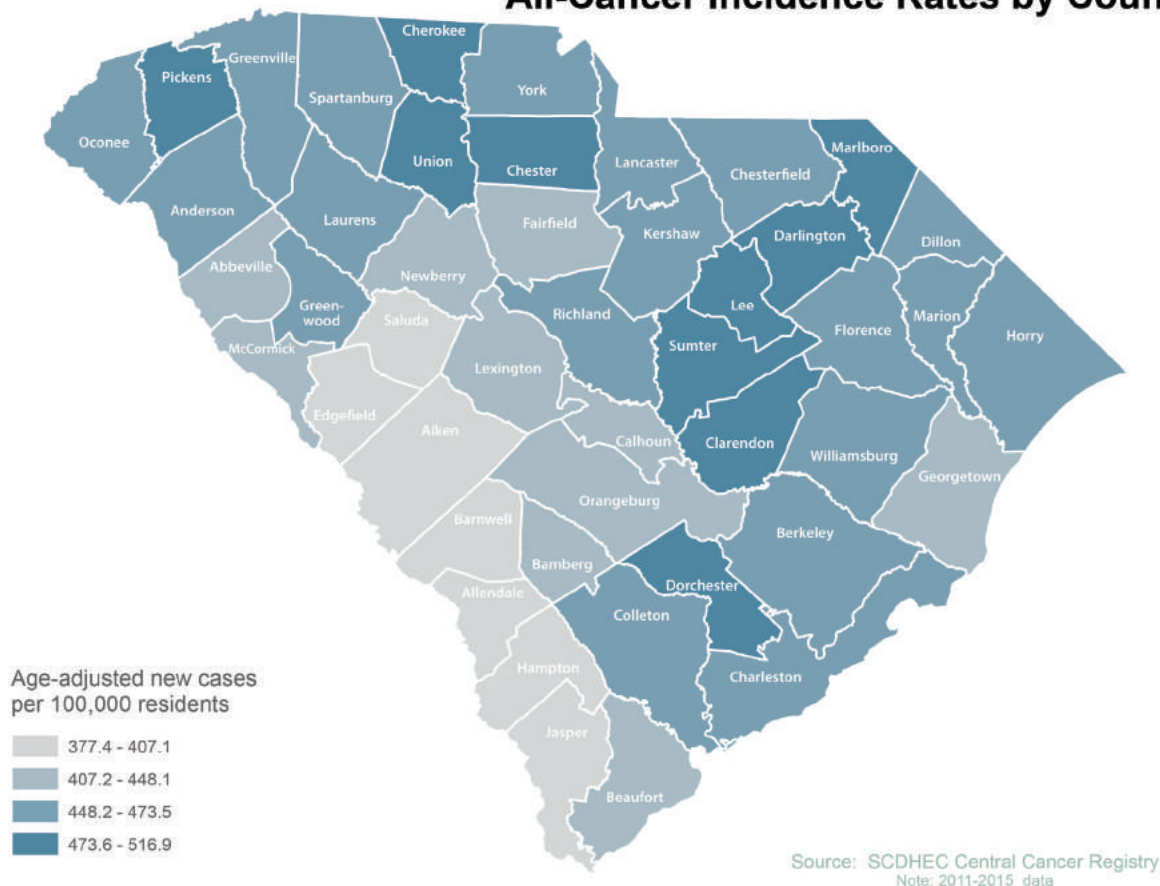
In 2016, 10,349 South Carolina residents died from cancer (Table 6.2). In 2016, cancer of the lung and bronchus contributed to the largest number of deaths for residents of South Carolina. Cancer of the colon and rectum, female breast, pancreas, and prostate were the next leading causes of cancer deaths.

From 2006 to 2015 in South Carolina, the rate of new cases of cancer decreased from a high of 486.8 per 100,000 in 2006 to a low of 452.8 per 100,000 in 2015 (Figure 6.21).

# ALL CANCER

FIGURE 6.22

## All-Cancer Incidence Rates by County



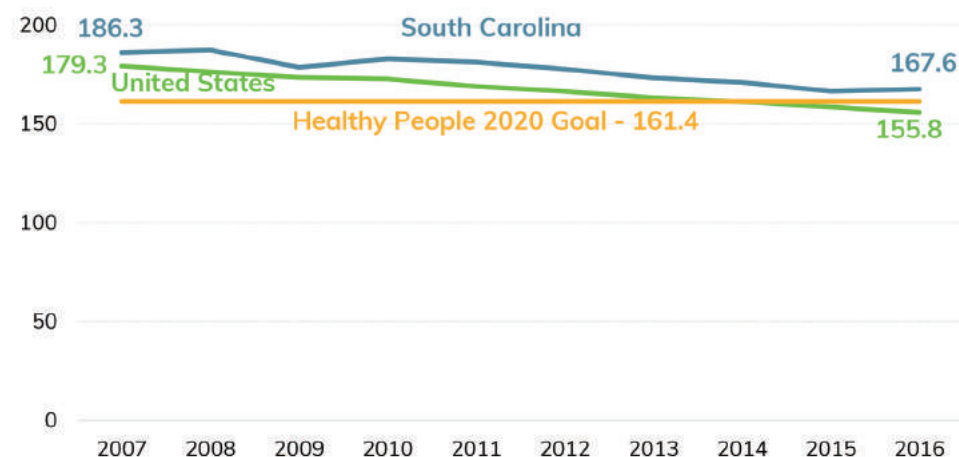
Non-Hispanic White residents (442.2 cases per 100,000 population) had a higher rate of new cases of cancer compared to non-Hispanic Blacks (427.1 cases per 100,000 population; data not shown).

The counties in South Carolina with the highest rates of new cancers during 2011 to 2015 combined were Chester, Dorchester, Lee, Sumter, and Union (Figure 6.22).

FIGURE 6.23

**Cancer Deaths**

Rate per 100,000 population



Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.

From 2007 to 2016, there was a decrease in the rate of cancer deaths, from 186.3 per 100,000 in 2007 to 167.6 per 100,000 in 2016 (Figure 6.23). As of 2016, South Carolina had not met the Healthy People 2020 goal of 161.4 all-cancer deaths per 100,000 population. South Carolina had a higher death rate compared to the United States in 2016 (155.8 per 100,000 in the United States).

Non-Hispanic Blacks (185.7 per 100,000) in South Carolina had a higher death rate than non-Hispanic Whites (165.9 per 100,000). Males also experienced a higher death rate than females (204.7 per 100,000 for males versus 104.4 per 100,000 for females; data not shown).

## Background

Lung cancer is the leading cause of cancer death and the second most common cancer among both men and women in the United States.<sup>26</sup> Lung cancer is not often diagnosed at an early stage, when it is more likely to be curable. Patients living in states with availability to accredited screening centers that perform low-dose computed tomography (CT) scans for lung

cancer screening of targeted at-risk populations may have higher early diagnosis and survival.<sup>27</sup> While South Carolina ranks 32<sup>nd</sup> in the United States for new cases of all-cancers combined, lung cancer poses a challenge in that South Carolina ranks 16<sup>th</sup> in comparison.<sup>24</sup> Cigarette smoking is the number one risk factor for lung cancer and is linked to approximately 80% to 90% of lung cancers nationally.<sup>28</sup> Other risk factors include radon gas, air pollution, and secondhand smoke.<sup>29</sup>

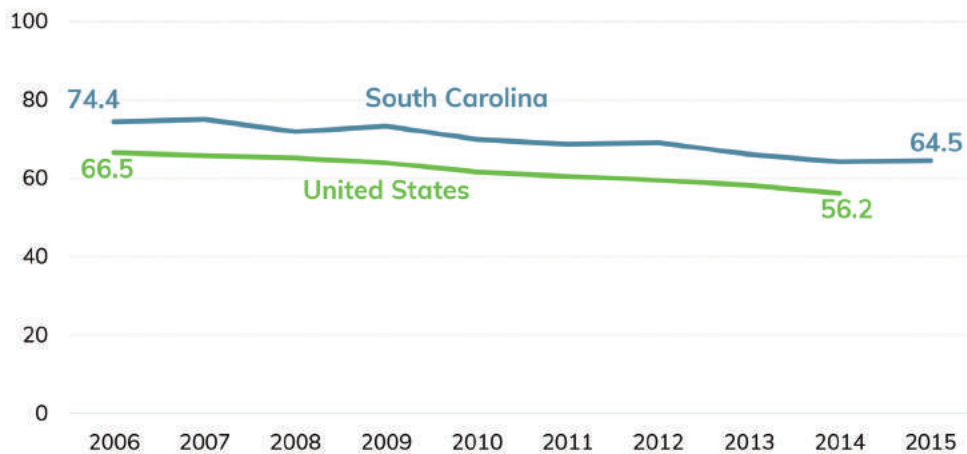
## Findings in South Carolina

Lung cancer was the second leading cause of new cases of cancer in 2015 with 4,017 cases (see Table 6.1). South Carolina's rate of new cases of lung cancer decreased from a high of 74.4 per 100,000 population in 2006 to a low of 64.5 per 100,000 population in 2015 (Figure 6.24).

Non-Hispanic White residents (67.1 cases per 100,000 population) experienced a higher rate of new cases of lung cancer than non-Hispanic Black residents (59.8 cases per 100,000 population) in 2015. Males had a higher lung cancer incidence rate (80.6 cases per 100,000 population) than females (52.1 cases per 100,000 population; data not shown).

**FIGURE 6.24**  
**Lung Cancer New Cases**

Rate per 100,000 population



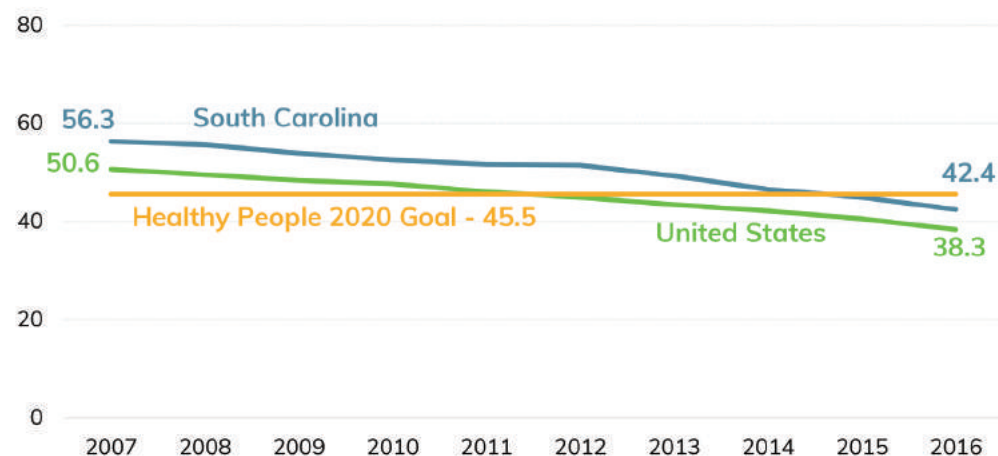
Sources: SC DHEC CCR, SEER\*Stat Database: NPCR and SEER Incidence - Public Use Data.  
Note: Age-adjusted.

# LUNG CANCER

FIGURE 6.25

## Lung Cancer Deaths

Rate per 100,000 population



Sources: SC DHEC Vital Statistics, CDC NCHS.

Note: Age-adjusted.

Lung cancer was the leading cause of cancer deaths in 2016, claiming the lives of 2,701 South Carolina residents (see Table 6.2). From 2007 to 2016, there was a decrease in the lung cancer death rate, from a high of 56.3 per 100,000 in 2007 to a low of 42.4 per 100,000 in 2016 (Figure 6.25). In 2016, South Carolina had a higher death rate compared to the United States (38.3 per 100,000) but met the Healthy People 2020 goal of 45.5 deaths per 100,000 population.

Non-Hispanic White residents (44.4 deaths per 100,000 population) had a higher death rate than non-Hispanic Black residents (39.3 deaths per 100,000 population) in 2016. As with new cases of lung cancer, males (55.7 per 100,000) had a higher death rate of lung cancer compared to females (32.2 per 100,000; data not shown).





# FEMALE BREAST CANCER

## Background

Breast cancer is the most commonly diagnosed cancer among women. One in eight women will be diagnosed with breast cancer in their lifetime.<sup>30</sup> It is the second most common cause of cancer death among women, following lung cancer. While South Carolina ranks

32<sup>nd</sup> for new cases in the United States of all-cancers combined, breast cancer poses a challenge in that South Carolina ranks 19<sup>th</sup> in comparison.<sup>24</sup> White women are diagnosed at a higher rate than Black women in our state; however, Black women die at a higher rate (44% higher).<sup>23,24</sup> Detection of breast cancer at an early stage, when it is most treatable, is key to survival.

FIGURE 6.26

### Mammogram in the Past Two Years

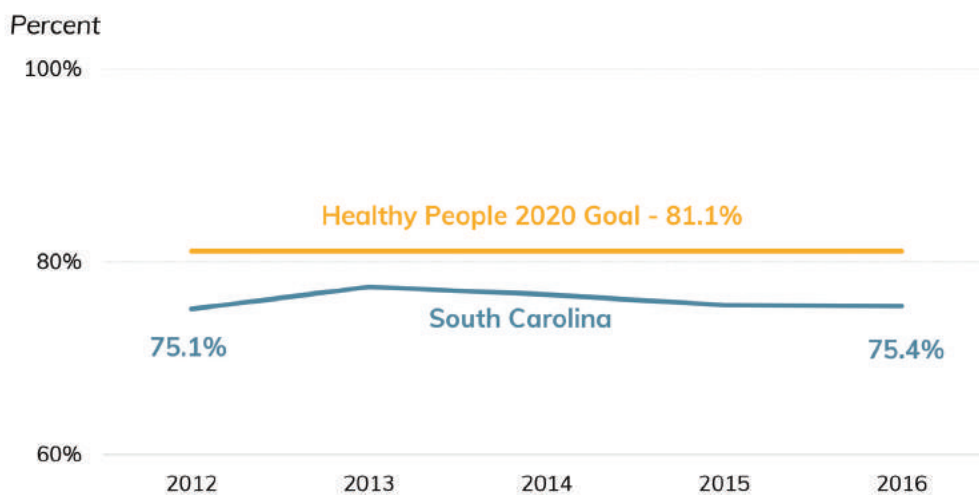
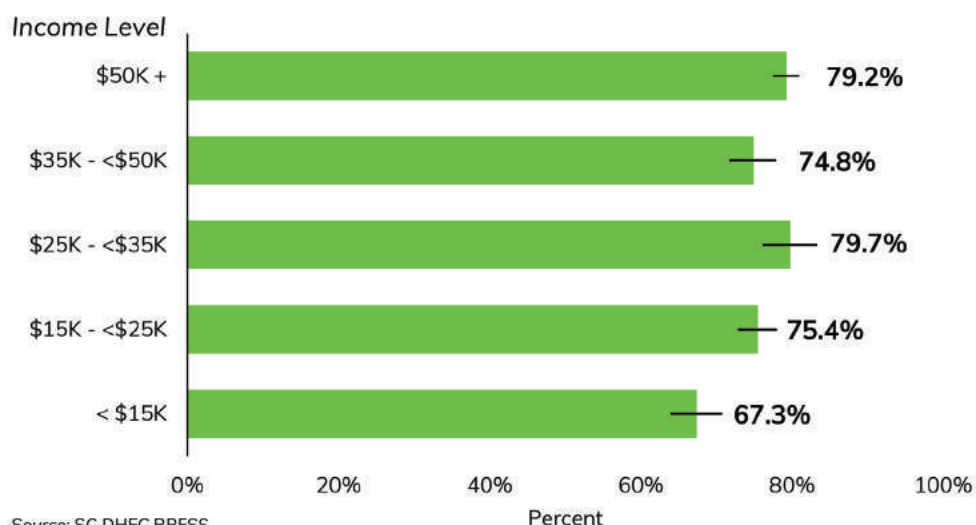


FIGURE 6.27

### Mammogram in the Past Two Years, by Income Level



Source: SC DHEC BRFSS.

Notes: Females ages 50-74, age-adjusted.

## Findings in South Carolina

In South Carolina during 2016, 75.4% of women aged 50 to 74 years old, reported receiving a mammogram within the last two years (Figure 6.26). As of 2016, South Carolina had not met the Healthy People target of 81.1%. A higher prevalence of women living in households earning \$50,000 annually (79.2%) or more reported a mammogram screening compared to those earning less than \$15,000 (67.3%; Figure 6.27).

A lower prevalence of non-Hispanic White women (73.5%) reported a mammogram screening compared to non-Hispanic Black women (82.1%) in 2016 (data not shown).

In 2015 there was a total of 4,077 new cases of breast cancer, and of these, 1,306 were diagnosed as late-stage in South Carolina representing a rate of 42.9 per 100,000. As of 2015, South Carolina had not met the Healthy People 2020 goal of 42.2 per 100,000 women being diagnosed with late-stage female breast cancer (Figure 6.28).

# FEMALE BREAST CANCER

Non-Hispanic Black women (51.8 per 100,000) in South Carolina experienced a higher rate of new cases of late-stage breast cancer than non-Hispanic White women (40.2 per 100,000) in 2015 (data not shown).

In 2016, 743 women died from breast cancer in South Carolina. South Carolina had a higher breast cancer death rate than the United States in 2016 (22.5 per 100,000

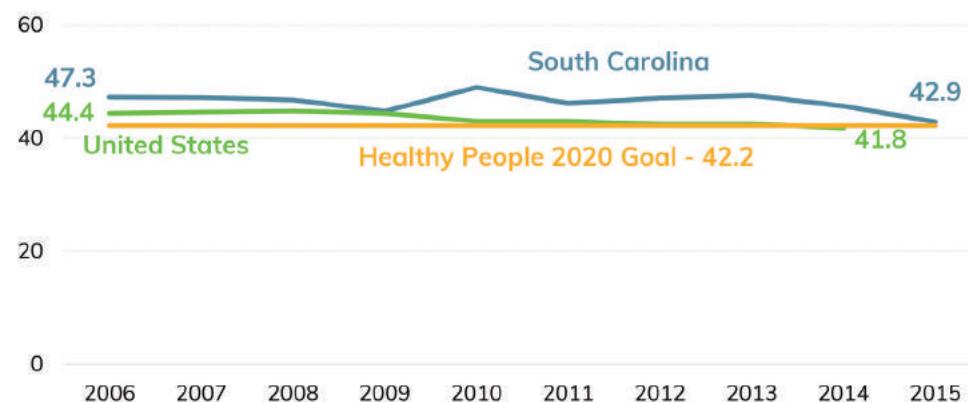
in South Carolina *versus* 20.1 per 100,000 in the United States), and had not yet met the Healthy People 2020 goal of 20.7 per 100,000 (Figure 6.29).

Non-Hispanic Black women (27.9 deaths per 100,000 females) had a higher mortality rate than non-Hispanic White women (20.9 deaths per 100,000 females) in 2016 (data not shown).

FIGURE 6.28

## New Cases of Late-Stage Breast Cancer

Rate per 100,000 females

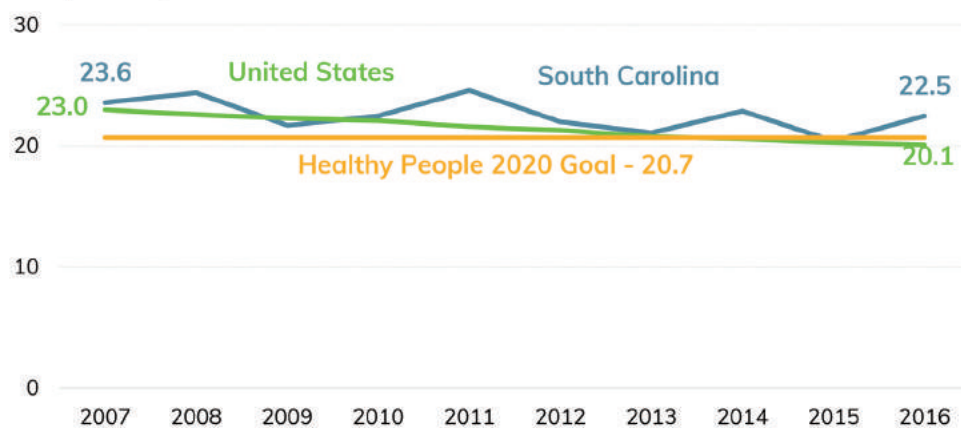


Sources: SC DHEC CCR, SEER\*Stat Database NPCR and SEER Incidence - Public Use Data.  
Note: Age-adjusted.

FIGURE 6.29

**Breast Cancer Deaths**

Rate per 100,000 females



Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.

# CERVICAL CANCER

## Background

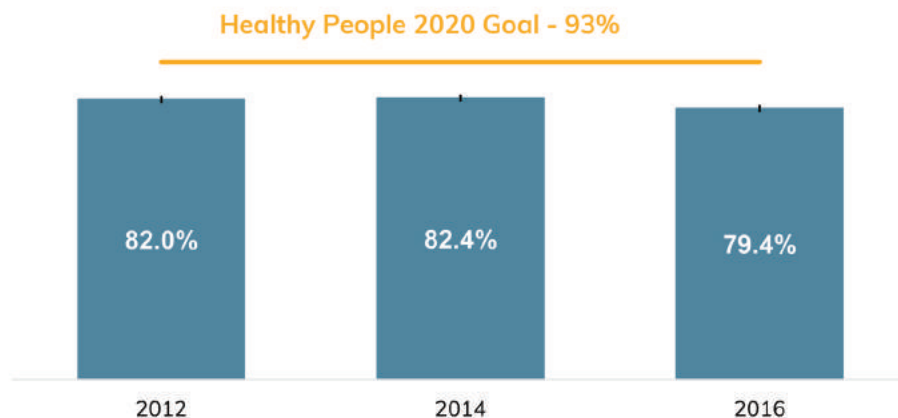
Cervical cancer is highly preventable because screening tests and a vaccine to prevent human papillomavirus (HPV) infections are available. When cervical cancer is found early, it is highly treatable and associated with long survival and good quality of life.<sup>31</sup> While South Carolina ranks 32<sup>nd</sup> in the United

States for new cases of all-cancers combined, cervical cancer poses a challenge in that South Carolina ranks 19<sup>th</sup> in comparison.<sup>24</sup> Black women are diagnosed at a higher rate than White women in the state (22% higher).<sup>24</sup> Black women also die at a higher rate than White women (82% higher).<sup>23</sup> South Carolina ranks in the lowest quartile nationally for adolescents having received one or more doses of the HPV vaccine.<sup>32</sup>

FIGURE 6.30

### Pap Smear in the Past Three Years

Percent



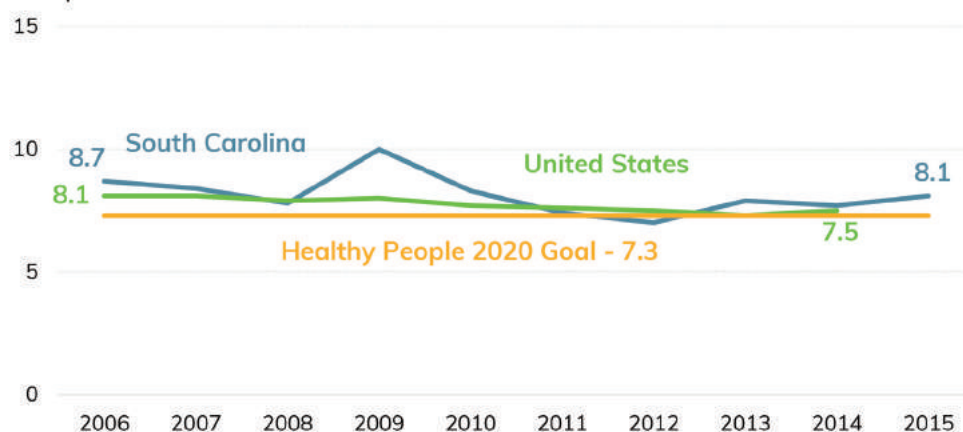
Source: SC DHEC BRFSS.

Note: Females ages 21-65, age-adjusted.

FIGURE 6.31

## New Cases of Invasive Cervical Cancer

Rate per 100,000 females



Sources: SC DHEC CCR, SEER\*Stat Database NPCR and SEER Incidence - Public Use Data.  
Note: Age-adjusted.

## Findings in South Carolina

In 2016, 79.4% of women 21 to 65 years old reported having a Pap smear within the past three years (Figure 6.30). As of 2016, South Carolina had not met the Healthy People 2020 goal of 93%.

Non-Hispanic White women (78.6%) reported a lower prevalence of receiving the recommended screening compared to non-Hispanic Black women (83.2%), though not statistically significant. A greater percent of women with an annual household income of \$50,000 or more reported a higher prevalence of Pap smears in the past three years

compared to women with an annual household income of less than \$15,000 (data not shown).

In 2015, there were 216 new cases of invasive cervical cancer in South Carolina. There was not a statistically significant change in the rate of new cases of invasive cervical cancer in the past ten years (Figure 6.31). As of 2015, South Carolina had not met the Healthy People 2020 goal of 7.3 new cases per 100,000 females.

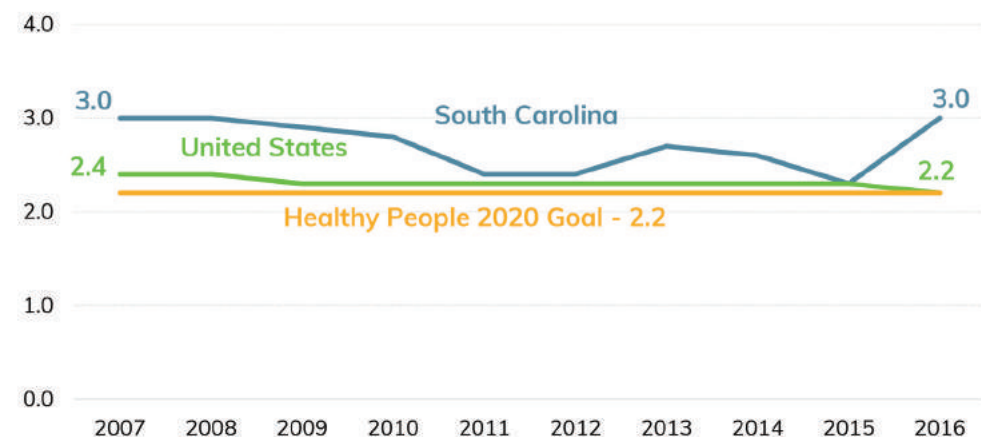
Non-Hispanic Black women had a higher rate of new cases of invasive cervical cancer compared to non-Hispanic White women (10.0 in non-Hispanic Black women *versus* 7.5 in non-Hispanic White women; data not shown).

# CERVICAL CANCER

FIGURE 6.32

## Cervical Cancer Deaths

Rate per 100,000 females



Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted

Eighty-nine females died from cervical cancer in 2016. There was not a statistically significant change in cervical cancer death rates over the last ten years (Figure 6.32). As of 2016, South Carolina had not met the Healthy People 2020 goal of 2.2 cervical cancer deaths per 100,000 females.

Non-Hispanic Black women (5.0 deaths per 100,000 females) had a higher death rate than non-Hispanic White women (2.4 deaths per 100,000 females) in 2016 (data not shown).





# COLORECTAL CANCER

## Background

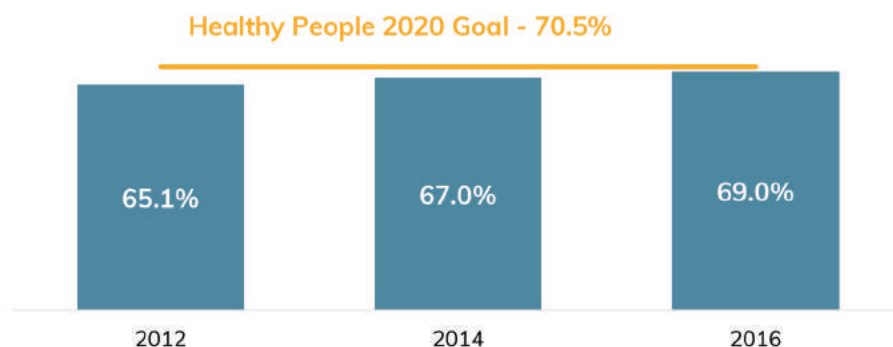
Cancer of the colon and rectum (colorectal) is the second leading cause of cancer death and third most commonly occurring cancer in men and women in the United States.<sup>33</sup> An estimated 97,220 cases of colon cancer and 43,030 cases of rectal cancer will be diagnosed in the United States in 2018.<sup>34</sup> While South Carolina ranks 32<sup>nd</sup> in the United

States for new cases of all cancers combined, South Carolina ranks 29<sup>th</sup> for colorectal cancer, and 21<sup>st</sup> for death rate from colorectal cancer.<sup>24,35</sup> Screening can find precancerous polyps, abnormal growths in the colon or rectum, so they can be removed before developing into cancer. The United States Preventive Services Task Force recommends screening for colorectal cancer starting at age 50 years and continuing until age 75 years.<sup>36</sup>

FIGURE 6.33

### Received the Recommended Colorectal Cancer Screenings

Percent



Sources: SC DHEC BRFSS.

Notes: Age-adjusted 50-75, had a blood test in the past 5 years and blood stool test in the past 3 years, or a colonoscopy in the past 10 years.

## Findings in South Carolina

In 2016, South Carolina moved closer to meeting the Healthy People 2020 goal of 70.5% of individuals receiving the recommended colorectal screenings (Figure 6.33).

More females (71.4%) received the recommended colorectal screening than males (66.2%) in 2016. More South Carolina residents with an annual household income of \$50,000 or above received the

colorectal screening than those earning less than \$50,000 (data not shown).

In 2015, there were 2,320 new cases of invasive colon and rectum cancer in South Carolina (see Table 6.1). There was a decrease in the rate of new cases of invasive colorectal cancer across the decade in South Carolina, from a high of 48.0 per 100,000 in 2006 to a low of 39.7 per 100,000 in 2015 (Figure 6.34). As of 2015, South Carolina had met the Healthy People 2020 goal of 39.9 new cases of colorectal cancer per 100,000 population.

# COLORECTAL CANCER

Non-Hispanic Blacks (45.8 cases per 100,000 population) had a higher rate of new cases of colorectal cancer compared to non-Hispanic Whites (38.1 cases per 100,000 population) in 2015. Males had a higher rate of new cases of colorectal cancer than females (data not shown).

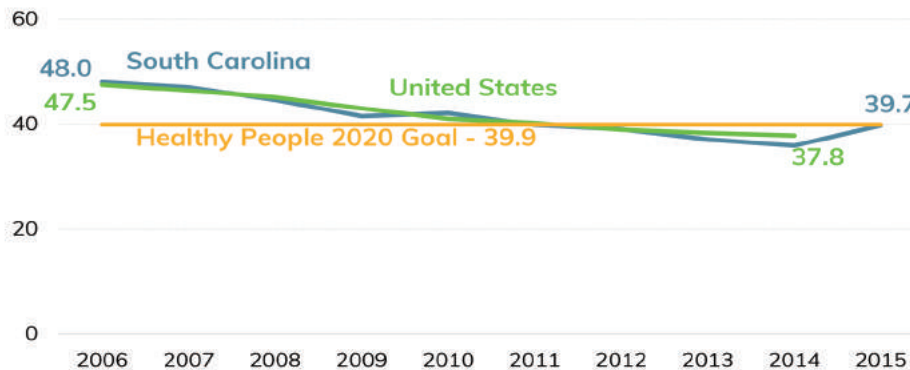
In 2016, 880 residents in South Carolina died from colorectal cancer (see Table 6.2). From 2007 to

2016, South Carolina experienced a decrease in the death rate from colorectal cancer, from a high of 16.3 per 100,000 in 2007 to a low of 14.5 per 100,000 in 2016 (Figure 6.35). As of 2016, South Carolina had met the Healthy People 2020 goal of 14.5 deaths per 100,000 population and was not statistically significantly different from the United States rate of 13.9 deaths per 100,000 population.

FIGURE 6.34

## New Cases of Invasive Colorectal Cancer

Rate per 100,000 population

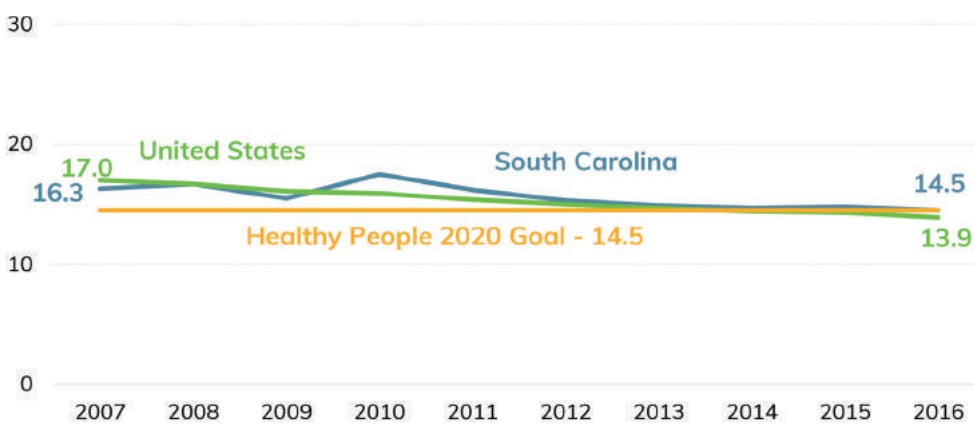


Sources: SC DHEC CCR, SEER\*Stat Database NPCR and SEER Incidence - Public Use Data.  
Note: Age-adjusted.

FIGURE 6.35

**Colorectal Cancer Deaths**

Rate per 100,000 population



Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.

# PROSTATE CANCER

## Background

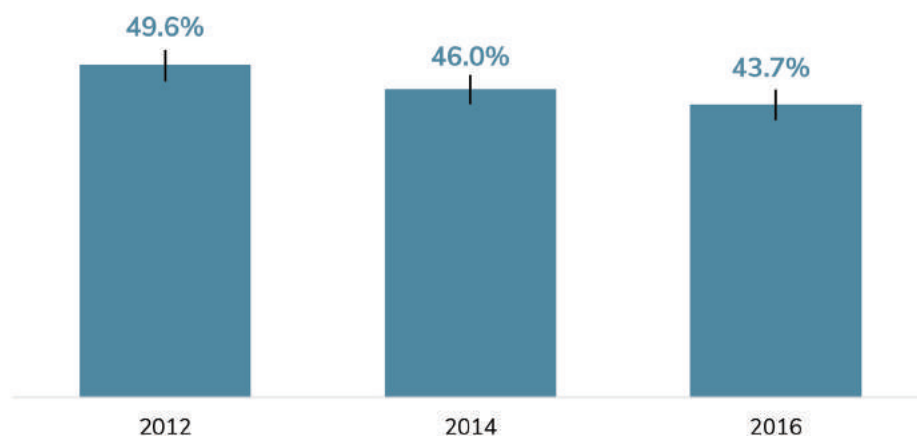
Prostate cancer is the most common cancer occurring among American men.<sup>37</sup> An estimated 164,690 new cases of prostate cancer will be diagnosed in the United States during 2018. Prostate cancer poses a challenge in South Carolina

for both new cases and deaths, ranking 20<sup>th</sup> for new cases and 4<sup>th</sup> for deaths.<sup>24,35</sup> Nationally, the risk of prostate cancer is 74% higher in Blacks than in Whites for reasons that remain unclear. This racial disparity is also present in South Carolina. The only well-established risk factor for prostate cancer is increasing age.<sup>33</sup>

FIGURE 6.36

### Received PSA Test in the Past Two Years

Percent



Source: SC DHEC BRFSS.  
Note: Males ages 40+.

## Findings in South Carolina

In 2016, 43.7% of men ages 40 years and older reported receiving a prostate-specific antigen (PSA) test within the past two years (Figure 6.3).

In 2016, there was a lower percentage of males receiving the PSA test within the past two years in those with annual household

incomes less than \$15,000, compared to those with annual household incomes of \$50,000 or more (data not shown).

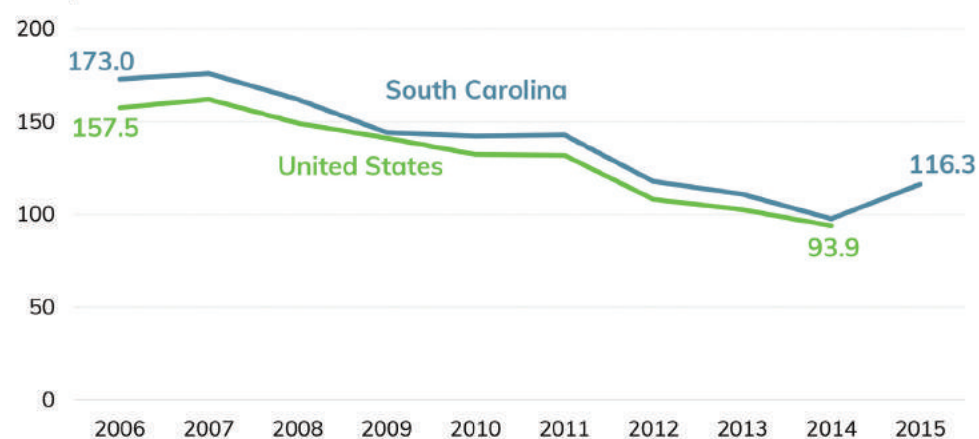
There were 3,521 new cases of prostate cancer in 2015 in South Carolina (see Table 6.1). From 2006 to 2015, there was a decrease in the rate of new cases of prostate cancer among men in South Carolina, from 173.0 per 100,000 in 2006 to 116.3 per 100,000 in 2015 (Figure 6.37).

# PROSTATE CANCER

FIGURE 6.37

## New Cases of Prostate Cancer

Rate per 100,000 males



Sources: SC CCR, SEER\*Stat Database NPCR and SEER Incidence - Public Use Data.  
Note: Age-adjusted.

Non-Hispanic Black males (173.4 cases per 100,000 males) had a higher rate of new cases of prostate cancer than non-Hispanic White males (97.8 cases per 100,000 males) in 2015 (data not shown).

In 2016, 532 men died from prostate cancer in South Carolina (see Table 6.2). From 2007 to 2016, the death rate from prostate cancer decreased for South Carolina (Figure 6.38). South Carolina had a higher death

rate than the United States (22.2 per 100,000 in South Carolina versus 19.3 per 100,000 in the United States) and had not met the Healthy People 2020 goal of 21.8 per 100,000 males.

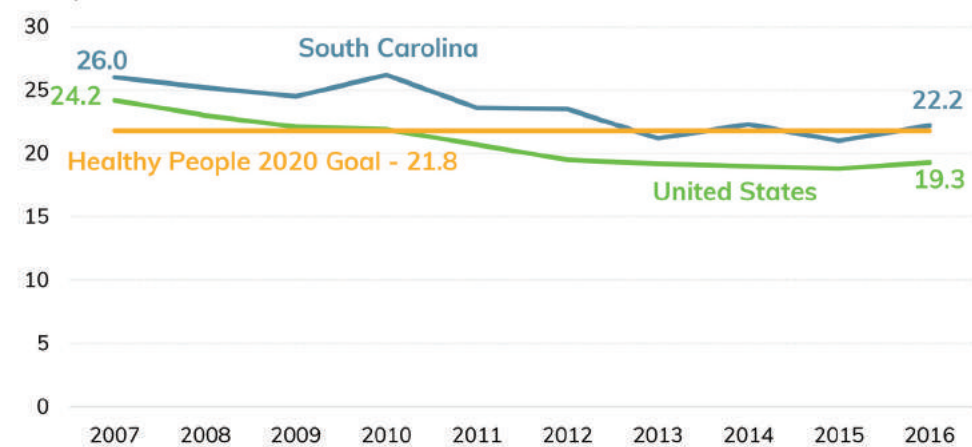
Non-Hispanic Blacks (39.9 per 100,000 males) had a higher death rate than non-Hispanic Whites (18.6 per 100,000 males).



FIGURE 6.38

**Prostate Cancer Deaths**

Rate per 100,000 males



Sources: SC DHEC Vital Statistics, CDC NCHS.

# CIGARETTE SMOKING IN ADULTS

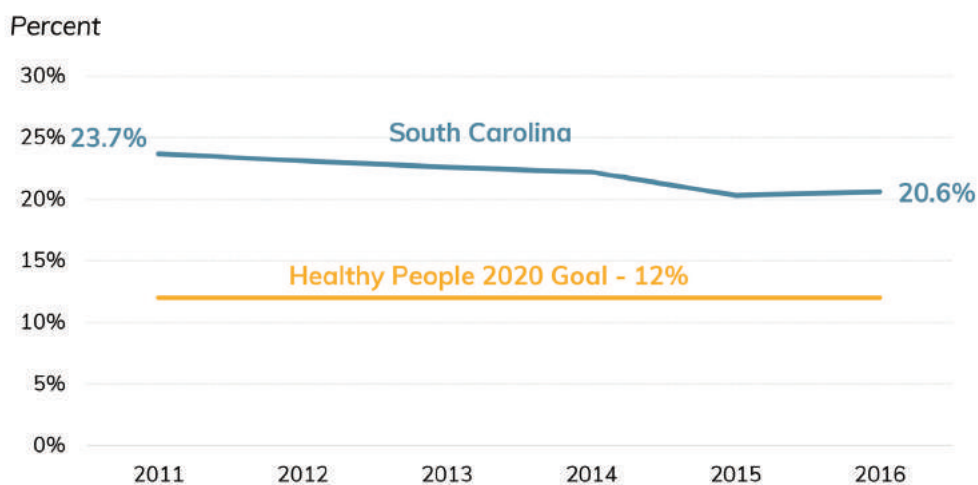
## Background

Cigarette smoking has been shown to harm nearly every organ of the body, cause numerous diseases, and reduce the health of smokers.<sup>38</sup> Cigarette smoking increases the risk of mortality, coronary heart disease, stroke, chronic obstructive pulmonary disease (COPD), and cancer.<sup>38</sup> Women who smoke

cigarettes have a harder time becoming pregnant, and once pregnant, they have increased risk for preterm delivery, stillbirth, and low birth weight.<sup>38</sup> In addition to the numerous adverse health events associated with cigarette smoking, cigarette smoking has been shown to increase South Carolina annual health care spending by \$1.9 billion per year.<sup>39</sup>

FIGURE 6.39

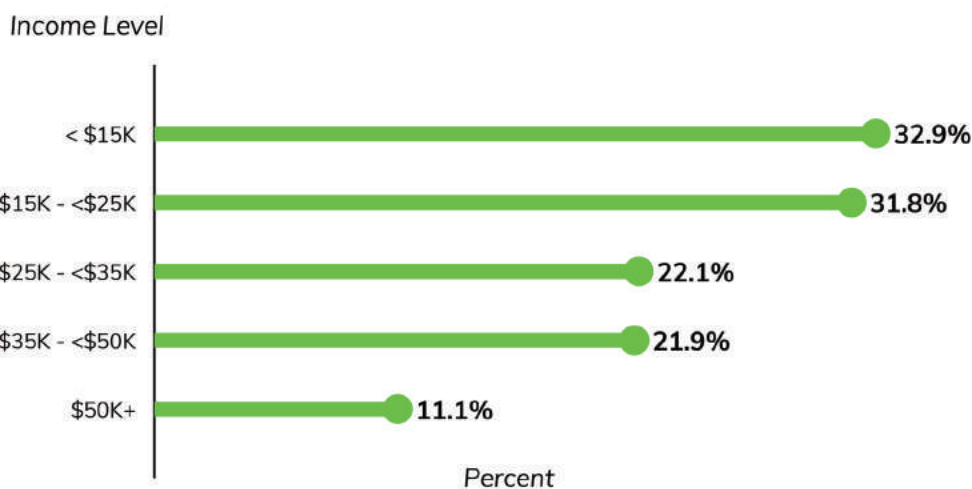
### Current Cigarette Smoking Among Adults



Source: SC DHEC BRFSS.  
Note: Age-adjusted, 18+.

FIGURE 6.40

### Current Cigarette Smoking Among Adults, by Income Level



Source: SC DHEC BRFSS, 2016.

Note: Age-adjusted, 18+.

## Findings in South Carolina

From 2011 to 2016, there was a decrease in the percent of adult smokers in South Carolina (Figure 6.39). Adult cigarette smoking decreased from 23.7% in 2011 to 20.6% in 2016. As of 2016, South Carolina had not met the Healthy People 2020 goal of 12%.

In 2016, the prevalence of adults who smoked was higher in those with an annual household income of less than \$50,000, compared to those with an annual household income of at least \$50,000 (Figure 6.40).

The prevalence of male South Carolina smokers (23.4%) was higher compared to female smokers (17.9%; data not shown).

# CIGARETTE SMOKING IN YOUTH

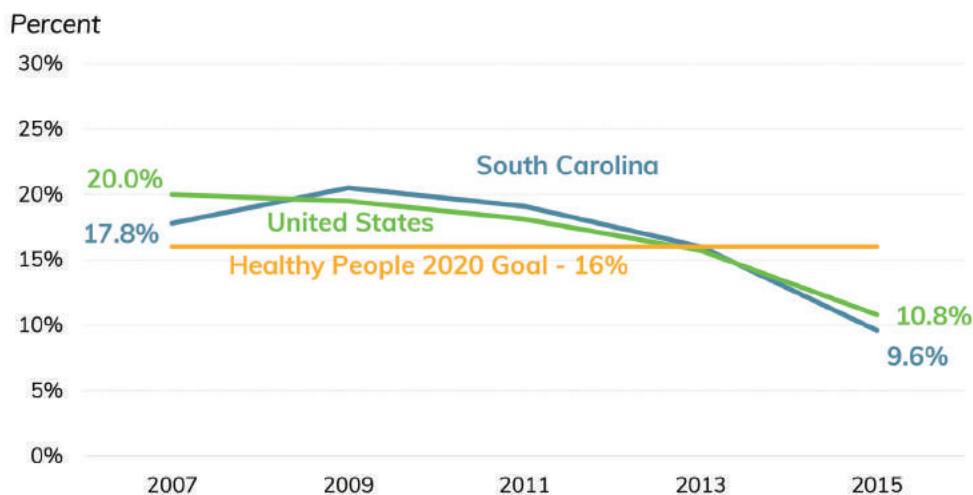
## Background

Tobacco use that starts in adolescence often leads to a pattern of tobacco use in adulthood. Based on current projections, if smoking continues at the current rate in the United States, 5.6 million of America's youth, those younger than 18, will die early during adulthood from a smoking related illness (i.e.,

cancer, heart disease, stroke).<sup>40</sup> Cigarette smoking in youth is also associated with increased risk of immediate health risks, such as addiction to nicotine, reduced lung function, reduced lung growth, and cardiovascular damage.<sup>41</sup> Nearly 90% of adult smokers first tried a cigarette before the age of 18, so it is crucial to prevent adolescent smoking to reduce the tobacco epidemic in our state and nation.<sup>40</sup>

FIGURE 6.41

### Current Cigarette Smoking Among High School Students

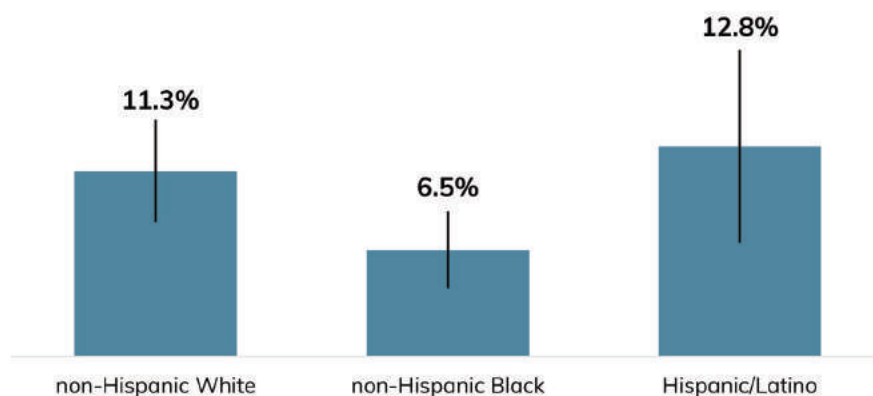


Source: SC DE YRBSS, CDC YRBSS.  
Note: Adolescents grades 9-12.

FIGURE 6.42

### Current Cigarette Smoking Among High School Students, by Race/Ethnicity

Percent



Source: SC DE, YRBSS, 2015.

## Findings in South Carolina

In 2015, 9.6% of high school students (grades 9-12) reported cigarette use on at least one day during the past 30 days (Figure 6.41). Although South Carolina had a lower prevalence of adolescents smoking compared to the United States (10.8%), there was no statistically significant difference between the two. Since 2013, South Carolina has achieved the Healthy People 2020 goal of 16% or fewer high school students being current smokers.

In 2015, the prevalence of high school students being current smokers was higher in non-Hispanic Whites (11.3%) and Hispanic/Latinos (12.8%) students, compared to non-Hispanic Black (6.5%) students in the state (Figure 6.42).

In 2015, there was no statistically significant difference in the prevalence of female (9.6%) and male (9.4%) smoking. High school seniors (14.9%) had a higher prevalence of being current smokers, compared to 10<sup>th</sup> graders (7.0%) who had the lowest prevalence of current smokers (data not shown).

# SMOKING QUIT ATTEMPTS

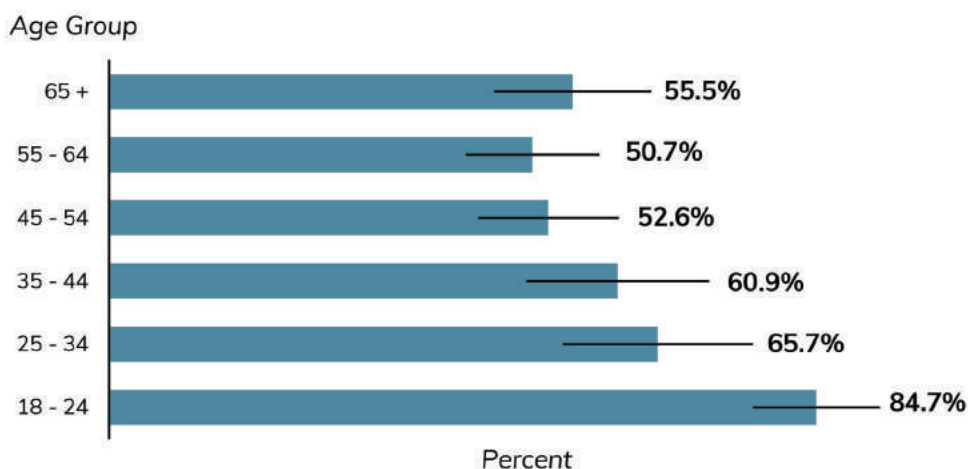
## Background

Cigarette smoking can lead to a variety of adverse health outcomes. Cigarettes contain deadly chemicals that can cause cancer, heart disease, and other serious health conditions.<sup>42</sup> However, once individuals stop smoking their risk of

infertility, heart attacks, strokes and cancers drop sharply.<sup>42</sup> In fact, the risk of stroke can drop to that of a non-smoker within two to five years of quitting smoking.<sup>43</sup> The addictive quality of nicotine can make it harder to quit smoking; however, there are numerous treatments and methods that can make the quitting process easier.<sup>42</sup>

FIGURE 6.43

### Current Smokers Attempting to Quit in Past Year, by Age Group



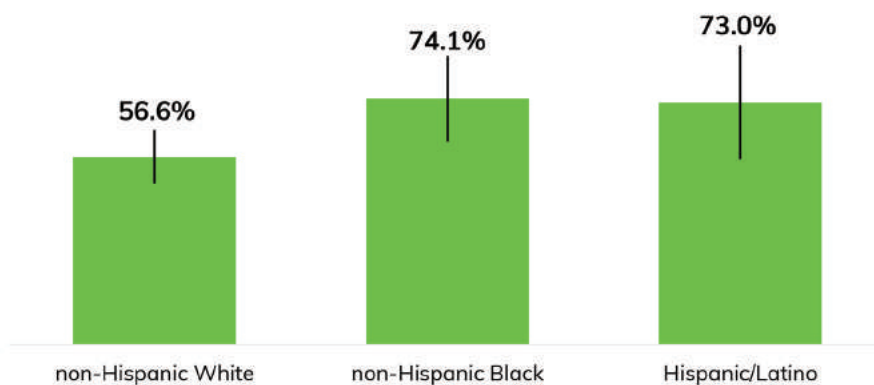
Source: SC DHEC ATS, 2015.

Notes: Adults 18+, attempts in past 12 months.

FIGURE 6.44

### Current Adolescent Smokers Attempting to Quit, by Race/Ethnicity

Percent



Source: SC DHEC YTS, 2015.

## Findings in South Carolina

In 2015, the prevalence of current adult smokers attempting to quit in the past year was higher in those 24 years of age and younger than in those older than 24 (Figure 6.43). Of those 18-24 years of age, 84.7% attempted quitting in the past 12 months. Those aged 55-64 had the lowest percentage of quitting attempts within the past year (50.7%).

The prevalence of adult females (50.0%) attempting to quit cigarette smoking within the past

year was higher than adult males (41.0%), although this was not a statistically significant difference (data not shown).

In 2015, the prevalence of adolescent smokers who attempted to quit was lower in non-Hispanic Whites (56.6%) compared to non-Hispanic Blacks (74.1%) in the state, although this was not a statistically significant decrease (Figure 6.44).

High school female adolescents (58.0%) had a lower prevalence of quit attempts, compared to high school males (66.7%), although this was not a statistically significant difference (data not shown).

# SECONDHAND SMOKE

## Background

Secondhand smoke is when a non-smoker inhales a combination of smoke from the burning end of a cigarette/cigar or the smoke exhaled by smokers.<sup>44,45</sup> This smoke contains over 7,000 chemicals, including 70 that can cause cancer.<sup>44</sup> Being exposed to secondhand smoke has been shown to cause coronary

heart disease, stroke, heart attack, pneumonia, lung cancer, and trigger asthma attacks.<sup>44</sup> Exposure to secondhand smoke at home and work can increase the risk for developing lung cancer by 30%.<sup>44</sup> Eliminating smoking in both the home and the workplace can reduce one's risk of adverse health events in non-smokers.

TABLE 6.45

Secondhand Smoke Exposure  
in The Workplace  
2015

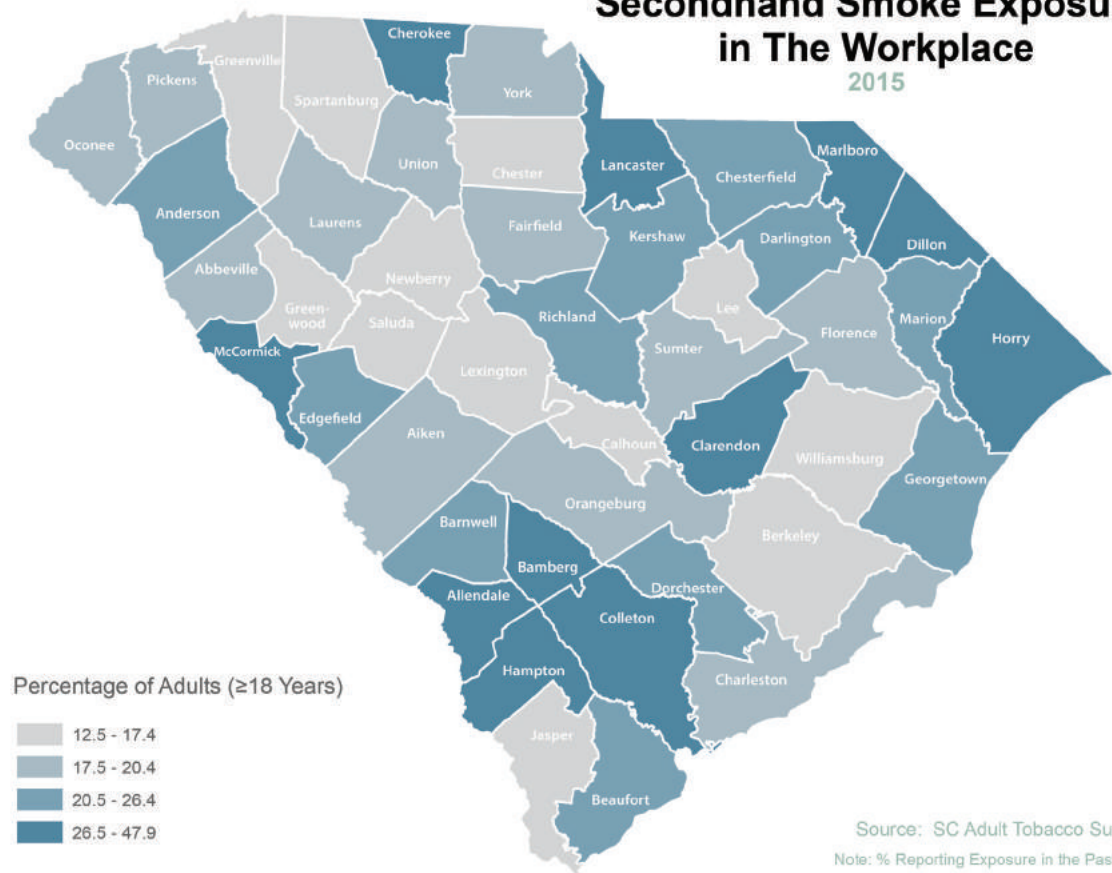
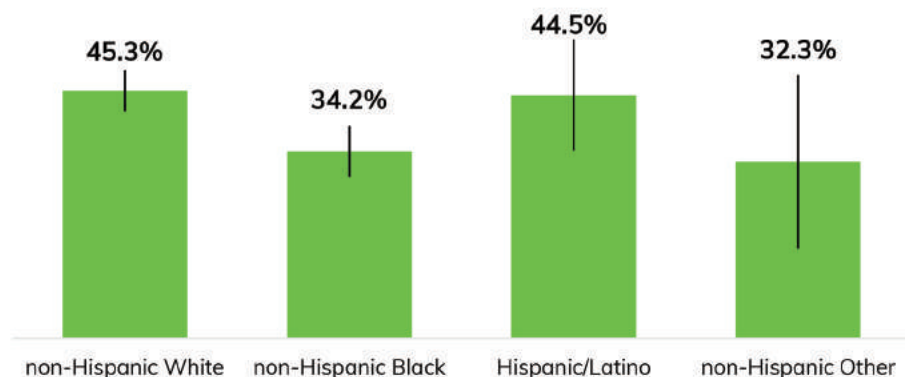




FIGURE 6.46

### Secondhand Smoke Exposure in Homes or Vehicles Among Adolescents, by Race/Ethnicity

Percent



Source: SC DHEC YTS, 2015.

Notes: Adolescents grades 9-12, past 7 days.

## Findings in South Carolina

In South Carolina in 2015, 22.4% of adults reported being exposed to secondhand smoke while at the workplace (data not shown).

The five counties in South Carolina with the highest prevalence of secondhand smoke exposure while at work were Colleton (47.9%), Hampton (43.1%), Bamberg (42.1%), Clarendon (40.2%), and Marlboro (37.4%; Figure 6.45).

Males had a higher prevalence of experiencing secondhand smoke while at work (25.9%) compared to females (18.3%) (data not shown).

In 2015, the prevalence of adolescents who reported being exposed to secondhand smoke in homes or vehicles was 40.8% (data not shown). The prevalence of adolescents experiencing secondhand smoke was higher in non-Hispanic Whites (45.3%) compared to non-Hispanic Blacks (34.2%; Figure 6.46).

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# Infectious Disease

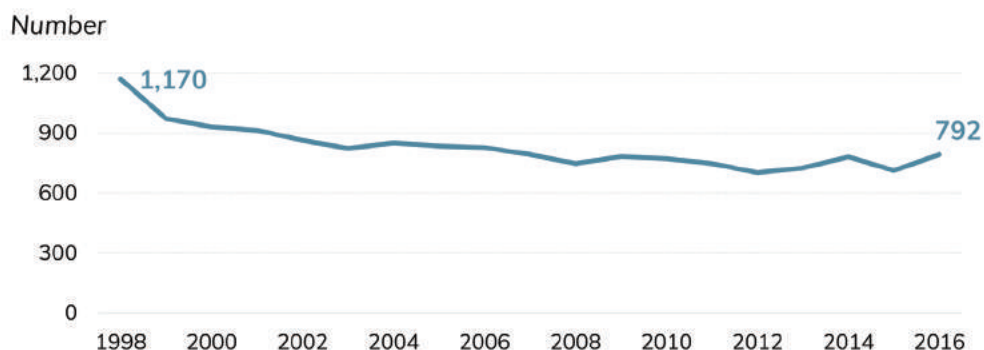
186	HIV/AIDS
188	HIV/AIDS CONTINUUM OF CARE
190	HIV TESTING
192	STDs
196	TUBERCULOSIS
198	HEPATITIS C
200	FLU VACCINE
202	FLU VACCINE DURING PREGNANCY
204	COMBINED 7-VACCINE SERIES
206	HPV VACCINE
208	TDAP BOOSTER

## Background

The HIV epidemic in South Carolina is a composite of multiple, unevenly distributed epidemics in different regions and among different populations. These populations may comprise people who practice similar high-risk behaviors, such

as injecting drugs or having unprotected sex with an infected person.<sup>1</sup> Current surveillance activities provide population-based HIV/AIDS data for tracking trends in the epidemic, targeting and allocating resources for prevention and treatment services, and planning and conducting program evaluation activities.

**FIGURE 7.1**  
**New HIV/AIDS Infections**



**FIGURE 7.2**  
**New Cases of HIV by Race/Ethnicity Compared to the Population**

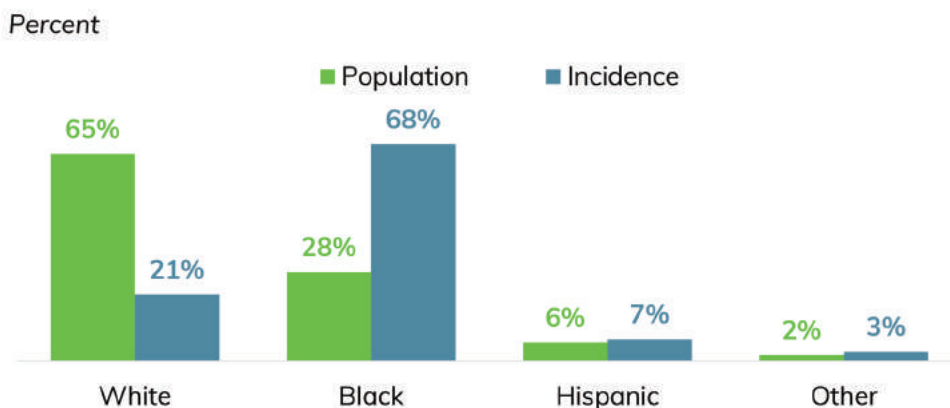
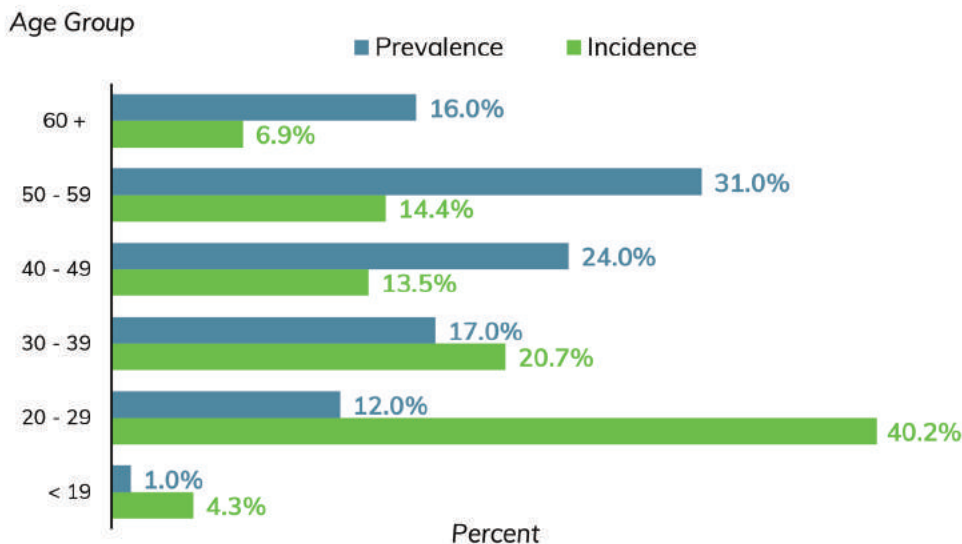


FIGURE 7.3

### New HIV/AIDS Infections and People Living with HIV/AIDS, by Age Group



Source: SC DHEC Division of Surveillance and Technical Support, 2016.

## Findings in South Carolina

From 1998 to 2016 there was a decrease in the number of new HIV/AIDS cases being diagnosed in South Carolina (Figure 7.1). Between 1998 and 2016 there was a 32.3% decrease in the number of newly diagnosed HIV/AIDS cases, from 1,170 cases in 1998 to 792 in 2016. As the number of people newly diagnosed with HIV/AIDS has decreased, the number of people living with HIV/AIDS has increased (data not shown). The availability of medical treatment and other factors have contributed to people diagnosed with HIV/AIDS living longer.

When evaluating HIV/AIDS by race and ethnicity in 2016, African-

Americans were disproportionately impacted (Figure 7.2). African-Americans made up 28% of the population in South Carolina, yet comprised 68% of people newly diagnosed with HIV/AIDS. White persons, who made up 65% of the population, comprised only 21% of people newly diagnosed with HIV/AIDS.

By age, there were distinct differences between new cases (incidence) and persons living with HIV/AIDS (prevalence; Figure 7.3). With incidence, people ages 20-29 years had higher rates than other age groups. With prevalence, older ages saw higher rates; people aged 40-49 years comprised 24% of people living with HIV/AIDS. Similarly, people aged 50-59 years comprised 31% of the people living with HIV/AIDS.

# HIV/AIDS CONTINUUM OF CARE

## Background

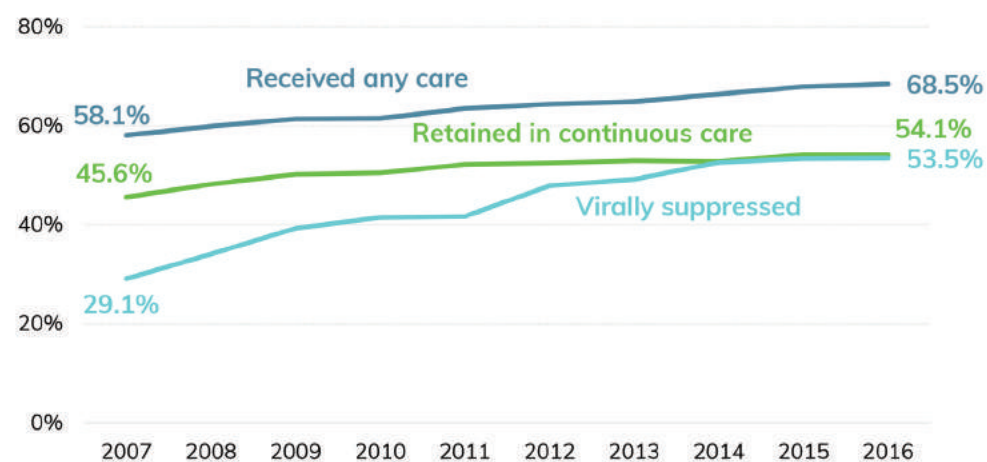
The “HIV Continuum of Care” are metrics developed by the Centers for Disease Control and Prevention as a way to monitor and report on the objectives outlined in the National HIV/AIDS Strategy for the United States, specifically: linked to care, retained in care, and viral suppression.<sup>2</sup> Receiving any care and being retained in care is important as antiretroviral therapy preserves the health of people living with HIV, as well as reduces the risk

of transmitting HIV to others due to a reduced amount of the virus in the body (becoming virally suppressed).<sup>2</sup> By ensuring that everyone who has HIV is aware of their infection and is subsequently receiving treatment, new HIV infections in South Carolina can be dramatically reduced. Viral suppression is when antiretroviral therapy reduces a person’s viral load of HIV to an undetectable level.<sup>2</sup> Although, small amounts of HIV remain in the body, it allows for individuals to live longer and remain healthy.

FIGURE 7.4

### HIV/AIDS Continuum of Care

Percent

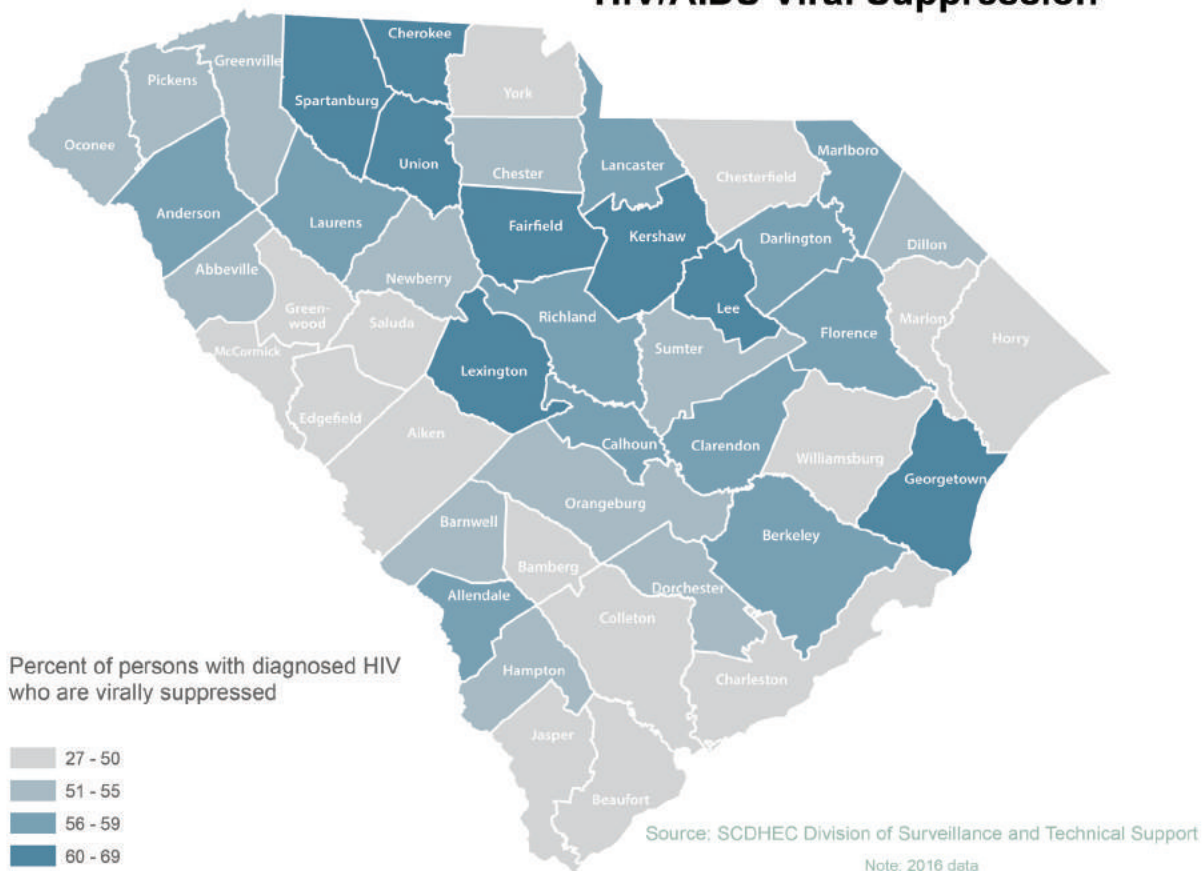


Source: SC DHEC Division of Surveillance and Technical Support.



TABLE 7.5

## HIV/AIDS Viral Suppression



### Findings in South Carolina

In South Carolina, from 2007 to 2016, there were increases in the rates of HIV patients receiving any care, being retained in continuous care, and reaching viral suppression (Figure 7.4). In 2016, around 54% of HIV patients had reached viral suppression.

The distribution of viral suppression in individuals with HIV varies across the state (Figure 7.5). Individuals with HIV who live in rural counties have lower percentages of viral suppression rates than urban counties.

Males with HIV have lower percentages in receiving any care, being retained in continuous care, and being virally suppressed than females with HIV (data not shown).

# HIV TESTING

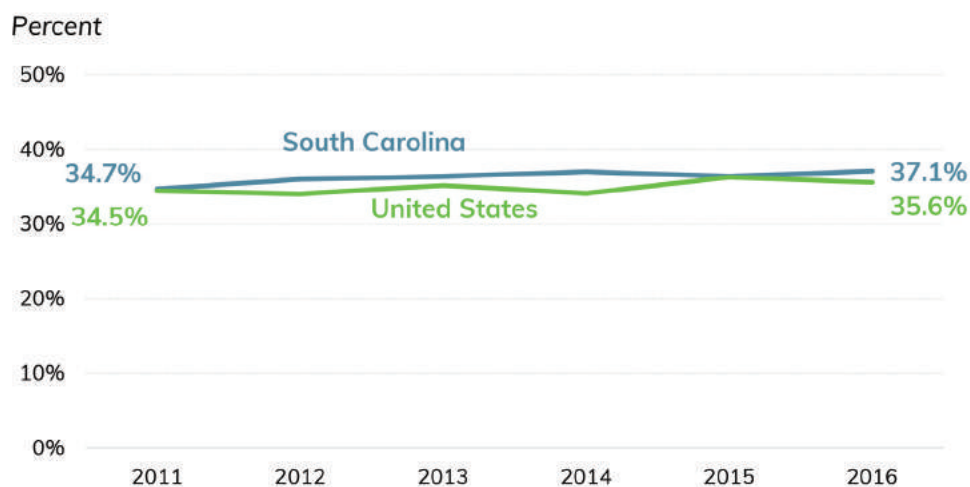
## Background

According to the Centers for Disease Control and Prevention, 1.1 million people in the United States are living with HIV, including approximately 166,000 people who are unaware of their status.<sup>3</sup> The number of individuals who do not know their HIV status may be alarming to many, as 30% of new HIV infections are transmitted by people who are living with

undiagnosed HIV. It is recommended that individuals between 13-64 years old get tested for HIV at least once, while those who engage in specific risk behaviors (i.e., men having sex with men, or intravenous drug users) should be tested annually to reduce the risk of spreading the virus.<sup>3</sup> Routine HIV testing allows for individuals to begin treatment earlier, which has been shown to have a beneficial response to antiretroviral therapy.

FIGURE 7.6

### Adults Who Have Ever Been Tested for HIV

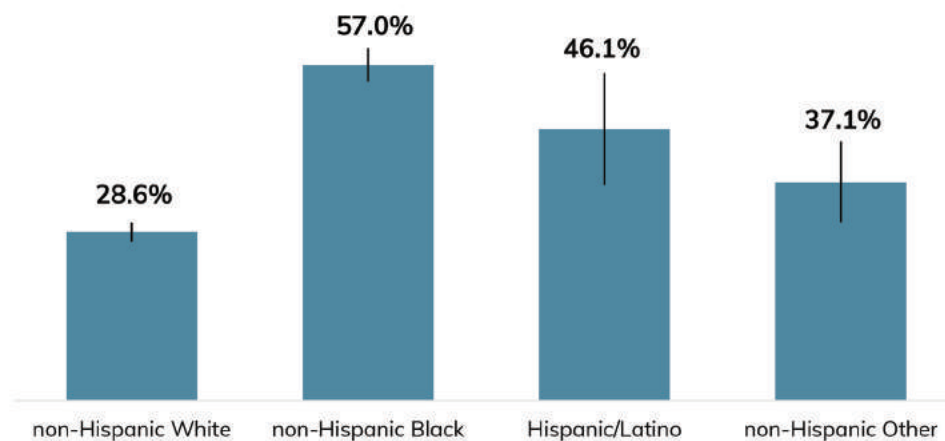


Sources: SC DHEC BRFSS, CDC BRFSS.  
Note: Adults 18+.

FIGURE 7.7

### Adults Who Ever Received an HIV Test, by Race/Ethnicity

Percent



Source: SC DHEC BRFSS, 2016.

Notes: Adults 18+, for race/ethnicity categories see Appendix F.

## Findings in South Carolina

In South Carolina from 2011 to 2016, there was a slight increase in the percent of adults who had been tested for HIV, though not statistically significant (Figure 7.6). Between 2011 and 2016, there was a seven percent increase in adults who had been tested for HIV. In 2011, 34.7% of adults had been tested for HIV, compared to 37.1% of adults in 2016. In 2016, the

median prevalence of adults being tested for HIV was 35.6% in the United States.

In South Carolina in 2016, the prevalence of ever being tested for HIV was higher in non-Hispanic Blacks than in non-Hispanic Whites (Figure 7.7). In 2016, 57% of non-Hispanic Blacks had been tested for HIV, than 28.6% of non-Hispanic Whites. Just over 46% of Hispanic/Latinos were tested for HIV and 37.1% of non-Hispanic Others were tested.

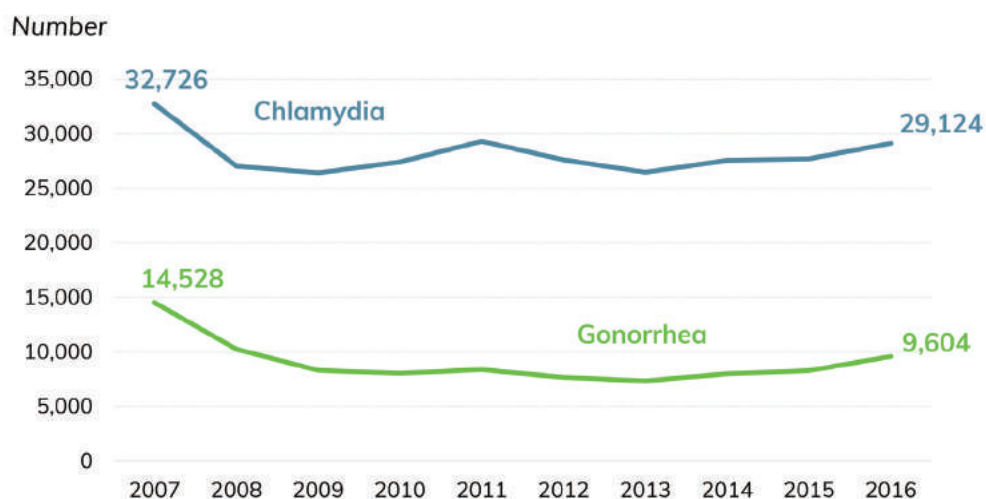
## Background

Chlamydia, gonorrhea, and infectious syphilis are all sexually transmitted diseases (STDs), which means they are passed from one person to another through intimate physical contact.<sup>4</sup> Having unprotected sex, and having multiple sexual partners increases

the risk of obtaining an STD. STDs can affect anyone; however, STDs most frequently appear in younger individuals. Sexually transmitted diseases do not always cause symptoms, so it is important to be tested regularly if individuals are engaging in high risk sexual activity.<sup>4</sup> The treatment options for STDs vary; however, chlamydia, gonorrhea, and infectious syphilis are all treatable.

FIGURE 7.8

### New Cases of Chlamydia and Gonorrhea



Source: SC DHEC Division of Surveillance and Technical Support.

## New Cases of Chlamydia



During 2016 in South Carolina, the chlamydia incidence rates were not evenly distributed in the state. The highest rates of newly diagnosed chlamydia occurred in the southern part of the state (Figure 7.9).

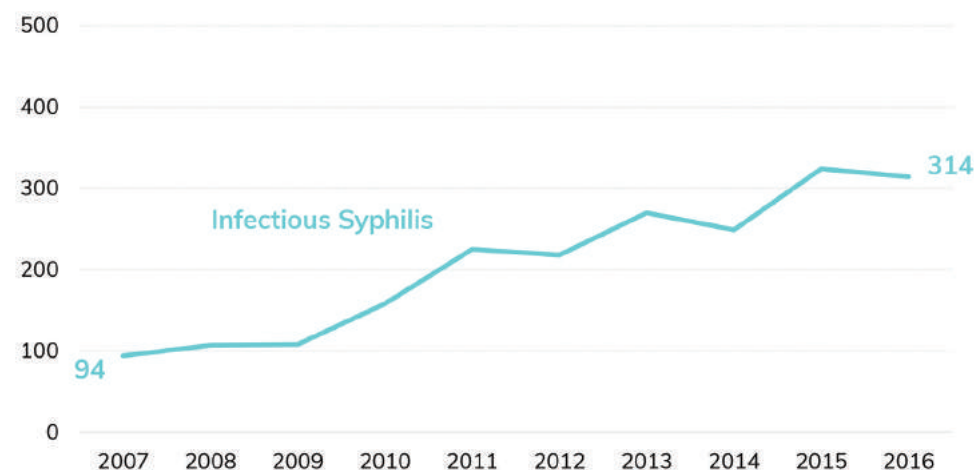
The number of syphilis cases diagnosed each year in South Carolina increased over the past ten years (Figure 7.10). In 2016, 314 cases of infectious syphilis were diagnosed; this was a 234%

increase from 94 cases in 2007. On average, the number of infectious syphilis cases diagnosed each year increased 16% per year over the last decade.

**FIGURE 7.10**

## New Cases of Infectious Syphilis

Number

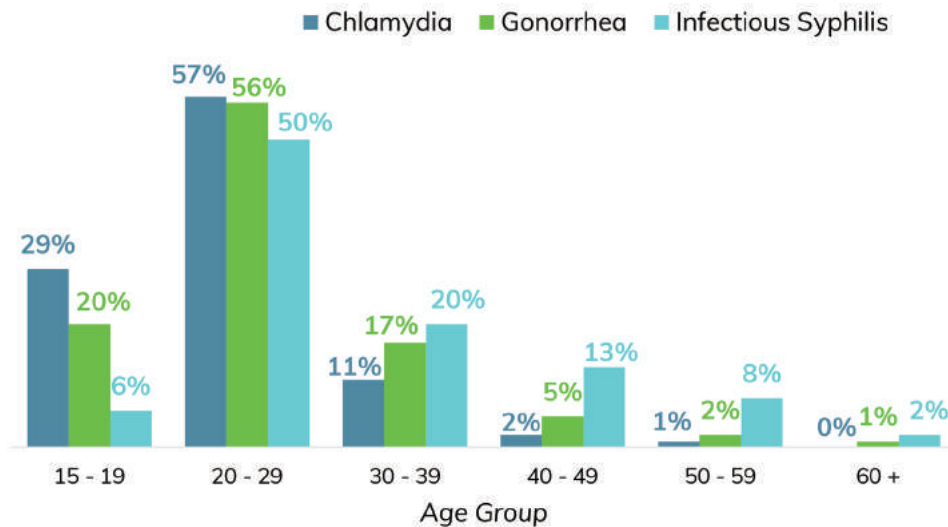


Source: SC DHEC Division of Surveillance and Technical Support.

FIGURE 7.11

**Age Distribution of Those with a Sexually Transmitted Disease**

Percent



Source: SC DHEC Division of Surveillance and Technical Support, 2016.

There were high rates of chlamydia and gonorrhea, in younger populations compared to older populations (Figure 7.11). By age groups, 86% of the people diagnosed with chlamydia in 2016 were between the ages of 15 and 29 years, with 29% aged 15-19 years, and 57% aged 20-29 years.

Gonorrhea had similar proportions to chlamydia, with 76% of cases in the 15-29 years age group, where 20% were aged 15-19 years, and 56% aged 20-29 years. Infectious syphilis impacted the 20 to 29 years age group more than any other (50%).

# TUBERCULOSIS

## Background

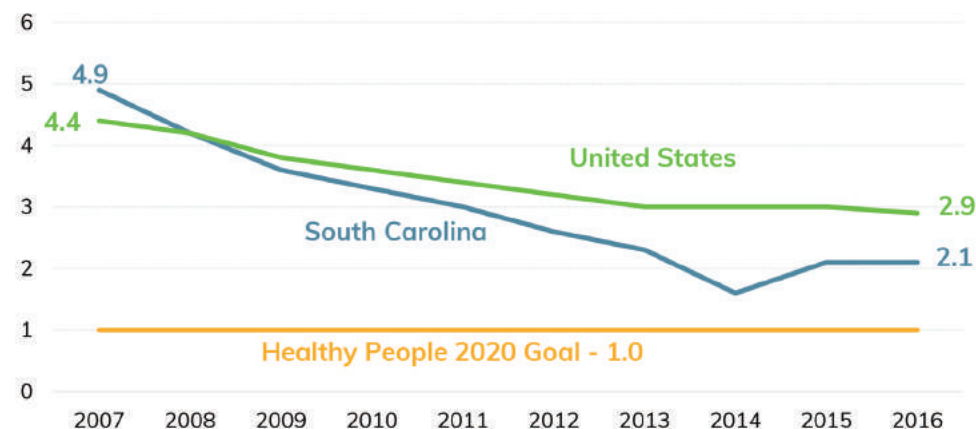
Tuberculosis (TB) is a disease found primarily in the lungs that causes a chronic cough, pain in the chest, coughing up blood, night sweats and fever.<sup>5</sup> There are two forms of TB: latent TB infection and TB disease. Latent TB infection is non-infectious and cannot be spread in that state. Latent TB infection means the individual is infected with

the bacterium but does not feel sick or show any symptoms, while TB disease is when the individual is showing signs and symptoms of the illness.<sup>5</sup> It is estimated that 10% of individuals who have latent TB infection will develop TB disease in their lifetime. It is important to be tested for TB, because treating individuals for latent TB infection can reduce their risk of developing TB disease.

FIGURE 7.12

### New Tuberculosis Disease Cases

Rate per 100,000

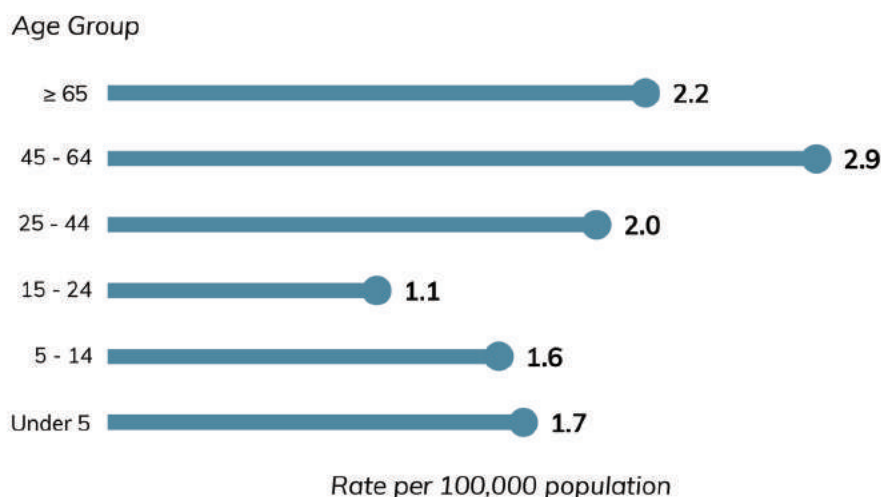


Sources: SC DHEC Tuberculosis Control, CDC Division of Tuberculosis Elimination.



FIGURE 7.13

### New Tuberculosis Disease Cases, by Age Group



Source: SC DHEC Tuberculosis Control, 2016.

## Findings in South Carolina

From 2007 to 2016, the number of new TB disease cases in South Carolina decreased from 4.9 per 100,000 people in 2007 to 2.1 per 100,000 in 2016 (Figure 7.12). The number of new TB disease cases in South Carolina was lower than the United States rate (2.9 per 100,000). As of 2016, South Carolina has not achieved the Healthy People 2020 goal (1.0 per 100,000). South Carolina ranks with Kentucky as the third lowest among the eight Southeastern states, for the incidence of TB disease. Only

Mississippi (1.5 per 100,000) and Tennessee (2.0 per 100,000) had lower rates.

In South Carolina in 2016, the number of new TB disease cases was higher in individuals aged 45-64 years than individuals aged 15-24 years (Figure 7.13). Among South Carolina residents, 1.1 per 100,000 people aged 15-24 years were diagnosed with TB disease in 2016, than 2.9 per 100,000 people aged 45-64 years.

In 2016, non-Hispanic Blacks and Hispanic/Latinos had a higher rate of newly diagnosed TB disease, than non-Hispanic Whites (data not shown).

# HEPATITIS C

## Background

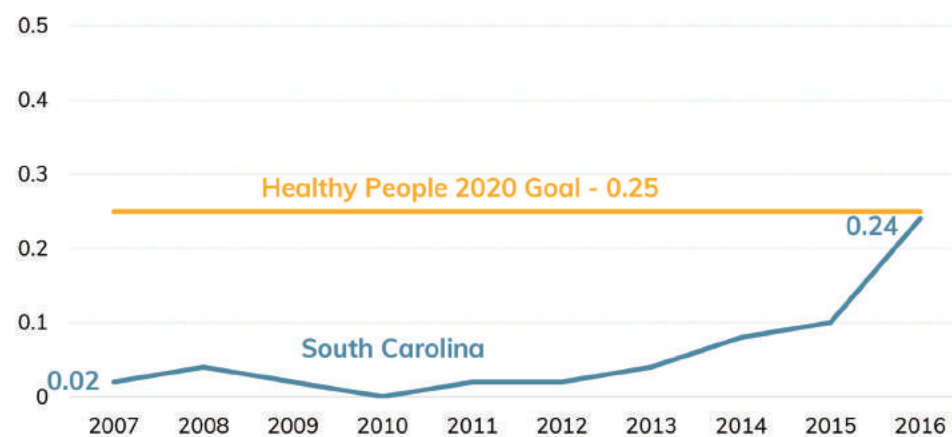
Hepatitis C is a liver disease that results from infection with the hepatitis C virus.<sup>6</sup> Most people who are infected develop a chronic, or long-term, infection. Hepatitis C is primarily spread through contact with blood from an infected person.<sup>6</sup> People born from 1946 to 1964, sometimes referred to as baby boomers, are five times more likely to have hepatitis C than other adults.<sup>7</sup> However, in the past five years, acute (new) infection rates among young adults (aged 20-39 years) have increased rapidly.<sup>8</sup>

This has been largely driven by the opioid and injection drug use epidemic.<sup>8</sup> Hepatitis C can lead to liver damage, cirrhosis, and liver cancer.<sup>1</sup> Hepatitis C is the leading cause of liver transplants.<sup>6</sup> In the United States, hepatitis C is responsible for more deaths than all other reportable infectious diseases.<sup>8</sup> Most people with hepatitis C do not know they are infected.<sup>6</sup> Since many people can live with hepatitis C for decades without symptoms or feeling sick, testing is critical so those who are infected can get treated and cured.

FIGURE 7.14

### New Cases of Acute Hepatitis C

Rate per 100,000 population

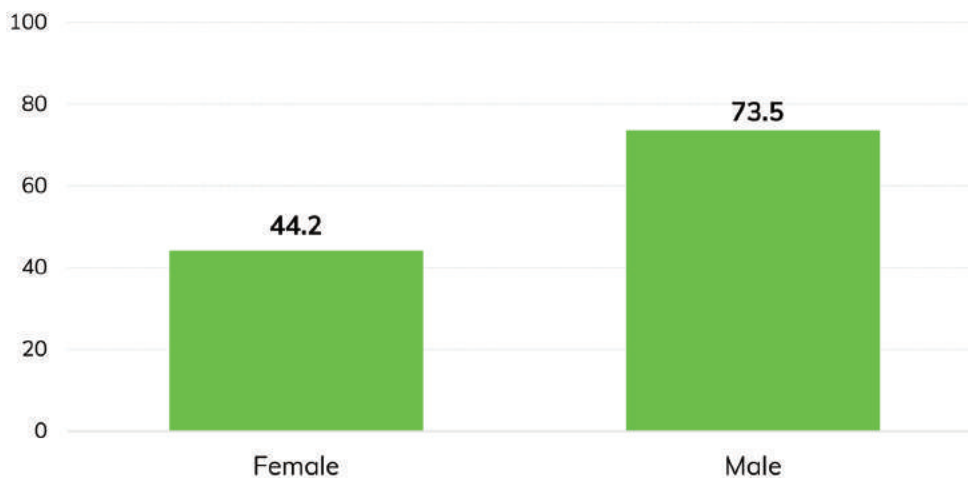


Source: SC DHEC Division of Acute Disease Epidemiology.

FIGURE 7.15

### People Living with Hepatitis C, by Sex

Rate per 100,000 population



Source: SC DHEC Division of Acute Disease Epidemiology, 2016.

## Findings in South Carolina

Overall, in South Carolina between 2007 and 2016, there was not a statistically significant increase in the rate of acute hepatitis C (Figure 7.14). The acute hepatitis C rate increased over the last five years, from 2011 to 2016. In South Carolina in 2016, 0.24 per 100,000 individuals were diagnosed with acute hepatitis C. As of 2016, South Carolina has achieved the Healthy People 2020 goal of 0.25 per 100,000 new cases of acute hepatitis C.

When evaluating the rate of people living with hepatitis C by sex, males were disproportionately impacted (Figure 7.15). In 2016, 73.5 per 100,000 males were living with hepatitis C compared to 44.2 per 100,000 females.

Among South Carolina residents, there was a higher rate of older individuals living with hepatitis C than younger individuals, with 45-65 year olds having the highest rates (data not shown).

# FLU VACCINE

## Background

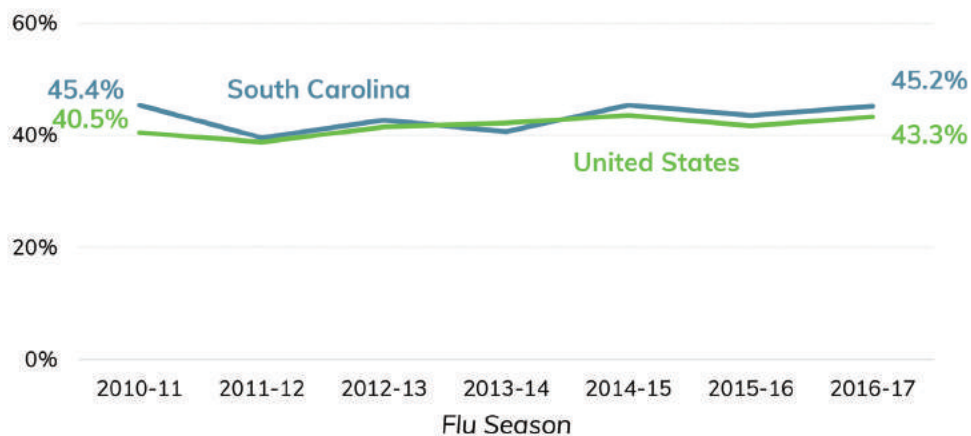
The flu is a contagious respiratory illness that can cause mild to severe illness, and complications can lead to hospitalization and death.<sup>9</sup>

Typically the flu is spread through direct contact with sick individuals. The flu vaccine is the best protection against the flu. It is recommended that everyone six months of age and older be vaccinated annually.<sup>10</sup>

FIGURE 7.16

### Adults Who Received a Flu Vaccine per Flu Season

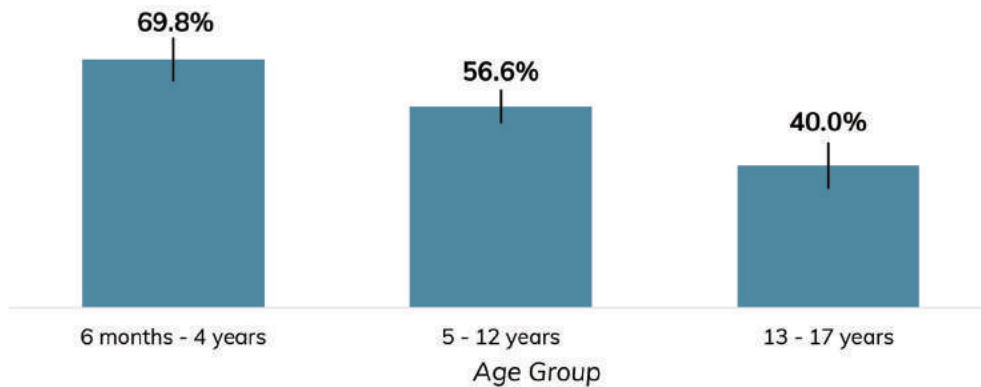
Percent



Source: CDC NIS.  
Note: Adults 18+.

FIGURE 7.17

**Children Who Received a Flu Vaccine During 2016-2017 Flu Season, by Age Group**  
Percent



Source: CDC NIS, 2016-2017.

## Findings in South Carolina

In South Carolina, the percent of adults 18 and older who received a flu vaccine remained stable from the 2010-2011 (45.4%) flu season to the 2016-2017 (45.2%) flu season (Figure 7.16).

During the 2016-2017 flu season, South Carolina had the second highest percent of adults 18 years and older who received the flu vaccine among the southern states (45.2%). North Carolina was the only state in the southern region to have a higher percentage of adults who

received a flu vaccine, with 48.1% being vaccinated against the flu (data not shown).

During the 2016-2017 flu season, 55.5% of children six months to 17 years in South Carolina received a flu shot. There was not a statistically significant increase in the percentage of children who were vaccinated against the flu from the 2010-2011 flu season to the 2016-2017 flu season (data not shown). For the 2016-2017 flu season, children aged 13-17 years had a lower prevalence of receiving a flu vaccine, with only 40% being vaccinated, than children aged six months to four years (69.8%; Figure 7.17).

# FLU VACCINE DURING PREGNANCY

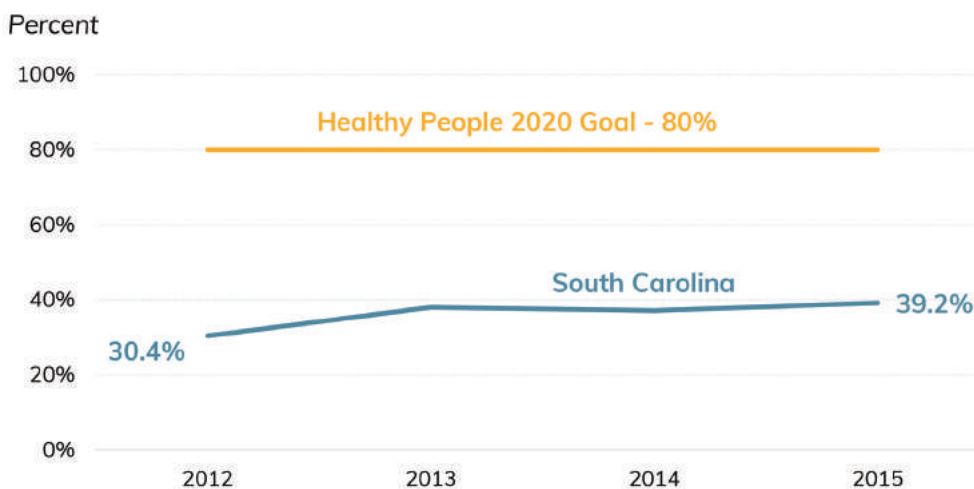
## Background

The flu is more likely to cause a severe illness among pregnant women, compared to women who are not pregnant.<sup>11</sup> Pregnant women are at an increased risk for a severe

case of the flu due to changes in the immune system, heart, and lungs during pregnancy. Not only can the flu cause severe reactions to the mother but it can also cause adverse outcomes for the infant. It is recommended that pregnant women receive the flu shot.

FIGURE 7.18

### Women Who Received a Flu Vaccine During Pregnancy

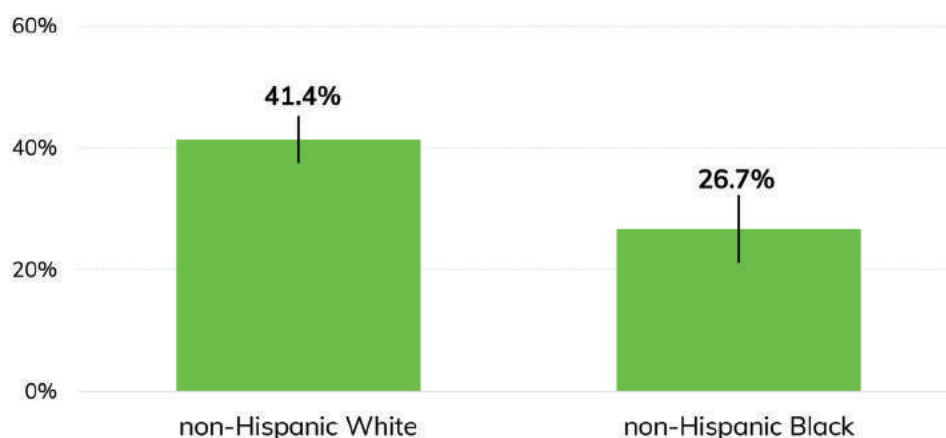


Source: SC DHEC PRAMS.  
Note: Women 18+.

FIGURE 7.19

### Women Who Received a Flu Vaccine During Pregnancy, by Race/Ethnicity

Percent



Source: SC DHEC PRAMS, 2012-2015.

## Findings in South Carolina

From 2012 to 2015, the percent of pregnant women who received the flu vaccine increased from 30.4% in 2012 to 39.2% in 2015; however, this was not statistically significant (Figure 7.18). As of 2015, South Carolina has not achieved the Healthy People 2020 goal of 80% of pregnant women receiving a flu vaccine.

Pregnant women aged 20-24 years had a lower percentage of receiving the flu vaccine (29.9%) in 2015 than those 30-34 years (43.1%). In South

Carolina in 2015, the percentage of women who received a flu vaccine during pregnancy was higher in those with an annual household income of at least \$52,000 (50.9%) than those with an annual household income of less than \$15,000 (27.5%; data not shown).

From 2012-2015 combined in South Carolina, the percentage of women receiving a flu vaccine during pregnancy was higher in non-Hispanic White women than in non-Hispanic Black women (Figure 7.19). Forty-one percent of non-Hispanic White pregnant women received a flu vaccine, than 26.7% of non-Hispanic Black women.

# COMBINED 7-VACCINE SERIES

## Background

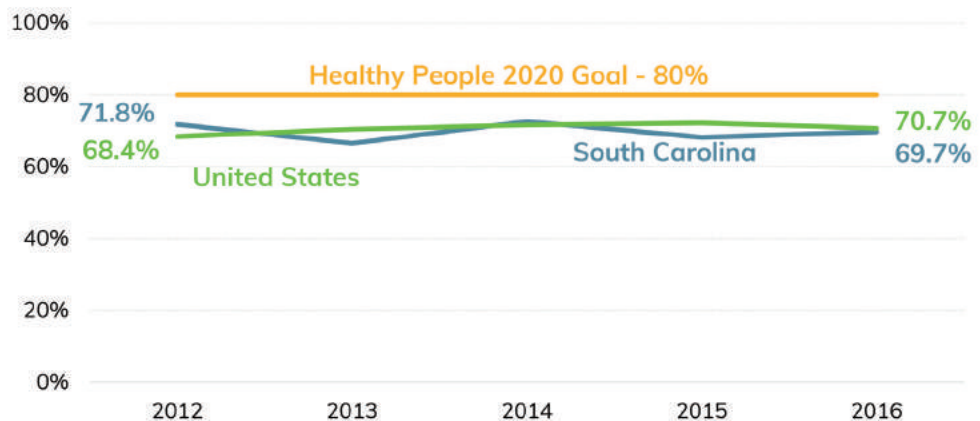
Children are recommended to undergo a series of vaccinations between birth through toddler years to protect against a variety of diseases including: diphtheria, tetanus, pertussis, measles, mumps, rubella, hepatitis B, chicken pox,

and pneumococcal infections. These vaccines prevent these dangerous and potentially deadly diseases, while also preventing the spread of diseases to others.<sup>12</sup> Young children, including infants and toddlers, are at higher risk for developing some of these diseases, and for developing serious complications.<sup>13</sup>

FIGURE 7.20

### Vaccination Coverage for the Combined 7-Vaccine Series Among Children Age 19-35 Months

Percent



Source: CDC NIS.

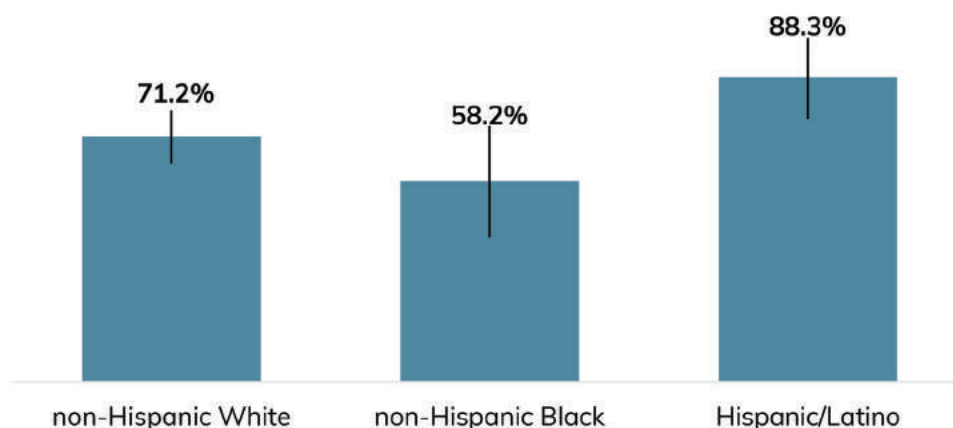
Note: The combined 7-vaccine series includes  $\geq 4$  doses of DTaP,  $\geq 3$  doses of Polio,  $\geq 1$  dose of measles-containing vaccine, Hib full series,  $\geq 3$  HepB,  $\geq 1$  Var, and  $\geq 4$  PCV.



FIGURE 7.21

### Vaccination Coverage for the Combined 7-Vaccine Series Among Children Ages 19-35 Months, by Race/Ethnicity

Percent



Source: CDC NIS, 2016.

Note: The combined 7-vaccine series includes  $\geq 4$  doses of DTaP,  $\geq 3$  doses of Polio,  $\geq 1$  dose of measles-containing vaccine, Hib full series,  $\geq 3$  HepB,  $\geq 1$  Var, and  $\geq 4$  PCV.

## Findings in South Carolina

From 2012 to 2016, the percentage of children aged 19-35 months who completed the combined 7-vaccine series decreased; however, this was not statistically significant (Figure 7.20). In South Carolina in 2016, 69.7% of children 19-35 months received this vaccine series. Even though the vaccination for this age group is below the Healthy People 2020 goal of 80%, children are up to date with vaccines by the time they enter kindergarten. For the

2017-2018 school year, 94.5% of kindergarteners had received the vaccines required for school.<sup>14</sup>

In South Carolina in 2016, there were differences seen between racial/ethnic groups in receiving the combined 7-vaccine series; however, these were not statistically significant. The highest percent of children receiving the vaccine series were Hispanic/Latino, at 88.3% (Figure 7.21). A lower percentage of non-Hispanic White (71.2%) children received the 7-vaccine series, followed by non-Hispanic Black children (58.2%).

# HPV VACCINE

## Background

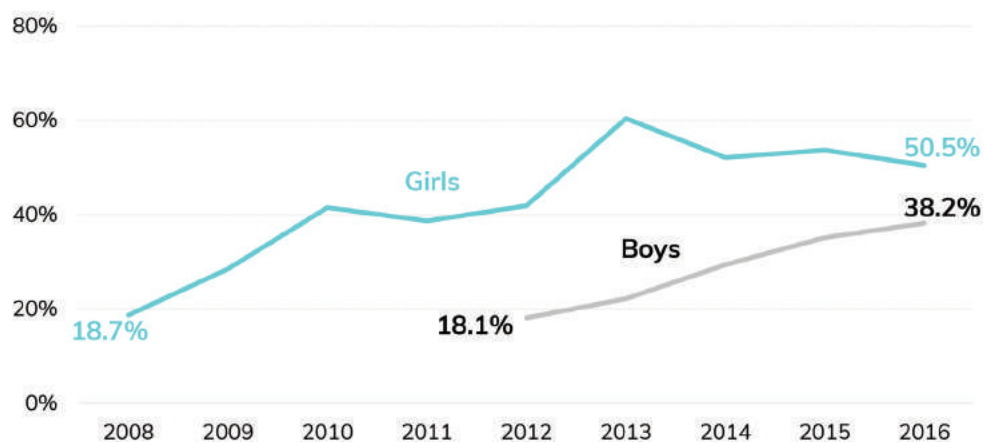
The human papillomavirus (HPV) vaccine is recommended for all children at age 11-12 years old.<sup>15</sup> HPV is so common that nearly all men and women get it at some point in their lives.<sup>16</sup> Most of the time HPV infection does not present with symptoms and the infection resolves on its own. If the infection does not go away, it can cause genital warts and cancers, including

cervical, vaginal, vulvar, anus/rectum, mouth/throat, and penile. Annually, 75 South Carolina women die from cervical cancer, the 11<sup>th</sup> highest cervical cancer mortality rate in the nation.<sup>17</sup> The HPV vaccine is important for teens because it can prevent 90% of HPV related cancers.<sup>15</sup> Teens who start the vaccine series before age 15 need two doses, 6-12 months apart. Teens who start the vaccine at age 15 or older need three shots.<sup>18</sup>

FIGURE 7.22

### Adolescents Ages 13-17 Years Who Received at Least One Dose of HPV Vaccine

Percent

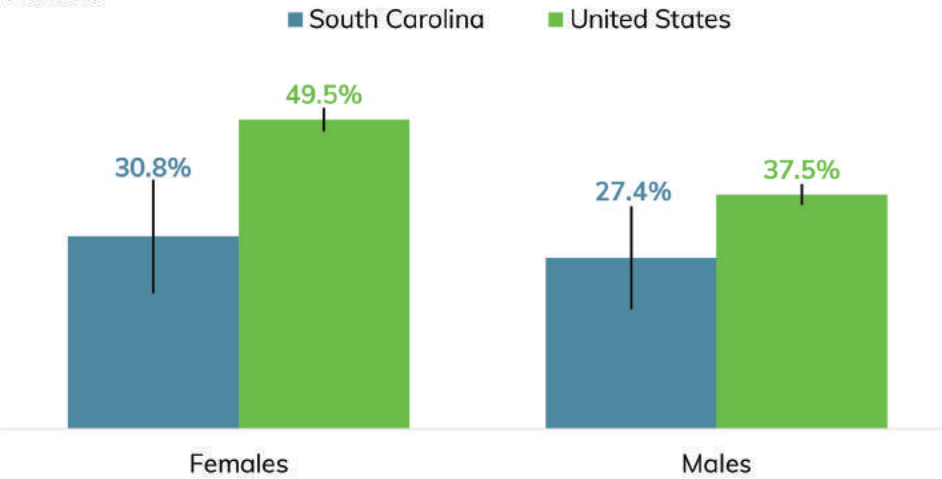


Source: CDC NIS - Teen.

FIGURE 7.23

### Adolescents Ages 13-17 Years Who Are Up-To-Date with the HPV Vaccine

Percent



Source: CDC NIS -Teen, 2016.

## Findings in South Carolina

From 2008 to 2016, South Carolina saw an increase in female adolescents who had initiated the HPV vaccine series by receiving at least one dose of the vaccine (Figure 7.22). Although, the percentage of females vaccinated has increased, this is still lower than the national average. Similarly, South Carolina adolescent males saw an increase in the percentage of those who had initiated the HPV vaccine series by receiving at least one dose of the HPV vaccine. Although this increased, more than six out of ten boys are still not protected

against HPV related cancer. In South Carolina in 2016, 50.5% and 38.2% of adolescent females and males, respectively, had received at least one dose of the HPV vaccine.

South Carolina ranks 48<sup>th</sup> in the nation for the percent of adolescents who were up-to-date with the HPV vaccine series, ranking above only Wyoming and Mississippi. In 2016, South Carolina had 27.4% of male adolescents who were up-to-date with the HPV vaccine series, than 37.5% in the United States (Figure 7.23). Similarly, South Carolina has 30.8% of female adolescents up-to-date with the HPV vaccine series than 49.5% in the United States, which is lowest in the nation.

# TDAP BOOSTER

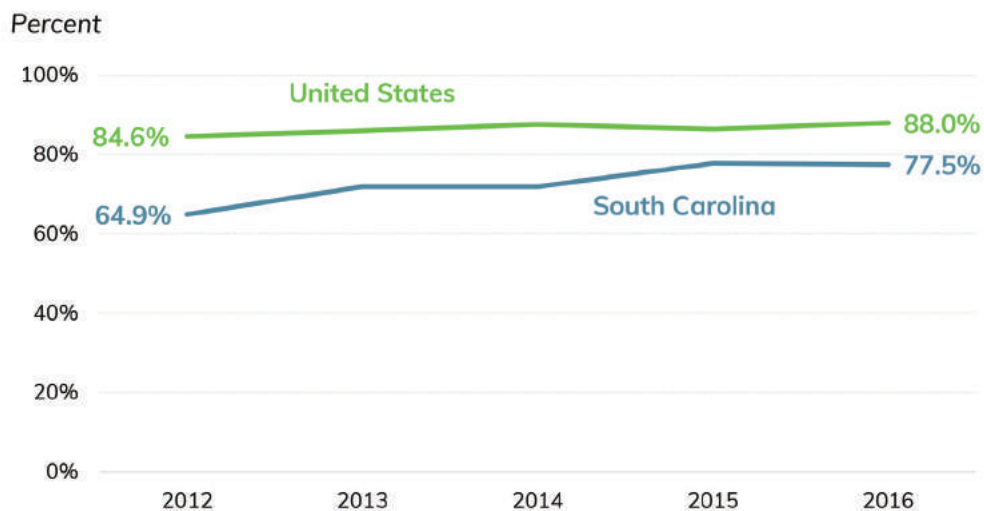
## Background

Tdap is a vaccine that protects against tetanus (lockjaw), diphtheria, and pertussis (whooping cough). Vaccination for these diseases has led to a 99% decrease in cases of tetanus and diphtheria in the United States, and an 80% decrease in

pertussis cases.<sup>19</sup> Pertussis is a very contagious disease and to ensure that teens are protected, a Tdap booster vaccine is recommended for all children at 11-12 years of age.<sup>19</sup> In 2013, South Carolina added Tdap as a school requirement for students entering the 7<sup>th</sup> grade.

FIGURE 7.24

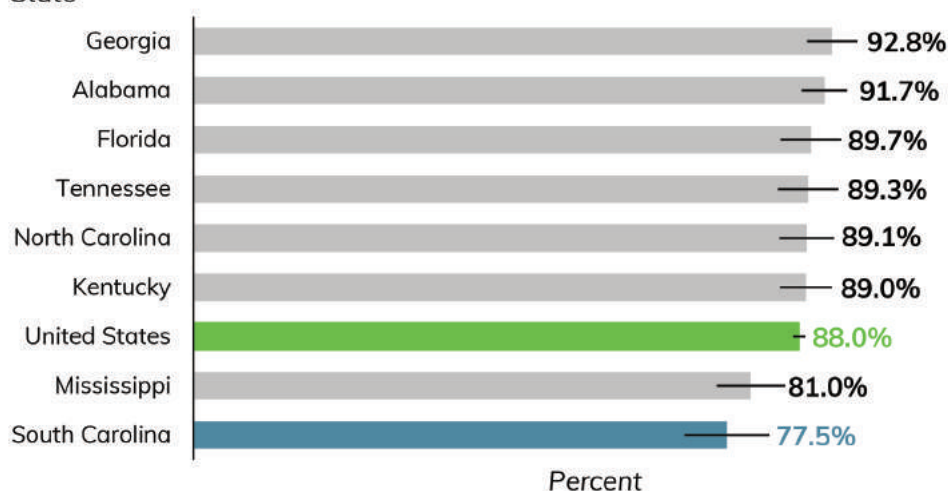
### Adolescents Ages 13-17 Years Who Received a Tdap Booster



Source: CDC NIS - Teen.

FIGURE 7.25

### Adolescents Who Received a Tdap Booster Southern State Comparison



Source: CDC NIS - Teen, 2016.

## Findings in South Carolina

From 2012 to 2016, South Carolina increased the percent of adolescents who had received a Tdap booster; however, this was not a statistically significant increase (Figure 7.24). In South Carolina in 2012, 64.9% of adolescents had received the Tdap booster, compared to 77.5% in 2016. This percent in 2016 was lower than the United States

average of 88.0% of adolescents who had received the Tdap booster.

South Carolina has the lowest vaccination rates in the nation for adolescents who had received a Tdap booster in 2016 (data not shown). In South Carolina in 2016, 77.5% of adolescents had received the Tdap booster (Figure 7.25). Compared to other southern states, Georgia had the highest percentage of adolescents who received the Tdap booster, at 92.8%.

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# Injury

214	OVERALL INJURY
216	MOTOR VEHICLE CRASHES
220	INJURY PREVENTION IN MOTOR VEHICLES
222	SUICIDE
224	HOMICIDE
226	FALLS
228	CHILD MALTREATMENT
230	SEXUAL VIOLENCE

# OVERALL INJURY

## Background

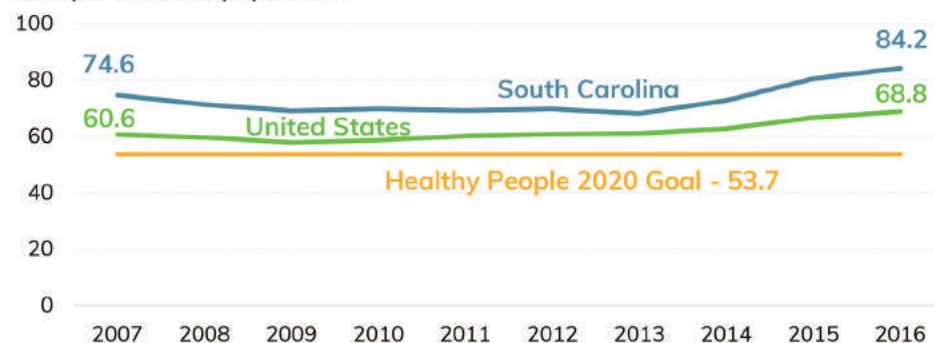
Violence and injuries affect everyone regardless of age, race, or economic status. In the first half of life, more Americans die from violence and injuries, such as motor vehicle crashes, falls, or homicides, than from any other cause.<sup>1</sup> In the United States, unintentional injury is the fourth leading cause of death, and

it is the leading cause of death for people 1-44 years old.<sup>1</sup>

Each year, millions of people survive injuries, facing life-long mental, physical, and financial problems. Overall, injury includes all unintentional injuries and intentional injuries. Intentional injuries include assaults, homicide, suicide or self-inflicted injuries, legal intervention, and acts of war or terrorism.<sup>1</sup>

**FIGURE 8.1**  
**Injury Deaths**

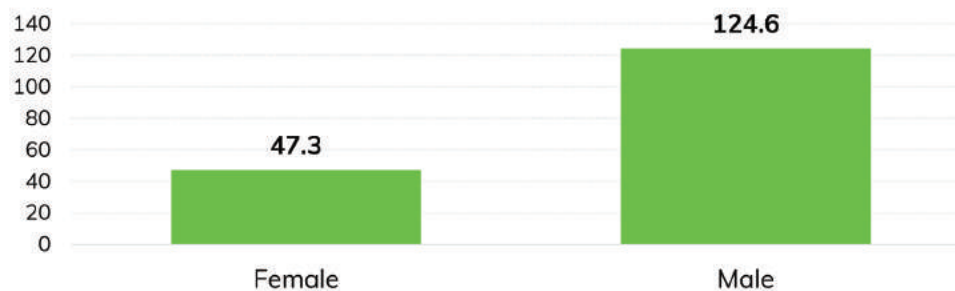
Rate per 100,000 population



Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.

**FIGURE 8.2**  
**Injury Deaths, by Sex**

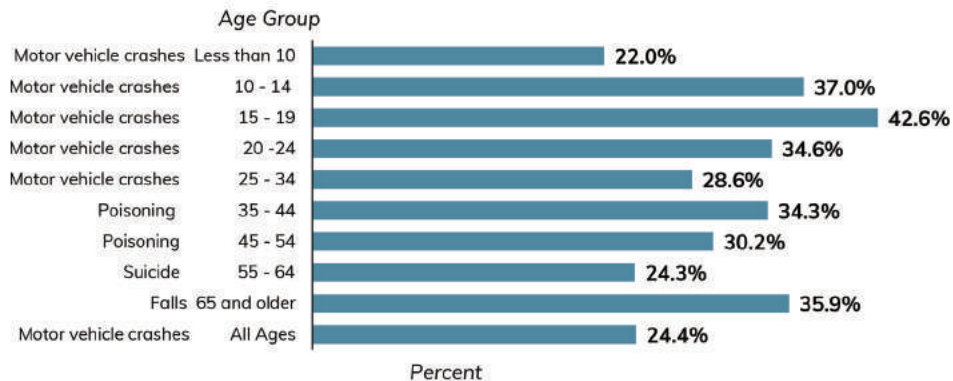
Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2016.  
Note: Age-adjusted.

FIGURE 8.3

### Leading Cause of Injury Deaths, by Age Group



Source: SC DHEC Vital Statistics, 2016.

## Findings in South Carolina

From 2007 through 2016, the injury death rate varied from 74.6 per 100,000 people in 2007 to 84.2 per 100,000 in 2016 (Figure 8.1). As of 2016, South Carolina had not met the Healthy People 2020 goal of 53.7 per 100,000 injury related deaths per year. The injury death rate in South Carolina was higher than the national rate (68.8 per 100,000).

The injury death rate in South Carolina in 2016 for males (124.6 per 100,000) was twice as high as the rate for females (47.3 per 100,000; Figure 8.2).

In 2016, South Carolina ranked fourth of the eight Southeastern states in injury death rate. In 2016, the injury death rate in South

Carolina was 91.0 per 100,000 in non-Hispanic White residents, and was higher than non-Hispanic Black residents (76.6 per 100,000), and Hispanic residents (40.8 per 100,000). The injury death rate in South Carolina in 2016 was highest in the population age 65 years and over. The injury death rate was almost ten times higher in ages 20 to 24 years than ages 10 to 14 years (data not shown).

Motor vehicle crashes were the leading cause of injury death in ages less than 10-years old (22.0%), 10-14 years (37.0%), 15-19 years (42.6%), 20-24 years (34.6%), and 25-34 years (28.6%; Figure 8.3). Poisonings, mainly opioid overdoses, were the main cause of injury deaths in adults aged 35-54 years. In adults aged 55-64 years, suicide was the main cause of injury death and in adults over age 64 years, the main cause of injury death was falls.

# MOTOR VEHICLE CRASHES

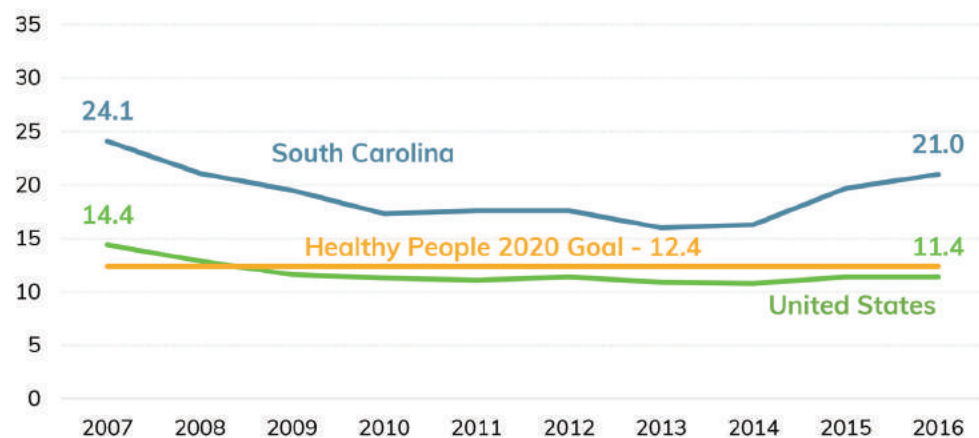
## Background

Motor vehicle crashes are the most common cause of injury-related death, comprising 24.4% of all fatal injuries in South Carolina.<sup>2</sup> In 2016 motor vehicle crashes killed 1,049 people in South Carolina and more than 38,000 people nationally.<sup>3</sup>

Nonfatal crash injuries to drivers and passengers resulted in more than \$51 billion in lifetime medical and work loss costs in 2012 in the United States.<sup>4</sup> In the past decade, motor vehicle crashes have resulted in more than 500,000 nonfatal injuries on South Carolina roads.<sup>5</sup>

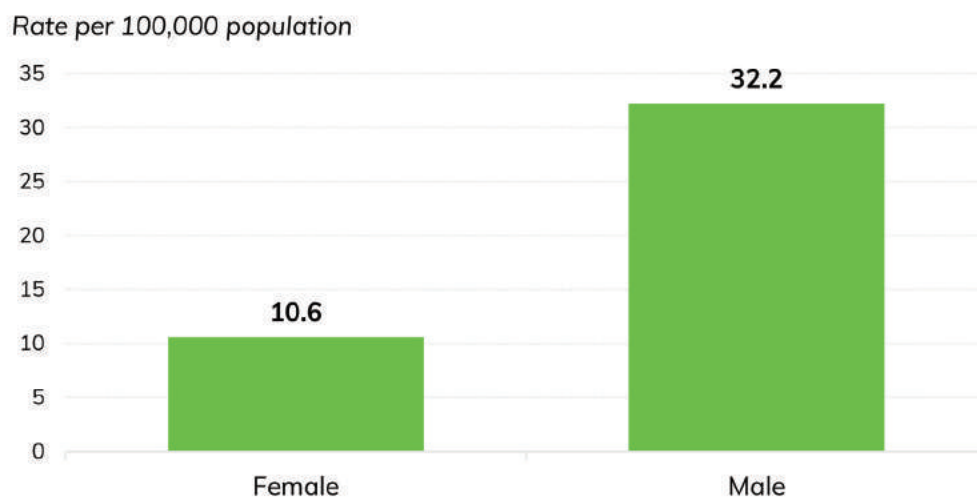
**FIGURE 8.4**  
**Motor Vehicle Crash Deaths**

Rate per 100,000 population



Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.

**FIGURE 8.5**  
**Motor Vehicle Crash Deaths, by Sex**



Source: SC DHEC Vital Statistics, 2016.  
Note: Age-adjusted.

## Findings in South Carolina

From 2007 through 2016, the motor vehicle crash (MVC) death rate varied from 24.1 per 100,000 people in 2007 to 21.0 per 100,000 in 2016 (Figure 8.4). The MVC death rate in South Carolina was higher than the national rate. South Carolina ranked second highest of the eight Southeastern states, lower only than Mississippi (25.7 per 100,000; data not shown). As of 2016, South Carolina has not achieved

the Healthy People 2020 goal of 12.4 motor vehicle fatalities per 100,000 population.

In 2016, the MVC death rate in South Carolina was 20.2 per 100,000 in non-Hispanic White residents, and was 30% higher in non-Hispanic Black residents (25.8 per 100,000). The MVC death rate in Hispanic/Latino residents was 12.0 deaths per 100,000, a lower rate compared to non-Hispanic White residents (20.2 per 100,000). Motor vehicle fatality rates were higher in individuals older than 15 years than those younger than 15 years (data not shown).

# MOTOR VEHICLE CRASHES

The MVC death rate in South Carolina during 2016 was three times higher in males (32.2 per 100,000) than in females (10.6 per 100,000; Figure 8.5).

The number of nonfatal motor vehicle crash injuries in South Carolina has increased in the past decade by 26% from 48,475 in 2007 to 61,267 in 2016, though not statistically significant (Figure 8.6). In South Carolina an average of 50,763 nonfatal MVC injuries occur per year.

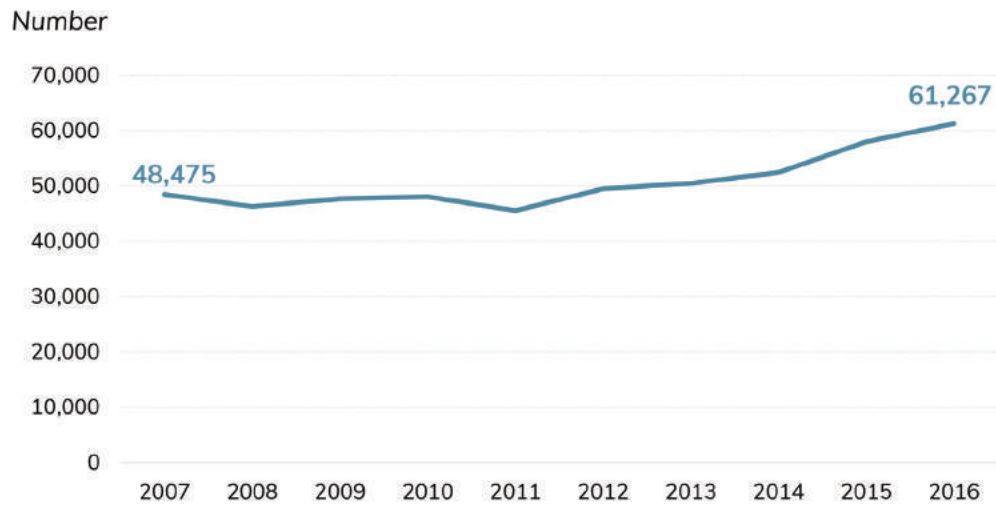
The rate of nonfatal motor vehicle crash injuries in Black residents (1,990.0 per 100,000) was higher than White residents (870.8 per 100,000) in South Carolina in 2016. However, Hispanic/Latino residents

(794.6 per 100,000) had a lower rate of nonfatal traffic collisions than White residents in South Carolina in 2016. Females (1,248.8 per 100,000) had a higher rate of being injured in a nonfatal motor vehicle crash than males (1,195.0 per 100,000; data not shown).

The group most likely to be affected by nonfatal motor vehicle crash injuries are adolescents and young adults age 15 to 24 years (Figure 8.7). Higher proportion of nonfatal motor vehicle crash injuries were found in those older than 14 years than those younger than 14 years. As people age, after age 34 years, the likelihood of their experiencing a nonfatal injury due to a motor vehicle accident decreases.

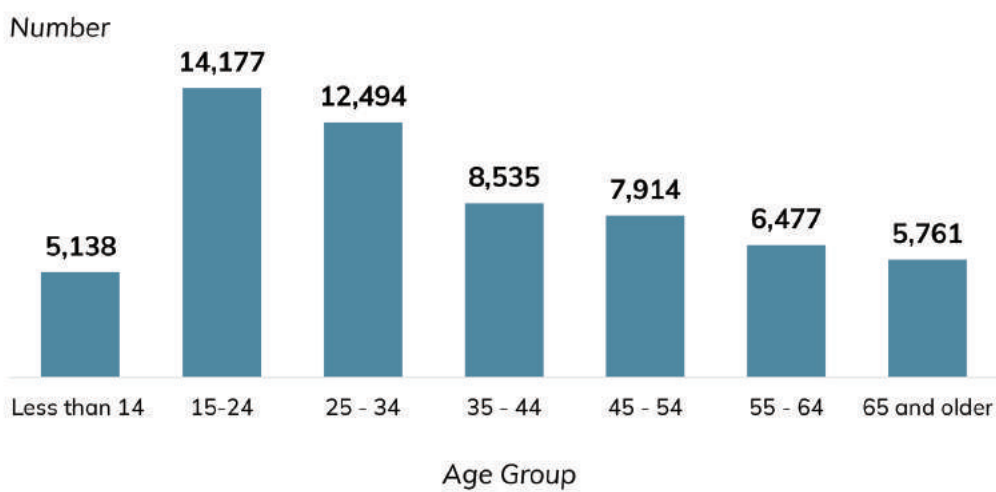
**FIGURE 8.6**

### Nonfatal Motor Vehicle Crash Injuries



**FIGURE 8.7**

### Nonfatal Motor Vehicle Crash Injuries, by Age Group



# INJURY PREVENTION IN MOTOR VEHICLES

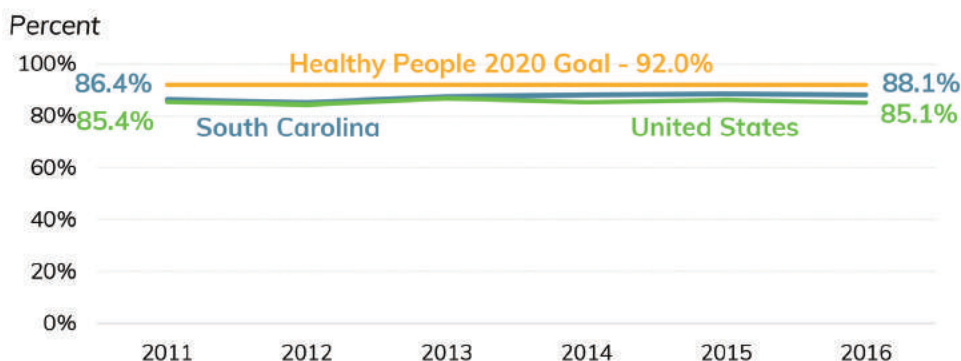
## Background

Motor vehicle crashes are a leading cause of death among those aged 1-54 in the United States. For adults and older children, who are big enough for seat belts to fit properly, seat belt use is one of the most effective ways to save lives and

reduce injuries in crashes. Seat belts reduce serious crash-related injuries and deaths by almost half.<sup>6</sup> Texting while driving, a dangerous distracted driving activity that can increase the chance of a motor vehicle crash, has become a significant public health and safety issue in the past decade, especially among teenagers.<sup>7</sup>

FIGURE 8.8

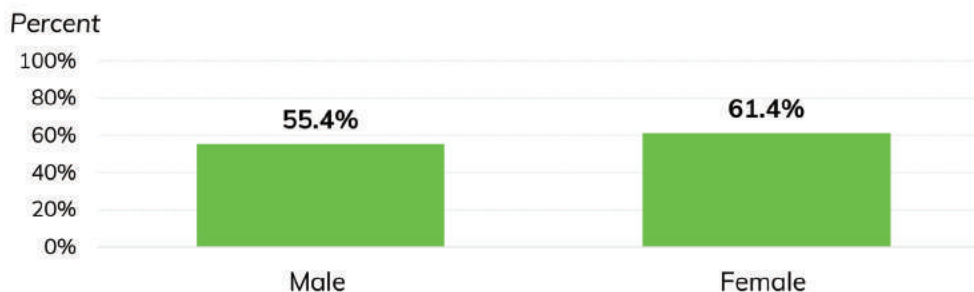
### Always Use a Seatbelt Among Adults



Sources: SC BRFSS, CDC BRFSS.  
Note: Ages 18+.

FIGURE 8.9

### Always Use a Seatbelt Among Adolescents, by Sex

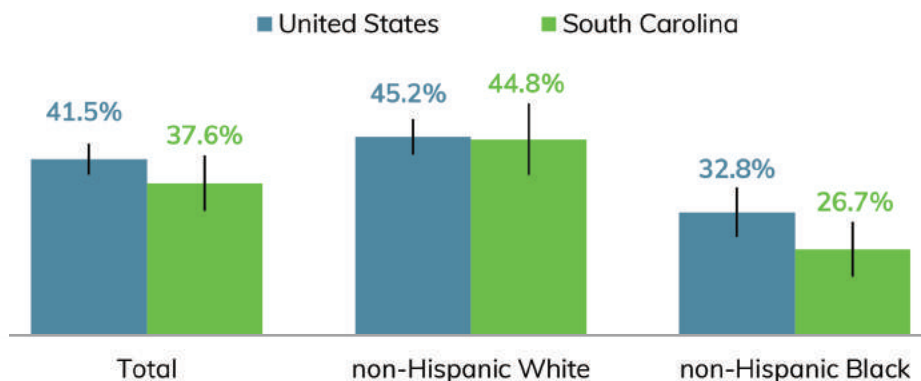


Sources: SC DE, SC YRBSS, 2015.  
Note: Grades 9-12.



**FIGURE 8.10****Texted or Emailed While Driving Among Adolescents, by Race/Ethnicity**

Percent



Sources: SC YRBSS, CDC YRBSS, 2015.  
Note: Grades 9-12.

## Findings in South Carolina

The trend of seatbelt use in South Carolina from 2011 to 2016 was fairly stable and not statistically significant (Figure 8.8). As of 2016, South Carolina has not achieved the Healthy People 2020 goal of 92% of adults wearing a seatbelt. In 2016, the median percent of adults always wearing a seatbelt was 85.1% in the United States.

In 2016, the prevalence of those who always use a seatbelt was lower in non-Hispanic Black residents (85.0%) compared to non-Hispanic White residents (89.3%), though not statistically significant. Hispanic/Latino residents (91.7%) reported always wearing a seatbelt more than non-Hispanic White residents. In South Carolina in 2016, the prevalence of those who always use a seatbelt was higher in females (92.2%) than in males, though not

statistically significant (83.7%; data not shown).

In 2005 in South Carolina, 36.9% of adolescents always used a seatbelt, while in 2015, 58.0% always used a seatbelt (data not shown). In 2015, 61.4% of adolescent females always used a seatbelt, while 55.4% of adolescent males always used a seatbelt (Figure 8.9).

In 2015, almost half of teens surveyed in the nation reported texting and driving (41.5%). In South Carolina only slightly more than one third (37.6%) of teens surveyed reported texting and driving (Figure 8.10). In both South Carolina and nationally, non-Hispanic White persons were more likely to text and drive than non-Hispanic Black persons. However, no statistically significant difference was found by sex (data not shown). South Carolina's prevalence for texting and driving did not have a statistically significant difference from the national prevalence.

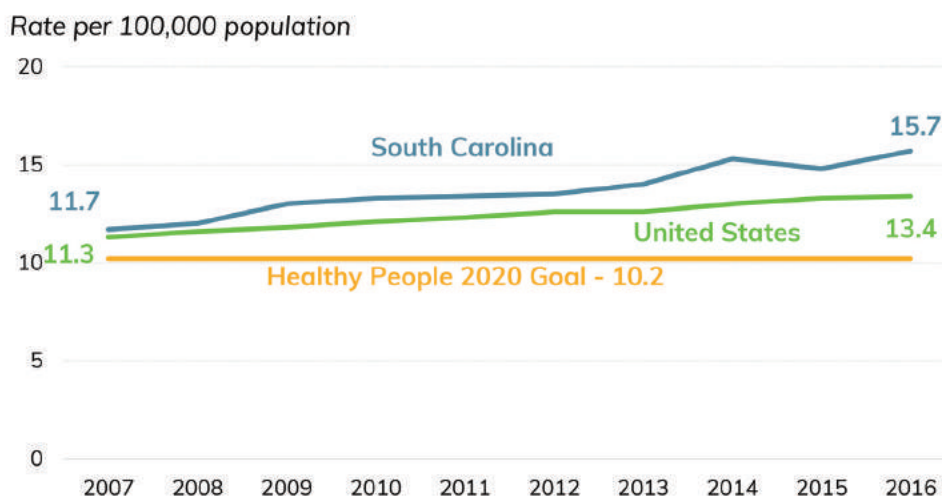
## Background

Self-inflicted injuries, including suicides, are preventable. Suicide accounts for more than 60% of costs due to violent deaths. While its causes are complex and determined by multiple factors, the goal of suicide prevention is to reduce factors that increase risk and increase factors that promote resilience. Ideally, prevention

addresses all levels of influence: individual, relationship, community, and societal.<sup>8</sup>

Suicide is the 10<sup>th</sup> leading cause of death nationally.<sup>1</sup> Suicide is defined as a death resulting from the use of force against oneself when a preponderance of the evidence indicates that the use of force was intentional.<sup>8</sup>

**FIGURE 8.11**  
**Suicide Deaths**

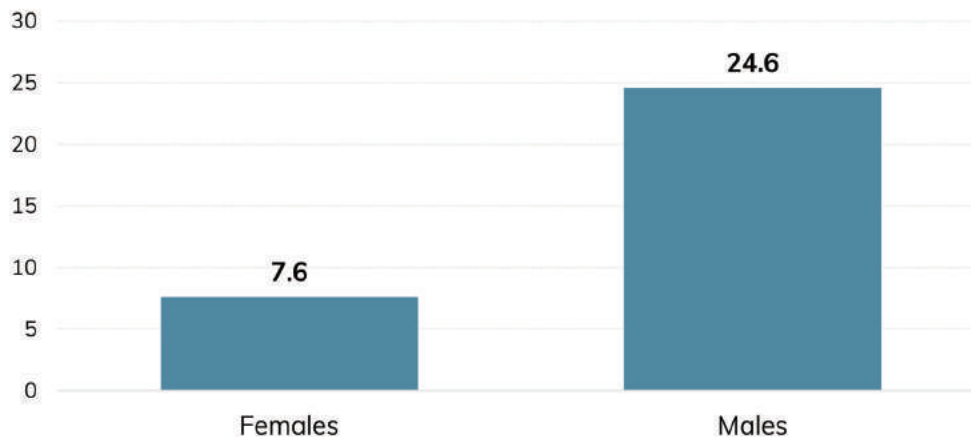


Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.

**FIGURE 8.12**

**Suicide Deaths, by Sex**

Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2016.  
Note: Age-adjusted.

## Findings in South Carolina

From 2007 through 2016, the suicide rate increased in South Carolina from 11.7 per 100,000 people in 2007 to 15.7 per 100,000 in 2016 (Figure 8.11). The suicide rate in South Carolina was higher than the United States (13.4 deaths per 100,000). As of 2016, South Carolina has not achieved the Healthy People 2020 goal of 10.2 suicide deaths per 100,000 people.

The suicide rate in South Carolina during 2016 was higher in males (24.6 per 100,000) than females

(7.6 per 100,000), a more than three-fold difference (Figure 8.12).

In 2016, the suicide rate within South Carolina was higher in non-Hispanic White residents (20.7 deaths per 100,000), which was 3.6 times higher than non-Hispanic Black residents (5.8 per 100,000). No statistically significant difference existed between the rate of suicides in non-Hispanic Black persons and Hispanic/Latino persons in South Carolina in 2016. The suicide rate in South Carolina during 2016 was higher in 45 to 54-year olds, than younger individuals (less than 19 years; data not shown).

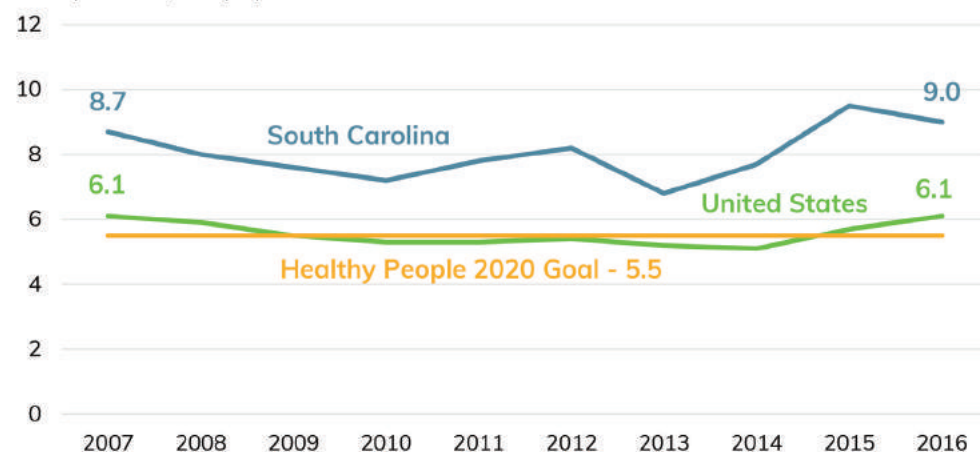
## Background

According to data from CDC's National Violent Death Reporting

System (NVDRS), an estimated 57,000 persons die annually in the United States as a result of violence-related injuries, of which about 28% are homicides.<sup>9</sup>

**FIGURE 8.13**  
**Homicide Deaths**

Rate per 100,000 population

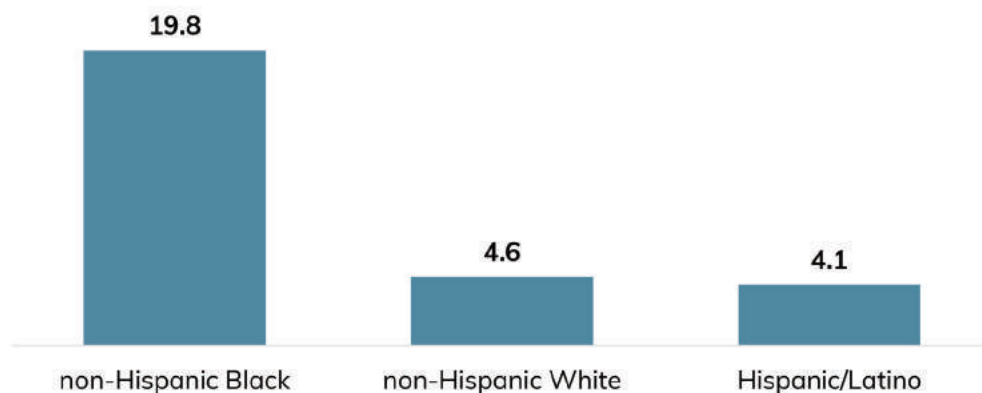


Sources: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted.

**FIGURE 8.14**

### **Homicide Deaths, by Race/Ethnicity**

Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2016.  
Note: Age-adjusted.

## **Findings in South Carolina**

From 2007 through 2016, the homicide rate in South Carolina ranged from 8.7 per 100,000 people in 2007 to 9.0 per 100,000 in 2016 (Figure 8.13). That homicide rate is higher than the United States (6.1 deaths per 100,000). As of 2016, South Carolina has not achieved the Healthy People 2020 goal of 5.5 homicides per 100,000 residents.

In 2016, the homicide rate within South Carolina was 4.6 per 100,000 in non-Hispanic White residents,

4.1 per 100,000 in Hispanic/Latino residents, and was, over four times higher in non-Hispanic Black residents (19.8 per 100,000; Figure 8.14).

The homicide rate in South Carolina during 2016 was four times higher in males (14.6 per 100,000) than females (3.6 per 100,000). The homicide rate in South Carolina during 2016 was highest among 20 to 34-year olds. South Carolina's homicide rate ranks third highest of the eight Southeastern states, lower only than Mississippi (11.3 per 100,000) and Alabama (10.2 per 100,000; data not shown).

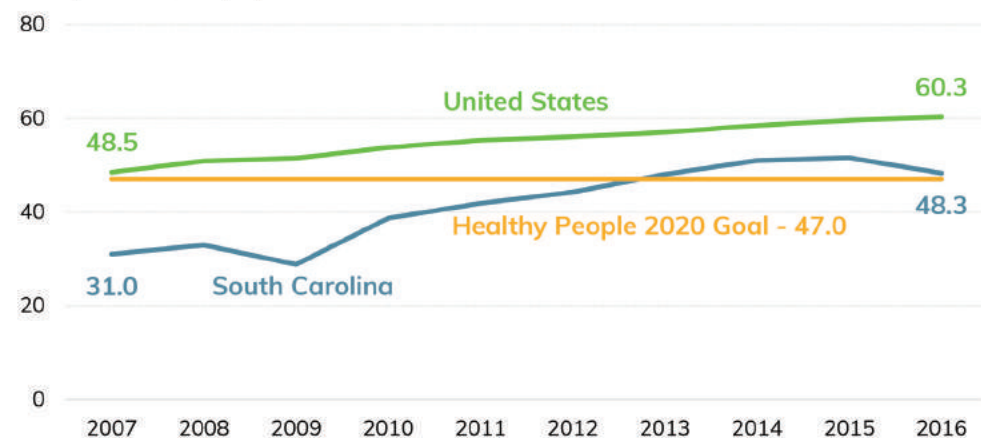
## Background

Falls are a threat to the health of older adults and can significantly limit their ability to remain self-sufficient. Each year, millions of adults 65 years and older suffer a fall.<sup>10</sup> Falls can cause moderate

to severe injuries, such as hip fractures and head traumas, and can increase the risk of early death. Falls are a public health problem that can be mitigated.<sup>11</sup> Among adults 65 years and older, falls are the leading causes of both fatal and nonfatal injuries.<sup>12</sup>

**FIGURE 8.15**  
**Deaths from Falls**

Rate per 100,000 population



Source: SC DHEC Vital Statistics, CDC NCHS.  
Note: Age-adjusted, ages 65 and older.

## Findings in South Carolina

From 2007 through 2016, the falls death rate for persons 65 years and older in South Carolina increased from 31.0 per 100,000 people in 2007 to 48.3 per 100,000 in 2016. The falls death rate in South Carolina was lower than the United States (60.3 per 100,000; Figure 8.15). As of 2016, South Carolina has not achieved the Healthy People 2020 goal of 47.0 deaths per 100,000.

In 2016, the falls death rate for persons 65 years and older in South

Carolina was 56.9 per 100,000 in non-Hispanic White residents. That rate was higher than non-Hispanic Black residents (18.5 per 100,000) and Hispanic/Latino residents (24.4 per 100,000; data not shown).

The falls death rate for persons 65 years and older in South Carolina during 2016 was higher in males (55.8 per 100,000) than females (42.3 per 100,000). The falls death rate in South Carolina in 2016 was highest in the population 65 years and older. Age groups below 45 years had almost no deaths due to falls (data not shown).

# CHILD MALTREATMENT

## Background

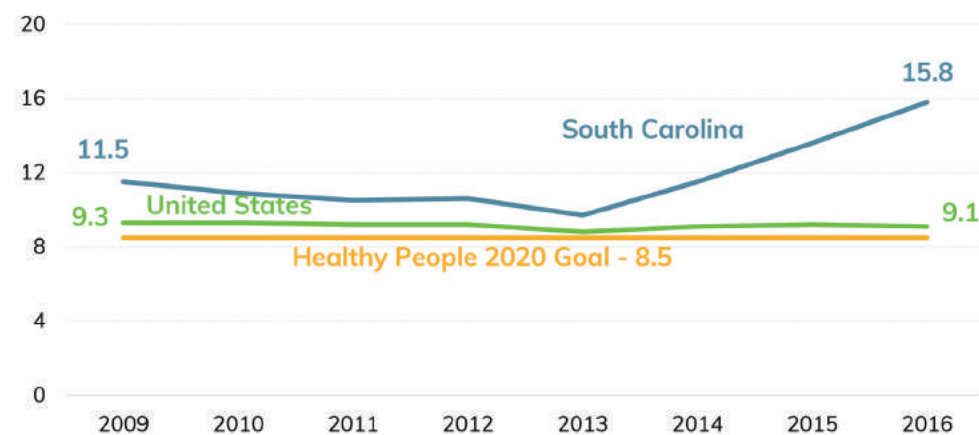
The Child Abuse Prevention and Treatment Act definition of child abuse and neglect is a recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act, which

presents an imminent risk of serious harm.<sup>13</sup> Child abuse and neglect is underreported, but is found in families of all backgrounds.<sup>14</sup> Children who are abused or neglected are more likely to repeat the cycle of violence, be depressed, have difficulty in school, and use alcohol and other drugs.<sup>14</sup>

FIGURE 8.16

### Nonfatal Child Maltreatment

Rate per 1,000 population



Source: National Child Abuse and Neglect Data System.

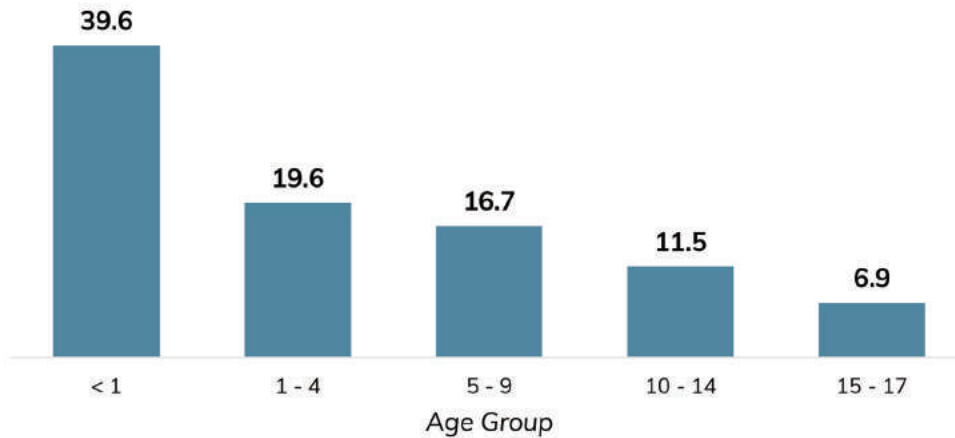
Note: Ages less than 18.



**FIGURE 8.17**

**Nonfatal Child Maltreatment, by Age Group**

Rate per 1,000 children



Source: National Child Abuse and Neglect Data System, 2016.

Note: Ages less than 18.

## Findings in South Carolina

There was not a statistically significant change in nonfatal child maltreatment in South Carolina between 2009 and 2016. However, in 2016, South Carolina had a higher rate of nonfatal child maltreatment cases than the United States (15.8 cases per 1,000 in South Carolina compared to 9.1 cases per 1,000 in the United States). As of 2016, South Carolina has not achieved the Healthy People 2020 goal of 8.5 per 1,000 nonfatal child maltreatment cases (Figure 8.16).

A higher rate of nonfatal child maltreatment was found in non-

Hispanic Black residents (19.3 cases per 1,000 population) than non-Hispanic White residents (14.4 cases per 1,000 population). There was no statistically significant difference between females and males (15.8 cases per 1,000 in females *versus* 15.4 cases per 1,000 cases in males; data not shown).

The rate was higher in younger children: 39.6 cases per 1,000 in infants less than one year; 19.6 cases per 1,000 in children one year to four years old, 16.7 cases per 1,000 in children five to nine years old, and 11.5 cases per 1,000 in young adolescents 10 to 14 years old, than 6.9 cases per 1,000 cases in adolescents 15 to 17-year old's in 2016 (Figure 8.17).

# SEXUAL VIOLENCE

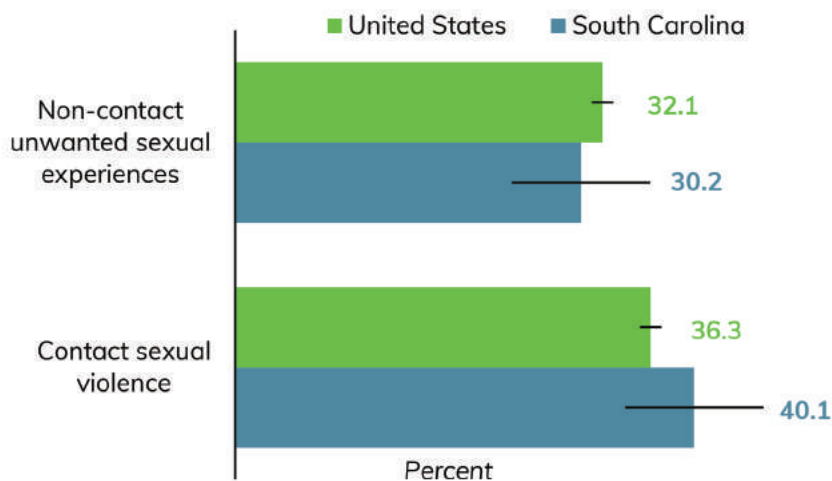
## Background

Sexual violence is a pervasive problem in the United States that affects both women and men. It can have harmful, lasting physical and psychological consequences for victims, families, and communities. Some of these consequences include unwanted pregnancies, chronic pain, gastrointestinal disorders, gynecological complications, sexually transmitted infections, depression, attempted or completed suicides, post-traumatic stress disorder, diminished interest/avoidance of sex, and low self-esteem/self-blame.<sup>15</sup>

Every year, more than 195,000 women in South Carolina are victimized by sexual violence, physical violence and/or stalking by an intimate partner.<sup>16</sup> Domestic violence affects all aspects of a victim's life. Even if abuse victims can safely escape their abuser, they often survive with long-lasting and sometimes permanent effects to their mental and physical health; relationships with friends, family, and children; their career; and their economic well-being.<sup>15</sup> Victims of intimate partner violence are twice as likely to have poor physical health, and three times more likely to have poor mental health than those with no history of intimate partner violence.<sup>15</sup>

FIGURE 8.18

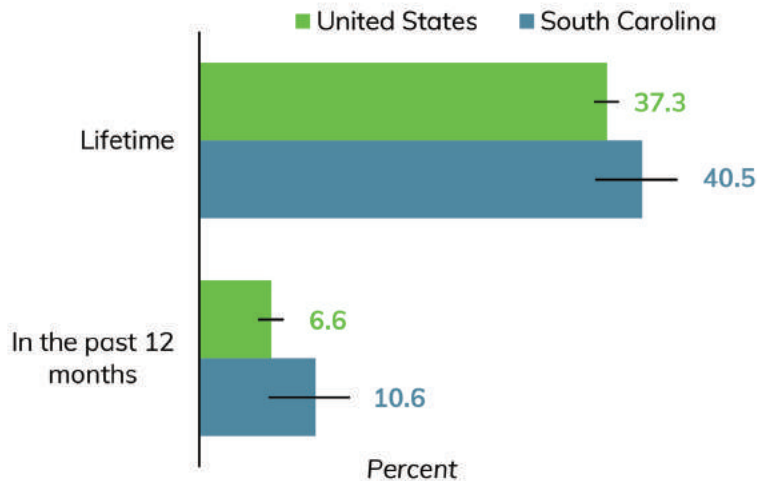
### Lifetime Sexual Violence Victimization Among Women



Source: CDC National Intimate Partner and Sexual Violence Survey, 2010-2012.

FIGURE 8.19

### Intimate Partner Violence Among Women



Source: CDC National Intimate Partner and Sexual Violence Survey, 2010-2012.

## Findings in South Carolina

In 2010-2012 combined, almost one in three (30.2%) women in South Carolina reported having experienced non-contact unwanted sexual experiences at least once in their lifetime. More than one in three (40.1%) women in South Carolina reported having experienced some form of contact sexual violence in their lifetime. Contact sexual violence and non-contact sexual experience was not statistically significantly different in South Carolina than in the nation as a

whole (Figure 8.18). South Carolina ranked 10<sup>th</sup> highest in the nation in sexual violence victimization (data not shown).

The lifetime prevalence of intimate partner violence in South Carolina during 2010-2012 combined was not statistically significantly different than in the United States (40.5% in South Carolina versus 37.3% in the United States). However, the prevalence of experiencing intimate partner violence in the past year was higher in South Carolina (10.6%) than in the United States (6.6%; Figure 8.19).

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# Behavioral Health

236	DRUG OVERDOSES
240	ALCOHOL ABUSE
244	DEPRESSION AMONG ADULTS
246	DEPRESSION AMONG ADOLESCENTS
248	POOR MENTAL HEALTH DAYS AND SERIOUS MENTAL ILLNESS

# DRUG OVERDOSES

## Background

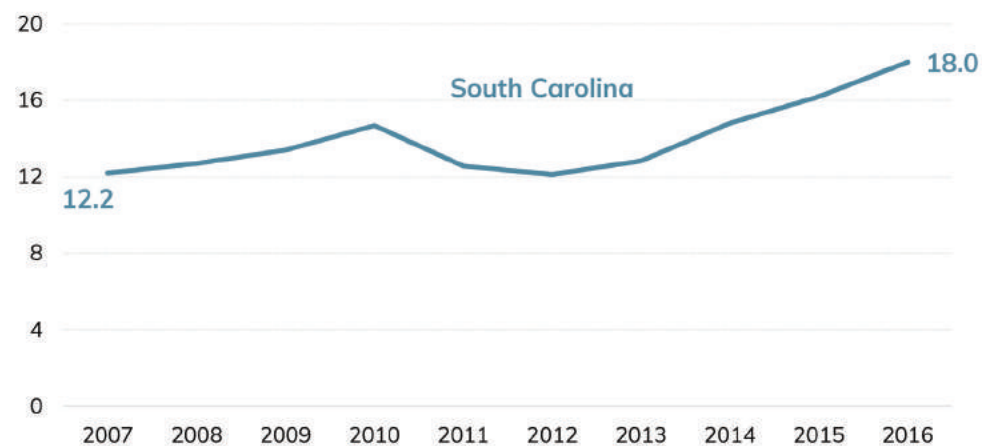
The United States is experiencing an epidemic of drug overdose (poisoning) deaths. Since 2000, the rate of deaths from drug overdoses has increased 137%, including a 200% increase in the rate of overdose deaths involving opioids (opioid pain relievers and heroin).<sup>1</sup> Sales of prescription opioids in the United States nearly quadrupled from 1999 to 2014. As

sales have risen, there has been a concurrent increase in prescription opioid overdose deaths.<sup>2</sup> Opioids, prescription and illicit, are the main driver of drug overdose deaths. Opioids, including prescription opioids, and fentanyl, killed more than 42,000 people in 2016, more than any year on record. At least 40% of all opioid overdose deaths involve a prescription opioid.<sup>3</sup>

FIGURE 9.1

### Drug Overdose Death

Rate per 100,000 population

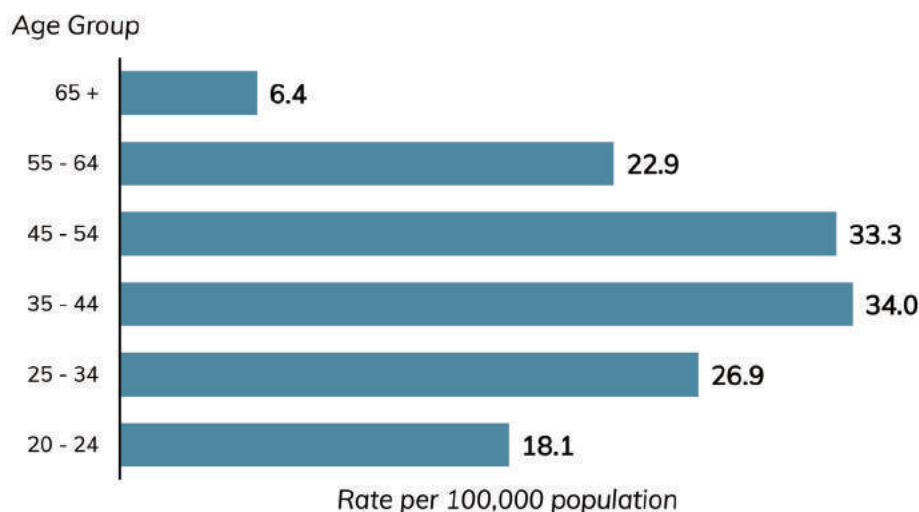


Source: SC DHEC Vital Statistics.  
Note: Age-adjusted.



FIGURE 9.2

### Drug Overdose Death, by Age Group



Source: SC DHEC Vital Statistics, 2016.

## Findings in South Carolina

In South Carolina, the rate of deaths due to drug overdoses have shown a 48% increase. In South Carolina the rate of deaths due to drug overdoses rose from 12.2 deaths per 100,000 in 2007 to 18.0 deaths per 100,000 in 2016 (Figure 9.1).

Deaths due to drug overdoses in 2016 were higher in non-Hispanic Whites (25.0 deaths per 100,000) than non-Hispanic Blacks (6.3 deaths

per 100,000). Deaths from drug overdoses were higher in males (22.9 deaths per 100,000) compared to females (13.3 deaths per 100,000; data not shown).

Deaths from drug overdoses were higher in those aged 20 to 64 years compared to 65 years and older, and were greatest in those aged 35 to 44 years (34.0 deaths per 100,000) and 45 to 54 years (33.3 deaths per 100,000). This rate includes both unintentional and intentional deaths (Figure 9.2).

# DRUG OVERDOSES

Deaths from drug overdoses due to opioids in South Carolina have risen from 10.5 per 100,000 in 2014 to 12.9 per 100,000 in 2016 (Figure 9.3). Reliable data are not available prior to 2014, as only 50% of death certificates listed the specific drug involved in an overdose; therefore opioid overdoses could not be determined.

Deaths due to opioid overdose were over six times higher in non-Hispanic Whites (18.7 per 100,000) compared to non-Hispanic Blacks (2.8 per 100,000). Opioid-related deaths were almost twice as high in males

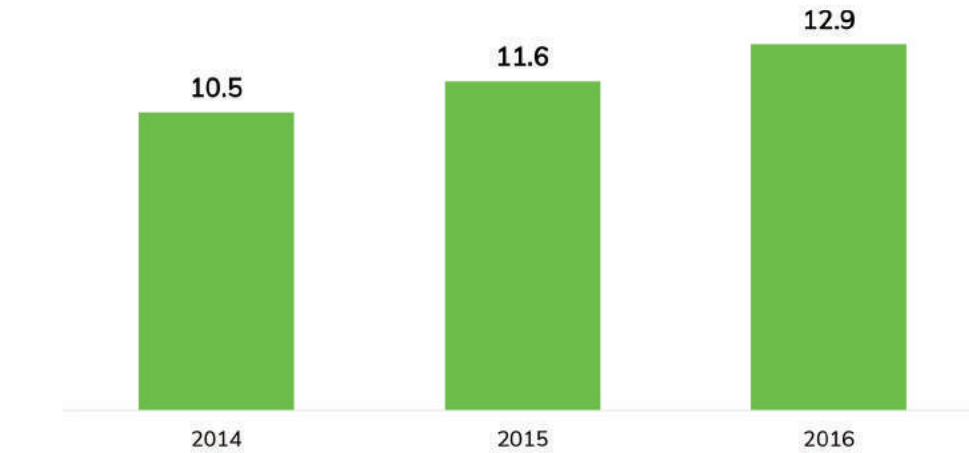
(16.6 per 100,000) than in females (9.3 per 100,000; data not shown).

In South Carolina opioid deaths were rare in children under 15 years, but rose sharply in young adults. Higher rates of opiate overdose deaths were found in those aged 20 to 64 years compared to those aged at least 65 years in South Carolina in 2016. The highest opioid-related mortality rates were found in those aged 35 to 44 years (25.5 per 100,000). The rates decreased rapidly in older age groups (Figure 9.4).

FIGURE 9.3

### Opioid Overdose Death

Rate per 100,000 population

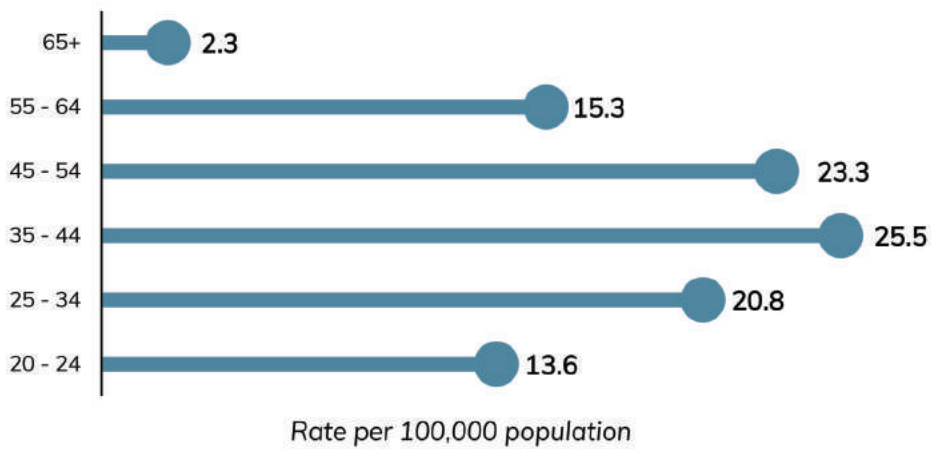


Source: SC DHEC Vital Statistics.  
Note: Age-adjusted.

FIGURE 9.4

### Opioid Overdose Death, by Age Group

Age Group



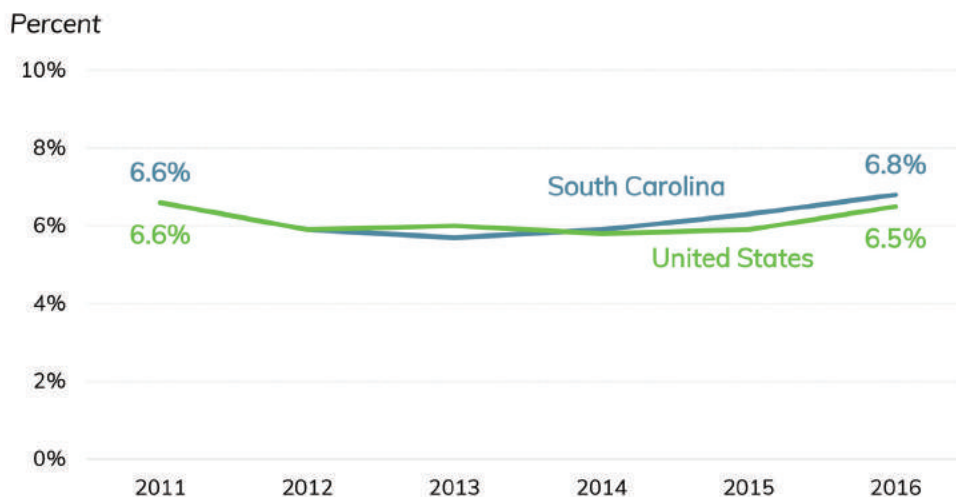
Source: SC DHEC Vital Statistics, 2016.

## Background

While drinking alcohol is not necessarily a problem, drinking too much can cause a range of consequences, and increase the risk for a variety of problems.<sup>4</sup> Drinking too much on a single occasion, or over time can take a serious toll on health, including effects on the brain, heart, liver, pancreas, and

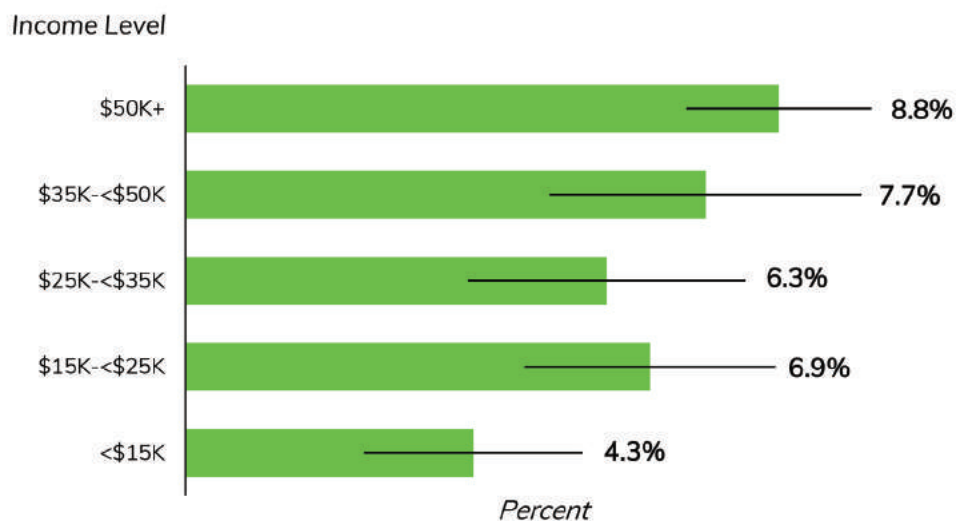
immune system.<sup>5</sup> For men, heavy drinking is defined as consuming 15 or more drinks per week, and for women, heavy drinking is defined as consuming eight or more drinks per week.<sup>6</sup> Binge drinking is defined as consuming five or more drinks on a single occasion for men or four or more drinks on a single occasion for women, generally within about two hours.<sup>6</sup>

**FIGURE 9.5**  
**Heavy Drinking Among Adults**



Sources: SC BRFSS, CDC BRFSS.  
Note: Adults 18+.

**FIGURE 9.6**  
**Heavy Drinking Among Adults, by Income**



Source: SC BRFSS, 2016.  
Note: Adults 18+.

## Findings in South Carolina

In South Carolina from 2011 to 2016, there was not a statistically significant increase in the prevalence of heavy drinking among adults (Figure 9.5). In 2016, 6.8% of adults in South Carolina reported heavy drinking, while the United States median was 6.5%.

In South Carolina, the prevalence of heavy drinking among adults with an annual household income of less than \$15,000 was 4.3% (Figure 9.6).

As household income increased, heavy drinking prevalence also increased. The prevalence among adults earning at least \$50,000 was higher (8.8%) than those having an annual household income of less than \$15,000.

In South Carolina in 2016, the prevalence of heavy drinking was higher in males (8.0%) compared to females (5.7%). Additionally, the prevalence of heavy drinking was higher in non-Hispanic Whites (7.7%) compared to non-Hispanic Blacks, though not statistically significant (5.5%; data not shown).

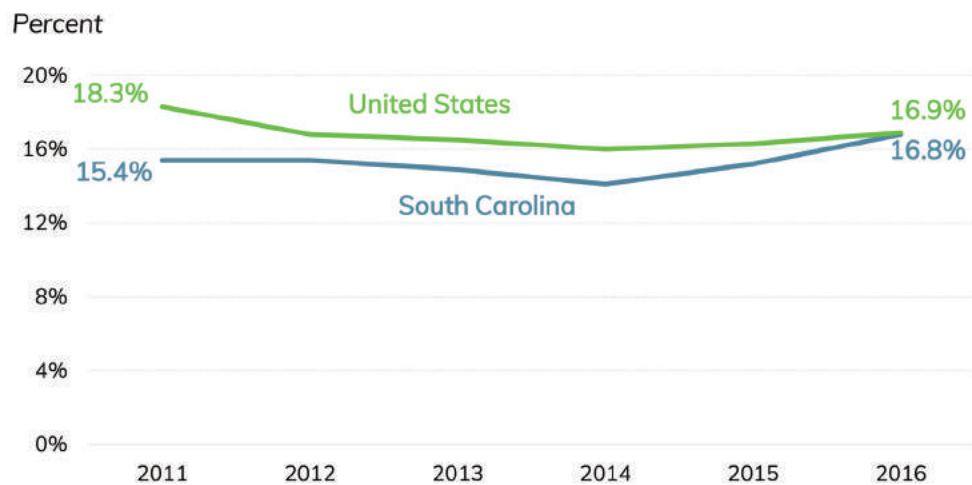
# ALCOHOL ABUSE

In South Carolina, there was no statistically significant change in the prevalence of binge drinking among adults from 2011 to 2016, varying from 15.4% in 2011 to 16.8% in 2016. In 2016, the median prevalence of binge drinking was 16.9% in the United States (Figure 9.7).

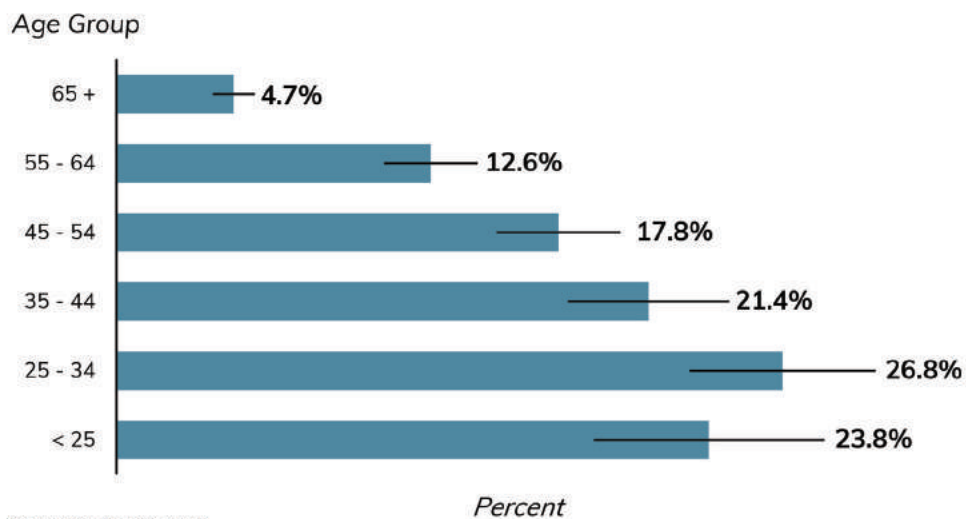
The prevalence of binge drinking was higher in the population less than 65 years than in those 65 years and older (Figure 9.8). The population aged 25 to 34 years had the highest prevalence of binge drinking among adults (26.8%), and adults ages 18 to 25 years had the second highest prevalence (23.8%). All age groups had a higher binge drinking prevalence compared to those aged 65 years and older (4.7%).

There was no statistically significant difference in non-Hispanic Whites (17.5%) having a higher prevalence of binge drinking compared to non-Hispanic Blacks (15.0%). Males (22.9%) saw a higher prevalence of binge drinking compared to females (11.3%). Individuals who had a combined household income of less than \$15,000 (14.7%) and those making \$15,000 to \$25,000 (13.7%) had a lower prevalence of binge drinking compared to those making \$50,000 or more (21.1%; data not shown).

**FIGURE 9.7**  
**Binge Drinking Among Adults**



**FIGURE 9.8**  
**Binge Drinking Among Adults, by Age Group**



# DEPRESSION AMONG ADULTS

## Background

Depression is a common but serious mood disorder. It causes severe symptoms that affect how one feels, thinks, and handles daily activities, such as sleeping, eating, or working.<sup>7</sup> To be diagnosed with depression, the symptoms must

be present for at least two weeks.<sup>7</sup> When a person has depression, it interferes with daily life and normal functioning. It can cause pain for both the person with depression and those who care about him or her. Doctors call this condition “depressive disorder,” or “clinical depression.”<sup>7</sup>

**FIGURE 9.9**  
**Depression Among Adults**

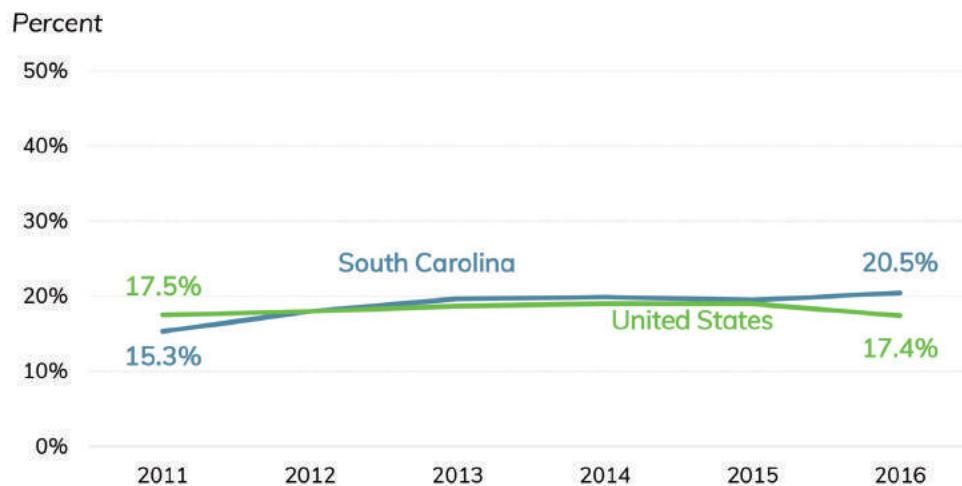
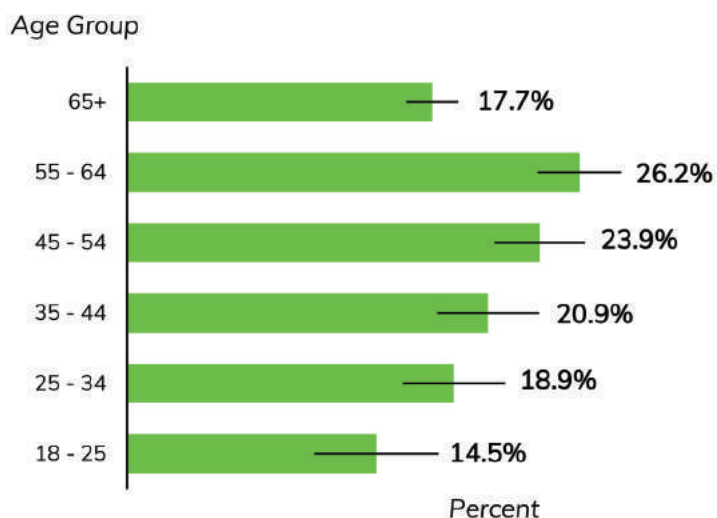




FIGURE 9.10

### Depression Among Adults, by Age Group



Source: SC BRFSS, 2016.  
Note: Adults 18+.

## Findings in South Carolina

The prevalence of depression in South Carolina increased from a low of 15.3% in 2011 to a high of 20.5% in 2016 (Figure 9.9). In 2016, the median prevalence of depression was 17.4% in the United States.

In 2016, the prevalence of depression was higher in non-Hispanic Whites (23.1%) compared to non-Hispanic Blacks (15.3%). In 2016, the prevalence of depression

was higher in females (26.5%) than in males (14.0%). Depression was also higher among lower income residents compared to those making \$50,000 or more per year. There was also a higher rate of depression among disabled residents (39.0%) compared to those who are not disabled (11.0%; data not shown).

In South Carolina in 2016, the prevalence of depression was higher in those aged 45 to 54 years (23.9%), and 55 to 64 years (26.2%), compared to those younger than 25 years (14.5%; Figure 9.10).

# DEPRESSION AMONG ADOLESCENTS

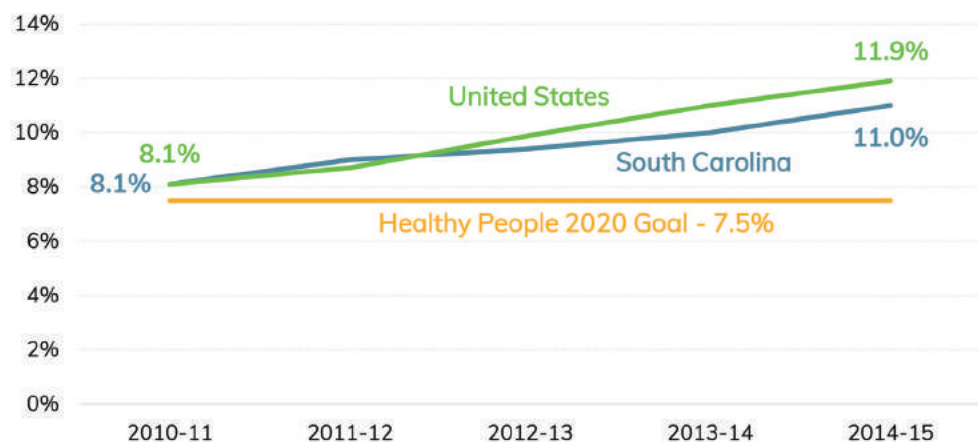
## Background

Adolescent depression is a serious problem that calls for prompt, appropriate treatment. Depression can be difficult to diagnose in teens because normal teen behavior includes some moodiness.<sup>8</sup> Teens may experiment with drugs

or alcohol or become sexually promiscuous to deal with feelings of depression. Teens may also express their depression through hostile, aggressive, risk-taking behavior. However, such behaviors often lead to new problems, deeper levels of depression and destroyed relationships with friends, family, law enforcement or school officials.<sup>8</sup>

FIGURE 9.11

### Diagnosed with Major Depressive Episode Among Adolescents Percent



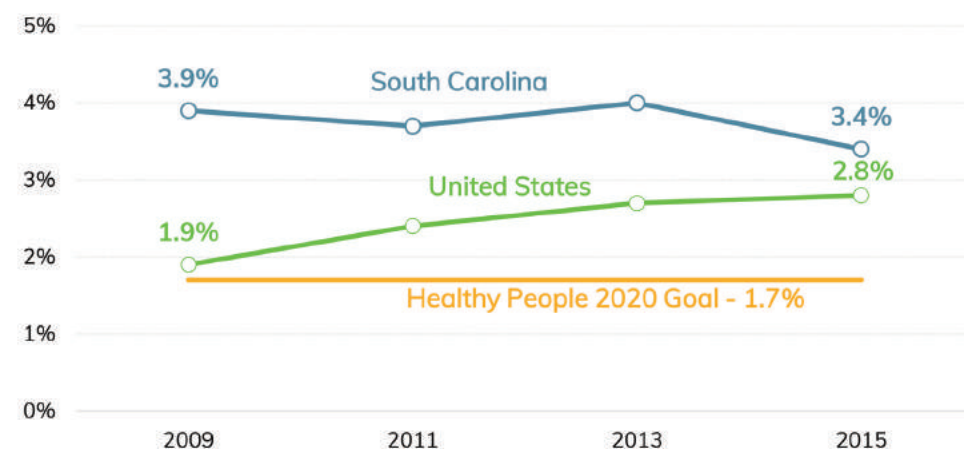
Source: SAMHSA.

Notes: Ages 12-17, diagnosed in the past year.

FIGURE 9.12

### Adolescents That Required Medical Attention Due to a Suicide Attempt

Percent



Sources: SC YRBSS, CDC YRBSS.  
Note: Grades 9-12.

## Findings in South Carolina

In South Carolina, 11.0 % of adolescents aged 12-17 in 2014-2015 experienced a major depressive episode (MDE) in the preceding year (Figure 9.11). There was an increase in major depressive episodes among youth in South Carolina from 2010 to 2015, from a low of 8.1% in 2010-2011 to a high of 11.0% in 2014-2015. South Carolina had a lower prevalence of adolescents having a major

depressive episode compared to the United States (11.9%). However, as of 2015, South Carolina had not met the Healthy People 2020 goal of 7.5%.

In South Carolina during 2015, 3.4% of adolescents in grades nine through twelve reported having a suicide attempt that required medical attention (Figure 9.12). This percent in South Carolina was not statistically significantly higher than the United States (2.8%). As of 2015, South Carolina had not met the Healthy People 2020 goal of 1.7%.

# POOR MENTAL HEALTH DAYS AND SERIOUS MENTAL ILLNESS

## Background

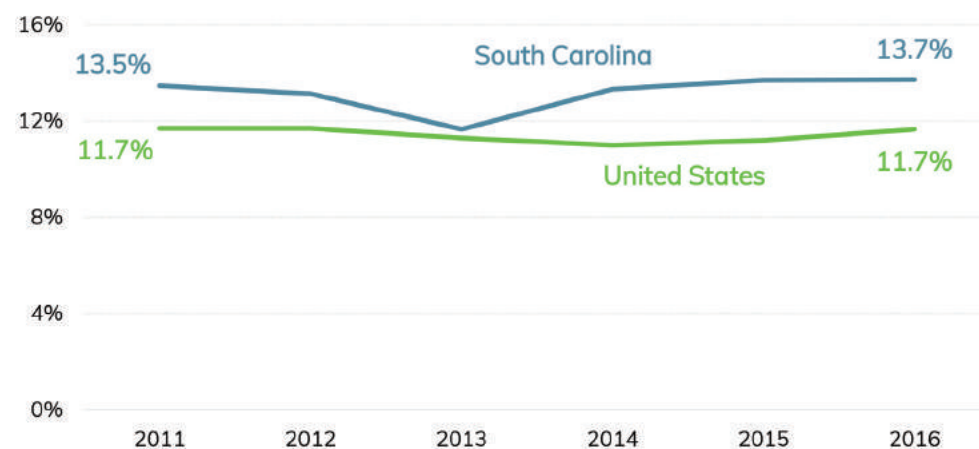
Mental health is an integral and essential component of health. The World Health Organization (WHO) describes health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”<sup>9</sup> An important implication of this definition is that mental health is more than just the absence of mental disorders or disabilities. It is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community.<sup>9</sup>

The Center for Mental Health Services within the Substance Abuse and Mental Health Services Administration has defined serious mental illness (SMI) as “having, at any time during the past year, a diagnosable mental, behavior, or emotional disorder that causes serious functional impairment that substantially interferes with or limits one or more major life activities” among people 18 years of age and older.<sup>10</sup> Disorders including major depression, schizophrenia, bipolar disorder, and other mental disorders that cause serious impairment are considered SMIs. People with serious mental illness are more likely to be unemployed, arrested, and/or face inadequate housing compared to those without mental illness.<sup>10</sup>

FIGURE 9.13

### Adults Who Experienced 14 or More Poor Mental Health Days in the past Month

Percent

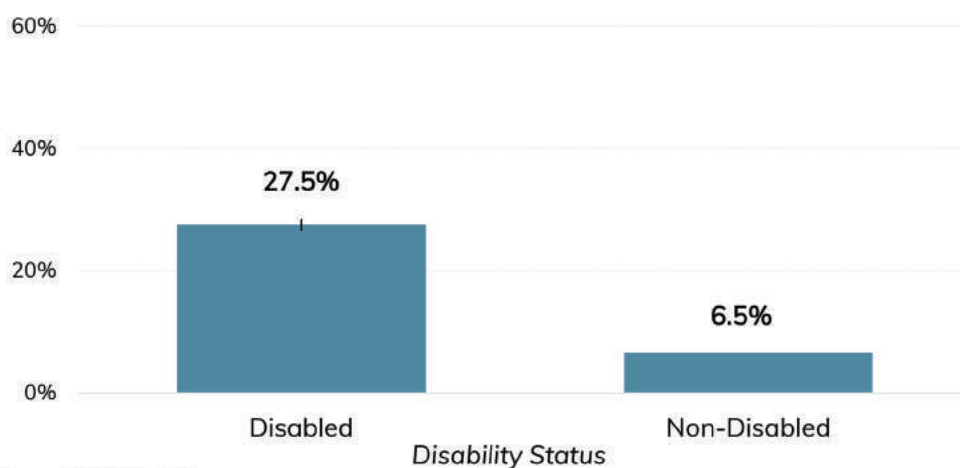


Source: SC BRFSS, CDC BRFSS.  
Note: Adults 18+.

FIGURE 9.14

### Adults Who Experienced 14 or More Poor Mental Health Days in the past Month, by Disability Status

Percent



Source: SC BRFSS, 2016.  
Note: Adults 18+.

## Findings in South Carolina

Residents of South Carolina were asked about their mental health during the past 30 days, including stress, depression and problems with emotions.

In South Carolina, an estimated 13.7% of adults experienced 14 or more poor mental health days in the past month in 2016 (Figure 9.13). The prevalence of poor mental health days did not change statistically significantly from 2011 to 2016. In 2016, the median prevalence of those with more than two weeks of poor mental health days in the past month was 11.7% in the United States.

The prevalence of those with more than two weeks of poor mental health days in the past month was higher in age groups 25-34 years (13.9%), 35-44 years (15.5%), 45-54 years (17.2%), and 55-64 years (16.3%) compared to those aged 65 years and older (8.9%). In South Carolina in 2016, the prevalence of those with two or more weeks of poor mental health days in the past month was higher in females (16.3%) compared to males (10.9%). Those with an annual household income of less than \$50,000 had a higher prevalence of poor mental health days than those with an annual household income \$50,000 or more (7.3%; data not shown).

## POOR MENTAL HEALTH DAYS AND SERIOUS MENTAL ILLNESS

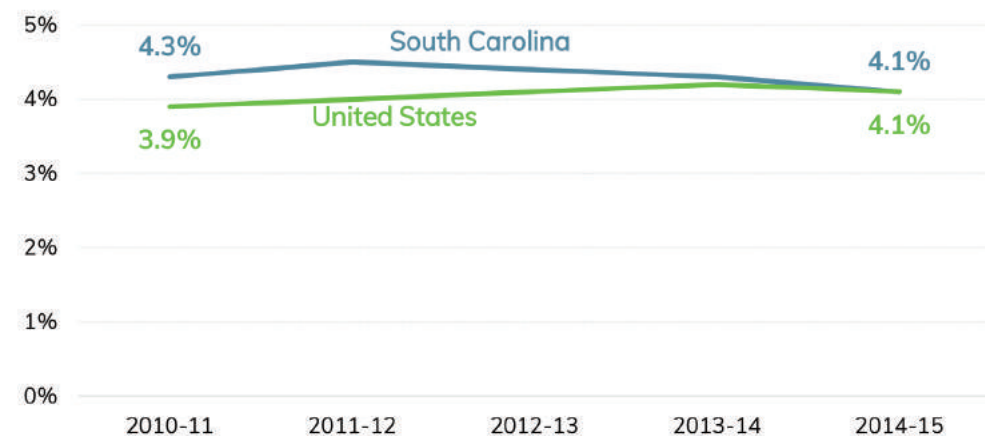
In South Carolina in 2016, the prevalence of those with two or more weeks of poor mental health days in the past month was higher in those with a disability (27.5%), compared to those without a disability (6.5%; Figure 9.14).

There was not a statistically significant change in the rate of reported serious mental illness (SMI) within the past year among adults in South Carolina from 2010-2011 to 2014-2015. In South Carolina in 2014-2015, 4.1% of adults reported being diagnosed with a SMI. In 2014-2015, South Carolina had the same percent of SMI as the United States (4.1%; Figure 9.15).

**FIGURE 9.15**

### Diagnosed with Serious Mental Illness

Percent



Source: SAMHSA.

Notes: Adults 18+, serious mental illness in the past year.

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# Physical Environment

254	AIR QUALITY
256	WASTE MANAGEMENT
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260	WATER FLUORIDATION
262	CHILDHOOD LEAD

## Background

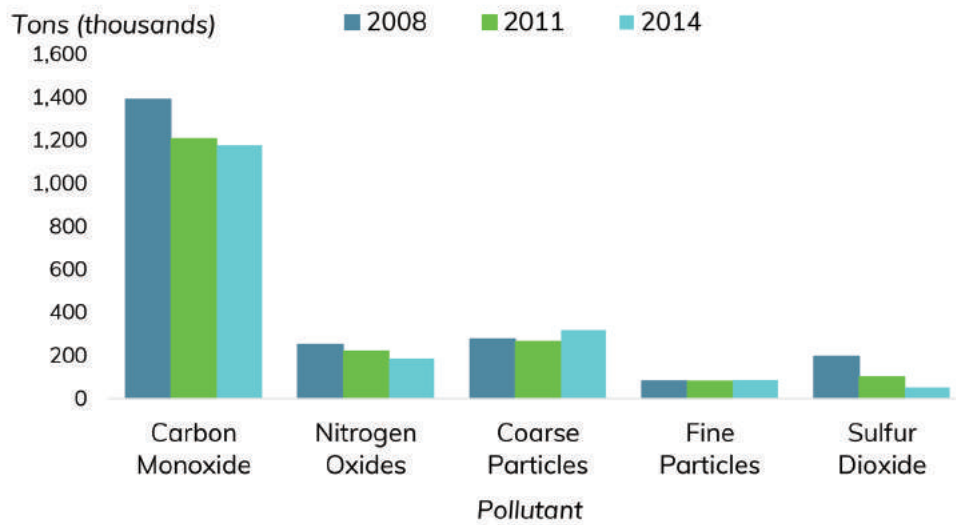
The Environmental Protection Agency (EPA) has established ambient air quality standards for six common pollutants: particulate matter, ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead.<sup>1</sup> The standards are based on public health and environmental risk assessments. South Carolina currently meets all the National Ambient Air Quality Standards that have been set to be protective of health and the environment.

The National Emissions Inventory (NEI) is a comprehensive estimate of air emissions that contribute to ambient concentrations of these pollutants. It is compiled every three years by the EPA. The NEI is based on emissions data provided by the states and supplemented by EPA data.<sup>2</sup>

## Findings in South Carolina

The data in Figure 10.1 show the change in South Carolina in the emissions of air pollutants that have national standards in the latest years NEI data have been compiled. Carbon monoxide is the most commonly emitted pollutant, decreasing from nearly 1.4 million tons in 2008 to less than 1.2 million tons according to the latest NEI data. South Carolina has seen reductions in both nitrogen oxides and sulfur dioxides emissions since 2008.

FIGURE 10.1

**Pollutant Emissions**

Source: US EPA National Emissions Inventory.

## Background

South Carolinians generate approximately 4.2 million tons of household trash and garbage annually. While waste reduction, reuse, and recycling divert a large amount of generated waste away from landfills, the portion that remains must be managed safely to protect public health and the environment. DHEC implements the South Carolina Solid Waste Policy and Management Act.<sup>3</sup> This act outlines the regulatory framework for insuring proper siting, design, construction, operation and closure of solid waste facilities, and requires maintenance of a state solid waste management plan. The act also sets waste reduction and recycling goals for the state.

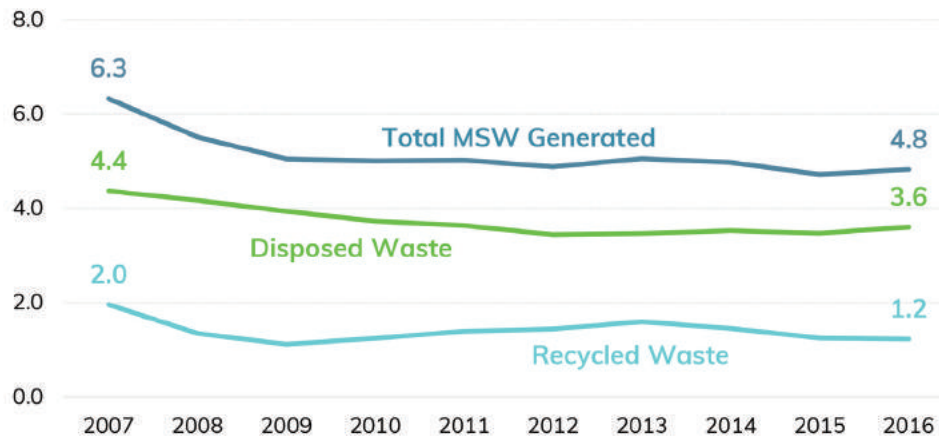
## Findings in South Carolina

Figure 10.2 displays the per capita amount of municipal solid waste (MSW) generated, disposed of and recycled in South Carolina over the past decade. The average of municipal solid waste generated in 2016 (4.8 pounds per person per day) was 24% lower than it was in 2007 (6.3 pounds per person per day). In 2016, of the waste generated, about 25% was recycled (1.2 pounds per person per day) compared to 32% of the 6.3 pounds of waste generated per person per day in 2007 (2.0 pounds per person per day). We are not recycling as much, but we are still generating less waste per person.

FIGURE 10.2

## Waste Management

Pounds per person per day



Source: SC DHEC Bureau of Land and Waste Management.  
Note: MSW=Municipal Solid Waste.

# SURFACE WATER QUALITY

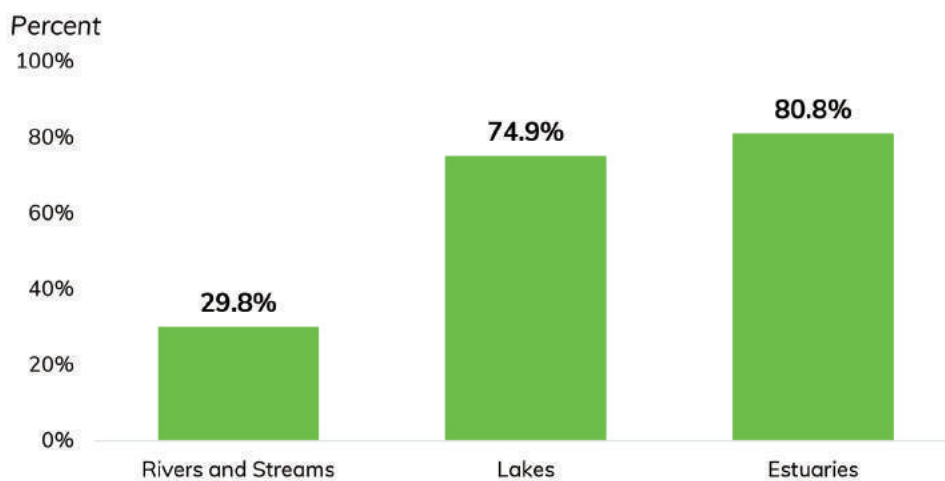
## Background

Maintaining good water quality is important to South Carolinians because the state's lakes, rivers, streams, and estuaries are heavily used for recreational and commercial activities. To meet the goals of the South Carolina Pollution Control Act (PCA) and the federal Clean Water Act (CWA), South Carolina has established specific standards and general rules to protect and maintain water quality to support propagation of fish, shellfish, and wildlife and provide for recreation in and on the water.<sup>4,5,6</sup>

## Findings in South Carolina

The most recent results reflect compliance with required quality standards based on samples collected between 2010 and 2014 (Figure 10.3).

For rivers and streams, when the standards were not met, the predominate reason was elevated bacteria concentrations. For lakes and reservoirs, the main reason was elevated total phosphorus, a nutrient that can lead to algal blooms. For estuaries, the most common cause of not meeting the standards was elevated turbidity, or cloudiness, generally associated with increased runoff from adjacent land.<sup>6</sup>

**FIGURE 10.3****Compliance with All Surface Water Quality Standards**

Source: SC DHEC Bureau of Water, 2014.

# WATER FLUORIDATION

## Background

Fluoride is a natural mineral that is found at some level in almost all water sources. Community water systems (CWS) put the right amount of fluoride in drinking water to prevent tooth decay.<sup>7,8</sup> More than 210 million people in the United States, or nearly a quarter of those served by CWS contain enough fluoride to protect their teeth.<sup>9</sup>

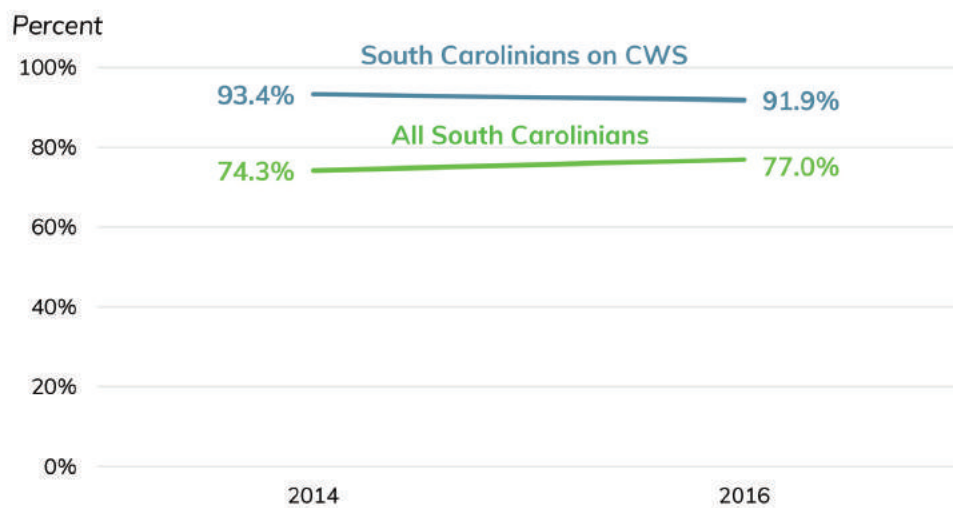
## Findings in South Carolina

Figure 10.4 shows recent South Carolina water fluoridation statistics. Of the South Carolinians that get their drinking water from Community Water System (CWS), 91.9% received the benefits of fluoride.



FIGURE 10.4

### Fluoride in Drinking Water



Source: SC DHEC Division of Oral Health.

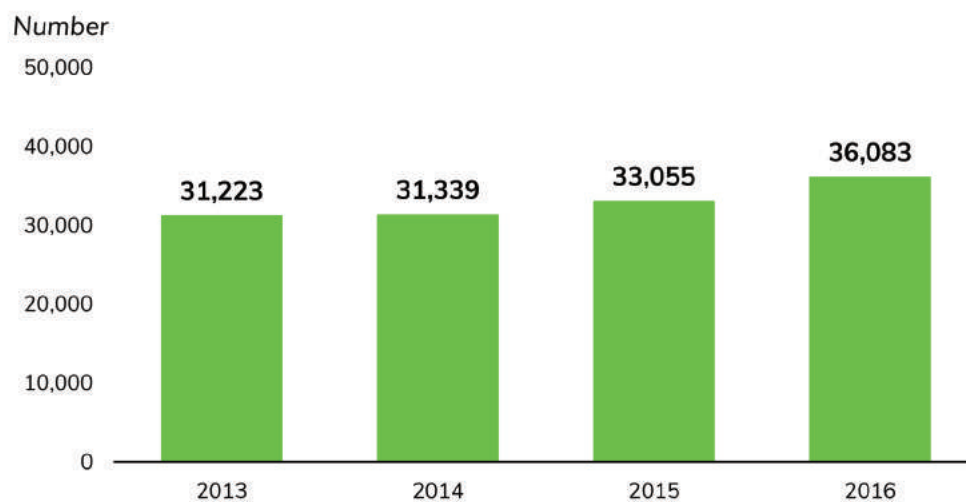
## Background

According to the Centers for Disease Control and Prevention (CDC), at least 4 million households across the nation have children living in them that are exposed to high levels of lead. There are 500,000 United States children ages 1 to 5 years with blood lead levels above the level at which the CDC recommends public health actions be initiated - 5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ).<sup>10</sup>

Medicaid-enrolled children are required to have a blood lead test at 12 and 24 months of age, as well as between the ages of 24 to 72 months if the child was not previously screened.<sup>11</sup>

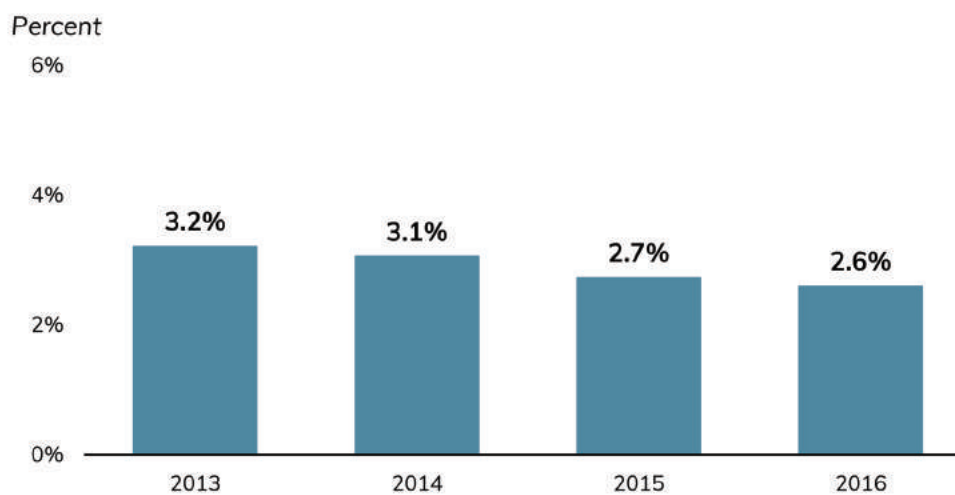
## Findings in South Carolina

Figure 10.5 shows the number of children in South Carolina who had a blood test for lead reported to DHEC from 2013 to 2016. During this period, the number of South Carolina children tested increased from more than 31,000 to more than 36,000 per year, while the percent of those children with an elevated blood lead level decreased from 3.2% to 2.6% (Figure 10.6). Even with more children being tested, the proportion of children with elevated blood lead levels, indicating exposure to lead, has continued to decline.

**FIGURE 10.5****Children who Received a Blood Lead Test**

Source: SC DHEC Bureau of Health Improvement and Equity.

Note: Children <6 years. An elevated blood lead level is greater than or equal to 5 µg/dL.

**FIGURE 10.6****Children with an Elevated Blood Lead Level**

Source: SC DHEC Bureau of Health Improvement and Equity.

Note: Children <6 years. An elevated blood lead level is greater than or equal to 5 µg/dL.

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# APPENDIX A: GLOSSARY OF ACRONYMS

## A

- ACE:** Adverse Childhood Experience
- ACS:** American Community Survey
- AHEC:** Area Health Education Consortium
- AIDS:** Acquired Immunodeficiency Syndrome
- ASTHO:** Association of State and Territorial Health Officials
- ATS:** Adult Tobacco Survey

## B

- BRFSS:** Behavioral Risk Factor Surveillance System

## C

- CCR:** Central Cancer Registry
- CDC:** Centers for Disease Control and Prevention
- CHAS:** Children's Health Assessment Survey
- COPD:** Chronic Obstructive Pulmonary Disease
- CT:** Computed Tomography
- CWA:** Clean Water Act
- CWS:** Community Water Systems

## D

- DHHS:** Department of Health and Human Services
- DTaP:** Diphtheria, Tetanus, and Pertussis

## E

- ED:** Emergency Department
- EPA:** Environmental Protection Agency

## F

- FBI:** Federal Bureau of Investigation
- FPL:** Federal Poverty Level

## H

- Hib:** Haemophilus influenzae type b
- HIV:** Human Immunodeficiency Virus
- HPV:** Human Papillomavirus

## M

- MAPP:** Mobilizing for Action through Planning and Partnerships
- MDE:** Major Depressive Episode
- MSW:** Municipal Solid Waste
- MVC:** Motor Vehicle Crash

## N

- NAAQS:** National Ambient Air Quality Standards
- NACCHO:** National Association of City and County Health Officials
- NCHS:** National Center for Health Statistics
- NEI:** National Emissions Inventory



**NIS:** National Immunization Survey

**NISVS:** National Intimate Partner and Sexual Violence Survey

**NTDs:** Neural Tube Defects

**NVDRS:** National Violent Death Reporting System

## P

**PCA:** Pollution Control Act

**PCV:** Pneumococcal Conjugate Vaccine

**PIT:** Point in Time

**PRAMS:** Pregnancy Risk Assessment Monitoring System

**PSA:** Prostate-Specific Antigen

## R

**RFA:** South Carolina Office of Revenue and Fiscal Affairs

**RUCA:** Rural-Urban Commuting Area

## S

**SAHIE:** Small Area Health Insurance Estimates

**SAMHSA:** Substance Abuse and Mental Health Services Administration

**SC BDP:** South Carolina Birth Defects Program

**SC DC:** South Carolina Department of Corrections

**SC DE:** South Carolina Department of Education

**SC DHEC:** South Carolina Department of Health and Environmental Control

**SCDPS:** South Carolina Department of Public Safety

**SCORH:** South Carolina Office of Rural Health

**SHA:** State Health Assessment

**SHIP:** State Health Improvement Plan

**SIDS:** Sudden Infant Death Syndrome

**SMI:** Serious Mental Illness

**STDs:** Sexually Transmitted Diseases

**SUIDs:** Sudden Unexpected Infant Deaths

## T

**TB:** Tuberculosis

**Tdap:** Tetanus, diphtheria, and pertussis

## V

**Var:** Varicella

## Y

**YPLL:** Years of Potential Life Lost

**YRBSS:** Youth Risk Behavior Surveillance System

**YTS:** Youth Tobacco Survey

# APPENDIX B: GLOSSARY OF TABLES AND FIGURES

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## APPENDIX C: KEY TERMS

DEFINITION	SOURCE
<b>RUCA:</b> Codes classify US census tracts using measures of population density, urbanization, and daily commuting. The most recent RUCA codes are based on data from the 2010 decennial census and the 2006-2010 American Community Survey.	United States Department of Agriculture (USDA)  <a href="https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx">https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx</a>
<b>Owner-Occupied:</b> A housing unit was considered owner-occupied if the owner or co-owner lives in the unit, regardless if the mortgage is fully paid for. The unit is considered owner-occupied if it is being purchased with a mortgage or some other debt arrangement. It is also considered owner-occupied if there is a home equity line of credit on it. Mobile homes occupied by owners with installment loan balances are also included.	U.S. Census Bureau's American Community Survey (ACS)  <a href="https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2016_ACSSubjectDefinitions.pdf">https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2016_ACSSubjectDefinitions.pdf</a>
<b>Renter-Occupied:</b> All occupied housing units that are not owner-occupied, whether they are rented or occupied, without payment of rent, are classified as renter-occupied. Housing units on military bases are classified in the "no rent paid" category of the American Community Survey.	U.S. Census Bureau's American Community Survey (ACS)  <a href="https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2016_ACSSubjectDefinitions.pdf">https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2016_ACSSubjectDefinitions.pdf</a>
<b>Years of Potential Life Lost (YPLL):</b> YPLL is commonly used to measure the rate and distribution of premature mortality. Premature mortality is the number of years of potential life lost before age 75. This measure addresses the impact of premature death, the impact of disease and death, and their cost to society. YPLL emphasizes deaths of younger persons.	County Health Rankings & Roadmaps  <a href="http://www.countyhealthrankings.org/explore-health-rankings/what-and-why-we-rank/health-outcomes/mortality/premature-death/premature-death-ypll">http://www.countyhealthrankings.org/explore-health-rankings/what-and-why-we-rank/health-outcomes/mortality/premature-death/premature-death-ypll</a>

<p><b>Gini Index of Income Inequality:</b> This index measures income inequality. The Gini coefficient ranges from 0, indicating perfect income equality (everyone receives an equal share), to 1, perfect inequality (where only one recipient or group of recipients receives all the income). This index is based on the difference between the observed cumulative income distribution and the notion of a perfectly equal income distribution.</p>	<p>U.S. Census Bureau  <a href="https://www.census.gov/topics/income-poverty/income-inequality/about/metrics/gini-index.html">https://www.census.gov/topics/income-poverty/income-inequality/about/metrics/gini-index.html</a></p>
<p><b>Concentrated Disadvantage:</b> This US Census-created variable is used to measure community well-being. It looks at the percentage of households located in census tracts with a high level of concentrated disadvantage, calculated using the following variables:</p> <ul style="list-style-type: none"> <li>• Percentage of individuals living below poverty line</li> <li>• Percentage of individuals receiving public assistance</li> <li>• Percentage of female-headed households</li> <li>• Percentage of individuals unemployed</li> <li>• Percentage of households with children less than age 18</li> </ul>	<p>Association of Maternal and Child Health Programs (AMCHP)  <a href="http://www.amchp.org/programsandtopics/data-assessment/LifeCourseIndicatorDocuments/LC-06_ConcentratedDisad_Final-4-24-2014.pdf">http://www.amchp.org/programsandtopics/data-assessment/LifeCourseIndicatorDocuments/LC-06_ConcentratedDisad_Final-4-24-2014.pdf</a></p>
<p><b>Detracting Elements:</b> Neighborhood-detracting elements include litter or garbage on the street or sidewalk, poorly kept or rundown housing, and/or vandalism such as broken windows and graffiti.</p>	<p>US Census Bureau, National Survey of Children's Health (NSCH)  <a href="http://childhealthdata.org/browse/survey/results?q=4764&amp;r=42">http://childhealthdata.org/browse/survey/results?q=4764&amp;r=42</a></p>

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<p><b>Violent Crime:</b> These crimes include offenses of murder and nonnegligent manslaughter, rape (legacy definition), robbery, and aggravated assault.</p>	<p>US Department of Justice, Federal Bureau of Investigation (FBI)</p> <p><a href="http://www.ucrdatatool.gov/">http://www.ucrdatatool.gov/</a></p>
<p><b>Property Crime:</b> These crimes include burglary, larceny-theft, and motor vehicle theft.</p>	<p>US Department of Justice, Federal Bureau of Investigation (FBI)</p> <p><a href="http://www.ucrdatatool.gov/">http://www.ucrdatatool.gov/</a></p>
<p><b>Adverse Childhood Experiences (ACEs):</b> ACEs refers to a respondent's first 18 years of life. They are broken down into 3 groups:</p> <p>Abuse<sup>1</sup></p> <ul style="list-style-type: none"> <li>• Emotional Abuse: A parent or other adult in your home ever swore at you, insulted you, or put you down.</li> <li>• Physical Abuse: A parent or other adult in your home ever hit, beat, kicked or physically hurt you.</li> <li>• Sexual Abuse: An adult or person at least 5 years older ever touched you in a sexual way, or tried to make you touch their body in a sexual way, or attempted to have sex with you.</li> </ul> <p>Household Challenges</p> <ul style="list-style-type: none"> <li>• Intimate Partner Violence: Parents or adults in home ever slapped, hit, kicked, punched or beat each other up.</li> <li>• Household Substance Abuse: A household member was a problem drinker or alcoholic or used street drugs or abused prescription medications.</li> <li>• Household Mental Illness: A household member was depressed or mentally ill or a household member attempted suicide.</li> </ul>	<p>Centers for Disease Control and Prevention (CDC)</p> <p><a href="https://www.cdc.gov/violenceprevention/acestudy/ace_brfs.html">https://www.cdc.gov/violenceprevention/acestudy/ace_brfs.html</a></p> <p><sup>1</sup>Abuse questions modified from the original Kaiser ACE Study to make them more appropriate for a telephone survey.</p>

<p><b>Rural and Urban Counties as used in Access to Health Care:</b> Indicators using the South Carolina Office for Healthcare Workforce counties were identified based on percentage of a county's population living in urban areas and percent living outside of urbanized areas as calculated by the U.S. Census Bureau. Counties were designated rural if 50% or more of the population was living outside of urbanized areas.</p> <ul style="list-style-type: none"> <li>• Rural Counties: Abbeville, Allendale, Bamberg, Barnwell, Calhoun, Cherokee, Chester, Chesterfield, Clarendon, Colleton, Darlington, Dillon, Edgefield, Fairfield, Hampton, Jasper, Kershaw, Lancaster, Laurens, Lee, McCormick, Marion, Marlboro, Newberry, Oconee, Orangeburg, Saluda, Union, and Williamsburg</li> <li>• Urban Counties: Aiken, Anderson, Beaufort, Berkeley, Charleston, Dorchester, Florence, Georgetown, Greenville, Greenwood, Horry, Lexington, Pickens, Richland, Spartanburg, Sumter, and York.</li> </ul>	<p>South Carolina Health Professions Data Book, 2016</p> <p><a href="https://www.scohw.org/projects/databook/">https://www.scohw.org/projects/databook/</a></p>
<p><b>Delayed Medical Care:</b> This variable was calculated based on the BRFSS question of, "Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?".</p>	<p>Centers for Disease Control and Prevention - Behavioral Risk Factor Surveillance System (BRFSS)</p> <p><a href="https://www.cdc.gov/brfss/brfssprevalence/index.html">https://www.cdc.gov/brfss/brfssprevalence/index.html</a></p>

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<p><b>Avoidable Hospitalizations and Emergency Department (ED) Visits:</b> This variable consists of illnesses and conditions that can often be managed effectively on an outpatient basis and generally do not require hospitalizations if managed properly. This variable was calculated by SC RFA and include:</p> <ul style="list-style-type: none"> <li>• Angina, asthma, cellulitis, chronic obstructive pulmonary disease, congestive heart failure, convulsions, dehydration, diabetes, gastroenteritis, hypertension, kidney/urinary infection, and pneumonia.</li> </ul>	<p>S.C. Revenue and Fiscal Affairs Office <a href="http://rfa.sc.gov/healthcare/utilization">http://rfa.sc.gov/healthcare/utilization</a></p>
<p><b>Asthma Hospitalization:</b> Hospitalizations were reviewed using ICD-9 Code, 493. This includes allergic asthma, allergic bronchitis, allergic rhinitis with asthma, atopic asthma, extrinsic allergic asthma, hay fever with asthma, idiosyncratic asthma, intrinsic non-allergic asthma, and non-allergic asthma.</p>	<p>Asthma ICD-9 Codes <a href="http://www.icd9data.com/2015/Volume1/460-519/490-496/493/default.htm">http://www.icd9data.com/2015/Volume1/460-519/490-496/493/default.htm</a></p>
<p><b>Infant Mortality:</b> This is the death of an infant before his or her first birthday. The infant mortality rate is the number of infant deaths for every 1,000 live births.</p>	<p>Centers for Disease Control and Prevention (CDC) <a href="https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm">https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm</a></p>
<p><b>Neonatal Period:</b> The first 27 days of life is known as the neonatal period.</p>	<p>National Center for Health Statistics (NCHS) <a href="https://www.cdc.gov/nchs/">https://www.cdc.gov/nchs/</a></p>

<p><b>Postneonatal Period:</b> The period of a baby's life which occurs from 28 days to 11 months after birth.</p>	<p>National Center for Health Statistics (NCHS)</p> <p><a href="https://www.cdc.gov/nchs/">https://www.cdc.gov/nchs/</a></p>
<p><b>Sudden Unexpected Infant Deaths (SUIDs):</b> This is the death of an infant less than one year of age that occurs suddenly and unexpectedly, and whose cause of death is not immediately obvious. The three commonly reported types of SUIDs include the following: Sudden Infant Death Syndrome (SIDS), unknown cause, or accidental suffocation and strangulation in bed.</p>	<p>Centers for Disease Control and Prevention (CDC)</p> <p><a href="https://www.cdc.gov/sids/data.htm">https://www.cdc.gov/sids/data.htm</a></p>
<p><b>Preterm:</b> Babies born too early, prior to 37 weeks of pregnancy.</p>	<p>March of Dimes</p> <p><a href="https://www.marchofdimes.org/complications/premature-babies.aspx">https://www.marchofdimes.org/complications/premature-babies.aspx</a></p>
<p><b>Low Birthweight:</b> Babies born weighing less than 2,500 grams (5 pounds, 8 ounces).</p>	<p>March of Dimes</p> <p><a href="https://www.marchofdimes.org/complications/low-birthweight.aspx">https://www.marchofdimes.org/complications/low-birthweight.aspx</a></p>

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<p><b>Adequacy of Prenatal Care Utilization (APNCU) Index:</b> This index measures the utilization of prenatal care on two dimensions.</p> <ul style="list-style-type: none"><li>• Adequacy of Initiation of Prenatal Care: measures the timing of initiation using the month prenatal care began reported on the birth certificate</li><li>• Adequacy of Received Services: takes the ratio of the actual number of visits reported on the birth certificate to the expected number of visits (based on the American College of Obstetrics and Gynecology prenatal care visitation standards for uncomplicated pregnancies, and is adjusted for the gestational age at initiation of care and for the gestational age at delivery.</li></ul> <p><b>APNCU Categories:</b></p> <ul style="list-style-type: none"><li>• Adequate Plus: prenatal care begun by the 4th month of pregnancy and 110% or more of recommended visits received</li><li>• Adequate: prenatal care begun by the 4th month of pregnancy and 80-109% of recommended visits received</li><li>• Intermediate: prenatal care begun by the 4th month of pregnancy and 50-79% of recommended visits received</li><li>• Inadequate: prenatal care begun after the 4th month of pregnancy or less than 50% of recommended visits received</li></ul>	<p>March of Dimes</p> <p><a href="https://www.marchofdimes.org/">https://www.marchofdimes.org/</a></p> <p>Research Publication</p> <p><a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1615177/pdf/amjph00460-0056.pdf">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1615177/pdf/amjph00460-0056.pdf</a></p>
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<p><b>Pregnancy-Related Death:</b> This is the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management.</p>	<p>World Health Organization (WHO)</p> <p><a href="http://www.who.int/healthinfo/statistics/indmaternalmortality/en/">http://www.who.int/healthinfo/statistics/indmaternalmortality/en/</a></p>
<p><b>Body Mass Index (BMI) for Adults 18+:</b></p> <p>Underweight: 12.0-18.4</p> <p>Normal: 18.5-24.9</p> <p>Overweight: 25.0-29.9</p> <p>Obese: 30.0+</p>	<p>Centers for Disease Control and Prevention (CDC)</p> <p><a href="https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html">https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html</a></p>
<p><b>Food Desert:</b> The criteria for identifying a census tract as low income are from the Department of Treasury's New Markets Tax Credit (NMTC) program. This program defines a low-income census tract as any tract where:</p> <ul style="list-style-type: none"> <li>• The tract's poverty rate is 20 percent or greater; or</li> <li>• The tract's median family income is less than or equal to 80 percent of the State-wide median family income; or</li> <li>• The tract is in a metropolitan area and has a median family income less than or equal to 80 percent of the metropolitan area's median family income.</li> </ul> <p>Low-income census tracts where a significant number (at least 500 people) or share (at least 33 percent) of the population is greater than 1/2 mile from the nearest supermarket, supercenter, or large grocery store for an urban area or greater than 10 miles for a rural area.</p>	<p>United States Department of Agriculture (USDA)</p> <p><a href="https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx">https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx</a></p>

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<p><b>HIV Continuum of Care:</b> This is steps aimed to achieve viral suppression. This five-step process includes:</p> <ul style="list-style-type: none"> <li>• Diagnosed: receiving a diagnosis of HIV</li> <li>• Linked to Care: visited a health care provider within 30 days of receiving a HIV diagnosis</li> <li>• Engaged or Retained in Care: received medical care for HIV infection once or continuously</li> <li>• Prescribed Antiretroviral Therapy: treatment that helps HIV patients stay healthy</li> <li>• Achieve Viral Suppression: amount of HIV in the blood is at a very low level</li> </ul>	<p>Centers for Disease Control and Prevention (CDC)</p> <p><a href="https://www.cdc.gov/hiv/pdf/library/factsheets/cdc-hiv-care-continuum.pdf">https://www.cdc.gov/hiv/pdf/library/factsheets/cdc-hiv-care-continuum.pdf</a></p> <p>Health Resources and Services Administration (HRSA)</p> <p><a href="https://hab.hrsa.gov/about-ryan-white-hiv-aids-program/hiv-care-continuum">https://hab.hrsa.gov/about-ryan-white-hiv-aids-program/hiv-care-continuum</a></p>
<p><b>Child Maltreatment:</b> This variable incorporated child victims with reported neglect, physical abuse, sexual abuse, threatened abuse or neglect, drug/alcohol addiction, and/or lack of supervision.</p>	<p>US Department of Health and Human Services, Children's Bureau</p> <p><a href="https://www.acf.hhs.gov/cb/resource/child-maltreatment-2016">https://www.acf.hhs.gov/cb/resource/child-maltreatment-2016</a></p>
<p><b>Serious Mental Illness (SMI):</b> This is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder. SMI includes individuals with diagnosis resulting in serious functional impairment.</p>	<p>Substance Abuse and Mental Health Services Administration (SAMHSA)</p> <p><a href="https://www.samhsa.gov/disorders">https://www.samhsa.gov/disorders</a></p>
<p><b>Municipal Solid Waste:</b> Durable goods (e.g., appliances, tires, batteries), nondurable goods (e.g., newspapers, books, magazines), containers and packaging, food wastes, yard trimmings, and miscellaneous organic wastes from residential, commercial, and industrial non-process sources.</p>	<p>US Environmental Protection Agency (EPA)</p> <p><a href="https://www.epa.gov/">https://www.epa.gov/</a></p>

<p><b>Suicide:</b> This category includes deaths of persons who intended only to injure rather than kill themselves, and deaths associated with risk-taking behavior with a high risk for death without clear intent to inflict fatal injury (e.g., “Russian roulette”). Suicides involving only passive assistance to the decedent (e.g., supplying the means or information needed to complete the act) are also included in this category. The category does not include deaths caused by chronic or acute substance abuse without the intent to die.</p>	<p>Centers for Disease Control and Prevention (CDC)</p> <p><a href="https://www.cdc.gov/violenceprevention/suicide/index.html">https://www.cdc.gov/violenceprevention/suicide/index.html</a></p>
<p><b>Homicide:</b> Homicide is defined as a death resulting from the use of physical force or power, threatened or actual, against another person, group, or community when a preponderance of evidence indicates that the use of force was intentional.</p>	<p>Centers for Disease Control and Prevention (CDC)</p> <p><a href="https://www.cdc.gov/mmwr/volumes/65/ss/ss6510a1.htm">https://www.cdc.gov/mmwr/volumes/65/ss/ss6510a1.htm</a></p>
<p><b>Sexual Violence:</b> Sexual violence is defined as a sexual act committed against someone without that person’s freely given consent. Contact sexual violence is a combined measure that includes rape, being made to penetrate someone else, sexual coercion, and/or unwanted sexual contact. Non-contact unwanted sexual experiences are those unwanted experiences that do not involve any touching or penetration, including someone exposing their sexual body parts, flashing, or masturbating in front of the victim, someone making a victim show his or her body parts, someone making a victim look at or participate in sexual photos or movies, or someone harassing the victim in a public place in a way that made the victim feel unsafe.</p>	<p>Centers for Disease Control and Prevention (CDC)</p> <p><a href="https://www.cdc.gov/violenceprevention/pdf/NISVS-StateReportBook.pdf">https://www.cdc.gov/violenceprevention/pdf/NISVS-StateReportBook.pdf</a></p>

## APPENDIX D: ALLIANCE FOR A HEALTHIER SOUTH CAROLINA MEMBERSHIP

American Association of Retired Persons (AARP)	Health Sciences South Carolina
AccessHealth SC	Hilton Head Hospital
Anmed Health	March of Dimes
Baptist Easley	Mary Black Foundation
Beaufort Memorial Hospital	McLeod Health
Behavioral Health Services Association	Michelin
BlueCross BlueShield of South Carolina	Molina Healthcare
BlueCross BlueShield of South Carolina Foundation	Medical University of South Carolina
Bon Secours St. Francis Health Systems	Palmetto Care Connections
Care Coordination Institute	Palmetto Health
Children's Trust of South Carolina	PASOs
Clemson University	Roper St. Francis
Coastal Carolina University	South Carolina Area Health Education Consortium
Drs. Bruce and Lee Foundation	South Carolina Association of Health Underwriters
Eat Smart, Move More South Carolina	South Carolina Business Coalition on Health
Furman University	South Carolina Campaign to Prevent Teen Pregnancy
Greenville Health System	South Carolina Children's Hospital Collaborative

South Carolina Department  
of Alcohol and Other Drug  
Abuse Services

South Carolina Department of  
Health and Environmental  
Control

South Carolina Department of  
Mental Health

South Carolina Free Clinic  
Association

South Carolina Hospital  
Association

South Carolina Institute of  
Medicine and Public Health

South Carolina Medical  
Association

South Carolina Nurses  
Association

South Carolina Office of Rural  
Health

South Carolina Primary Health  
Care Association

South Carolina State University

South Carolina Telehealth  
Alliance

South Carolina Thrive

Select Health of South Carolina

Self Regional Healthcare

Spartanburg Regional  
Healthcare System

The Carolinas Center

The Carolina Center for Medical  
Excellence

The Duke Endowment

The Self Family Foundation

Tidelands Health

Total Comfort Solutions

University of South Carolina

United Way Associations of  
South Carolina

WellCare

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## APPENDIX E: SHA DHEC DATA TEAM

### **Bureau of Chronic Disease and Injury Prevention**

- Division of Oral Health
- Division of Tobacco Prevention and Control

### **Bureau of Communicable Disease Prevention and Control**

- Division of Immunization and Prevention
- Division of STD/HIV

### **Bureau of Community Health Services**

- Division of Biostatistics

### **Bureau of Drug Control**

- Prescription Monitoring Program

### **Bureau of Health Improvement and Equity**

- Division of Cancer Registry
- Division of Population Health Data
- Division of Surveillance

### **Environmental Affairs Administration**

- Office of Applied Science and Community Engagement

### **Office of Project Management**



# APPENDIX F: METHODOLOGY FOR SHA INDICATORS

## Measurement of Statistical Significance

The methods for testing statistical significance are provided below for each data source. Assume any differences between data comparisons in the sections of the report are statistically significant unless otherwise stated.

### Population-Based Surveys:

- BRFSS, PRAMS, CHAS, ATS, YTS, NIS, NIS-Teen, National Intimate Partner and Sexual Violence Survey, and National Survey of Children's Health

When using population-based surveys, such as the Behavioral Risk Factor Surveillance System (BRFSS), Pregnancy Risk Assessment Monitoring System (PRAMS) Children's Health Assessment Survey (CHAS), Adult Tobacco Survey (ATS), the Youth Tobacco Survey (YTS), the National Immunization Survey (NIS), the National Intimate Partner and Sexual Violence Survey, and the National Survey of Children's Health (NSCH), one method was used to test the significance of the indicators in the assessment. When comparing two estimates, as done with the demographic variable categories (i.e. annual household income, sex, race/ethnicity), the 95% confidence intervals of both estimates were examined. If the intervals did not overlap then a statistically significant increase or decrease was observed between

the two estimates ( $p < 0.05$ ). If the 95% confidence intervals overlapped then no significant difference was reported. A trend analysis was also performed, when available, with population-based survey data. Regarding BRFSS data, with no more than six estimates from 2011-2016, the comparison of the confidence intervals was utilized to determine if a statistically significant increase or decrease was seen over time. The confidence intervals from 2011 were compared to the confidence intervals of the latest data point (i.e. 2016). The same method described above were employed in assessing trend significance. Error bars that are visually depicted using BRFSS, CHAS, PRAMS, ATS, and YTS data encompass the 95% confidence intervals. This method is customary and often used to show the 95% standard errors. Any estimates of United States medians do not have accompanying error bars because the standard errors were not available, and subsequent calculations were not possible. Additionally, the BRFSS analysis was conducted through the South Carolina BRFSS coordinator. Some of the estimates presented that utilize BRFSS data, primarily involving the race/ethnicity variable, do not align completely with the Centers for Disease Control and Prevention (CDC) BRFSS website. In South Carolina, respondents who did not report race/ethnicity were



classified as missing whereas CDC BRFSS imputes missing values for race/ethnicity. Therefore, the results presented here may not align with CDC BRFSS estimates by race/ethnicity. Indicators that were age-adjusted using the 2000 Standard Population were done so to align with Healthy People 2020 goals. To align with Healthy People 2020, either CDC-grouped or the National Center for Health Statistics (NCHS)-grouped weights were used. CDC-grouped

weights were calculated using the same methodology as published in the 2001 NCHS document. More information concerning the methodology for age adjustment can be found here:<sup>1</sup> <https://pdfs.semanticscholar.org/3c00/b6efc4ccc730b26cf06b2f9b5dcdf42753fd.pdf>.

The following variables were age adjusted and their accompanying adjustment distributions are outlined below:

**Adults Who Meet the Objectives for Aerobic Physical Activity (150 Minutes) and for Muscle-Strengthening Activity (two times per week); 18+ years**

CDC WEIGHTS	
Age Group	Weight
19-44	0.530534557
45-64	0.299194019
65+	0.170271424

**Breast cancer screening in past two years; (women, 50-74 years)**

CDC WEIGHTS	
Age Group	Weight
50-59	0.503095679
60-74	0.496904321

# APPENDIX F: METHODOLOGY FOR SHA INDICATORS

## Cervical cancer screening in past three years; (21-65 years)

### CDC WEIGHTS

Age Group	Weight
21-44	0.597372335
45-65	0.402627665

## Current cigarette smoker (18+ years)

### CDC WEIGHTS

Age Group	Weight
18-44	0.530534557
45-64	0.299194019
65+	0.170271424

## Met at least one of USPSTF Recommendations for Colorectal Cancer Screening; (ages 50-75 years)

### CDC WEIGHTS

Age Group	Weight
50-64	0.677340307
65-75	0.322659693

**Obesity; (ages 20+):****NCHS Weights: Distribution #11**

Age Group	Weight
20-29	0.183707
30-39	0.212872
40-49	0.215905
50-59	0.155890
60-69	0.102446
70-79	0.082415
80+	0.046765

- YRBSS

When utilizing data from the Youth Risk Behavior Surveillance System (YRBSS), the available Youth Online Data Analysis Tool on the CDC website was employed to test significance. The online data tool provides the opportunity to test if there is a significant trend present from the earliest year of data collection to 2015 for each variable assessed. To determine if the trend shown is significant the website runs a logistic regression

analysis, where all demographic variables are controlled for over time. If the p-value is  $< 0.05$ , the trend is considered significant. The Youth Online Data Analysis Tool also offers the ability to test if a significant difference is seen between two different locations (i.e. South Carolina vs. United States). To see if a significant difference was present among varying locations, t-tests were used to determine pairwise differences between these two populations. Differences were

## APPENDIX F: METHODOLOGY FOR SHA INDICATORS

considered statistically significant if the t-test p-value was  $< 0.05$ . This same method was used to determine significant differences amongst varying subgroups (race/ethnicity, sex, and grade). For more information on the statistical methods employed on the YRBSS CDC website, visit [https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2015/ss6506\\_updated.pdf](https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2015/ss6506_updated.pdf).<sup>2</sup> The error bars presented visually depict the 95% positive and negative standard errors.

### **Population-based Registries:**

When relying on population-based registries, such as vital records and the cancer registry, additional methods and tests were conducted to determine the significance of the indicators in the assessment. When comparing two estimates, the two population proportions z-test was utilized. This test incorporated two different populations with varying proportions and sample sizes to determine if there was a statistical difference between the two. The sample size incorporated the population as determined by the Census. This test was conducted in Excel 2016 where a z-value and subsequent p-value was calculated using the population and proportion information. P-values  $< 0.05$  were considered statistically significant. A trend analysis was conducted to analyze population-based vital records. When at least ten years

of estimates were available, a general linear regression model was examined. The goodness of fit with the F-statistic and systematic variation in residuals were evaluated to determine if a significant change had occurred over the ten plus years. Trend analyses were modeled in SAS 9.4 (SAS Institute, Cary, NC) and p-values  $< 0.05$  were deemed significant.

### **Southern State Comparison:**

Some of our indicators were compared to eight other southern states. These states included: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. These states make up Region Four in the Office of Intergovernmental and External Affairs in the US Department of Health and Human Services.<sup>3</sup>

### **Data Suppression Rules for the State Health Assessment:**

Regarding records used for the state health assessment, counts less than ten were suppressed and displayed as " $<10$ ". Similarly, rates with numerators less than ten OR denominators less than 25 were suppressed and were noted in the footnotes. Survey estimates with a coefficient of variation (CV) more than 20% were suppressed and documented in the footnotes.

## References:

1. Klein, R. J., & Schoenborn, C. A. (2001). Age adjustment using the 2000 projected US population.
2. Kann, L., McManus, T., Harris, W.A., et al. Youth Risk Behavior Surveillance—United States, 2015. MMWR Surveill Summ 2016; 65(No.6). [https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2015/ss6506\\_updated.pdf](https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2015/ss6506_updated.pdf).
3. HHS Office of the Secretary, Office of Intergovernmental and External Affairs. (2014, April 15). Regional Offices. Retrieved June 7, 2018, from <https://www.hhs.gov/about/agencies/iea/regional-offices/index.html>.

# APPENDIX G: HEALTHY PEOPLE 2020 OBJECTIVES

## Access to Health Care

**AHS-1:** Increase the proportion of persons with health insurance

**RD-2.1:** Reduce hospitalizations for asthma among children under age 5 years

## Maternal and Infant Health

**FP-1:** Increase the proportion of pregnancies that are intended

**MICH-1.3:** Reduce the rate of all infant deaths (within 1 year)

**MICH-1.4:** Reduce the rate of neonatal deaths (within the first 28 days of life)

**MICH-1.5:** Reduce the rate of postneonatal deaths (between 28 days and 1 year)

**MICH-5:** Reduce the rate of maternal mortality

**MICH-8.1:** Reduce low birth weight (LBW)

**MICH-9.1:** Reduce total preterm births

**MICH-10.1:** Increase the proportion of pregnant women who receive prenatal care beginning in the first trimester

**MICH-20:** Increase the proportion of infants who are put to sleep on their backs

**MICH-10.2:** Increase the proportion of pregnant women who receive early and adequate prenatal care

**MICH-21.4:** Increase the proportion of infants who are breastfed exclusively through 3 months

**MICH-21.5:** Increase the proportion of infants who are breastfed exclusively through 6 months

## Chronic Disease and Risk Factors

**C-2:** Reduce the lung cancer death rate

**C-3:** Reduce the female breast cancer death rate

**C-4:** Reduce the death rate from cancer of the uterine cervix

**C-5:** Reduce the colorectal cancer death rate

**C-7:** Reduce the prostate cancer death rate

**C-9:** Reduce invasive colorectal cancer

**C-10:** Reduce invasive uterine cervical cancer

**C-11:** Reduce late-stage female breast cancer

**C-15:** Increase the proportion of women who receive a cervical cancer screening based on the most recent guidelines

**C-16:** Increase the proportion of adults who receive a colorectal cancer screening based on the most recent guidelines

**C-17:** increase the proportion of women who receive a breast cancer screening based on the most recent guidelines

**HDS-2:** Reduce coronary heart disease deaths

**HDS-3:** Reduce stroke deaths

**NWS-9:** Reduce the proportion of adults who are obese

**PA-2.4:** Increase the proportion of adults who meet the objectives for aerobic physical activity and for muscle-strengthening activity

**PA-3.1:** Increase the proportion of adolescents who meet current Federal physical activity guidelines for aerobic physical activity

**TU-1.1:** Reduce cigarette smoking by adults

**TU-2.2:** Reduce the use of cigarettes by adolescents (past month)

## Infectious Disease

**IID-8:** Increase the percentage of children aged 19 to 35 months who receive the recommended doses of DtaP, polio, MMR, Hib, hepatitis B, varicella and pneumococcal conjugate vaccine (PCV)

**IID-12.14:** Increase the percentage of pregnant women who are vaccinated against seasonal influenza

**IID-26:** Reduce new hepatitis C infections

**IID-29:** Reduce tuberculosis (TB)

## Injury

**IVP-1.1:** Reduce fatal injuries

**IVP-13.1:** Reduce motor vehicle crash-related deaths per 100,000 population

**IVP-15:** Increase use of safety belts

**IVP-23.2:** Prevent an increase in fall-related deaths among adults aged 65 years and older

**IVP-29:** Reduce homicides

**IVP-38:** Reduce nonfatal child maltreatment

**MHMD-1:** Reduce the suicide rate

## Behavioral Health

**MHMD-2:** Reduce suicide attempts by adolescents

**MHMD-4.1:** Reduce the proportion of adolescents aged 12 to 17 years who experience major depressive episodes (MDEs)

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## APPENDIX H: FORCES OF CHANGE SURVEY

The Forces of Change assessment is used in a State Health Assessment process to help identify issues that the review of data did not uncover. It identifies forces that affect the health and quality of life of the state now or in the near-to-medium future. Issues could be economic, social, political, technological, environmental, scientific, legal or even ethical. When thinking about forces consider trends, factors, or events. Factors are discrete elements, such as an ethnic population or a dispersed population. Events are one-time occurrences, such as a hospital closure, the opening of a new factory, a natural disaster, or the passage of new legislation. We invite you to take a few minutes to think about forces that the Alliance should consider in its state health assessment process and share your thoughts in the following survey. Input from this survey will inform a discussion at the January 23rd Alliance meeting. We thank you in advance for your time. Think about forces occurring in South Carolina that might affect the health status of South Carolinians over the next 3-5 years.

1. Name of organization completing this survey:
2. What forces are affecting South Carolina?
3. What forces might hinder us from creating a healthier state?
4. How might those forces impact the health of South Carolinians during the next 3-5 years?
5. Are there actions South Carolina could take in response to those forces that could lead to health improvement?





# APPENDIX I: PUBLIC INPUT SURVEY

1. What county do you live in?  
\_\_\_\_\_
2. My zip code is: \_\_\_\_\_
3. I have this type of health care coverage:
  - ☐ Private/Employer-Sponsored Insurance
  - ☐ Affordable Care/ObamaCare/Marketplace
  - ☐ Medicaid
  - ☐ Medicare
  - ☐ No Insurance
  - ☐ Other
  - ☐ If other is selected, please specify.
4. I think these are the 3 most important health concerns on our community:
  - ☐ Alcohol Use
  - ☐ Alzheimer's/Dementia
  - ☐ Arthritis
  - ☐ Cancer
  - ☐ Diabetes
  - ☐ Drug Use
  - ☐ Heart Disease/Stroke
  - ☐ High Blood Pressure
  - ☐ HIV/AIDS/STDs
  - ☐ Infant Death
  - ☐ Mental Health
  - ☐ Overweight/Obesity
  - ☐ Tobacco Use
  - ☐ Other
  - ☐ If other is selected, please specify.
5. I think these are the 3 most important factors for a healthy community:
  - ☐ Acceptance of all people
  - ☐ Access to affordable health care
  - ☐ Access to healthy and affordable foods
  - ☐ Access to safe and affordable housing
  - ☐ Access to safe places to be active
  - ☐ Clean environment
  - ☐ Good jobs/healthy economy
  - ☐ Good schools
  - ☐ Low crime
  - ☐ Low disease rates
  - ☐ Neighbors helping neighbors
  - ☐ Smoke free workplace
  - ☐ Strong faith and fellowship
  - ☐ Other
  - ☐ If other is selected, please specify.
6. I would rate the overall health of our community as:
  - ☐ Poor
  - ☐ Fair
  - ☐ Good
  - ☐ Very Good
  - ☐ Excellent
7. Age
  - ☐ 18-25
  - ☐ 26-39
  - ☐ 40-54
  - ☐ 55-64
  - ☐ 65 or older
8. Gender
  - ☐ Male
  - ☐ Female

9. Which race/ethnic group do you most identify with? (Choose only one)

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Alaska Native
- ☐ Native Hawaiian or Pacific Islander
- ☐ Asian
- ☐ More than one race
- ☐ Some other race

10. Are you of Hispanic, Latino or Spanish origin?

- ☐ Yes
- ☐ No

11. My Job Status

- ☐ Employed for wages
- ☐ Self-employed
- ☐ Out of work and not currently looking for work
- ☐ Out of work and looking for work
- ☐ A homemaker
- ☐ Student
- ☐ Military
- ☐ Retired
- ☐ Unable to work

12. My household income (in \$) is:

- ☐ Less than \$25,000
- ☐ \$25,000-\$39,999
- ☐ \$40,000-\$59,999
- ☐ \$60,000-\$79,999
- ☐ \$80,000-\$99,999
- ☐ \$100,000 or more

13. Highest level of education

- ☐ Did not finish High School
- ☐ High School or GED
- ☐ Technical College
- ☐ Bachelors
- ☐ Masters
- ☐ Doctorate
- ☐ Other, (please specify)

# APPENDIX J: DATA SOURCES UTILIZED IN SHA

The Quantitative Assessment in the SHA used 34 data sources to analyze more than 90 indicators, including 16 primary and 18 secondary data sources. Primary sources were defined as data collected directly by SC DHEC, whereas secondary included sources collected from other entities. The DHEC SHA Data Team created a template of metrics based on indicators from the original ASTHO table. The metrics for determining the indicators included the following:

- Magnitude (Size) – Number of persons affected by the health indicator.
- Seriousness – Are those affected severely impacted by the indicator, such as high mortality or morbidity, or severe disability or significant pain and suffering?
- Ability to Change (Feasibility) – How feasible is it to improve on the health issue, considering resources, evidenced-based interventions, and existing groups working on it?
- Health Equity—Are population subgroups disproportionately affected?
- Is the health indicator a measure of a social determinant that affects multiple health issues?
- Quality of the Data - Are there quality data available to measure and track the health indicator?

- Trend Data Available - Are there trend data available or is there an opportunity to track the health indicator over time?
- Comparison Data Available— Does the indicator have data available for comparing with other states and / or comparing regions within the state?
- Healthy People 2020 - Is the indicator a Healthy People 2020 objective?

A listing and a brief description, including strengths and limitations, is recorded below for all sources used in the SHA.

## **Adult Tobacco Survey (ATS):**

- Owner: SC Department of Health and Environmental Control (SC DHEC), Centers for Disease Control and Prevention (CDC)
- Primary/Secondary: Primary
- Description: Adult Tobacco Survey (ATS) was created to assess the prevalence of tobacco use, as well as the factors promoting and impeding tobacco use among adults. ATS also establishes a comprehensive framework for evaluating both the national and state-specific tobacco control programs.
- Strengths: ATS is the first adult tobacco survey designed within the framework provided by the Office of Smoking and Health's Key Outcome Indicators (KOI) report. The ATS questionnaire is built around KOI from a

variety of goal areas. This survey captures landlines and cell phone lines.

- Limitations: Self-reported data where the cell phone area codes do not always match up with the state of residence.
- Indicators:
  - Percent of Adults Experiencing Secondhand Smoke Exposure in Workplaces
  - Percent of Current Smokers Attempting to Quit in Past Year
  - Secondhand Smoke Exposure in the Workplace

Website: [www.cdc.gov/tobacco/data\\_statistics/surveys/nats/index.htm](http://www.cdc.gov/tobacco/data_statistics/surveys/nats/index.htm)

### **American Community Survey (ACS):**

- Owner: US Census Bureau
- Primary/Secondary: Secondary
- Description: The American Community Survey (ACS) is an ongoing survey that provides vital information on a yearly basis about our nation and its people. Information from the survey generates data that help determine how more than \$675 billion in federal and state funds are distributed each year.
- Strengths: State and county level available with a wide variety of descriptive and geographic variables. ACS provides varying time estimates, and are released

in the year following data collection. This survey allows you the opportunity to monitor trends over time.

- Limitations: Self-reported data, and over time there has been changes in concepts or variables of measurement. Additionally, ACS estimates are less reliable or precise than census long-form estimates.
- Indicators:
  - Race/Ethnicity
  - Median Income and Poverty Level
  - Marital Status
  - Type of Disability
  - Veteran Status
  - Households with a Motor Vehicle
  - Method of Transportation to Work
  - Education
  - Housing
  - Gini Index of Income Inequality
  - Concentrated Disadvantage

Website: [www.census.gov/programs-surveys/acs](http://www.census.gov/programs-surveys/acs)

### **Behavioral Risk Factor Surveillance System (BRFSS):**

- Owner: SC DHEC, CDC
- Primary/Secondary: Primary
- Description: BRFSS is the world's largest random telephone survey of non-institutionalized population

## APPENDIX J: DATA SOURCES UTILIZED IN SHA

aged 18 or older that is used to track health risks in the United States. It collects data on actual behaviors, rather than on attitudes or knowledge, that would be especially useful for planning, initiating, supporting, and evaluating health promotion and disease prevention programs.

- Strengths: Population-based weighted data representative of the SC population. Due to the strong control over survey questions, SC data is comparable to other states. Contributes to national database and allows for the availability to track trends over time. Responses can be immediately checked, and those that are impossible are thrown out.
- Limitations: Self-reported data, anonymous, and cannot be linked with other databases. Due to small sample sizes, county and zip code level data is sometimes impossible. Only captures individuals who choose to participate in the telephone survey, and as such response rates have been declining over time.
- Indicators:
  - Delayed medical care due to cost
  - Percent of Adults Who Were Seen by a Dentist in the Past Year for a Routine Check-up

- Percent of Adults Who Report Binge Drinking
- Percent of Adults Who Report Heavy Drinking
- Percent of Adults with Depression
- Poor Mental Health Days
- Adults Who Met Physical Activity Recommendations
- Percent of Adults Who Did Not Eat Fruits at Least Once a Day
- Percent of Adults Who Did Not Eat Vegetables at Least Once a Day
- Percent of Adults with Arthritis
- Percent of Current Smoking Among Adults
- Percent of Diabetes
- Percent of Hypertension
- Percent of Obesity
- Percent of Pap Test
- Percent of Prediabetes
- Percent of Women Reporting Having Mammograms
- Percent Who Received Recommended Colorectal Cancer Screening
- Percent of Adults Who Always Use a Seatbelt
- Adverse Childhood Experiences
- HIV Testing

Website: [www.scdhec.gov/Health/SCPublicHealthStatisticsMaps/BehavioralRiskFactorSurveys/](http://www.scdhec.gov/Health/SCPublicHealthStatisticsMaps/BehavioralRiskFactorSurveys/)

**Bureau of Health Improvement and Equity:**

- Owner: SC DHEC
- Primary/Secondary: Primary
- Description: Per state law, SC DHEC obtains any blood lead test results. Fact sheets and reports are then made summarizing and highlighting the data shown.
- Strengths: Strengths: All blood lead test results are required to be reported by law. As such, SC DHEC receives, documents, and analyzes all blood lead test results that are performed in the state. It collects demographic information, reporting source, location of test, specimen collection date and source, and results as applicable. State and county level information is possible.
- Limitations: Lead test results other than those performed on blood are not reportable to SC DHEC. If a positive result lead result is shown, it does not mean the child obtained the high value in their own home or even county.
- Indicators:
  - o Children Who Received a Lead Blood Test
  - o Children with an Elevated Blood Lead Test

Website: [www.scdhec.gov/HomeAndEnvironment/YourHomeEnvironmentalSafetyConcerns/Lead/LeadData/](http://www.scdhec.gov/HomeAndEnvironment/YourHomeEnvironmentalSafetyConcerns/Lead/LeadData/)

**Bureau of Land and Waste Management:**

- Owner: SC DHEC
- Primary/Secondary: Primary
- Description: Since the SC Solid Waste Policy and Management Act of 1991 annual reports focusing on solid waste management have been required in the state. The reports highlight the amount and type of solid waste that is disposed of and recycled in South Carolina.
- Strengths: Provides data on varying types of waste and how they are managed at both the state and county level. Data collection is mandated through state law.
- Limitations: Recycling data from businesses and other industries is not mandated by law, so reporting can fluctuate potentially impacting precision and consistency from year to year.
- Indicators:
  - o Land Waste Generated
  - o Land Waste Recycled

Website: [www.scdhec.gov/HomeAndEnvironment/Recycling/DataReports](http://www.scdhec.gov/HomeAndEnvironment/Recycling/DataReports)

**Bureau of Water:**

- Owner: SC DHEC
- Primary/Secondary: Primary
- Description: Ambient water quality data is collected statewide to support the SC Pollution Control Act and US

## APPENDIX J: DATA SOURCES UTILIZED IN SHA

Clean Water Act goals and requirements to determine status, identify impairments, and provide the basis for maintenance and improvement efforts for the State's surface water quality.

- Strengths: Monitoring provides a long term, continuous, and comprehensive record of surface water quality throughout the state.
- Limitations: Ambient monitoring data may not be appropriate for civil boundary subdivisions (state, county, and city) that are not related to watershed extent.
- Indicators:
  - Compliance with Required Surface Water Quality Standards

Website: [www.scdhec.gov/HomeAndEnvironment/Water](http://www.scdhec.gov/HomeAndEnvironment/Water)

### **Children's Health Assessment Survey (CHAS):**

- Owner: SC DHEC
- Primary/Secondary: Primary
- Description: CHAS is a survey to measure the health characteristics of children, ages 0 through 17. The CHAS survey has been implemented annually since January 2012. The CHAS is a follow-up survey to BRFSS for parents of children age 0-17.
- Strengths: CHAS is population-based data and provides data on health habits and disease

prevalence among children and teens not otherwise available. The data can be linked to BRFSS.

- Limitations: CHAS is self-reported data, anonymous, and cannot be linked with other databases. Response rates do not allow for breakdown by county or zip code, and trend analysis is often difficult.
- Indicators:
  - Percent of Children Who Saw a Dentist in the Past Year for a Check-Up

Website: [www.scdhec.gov/Health/SCPublicHealthStatisticsMaps/CHAS/Overview](http://www.scdhec.gov/Health/SCPublicHealthStatisticsMaps/CHAS/Overview)

### **Central Cancer Registry (CCR):**

- Owner: SC DHEC, NPCS, and SEER Incidence
- Primary/Secondary: Primary
- Description: The CCR is a population-based data system that collects cancer incidence (newly diagnosed cases) in South Carolina. Data in a central cancer registry are used to study trends in how often cancers occur in a defined area, changes in diagnosis and treatment patterns, and patients' survival rates. Strengths: Every cancer diagnosed after January 1, 1996 among SC residents is included in the registry. This allows for the opportunity to study trends over time.



Demographic information as well as diagnosis information and treatment type are included.

- Limitations: Does not include clinical data such as lab tests. Basal and squamous cell carcinomas of the skin and carcinoma in-situ cancers of the cervix are not reported to the registry
- Indicators:
  - o Incidence of All Sites Cancer
  - o Incidence of Colorectal Cancer
  - o Incidence of Invasive Cervical Cancer
  - o Incidence of Late-Stage Female Breast Cancer
  - o Incidence of Prostate Cancer

Website: [www.scangis.dhec.sc.gov/scan/cancer2/home.aspx](http://www.scangis.dhec.sc.gov/scan/cancer2/home.aspx)

### **Division of Acute Disease Epidemiology:**

- Owner: SC DHEC
- Primary/Secondary: Primary
- Description: This division publishes reports annually on numbers and rates of infectious diseases
- Strengths: This division uses population-based data and hepatitis C is a mandatory reportable condition. State level data is available by several demographic breakdowns, and overall data

is available by county when sample size is adequate.

- Limitations: Due to confidentiality issues, data for specific locations broken down by demographics is limited.
- Indicators:
  - o Hepatitis C Incidence

Website: [www.dhec.sc.gov/Health/DiseasesandConditions/InfectiousDiseases/HIVandSTDs/DataandReports](http://www.dhec.sc.gov/Health/DiseasesandConditions/InfectiousDiseases/HIVandSTDs/DataandReports)

### **Division of Oral Health:**

- Owner: SC DHEC
- Primary/Secondary: Secondary
- Description: This division oversees the Community Water Fluoridation Surveillance, which provides internal personnel and external partners and stakeholders with the water fluoridation levels in Community Water Systems (CWS). As of December 31, 2017, there were 50 Community Water Systems in South Carolina that adjusted their fluoride levels. These adjusted systems, along with community systems that they sell to, and other natural systems provide fluoridated water to 91.9% of the population that is on public water. Monthly fluoride levels are extracted from the SC Environmental Facility Information System and reported to CDC's Water Fluoridation Reporting System.

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- Strengths: Able to monitor adjusting systems to see if the CWS is maintaining recommended levels of fluoride in the community's drinking water. This information can be viewed monthly.
- Limitations: Many of the systems do adjust monthly and are only tested once every three years, where many changes can occur during this lag time.
- Indicators

- Fluoride in Drinking Water

Website: [www.scdhec.gov/Health/OralHealth](http://www.scdhec.gov/Health/OralHealth)

### **Division of Surveillance and Technical Support:**

- Owner: SC DHEC
- Primary/Secondary: Primary
- Description: This division publishes reports annually on numbers and rates of STD and HIV.
- Strengths: This is population-based data and STDs and HIV/AIDS are mandatory reportable conditions. State level data is available by several demographic breakdowns, and overall data is available by county.
- Limitations: Data for specific locations broken down by demographics is limited.
- Indicators:
  - HIV/AIDS Incidence
  - HIV/AIDS Continuum of Care

- HIV/AIDS Prevalence
- HIV/AIDS Viral Suppression
- Chlamydia Incidence
- Gonorrhea Incidence
- Syphilis Incidence

Website: [www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/HIVandSTDs](http://www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/HIVandSTDs)

### **Division of Tuberculosis Elimination:**

- Owner: CDC
- Primary/Secondary: Primary
- Description: This division aims to promote health and quality of life by preventing, controlling, and eventually eliminating tuberculosis in the United States. To accomplish these goals the division conducts surveillance, provides funding to state and local TB programs, conducts program evaluation, and provides data management, conducts research.
- Strengths: The CDC documents all cases and produce annual reports of total number of cases and rates for the state. Demographic variables are also provided when available
- Limitations: Most county level estimates are suppressed due to small sample sizes
- Indicators:
  - Tuberculosis Incidence

Website: [www.cdc.gov/nchhstp/metrics/dtbe.htm](http://www.cdc.gov/nchhstp/metrics/dtbe.htm)

### **Food Environmental Atlas:**

- Owner: US Department of Agriculture
- Primary/Secondary: Secondary
- Description: The Food Environmental Atlas spatially depicts varying food access indicators for low-income and other census tracts using measures of supermarket availability. It also provides food access data for populations within census tracts, and offers census-tract-level data on food access.
- Strengths: This provides data at census-tract level on varying indicators on food access. Can also be manipulated to choose the distance to a supermarket. It also considers abundance of indicators to produce the best estimates of areas of low healthy food access.
- Limitations: Estimates use number of supermarkets from 2015, however, these numbers can fluctuate. Additionally, considers several assumptions (i.e. Low vehicle availability). Also, just because a census-tract is in a low food access area, this does not mean everyone in the tract is eating unhealthy foods or not getting adequate foods.
- Indicators:
  - Food Desert Map

Website: [www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx](http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx)

### **Inpatient Discharges and Emergency Department (ED) Visits:**

- Owner: SC Revenue and Fiscal Affairs Office (RFA)
- Primary/Secondary: Primary
- Description: It collects data from all civilian hospitals in South Carolina. In 2016, the data was converted from ICD-9 CM codes to ICD-10 CM codes.
- Strengths: This dataset also contains diagnoses, length of stay, charges, payer source, and other useful information for health surveillance.
- Limitations: RFA data is not population-based and does not include information on individuals at the VA hospitals.
- Indicators:
  - Leading Causes of Hospitalizations
  - Asthma Hospitalizations Among Children
  - Avoidable Hospitalizations and ED Visits
  - Rate of Hospitalizations and ED Visits due to Falls Among Older Adults

Website: [www.rfa.sc.gov/healthcare](http://www.rfa.sc.gov/healthcare)

### **Motor Vehicle Accident Database:**

- Owner: SC Department of Public Safety (SCDPS)
- Primary/Secondary: Secondary

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- Description: The section maintains the South Carolina traffic collision database and is the core of data analysis within the Office of Highway Safety.
- Strengths: This has a complete, unduplicated count of traffic collisions occurring in SC during the calendar year. Includes fatal and non-fatal collisions, and is analyzed by vehicle, by characteristics of the driver, and by type of injury to driver or passenger.
- Limitations: It is not linkable with other datasets.
- Indicators:
  - Nonfatal Traffic Collision Injuries

Website: [www.scdps.gov](http://www.scdps.gov)

### **National Child Abuse and Neglect Data System (NCANDS):**

- Owner: Administration of Children and Families
- Primary and Secondary: Secondary
- Description: NCANDS is a voluntary data collection system that gathers information from all 50 states. The data is used to examine trends in child abuse and neglect across the country.
- Strengths: This is a national database where the quality of data is closely monitored. Case-level data includes information including the characteristics of the reports of abuse and neglect, varying types of maltreatment, CPS

findings, risk factors of the child and the caregivers, and services provided.

- Limitations: It is not population-based and reporting is voluntary
- Indicators:
  - Nonfatal Child Maltreatment Rate

Website: [www.acfhhs.gov/cb/research-data-technology/statistics-research/child-maltreatment](http://www.acfhhs.gov/cb/research-data-technology/statistics-research/child-maltreatment)

### **National Emissions Inventory (NEI):**

- Owner: US Environmental Protection Agency (EPA)
- Primary/Secondary: Secondary
- Description: The NEI is a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from air emissions sources. The NEI is released every three years based primarily upon data provided by State, Local, and Tribal.
- Strengths: The NEI provides pollutant data at the county level for as many as 60 different pollutants. Data can be run by specific pollutant or by sector, i.e. agriculture, fuel combustion, dust, etc.
- Limitations: Ambient air does not recognize civil boundaries (state, county, and city). Use of emissions data on local scales must consider the source type (point, mobile, area).

- Indicators:
  - Air Quality-Criteria Pollutant Emissions

Website: [www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei](http://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei)

### **National Immunization Survey (NIS):**

- Owner: CDC
- Primary/Secondary: Secondary
- Description: The NIS are a group of phone surveys used to monitor vaccination coverage among children 19–35 months and teens 13–17 years, and flu vaccinations for children 6 months–17 years. The surveys collect data through telephone interviews with parents or guardians in all 50 states. Landline and cell phone numbers are randomly selected and called to enroll one or more age-eligible child or teen from the household. The parents and guardians of eligible children are asked during the interview for the names of their children's vaccination providers and permission to contact them. With this permission, a questionnaire is mailed to each child's vaccination provider(s) to collect the information on the types of vaccinations, number of doses, dates of administration, and other administrative data about the health care facility.
- Strengths: The NIS provide current, population-based,

state and local area estimates of vaccination coverage among children and teens using a standard survey methodology. Estimates of vaccination coverage are determined for child and teen vaccinations

- Limitations: There is difficulty reaching families by phone and gaining permission to contact vaccination providers. Estimates at the state/local area and by race/ethnicity could be unreliable due to small sample sizes
- Indicators:
  - Children Ages 19-35 Months Who Completed the Combined 7-Vaccine Series
  - Children Who Received a Flu Vaccine
  - Adults Who Received a Flu Vaccine

Website: [www.cdc.gov/vaccines/imz-managers/nis/index.html](http://www.cdc.gov/vaccines/imz-managers/nis/index.html)

### **National Immunization Survey – Teen (NIS-Teen)**

- Owner: CDC
- Primary/Secondary: Secondary
- Description: The NIS-Teen was first launched in 2006, targeting adolescents 13-17 years who live in the United States. Data collection is used to monitor vaccination coverage among teens at the national, state, and selected local levels. Data collection happens in two parts: through a household survey and a mail

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survey to doctors and other vaccination providers once a parent has granted permission.

- Strengths: This survey provides current, population-based, state and local area estimates of vaccination coverage among teens using a standard survey methodology. Results are strengthened since the provider responds on vaccinations. Provides demographic characteristics in addition to adherence to vaccination recommendations.
- Limitations: There is some difficulty in reaching families by phone, and then obtaining permission to contact the provider. Additionally, estimates stratified by race/ethnicity could be unreliable due to small sample sizes
- Indicators:
  - Female Adolescents Ages 13-17 Years Who Received at Least 1 Dose of HPV Vaccine
  - Male Adolescents Ages 13-17 Years Who Received at Least 1 Dose of HPV Vaccine
  - Tdap Booster Among Adolescents Ages 13-17 Years

Website: [www.cdc.gov/vaccines/imz-managers/nis/datasets-teen.html](http://www.cdc.gov/vaccines/imz-managers/nis/datasets-teen.html)

### **The National Intimate Partner and Sexual Violence Survey (NISVS)**

- Owner: CDC
- Primary/Secondary: Secondary
- Description: The NISVS is an ongoing, national random-digit-dial (RDD) telephone survey on sexual violence, stalking, and intimate partner violence victimization. Data, representative of the national adult population, are collected from the non-institutionalized English- and Spanish-speaking population aged 18 or older using a dual-frame sampling strategy that includes landlines and cell phones.
- Strengths: The NISVS provides national and state-level estimates of sexual violence, stalking, and intimate partner violence victimization, collecting data from all 50 states.
- Limitations: Data is somewhat out of date, and it is also self-report data.
- Indicators:
  - Women Who Ever Experienced Sexual Violence Victimization
  - Women Who Ever Experienced Intimate Partner Violence
- Website: [www.cdc.gov/violenceprevention/nisvs](http://www.cdc.gov/violenceprevention/nisvs)

### **National Survey on Drug Use and Health (SAMHSA)**

- Owner: Substance Abuse and Mental Health Services Administration (SAMHSA)
- Primary/Secondary: Secondary
- Description: SAMHSA is the agency that leads public

health efforts to advance the behavioral health of the nation.

- Strengths: SAMHSA has prioritized data, outcomes and quality. SAMHSA has data by state, sex, age group, and payment source.
- Limitations: This is self-reported data, and does not report data on individuals who are homeless, active duty military personnel, and persons housed in jails or hospitals.
- Indicators:
  - o Percent of Major Depressive Episode
  - o Percent of Medical Treatment for Suicide
  - o Percent of Serious Mental Illness

Website: [www.datafiles.samhsa.gov/study-series/national-survey-drug-use-and-health-nsduh-nid13517](http://www.datafiles.samhsa.gov/study-series/national-survey-drug-use-and-health-nsduh-nid13517)

### **National Survey of Children's Health (NSCH)**

- Owner: US Census Bureau
- Primary/Secondary: Secondary
- Description: NSCH provides rich data on multiple, intersecting aspects of children's lives—including physical and mental health, access to quality health care, and the child's family, neighborhood, school, and social context. A revised version of the survey was most recently conducted as a telephone survey by the Census Bureau in 2016.

- Strengths: NSCH collects data on a range of topics, including physical and emotional health, factors that may relate to well-being of children, including medical home, family interactions, parental health, school experiences, and safe neighborhoods.
- Limitations: The survey methodology changed in 2016; therefore, comparisons can't be made to historical data.
- Indicators:
  - o Safe Neighborhoods
  - o Presence of Detracting Neighborhood Elements

Website: [www.childhealthdata.org/learn/NSCH](http://www.childhealthdata.org/learn/NSCH)

### **Office of Research and Data Analysis**

- Owner: SC Department of Education (SC DE)
- Primary/Secondary: Secondary
- Description: The mission of the Office of Research and Data Analysis is to provide accurate, reliable, and timely data services.
- Strengths: This office analyzes data that is submitted to the DE by the schools. School level is combined to provide accurate state level estimates and is broken out to provide demographic topics including students with disabilities and those receiving subsidized meals.



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- Limitations: They must rely on schools to accurately report data, and includes information on public schools only. No individual level data and some variable definitions have changed over time (i.e. Lunch status).

- Indicators:
  - o High School Education

Website: [www.ed.sc.gov/data/](http://www.ed.sc.gov/data/)

### **Point in Time Count Report (PIT)**

- Owner: US Interagency Council on Homelessness
- Primary/Secondary: Secondary
- Description: Every year, the US Department of Housing and Urban Development (HUD) requires communities to count people experiencing homelessness on a specific night in January. The information is analyzed and compiled into a single report for SC by researchers working with each local continuum of care.
- Strengths: This report provides demographic data of those who are homeless. Counts are provided for the state and by county of individuals who are considered homeless. It also considers those living in shelters in addition to those living on the street.
- Limitations: Counts of homelessness are conducted during a two-week period in the month of January, as

ordered by the Department of Housing and Urban Development. These counts are estimates as the numbers could vary throughout the course of the year.

- Indicators:
  - o Homelessness

Website: [www.schomeless.org/resources/reports/pit-count](http://www.schomeless.org/resources/reports/pit-count)

### **Pregnancy Risk Assessment Monitoring System (PRAMS)**

- Owner: SC DHEC, CDC
- Primary/Secondary: Primary
- Description: PRAMS is a surveillance project of the Centers for Disease Control and Prevention (CDC) and state health departments. Developed in 1987, PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. PRAMS surveillance currently covers about 83% of all US births.
- Strengths: PRAMS provide data not available from other sources. This data can be used to identify groups of women and infants at high risk for health problems, to monitor changes in health status, and to measure progress towards goals in improving the health of mothers and infants.
- Limitations: No clinical or lab data is available.



- Indicators:
  - Percent of Women Who Received a Flu Vaccine During Pregnancy
  - Intended Pregnancy
  - Safe Sleep
  - Women Who Had Their Teeth Cleaned During Their Most Recent Pregnancy

Website: [www.scdhec.gov/Health/SCPublicHealthStatisticsMaps/PregnancyRiskAssmentandMonitoringSystem/AboutPRAMS/www.cdc.gov/prams/index.htm](http://www.scdhec.gov/Health/SCPublicHealthStatisticsMaps/PregnancyRiskAssmentandMonitoringSystem/AboutPRAMS/www.cdc.gov/prams/index.htm)

### **Profile of Inmates in Institutional Count**

- Owner: SC Department of Corrections (SC DC)
- Primary/Secondary: Primary
- Description: SC DC provides a yearly overview of the prison population in SC.
- Strengths: This profile provides data on institutionalized population that is not often captured from other sources. Data includes varying demographic indicators. The information also includes those inmates on authorized absence.
- Limitations: No clinical or lab data information is available, and the data provided is just descriptive statistics. The report only focuses on those in SC Department of Corrections on June 30th, so the numbers could vary throughout the year.

- Indicators:
  - Incarcerated Inmates

Website: [www.doc.sc.gov/research/statistics.html](http://www.doc.sc.gov/research/statistics.html)

### **Small Area Health Insurance Estimates (SAHIE)**

- Owner: US Census Bureau
- Primary/Secondary: Secondary
- Description: The US Census Bureau's Small Area Health Insurance Estimates program produces the only source of data for single-year estimates of health insurance coverage status for all counties in the US by selected economic and demographic characteristics.
- Strengths: Provides estimates on insurance coverage for all counties in the US by selected economic and demographic characteristics.
- Limitations: Does not indicate if source of health coverage is public or private.
- Indicators:
  - Health Insurance 18-64

Website: [www.census.gov/data-tools/demo/sahie/sahie.html](http://www.census.gov/data-tools/demo/sahie/sahie.html)

### **South Carolina Birth Defects Program (SC BDP)**

- Owner: SC DHEC
- Primary/Secondary: Primary
- Description: The SC Birth Defects Program is a legislatively-mandated

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program that conducts active surveillance of approximately 50 birth defects from all South Carolina's delivering hospitals. Its purpose is to promote increased understanding of birth defects, prevent and reduce birth defects, and assist families with children who have birth defects. The SC Birth Defects Program also make appropriate referrals to services designed to help children and families affected by birth defects.

- Strengths: Approximately 50 birth defects are captured by this program.
- Limitations: Data on babies affected by birth defects are not immediately available as babies are followed up until the age of two years.
- Indicators:
  - o Birth Defects, by Type
  - o Neural Tube Defects

Website: [www.scdhec.gov/Health/FamilyPlanning/DataStatistics/PregnancyBabyHealth/BirthDefects/](http://www.scdhec.gov/Health/FamilyPlanning/DataStatistics/PregnancyBabyHealth/BirthDefects/)

### **South Carolina Office of Healthcare Workforce**

- Owner: SC Area Health Education Consortium (SC AHEC)
- Primary/Secondary: Secondary
- Description: The SC Office of Healthcare Workforce provides information about the health status of South Carolinians and the number of healthcare

professionals actively practicing across the state.

- Strengths: Provider information covers 19 varying types of healthcare professionals. The provider information is broken down into county level estimates. Information is based on licensing, where individuals hold an active license and are practicing, which is a requirement to practice in the state. Includes rates which are based on population level data.
- Limitations: The number is based on licensing which occurs every two years, so the estimates could be skewed slightly. Additionally, individuals are counted if they hold an active license and are practicing. However, individuals could be educators, researchers, and administrators who do not engage in direct patient care, yet are still practicing.
- Indicators:
  - o Dentist Ratios
  - o Primary Care Physician Ratios
  - o Nurse Practitioners Ratio
  - o Physician Assistants Ratios

Website: [www.scohw.org](http://www.scohw.org)

### **Tuberculosis Control**

- Owner: SC DHEC
- Primary/Secondary: Primary
- Description: The SC TB Control protects the public through case finding, treating both

active TB disease and latent TB infection, identification and testing of individuals exposed to TB, and targeted evaluation of persons at high risk progression to TB disease.

- Strengths: Since TB is a reportable condition, whenever a positive TB test is received, SC TB Control is notified. They document all cases and produce annual reports of total number of cases and rates, if possible, for the state and by county.
- Limitations: Most county level estimates are suppressed due to small sample sizes.
- Indicators:
  - o Tuberculosis Incidence

Website: [www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/BacterialDiseases/Tuberculosis](http://www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/BacterialDiseases/Tuberculosis)

### **Uniform Crime Report Statistics**

- Owner: Federal Bureau Investigation (FBI)
- Primary/Secondary: Secondary
- Description: The FBI's Uniform Crime Reporting (UCR) Program is a nationwide, cooperative statistical effort of nearly 18,000 law enforcement agencies voluntarily reporting data on crimes brought to their attention. This data has over the years become one of the country's leading social indicators.

- Strengths: The UCR Program collects statistics on violent crime (murder and non-negligent manslaughter, rape, robbery, and aggravated assault) and property crime (burglary, larceny-theft, and motor vehicle theft). By using the table-building tool, users can specify offenses, locality (city, county, state), and year(s).
- Limitations: Data classifications and definitions can vary substantially by locale.
- Indicators:
  - o Violent Crime
  - o Property Crime

Website: [www.urcdatatool.gov/index.cfm](http://www.urcdatatool.gov/index.cfm)

### **Vital Statistics**

- Owner: SC DHEC, National Center for Health Statistics (NCHS)
- Primary/Secondary: Primary
- Description: The Division of Vital Records is the state's official records keeper for vital information pertaining to births, deaths, marriages, and divorces occurring in South Carolina.
- Strengths: Population-based data where all births must be recorded by law. Provides information on birth weight, gestational age, prenatal care, maternal complications during pregnancy that affect birth outcomes. Population-based data, all deaths must be

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reported by law. A fundamental source of demographic, geographic, and cause-of-death information.

- Limitations: Does not include clinical data such as lab tests. Additionally, no information on health status leading up to death.
- Indicators:
  - Population by Age Group and Sex
  - Prenatal Care in the First Trimester
  - Adequate Prenatal Care
  - Low Birthweight
  - Preterm Birth
  - Teen Birth
  - Breastfeeding Initiation
  - Mortality Due to Drug Overdose
  - Fall Deaths Among Older Adults
  - Homicide Rates
  - Injury Death Rates
  - Motor Vehicle Crash Deaths
  - Suicide Rates
  - Infant Mortality and Leading Causes of Infant Death
  - Sudden Unexpected Infant Deaths (SUIDS)
  - Pregnancy-Related Death

Website: [www.scangis.dhec.sc.gov/scan/](http://www.scangis.dhec.sc.gov/scan/)

### Youth Tobacco Survey (YTS)

- Owner: SC DHEC, CDC
- Primary/Secondary: Primary
- Description: YTS collects data from students in grades 6 through 12. The YTS is intended to enhance the capacity of state agencies and organizations to design, implement, and evaluate tobacco prevention and control programs.
- Strengths: Covers tobacco related topics and samples students in grades 6-12.
- Limitations: This is self-reported data.
- Indicators:
  - Percent of Current Young Smokers Attempting to Quit in Past Year
  - Percent of Youth Experiencing Secondhand Smoke Exposure in Homes or Vehicles

Website: [www.cdc.gov/tobacco/data\\_statistics/surveys/nats/index.htm](http://www.cdc.gov/tobacco/data_statistics/surveys/nats/index.htm)

### Youth Risk Behavior Surveillance System (YRBSS)

- Owner: SC DE, CDC
- Primary/Secondary: Secondary
- Description: YRBSS is a national school-based survey conducted by the CDC, gauging health and behavioral indicators from the youth nationwide.

- Strengths: YRBSS collects a wide range of demographic and health related data. Like BRFSS, SC state data can be compared with other states. Allows for the ability to track trends over time. Allows states to add a small subset of questions.
- Limitations: Self-reported data, anonymous, cannot be linked with other databases. It lacks the ability to gather detailed information on chronic disease risk factors. Due to sampling design, it is only generalizable to public high school students. Due to small sample sizes county and zip code level data are sometimes impossible.
- Indicators:
  - Percent of Adolescents Who Always Use a Seatbelt
  - Adolescents Who Met Physical Activity Recommendations
  - Percent Current Cigarette Smoking in Youth
  - Percent of Adolescents Who Did Not Text or Email While Driving

Website: [www.cdc.gov/healthyyouth/data/yrbs/index.htm](http://www.cdc.gov/healthyyouth/data/yrbs/index.htm)

## APPENDIX K: ASSET INVENTORY

### Cross-Cutting:

**Artisan Community Garden:** A community garden that provides a place for individuals to share the love of Christ and a passion for improved health through gardening fresh produce.

- Reach: Low-income residents in the city of Anderson, South Carolina
- Contact Information:
  - Website: [www.thelotproject.com](http://www.thelotproject.com)
  - Phone: 864-642-1085

**Children's Trust of South Carolina:** The statewide organization focused on the prevention of abuse, neglect and injury. The organization trains and educates professional who work directly with families, and also funds, supports and monitors proven prevention programs. Children's Trust advocates for strong, well-founded policies that positively impact child well-being.

- Reach: Children and families in South Carolina
- Contact Information:
  - Website: [www.scchildren.org](http://www.scchildren.org)
  - Phone: 803-733-5430

**Division of Industries:** This training oriented work program allows the inmates to return to society with skills that will enable them to become useful and productive citizens.

- Reach: Inmates of the South Carolina Department of Corrections
- Contact Information:
  - Website: [www.doc.sc.gov/programs/pi.html](http://www.doc.sc.gov/programs/pi.html)
  - Phone: 803-896-8516 or 1-800-922-8121

**Eastern Carolina Homelessness Organization:** The mission of this organization is to plan, develop, and implement strategies to resolve the housing crisis experienced by individuals and families.

- Reach: Individuals in the Pee Dee region of South Carolina
- Contact Information:
  - Website: [www.echohomeless.org](http://www.echohomeless.org)
  - Phone: 843-213-1798

**Midlands Area Consortium for the Homeless:** This organization was created to advocate for funding to address homelessness. They help individuals obtain stable housing and employment and education, necessary to become self-sufficient.

- Reach: Individuals in the Midlands region of South Carolina
- Contact Information:
  - Website: [www.midlandshomeless.com](http://www.midlandshomeless.com)
  - Phone: 803-733-5400

**Operation Get Smart:** This program is aimed primarily at youth to deter them from making poor decisions resulting in criminal behavior and prison sentences. The program consists of a carefully screened team of inmates who travel the state speaking to youth and adults about actions which led to their involvement in crime and the consequences of their behavior.

- Reach: Students of South Carolina
- Contact Information:
  - o Website: [www.doc.sc.gov/programs/getsmart.html](http://www.doc.sc.gov/programs/getsmart.html)
  - o Phone: 803-896-1846

### **Personal Responsibility**

**Education Program:** The goal is to educate young people on both abstinence and contraception to prevent pregnancy and sexually transmitted infections.

- Reach: Targets youth ages 10-19 who are homeless, in foster care, live in rural areas, or in geographic areas with high teen birth rates, or come from racial or ethnic minority groups.
- Contact Information:
  - o Website: [www.scdhec.gov/Health/ChildTeenHealth/Teens/ThePointTeenClinics](http://www.scdhec.gov/Health/ChildTeenHealth/Teens/ThePointTeenClinics)
  - o Phone: 855-472-3432

**South Main Mercy Center:** A community garden with fresh vegetables available seasonally.

- Reach: Low income residents and homeless individuals in the South Main Street area of Anderson, South Carolina
- Contact Information:
  - o Website: [www.southmainmercy.org](http://www.southmainmercy.org)
  - o Phone: 864-437-8298

### **Transitions Homeless Center:**

This center provides homeless individuals access to the day center, hot meals, showers, service providers, and housing.

- Reach: Homeless individuals in the Midlands region of South Carolina
- Contact Information:
  - o Website: [www.transitionssc.org](http://www.transitionssc.org)
  - o Phone: 803-708-4861

### **United Housing Connections:**

This organization connects people at-risk for or currently experiencing homelessness with safe, sustainable and affordable homes.

- Reach: Individuals who are homeless or at risk of becoming homeless in the Upstate region of South Carolina
- Contact Information:
  - o Website: [www.unitedhousingconnections.org](http://www.unitedhousingconnections.org)
  - o Phone: 864-241-0462

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### Access to Health Care:

**AccessHealth Spartanburg:** This organization was designed to help uplift the people of the community without health insurance. This provides a place for the uninsured to receive care, management, navigation, and connection to needed services.

- Reach: Uninsured individuals living in Spartanburg County, South Carolina
- Contact Information:
  - Website: [www.accesshealthspartanburg.org](http://www.accesshealthspartanburg.org)
  - Phone: 864-560-0190

#### **Affordable Care Act to Expand Medicaid:**

Medicaid coverage and options for low-income individuals and families through the Marketplace, regardless if the state has expanded Medicaid.

- Reach: Low-income individuals and families
- Contact Information:
  - Website: <https://www.healthcare.gov/>
  - Phone: 1-800-318-2596

#### **Coalition for Access to Health Care:**

This group of Health Care professionals works to develop ways to ensure that every patient can get the care they need from any provider they select.

- Reach: Community at large

- Contact Information:
  - Website: [www.coalitionforaccesstohealthcare.com](http://www.coalitionforaccesstohealthcare.com)
  - Phone: 803-530-9899

#### **Connecting Smiles Community Oral Health Coordination Institute:**

The vision is to improve the oral health status of vulnerable populations in South Carolina through collaborative partnerships, oral health integration, and preventive public health strategies.

- Reach: Vulnerable populations in South Carolina
- Contact Information:
  - Website: [www.cs.sph.sc.edu](http://www.cs.sph.sc.edu)
  - Phone: 803-576-6036

#### **Greenville Health System Population Health Program:**

A mobile health clinic that is fully staffed with oversight from the Departments of Family and Emergency Medicine, and rotates throughout vulnerable sites.

- Reach: Communities in South Carolina who have been identified with a high need of primary and urgent care services.
- Contact Information:
  - Website: [www.hsc.ghs.org/education/gme/familymedicine/populationhealth/](http://www.hsc.ghs.org/education/gme/familymedicine/populationhealth/)
  - Phone: 864-455-9022

#### **Lowcountry Health Network:**

Through this mission, the Healthcare Network Group of the Lowcountry intends to enhance



the quality of care for Lowcountry residents by bringing together a network of professionals and/or organizations who will be better informed about resources in the Lowcountry of South Carolina.

- Reach: South Carolinians who reside in the Lowcountry region of the state
- Contact Information:
  - Website: [www.hnglc.org](http://www.hnglc.org)

**PASOs:** Provides culturally responsive education on family health, early childhood, and positive parenting skills; individual guidance for participants in need of resources; and partnerships with healthcare and social service providers to help them provide more effective services.

- Reach: The Latino Community of South Carolina
- Contact Information:
  - Website: [www.scpasos.org](http://www.scpasos.org)
  - Phone: 803-777-0188

**Smiles for a Lifetime (SMILES):**

This division of Welvista, is a school-based pediatric dental program providing preventive and restorative services to school-aged children in grades K-12 in rural South Carolina counties.

- Reach: K-12 public school students in Allendale, Dillon, Hampton, Manning, and Summerton, South Carolina
- Contact Information:
  - Website: [www.welvista.org/pediatric-dentistry/](http://www.welvista.org/pediatric-dentistry/)

**South Carolina Asthma Alliance:**

This alliance works together to promote a healthier South Carolina by eliminating the burdens associated with asthma through collaboration, education, and leadership.

- Reach: Community at large
- Contact Information:
  - Website: [www.scasthmaalliance.org](http://www.scasthmaalliance.org)
  - Phone: 864-347-0031

**South Carolina Access Health:**

The mission is to support communities in creating and sustaining coordinated data-driven provider networks of care that provide medical homes and ensure timely, affordable, high-quality healthcare services for low-income uninsured South Carolinians.

- Reach: Health Organizations that have patient-centered Medical Homes in South Carolina
- Contact Information:
  - Website: [www.scha.org/members/member-initiatives/accesshealth-sc](http://www.scha.org/members/member-initiatives/accesshealth-sc)
  - Phone: 803-744-3556

**South Carolina Institute of**

**Medicine and Public Health:** This entity works to collectively inform policy to improve health and health care.

- Reach: Community at large
- Contact Information:
  - Website: [www.imph.org](http://www.imph.org)
  - Phone: 803-576-5850

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### **South Carolina's Lieutenant Governor's Office on Aging:**

This office enhances the quality of life for seniors in South Carolina and works with a network of regional and local organizations to develop and manage services that help seniors remain independent in their homes and communities.

- Reach: Seniors, ages 55 and older who reside in South Carolina
- Contact Information:
  - Website: [www.aging.sc.gov](http://www.aging.sc.gov)
  - Phone: 803-734-9900

### **Tri-County Health Network:**

The mission of AccessHealth Tri-County Network is to coordinate a sustainable provider network of care for low-income, uninsured residents.

- Reach: Low-income, uninsured residents in Berkeley, Charleston, and Dorchester Counties, South Carolina
- Contact Information:
  - Website: [www.scha.org/public/access/accesshealth-tri-county-network](http://www.scha.org/public/access/accesshealth-tri-county-network)
  - Phone: 843-743-2777

### **Upper Midlands Rural Health Network:**

The mission is to improve health through collaboration of a diverse group, focused on access to care, health promotion, and education.

- Reach: Individuals in Chester, Fairfield, and Lancaster Counties, South Carolina
- Contact Information:
  - Website: [www.umrhn.org](http://www.umrhn.org)

## **Maternal and Infant Health:**

### **Baby and Me, Tobacco Free:**

Evidence-based, smoking cessation program created to reduce the burden of tobacco on the pregnant and postpartum population.

- Reach: Pregnant women who are attempting to quit smoking
- Contact Information:
  - Website: [www.babyandmetobaccofree.org](http://www.babyandmetobaccofree.org)
  - Phone: 864-518-0124

**Cribs for Kids:** This program helps educate new parents about Sudden Infant Death Syndrome (SIDS) and the dangers of unsafe sleep practices. They offer important safety messages and give away safety-approved Graco Pack-N-Play to income-eligible families.

- Reach: Infants and their families of the Midlands region of South Carolina
- Contact Information:
  - Website: [www.palmettohealth.org/medical-services-perinatal-systems/cribs-for-kids](http://www.palmettohealth.org/medical-services-perinatal-systems/cribs-for-kids)
  - Phone: 803-434-7015

**First Steps:** Goals include improving children's health and well-being, support parents in their goals to serve as their children's first and best teachers, provide parents with easy access to needed early interventions for children with unique development

needs, help parents access quality child care for their young children, promote early education programs and quality pre-kindergarten choices for families, and help parents transition their rising kindergarteners into school.

- Reach: Residents of South Carolina with children up to age five.
- Contact Information:
  - Website: [www.scfirststeps.com/healthystart](http://www.scfirststeps.com/healthystart)
  - Phone: 803-734-0479

**Greenwood Genetic Center:**

Nonprofit organization advancing the field of medical genetics and caring for families impacted by genetic diseases and birth defects.

- Reach: Individuals and families affected by genetic diseases and/or birth defects
- Contact Information:
  - Website: [www.ggc.org](http://www.ggc.org)
  - Phone: 888-442-4363

**March of Dimes:** Resources and tools for pregnant mothers and their babies to ensure a safe and healthy delivery.

- Reach: South Carolina pregnant mothers and their babies
- Contact Information:
  - Website: [www.marchofdimes.org](http://www.marchofdimes.org)
  - Phone: 803-252-5300

**Neural Tube Defects Prevention Awareness Campaign:**

Promotes knowledge of the prevention benefits of folic acids and increase

folic acid use by women of childbearing age to prevent these defects.

- Reach: Women of childbearing age
- Contact Information:
  - Website: [www.nbdpn.org](http://www.nbdpn.org)

**New Morning Foundation:**

This foundation aims to advance sexual and reproductive health to decrease the number of unintended pregnancies.

- Reach: Community at large
- Contact Information:
  - Website: [www.newmorningfoundation.org](http://www.newmorningfoundation.org)
  - Phone: 803-929-0088

**PASOs:** Provides culturally responsive education on family health, early childhood, and positive parenting skills, individual guidance for participants in need of resources, and partnerships with healthcare and social service providers to help them provide more effective services.

- Reach: The Latino Community of South Carolina
- Contact Information:
  - Website: [www.scpasos.org](http://www.scpasos.org)
  - Phone: 803-777-0188

**Perinatal Regionalization System:**

A comprehensive, coordinated and geographically structured system of risk-appropriate care for all pregnant women and infants with a goal of improving perinatal outcomes and reducing infant mortality.

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- Reach: There are four perinatal regions and five regional perinatal centers in South Carolina.
- Contact Information:
  - Website: <http://www.astho.org/Presidents-Challenge-2013/SouthCarolina/>

**South Carolina Beginnings:** This organization works with parents of children who are deaf or hard of hearing, deaf and hard of hearing parents, and the professionals that work with these families. They provide counseling, technical assistance and training, hearing screenings, services for providers, and education.

Reach: Individuals and families suffering from hearing loss

- Contact Information:
  - Website: [www.scbegin.org](http://www.scbegin.org)
  - Phone: 803-216-1171

### **South Carolina Birth Defects**

**Program:** This program conducts active surveillance of approximately 50 birth defects from all South Carolina's delivering hospitals. It provides support information about having children with birth defects.

- Reach: Mothers who deliver a baby with birth defects, or expecting mother wanting to know more about having a child with birth defects throughout South Carolina.

- Contact Information:
  - Website: [www.scdhec.gov/Health/FamilyPlanning/DataStaticsonPregnancyBabyHealth/BirthDefects](http://www.scdhec.gov/Health/FamilyPlanning/DataStaticsonPregnancyBabyHealth/BirthDefects)

### **South Carolina Birth Outcomes**

**Initiative:** This effort aims to improve the health outcomes for all moms and babies. Some efforts include reducing the number of C-sections for low-risk moms, championing Baby-Friendly designated hospitals and breastfeeding, and increasing access to long-acting reversible contraceptives (LARCs).

- Reach: Mothers and babies in South Carolina
- Contact Information:
  - Website: [www.scdhhs.gov/organizations/south-carolina-birth-outcomes-initiative](http://www.scdhhs.gov/organizations/south-carolina-birth-outcomes-initiative)

### **Spina Bifida Association of the Carolinas**

An organization dedicated to promoting the prevention of Spina Bifida and enhancing the lives of all affected.

- Reach: Individuals and families affected by Spina Bifida in the Carolina's
- Contact Information:
  - Website: [www.sbancsc.org](http://www.sbancsc.org)

### **The Special Supplemental**

### **Nutrition Program for Women, Infants, and Children (WIC)**

This program serves to safeguard the health of mothers, infants, and children in the medically needy population. WIC conducts health assessments and referrals, nutrition and breastfeeding education, and provide supplemental food.

- Reach: Pregnant, postpartum, and breastfeeding women, infants, and children up to age five who are at nutritional risk.
- Contact Information:
  - o Website: <https://scdhec.gov/health/wic-nutrition-program>
  - o Phone: 855-472-3432

## Chronic Disease and Risk Factors:

### **Alzheimer's Association:**

Information and referrals as well as care consultation, caregiver support groups, caregiver respite, and community education for those in South Carolina who want to learn more or are dealing with Alzheimer's.

- Reach: Individuals and families affected by Alzheimer's
- Contact Information:
  - o Website: [www.alz.org/sc](http://www.alz.org/sc)
  - o Phone: 864-224-3045

### **American Diabetes Association:**

Committed to educating the public about how to stop diabetes and support those living with diabetes

- Reach: Individuals and families affected by Diabetes
- Contact Information:
  - o Website: [www.diabetes.org](http://www.diabetes.org)
  - o Phone: 803-799-4246

**Arthritis Foundation:** Information and resources, as well as access to optimal care, and community connections in the fight against arthritis

- Reach: Individuals and families affected by arthritis
- Contact Information:
  - o Website: [www.arthritis.org](http://www.arthritis.org)
  - o Phone: 404-872-7100

### **Best Chance Network (BCN):**

Breast and cervical cancer screenings at no cost for South Carolina women who qualify. This includes screening services, diagnostic testing, follow-up guidance, as well as community education about breast and cervical cancer.

- Reach: Low-income South Carolina women who qualify
- Contact Information:
  - o Website: [www.scdhec.gov/Health/DiseasesandConditions/Cancer/FreeCancer/Screenings](http://www.scdhec.gov/Health/DiseasesandConditions/Cancer/FreeCancer/Screenings)
  - o Phone: 800-450-4611

**Camp Happy Days:** The mission of this organization is to offer support and encouragement to children diagnosed with cancer and their families. The goal is to improve the physical, emotional, and psychological health of the entire family facing pediatric cancer.

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- Reach: Individuals and families suffering from pediatric cancer
- Contact Information:
  - Website: [www.camphappydays.org](http://www.camphappydays.org)
  - Phone: 843-571-4336

### **Care Coordination Institute Labs:**

CCI Labs works with communities and healthcare providers using data to improve quality of care and prevent disease. CCI Labs combines data from EMR, billing, and scheduling systems to create useful tools for healthcare providers all over South Carolina. The focus is on low cost highly scalable solutions to chronic disease and risk factors

- Reach: South Carolina
- Contact Information:
  - Website: [www.ccilabs.org](http://www.ccilabs.org)

### **Catawba Farm and Food**

**Coalition:** Aims to establish a food policy council, farmers markets, food hubs, and include access to food in comprehensive planning.

- Reach: Residents of Chester, Fairfield, Lancaster, Union, and York Counties, South Carolina, as well as the Catawba Indian Nation
- Contact Information:
  - Website: [www.catawbafarmandfood.org](http://www.catawbafarmandfood.org)
  - Phone: 803-374-3779

### **City of Columbia Food Policy**

**Council:** Elected city residents gather to address problems found within food production, consumption, processing,

distribution, and waste disposal with the primary focus on finding solutions to problems that promote sustainability, economic development, and social justice.

- Reach: Community at large
- Contact Information:
  - Website: [www.columbiasc.net/boards-commissions/food-policy-committee](http://www.columbiasc.net/boards-commissions/food-policy-committee)
  - Phone: 803-545-3039

### **Colorectal Cancer Roundtable:**

Helps prevent more colorectal cancer by providing tools and resources for organizations to help reduce the incidence and mortality from colorectal cancer in the state.

- Reach: Those with colorectal cancer or at risk for developing colorectal cancer in South Carolina
- Contact Information:
  - Website: [www.nccrt.org/state/south-carolina](http://www.nccrt.org/state/south-carolina)

### **Diabetes Initiative of South**

**Carolina:** The goal is to provide the tools for management of the disease to reduce severe complications and cost burdens for South Carolinians.

- Reach: Individuals suffering from diabetes in South Carolina
- Contact Information:
  - Website: [www.academicdepartments.musc.edu/medicine/Divisions/Endocrinology/DSC/index.htm](http://www.academicdepartments.musc.edu/medicine/Divisions/Endocrinology/DSC/index.htm)

**Eat Smart, Move More South**

**Carolina:** The goal is a state in which healthy eating and active living is the pillar for healthy lifestyles in healthy communities.

- Reach: Community at large
- Contact Information:
  - Website: [www.eatsmartmovemoreesc.org](http://www.eatsmartmovemoreesc.org)
  - Phone: 803-667-9810

**Faithful Families:** The Faithful Families Eating Smart and Moving More Program promotes healthy eating and physical activity in communities of faith. Resources for the program include a 9-session Faithful Families curriculum and the Planning Guide for Faithful Families Eating Smart and Moving More.

- Reach: Faith communities throughout Anderson County, South Carolina
- Contact Information:
  - Website: [www.scsu.edu/1890/extension.aspx](http://www.scsu.edu/1890/extension.aspx)
  - Phone: 864-332-0910

**Farm to Institution:** Helps increase access to locally sourced produce, promotes environmental stewardship, and strengthens community connections and relationships in South Carolina

- Reach: South Carolinians who lack access/resources to fresh fruits and vegetables; must meet eligibility
- Contact Information:
  - Website: [www.scfarmtoinstitution.com](http://www.scfarmtoinstitution.com)
  - Phone: 803-898-1621

**Foodshare:** The goal is to make it easier for families in South Carolina to enjoy fresh fruits and vegetables on a daily basis regardless of where one lives or how much they make.

- Reach: South Carolinians who lack access/resources to fresh fruits and vegetables; must meet eligibility
- Contact Information:
  - Website: [www.foodsharesc.org](http://www.foodsharesc.org)
  - Phone: 803-851-4461

**Lee County Farm and Garden**

**Committee:** The mission is to provide a community gathering place for both local farmers/vendors and consumers to create access to healthy, affordable locally grown and crafted products, and to promote a healthier lifestyle.

- Reach: All residents of Lee County, South Carolina

**LiveWell South Carolina:**

Community members taking a population-based approach to improving health outcomes in South Carolina

- Reach: Community at large
- Contact Information:
  - Website: <https://livewellgreenville.org/>
  - Phone: 864-230-6127

**Midlands Local Food**

**Collaborative:** Local governments, academic, and non-profit organizations whose common goal is to promote a sustainable



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local food system, foster land stewardship, and increase equitable food access in the Midlands.

- Reach: Community at large
- Contact Information:
  - Website: [www.clemson.edu/extension/midlandslocalfood/](http://www.clemson.edu/extension/midlandslocalfood/)

**Midlands Health Partners:** The result of a merger of the Lexington and Richland Health Partners groups who were called together to address top issues from the assessment including obesity and diabetes.

- Reach: Richland and Lexington Counties, South Carolina

**National Diabetes Prevention Program:** Resources, information, and programs to help combat diabetes in Americans.

- Reach: Community at large
- Contact Information:
  - Website: [www.cdc.gov/diabetes/prevention/index.html](http://www.cdc.gov/diabetes/prevention/index.html)

**Quit Line:** One on one coaching through phone and web-based counseling and support as well as a personalized quit plan and free nicotine patches and gum.

- Reach: Community at large
- Contact Information:
  - Website: [www.quitnow.net/southcarolina](http://www.quitnow.net/southcarolina)
  - Phone: 800-784-8669

**Scale Down South Carolina:** Initiatives and programs available to citizens of South Carolina who

are interested in losing weight and becoming healthier.

- Reach: Individuals and families in South Carolina who are overweight, obese, or those looking for healthier resources.
- Contact Information:
  - Website: [www.scaledown.org](http://www.scaledown.org)

**South Carolina Cancer Alliance:**

The alliance has been dedicated to the prevention and early detection of cancer, as well as improving the treatment of those affected by this disease. Initiatives include public, professional, and patient education.

- Reach: Individuals and families affected by cancer
- Contact Information:
  - Website: [www.sccancer.org/workgroups/breast-cancer](http://www.sccancer.org/workgroups/breast-cancer)
  - Phone: 803-708-4732

**South Carolina Department of Education:**

Insight into the National School Lunch and Breakfast programs, as well as other governmental and USDA regulated programs.

- Reach: Public schools in the state of South Carolina
- Contact Information:
  - Website: [www.ed.sc.gov/districts-schools/nutrition](http://www.ed.sc.gov/districts-schools/nutrition)
  - Phone: 803-734-8500

**South Carolina Food Access Task**

**Force:** Expands the availability of nutritious food by developing and equipping retail and wholesale outlets selling healthy food.



- Reach: South Carolinians who live in food deserts
- Contact Information:
  - o Website: [www.scfoodaccess.com](http://www.scfoodaccess.com)
  - o Phone: 843-973-6285

### **South Carolina Food Bank**

**Association:** The association of four major food banks across the state that bring 85 million meals to the hungry within the state.

- Reach: Community at large
- Contact Information:
  - o Website: [scfoodbankassociation.org](http://scfoodbankassociation.org)

### **South Carolina Governor's**

**Council on Physical Fitness:** All schools should offer convenient opportunities for students and staff to participate in enjoyable physical activity, and this imperative should be embodied in policy.

- Reach: Children and educators in public schools in South Carolina
- Contact Information:
  - o Website: [www.scahperd.org](http://www.scahperd.org)
  - o Phone: 803-786-3384

### **South Carolina SNAP Education and Obesity Prevention**

**Program:** This program provides a combination of nutrition education, health promotion, and policy, system, and environmental support to low-income communities to improve the likelihood that families who are receiving SNAP benefits will make healthier food and physical activity choices.

- Reach: Individuals and families who receive SNAP benefits in South Carolina
- Contact Information:
  - o Website: [www.dss.sc.gov/assistance-programs/food-and-nutrition-education](http://www.dss.sc.gov/assistance-programs/food-and-nutrition-education)
  - o Phone: 800-616-1309

### **South Carolina Supplemental Nutrition Assistance Program (SNAP):**

Provides benefits, formerly known as Food Stamp benefits, to low-income households with nutrition assistance by increasing the household's food purchasing power.

- Reach: Low-income South Carolinian households
- Contact Information:
  - o Website: [www.dss.sc.gov/assistance-programs/snap](http://www.dss.sc.gov/assistance-programs/snap)
  - o Phone: 800-616-1309

### **South Carolina Tobacco-Free**

**Collaborative:** Eliminate the toll of tobacco in South Carolina

- Reach: Statewide, all South Carolinians
- Contact information:
  - o Website: 803-251-0130
  - o Phone: [www.sctobaccofree.org](http://www.sctobaccofree.org)

### **South Main Mercy Center:**

A community garden with fresh vegetables available seasonally.

- Reach: Low income residents and homeless individuals in the South Main Street area of Anderson, South Carolina.

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- Contact Information:
  - Website: [www.southmainmercy.org](http://www.southmainmercy.org)
  - Phone: 864-437-8298

**Steps to Your Health:** This is a ten-week course that covers basic information about healthy eating and exercising. Participants are weighed and measured the first week and asked to set goals they would like to accomplish by the end of the program. Each session lasts 90 minutes and ends with an exercise activity that can be adapted for individuals with all types of disabilities.

- Reach: Individuals in South Carolina with disabilities
- Contact Information:
  - Website: [www.able-sc.org/health-initiatives](http://www.able-sc.org/health-initiatives)
  - Phone: 803-779-5121

### **United Way of South Carolina:**

Provides a variety of programs for residents of South Carolina including activities to promote healthy eating, active living, smoke-free environments, and the Backpack Snackpack Program.

- Reach: Community at large
- Contact Information:
  - Website: [www.uwasc.org](http://www.uwasc.org)
  - Phone: 803-929-1000

### **University of South Carolina**

**Cooking Matters:** This program works to empower low-income families, kids, and adults with the knowledge and skills to prepare healthy and tasty meals on a budget.

- Reach: Low-income families in South Carolina
- Contact Information:
  - Website: [www.cookingmatters.org](http://www.cookingmatters.org)
  - Phone: 803-898-1629

**Working Well:** Working Well helps employers develop a strategic plan to impact employee health by focusing on policy, systems, and environmental changes, which are often low or no cost. Working Well aims to help employers create a sustainable culture of wellbeing by using effective, evidence-based best practices to create worksites where the healthy choice is the easy choice.

- Reach: Employers statewide
- Contact Information:
  - Websites: <https://www.scha.org/working-well>

## **Infectious Disease:**

### **AIDS Drug Assistance Program:**

This program helps South Carolina residents get HIV medications or drugs they cannot get or otherwise afford.

- Reach: Individuals who have HIV, are not eligible for Medicaid/Medicare, and are South Carolina residents
- Contact Information:
  - Website: [www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/HIVandSTDs/AIDSDrugAssistancePlan/](http://www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/HIVandSTDs/AIDSDrugAssistancePlan/)
  - Phone: 1-800-856-9954

**AIDS Healthcare Foundation:**

Provides those dying of AIDS a safe, dignified, and compassionate place to spend their final days.

- Reach: South Carolinians who are dying of HIV/AIDS
- Contact Information:
  - Website: [www.ahf.org](http://www.ahf.org)
  - Phone: 803-933-0288

**AID Upstate:** This organization provides supportive services to people affected by HIV/AIDS. They provide comprehensive services in the Upstate of South Carolina. Some care services include medical case management, referrals, food pantry, addiction counseling, and a host of other activities.

- Reach: Individuals in Greenville, Anderson, Pickens, and Oconee Counties, South Carolina
- Contact Information:
  - Website: [www.aidupstate.org](http://www.aidupstate.org)
  - Phone: 864-250-0607

**EMPOWER Program:** This program aims to reduce the onset of substance abuse and prevent the transmission of HIV, Hepatitis, and other sexually transmitted infections, as well as prevent unintended pregnancy.

- Reach: Minority youth and young adults in the Charleston area of South Carolina
- Contact Information:
  - Website: [www.academicdepartments.musc.edu/empower](http://www.academicdepartments.musc.edu/empower)

- Phone: 843-792-8356 or 843-792-3625

**HIV Task Force:** The goal is to make a positive difference in the health and lives of people living with HIV in the state of South Carolina as well provide individuals with tools and resources to help support those affected by HIV.

- Reach: Individuals and families living with HIV
- Contact Information:
  - Website: [www.schtf.org](http://www.schtf.org)

**Palmetto AIDS Life Support Services (PALSS):**

This organization was formed to fight the war against AIDS and offers free services to people who have been diagnosed with or at risk of contracting HIV/AIDS.

- Reach: Community at large
- Contact Information:
  - Website: [www.palss.org](http://www.palss.org)
  - Phone: 803-779-7257

**Palmetto Community Care:** This organization assists those living with HIV/AIDS by providing a full spectrum of care and support services.

- Reach: Individuals and families with HIV/AIDS in the Lowcountry region of South Carolina
- Contact Information:
  - Website: [www.palmettocommunitycare.org](http://www.palmettocommunitycare.org)
  - Phone: 843-747-2273

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### **Personal Responsibility**

**Education Program:** The goal is to educate young people on both abstinence and contraception to prevent pregnancy and sexually transmitted infections.

- Reach: Targets youth ages 10-19 who are homeless, in foster care, live in rural areas, or in geographic areas with high teen birth rates, or come from racial or ethnic minority groups.
- Contact Information:
  - Website: [www.scdhec.gov/Health/ChildTeenHealth/Teens/ThePointTeenClinics](http://www.scdhec.gov/Health/ChildTeenHealth/Teens/ThePointTeenClinics)
  - Phone: 855-472-3432

**Piedmont Care, Inc.:** This nonprofit organization provides HIV/AIDS care, prevention, and advocacy in their service counties. Their mission is to coordinate and provide medical, social, and psychological services for individuals and families affected by or at risk for HIV.

- Reach: Individuals and families affected by HIV in Spartanburg, Cherokee, and Union Counties, South Carolina
- Contact Information:
  - Website: [www.piedmontcare.org](http://www.piedmontcare.org)
  - Phone: 864-582-7773 or 866-454-7773

**Southern AIDS Coalition:** The mission of this coalition is to end the HIV epidemic in the South through public health advocacy,

capacity building assistance and education, research and evaluation, and strategic grant writing.

- Reach: Community at large and throughout the Southern region of the United States
- Contact Information:
  - Website: [www.southernaidscoalition.org](http://www.southernaidscoalition.org)
  - Phone: 888-745-2975

### **South Carolina Immunization**

**Coalition:** The coalition comprised of providers, stakeholders, policy makers, and advocates aims to educate, motivate, and increase access to immunizations.

- Reach: Community at large
- Contact Information:
  - Website: [www.atlanticquality.org/initiatives/immunization/immunization-sc/](http://www.atlanticquality.org/initiatives/immunization/immunization-sc/)
  - Phone: 803-212-7535

### **South Carolina Tuberculosis**

**Association:** This organization provides programs and services for South Carolinians in hopes to assist in the eradication of tuberculosis.

- Reach: Community at large
- Contact Information:
  - Website: [www.sctuberculosis.org](http://www.sctuberculosis.org)
  - Phone: 803-252-1087

### **State Alliance for Adolescent Sexual Health in South Carolina:**

This alliance works to improve comprehensive sexual health education policies, raise awareness

of prevention of STI/HIV, as well as the availability of HPV vaccine, and the use of condoms, along with other forms of contraception.

- Reach: Adolescents and youth in South Carolina
- Contact Information:
  - Website: [www.saashsc.org](http://www.saashsc.org)
  - Phone: 803-898-0670

**Youth AIDS Coalition:** This coalition aims to raise STD awareness, encourage STD testing, and teach preventive techniques. They also provide information on STD testing locations throughout the state.

- Reach: Community at large
- Contact Information:
  - Website: [www.youthaidscoalition.org](http://www.youthaidscoalition.org)

## Injury:

**Aiken County Safe Coalition:** Provides suicide prevention through community education and collaboration

- Reach: Community at large
- Contact Information:
  - Website: [www.preventingsuicides.org](http://www.preventingsuicides.org)

**Brain Injury Association of South Carolina:** This organization aims to provide support and education to individuals with traumatic brain injury, their families, and professionals. They also aim to bring changes in knowledge, attitudes, and behavior to prevent

brain injuries and the violence that often causes these injuries. Additionally, they aim to support the advancement of scientific knowledge to improve the quality of life and develop new treatments to protect the brain.

- Reach: Individuals and their families who are suffering from a traumatic brain injury
- Contact Information:
  - Website: [www.biaofsc.com](http://www.biaofsc.com)
  - Phone: 803-731-9823

### **Children's Trust of South**

**Carolina:** The statewide organization focused on the prevention of abuse, neglect and injury. The organization trains and educates professional who work directly with families, and also funds, supports and monitors proven prevention programs. Children's Trust advocates for strong, well-founded policies that positively impact child well-being.

- Reach: Children and families in South Carolina
- Contact Information:
  - Website: [www.scchildren.org](http://www.scchildren.org)
  - Phone: 803-733-5430

### **Head and Spinal Cord Injury:**

Information, case management, and other tools and resources for family support as well as initiatives for children and adults who suffer from a head and spinal cord injury.

- Reach: Those in South Carolina with a Head and Spinal Cord Injury that meet eligibility criteria

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- Contact Information:
  - Website: [www.ddsn.sc.gov/consumers/divisions/Pages/HASCI.aspx](http://www.ddsn.sc.gov/consumers/divisions/Pages/HASCI.aspx)
  - Phone: 800-289-7012

**Julie Valentine Center:** This center's mission is to stop sexual violence and child abuse and the impact of these crimes through prevention, investigation, collaboration, treatment, and advocacy.

- Reach: Community at large
- Contact Information:
  - Website: [www.julievalentinecenter.org](http://www.julievalentinecenter.org)
  - Phone: 864-331-0560

**Palmetto Cycling Coalition:** The mission of this coalition is to make South Carolina bicycle and pedestrian friendly, by improving safety through better access and education, to promote healthy lifestyles and livable and economically viable communities.

- Reach: Community at large
- Contact Information:
  - Website: [www.pccsc.net](http://www.pccsc.net)
  - Phone: 803-445-1099

**Palmetto Poison Center:** This center provides services free-of-charge to the public and health professionals 24 hours a day, 365 days a year. They provide information on exposure to poisonous materials for the public and healthcare professionals.

- Reach: Community at large

- Contact Information:
  - Website: [poison.sc.edu/index.asp](http://poison.sc.edu/index.asp)
  - Phone: 1-800-222-1222 or 803-777-7909

**Sexual Trauma Services:** This organization advocates for and supports survivors of sexual assault and abuse and educates the community to identify and prevent sexual violence.

- Reach: Community at large
- Contact Information:
  - Website: [www.stsm.org](http://www.stsm.org)
  - Phone: 803-790-8208

### **South Carolina Coalition Against Domestic Violence and Sexual Assault:**

This coalition is made up of organizations providing intervention services to victims and survivors of domestic violence and sexual assault and primary prevention programs to students and communities across the state.

- Reach: Community at large
- Contact Information:
  - Website: [www.sccadvasa.org](http://www.sccadvasa.org)
  - Phone: 803-256-2900

### **South Carolina Occupational Safety and Health Administration:**

The mission of this organization is to prevent workplace deaths, injuries, and illnesses.

- Reach: Community at large
- Contact Information:
  - Website: [www.scosha.llronline.com](http://www.scosha.llronline.com)
  - Phone: 803-896-7665

**Target Zero:** This is a statewide safety plan that provides a coordinated framework towards eliminating traffic deaths and reducing severe injuries on South Carolina's public roads.

- Reach: Community at large
- Contact Information:
  - Website: [www.sctargetzeroplan.org](http://www.sctargetzeroplan.org)
  - Phone: 877-349-7187

**ThinkFirst Injury Prevention:** The South Carolina Spinal Cord Injury Association offers the ThinkFirst Injury prevention program for students in elementary through high school. These presentations provide education on the brain and spinal cord, explain how they are impacted by injury, and address how students can be more safety-conscious in their everyday lives.

- Reach: Elementary through high school students in South Carolina
- Contact Information:
  - Website: [www.sccspinalcord.org/thinkfirst-injury-prevention](http://www.sccspinalcord.org/thinkfirst-injury-prevention)
  - Phone: 803-252-2198

**Upstate Splash:** This organization hosts charity events to make a measurable difference in childhood drowning by raising funds to provide swim lesson scholarships for at-risk youth.

- Reach: At-risk youth in the surrounding communities of the Upstate, South Carolina

- Contact Information:
  - Website: [upstatesplash.org](http://upstatesplash.org)
  - Phone: 864-400-9967

## Behavioral Health:

**Axis I Center of Barnwell:** The mission of this center is to provide awareness, education, prevention, intervention, treatment, and referral for individuals in the community suffering from substance use disorders.

- Reach: Individuals and families suffering from substance use disorder in Barnwell County, South Carolina
- Contact Information:
  - Website: [www.axis1.org](http://www.axis1.org)
  - Phone: 803-541-1245

### Behavioral Health Coalition:

Coalition comprised of behavioral and mental health professionals and stakeholders from across South Carolina to address a set of priority areas related to improving care and outcome to better serve our residents with behavioral health illnesses

- Reach: South Carolinians who need a sustainable system of high quality, cost-effective and accessible behavioral health services and support
- Contact Information:
  - Website: <http://imph.org/taskforces/behavioral-health-taskforce>
  - Phone: 803-576-5850



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**Code Green Campaign:** Raising awareness of the high rates of mental health issues that affect first responders.

- Reach: First responders in South Carolina
- Contact Information:
  - Website: [www.codegreencampaign.org](http://www.codegreencampaign.org)

**Federation of Families of South Carolina:** This organization aims to provide leadership in children's mental health through education, awareness, support, and advocacy for families of children and youth with emotional, behavioral, mental, and/or substance use disorder.

- Reach: Children and youth suffering from mental illness in South Carolina along with their families
- Contact Information:
  - Website: [www.fedfamsc.org](http://www.fedfamsc.org)
  - Phone: 866-779-0402

**Lexington Rise Above It:** Community partners from LRADAC, law enforcement, Lexington School District, and others to address drug and alcohol use by youth.

- Reach: Youth in Lexington County, South Carolina
- Contact Information:
  - Website: [www.locc.info](http://www.locc.info)

**Mental Health America of South Carolina:** This organization works diligently to advocate for those suffering from mental illness. They also educate individuals to promote good mental health, raise

awareness and reduce the stigma associated with mental illness. Finally, they serve those suffering from mental illness by providing evidence based programs that can improve quality of life and speed their recovery.

- Reach: Community at large, primarily those suffering from mental illness in South Carolina
- Contact Information:
  - Website: [www.mha-sc.org](http://www.mha-sc.org)
  - Phone: 803-779-5363

**National Alliance on Mental Illness (NAMI) South Carolina:** NAMI aims to improve the quality of life for individuals who live with mental illnesses and for their families by promoting the availability of effective services and resources, through education, support, and advocacy.

- Reach: Individuals and families suffering from mental illness
- Contact Information:
  - Website: [www.namisc.org](http://www.namisc.org)

**New Hope Behavioral Health:** This counseling center aims to provide a means to an end for each person's struggles through professional counseling, medical services, and restoring hope to all adults to enhance their quality of life.

- Reach: Community at large
- Contact Information:
  - Website: [www.newhopebehavioralhealth.com](http://www.newhopebehavioralhealth.com)
  - Phone: 864-608-4578



**Palmetto Low Country**

**Behavioral Health:** This is a mental health treatment provider offering substance abuse treatment services for teens, adults, and senior adults in private, caring, and compassionate inpatient and outpatient settings.

- Reach: Community at large
- Contact Information:
  - Website: [www.palmettobehavioralhealth.com](http://www.palmettobehavioralhealth.com)
  - Phone: 843-747-5830

**Pee Dee Mental Health:** This health center aims to provide effective mental health services to individuals who are experiencing emotional or psychiatric distress while working with organizations and individuals to develop additional resources that may be needed.

- Reach: Individuals and families suffering from mental health distress in Darlington, Florence, and Marion Counties, South Carolina
- Contact Information:
  - Website: [www.peedeementalhealth.org](http://www.peedeementalhealth.org)
  - Phone: 843-317-4073

**South Carolina Department of Alcohol and Other Drug Abuse Services (DAODAS):**

This agency is charged with ensuring quality services to prevent or reduce the negative consequences of substance use and addictions. The mission is to ensure the availability and quality of continuum of substance use services, thereby improving health status,

safety, and quality life of individuals, families, and communities across South Carolina.

- Reach: Individuals and families suffering from substance use disorder in South Carolina
- Contact Information:
  - Website: [www.daodas.sc.gov](http://www.daodas.sc.gov)
  - Phone: 803-896-5555

**South Carolina SHARE:**

SHARE is a mental health organization to promote recovery principles for the people of South Carolina suffering from mental illness, substance use disorder, and/or co-occurring disorder through education, support, and wellness.

- Reach: South Carolina individuals suffering from mental illness, substance use disorder, and/or co-occurring disorder
- Contact Information:
  - Website: [www.scsshare.com](http://www.scsshare.com)
  - Phone: 803-739-5712

**York County All on Board:**

This coalition aims to engage York County's citizens to collaborate for youth substance abuse reduction, risk minimizations, and healthier lifestyles through capacity building, environmental strategies, education, community awareness, and evaluation.

- Reach: 12-18-year-old youth in York County, South Carolina
- Contact Information:
  - Website: [www.allonboard.org](http://www.allonboard.org)
  - Phone: 803-493-6950

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### Physical Environment:

#### **Carolinas Integrated Sciences & Assessments:**

This team conducts applied research in the Carolinas that incorporates climate information into water, health, and coastal management decision making. Primary goals include seeking to understand climate processes, advance climate adaptation, and support climate information networks.

- Reach: Community at large in both North and South Carolina
- Contact Information:
  - Website: [www.cisa.sc.edu](http://www.cisa.sc.edu)
  - Phone: 803-777-2482

#### **Carolina Recycling Association:**

This organization is committed to waste reduction and recycling efforts through training, education, and networking opportunities.

- Reach: Community at large
- Contact Information:
  - Website: [www.cra-recycle.org](http://www.cra-recycle.org)
  - Phone: 877-972-0007

#### **Charleston Resilience Network:**

This network aims to foster a unified regional strategy and provide a forum to share science-based information, educate stakeholders, and enhance long-term planning decisions that result in resilience.

- Reach: Charleston region, South Carolina

- Contact Information:
  - Website: [www.charlestonresilience.net](http://www.charlestonresilience.net)

#### **Coastal Conservation League:**

This league was formed to protect the threatened resources of the South Carolina coastal plain including the natural landscapes, abundant wildlife, clean water, and quality of life, by working with citizens and government on proactive solutions to environmental challenges.

- Reach: Community at large
- Contact Information:
  - Website: [www.coastalconservationleague.org](http://www.coastalconservationleague.org)
  - Phone: 843-723-8035

**Don't Waste Food SC:** This collaborative campaign brings stakeholders together who are dedicated in sharing knowledge, coordinating resources, and working together to help reduce food waste in South Carolina.

- Reach: Community at large
- Contact Information:
  - Website: [www.scdhec.gov/HomeandEnvironment/Recycling/FoodWaste](http://www.scdhec.gov/HomeandEnvironment/Recycling/FoodWaste)

**Farm to Institution:** Helps increase access to locally sourced produce, promotes environmental stewardship, and strengthens community connections and relationships in South Carolina

- Reach: South Carolinians who lack access/resources to fresh fruits and vegetables; must meet eligibility

- Contact Information:
  - Website: [www.scfarmtoinstitution.com](http://www.scfarmtoinstitution.com)
  - Phone: 803-898-1621

**Forestry Association of South**

**Carolina:** This organization's mission is to maintain and secure adoption of local, state, and federal policies that encourage management, utilization, and conservation of forest resources while maintaining or strengthening the business climate for the wood and paper products industry.

- Reach: Community at large
- Contact Information:
  - Website: [www.scforestry.org](http://www.scforestry.org)
  - Phone: 803-798-4170

**Friends of Lake Keowee:** This organization aims to preserve, protect, and enhance Lake Keowee and its watershed through conservation, science, education, and good governance so that the lake remains clean, safe, and beautiful for the community.

- Reach: Individuals and families utilizing Lake Keowee
- Contact Information:
  - Website: [www.folkskeowee.org](http://www.folkskeowee.org)
  - Phone: 864-882-3655

**Keep the Midlands Beautiful:**

The mission of this organization is to engage, inspire, and educate the Midlands to invest in the community through litter prevention, recycling, and beautification.

- Reach: Richland and Lexington Counties, South Carolina
- Contact Information:
  - Website: [www.keepthemidlandsbeautiful.org](http://www.keepthemidlandsbeautiful.org)
  - Phone: 803-733-1139

**Palmetto Pride:** This entity is South Carolina's anti-litter and beautification organization. Through programs this organization aims to educate the public on the impacts of litter to help prevent it, enforce current litter laws, bring awareness to the issue, and encourage groups to take ownership of communities.

- Reach: Community at large
- Contact Information:
  - Website: [www.palmettopride.org](http://www.palmettopride.org)
  - Phone: 803-758-6034

**The South Carolina Clean Indoor**

**Air Act:** This act made it unlawful to smoke in public indoor areas, thus reducing secondhand smoke exposure.

- Reach: Community at large
- Contact Information:
  - Website: [www.scstatehouse.gov/code/t44c095.php](http://www.scstatehouse.gov/code/t44c095.php)

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### **South Carolina Section of the American Water Works Association:**

This association of water professionals aims to provide solutions to effectively manage water in the state.

- Reach: Community at large
- Contact Information:
  - Website: [www.scwaters.org/page/SCAWWA](http://www.scwaters.org/page/SCAWWA)
  - Phone: 803-358-0658

### **Surfrider Foundation—**

**Charleston Chapter:** This organization concentrates on keeping the beaches and waterways free of trash to keep the Lowcountry beautiful through conservation, activism, research, and education.

- Reach: Lowcountry Region of South Carolina
- Contact Information:
  - Website: [www.charleston.surfrider.org](http://www.charleston.surfrider.org)

### **Take Action SC Environmental Education Partnership:**

This partnership aims to provide a program that informs, inspires, and empowers students and teachers to protect and preserve the environment.

- Reach: Students and teachers of South Carolina
- Contact Information:
  - Website: [www.takeactionsc.org](http://www.takeactionsc.org)
  - Phone: 1-800-768-7348

### **Upstate Forever:**

This conservation organization protects critical lands, waters, and the unique character of the Upstate.

- Reach: Upstate region of South Carolina
- Contact Information:
  - Website: [www.upstateforever.org](http://www.upstateforever.org)
  - Phone: 864-250-0500 or 864-327-0090



