

SOUTH CAROLINA State Health Assessment



**LIVE
HEALTHY**
SOUTH CAROLINA

Acknowledgments

This work is made possible with the close and extensive collaboration of DHEC's State Health Improvement Office with epidemiologists and program experts across the agency and the involvement of many committees and stakeholders from across the state. Thank you to the DHEC Executive Advisory Committee for the continued support and leadership; to the LHSC Advisory Committee and the members of the Alliance for a Healthier SC for the diverse perspectives and critical input; and to the DHEC Project Planning Team for leading the process and development of the report. A special thank you to the workgroups who shared their expertise and wrote the assessment chapters; and to Carlos Avalos, Elizabeth Barton, Dr. Linda Kelemen, Katherine O'Shields, and Suzanne Sanders who led the workgroups. To the Editorial and Communications teams, thank you for dedicating time to ensuring the 2023 State Health Assessment contains quality, comprehensive information that represents our state.

To the stakeholders, regions, and coalitions who dedicated their time to provide a voice for the communities around the state, these contributions ensure inclusivity and equitable decision-making as our state develops the next five-year roadmap to improving SC's health and wellbeing. To Deep Roots Research and Evaluation, thank you for the comprehensive and quality analysis and reporting of the community engagement efforts. Thank you to ADCO for your exceptional services. The hard work put into the design of the report really shows.

For all individuals, communities, regions, organizations, and public health entities involved in the development of this report, we would like to express our deepest appreciation. We are South Carolina, and together, we are making strides towards becoming a healthier, happier state.

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The South Carolina Department of Health and Environmental Control will be splitting into two separate agencies come July 1, 2024, forming the Department of Public Health (DPH) and the Department of Environmental Services. Although the state's public health infrastructure is changing, this does not affect our commitment to improving the health of all South Carolinian's. The new DPH will continue these efforts, and build upon the work DHEC, its partners, and communities have started to develop the new 2024 State Health Improvement Plan.

Joint Letter from Live Healthy South Carolina Leadership

Live Healthy South Carolina, a statewide effort between the South Carolina Department of Health and Environmental Control (DHEC) and the Alliance for a Healthier South Carolina (Alliance), is pleased to present South Carolina's 2023 State Health Assessment, a comprehensive resource of the latest public health data, issues and trends affecting all South Carolinians.

Together, Live Healthy South Carolina represents more than 60 state and community leaders and organizations collaborating with the shared goal of improving the health of all South Carolinians at a population level.

In 2023, DHEC executives served as advisers on the Live Healthy South Carolina Executive Advisory Committee providing leadership, support, and oversight for the state health assessment framework.

We believe everyone in the Palmetto State deserves the opportunity to live a healthy, productive life. To achieve healthy outcomes for all South Carolinians requires examining the conditions in the places where people live, learn, work and play. Called social determinants of health, they are the non-medical factors that affect a wide range of health risks and outcomes. This assessment analyzes these conditions to reveal gaps, disparities, and opportunities for improvement in our state and uses that data to inform best practices that can help create a healthier South Carolina for everyone.

South Carolina's 2023 State Health Assessment is a comprehensive evaluation of the health status of South Carolinians designed to inform health improvement plans at the state and community levels. In addition, it serves as a health data resource that organizations, the media and the public can use.

We encourage all South Carolinians to join Live Healthy South Carolina in pursuing optimal health at a personal, community and statewide level.

Sincerely,

Live Healthy South Carolina Leadership



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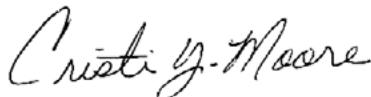
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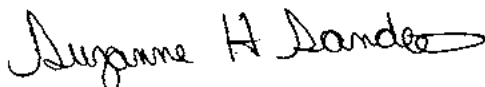
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Introduction



Live Healthy South Carolina

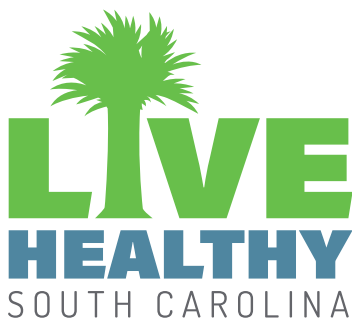
While South Carolina (SC) is a small, diverse state of just over 5 million people, the effort to maintain the health and well-being of its people is a complex undertaking that demands the collaborative effort of the entire population — from state agencies and community leaders to public health stakeholders and health care experts. The natural question would be, how do you bring all these together for this grand undertaking?

The answer: Live Healthy South Carolina (LHSC), an initiative created in June 2017 to systematically assess and advance the health of all South Carolinians.

LHSC has been a collaborative effort between the South Carolina Department of Health and Environmental Control (DHEC) and the Alliance for a Healthier South Carolina (Alliance). SC's first comprehensive State Health Assessment (SHA) and State Health Improvement Plan (SHIP) were created through this initiative in 2018 with support from the SC Office of Rural Health, and the collaborative continues to be the foundation for this work.

LHSC has five goals:

- Assess state-level health outcomes, along with risk and protective factors that affect health, every three to five years.
- Identify priority areas for SC 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 SC forward.
- Establish a roadmap for SC population health for the next five years.
- Track population health metrics and the SHIP annually.



The South Carolina Department of Health and Environmental Control is the state regulatory agency charged with promoting and protecting the state's environmental and public health. The work is implemented statewide in four core deputy areas, including public health, environmental affairs, health care quality, and support services. The agency'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. This includes working with partners, communities, and others to help every South Carolinian have the access, resources, and information they need to improve the environment in which they live, make decisions that enhance their health, and have access to the highest quality health care. DHEC envisions a state with healthy people living in healthy communities. More information about DHEC can be found at www.scdhec.gov.

The Alliance for a Healthier South Carolina is a coalition of more than 60 executive leaders from diverse organizations across the state, including communities traditionally underserved, working together to improve the health and well-being of all South Carolinians. The Alliance places a primary focus on aligning health equity-based goals, metrics and actions across organizations, institutions and agencies at both the state and community levels, and actively connecting both existing and planned equity-focused work on the policy and practice fronts. See Appendix A for a listing of the Alliance membership. More information about the Alliance can be found at healthiersc.org.

Since the 2018 assessment, DHEC and the Alliance have continued to partner to enhance the work being done as part of the initiative. To showcase and share the 2018 SHA data with stakeholders and community leaders, DHEC launched community Data Walks in 2019. Data Walks are an interactive data-sharing experience, allowing the audience to interact with subject matter experts about the issues affecting their

communities. This experience provides tools to empower various community leaders to make data-driven decisions for the betterment of the public's health. This process has been instrumental in relaying and sharing SHA data with the public, as well as supporting counties in developing their community health needs assessments and improvement plans.

DHEC has also worked with various community partners, including other state departments, agencies and coalitions serving underrepresented populations, faith-based organizations, and additional public health entities to implement and monitor the priorities from the 2018 SHIP. The Alliance has served as a convener for bringing key stakeholders together to connect these state-level initiatives to the local, community-level health improvement efforts. DHEC and the Alliance utilized these partnerships to develop a universal Community Health Needs Assessment (CHNA) survey tool that is being piloted in various hospital systems and communities across SC. Following the pilot, stakeholders will be convened to discuss lessons learned and to develop a model to align public health, hospitals, and other community-based organizations' community health assessment and improvement plan processes (more information on the CHNA can be found in **Appendix B**). Over the past five years, to further support the partnership between DHEC and the Alliance, LHSC has been highlighted at each Alliance quarterly meeting and included in all annual events.

The COVID-19 pandemic occurred after the completion of the 2018 SHA and during the implementation of the SHIP. The virus had a significant impact on the health and well-being of individuals nationwide, and all public health efforts had to shift as a result. In SC, existing

health disparities were amplified, and the state's public health infrastructure was tested. In response, DHEC and the Alliance both strengthened their diversity, equity, and inclusion (DEI) efforts and worked to mobilize partnerships to address the issues SC was facing.

The Alliance launched Take Action Tuesdays to align with national observances and the LHSC priorities to recognize programs, projects, and best practices that exemplify the highest level of commitment to improving the health and well-being of communities across SC. They also developed and used the Collaborative Strategies for Advancing Health and Racial Equity in SC as a roadmap to increase awareness, strengthen educational opportunities, and enhance advocacy efforts.

DHEC hired a Chief Inclusion Officer and created a public health DEI office dedicated to advancing diversity and inclusion within the agency and in the services provided to South Carolinians. Additionally, as part of DHEC's initial strategic planning process, advancing equity was outlined as a core value of the agency (see **Figure 1.1**). DHEC also transitioned and mobilized epidemiologists and data analysts to provide insight on the impact of COVID-19. As a result, the agency was able to transform the data to action by working with various sectors of the community to increase testing and vaccination rates.

SC's public health infrastructure has proven to be adaptable and flexible over the last five years. The state's health departments continued providing high-quality services, workforce development and training increased, data and information systems are continuously updated, and partnerships are increasingly mobilized to improve the health of the population.

FIGURE 1.1

DHEC's Core Values



**Embracing
Service**



**Inspiring
Innovation**



**Promoting
Teamwork**



**Pursuing
Excellence**



**Advancing
Equity**

The State Health Assessment and State Health Improvement Plan

DHEC led the development of this assessment with key support from the Alliance and its membership. The SHA is a comprehensive compilation of health-related data outlining health across the lifespan, from maternal and infant health to healthy aging. It highlights SC's population as a whole, as well as the demographic subpopulations making SC the diverse state it is. The assessment is used to examine key health indicators, identify health disparities and monitor trends and progress in the field of public health. It builds on extensive community engagement and highlights capacity throughout our state, including resources and assets that work collaboratively to improve the health of SC residents.

Since the development of the 2018 SHA, the CDC updated the 10 Essential Public Health Services (EPHS), by placing equity at the center in 2020 (Figure 1.2). The EPHS describes the public health activities all communities should undertake to promote and protect the health of all people in all communities.¹ To achieve health equity, the EPHS actively promotes policies, systems, and overall community conditions that enable optimal health for all and remove systemic and structural barriers that have resulted in health disparities. This assessment is designed to include all populations, highlighting the gaps, disparities, and resources to be mobilized to make strides towards advancing health equity.

FIGURE 1.2

Essential Public Health Functions



Additionally, the U.S. Department of Health and Human Services Healthy People 2030 (HP 2030) initiative has strengthened its focus on health equity, which is reflected in the overarching goal of “eliminating health disparities, achieve health equity and attain health literacy to improve the health and well-being of all.” (Figure 1.3)² An effort was made throughout the

assessment not only to include comparisons to the HP 2030 targets (list of Healthy People 2030 objectives can be found in **Appendix C**), but to also leverage HP to advance health equity by focusing on social determinants of health across populations leading to the reduction of disparities in health and health care.

FIGURE 1.3

Healthy People 2030



Throughout the assessment, information is used to identify high-priority issues, develop strategies to address public health concerns, and inform the next iteration of SC's SHIP. The SHIP provides a vision for continuous health improvement and will be a roadmap used by government agencies, community-based organizations, health care professionals, advocates, policy makers, and other stakeholders to take action to leverage resources and focus work towards measurable improvement.

Additionally, DHEC will use this assessment in its strategic planning. DHEC is currently working to

revamp the agency's strategic planning process to ensure it is constant. This includes promoting a culture of continuous improvement and building in consistent mechanisms for listening, planning, doing, monitoring, evaluating, and adjusting to make sure the strategic planning efforts continuously align with statewide needs. To do so, DHEC launched a two-year Bridge Strategic Plan, set to end in 2024. DHEC will use the SHA, as well as the SHIP, as roadmaps to revamp the agency's strategic plan to ensure the direction set for the agency aligns with the identified needs.

Public Health Accreditation

DHEC received national accreditation through the Public Health Accreditation Board (PHAB) in 2021. Public health accreditation, which lasts five years, sets standards that state, regional, and local public health departments use to continuously improve the quality of their services and performance. To achieve accreditation, health departments must go through a rigorous, multi-faceted peer-review assessment to ensure they meet a set of quality standards and measures.

Accreditation allows for increased awareness of an agency's strengths and weaknesses, aligning its strategic direction and initiatives with the SHIP priorities, and stimulates quality and performance improvement activities. Since accreditation in 2021, DHEC created the State Health Improvement Office, has strengthened its quality improvement program, bolstered relationships with key partners, and adapted and improved strategic planning processes. It continues to improve the agency's capacity to provide high-quality programs and services. DHEC is maintaining activities in alignment with accreditation standards and intends

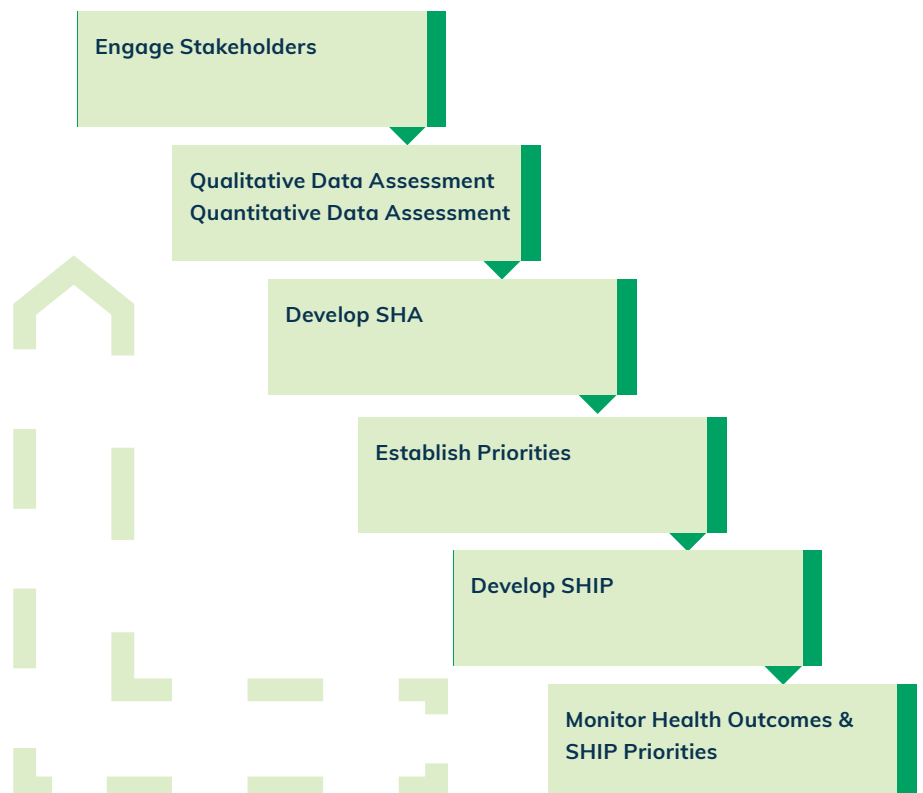
to pursue reaccreditation. The SHA is a critical piece of reaccreditation, and will help to inform an updated strategic plan.

Strategic Frameworks

The SHA and SHIP development process follows a modified Mobilizing for Action Through Planning and Partnerships (MAPP) model developed by the National Association of City and County Health Officials (NACCHO) and the Centers for Disease Control and Prevention (CDC). MAPP is a community-driven strategic planning process for improving population health. It uses a participatory process based on partnerships and collaboration among all relevant public health bodies and between the public health system and the community. The framework helps stakeholders prioritize the state's public health issues, identify resources for addressing them, and determine the best plan of action to drive change. Stakeholders are included in the assessment, planning and implementation phases, ensuring the community drives and assumes ownership of the resulting plan.³

FIGURE 1.4

South Carolina SHA and SHIP Process



As part of this process, the DHEC State Health Improvement Office formed a multi-layered project management organization, partnering with an inclusive list of more than 100 thought leaders and experts. The

internal and external stakeholders comprised multiple different committees and were leveraged to collaborate and inform the direction of the project (see **Appendix D** for team member listing).

FIGURE 1.5



FIGURE 1.6

South Carolina State Health Assessment Development – Roles and Responsibilities



The committees established early on the need for focusing on health equity and the social determinants of health. In recognition of the fact that 80% of an individual's health influences are those conditions in which people are born, grow, live, and work, the Population Health Framework was adopted to assist in the identification of drivers of health. The Population Health Framework is based on a conceptual model of population health that includes both Health Outcomes (length and quality of life) and Health Factors (determinants of health) (See Figure 1.7).⁴

The model illustrates a broad vision of population health, helping to outline all the factors impacting health and where to take action (Figure 1.7). With the framework guiding selection, as well as data availability, trends, and representation, key indicators were chosen and assessed to highlight the impact on health throughout the life course.⁴

Population Health Framework:

Health Outcomes include two sub-areas:

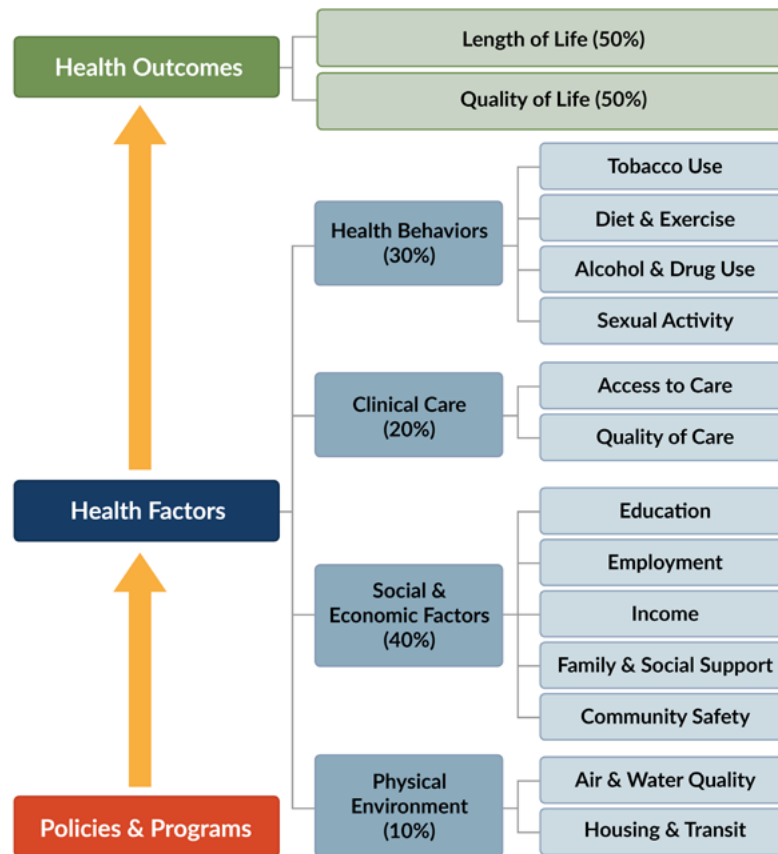
- Length of Life
- Quality of Life

Health Factors include four sub-areas:

- Health Behaviors
- Clinical Care
- Social and Economic Factors
- Physical Environment³

FIGURE 1.7

Population Health Framework



County Health Rankings model © 2014 UWPHI

State Health Improvement Plan:

The SHIP is a strategic plan formed through a collaborative process that identifies health improvement priorities to be addressed over a period of five years. The 2024 SHIP methodology will be modeled after a Results-Based Accountability (RBA) framework. RBA is a data-driven decision-making process to help our state and communities move from talking about problems to taking action to solve them. The framework focuses on results by analyzing the quality and effectiveness of services being offered across the state using three simple questions:

1. How much was done?
2. How well was it done?
3. Is anyone better off?

DHEC, in partnership with the Alliance, will lead this collaborative process with SC's community organizers, public health leaders and stakeholders to identify the priority areas the state will monitor over the next five years. To monitor the success of the SHIP priorities, a web-based performance reporting software will be used.

Process:

The SHA and SHIP process utilize diverse stakeholders and leaders from across SC. The SHA was completed between May 2022 and November 2023 with support from and collaboration with more than 60 organizations across the state. Under the leadership of DHEC, in partnership with the Alliance, state-level executive partners met to provide input on health indicator selection, to review data and to consider data sources. Additionally, community-level stakeholders were involved throughout the process to ensure alignment of state and local efforts. This assessment process addresses the lessons learned from the 2018 SHA. This included a focus on inclusivity by:

- Increasing involvement and commitment from staff at all levels of DHEC.
- Strengthening Alliance and external partner collaboration and prioritizing multidisciplinary team engagement.
- Incorporating both quantitative and qualitative data sources.
- Developing a comprehensive list of data indicators to have a wider representation of state data, with a focus on health disparity and social determinants of health.

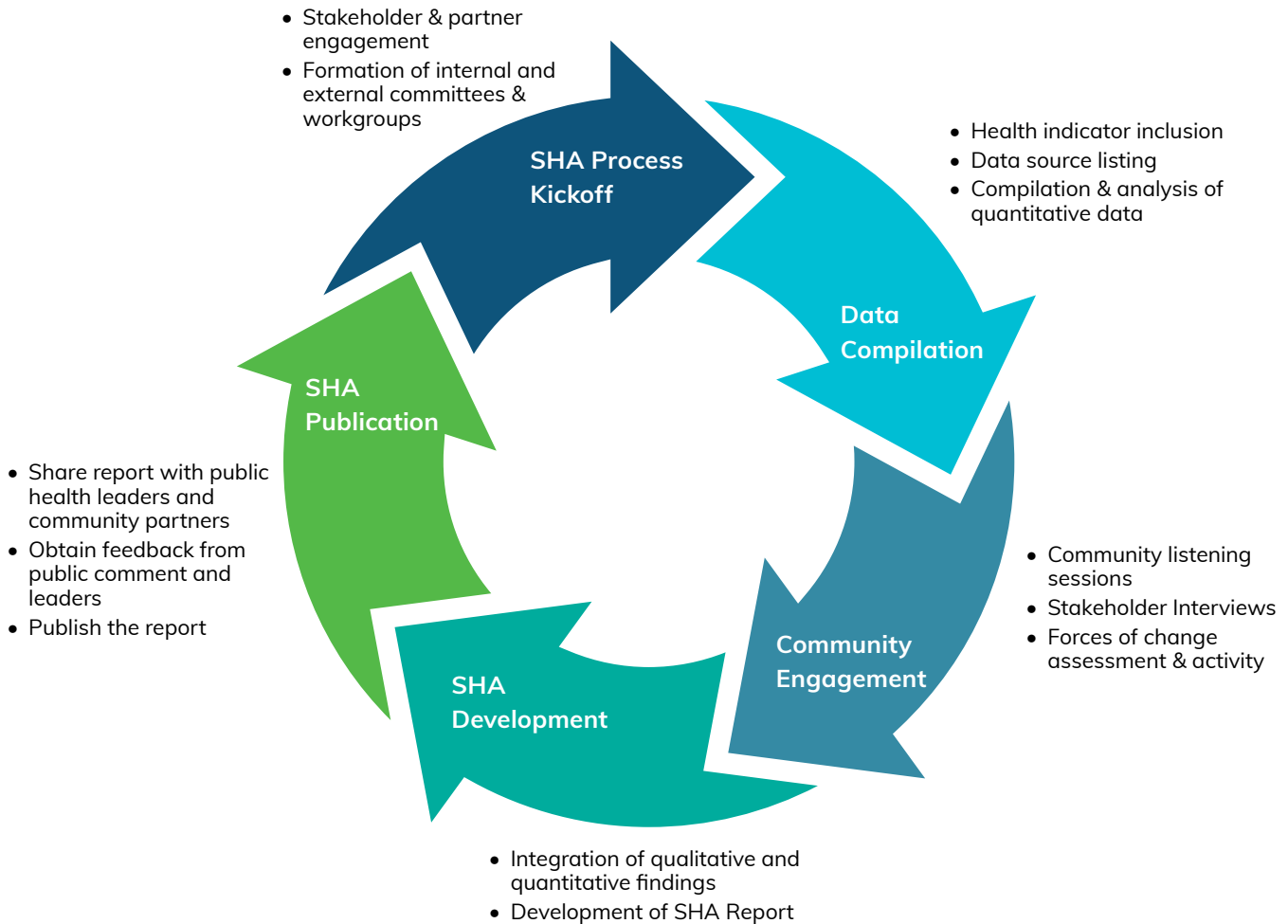
Structure of the State Health Assessment

The SHA and SHIP documents serve as the cornerstone of planning for population health. Public health in SC is provided through a centralized system, and all regional and county health departments fall under the jurisdiction of the state. The chapters outlined throughout this document represent the populations served, including SC Demographics, Health Equity, Healthy Communities, Healthy Mothers and Infants, Healthy Children and Adolescents, Healthy Adults, and Healthy Aging. Selected indicators within chapters include background information and how each indicator affects population health. The data is disaggregated by various demographics — including race, ethnicity, gender, geographic location, and education — to capture health disparities across populations in SC. Data tables and figures are showcased to identify which populations are most affected, when and where issues are taking place, and how certain populations or areas are most affected. In the final chapter of the document, Capacity to Address Public Health Issues, the state's ability to address health priorities and social determinants of health is highlighted.

This assessment brings together the voices of various sectors of the community and data from multiple sources to tell the story of SC's health. It identifies disparities among populations, what resources are available to mitigate these issues, and provides a foundation to improve the health of all South Carolinians (see **Appendix F** for a list of resources).

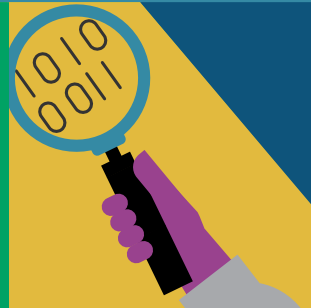
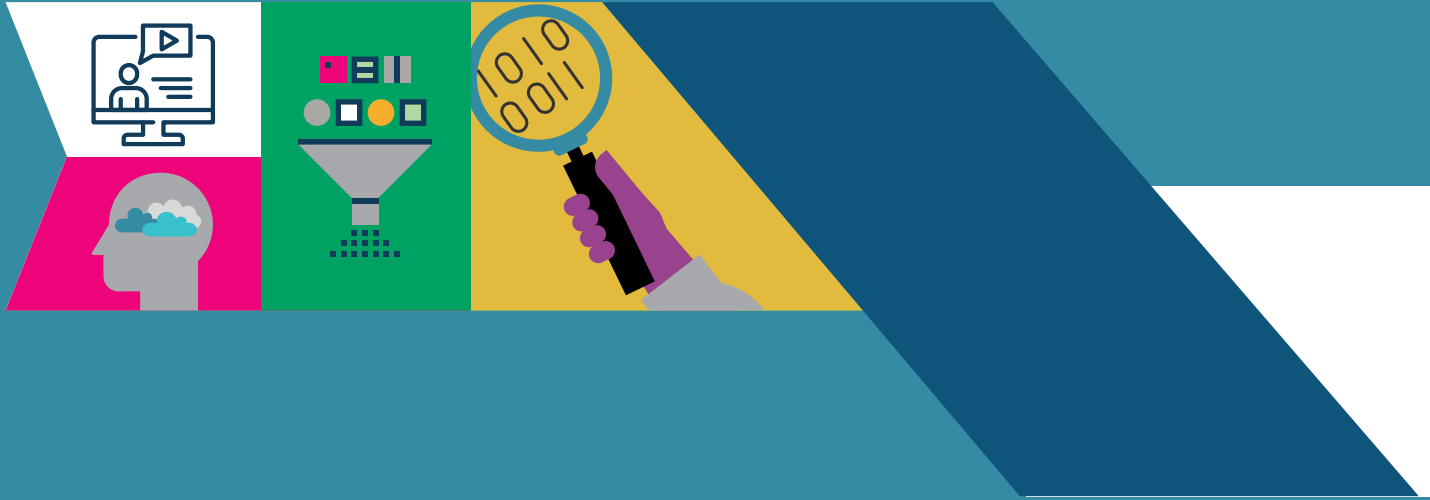
FIGURE 1.8

The SHA process



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Methodology



Methodology

In 2022, the South Carolina (SC) Department of Health and Environmental Control (DHEC) formed an internal workgroup to discuss the planning and implementation of the second SC State Health Assessment (SHA). This workgroup was comprised of individuals representing various bureaus in the agency. This multidisciplinary team met to review data sources from the first iteration of the SHA published in 2018 and identify new data sources to be considered in the second iteration of the SHA. The team also sought to determine a way to select and group indicators for the SHA, which is described in detail below. All information discussed in this working group was then shared in regular meetings with the Alliance, a statewide coalition representing diverse organizations across the state working to ensure all people in SC have the opportunity to have healthy bodies, minds and communities, and the Live Healthy SC Advisory Committee, which included both Alliance members and other relevant community leaders and experts from across the state.

To determine which data indicators should be included in the SHA, a document was developed outlining the criteria for indicator selection (**Figure 2.1**). Ten criteria were determined and used to assess indicator availability. Data indicators needed to have a large magnitude, meaning the health issue in question impacted a large proportion of the population. The indicator also needed to be a serious issue impacting the state with high severity, such as high mortality, morbidity, disability, or significant pain and suffering. Data indicators also needed to have the ability to change with available resources, evidenced-based interventions and existing working groups. There was a large focus for indicators examining health equity. Indicators needed to measure issues that disproportionately impact population subgroups.

Being able to stratify data sources by various population subgroups was crucial in determining key disparities in the state and identifying root causes or social determinants that affect multiple health issues. When selecting data sources and indicators it was necessary to have quality data sources available to measure and track the selected indicators. There was also a need for showing and tracking data trends to determine if the condition was improving or getting

worse in the state and for various population groups. Having comparison data available was critical to ensure readers could see how the state was doing when compared to the nation or other regions in the country and state. The Live Healthy SC Advisory Committee and DHEC also wanted to include as many Healthy People 2030 objectives as possible, to show if the state was meeting these key health goals. Healthy People has provided science-based 10-year national objectives for improving the health of all Americans since 1979. This program establishes benchmarks, monitors progress over time to encourage collaborations across communities and sectors and measures the impact of prevention activities. The indicators with an accompanying Healthy People 2030 goal are outlined in **Appendix C**. Finally, several data indicators included in the SHA would be selected as

FIGURE 2.1

State Health Assessment Criteria

STATE HEALTH ASSESSMENT CRITERIA

LIVE HEALTHY SOUTH CAROLINA

- **MAGNITUDE (SIZE)** - DOES THE HEALTH INDICATOR MEASURE HEALTH ISSUES THAT AFFECT A LARGE PROPORTION OF THE POPULATION?
- **SERIOUSNESS** - DOES THE HEALTH INDICATOR REFLECT HEALTH ISSUES WITH HIGH SEVERITY, SUCH AS HIGH MORTALITY OR MORBIDITY RATE, SEVERE DISABILITY, OR SIGNIFICANT PAIN AND SUFFERING?
- **ABILITY TO CHANGE (FEASIBILITY)** - DOES THE HEALTH INDICATOR MEASURE HEALTH ISSUES THAT ARE FEASIBLE TO CHANGE, TAKING INTO ACCOUNT RESOURCES, EVIDENCED-BASED INTERVENTIONS, AND EXISTING GROUPS WORKING ON IT?
- **HEALTH EQUITY** - DOES THE INDICATOR MEASURE ISSUES THAT DISPROPORTIONATELY AFFECT POPULATION SUBGROUPS?
- **ROOT CAUSE OR SOCIAL DETERMINANTS THAT AFFECT MULTIPLE HEALTH ISSUES** - 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 2030 OBJECTIVE?**
- **SHIP OBJECTIVE** - DOES THE INDICATOR HAVE DATA THAT CAN BE TRACKED AT THE COUNTY-LEVEL TO MEASURE ANNUAL PROGRESS TOWARD THE SHIP GOALS?
- **PRIMARY DATA** ARE COLLECTED FIRST-HAND THROUGH SURVEYS, LISTENING SESSIONS, INTERVIEWS, AND OBSERVATIONS.
- **SECONDARY DATA** ARE COLLECTED BY ANOTHER ENTITY OR FOR ANOTHER PURPOSE.
- **INDICATORS** ARE SECONDARY DATA THAT HAVE BEEN ANALYZED AND CAN BE USED TO COMPARE RATES OR TRENDS OF PRIORITY COMMUNITY HEALTH OUTCOMES AND DETERMINANT.

State Health Improvement Plan (SHIP) objectives, so having data at the county level that could be tracked to measure annual progress was imperative.

Using the data and indicator criteria as a guide, 120+ indicators were recommended for inclusion in the SHA, an increase from the first iteration of the SHA which saw 92 data indicators. Potential internal (to DHEC) and external data sources were then identified for the recommended indicators. Data source and other reporting system recommendations included surveys (i.e., SC Behavioral Risk Factor Surveillance System (BRFSS), Pregnancy Risk Assessment Monitoring System (PRAMS), Youth Risk Behavioral Surveillance System (YRBSS), etc.), registries (i.e., Cancer Registry, Lead, Vital Statistics, Birth Defects, etc.), and focus groups. These recommendations were continuously shared with a large DHEC team comprised of data experts and stewards throughout the agency as well as with the Alliance and the Data Advisory Team. During these meetings, additional data sources were identified and discussed.

In total, over 55 data sources were identified for assessing the 120+ indicators highlighted in the 2023 SHA. Both primary and secondary data sources were used including surveys, vital statistics records, registries, claims/billing or hospitalization data, census and administrative/program data, and focus groups/listening sessions. Data were collected from a variety of organizations including public health, health care, law enforcement, housing, education, mental health and social services. A detailed list outlining all data sources in the SHA including a description, strengths and limitations is documented in **Appendix E**.

During internal and external planning sessions with the Alliance, it was recommended the SHA be organized by life course. The first iteration of the SHA was organized by topic area, similar to how DHEC is organized. However, many organizations and working groups throughout the state are organized based on age of the residents they serve (i.e., SC Birth Outcomes Initiative, AARP, etc.). To make the document the most useful for the constituents DHEC and the Alliance serves, the life course model and approach was implemented. Four dedicated life-course chapters were created: Healthy Mothers and Infants, Healthy Children and Adolescents, Healthy Adults and Healthy Aging. Additional chapters were also created to highlight healthy communities in the state, the demographics

of our state, the organizations, agencies, and policies working on improving the health for South Carolinians, and a chapter dedicated to highlighting vulnerable and underrepresented population groups in the state. The data indicators and sources were then divided into their respective chapters.

Upon completing the various data planning meetings, chapter-specific workgroups were formed. These workgroups consisted of epidemiologists, data analysts and program staff who worked closely with the population groups and/or indicators in the respective chapters. Workgroups decided on data needed to populate the indicators represented throughout the SHA, requested, analyzed, visually depicted, and interpreted the data.

Crude, age-adjusted rates and/or weighted prevalence estimates were calculated for indicators. Both crude and age-adjusted rates were calculated using population estimates acquired from the National Center for Health Statistics (NCHS). When visualizing maps, quartiles were calculated using the data provided. This allowed for easier comparisons and interpretations.

Prior to 2021, bridge-race population estimates were used. Bridged-race population estimates are estimates used to make multiple-race and single-race data collection systems sufficiently comparable to permit estimation and analysis of race-specific statistics.¹ These estimates had been used to calculate birth and death rates for data year 2000 onward.¹ However, in 2021 those estimates were archived and transitioned to single-race population estimates to align with data best practices and the current Office of Management and Budget (OMB) standards. The transition to single-race estimates follows the OMB standards change as well as the Census's improvement to their collection of race and ethnicity data.² Therefore, all population denominators using 2021 data are of single-race estimates, differing from the bridge-race estimates used for 2012 to 2020 data. This change is denoted in the footnotes of all graphics and figures.

To align with Healthy People 2030, either CDC grouped or the NCHS grouped weights were used. CDC grouped weights were calculated using the same methodology as published in the 2001 NCHS document. The following variables were age-adjusted, and their accompanying adjustment distributions are outlined on (**Tables 2.1-2.5**).

TABLE 2.1

Breast Cancer Screening
in the Past Two Years
(Women, 50-74 years)

CDC Weights	
Age Group	Weight
50 – 59	0.503095679
60 – 74	0.496904321

TABLE 2.2

Cervical Cancer Screening
in Past Three Years
(Women, 21-65 years)

CDC Weights	
Age Group	Weight
21 – 44	0.597372335
45 – 65	0.402627665

TABLE 2.3

Current Cigarette Smoker
(18+ Years)

CDC Weights	
Age Group	Weight
18 – 44	0.530534557
45 – 64	0.299194019
65+	0.170271424

TABLE 2.4

Met at Least One US
Preventive Services
Task Force (USPSTF)
Recommendations
for Colorectal Cancer
Screening

CDC Weights	
Age Group	Weight
50 – 64	0.677340307
65 – 75	0.322659693

TABLE 2.5

Obesity (ages 20+)

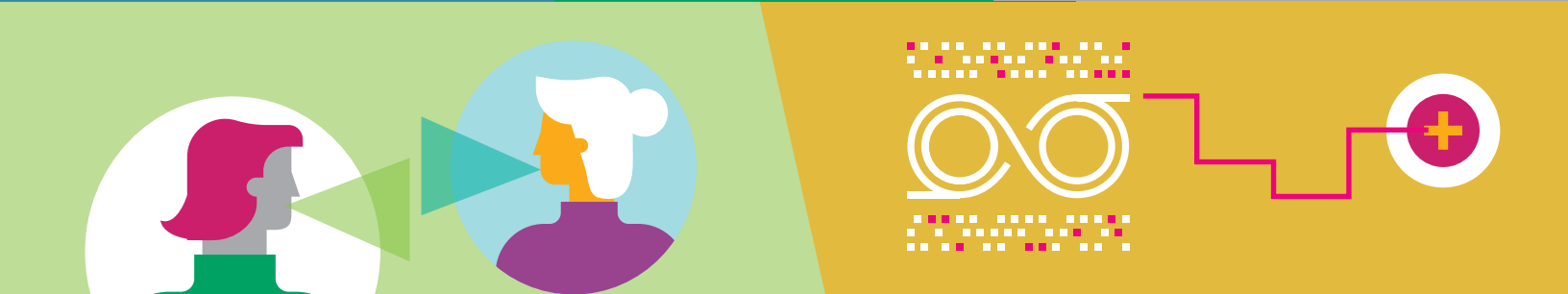
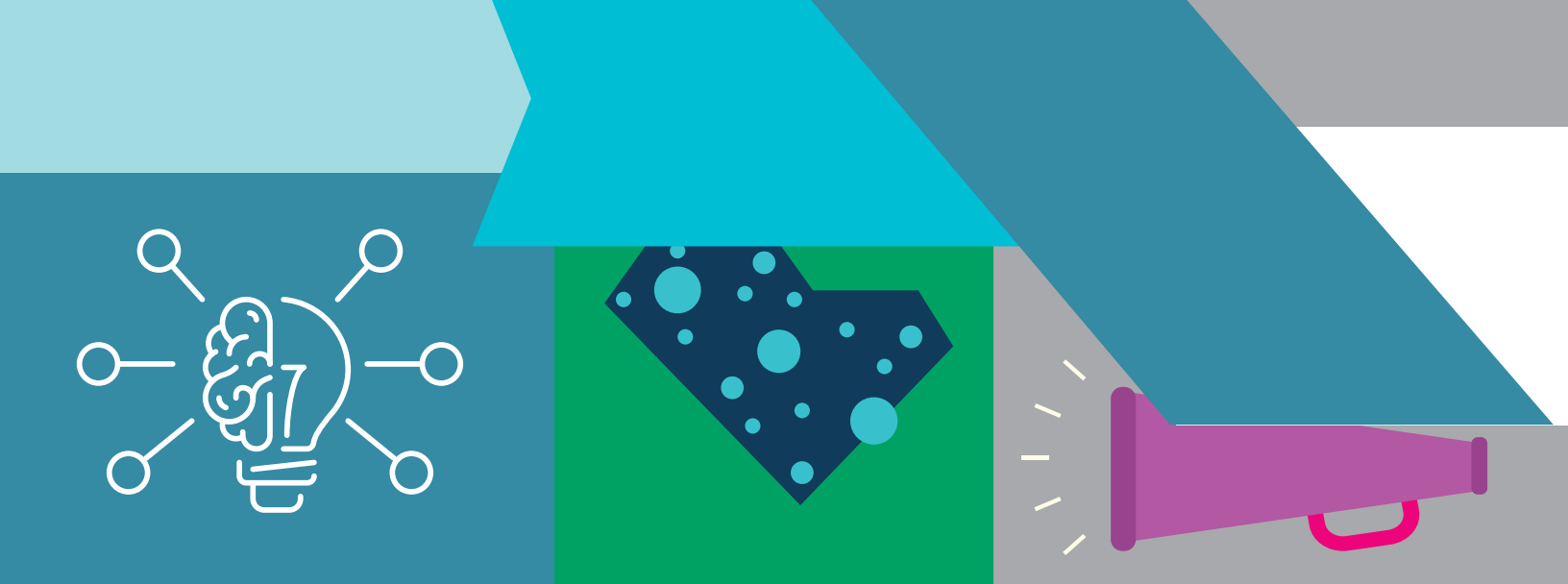
CDC Weights	
Age Group	Weight
20 – 44	0.511356
45 – 64	0.311417
65+	0.177227

Descriptive analyses were performed for all data indicators, stratifying the data by various demographic and geographic groups. Disparities were identified and highlighted throughout the document. To identify disparities, demographic and geographic group estimates were compared through the calculation of disparity ratios, percent differences, and analyzing the confidence intervals to determine significance. County-level state maps were also developed to visually show regional differences in the state. Additionally,

estimates were collected from the previous 10 years, where possible, to showcase the trends happening in the state and how that compared to what was seen at the national level. All estimates for the SHA followed suppression rules outlined by the data stewards and datasets. Where no suppression rules were outlined, frequencies less than five were suppressed. Weighted prevalence estimates with a coefficient of variation more than 20% were suppressed.

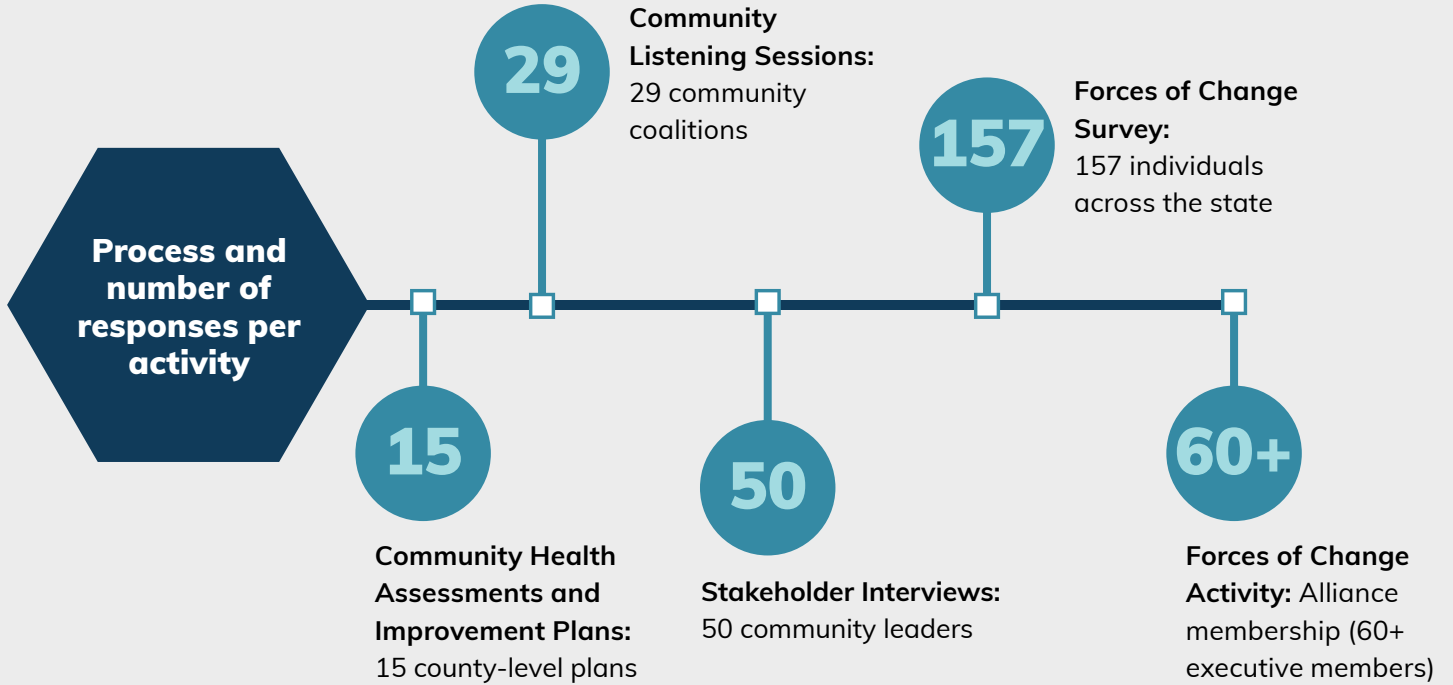
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1. U.S. Census Populations With Bridged Race Categories. (2020, July 6). [www.cdc.gov. https://www.cdc.gov/nchs/nvss/bridged_race.htm](https://www.cdc.gov/nchs/nvss/bridged_race.htm)
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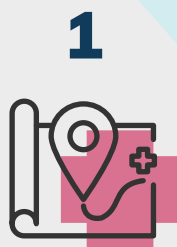


Community Voices





The most important health issues and priorities identified by SC communities:



Access to Care

2



Obesity, Nutrition, Physical Activity

3 (tie)



Substance Use

3 (tie)



Mental Health

Forces of Change Results

Access to mental health education and care

Healthcare costs and the need for affordable care

Structural and systemic inequities

Social determinants of health

Health policy and the need for policy change



Mental Health

Over the past 3-5 years, SC's communities have seen mental health needs **increasing**.

Top 3 Actions SC could take that could lead to health improvement:



More services, including more funding and education



Increasing access to high-quality health care



More interaction between leadership at state and local levels

Community Voices

The South Carolina (SC) State Health Assessment (SHA) incorporates a variety of perspectives, including state and local agencies and governments, nonprofit organizations, scientific experts, and community voices. This chapter is dedicated to further ensuring community voices are assessed and embedded within the plan. Data were collected from community listening sessions, stakeholder interviews, community

health documents, and Forces of Change activities. Health issues were examined from several different angles, including top health issues, community health changes, underlying causes of health issues, biggest challenges in addressing health issues, and strengths that could be mobilized to improve health. A qualitative analysis was conducted to determine key themes and subthemes.

Methods

There were 50 health leaders interviewed March-April 2023 in all 46 counties for the Stakeholder Interviews (see **Appendix I**). In addition, 15 Community Health Assessments (CHAs) and Community Improvement Plans (CHIPs) were collected and analyzed. Forces of Change survey results (n=157) were captured in Survey Monkey and then utilized to complete a full Forces of Change activity in April 2023 with multiple partners from across the state (see **Appendix G** for more information). There were 29 community listening sessions held March-April 2023 by DHEC with established coalitions throughout the state using the Forces of Change format to guide questions (see **Appendix H** for more information on the Community Listening Sessions).

Mobilizing for Action through Planning and Partnerships (MAPP) is a strategic planning process focused on health equity. MAPP goals include assessing the most pressing population health issues, with a focus on aligning resources and actions. The

Forces of Change Assessment is a MAPP activity identifying factors such as technology, legislation, and social forces affecting the public health system and the communities it serves. Forces of Change survey data was collected from February-April 2023. The survey was distributed to external SC Department of Health and Environmental Control (DHEC) partners and the Alliance for a Healthier SC (Alliance) partners. These partners were also encouraged to further share the survey through their own networks through listservs, emails, and in meetings. This chapter includes the Forces of Change survey results and how these results compare to results from other data sources in this chapter.

Below are tables outlining the count by data source (**Table 1**), what organization types were represented in Stakeholder Interviews (**Table 2**), answer totals by question on the Forces of Change Survey (**Table 3**), and community listening sessions location, (**Table 4**).

TABLE 3.1

Data Sources

Sources	Count
Community Listening Sessions	29
Stakeholder Interview Questions	50
Community Documents – CHAs	6
Community Documents – CHIPs	9
Forces of Change Survey	157

TABLE 3.2

Stakeholder Interviews

Organization Types	Count
Non-profit	36
Public	14
Total	50

TABLE 3.3

Forces of Change Survey

Total Answers by Question (n=157)

What forces are affecting SC? (can list more than one in each box)	Trends (n=70)	Factors (n=67)	Events (n=65)
What forces might hinder us from creating a healthier state? (can list more than one in each box)	Trends (n=62)	Factors (n=60)	Events (n=48)
What are the top three actions SC could take in response to those forces that could lead to health improvement?	Top Action #1: 63	Top Action #2: 60	Top Action #3: 54

Note: Refer to Table 8 for the top three actions communities identified the state could take to improve health.

TABLE 3.4

Community Listening Sessions

A total of 29

Location	Count	Location	Count
Aiken	4	Darlington	1
Dillon	3	Edgefield	1
Fairfield	3	Newberry	1
Saluda	2	Anderson	1
Richland	2	Florence	1
York	2	Williamsburg	1
Marlboro	2	Georgetown	1
Chester	2	Chesterfield	1
Lancaster	2	Horry	1
Barnwell	2	Greenville	1
Oconee	1	Spartanburg	1

All qualitative data were analyzed using best practices in qualitative research through the iterative coding process. The data were coded using content thematic analysis in accordance with grounded theory analysis methods, through which concepts emerge from participants rather than imposing an a priori theory.²⁻³ Grounded theory methods were used as an inductive approach for coding and analysis. Trained qualitative analysts reviewed the data to identify themes and patterns. Themes and subthemes from participants' experiences were identified by coders, tracked, and cataloged into a table of themes and subthemes. A consensus building process called "double coding" was used to ensure the reliability of coding. This included having at least two analysts for double coding, so that 20% of data was coded and the definitions were solidified before proceeding with analyzing the entire data set. A codebook was developed through the consensus-building process. Results include key

themes and subthemes. Quotes were used when available to illuminate results.

The Socioecological Model was utilized in pulling out codes to frame the analysis. Using the Socioecological Model in Public Health helps to consider the interplay between individual, interpersonal, community, organizational, and societal influences on health. Additionally, concepts such as policy, system, and environmental (PSE) change strategies were used to frame coding, as these approaches can create sustainable changes in communities and can be used to target the Social Determinants of Health (SDOH). **Table 5** lists the major themes and subthemes of the codebook.

RESULTS

Key results included:

Access to Health Care was the number-one top health issue identified, and was the issue most often discussed throughout all data sources and main key themes. Access to affordable health insurance, access to affordable quality health care, and health care infrastructure issues, specifically in rural areas, were discussed.

Socioeconomics and poverty were discussed as root causes of health disparities and as impacting the SDOH for many South Carolinians. This discussion was interwoven specifically with the Access to Health Care theme.

Transportation was present as a determinant, and as a barrier for many South Carolinians living in both rural and urban areas.

Mental health and substance use were health issues emerging since the COVID-19 pandemic began.

COVID-19 was discussed as highlighting many issues and challenges that were present before COVID-19, but the pandemic worsened these issues further and brought more awareness.

Individual level barriers to health included discussions around improving health literacy levels of South Carolinians.

Participants discussed the fact that **more collaborations between stakeholders** were needed, as well as more community engagement, in order to improve the health of South Carolinians. These included partners gaining a better understanding of current resources and services available and working more collaboratively to bridge gaps.

In addition to raising partner awareness of resources and services, participants said South Carolinians needed more awareness of currently available resources and services.

TABLE 3.5

Codebook Major Themes and Subthemes

Themes	Subthemes
Community Health Changes: PSE changes affecting community health in the last 3-5 years.	COVID-19; Disparities; Engagement/ Collaborations; Overall Health Trends; Infrastructure; Transportation; Prevention and Intervention; Resource sharing
Top Health Issues: Most important health issues and priorities identified by participants.	Access to care; Substance use; Mental Health; Oral Health; Sexual Health; Tobacco use; Injury and violence; Maternal, infant and child health; Obesity, nutrition, and physical activity; Chronic disease; Domestic and child abuse; Clinical and preventative services; Workplace Stress; Obesity; Diabetes; High Blood Pressure; Cancer
Underlying Causes of Health Issues: The underlying causes that affect community health including PSE factors	COVID-19; Socioeconomics; Health System Infrastructure; Transportation
Organization's Role in Addressing Health Issues: How organizations define their roles and responsibilities in addressing SC's health issues	Collaborative Partnerships; Community Engagement and Outreach; Funding Efforts; Feedback Loops; Specific Programming Strategies; Policy and Advocacy
Addressing Health Issues Causes: Specific activities organizations are implementing to address SC's health issues	Connecting; Providing Individual Level Programming; Feedback Loops; Policies
Biggest Challenges in Addressing SC's Health Issues and Causes: The challenges for individuals and organizations in addressing SC's health issues and causes	Health Care Infrastructure and Resources; Distrust and Discrimination; Socioeconomic; Access to Health PSE; Individual Level Barriers; Transportation; Outreach; Policy Level
Future Strategies in Addressing SC's Health Issues and Underlying Causes: The strategies and activities organizations will utilize in the next 5-10 years to improve health issues and underlying causes	Sustainability; Strategic Planning; Education and Training; Infrastructure; Advocacy; Collaborations and Partners; Outreach, Awareness, and Trust; Funding; Organized Creative Efforts
Strengths: Strengths to be mobilized to improve the health of SC?	Awareness; Providing Support and Resources; More Data/Research; Type of Organizations Named; Volunteers; Structured Strategy; Building Collaborations and Community Engagement; Social Determinants of Health

Result #1: Community Health Changes

Definition: PSE changes affecting community health in the last 3-5 years.

The top subthemes that emerged under the Community Health Changes theme were overall health trends, infrastructure, and COVID-19. Mental health was a main focus among all three of these subthemes. Participants noted mental health was affected during the COVID-19 pandemic, particularly for those who experienced heightened anxiety and depression. Access to care and stigma around mental health treatment were also mentioned as barriers.

COVID-19 Pandemic

Participants discussed the effects of the COVID-19 pandemic extensively. Responses focused on the economic impacts during and after the pandemic, increases in telehealth usage, and how isolation and lack of social connectedness affected individuals, particularly senior citizens and children. The COVID-19 pandemic was mostly described as having a negative effect, causing such problems as increased anxiety, educational issues such as decline in kindergarten readiness, financial issues creating emergency situations around basic needs such as rent and food, and lack of access to health care (e.g., availability of appointments, limited access to providers in rural areas). COVID-19 also affected prevention efforts since people were in a reactive state rather than a preventative state of mind. However, some participants described the COVID-19 pandemic as a catalyst for positive change and innovation. For example, people are paying more attention to their health, having conversations about mental health and access issues, and systems are implementing innovative approaches to providing care, such as more telehealth options.

Another notable finding was while the COVID-19 pandemic was its own subtheme, that it overlapped key themes. Some participants noticed a rise in substance use during the COVID-19 pandemic, and this rise was also mentioned in the Overall Health Trends subtheme. COVID-19 also had a great impact on chronic disease conditions. For example, one response noted some people delayed seeking care for their diabetes due to the pandemic, and found their condition had worsened when resuming care after the pandemic ended.

“Mental health issues among children, teens, and adults have drastically increased due to Covid-19. An unprecedented number of people are experiencing anxiety, depression, and panic attacks throughout the communities we serve. We need to normalize conversations about mental health and reduce stigmas associated with these conditions, especially among Black and Hispanic residents.”

“After COVID-19, the community has been able to put together resources, and mobilize them better as a result of the pandemic.”

“They’re seeing the effects of COVID as far as populations who had less access to health care. Things have gotten worse in this regard. The diabetic population stopped going to the doctor, didn’t get meds refilled, or if they were prediabetic, they are now diabetic. When they were getting feedback via virtual visits, it was brief and wouldn’t catch any issues in A1C levels.”

Overall Health Trends and Infrastructure

The remaining subthemes under the Community Health Changes theme were overall health trends and infrastructure. One notable overall health trend mentioned was that people appeared to become more health-conscious since the COVID-19 pandemic. Responses mentioned an increase in physical activity, interest in nutrition and holistic medicine, and youth becoming more health-conscious. It was also mentioned there was a greater focus on the health of young people. This finding also fits with the infrastructure subtheme, as it mentions “more systematic recovery support options for youth and families.” Under infrastructure, access to care was mentioned regarding the need for more medical providers. However, a few responses mentioned new health systems moving into new areas and the possible increase in access and quality of care that may come from those systems.

“Access to care has been a large issue in the community. Parents cannot access health care needs for themselves and their families. Parents lack the ability to advocate for their children and their own needs.”

Result #2: Top Health Issues

Definition: Top health issues identified by participants were analyzed as a count.

The most important health issues and priorities identified by participants included:

TABLE 3.6

Top Health Issues

Issues	Responses
1. Access to Care	61 responses
2. Obesity, nutrition, and physical activity	47 responses
3. (tie) Substance Use	40 responses
3. (tie) Mental Health	40 responses

The community documents analyzed (CHIPs and CHAs) were mostly written before COVID-19, while Stakeholder Interviews, community listening sessions, and the Forces of Change survey results were collected in 2022 and 2023. Access to care issues were present across all data sources. CHIPs and CHAs most often identified chronic disease as top health issues (e.g., diabetes and obesity) while data sources collected in 2022 and 2023 emphasized substance use and mental health as top health issues. Participants often discussed more emphasis on substance use and mental health as a result of COVID-19.

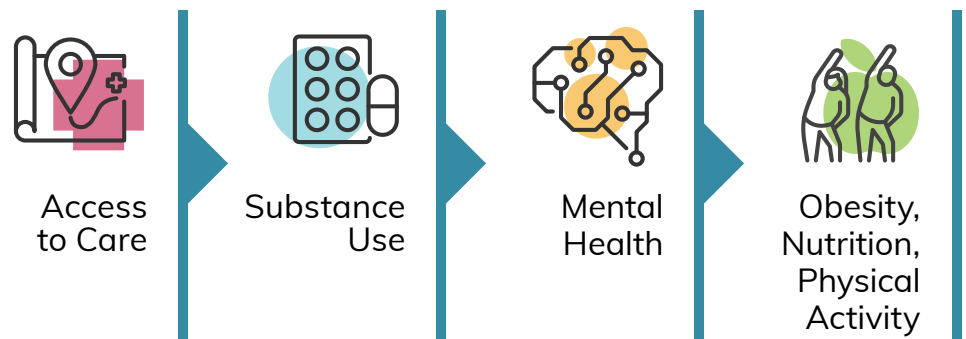
Access to care is a complex issue and was discussed throughout all data sources and main key themes. It was often described in terms of health care infrastructure and socioeconomics, interwoven throughout the chapter.

Access to care examples include:

- Lack of health care providers and supporting workforce, particularly in rural areas and within specialty care (e.g., psychiatrists). These issues also affect how much time providers can spend with patients, further affecting health care quality.
- Health care system mergers and the effect on physical localities, specifically in rural areas where there may be only one hospital or specialty provider.
- Lack of supporting infrastructure around care coordination between systems and direct care connections (e.g., community health workers, case managers).
- Lack of awareness around resources and care options for both patients and those working within health care systems.
- More access to evidence-based prevention programming needs.
- Stigma around particular health topics (e.g., mental health), discrimination within the health care system, lack of trust between certain populations and the health care system.
- Advocacy capacity and health literacy levels of patients.
- Access to affordable health insurance options for low- and middle-class South Carolinians, no Medicaid expansion, and lack of providers accepting Medicare and Medicaid.
- Affordability of quality health care (e.g., copayments, deductibles).
- Socioeconomic issues such as unemployment, low wages, and inflation impacts on the affordability of basic needs (e.g., paying rent versus paying for health insurance or prescription medications).
- Opportunity costs to accessing care (e.g., paid time off from work, childcare issues, transportation), coupled with lack of flexible health care options (e.g., telehealth, mobile units, health care access outside of normal business hours).

FIGURE 3.1

Top SC Issues Identified

**Result #3: Underlying Causes of Health Issues**

Definition: The underlying causes that affect community health, including PSE factors.

Participants often framed underlying cause discussions around the top health issues, which were access to care, obesity, nutrition, and physical activity, substance use, and mental health. The top emerging subthemes included health system infrastructure, socioeconomics, and individual level barriers.

Access to care was both the top health issue and an underlying cause of health issues, with participants noting affordability, translation resources and disparities for the Hispanic population, and inaccessibility/unavailability of Medicaid as access barriers. Similar issues were mentioned with substance use and mental health, specifically access and availability of mental health and substance-use treatment and insufficient resources. Obesity, nutrition, and physical activity were present among all of the subthemes under Underlying Causes. Responses commonly discussed food deserts, access to healthy food, and locations for physical activity. Funding, resources, and education were listed as ways to reduce the effects of these health issues.

“I think the lack of access to care is one of the biggest underlying causes to the mental health crisis and substance misuse. With the growing population...the resources addressing these issues are being overworked and depleted, we don’t have enough to keep up with the demand. These issues will only continue to get worse unless we all come together to address them on a community level.”

Health System Infrastructure and Socioeconomics

Health system infrastructure barriers were mentioned in terms of lack of health care providers (e.g., mental health care providers) and lack of supporting infrastructure connecting people to care, such as community health workers. Other common issues under both health system infrastructure and socioeconomics were unemployment and lack of health insurance. Economic issues had a heavy focus on economic development/unemployment, inflation, affordable housing, access to affordable health care, and access to educational opportunities. Poverty was a common word found in many participants’ responses. Participants discussed the effects of poverty on health, such as how poverty makes it more difficult to access care due to insufficient health insurance, affordability of care, and lost wages from taking time off from work. In some circumstances, poverty forces individuals to choose between paying for health insurance and other basic needs.

Transportation was mentioned in responses from each of these Underlying Cause subthemes, but particularly in the health system infrastructure and socioeconomic subthemes. Issues with transportation included lack of public transportation and lack of a personal vehicle, or inability to maintain a personal vehicle. Transportation issues are particularly important in rural areas, where food and health care resources are geographically spread out.

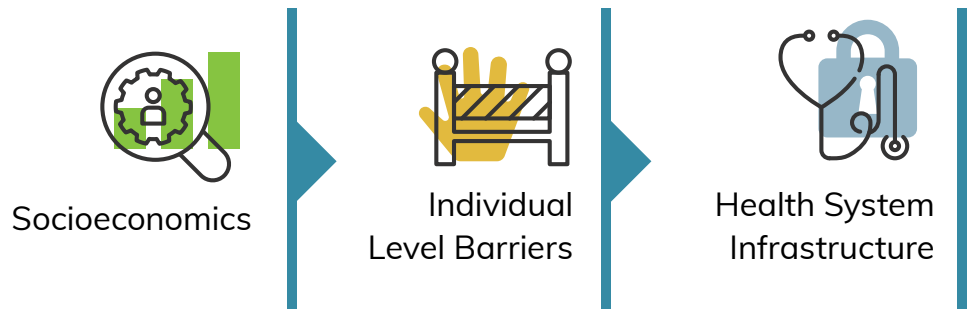
Individual Level Barriers

Health literacy was mentioned often, with participants discussing educating people on how to eat healthy in an affordable way to help reduce obesity rates, and how to make appropriate health care decisions. This was similarly discussed regarding substance use. Some participants felt children and adults are not being educated properly on the dangers of substance use and tobacco use, including vaping.

“The economic status of an individual or household can create several challenges for their current and future health risks and well-being. Residents who face financial barriers may have limited insurance coverage or may not seek coverage due to cost, especially when a decision must be made between basic needs. Lower household income increases risk for injury, accidents, and physical abuse, and contributes to the frequency or severity of chronic conditions such as asthma, obesity, anxiety, and behavioral disorders. These challenges are present at all ages, but may have lasting effects on children into adulthood.”⁵

FIGURE 3.2

Underlying Causes of SC Health Issues



Result #4: Biggest Challenges in Addressing SC's Health Issues and Causes

Definition: The challenges for individuals and organizations in addressing SC's health issues and causes.

The top subthemes that emerged under the Biggest Challenges theme were health care infrastructure and resources, and distrust and discrimination. Mental health was an issue discussed across these subthemes. Responses discussed lengthy waiting periods for mental health care and the need for more mental health care resources. Under distrust and discrimination, stigma was mentioned as a barrier to obtaining mental health care.

Health Care Infrastructure and Resources

The next most prevalent subtheme was health care infrastructure and resources. One issue mentioned was lack of funding for adequate health care staffing levels, thus leading to health care worker burn out, which compounds chronic understaffing. Additionally, staffing issues can affect the amount of time a provider can spend with patients and affect health care quality. Transportation was another issue, including having staff to transport patients. Finally, participants mentioned that a shortage of providers creates issues in accessing health care.

One prevalent issue under the health care infrastructure and resources subtheme was the allocation of resources. Some responses mentioned that multiple organizations in the same geographic area provided similar services, or needed the same resources. Therefore, it would be beneficial for these organizations to share or combine resources. This was also an issue because these organizations are competing for the same pool of funding, causing a strain on resources. Finally, it was noted that there is a general lack of knowledge of resources available to the community. This lack of awareness applies to both community members and organizations. One response mentioned that a community resource guide would be a helpful tool for community members and organizations.

Another issue participants mentioned was how to address health literacy. As a response to this issue, the need to educate the public on health issues was discussed. Insurance and Medicare/Medicaid was another challenge that several participants mentioned. Lack of insurance was discussed, which creates an access to care issue. This issue was tied to employment issues as well. It was also mentioned that Medicare and Medicaid are not accepted

“There is a large disconnect with community partners due to COVID-19 pandemic. There are challenges to addressing the increased need for mental health services, especially with children. There simply aren't enough providers.”

“A large population of people are uninsured...Medicaid and Medicare recipients are over utilizing and exhausting the medical system's resources at the emergency room instead of going to see their primary care providers for routine services.”

by some providers, and some Medicare/Medicaid recipients have used emergency room services rather than going to their primary care doctors.

Distrust and Discrimination

It was noted under the "distrust and discrimination" subtheme that certain populations have issues with trust, including trusting health care providers or the organizations attempting to provide services. Participants interviewed did not go into detail about which specific populations they were describing. Furthermore, gaining trust at the community level beyond these populations was mentioned several times as a challenge. Stigma and shame were viewed as barriers to seeking care, specifically for mental health care and substance abuse treatment.

“The biggest challenge is getting others to help carry their message. The message is that it’s okay to seek substance abuse treatment and recovery. And not only just to seek it, but to utilize the organization or the other services in the county.”

Result #5: Strengths

Definition: Strengths to be mobilized to improve the health of SC.

The top three subthemes that emerged under the Strengths theme were building collaborations and community engagement, providing support and resources, and awareness. The primary focus of all of these subthemes was sharing, providing, and obtaining resources.

Building Collaborations and Community Engagement

Building partnerships was described as vital to sharing, providing, and obtaining resources. Once partnerships were established, participants said that organizations needed to work together to distribute resources through community outreach. These efforts rely on working with individuals from diverse backgrounds. Participants also specifically noted certain advantageous partnerships to facilitate the sharing and distribution of resources, including schools, hospitals, organizations, local government, and law enforcement.

Providing Support and Resources

When discussing support and resources, participants focused on developing clarity as to what resources are needed to address public health issues, determining where resources are needed most, and lastly, identifying sources of money (e.g., Robert Wood Johnson grants and local

family foundations) to fund efforts. Additionally, access to resources was a focus of several responses. Some needs in this area included transportation, delivery of goods (e.g., food), and mobile health services. It was also noted that more service coordination between organizations and systems is needed, as well as more resource knowledge, so people are better connected to services. Finally, mental health was specifically mentioned as an area that could be improved upon through better service coordination and better information dissemination.

Awareness

Some responses expanded further on how awareness would be a beneficial tool for improving health outcomes in SC. There were two main focus areas in this subtheme. The first was expanding awareness of community resources. Responses discussed knowing the target audience for needed services and that better information dissemination is needed. Another focus of this subtheme was raising resource awareness of other organizations in the community. Organizations intended to achieve this through social media, participation in local government meetings, and holding events in the community.

“We continue to increase our visibility by attending city council meetings and interacting with elected officials. We also host health fairs and small open houses to introduce people to our services. We maintain a social media presence and prioritize community engagement as well. Overall, we strongly believe that there is always an opportunity to educate, build relationships, and establish trust.”

Result #6: Future Strategies in Addressing SC’s Health Issues and Underlying Causes

Definition: The strategies and activities organizations will utilize in the next 5-10 years to improve health issues and underlying causes.

The top three subthemes under the future strategies theme were strategic planning, sustainability, and collaborations and partners. Participants framed their responses in terms of their own organizations versus community-level strategies or state-level strategies.

Strategic Planning

Sustainability was discussed at an organizational level. One issue that was raised under this subtheme was a sustainable workforce. Specifically, more volunteers and bilingual staff were needed. Medical mobile units were mentioned as a sustainable strategy to address access to care issues, specifically in rural areas. Finally, raising community awareness about organizations and programming offered was mentioned as a strategy to keep organizations relevant, thereby promoting sustainability.

“Our leadership is doing their best to make sure that we are still relevant within the community. The first is being on the community’s radar, such as additional offices throughout the counties. In that time, more people will recognize them and get to know them as an organization.”

Collaborations and Partners

A main focus of collaborations and partnerships was how to get services out into the community. Participants mentioned connecting with other partners to provide services, particularly transportation services. Other types of partnerships mentioned included partnerships between neighboring counties, other local government entities, and health care systems. It was also noted that these partners could assist in getting information out to the community.

Result #7: Addressing Health Issues

Definition: How organizations define their roles and responsibilities in addressing SC's health issues, and specific activities organizations are implementing to address these health issues.

Organizations' Role in Addressing Health Issues

Organizations primarily defined their role in addressing SC's health issues through collaborative partnerships, community engagement and outreach, and specific programming strategies. In collaborative partnerships, participants focused on how working together could increase services. In community engagement and outreach, participants looked to the community's needs and raising community awareness of resources and services. Organizations also had specific programming strategies to further their goals. Some of these programming strategies included improving transportation services, providing financial assistance to those who need medical care, and educating about substance use and substance use resources.

Addressing Health Issue Causes

The two main ways organizations addressed health issue causes were connecting and providing individual level programming. Many responses mentioned access to care issues and connecting more with the community and coordinating with partners as a solution. Providing individual-level programming was described as allowing organizations to meet the specific needs of those they serve. Offering transportation services was a way organizations ensured the community could receive services. Participants described how their organizations served those with transportation issues. For example, some services could be provided over the phone, while others worked with the school systems to provide services to children while at school.

“We have services and programs designed to help people gain their own independence so that they can go back into their communities to attain work and live much more productive lives than when they first began with our help.”

“We provide care coordination services to link patients with organizations who can help reduce social determinant barriers. We link patients with organizations in the community to help provide overall care and support to each patient who is part of our programs.”

Forces of Change Survey Results

The Forces of Change survey was sent out to SC stakeholders from February-April 2023 through Survey Monkey, with 157 participants. Specifically, trends, events, and factors were identified for the Forces of Change Survey around three questions:

1. What forces are affecting SC?
2. What forces might hinder us from creating a healthier state?
3. What are the top three actions SC could take in response to those forces that could lead to health improvement?

The Forces of Change survey preliminary results and recommendations were shared in an Alliance quarterly partner meeting in April 2023. Partners worked in small groups and discussed the results in the context of their own communities. These forces of change were discussed using the frameworks of equity impacts, threats, and opportunities. The forces of change discussed included:

1. Access to Mental Health Education and Care,
2. Affordable Health care and Medicaid Expansion,
3. Chronic Illness,
4. Structural and Systemic Inequalities,
5. Employment Opportunities and Livable Wages,
6. Access to Resources,
7. Health Policy and the Need for Policy Change,
8. Social Determinants of Health,
9. Environmental Health,
10. Technology and Artificial Intelligence, and
11. Aging Population and Caregiver Health.

The forces of change were then reported out and discussed in the larger group. The top five forces of change were voted upon by the larger group, building consensus around top events, factors, and trends to focus upon to improve SC's health. These final five forces of change included:

1. Access to Mental Health Education and Care,
2. Health care Costs and the Need for Affordable Care,
3. Structural and Systemic Inequities,
4. Social Determinants of Health, and
5. Health Policy and the Need for Policy Change.

For this chapter, the Forces of Change survey results were further analyzed beyond preliminary results. These results were analyzed separately from other data sources in the chapter (i.e., stakeholder interviews, community listening sessions, community health documents). The survey included more involvement from professionals working in the public health and health care arenas, whereas the stakeholder interviews and community listening sessions involved more participants from different professional backgrounds and more community members. Therefore, it was important to understand similarities and differences between these data sources.

The impact of COVID-19, as well as economic influences on health (e.g., lack of affordable health insurance and health care) were discussed throughout all data sources. However, in the Forces of Change survey results, participants discussed population changes such as people moving to SC or people moving away from rural areas, and the infrastructure impacts occurring as a result. Additionally, political influences were discussed in the Forces of Change survey results more often than the other data sources.

What forces are affecting SC?

The Forces of Change survey was sent out to SC stakeholders from February-April 2023 through Survey Monkey, with 157 participants. Specifically, trends, events, and factors were identified for the Forces of Change Survey around three questions:

Strategic Planning

Sustainability was discussed at an organizational level. One issue that was raised under this subtheme was a sustainable workforce, specifically more volunteers and bilingual staff were needed. Medical mobile units were mentioned as a sustainable strategy to address access to care issues, specifically in rural areas. Finally, raising community awareness about organizations and programming offered was mentioned as a strategy to keep organizations relevant, thereby promoting sustainability.

Events:

COVID-19 (n=16) was mentioned as the number-one event affecting SC. When further description was provided, participants mentioned the long-term effects of COVID-19, including negative effects on mental health and a jump in people not being able to meet basic needs such as, housing. Secondly, natural disasters (n=12) such as hurricanes, flooding, and extreme weather were mentioned as the second most impactful events.

Factors:

With 23 responses, economic factors were mentioned as the number-one factor affecting SC. Inflation, low wages and poverty, and lack of infrastructure investment and economic opportunities specifically in rural communities, contributes to disparities in rural areas. Lastly, with 11 responses, health care was mentioned as the second most impactful factor. Responses described affordable health care access, more health care access locations, and a stronger health care workforce, particularly in rural areas, as affecting SC.

Trends:

With 24 responses, population change was noted as the number-one trend affecting SC. People described the influx of new industries as drawing new residents, but also the relatively low cost of living especially drawing in retirees. Additionally, people immigrating from other countries to SC was mentioned as a trend affecting population changes. When people described population changes, they also described lack of current infrastructure (e.g., roads, housing, etc.) and a lack of future infrastructure planning as issues. Economic trends (n=21) were the second-highest trend reported as affecting SC. Inflation, particularly around basic needs such as food, housing, and affordable health insurance.

What forces might hinder us from creating a healthier state?

Events:

With 13 responses, COVID-19 was mentioned as the most hindering event to creating a healthier state. Health care was also tied with economic and political hindrances. Health care access, such as affordable insurance, health care workforce shortages, and lack of health care facilities, specifically in rural areas, were mentioned. Economic issues, including low wages and inflation, were mentioned. Lastly, political issues around legislation that hurt low-income South Carolinians were mentioned.

Factors:

Economic factors (n=13) were mentioned as the number-one hindrance to a healthier SC. These included poverty, inflation, and lack of economic investment in rural areas. Politics were (n=11) the second most impactful hindrance and included not having enough funding or resources to address health issues.

Trends:

As in hindering factors, economic trends (n=18) were mentioned as the number-one trend hindering SC from

becoming a healthier state. These trends included poverty and inflation around basic needs such as affordable housing, health insurance, and rising food costs. Leadership issues (n=13) were also mentioned as a hindrance. Most of these issues were described as

political in nature, with a lack of understanding from politicians about what is needed on the community or local level, and passing legislation that is hurtful to low-income residents.

TABLE 3.7

Forces Affecting Health and Hindrances in SC

Category	Forces Affecting	Hindrances
Events	COVID-19, Natural Disasters	COVID-19, Health Care, Political and Leadership
Factors	Economic, Health Care	Economic, Political
Trends	Population Changes, Economic	Economic, Leadership

What are the top three actions SC could take in response to those forces that could lead to health improvement?

Action 1 (n=34):

More services, including more funding and education, around:

- Healthy food, including expanding healthy food accessibility, education on buying local, food prep, healthy eating and physical activity curriculum in schools, building communities that incorporate health infrastructure such as bike paths and community gardens,
- Mental health and substance use services and providers, along with more education and awareness lowering stigma.

Action 2 (n=33):

Increasing access to quality health care by:

- Lowering the cost of insurance and improving health care coverage to low- and middle-class South Carolinians, including efforts to expand Medicaid,
- More funding to incentivize health care systems to do more prevention programming, including more evidence-based programming focused on community health issues, with community partners and trusted community-based organizations,
- Focus on communities and health care infrastructure (i.e., more rural health care workforce development, more facilities, transportation, prescription medicine access); more affordable options and locations (e.g., mobile clinics and telehealth); more health care coordination between systems; and lastly, more education about health care options, including educating both individuals and the health care workforce about systems and services. This included a focus on rural communities.

Action 3 (n=19):

More interaction with leadership at the state and local levels through:

- More legislation and funding around evidence-based public health programming, including gun violence prevention programming, tobacco policies and illicit drug-policies,
- More transparency and diversity in leadership positions,
- More communication between communities, particularly rural communities and state legislators, with more accountability to local communities they represent,
- Better allocation of state resources.

TABLE 3.8

Top Actions in SC

Overall Goals	Specific Actions
<p>More services including more funding and education</p>	<p>Food access, physical activity, mental health and substance use programming</p>
<p>Increasing access to quality health care</p>	<ul style="list-style-type: none"> • Lower the cost of insurance and improving health care coverage to low and middle class, including efforts to expand Medicaid, • More funding to incentivize health care systems to do more prevention programming, including more evidence-based programming focused on community health issues, with community partners and trusted community-based organizations, • Focus on communities and health care infrastructure (i.e., more rural health care workforce development, more facilities, transportation, prescription medicine access); offering more affordable options and locations (e.g., mobile clinics and telehealth); more health care coordination between systems; and lastly, more education about health care options, including educating both individuals and health care workforce about systems and services. This included a focus on rural communities,
<p>More interaction with leadership at the state and local levels</p>	<ul style="list-style-type: none"> • More legislation and funding around evidence-based public health programming, including gun violence prevention programming, tobacco policies and illicit drug policies, • More transparency and diversity in leadership positions, • More communication between communities, particularly rural communities and state legislators, with more accountability to local communities they represent, • Better allocation of state resources

Strengths and Limitations

Qualitative data can often provide rich, in-depth data that is not captured by quantitative data alone. This analysis included the voices of South Carolinians that may otherwise not be captured in the SC SHA plan quantitative data. Additionally, having different data sources in this analysis helped to triangulate data, strengthening the validity of the findings. Lastly, 20% of data was double coded to establish the codebook. These methods were well above the gold standard in qualitative data analysis of double-coding 10% of data, ensuring the reliability of analysis. A limitation of this analysis is qualitative data has lower sample sizes, which may hinder generalizability. Additionally, some field notes were limited in detail, including limited quotes. Analysts practiced over-coding or including an entire paragraph in analysis versus a sentence about the code to pull out quotes and patterns between codes during analysis.

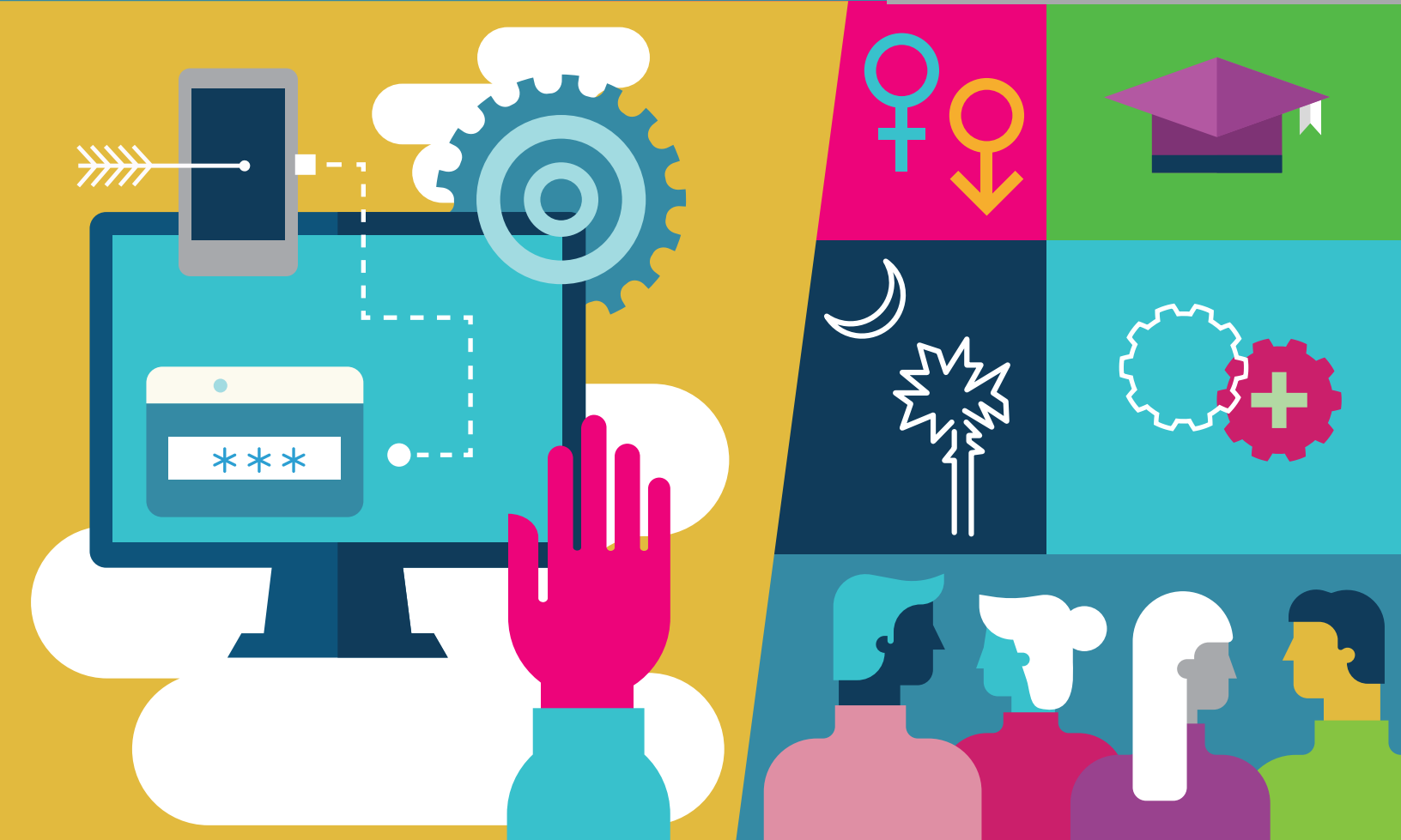
Conclusions

The purpose of this chapter was to provide a community voice in the SC SHA plan. Data sources included Community Listening Sessions, Stakeholder Interviews (see **Appendix I** for more information on Stakeholder interviews), Community Health Documents, and a Forces of Change Survey. Participants in all of these sources named Access to Health Care as the number-one health issue for SC. Root causes that affected SDOH for South Carolinians included socioeconomics and poverty. Transportation was present as a SDOH and as a barrier to health for many South Carolinians living in both rural and urban areas. The COVID-19 pandemic was also mentioned often in responses. The pandemic was described as an event that brought existing issues to light, and in some cases, that awareness led to more resources being pulled together for the benefit of the community.

Some strengths that could be mobilized to improve the health of SC included more collaborations between stakeholders and increased awareness of available resources. Participants also provided future strategies their organizations could utilize to improve health issues and underlying causes, including planning for the future of their organizations, ensuring the organizations' sustainability, and collaborating with partners to get resources out to the community.

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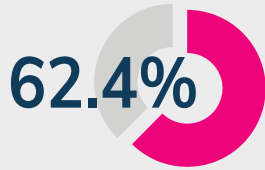
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Population



Population



Out of 5.1 million people in SC, 62.4% are **White**.

10th

Fastest-Growing State

Population has grown 12% over a decade.

Most Populous Counties



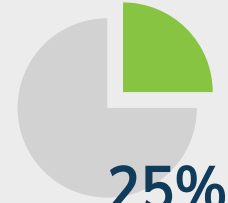
1st **Greenville**
2nd **Richland**
3rd **Charleston**



The Hispanic population is growing and **more than 300,000 residents are Hispanic**.

7.6%

of households speak a language other than English, with Spanish being the most common.



of SC's population is **Black**.

50.2%

of SC Hispanics are from Mexico.



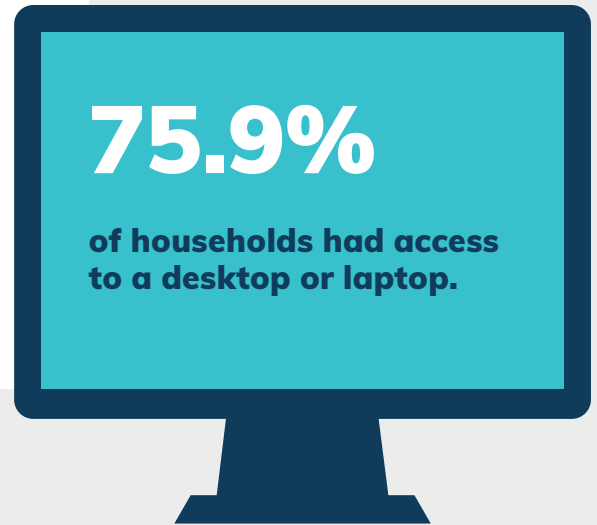
South Carolina's population is aging, with nearly 1 in 5 residents being 65+.

Internet

10%



of South Carolina households have **no internet access.**



75.9%

of households had access to a desktop or laptop.



Over **1 in 3 households** in Marlboro County do not have internet access.

Transportation



On Average

5.2%

of households have no vehicle available to them.



3 in 4 South Carolinians **commute alone to work.**



Only 0.3% use **public transit to go to work.**

Trends

In 2021, 5,190,705 residents lived in South Carolina (SC). The five most populated counties were Greenville (519,178), Richland (414,719), Charleston (404,946), Horry (344,865), and Spartanburg (322,864; **Figure 4.1**). Of all 46 counties in the state, 22 counties, or 47.8% of the state, had a population less than 50,000, with Allendale having the smallest population (8,304).

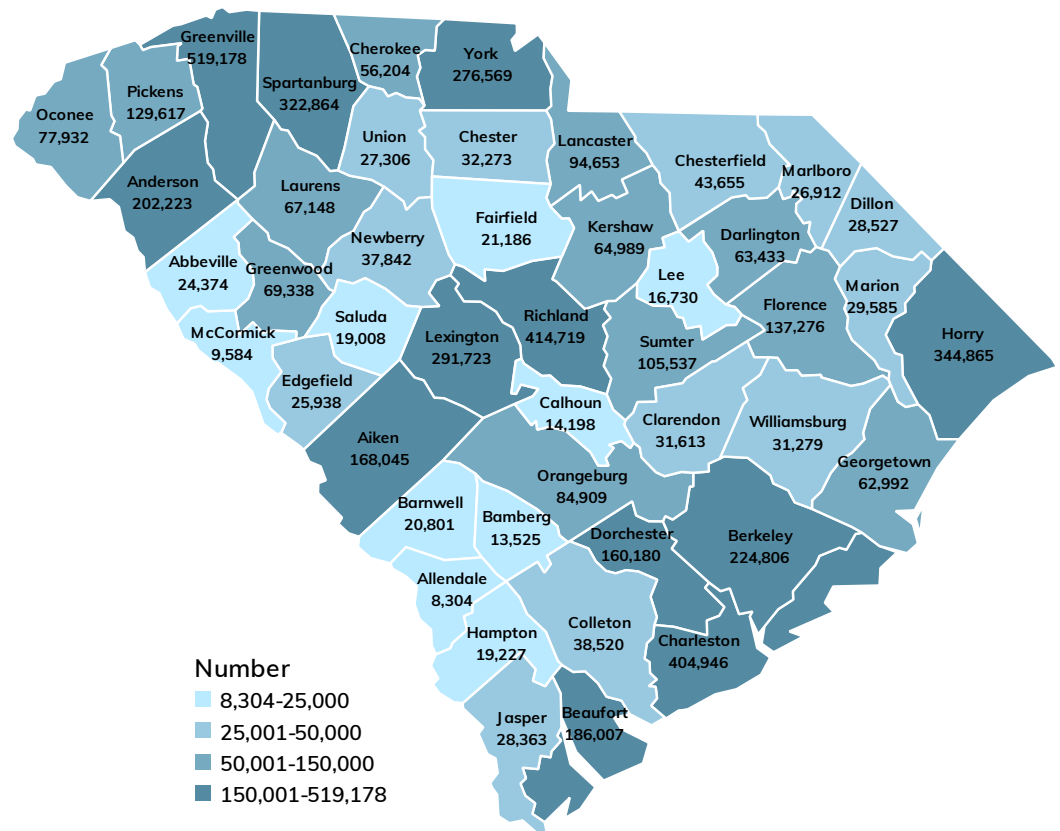
South Carolina's population is growing. The population in the state has increased from 4.6 million persons in 2010 to over 5.1 million in 2021, an increase of 12% compared to an overall 7.3% increase for the United States (U.S.) (**Figure 4.2**). Horry County had the largest population increase from 2016 to 2021 at 14.8%, followed by Lancaster (13.1%) and Berkeley (12.9%) counties (data not shown). The state's growth

is attributable to three main drivers: people within the US moving to the state, more births to SC residents, and people outside of the U.S. moving to the state. South Carolina's population is also getting older. The proportion of SC residents who are over 65 years old increased from 13.7% in 2010 to 18.6% in 2021 (data not shown).

In 2021, males made up 48.6% of the population of SC, while females made up 51.4%. Males outnumbered females aged 0-24, and females outnumbered males in all other age groups (**Figure 4.3**). In particular, females are more than double the count of males among residents aged 85 and older.

FIGURE 4.1

Total Population Size of South Carolina Counties Number

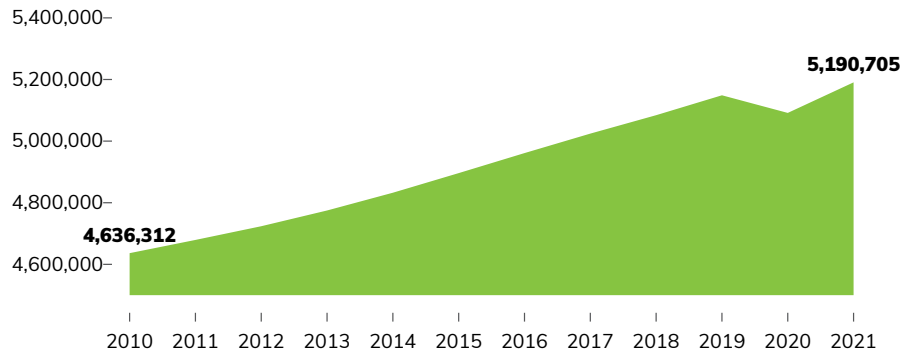


Source: US Census Bureau ACS, 2017-2021.

Note: 5-year estimates.

FIGURE 4.2

South Carolina Total Population Number

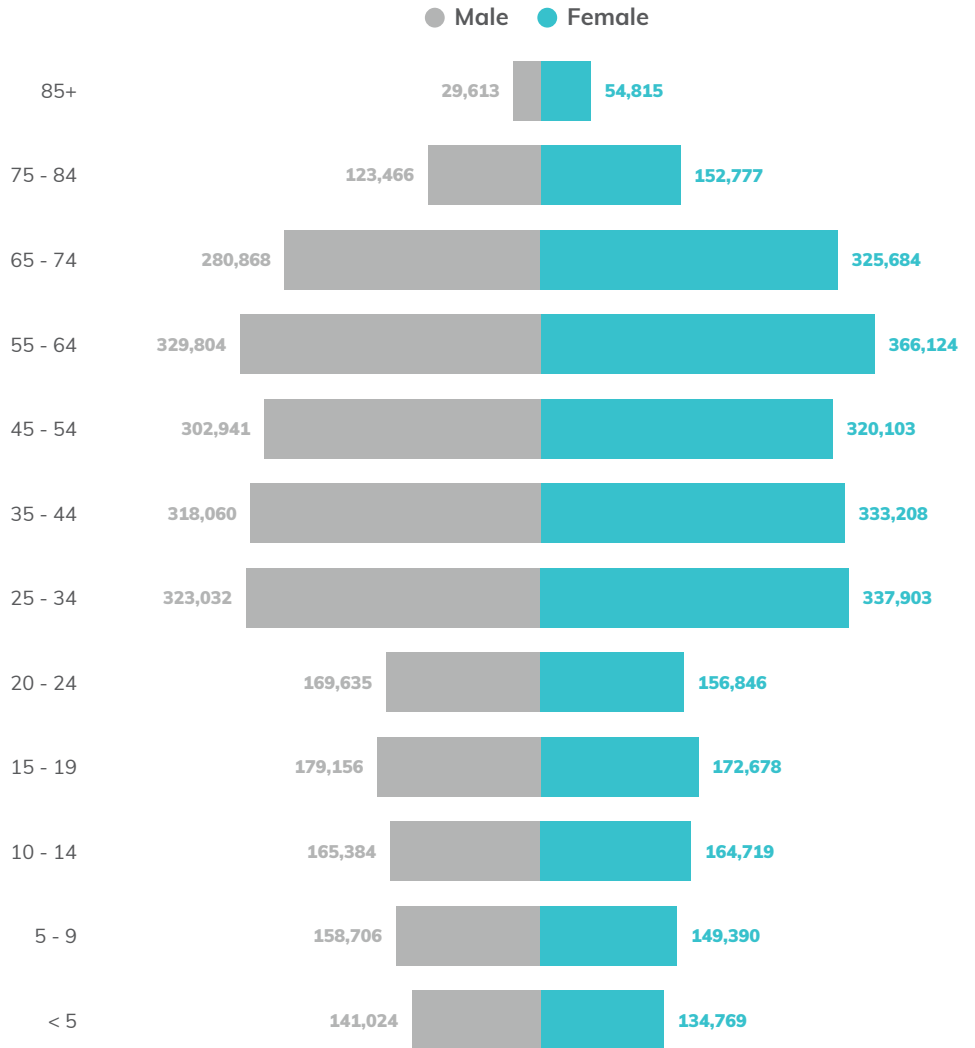


Source: US Census Bureau ACS, 2010-2021.

Note: 1-year estimates.

FIGURE 4.3

South Carolina Population, by Age Group and Sex Number



Source: US Census Bureau ACS, 2021.

Note: 1-year estimates.

Race and Ethnicity

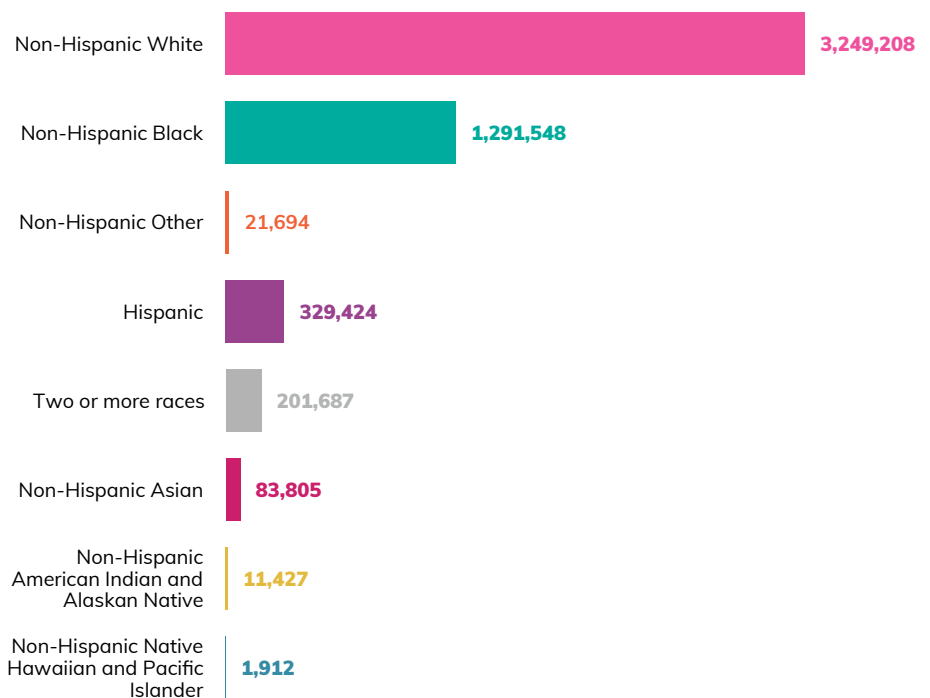
The three largest racial and ethnic groups in SC in 2021 were non-Hispanic Whites (3.2 million residents, 62.6%), non-Hispanic Blacks (1.3 million residents, 24.9%), and Hispanics (329,424 residents, 6.4%) (Figure 4.4). From 2010 to 2021, SC has seen a decrease in non-Hispanic White and non-Hispanic Black population groups and an increase in Hispanic and people with two or more races.

Of the 329,424 Hispanic residents of SC during 2021, 50.2% were of Mexican origin (Figure 4.5). Hispanics from Puerto Rico comprised 12.2%, followed by Honduras (6.2%), Colombia (5.1%), and Guatemala (4.9%). SC residents from other Spanish-speaking countries made up 14.5% of the Hispanic population.

FIGURE 4.4

Racial/Ethnic Breakdown of South Carolina Population

Number



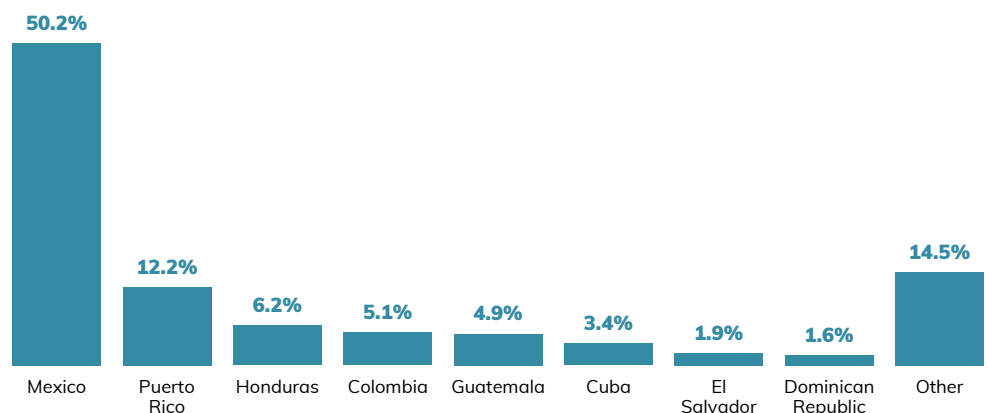
Source: US Census Bureau ACS, 2021.

Note: 1-year estimates.

FIGURE 4.5

South Carolina Hispanic Origin, by Nationality

Percent



Source: US Census Bureau ACS, 2021.

Note: 1-year estimates.

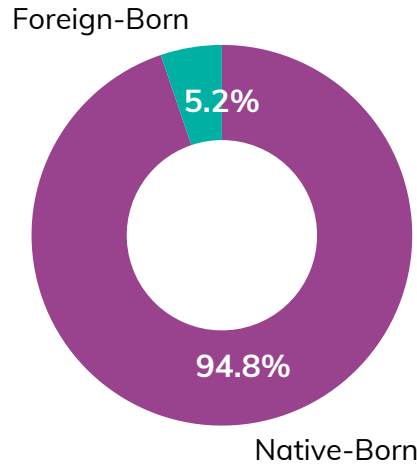
Foreign-Born Versus Native-Born

In 2021, SC's population consisted of 4,919,425 (94.8%) native residents and 271,280 (5.2%) residents that were foreign-born (Figure 4.6).

In 2021, the most common language spoken at home was English (92.4%; Table 4.1). Of the 7.6% that spoke another language, Spanish (4.7%) was the most common, followed by other Indo-European (1.6%).

FIGURE 4.6

Foreign-Born versus Native-Born
Percent



Source: US Census Bureau ACS, 2021.
Note: 1-year estimates.

TABLE 4.1

Language Spoken at Home
Percent

92.4%	Speak Only English
7.6%	Speak a Language Other than English
4.7%	Spanish
1.6%	Other Indo-European
0.9%	Asian and Pacific Island
0.4%	Other

Source: US Census Bureau ACS, 2021.
Note: 1-year estimates.

Internet

The internet has become a fundamental tool that connects, informs and empowers people on a global scale. It provides access to reliable health information so individuals can make informed health decisions, manage their health and prevent diseases.¹ The internet has also enabled telemedicine, allowing people in remote or under-served areas to access timely health care services.

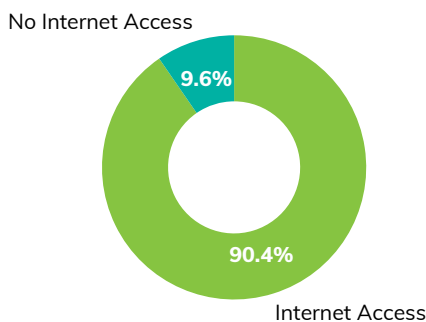
A lack of internet access can disproportionately affect disadvantaged communities, including those in rural

areas, low-income communities or marginalized groups.¹ No internet access can further exacerbate existing health disparities among these communities.

In 2021, there were 1,852,241 (90.4%) SC households who had access to the internet, while 197,731 (9.6%) of households had no internet access (**Figure 4.7**). Marlboro County had the highest percentage of households with no internet access (35.0%), followed by Allendale (32.9%), Dillon (32.2%) and Marion (29.5%) (**Figure 4.8**).

FIGURE 4.7

Households With and Without Internet Access Percent

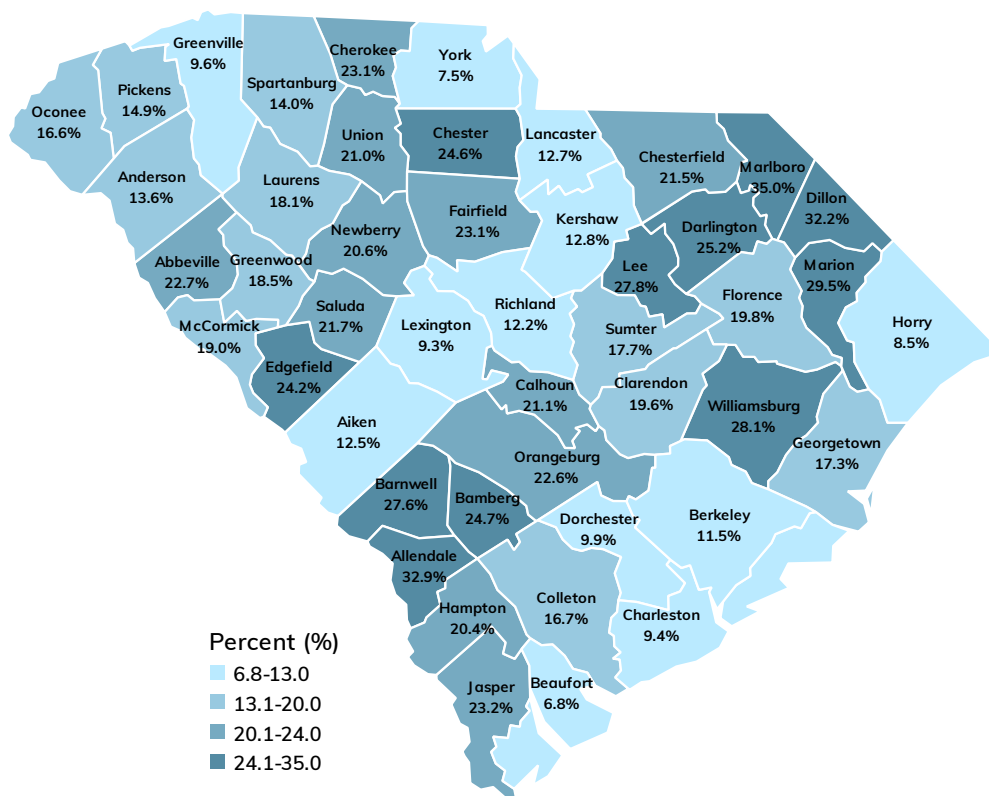


Source: US Census Bureau ACS, 2021.

Note: 1-year estimates.

FIGURE 4.8

Households With No Internet Access Percent



Source: US Census Bureau ACS, 2017-2021.

Note: 5-year estimates.

Transportation

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.² Transportation systems can encourage or discourage healthy behaviors and are important in improving population health outcomes.²

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.^{3,4} Minority and special populations, including children, the elderly and veterans, have frequently reported that transportation

barriers affected their health care use, resulting in lower rates of prescriptions filled, more missed appointments, and fewer health care visits.^{3,4}

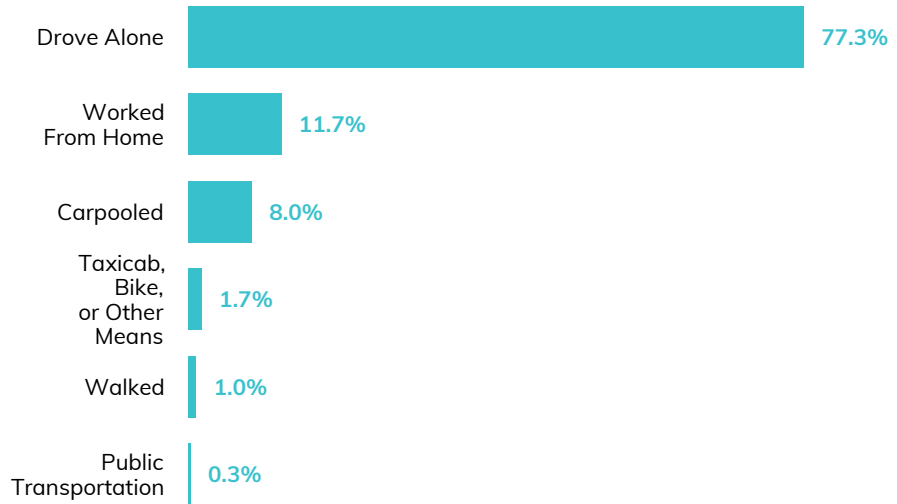
For those reporting employment in SC in 2021, 77.3% of residents drove alone to work. Comparatively, only 8.0% carpooled, and another 11.7% worked from home (Figure 4.9). Less than 1.0% of SC residents used public transportation to get to work.

In 2021, 38.6% of SC households had two vehicles, 32.7% had one vehicle, and 23.5% had three or more vehicles. In comparison, 5.2% of households had no vehicle available to them (Figure 4.10).

FIGURE 4.9

Method of Transportation to Work

Percent

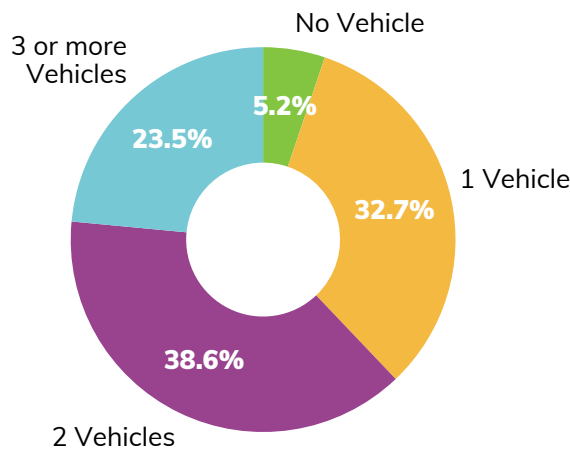


Source: US Census Bureau ACS, 2021.
Notes: 1-year estimates, workers 16+.

FIGURE 4.10

Households with a Motor Vehicle

Percent



Source: US Census Bureau ACS, 2021.
Notes: 1-year estimates, vehicle availability for households.

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Health Equity



Vulnerable Communities

50%

of counties in SC are rated as **medium-high or high for social vulnerability.**

Diabetes



in SC with **diabetes** are **overweight or obese.**



Diabetes affects 1 in 5 non-Hispanic Black adults compared to **1 in 8 non-Hispanic White** adults in SC.



Non-Hispanic Black people **die from diabetes 2.5 times more** often than **non-Hispanic White** people.

Maternal Mortality



Death Rate 1.7 x higher

From 2018 to 2019, the **pregnancy-related death rate** in SC was **1.7 times higher** for **Black women** than for **White women.**

82%

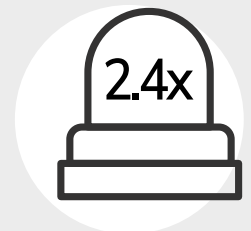
of **pregnancy-related deaths** were determined to be **preventable.**

Infant Mortality

11th

highest in US for **infant mortality rate**

Infant Mortality Rate in SC was 2.4 times higher among births to **Black women** compared to births among **White women** and **Hispanic women.**



Drug Overdose

25%+

increase in **drug overdose deaths** in SC from 2020 to 2021.

drug overdose deaths
1.2x
higher in urban counties

Homelessness

Persons experiencing homelessness

- 1** 60% were **male**
- 2** 53% were **Black**
- 3** 20% were **children**
- 4** 16% were **Veterans**
- 5** 12% were **victims of domestic violence**

Rural & Urban Populations

Rural areas had a **higher overall death rate** than urban areas.



Among the **Hispanic** population, those in **urban areas** reported **poor physical health 2.6x more** than those in rural areas.



Low Socioeconomic Status Populations

Attaining some college education is **18-26% lower** among **Black, Hispanic, and American Indian/Alaska Native** populations when compared to White populations.

Median household income was **1.7 times lower** and **1.4 times lower** among **Black and Hispanic** people than White people, respectively.

Only 7% of **White** households live below the **poverty line**, compared to **21% of Hispanic** households and **20% of Black** households.

Individuals with Disabilities



People living with a **disability** report fair or **poor general health** more often than those without a disability.



1 in 3 people in SC live with one or more **disabilities**.

What is Health Equity?

If health is the attainment of complete physical, mental, and social well-being, then health equity is the fair and just opportunity to attain the highest level of health for all people, regardless of race, ethnicity, disability, sexual orientation, gender identity, socioeconomic status, geography, preferred language, or other factors that affect access to care and health outcomes.^{1,2} Achieving health equity requires valuing everyone equally, with focused and ongoing societal efforts to address avoidable inequalities due to past and present injustices, and eliminating health and health care disparities.^{1,3}

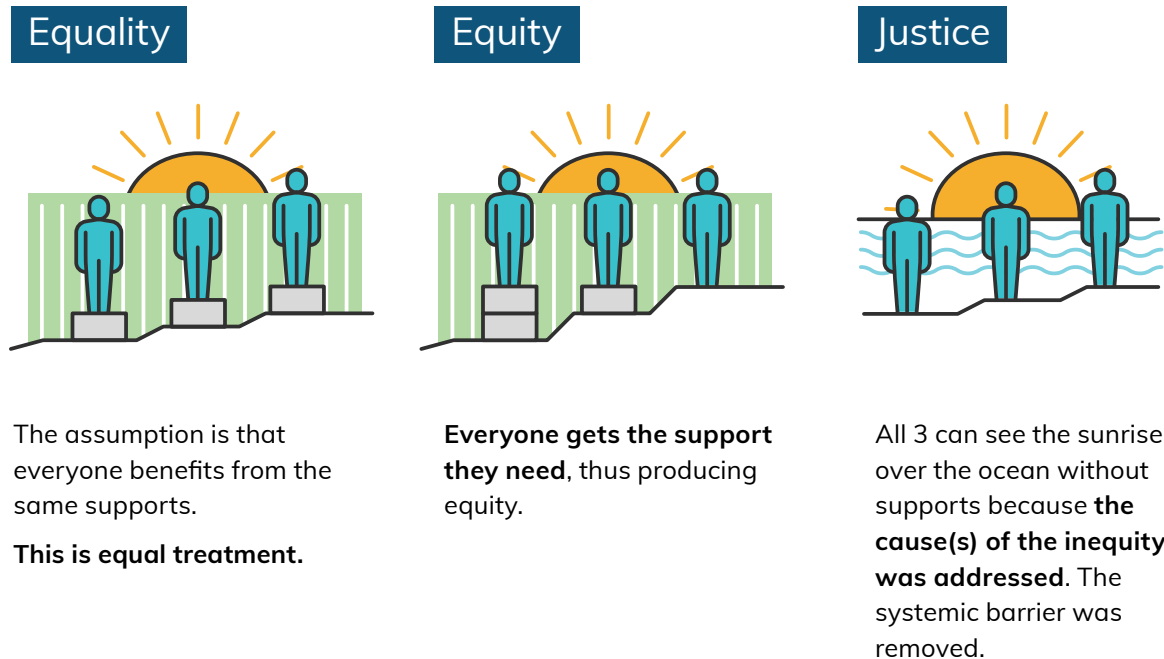
Equity is not the same as equality. Health equality

is the treatment of all individuals in the same manner without accounting for historical and current inequities.¹ It assumes that the same approach will work for everyone and that no one has barriers to achieving the best health possible. In contrast, the goal of health equity is to adjust treatment, care, and resources based on circumstances and needs to ensure quality health care and good health for all. Finally, the goal of justice is to dismantle barriers such as discrimination and lack of resources that lead to inequality and inequity. The distinction between equality, equity and justice is illustrated in **Figure 5.1**.

FIGURE 5.1

Equality Vs. Equity Vs. Justice.

The Avarna Group.⁴



Why Care About Health Equity?

The health of a population depends on how effectively state agencies, institutions, and programs work with communities to eliminate differences in health outcomes among those populations experiencing a disproportionate burden of disease, disability, and death.⁵ Health inequities are the direct result of these differences in health outcomes among certain groups

of people. Eliminating differences in health outcomes by achieving health equity results in lower prevalence of disease, lower rates of premature death, longer life expectancy, lower health care utilization for costly treatments and care, and greater economic wealth from a healthier workforce.

Equity, Justice, and the Environment

Equity and justice also refer to the fair and just opportunity to live, learn, work and play in a healthy environment. An unhealthy environment due to higher levels of pollution, flooding, or other hazards can lead to poorer health outcomes such as increased asthma or infection. Environmental equity ensures that individuals or communities receive the assistance they need to deal with environmental hazards, disasters, or pollution regardless of race, color, national origin, or income. Environmental justice is the removal of systemic barriers of environmental inequities by addressing the root cause(s).

According to the Environmental Protection Agency (EPA), environmental justice involves fair treatment and meaningful involvement.⁶ Fair treatment means that everyone has the same degree of protection from environmental and health hazards. Meaningful involvement means that everyone has equitable access to the decision-making processes for a healthy environment through town hall meetings or written

comments by the public, and that government agencies will actively seek feedback from affected communities.

The South Carolina (SC) Department of Health and Environmental Control (DHEC) created the Environmental Justice Advisory Committee. This committee assesses existing practices at state agencies regarding environmental justice issues and convenes a workgroup called the Environmental Justice (EJ) Hub. The EJ Hub's purpose is to bring EJ community leaders and stakeholders together to network and collaborate on revitalization efforts. DHEC facilitates discussions, provides technical assistance, and shares resource opportunities with the EJ Hub. Together with the EPA, DHEC aims to achieve progress in five EJ challenge areas (lead exposure, drinking water quality, air quality, hazardous waste sites, and coastal resiliency), with special emphasis on addressing challenges in underserved communities.⁷

What are Examples of Environmental Equity and Environmental Justice in South Carolina?

The nonprofit Lowcountry Alliance for Model Communities (LAMC) partnered with DHEC to address the disproportionate impacts of pollution and high rates of childhood asthma in the historically Black Gullah Geechee Rosemont community in North Charleston. While DHEC provided air quality monitoring devices and technical assistance, the community collected data, reported findings, and identified solutions.⁸ LAMC continues its work in Rosemont by helping residents develop a resiliency plan for flooding and storm surge impacts related to climate change.

EJ Strong is a hands-on training program hosted by DHEC to empower community leaders to better understand disasters, risk reduction, and recovery during natural, agricultural, environmental, and human-made disasters. Leaders who live or work in overburdened communities within SC serve as captains for their communities and learn more about their neighbors, local governments, and emergency managers. During the COVID-19 pandemic, SC rural communities such as Oconee County were challenged with food insecurity and decreased food availability arising from labor and supply chain shortages, and from job losses in the food and hospitality industry. In

response, Clemson University developed a food map for rural areas that allows residents to locate and access community pantries, nonprofit food delivery organizations, and hot meal offerings in the area.⁹ By spotlighting places for community support, this collaboration promoted sustainability in emergency response through the lens of environmental justice. The food map is hosted on the DHEC website, and has been expanded to show food pantries in every county to aid families facing food insecurity.

Britton's Neck in Marion County is a flood-prone community in the Coastal Plains of SC. Heavy logging in the area exacerbates and contributes to climate issues that threaten people's homes and livelihoods. To mitigate future climate threats to the community, a local pastor partnered with several organizations to build the South's first environmental justice training center to teach sustainability. The facility boasts hydro panels that pull moisture from the air to provide clean water, a greenhouse to teach people how to grow food sustainably, pollinator gardens and classrooms. Faculty from SC universities teach the community how to select and grow plants that will adapt and be resilient to changing weather.¹⁰

Identifying Vulnerable Environments and Communities

A community is a group of people who share the same region and interact with each other. Communities are affected by their surrounding environment and may encounter various hazardous events, including natural disasters such as hurricanes, disease outbreaks, or human-made events such as chemical spills. Factors such as poverty, lack of access to transportation,

and crowded housing weaken a community's ability to prevent human suffering and financial loss during hazardous events. These factors describe a community's social vulnerability. Reducing social vulnerability can decrease both human suffering and economic loss.¹¹

What is the Social Vulnerability Index (SVI)?

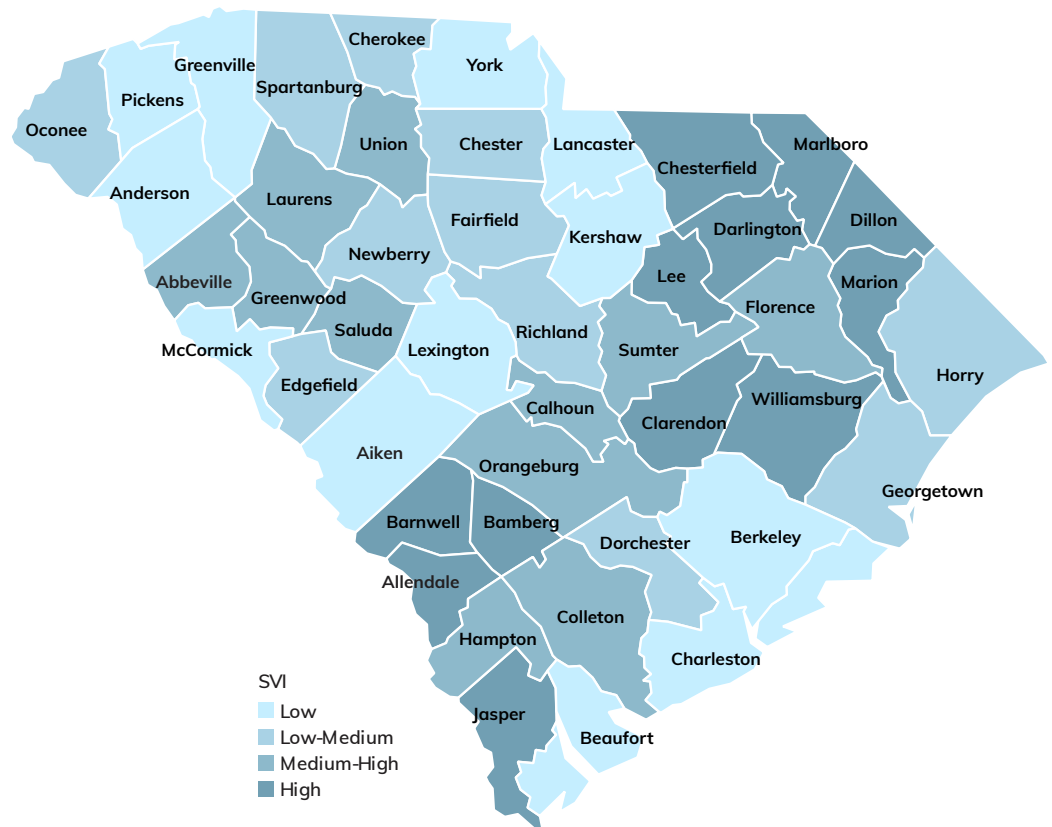
The Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) use United States (US) Census data to calculate the social vulnerability of each census tract (subdivisions of counties). The SVI is used to help public health officials and emergency response planners identify communities that may need additional support before, during, and after a hazardous event. The SVI is based on a ranking of 16 socioeconomic and demographic factors that are grouped into four main themes: socioeconomic status, household characteristics, racial and ethnic minority status, and housing type and transportation. Each census tract receives a ranking for each of the

four themes as well as an overall ranking. Areas with higher SVI scores are considered more socially vulnerable and may require additional support and resources during public health emergencies to ensure equitable access to health care and other services.¹¹

In 2020, the overall SVI in SC ranged from low to high, with half of the state designated as medium-high to high vulnerability (**Figure 5.2**). The highest areas of vulnerability spanned the length of the I-95 interstate from Jasper County to Dillon County and the North Carolina border, commonly called the “Corridor of Shame.”

FIGURE 5.2

South Carolina Social Vulnerability Index, by County, 2020



Source: CDC, 2022

What is Being Done to Mitigate Social Vulnerability?

To mitigate social vulnerability and reduce health inequities, various efforts and strategies are implemented across public health. DHEC works to advance health equity through partnership with community leaders and organizations across the state. These initiatives include conducting community data walks to discuss relevant community-specific health data and ways to improve the health of the community, improving access to actionable, community-level public health data, and increasing awareness of existing health disparities.

The COVID-19 pandemic is a stark example of how certain factors made some communities more

vulnerable. For example, the pandemic highlighted existing racial and ethnic disparities in health care and health outcomes. Racial minority groups were disproportionately affected and experienced higher infection rates, hospitalization rates, and mortality rates compared to non-Hispanic White people. In response to the pandemic, the SVI was adapted to incorporate COVID-19-related disparities.¹² This provided leaders with detailed, localized data for current outreach programs and helps to identify and plan support for vulnerable communities before, during, and after future public health emergencies.

Highlighting Health Disparities

Health disparities refer to differences that affect one's ability to achieve optimal health, such as race, gender, education, income, sexual orientation, community and physical environment, mental illness, physical or cognitive abilities, and health care access. These

differences result in disproportionately higher rates among some population groups in SC of illness and death from conditions such as diabetes, maternal mortality, infant mortality, and drug overdoses.

Examples of Health Disparities in South Carolina

I. Diabetes

In 2020, SC had the 6th-highest prevalence of diabetes in the US.¹³ It is estimated that 123,000 people in the state have type 2 diabetes but do not know it, which greatly increases their risk for developing diabetes complications.¹⁴ More than 30% of SC's adult population have prediabetes, with blood sugar levels higher than normal but not yet high enough for health care providers to diagnose as diabetes.¹⁴ Prediabetes can often be reversed but, without taking action, many people with prediabetes could develop type 2 diabetes within five years.¹⁵

In SC, diabetes affects one in five non-Hispanic Black adults compared to one in eight non-Hispanic White adults, one in five low-income earners, and 80% of adults who are overweight or obese.¹³ Low-income earners are disproportionately burdened by the cost of type 2 diabetes because medical expenses are approximately 2.3 times more for those with than without the disease.¹⁴ Type 2 diabetes costs SC nearly \$6 billion in total direct and indirect medical expenses.¹⁴ Nationally, diabetes is more likely to occur among Black people living in poor neighborhoods than among White people in the same neighborhood regardless of Hispanic ethnicity.¹⁶ Likewise, hospitalizations in SC also vary by neighborhood and race. For example, Black residents comprised 91% of all hospitalizations with a primary diagnosis of diabetes from the ZIP code 29203 in 2020, and had a hospitalization rate twice as high as White residents from the same ZIP code (**Figure 5.3**). Additionally, hospital length of stay was longer, on average, for Black residents compared to White residents (7.3 days vs 5.1 days, respectively) despite the much younger

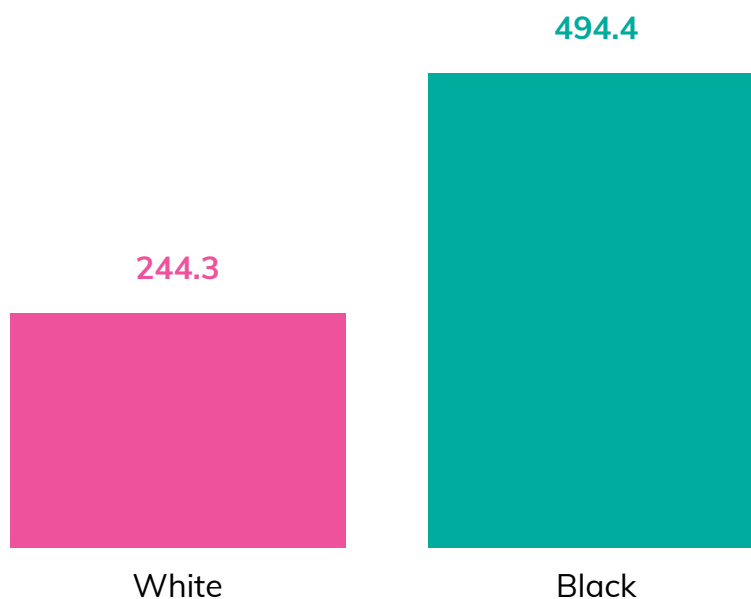
average age of Black than White residents (49.7 years vs 57.5 years, respectively).

Nationally, the mortality rate for diabetes is 2.5 times higher among non-Hispanic Black people than among non-Hispanic White people, and 62.6% higher among males than females regardless of race or ethnicity. Diabetes complications such as eye damage, kidney disease, hardened arteries, and nerve damage are more often seen among non-Hispanic Black and Hispanic adults, compared to non-Hispanic White adults.¹⁷ Amputations related to diabetes increase the risk of death and are three times higher nationally in Black people than in White people regardless of Hispanic ethnicity, with the rural South seeing even higher rates.¹⁸ These data show the disproportionate burden among non-Hispanic Black residents in SC for diabetes, diabetes risk factors, diabetes complications, and mortality from diabetes. Factors that contribute to racial disparities include economic inequalities, lack of access to primary care or affordability of care, lack of community resources such as transportation to attend appointments, and lack of insurance coverage.¹⁹

FIGURE 5.3

Diabetes Hospitalizations in ZIP Code 29203, by Race

Rate per 100,000 population



Source: SC RFA, 2020.

Notes: Primary diagnoses. Ethnicity can be Hispanic or non-Hispanic.

II. Maternal Mortality

A pregnancy-related death is a death occurring while pregnant or within one year of the end of pregnancy from any cause related to, or aggravated by, the pregnancy.²⁰ From 2018-2019, the pregnancy-related mortality rate in SC was 48.9 deaths per 100,000 live births for non-Hispanic Black women, which was nearly twice as high as the rate of 29.3 deaths per 100,000 live births for non-Hispanic White women (**Figure 5.4**).²¹ More than 70% of pregnancy-related deaths in SC occurred during the post-partum period in 2019, and 81.8% of pregnancy-related deaths were determined to be preventable, an increase of 6.8% from 2018.²¹

Factors that increase the risk of pregnancy-related complications and maternal death vary disproportionately by racial and ethnic group. They include inadequate prenatal care, environmental or neighborhood factors, pre-existing chronic health conditions before pregnancy, residence in rural counties, distance to a birthing hospital, and structural racism and implicit bias.^{22,23} More women in SC receive inadequate prenatal care compared to the US (16.7% and 14.8%, respectively), and Black and Indigenous women and other women of color fare worse historically than White women.²² Crime, lack of access to transportation and unstable housing create barriers that increase the risk of inadequate prenatal care among Black and Indigenous women and other women of color by 31% compared to those living in areas with fewer environmental barriers.²²

More women in SC than in the US have one or more chronic health conditions (44.5% and 37.8%, respectively).²² Women with one or more chronic health conditions before pregnancy, including hypertension and diabetes, smoking, and being underweight or obese, have a 54% higher risk of a preterm birth, which is a serious pregnancy complication, compared to women without any chronic health conditions.²² Non-Hispanic Black and Hispanic

women are more likely to deliver a preterm birth because they more frequently have uncontrolled hypertension, diabetes and obesity than do non-Hispanic White women in the US.²⁴ Women residing in more than 82% of counties in SC have a high burden of chronic health conditions, defined as greater than the overall state percent, and a high percent of preterm birth, defined as greater than the national target of 9.4% (**Figure 5.5**). There are no counties where chronic health conditions and preterm birth are both low, or where chronic health conditions are high and preterm birth is low.

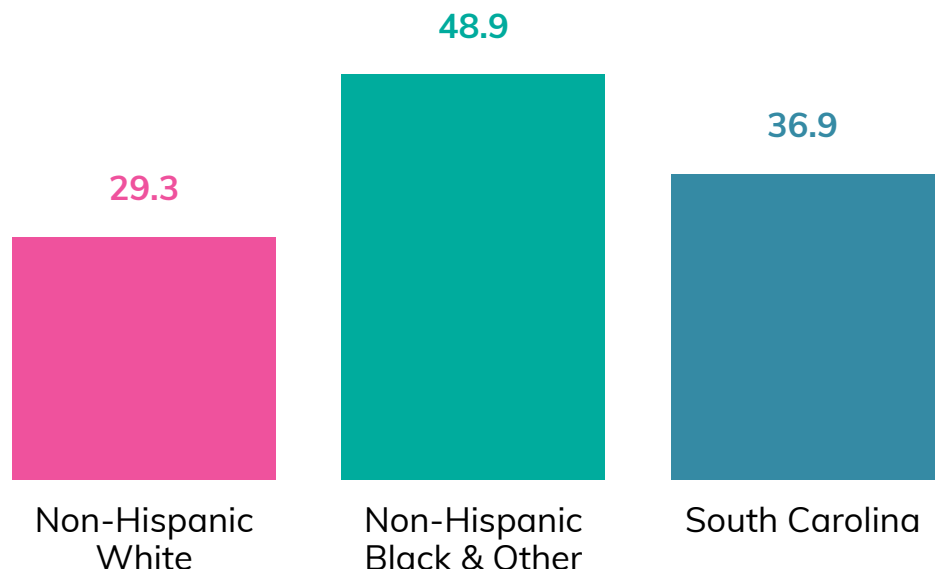
In rural areas across SC, 100% of women live more than 30 minutes from a birthing hospital compared to 8.5% of women living in urban areas, greatly increasing the risk of maternal morbidity and adverse infant outcomes.²² Counties in which the travel distance to a birthing hospital is far (**Figure 5.6**) are more likely to be counties that are also designated as either a maternity care desert or a low-access level of maternity care (data not shown).²² From 2018-2019, the rate of pregnancy-related deaths among women who resided in rural counties of SC was 70.4% higher than that of women living in urban areas.²¹

Discrimination was recognized as the top contributing factor in more than half of pregnancy-related deaths reviewed by the SC Maternal Morbidity and Mortality Review Committee (MMMRC).²¹ Structural racism and implicit bias in the health care system prevent many from obtaining fair and just opportunities for optimal maternal care.²³ Structural racism refers to racial discrimination that is promoted in society through systems such as housing, education, media, employment, and health care.²³ Implicit bias is the unconscious thoughts and feelings that affect human understanding, actions, and decisions unknowingly.²³ Both affect health care providers' perceptions and decisions, lead to inequalities in care, and correlate with lower quality of care. For example, non-Hispanic Black and Hispanic women have higher prevalence of pre-pregnancy chronic health conditions, higher cesarean deliveries, and lower rates of epidural analgesia for pain compared to non-Hispanic White women.²³ These inequalities in care lead to more negative health outcomes for both the mother and baby.

The number-one priority recommended by the SC MMMRC in 2019 to prevent pregnancy-related deaths was health care access.²¹ To improve health care access, SC passed laws to permanently provide Medicaid telehealth coverage and reimbursement for maternity care services. However, more can be done at the community level with integrating respectful and culturally concordant care from midwives and from reimbursing doula care,²² and in health care settings with training of providers in cultural humility.²³

FIGURE 5.4

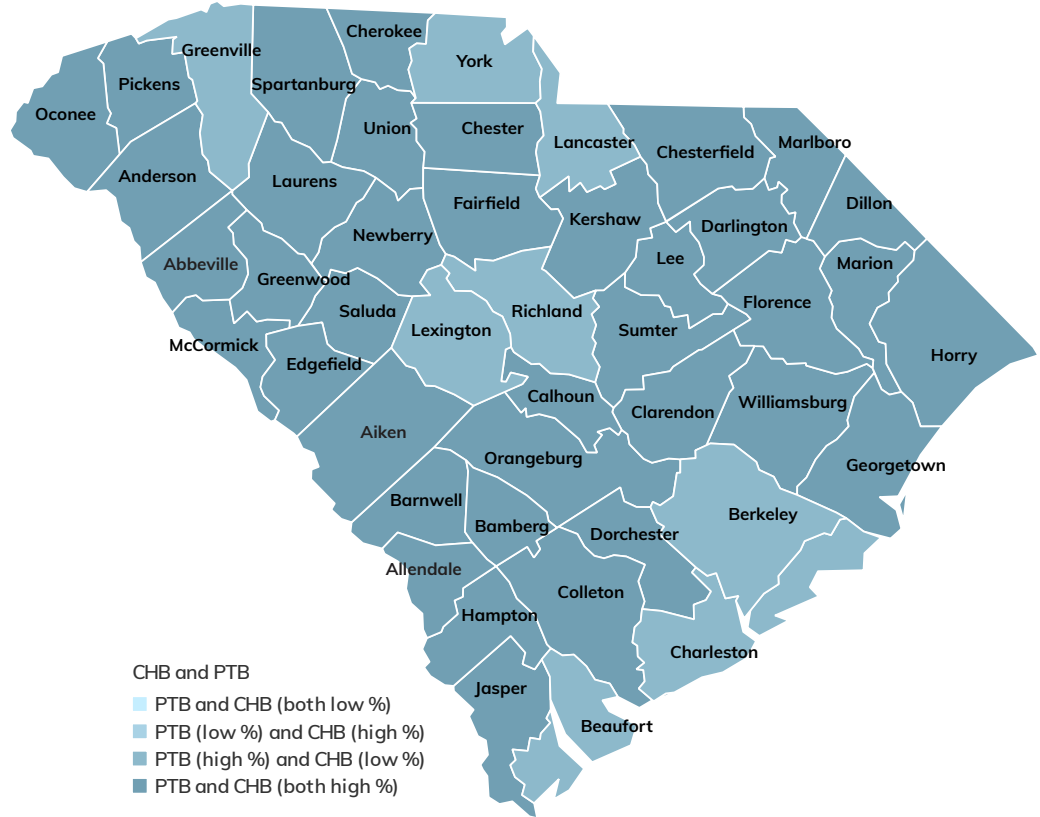
Maternal Mortality Rate, by
Race and Ethnicity,
2018-2019
Rate per 100,000 live births



Source: SC MMMRC, 2018-2019.

FIGURE 5.5

Chronic Health Burden (CHB) and Preterm Birth (PTB) in South Carolina, by County, 2022



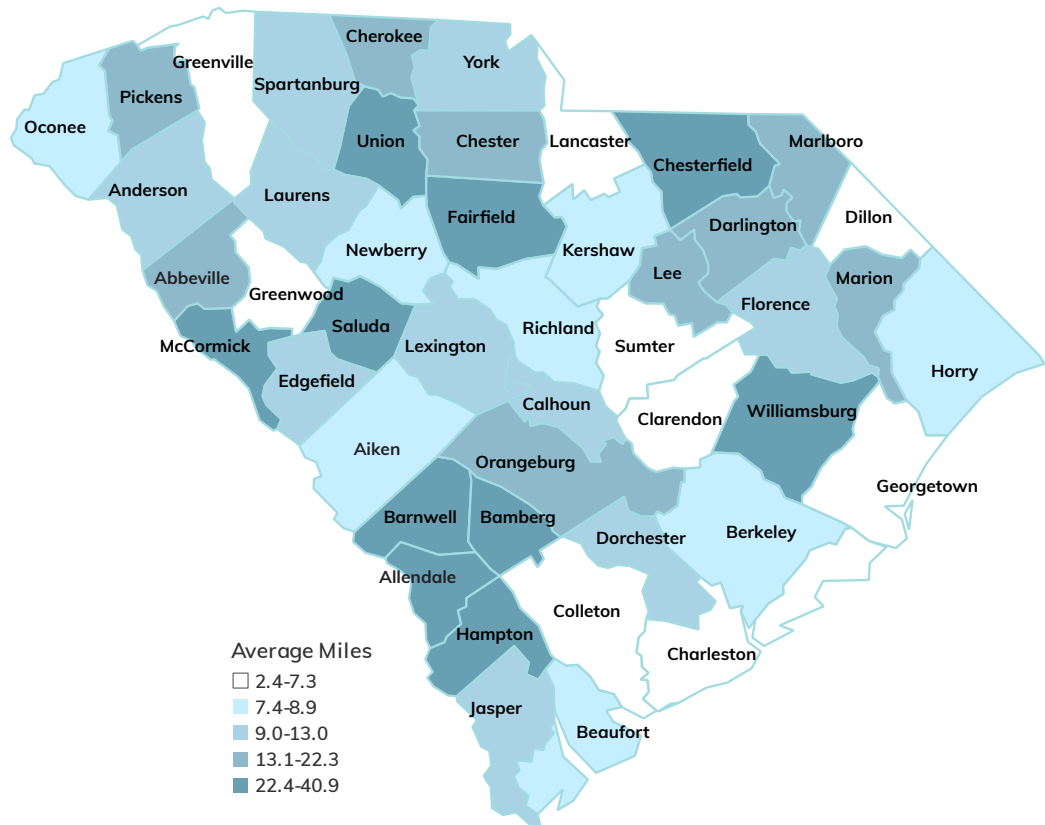
Source: March of Dimes, 2023.

Note: The burden of chronic health conditions is the percent of birthing people in each county with one or more chronic conditions. A high percent of preterm birth is defined as greater than the national target of 9.4%.

FIGURE 5.6

Distance to Birthing Hospital in South Carolina, by County, 2022

Miles



Source: March of Dimes, 2023.

III. Infant Mortality

Infant mortality refers to death of an infant before reaching the age of one year (<365 days), and reflects the overall health of a population.²⁵ SC ranks 11th in the US for the highest infant mortality rate. While the US infant mortality rate has been declining over the past several years, SC's rate increased 12.3%, from 6.5 infant deaths per 1,000 live births in 2020 to 7.3 infant deaths per 1,000 live births in 2021 (**Figure 5.7**).²⁶ The infant mortality rate in SC was consistently higher among births to non-Hispanic Black women over the past five years, representing an increase of almost 40% from 2017-2021, and was more than twice as high in 2021 than among births to non-Hispanic White women and Hispanic women (**Figure 5.7**).²⁶

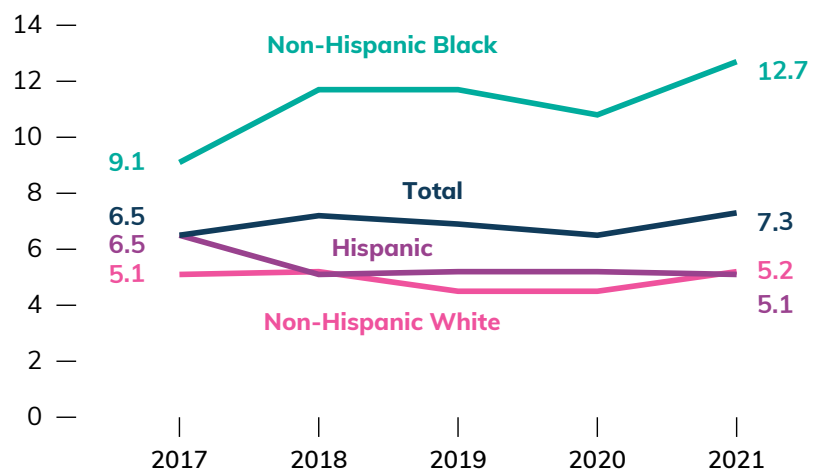
Deaths among infants in SC increased across both neonatal (less than 28 days after birth) and post-neonatal (from 28 days to 11 months after birth) periods from 2020-2021.²⁶ By far, rates are highest among non-Hispanic Black women for both neonatal and post-neonatal deaths, compared to rates among non-Hispanic White women and Hispanic women (**Figure 5.8**).²⁶ Compared to post-neonatal mortality rates, neonatal mortality rates are 1.7 times as high among non-Hispanic White women and non-Hispanic Black women, but 3.5 times as high among Hispanic women (**Figure 5.8**).²⁶ Post-neonatal deaths are more likely to be associated with conditions or events that arise after the delivery and may reflect environmental factors, while neonatal deaths are typically associated with events surrounding the prenatal and delivery periods.²⁵

The top three causes of neonatal deaths in SC were congenital malformations, disorders related to short gestation (preterm birth) and maternal complications of pregnancy, while the top three causes of post-neonatal deaths in SC were accidents, sudden infant death syndrome and congenital malformations.²⁶ The causes of neonatal mortality show how intricately linked preterm birth and maternal complications are with factors that increase the risk of pregnancy-related maternal mortality among non-Hispanic Black women and other women of color, such as pre-pregnancy chronic health conditions and inadequate access to prenatal care.²² In fact, 73.8% of non-Hispanic Black infant deaths were due to very low or low birth weight compared to 59.9% of non-Hispanic White infant deaths and 54.9% of Hispanic infant deaths.²⁶

Healthy People 2030 aims to reduce the infant mortality rate.²⁷ In light of the increasing infant mortality rate in SC from 2020-2021, particularly among non-Hispanic Black women, the best approach to decrease infant mortality in SC is to invest in maternal health overall, and among women of color specifically, by improving health care access and implementing other targeted interventions to ensure equitable, high-quality care for moms and babies.^{21,22,26,27}

FIGURE 5.7

Trend in Infant Mortality, by Race and Hispanic Origin* of Mother, 2017-2021
Rate per 1,000 live births



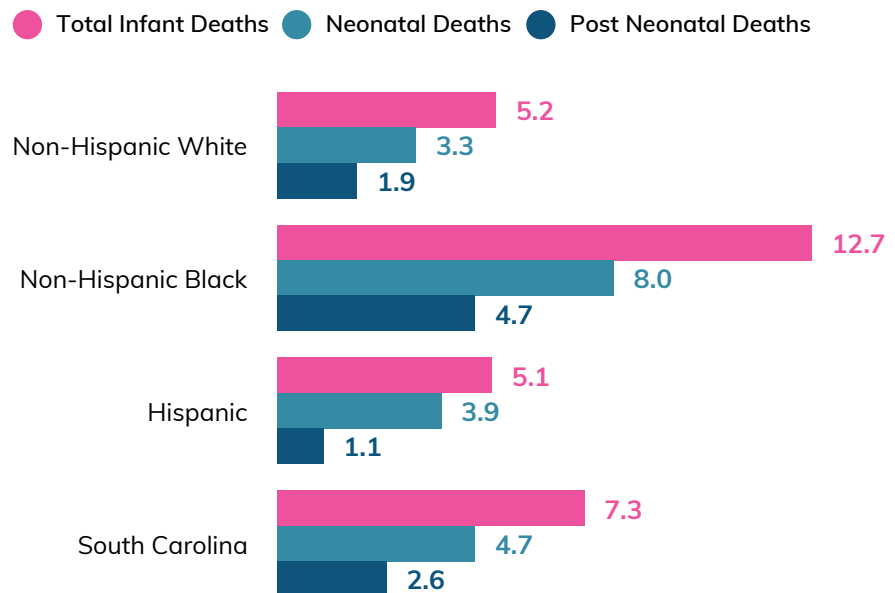
Source: SC DHEC Vital Statistics, 2017-2021.

*Due to small numbers among the non-Hispanic Other population, rates are not shown in the graph.

FIGURE 5.8

Infant, Neonatal and Post Neonatal Mortality, by Race and Hispanic Origin of Mother, 2021

Rate per 1,000 live births



Source: SC DHEC Vital Statistics, 2021.

IV. Drug-overdose and the Opioid Crisis

The age-adjusted rate of drug-overdose deaths increased by 31% in the US, from 2019 (21.6 per 100,000) to 2020 (28.3 per 100,000).²⁸ Opioids, specifically synthetic opioids, represented 75% of drug-overdose deaths in the US in 2020.²⁸ Similarly, the total number of drug-overdose deaths in SC increased by more than 25% from 2020 to 2021, with opioids contributing 80% of drug-overdose deaths in the state.^{28,29} In 2020 in the US, non-Hispanic American Indian or Alaska Native people had the highest rates of drug-overdose deaths overall compared to other racial and ethnic groups, but the largest geographical disparity was seen for non-Hispanic Black people, where rates were twice as high in urban compared to rural areas (**Figure 5.9**).³¹ In 2020 in SC, drug-overdose death rates were higher in urban counties (35.7 deaths per 100,000) than in rural counties (30.0 deaths per 100,000), and the number of opioid-related overdose deaths was highest in some northwestern, central and coastal SC counties (**Figure 5.10**).^{30,31} From 2017-2021, drug-overdose deaths in SC largely affected White, young adult and middle-aged men aged 25-54 years (**Figure 5.11**).

Opioid-overdose deaths are linked with several socioeconomic disparities in the US even after accounting for age, race, ethnicity, and sex. Risk of death is greater among people who graduated from high school only (compared to adults with a graduate degree), have a disability (compared to those without a disability), are widowed (compared to married), are unemployed (compared to employed), previously incarcerated (compared to no incarceration), live in poverty (compared to people living in households at least five times above the poverty line), lack health insurance (compared to those with insurance), and who rent (compared to people who own homes with mortgages).³²

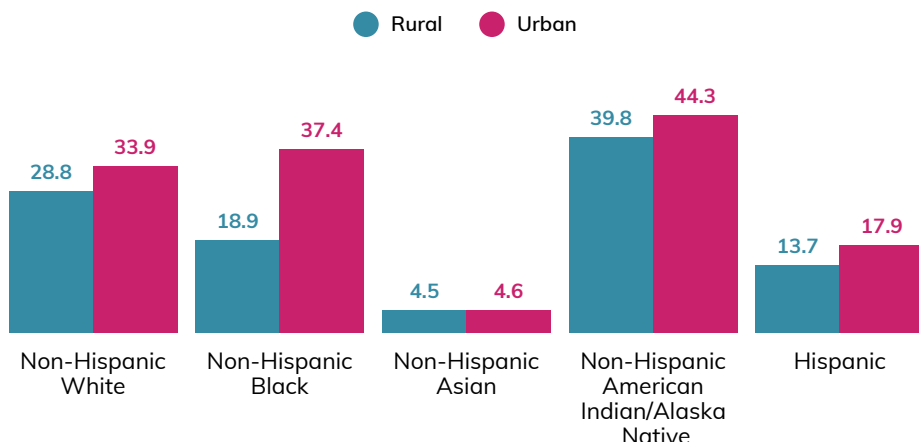
Socioeconomic marginalization, defined as conditions that contribute to exclusion from social and economic opportunities and create vulnerability, is a determinant of both fatal and non-fatal opioid overdose.³³ The conditions include labor market exclusion, informal or unlawful income generation (such as theft or drug dealing), material insecurity (such as housing or food insecurity), inadequate income, incarceration, social stigma or isolation, and low socioeconomic status or poverty. These conditions increase risk of opioid-related death among specific subpopulations who use drugs, such as people experiencing homelessness, those recently released from prison, or living in poverty, or of Indigenous ancestry.³³

Socioeconomic marginalization is thought to promote chronic stress responses over time that adversely affect interpersonal relationships and health outcomes and lead to cumulative disadvantage and health inequity.³³ Critical gaps in data collection limit understanding of the socioeconomic drivers of drug and opioid overdose deaths and of the many dimensions of disadvantage affecting at-risk subpopulations. A better understanding is needed to identify and intervene on the most effective upstream determinants of health with targeted response strategies.³³

FIGURE 5.9

Overdose Deaths, by Race and Ethnicity and Rural or Urban Area, United States, 2020

Rate per 100,000 population



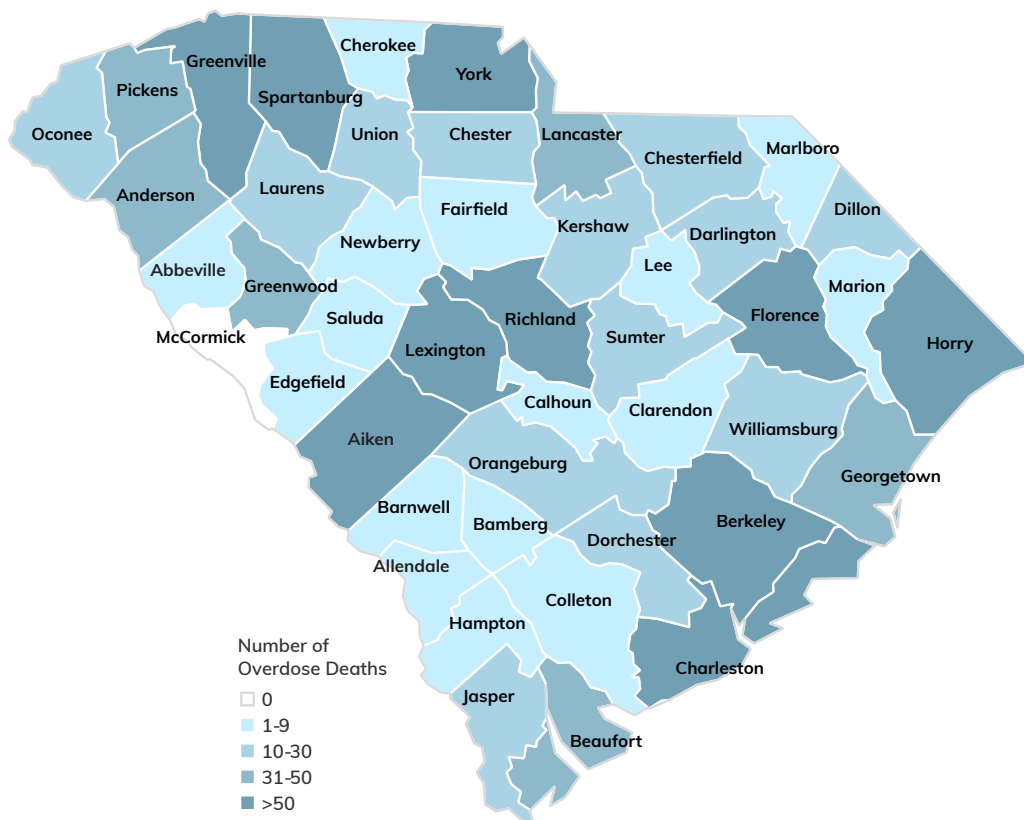
Source: NCHS, 2020.

Note: Rates are age-adjusted.

FIGURE 5.10

Number of Opioid-Involved Overdose Deaths in South Carolina, by County, 2021

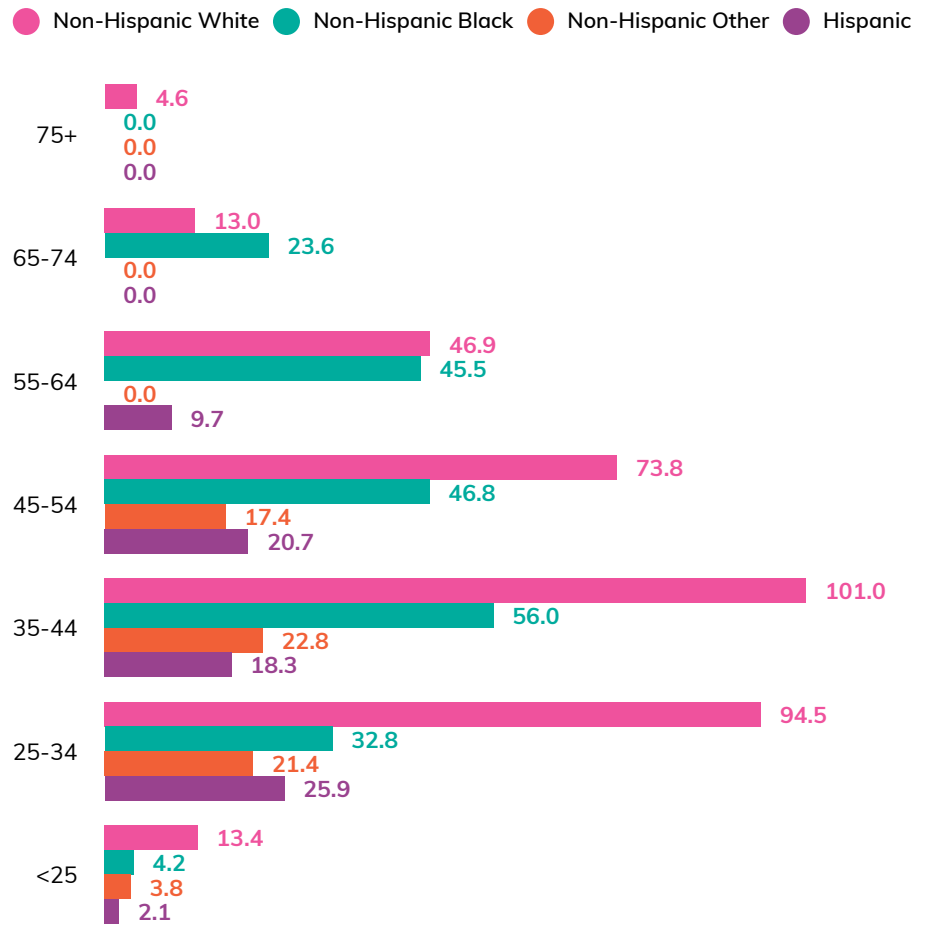
Number



Source: SC DHEC Vital Statistics, 2021.

FIGURE 5.11

Overdose Deaths Among Males, by Race/Ethnicity and Age Group
Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2017-2021.

Note: 5 year estimates.

Highlighting Cross-Cutting Themes

In addition to highlighting the aforementioned conditions that adversely affect diverse populations, four cross-cutting themes are highlighted where the need for health equity is determined by disadvantages and discriminations. Disadvantages and discriminations most often affect minorities, people

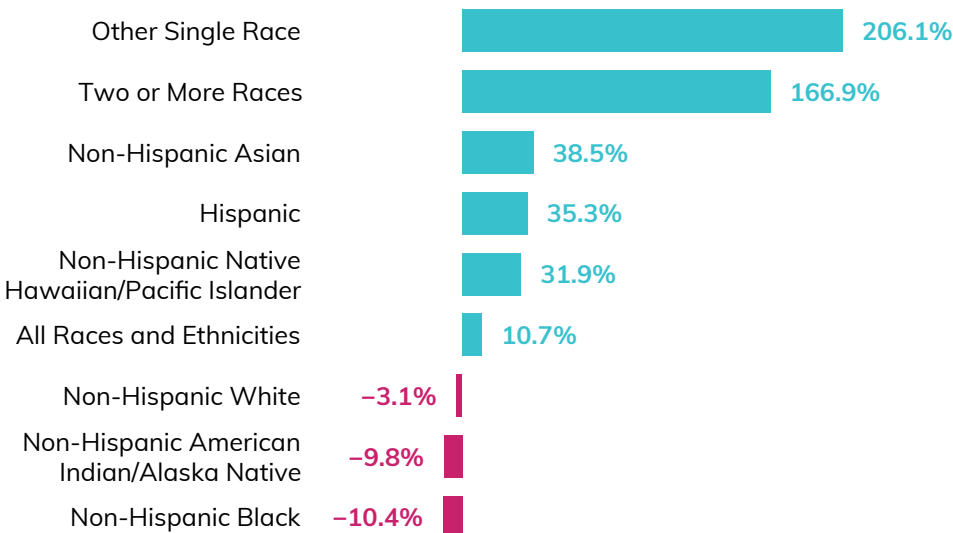
with different gender identity and sexual orientation, people facing major mental or physical disabilities, and families living in poverty and in underserved regions. This is followed by closer examination of the unique barriers to health equity encountered by each population.

I. Representation Inequity Among Minority Groups

SC's population is both increasing and diversifying. Although the largest increases occur among minority groups such as those identifying as another single race or those identifying as two or more races (**Figure 5.12**), these groups are often combined during data collection and reporting practices despite their differences.^{34,35} The ensuing inequity in representation obscures differences in exposures, risk factors and disease outcomes; results in missed opportunities for health interventions; and perpetuates health disparities. For example, studies show Hispanic immigrants face negative health outcomes from being under- or uninsured, racial discrimination, limited language proficiency, or from a shortage of culturally appropriate health care providers.³⁶⁻⁴⁰ Collecting this information is the first step to recognizing that health disparities exist for which equitable solutions are needed. These barriers are not unique to racial and ethnic minorities; other groups such as members of the LGBTQIA+ (lesbian, gay, bisexual, transgender, questioning or queer, intersexual, asexual and other non-heterosexuals) community or people with disabilities face many of the same obstacles.

FIGURE 5.12

Population Change in South Carolina, by Race and Ethnicity, 2010 to 2020 Percent Change



Source: US Decennial Census for SC, 2010 & 2020.

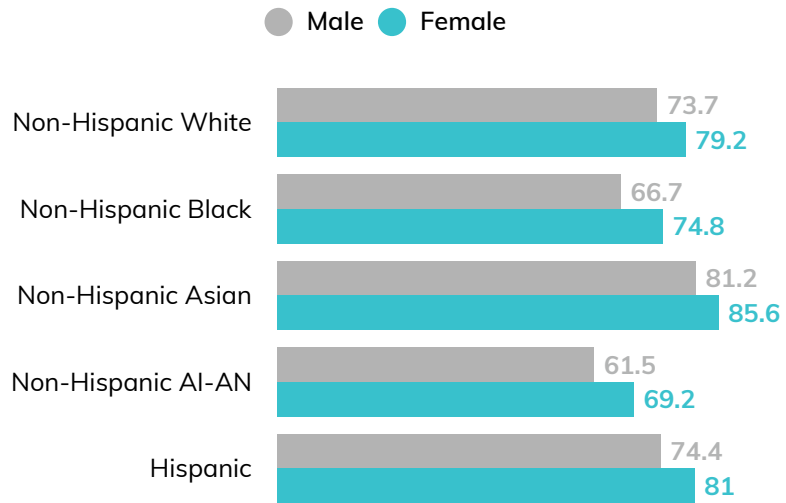
Notes: Percentages reflect the change in proportion of each group to the total population in 2010 and 2020. Categories are single race unless otherwise stated.

III. Life Expectancy

From 2020-2021, national estimates of life expectancy decreased among Hispanic populations and all race-sex groups except non-Hispanic Asian males, who experienced a 0.1 year increase (data not shown).⁴¹ The decrease was greatest for non-Hispanic American Indian/Alaska Native males, with a decline of 2.3 years.⁴¹ In 2021, there was a 14.1-year difference between the highest life expectancy (non-Hispanic Asian females) and the lowest life expectancy (non-Hispanic American Indian/Alaska Native males) (Figure 5.13). In addition to seeing disparities among racial and ethnic groups, SC also sees large disparities within census tracts or neighborhoods (Figure 5.14). In Columbia, SC, there is a gap of more than 11 years in life expectancy within a few miles. Forest Acres and Heathwood see life expectancy estimates of 87 years, whereas the Celia Saxon area of Columbia sees estimates reaching 67 years. These stark differences are observed in census tracts and neighborhoods across the state, and represent inequities that affect overall health and well-being.

FIGURE 5.13

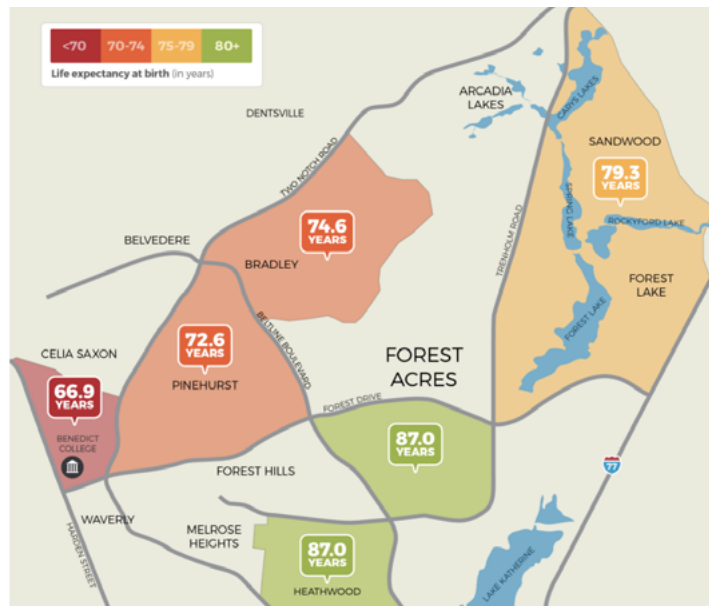
United States Life Expectancy in 2021, by Race and Ethnicity Age



Source: NCHS, 2022.
Note: Age, years.

FIGURE 5.14

Life Expectancy in Columbia, SC Age



National Center for Health Statistics, USALEEP, 2010-2015.
Notes: Life expectancy at birth.

III. Mental Health

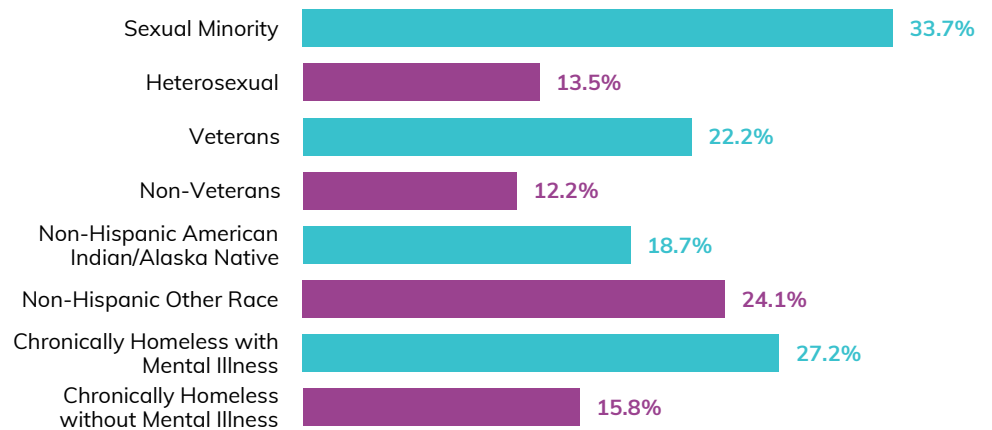
In SC, more poor mental health days affect one in three LGBTQIA+ individuals, one in five Veterans and non-Hispanic American Indian/Alaska Native individuals, and one in four persons experiencing chronic homelessness with mental illness and non-Hispanic individuals of races other than American Indian/Alaska Native (Figure 5.15).^{42,43} These percentages are higher than for heterosexual individuals, non-Veterans, and for those experiencing chronic homelessness without mental illness. Poor mental health and mental health issues are associated with suicide. This chapter presents health inequities associated with poor mental health among Veterans and LGBTQIA+, and shows death by suicide is higher among these groups.

FIGURE 5.15

Poor Mental Health, by Subpopulation Percent

Source: SC BRFSS, 2017-2022 & SC ICH, 2022.

Note: Sexual orientation and gender identity questions only asked 2018-2020. Mental health indicator for all groups except the homeless is 14 or more days in the past 30 days when mental health was not good. Sexual minority refers to LGBTQIA+ individuals in SC.



IV. Delayed Medical Care

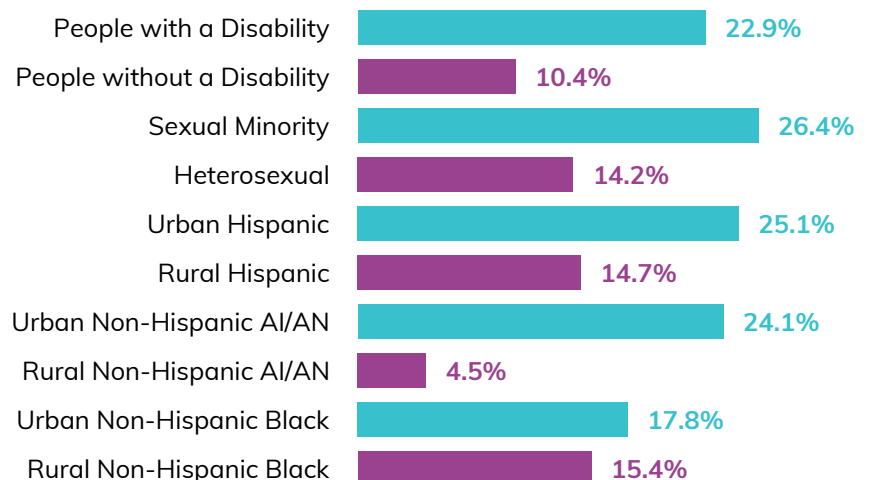
Compared to their respective counterparts, delayed medical care due to cost is higher among vulnerable groups in SC, including one in five people with disabilities, one in four LGBTQIA+ people, one in four urban Hispanic individuals, one in four urban non-Hispanic American Indian/Alaska Native individuals, and one in five urban non-Hispanic Black individuals (Figure 5.16).⁴² Non-Hispanic Asian and non-Hispanic White individuals experience the least delayed care due to cost at 10.8% and 11.8%, respectively. The urbanization of SC is occurring primarily among minority groups, and may explain the higher percentages of urban-dwelling minority groups that cite cost as a determinant of delayed health care.^{44,45}

FIGURE 5.16

Delayed Medical Care due to Cost, by Subpopulation Percent

Source: SC BRFSS, 2017-2022.

Note: Sexual orientation and gender identity questions only asked 2018-2020. Delayed medical care is "Was there a time in the past 12 months when you needed to see a doctor but could not because you could not afford it?" Sexual minority refers to LGBTQIA+ individuals in SC.



Populations Facing Health Inequity

Rural and Urban Populations

The rural population of the US has historically experienced worse health overall and higher mortality than the urban population.⁴⁶ The ability to monitor and improve the health of rural communities is complicated by different methods defining localities as rural.⁴⁷ When communities are classified as urban using county-level criteria of population size, proximity to urban centers, and direction of commuting patterns, there are corresponding levels of higher education, lower poverty, and lower mortality rates than in rural communities.^{46,48,49} In national surveys, non-Hispanic Black rural residents have higher rates of age-adjusted mortality from all causes, cancer, cardiovascular disease, and stroke compared to their urban counterparts. These rates are the highest among all racial and ethnic rural groups.⁵⁰ Furthermore, non-Hispanic Black rural residents report more socioeconomic disadvantage, and more often rate their health status as fair or poor, or report delaying medical care due to cost, compared to other racial-ethnic rural residents.⁵⁰ The inclusion of micropolitan areas, defined as nonmetropolitan areas with from 10,000 to 49,999 people and which are distinguished from smaller, "noncore" areas, as rural in these studies complicates health comparisons between reports because micropolitan areas differ economically, demographically, and in health outcomes from both urban and noncore areas.⁵⁰⁻⁵²

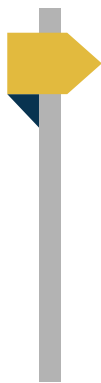
In SC, the current rural-urban classification uses 2010 census data.⁵³ As a result, recent morbidity and mortality data for urban and rural areas in SC do not necessarily reflect the results of ongoing urbanization. Urban centers, making up more than 30 percent of the county population, are found in 15 counties. Although most land area in SC is designated as rural (**Figure 5.17**), only 27% of the population lives in rural areas, which decreased from 42% in 2010.^{44,45} From 2011-2020, age-adjusted mortality rates were consistently higher among rural areas compared to urban settings in SC, and increased dramatically in both settings between 2019 to 2020, when the COVID-19 pandemic began.⁵⁴ For rural residents, the age-adjusted mortality rate increased from 850 deaths per 100,000 in 2019 to 1,000 deaths per 100,000 residents in 2020

(data not shown).⁵⁴ For urban residents, the age-adjusted mortality rate increased, from 790 deaths per 100,000 residents in 2019 to 920 deaths per 100,000 residents in 2020.⁵⁴ During this time, rural residents, compared to urban residents, experienced more deaths from cardiovascular disease (CVD), COVID-19, cancer, homicides, and unintentional injuries.⁵⁴ To address the health disparities exacerbated by the pandemic, the SC Health Equity Initiative was implemented in 2020 as part of a national program by the CDC to advance health equity projects across the state among high-risk and underserved populations, including racial and ethnic minorities and rural residents.⁴⁴

Poor physical health and delayed medical care due to cost are examples of how survey responses in SC differ somewhat from results of national reports described earlier in this section, the difference likely due to varying definitions of what constitutes rural.⁴² Compared to their urban counterparts, more rural non-Hispanic White and rural non-Hispanic Black residents reported poor physical health (**Figure 5.18**). Rural/urban classification was based on the National Center for Health Statistics Urban-Rural Classification, where urban refers to large fringe metro, medium metro, small metro, and micropolitan areas, and rural refers to noncore areas. However, more urban multiracial and urban Hispanic residents reported poor physical health compared to their rural counterparts.⁵⁵ More urban residents reported delayed medical care compared

- Mortality rates for rural residents compared to urban residents in SC are higher, especially for cardiovascular disease, cancer, COVID-19, accidents, and homicides.
- More urban minority communities experience poor physical health and delayed medical care.

to rural residents, with the highest percentages being among urban Hispanic residents (25.1%) and urban non-Hispanic American Indian/Alaska Native people (24.1%) (data not shown).⁴² The higher prevalence of poor physical health and delayed medical care among certain urban minorities may be related to the higher urbanization experienced by some minority communities than for non-Hispanic White or non-Hispanic Black residents in the past decade.⁴⁵

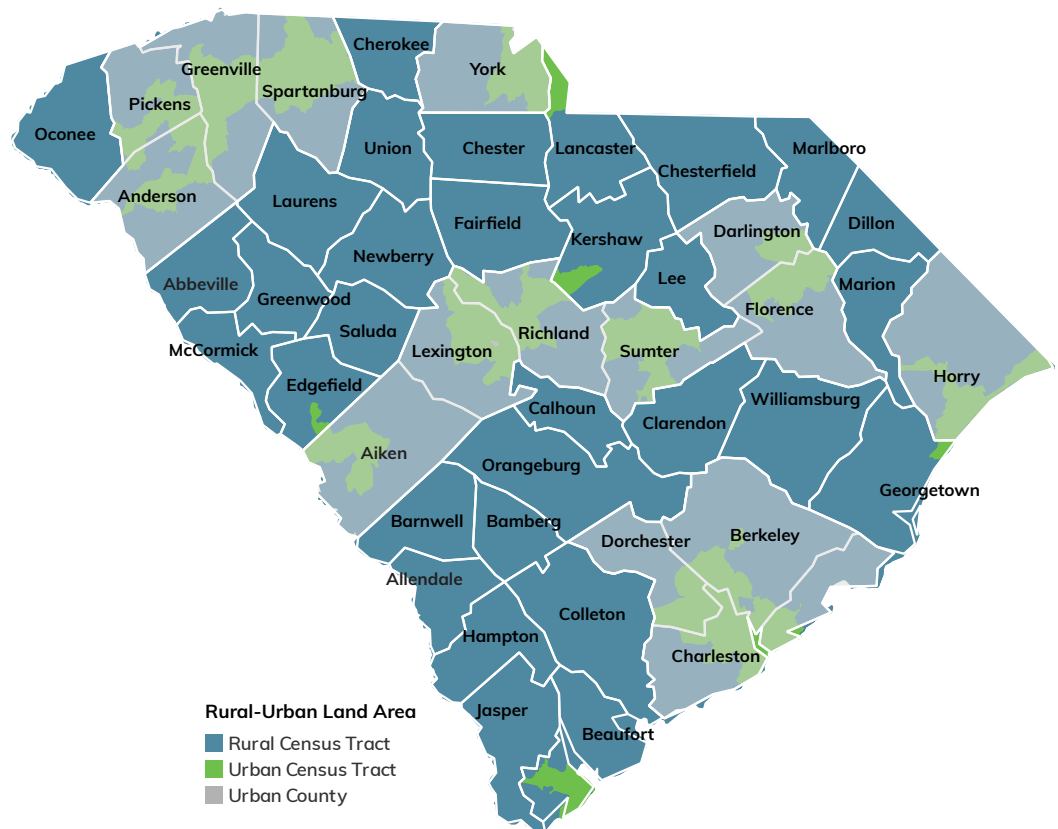


- The ability to monitor and improve the health of rural communities is complicated by different methods that define localities as rural.

- A better understanding of the diversity of communities (representation equity) within rural settings is essential for effective intervention to promote health and health equity.

FIGURE 5.17

Rural-Urban Land Area in South Carolina, by County and Census Tract, 2010

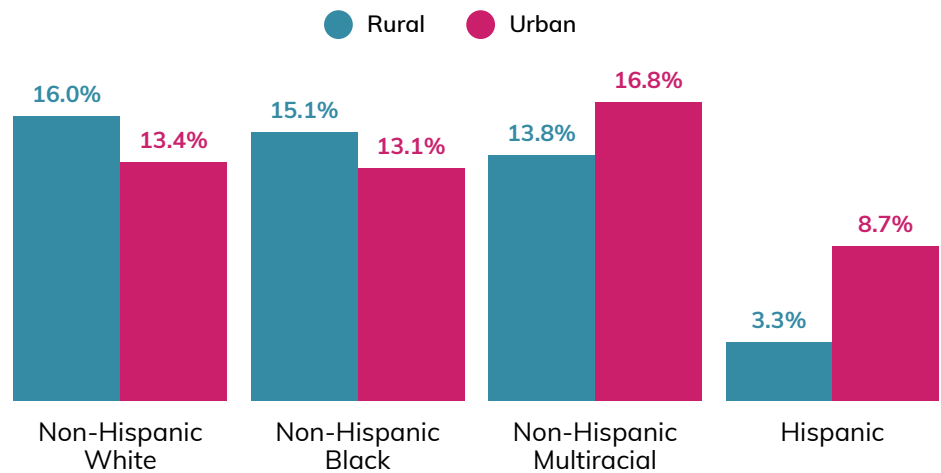


Source: SC ORH RUCA codes, 2010.

FIGURE 5.18

Poor Physical Health, by Race and Ethnicity and Rural or Urban Area

Percent



Source: SC BRFSS, 2017-2021.

Note: 5 year estimates. Poor physical health is 14 or more days in the past 30 days when physical health was not good.

Low Socioeconomic Status Populations

Socioeconomic status (SES) is a measure of a person's overall social and economic standing and is associated with health outcomes.⁵⁶ People and households with lower SES have lower income, higher poverty, or lower levels of educational attainment, spend more than 30% of their income on housing, or lack health insurance coverage.⁵⁷ The complex interplay among these inequities can influence a wide range of health, functioning, and quality of life outcomes.⁵⁸ For example, poverty is a risk factor for premature morbidity and mortality, and societies that are more unequal in the distribution of wealth tend to have poorer health outcomes among their citizens.^{59,60} Conversely, health outcomes can also influence SES: less healthy people may complete fewer years of education, miss more work, and earn lower incomes.⁵⁶ SES-related health disparities, specifically higher premature deaths, excess absenteeism, joblessness occasioned by illness among low-income and poorly educated workers, overuse of inpatient care, and extra payouts for disability benefits, have been associated with billions of dollars in annual economic costs.⁶¹

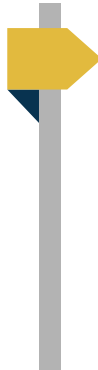
The Gini Index is a summary measure of income inequality, and ranges from 0 (perfect equality) to 1.0 (perfect inequality). Comparing data from 2011-2015 to 2016-2020, income inequality worsened in 24 counties, with Abbeville and Jasper seeing the largest changes. Additionally, income inequality remained relatively unchanged in nine counties, and improved in 11 counties. Bamberg and Hampton counties saw the

largest improvement (**Figure 5.19**).^{62,63} During 2016-2020, the counties with the highest income inequality, representing a Gini Index > 0.5, were Charleston, Georgetown, Lee, and Greenwood. Rurality does not completely explain income inequality, because seven of 12 rural counties experienced a decreased Gini Index. Households of color earned significantly less than the median income in SC, and substantially less than non-Hispanic White households, in the same period (**Figure 5.20**).⁶⁴ Most racial and ethnic minorities have lower levels of educational attainment (data not shown). Proportionally, non-Hispanic Black, Hispanic, and non-Hispanic American Indian/Alaska Native populations trail the non-Hispanic White population by 18%-26% in the share of each groups' population with at least some college.⁴⁵ These differences in educational attainment at least partially explain unequal median incomes between these groups.⁴⁵

Estimates of concentrated disadvantage, a composite of five census variables, were higher in SC than for the nation for the percentage residing in poverty, receiving public assistance, and for female-headed households, but lower or no different for the percentages of the population under 18 years and of the unemployed population (data not shown).⁶⁵ Although most counties saw decreases in the percentages of people living in poverty and of people receiving public cash assistance, concentrated disadvantage remains higher among minority groups.⁶⁶⁻⁶⁸ Compared to their non-Hispanic White counterparts, more minority families and

female-headed households lived below the poverty line (Figure 5.21), more non-Hispanic Black people received public assistance, and there were higher

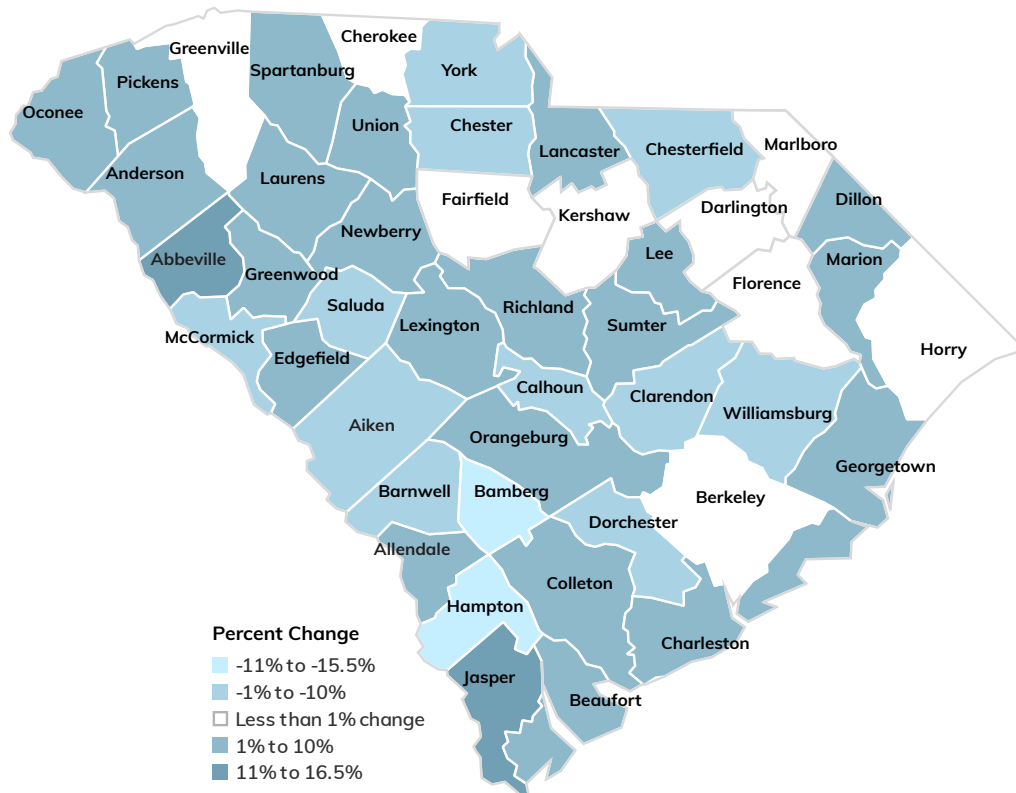
percentages of minority children under 18 years (data not shown).^{69,70,71}



- In most counties, income inequality is increasing, while poverty and reliance on public assistance are decreasing.
- More racial and ethnic minorities consistently earn lower household incomes, attain less formal education, live below the poverty line, receive public assistance, and experience higher concentrated disadvantages compared to non-Hispanic White people.

FIGURE 5.19

Gini Index of Income Inequality in South Carolina, by County Percent Change from 2015 to 2020



Source: US Census ACS, 2011-2015 & 2016-2020.

Note: 5 year estimates.

FIGURE 5.20

Median Household Income, by Race and Ethnicity Dollars

Source: US Census ACS, 2016-2020.

Note: 5 year estimates. Median income is for past month. *Estimated with high margin of error.

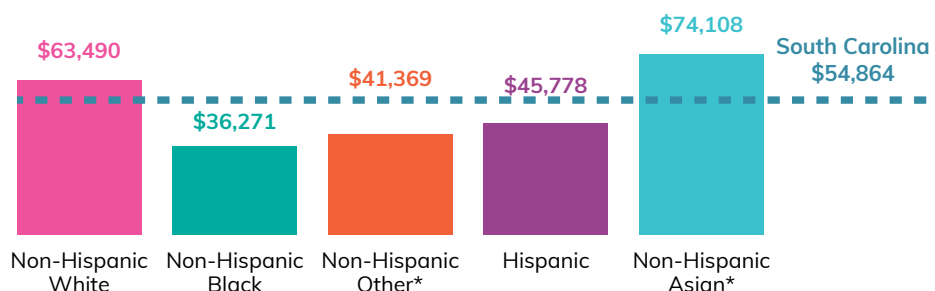
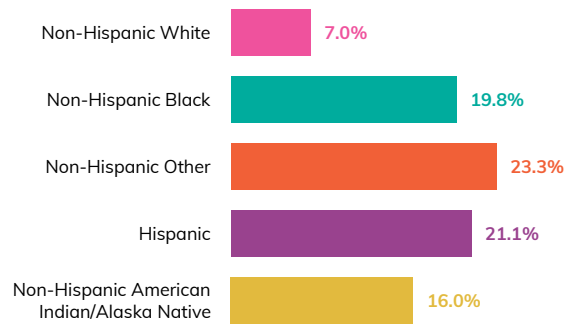


FIGURE 5.21

Family Households Below Poverty Line, by Race and Ethnicity

Percent



Source: US Census ACS, 2016-2020.

Note: 5 year estimates.

Populations Experiencing Homelessness

Homelessness is a key driver of poor health outcomes and is associated with shorter life expectancy, higher morbidity, greater usage of acute hospital services, later-stage diagnosis of disease, and increased hospitalization for preventable conditions.^{72,73} Homelessness is also a consequence of adverse social and economic conditions.⁵⁷ These often include early adverse childhood experiences such as childhood abuse, neglect, and family dysfunction, which are often predecessors of negative health and social outcomes throughout life.⁷⁴ Experiences of homelessness differ by various at-risk populations, including families, people with substance use disorder (SUD) or mental illness, unaccompanied youth, racial and ethnic minorities, Veterans, those facing other disabling conditions, and members of the LGBTQIA+ community. The interpretation of health status indicators for public health outcomes is complicated when data come from multiple sources that define homelessness differently.⁷⁵ Multiple federal statutory definitions of homelessness also exist, including within the Public Health Service Act and for children and youth.^{76,77}

Homelessness service providers in SC served 2,430 more people in 2021 than in 2020 (**Figure 5.22**).⁴³ This included more females, fewer Veterans, more victims of domestic violence, and fewer non-Hispanic Black people. One in five individuals experiencing homelessness were children. Between 2020-2021, the Upstate served as many people representing special populations experiencing homelessness – including migrants, multilanguage learners of English, unaccompanied youth and people with disabilities – as the other regions combined (data not shown).⁴³ More than half of the special populations served were people with disabilities, including physical, intellectual

or developmental disabilities, SUD, or mental health disorders.

During a point-in-time count on January 26, 2022, approximately 346 people in SC experienced chronic homelessness, defined as a person with a minimum of 12 or more months of homelessness and suffering with a long-term disability.⁴³ In addition to experiencing chronic homelessness, there were 396 people who also reported Veteran status, 569 individuals with SUD, and 594 with a mental illness (**Figure 5.23**).⁴³ The number experiencing both sheltered and unsheltered homelessness decreased in 2022 compared to 2020. Persons sheltered decreased by 10.5%, and persons unsheltered decreased by 22.9% (data not shown).⁴³ Unsheltered settings include living on the streets — in a vehicle, parks or abandoned buildings — while sheltered homelessness settings include those who are living in emergency or transitional housing.⁴³

People with disabilities, multilanguage learners of English, and youth/children comprise some of the largest groups experiencing homelessness, while the highest subpopulations of those experiencing chronic homelessness are those with mental illness and substance use disorder.

FIGURE 5.22

Demographic Comparison of Persons Experiencing Homelessness, by Year

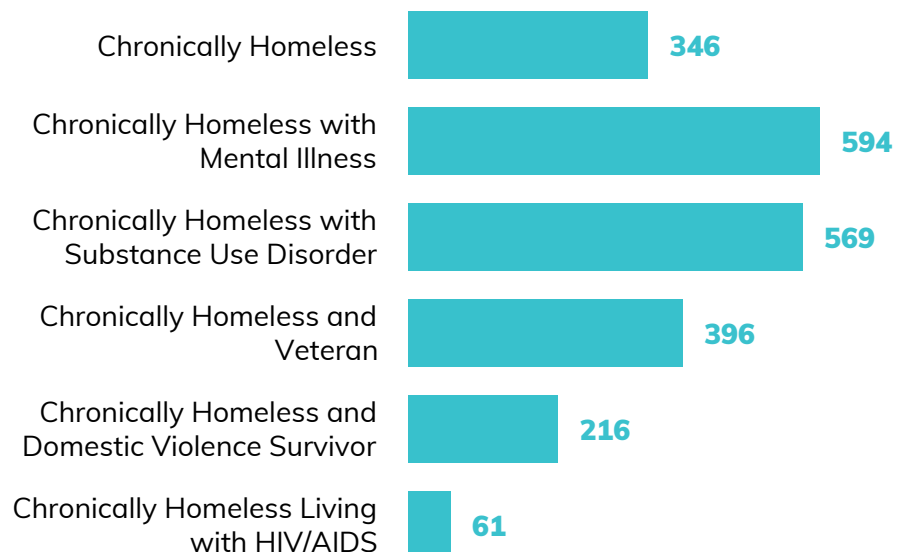
	2019-2020	2020-2021
Total Served	10,969 Persons received homeless services	13,399 Persons received homeless services
Gender	64% Identified as male, while 35% identified as female	60% Identified as male, while 38% identified as female
Race	56% Identified as Black or African American	53% Identified as Black or African American
Age	1 in 5 Persons receiving homeless services were children	1 in 5 Persons receiving homeless services were children
Veterans	2,535 Veterans received homeless services	2,168 Veterans received homeless services
Domestic Violence	1,403 Persons reported being a victim of domestic violence	1,592 Persons reported being a victim of domestic violence

Source: SC ICH, 2022.

FIGURE 5.23

Count of Persons Experiencing Chronic Homelessness, by Subpopulation

Number



Source: SC ICH, 2022.

Individuals with Disabilities

The Americans with Disabilities Act identifies a person with a disability as someone who has a physical or mental impairment that substantially limits one or more major life activities, a history or record of such an impairment, or is perceived by others as having such an impairment (such as hearing or vision loss).⁷⁸ People with disabilities often have complex and unmet health care needs, and experience disproportionately poorer health than their peers without a disability.⁷⁹ Living with a disability is also a risk factor for several comorbidities. Depression and other mental health conditions are nearly three times higher, and smoking and diabetes two times higher, than for people without a disability.⁷⁹

The definition of disability used by many surveys focuses on cognitive impairment, physical limitations, and participation restrictions (**Table 1**).⁷⁹ In 2020, one in three people (1,304,480) in SC were living with one or more disabilities.⁸⁰ One-fifth of non-Hispanic American Indian/Alaska Native people live with a disability (21.2%), the highest of all racial and ethnic groups, with most state estimates disproportionately higher than national percentages (**Figure 5.24**).⁸¹ Almost half of males and females with a disability are aged 75 and older (**Figure 5.25**).⁸² More than two times as many people living with a disability (20.3%) than without (9.1%) delay medical care due to cost, and 33.4% of people living with a disability self-reported fair or poor general health, compared to 6.7% without a disability.^{42,80} Mobility disabilities are more common; however, proportionally more people in SC have any type of disability compared to the US (**Figure 5.26**).⁸¹ Despite a decrease in the overall number of individuals living below 150% of the poverty line in 2020 compared to 2015, the number of people with disabilities living below 150% of the poverty line doubled.^{83,84} For example, in 2020, 19.4% of people with a disability were living below 100% of the poverty line, compared to 11.7% of people without a disability (data not shown). In comparison, the total percentage of the SC population living below the poverty line was 13.8%.⁶⁶

Multiple interwoven physical, communication, and programmatic or attitudinal barriers lead to inadequate and inequitable health care for people with disabilities. Physical barriers include inaccessible health care facilities (e.g., lack of ramps), unreliable or inaccessible transportation, and inaccessible and inefficient diagnostic and exam equipment.⁸⁵ Communication barriers include limited sign language or other interpretation services, no closed captioning on videos, lack of braille displays, and no audio descriptions of visual information.⁸⁶ Programmatic and attitudinal barriers include low provider competency and confidence in treating patients with a disability.⁸⁷ In SC, these barriers cost \$12.2 billion per year to treat both the initial disability and related comorbidities, or about \$13,807 per person.⁸⁸

- People with disabilities have higher depression and other mental health conditions and more comorbidities than people without disabilities.
- People with disabilities experience physical, communication, and programmatic/attitudinal barriers to equitable and accessible health care not faced by those without a disability, which is exacerbated by health care costs and poverty.

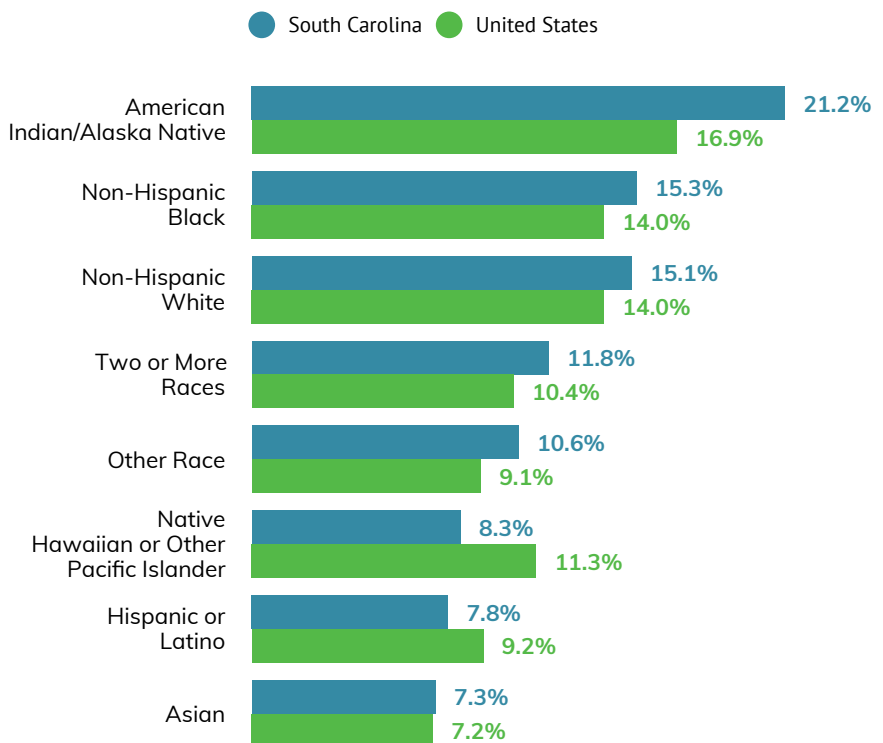
TABLE 5.1

Survey Definition of Disability

Disability	Definition
Mobility	Serious difficulty walking or climbing stairs
Cognitive	Serious difficulty concentrating, remembering, or making decisions
Independent Living	Serious difficulty doing errands alone, such as visiting a doctor's office
Hearing	Deafness or serious difficulty hearing
Vision	Blind or serious difficulty seeing, even when wearing glasses
Self-Care	Difficulty dressing or bathing

Source: CDC, 2022.

FIGURE 5.24

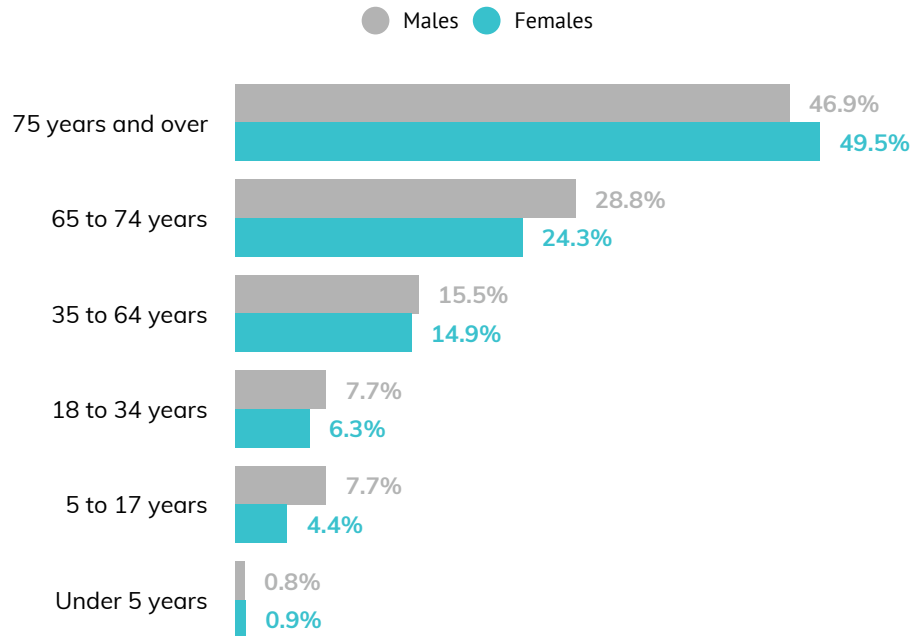
Individuals with Disabilities, by Race/Ethnicity
Percent

Source: US Census ACS, 2016-2020.

Note: 5 year estimates. Hispanic can be of any race.

FIGURE 5.25

Individuals with Disabilities in South Carolina, by Age and Sex
Percent

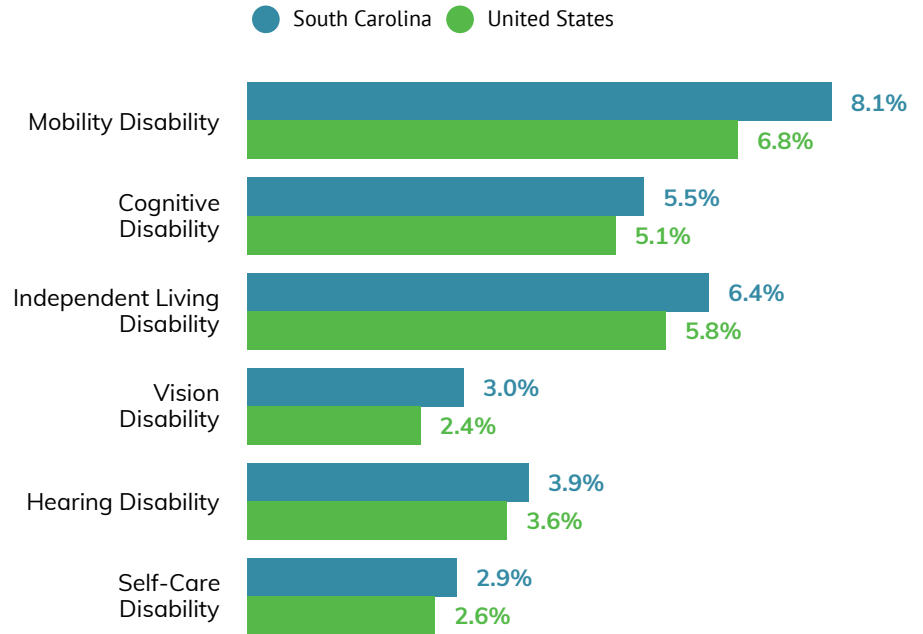


Source: US Census ACS, 2016-2020.

Note: 5 year estimates.

FIGURE 5.26

Individuals with Disabilities, by Disability Type
Percent



Source: US Census ACS, 2016-2020.

Note: 5 year estimates.

Indigenous Populations

Approximately 99,729 people, or 1.9% of the SC population in 2021, identified as American Indian/Alaska Native, regardless of Hispanic ethnicity.⁸⁹ However, American Indian/Alaska Native individuals are systematically undercounted or rendered invisible from data collection practices that either misclassify them as Other or White race, or from data suppression rules that aggregate American Indian/Alaska Native individuals with other racial groups.⁹⁰ Also, the choice to not self-identify as Native American is rooted in a long history of mistrust and results in missing data.⁹¹ Thus, representation inequity underlies health inequity for Indigenous populations.

Indigenous populations in the US experience lower life expectancy and disproportionate disease burden compared to other races.^{92,93} Food insecurity, poor nutrition, and poverty are high in Native communities due largely to government policies.⁹⁴ About 20% to 25% of American Indian/Alaska Native people, regardless of Hispanic ethnicity, in SC live in poverty, lack health insurance, and delay medical care citing cost.^{69,95} Only 13% of American Indian/Alaska Native residents have a bachelor's degree or higher, the lowest among racial and ethnic groups in SC.⁹⁶ For many, poverty forces a choice between education and employment, suggesting a path toward health equity is, in part, through educational retention.⁹¹

Chronic disease profiles from 64 American Indian/Alaska Native patients regardless of Hispanic ethnicity served by the Edisto Indian Free Clinic in 2021 compare with those from a broader community of non-Hispanic American Indian/Alaska Native people in SC and mostly exceed those of other non-Hispanic races (**Figure 5.27**).^{42,97} Many Native American organizations, such as Pine Hill Health Network, provide Indigenous-based health services to tribal communities of SC and target several chronic disease risk factors in culturally meaningful ways. Services offered include Traditional Tobacco (nicotine cessation education), Indigenous health education, nutrition education, physical activity services, blood pressure- and cholesterol-lowering services, and diabetes prevention (**Figure 5.28**).

In 2021, non-Hispanic American Indian/Alaska Native people experienced disproportionately higher deaths from COVID-19, unintentional injuries, and chronic

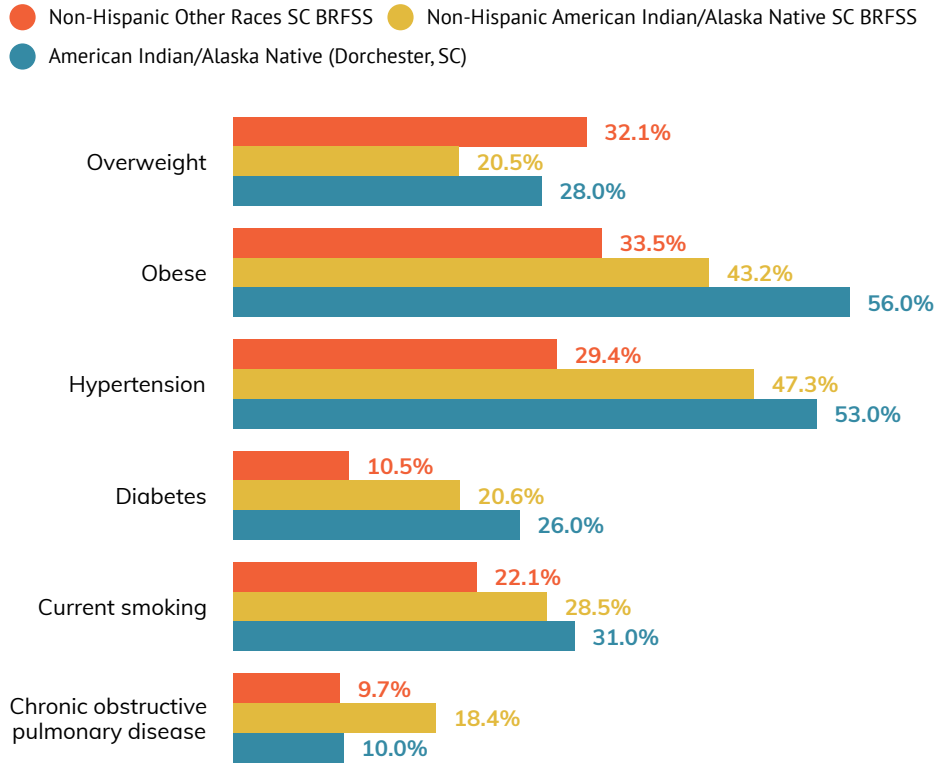
lower respiratory disease than did non-Hispanic White people (**Figure 5.29**).⁹⁸ From 2020-2022, more non-Hispanic American Indian/Alaska Native individuals were diagnosed with COVID-19 in younger age groups (< 40 years) compared to other races (data not shown).⁹⁹ COVID-19-related deaths among American Indian/Alaska Native peoples were 1.5 times the number of COVID-19-related deaths among other races in those aged 41-70 (56% and 35%, respectively) despite similar numbers of cases in this age range (33% and 37% of cases, respectively).⁹⁹ This may have contributed to the sharp rise in years of potential life lost (YPLL), an indicator of premature mortality, among the American Indian/Alaska Native population early in the pandemic, from 9% in 2019 to 15% in 2020, of all premature deaths occurring between 2011-2021 (**Figure 5.30**).⁹⁸ The increase in YPLL in 2020 was 40% higher among the American Indian/Alaska Native population than among non-Hispanic White people. Contributing factors include inadequate access to health information and services, underfunded and under-resourced health systems, and higher prevalence of chronic health conditions that increase the risk of COVID-19 complications.¹⁰⁰

To address representation inequity exacerbated by the pandemic, in January 2023 DHEC appointed a representative to the SC Native American Health Board, which was established by Pine Hill Health Network through the Urban Indian Health Institute.⁹¹ This provides direct communication between DHEC and tribal communities on matters of public health, and ensures that tribal communities have equitable access to public health data for informed decision-making about the health of their communities.

Direct and sustained communication between DHEC, and other state agencies and programs, and Tribal Chiefs and their communities is essential for American Indian/Alaska Native communities to make informed decisions about their health.

FIGURE 5.27

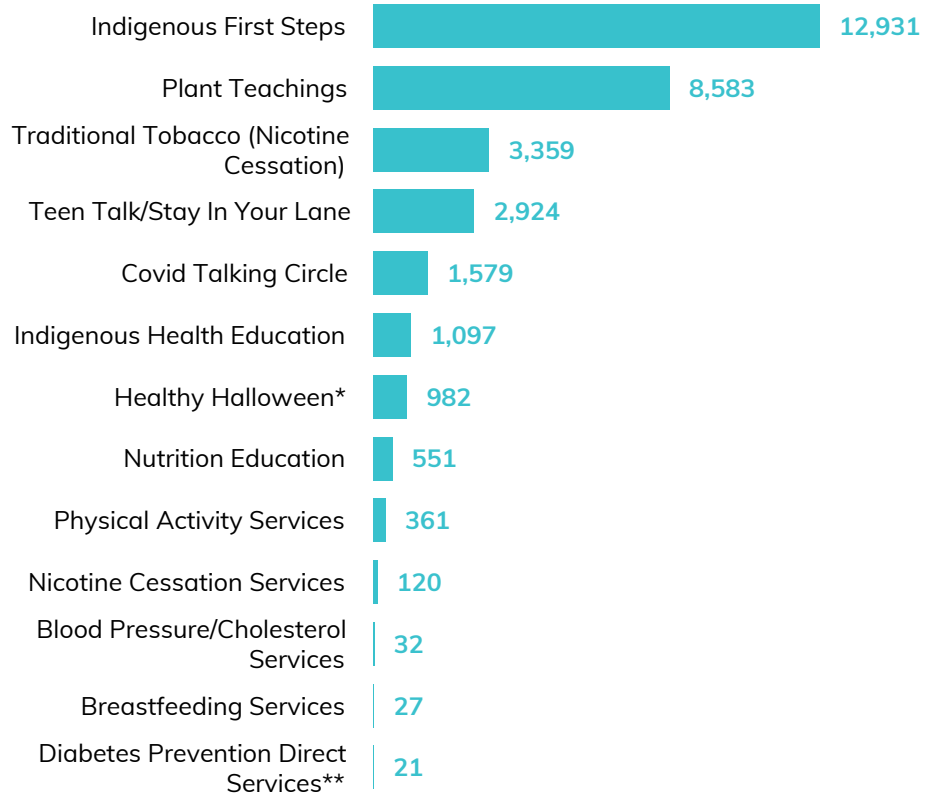
Prevalence of Chronic Conditions, by Race/Ethnicity and Survey Percent



Source: SC BRFSS, 2017-2022 (5 year estimates); Edisto Indian Free Clinic, 2021.

FIGURE 5.28

**Services provided by Pine Hill Health Network to Native Americans in South Carolina, 2022
Number Served**



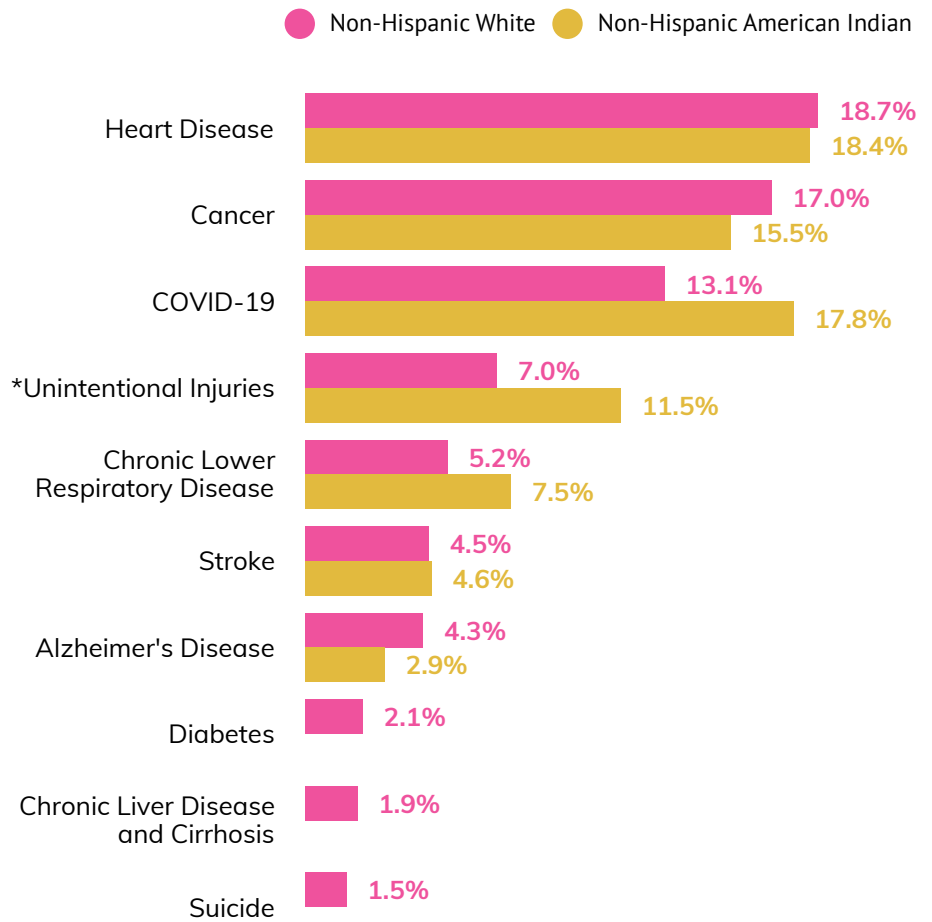
Source: SC Pine Hill Health Network, 2022.

*Tracked by Halloween bags but served at least 2,000 total youth.

**Pre-diabetic or family history of diabetes only.

FIGURE 5.29

10 Leading Causes of Death, by Race and Ethnicity
Percent

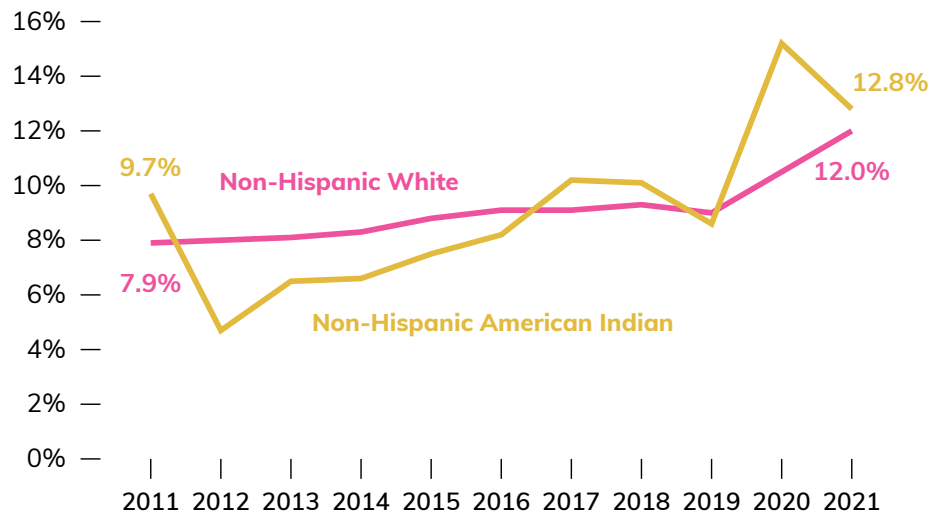


Source: SC DHEC Vital Statistics, 2021.

Note: *Includes opioid overdoses (unintentional poisoning), motor vehicle crashes, unintentional drowning, and unintentional falls. Due to small numbers, percent of total deaths from diabetes, chronic liver disease and cirrhosis, and suicide among American Indian race is not shown.

FIGURE 5.30

Years of Potential Life Lost, by Race/Ethnicity
Percent of total YPLL, 2011-2021



Source: SC DHEC Vital Statistics.


Note: Percentages are calculated by dividing each year's YPLL for each racial-ethnic group by the sum of the YPLL across all years for each racial-ethnic group. American Indian race can be Hispanic or non-Hispanic.

Veterans

Veterans have complex health care needs. One-third to one-half suffer from a service-related injury or illness, or from unique psychosocial issues associated with transitioning to civilian life.¹⁰¹ For example, post-traumatic stress disorder (PTSD) among Veterans is associated with physical health problems, substance misuse, suicide, homelessness, and aggression.¹⁰² Problematic anger, defined as increased distress and decreased functioning, is twice as high after military separation, and is associated with subsequent adjustment difficulties.¹⁰³ Combat Veterans fare worse, experiencing higher risk of PTSD and depression compounded by multiple deployments.^{101,104} They often carry life-long moral injuries and distrust and are less likely to seek services.¹⁰⁵

In 2020, 10% (393,684) of SC adults were Veterans, defined as adults aged 18 years or older who ever served on active duty in the military.¹⁰⁶ Most Veterans lived in non-urban centers, 44% were aged 65 and over, 23% were non-Hispanic Black, 2.5% were Hispanic and 3.5% were a combination of another minority race.^{98,104,107} Older Veterans were twice as likely to report poor physical and mental health, and three times as likely to experience substance misuse than non-Veterans of the same age (**Figure 5.31**).⁴² Disproportionately more deaths from heart disease, cancer, chronic lower respiratory disease, and Parkinson's disease occurred among Veterans than civilians in SC (**Figure 5.32**).⁹⁸ According to the SC Violent Death Reporting System (VDRS), between 2016-2020, 19.1% of all deaths by suicide were among Veterans in SC.¹⁰⁸ Compared to civilians, most Veteran deaths by suicide were among non-Hispanic White males, almost half were aged 65 years and over, and more than one-third had physical health

ailments.¹⁰⁸ Among 73 deaths by suicide with a known PTSD diagnosis, three in four were Veterans, and depression or alcohol or substance misuse (i.e., a behavioral health issue) co-occurred with PTSD in more than half of these (**Figure 5.33**).¹⁰⁸ Living with a disability (defined as difficulties with hearing, vision, cognition, mobility, self-care, and independent living) afflicted almost half of individuals aged 65 years and over who live below the poverty level whether they are Veterans or non-Veterans, but older Veterans living above the poverty level struggled more than non-Veterans (data not shown).¹⁰⁹ Younger Veterans living with a disability outnumber non-Veterans with a disability by 1.7 times, on average. These trends have not changed by much since 2015. Expansion of Veterans' health care benefits in August 2022 by the Promise to Address Comprehensive Toxics (PACT) Act to include health conditions presumed to be caused by exposure to toxic substances will likely increase the incidence of reported disabilities among younger Veterans in the next several decades.¹¹⁰

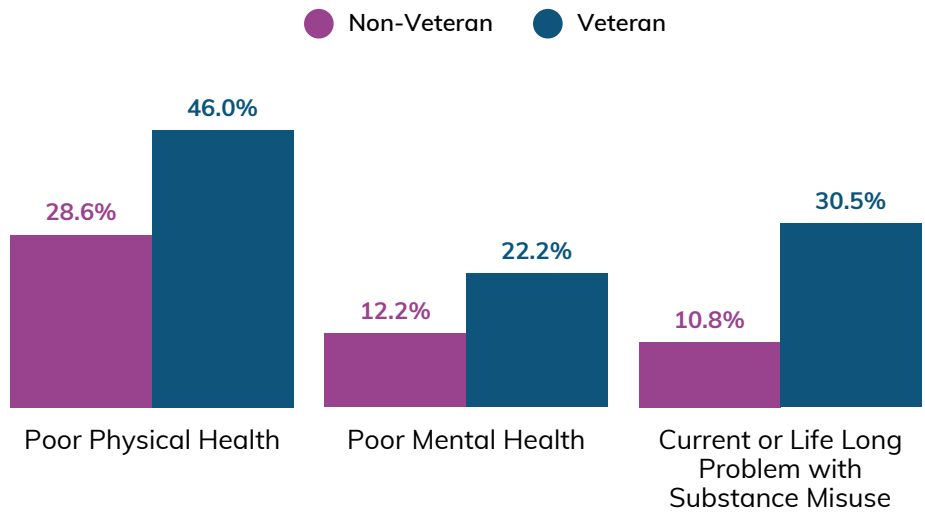


Successful transitioning to civilian life is more likely with support from Veteran service organizations (Veterans assisting other Veterans) and can mitigate the harmful sequelae of anger, poor mental health, substance misuse, homelessness, and death by suicide.

FIGURE 5.31

Physical and Mental Health Among Ages Over 65 Years, by Veteran Status

Percent



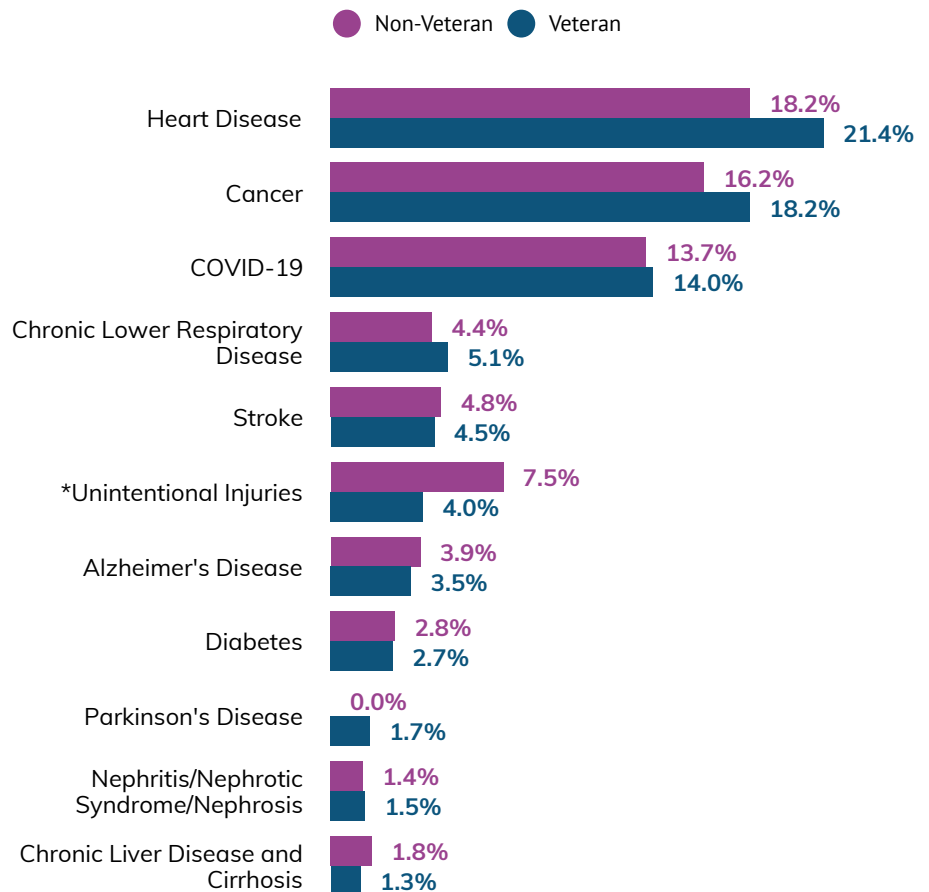
Source: SC BRFSS 2017-2022.

Note: 5 year estimates. Poor mental health questions only asked 2018-2020. Poor physical or mental health is 14 or more days in the past 30 days when either physical or mental health was not good.

FIGURE 5.32

10 Leading Causes of Death, by Veteran Status

Percent



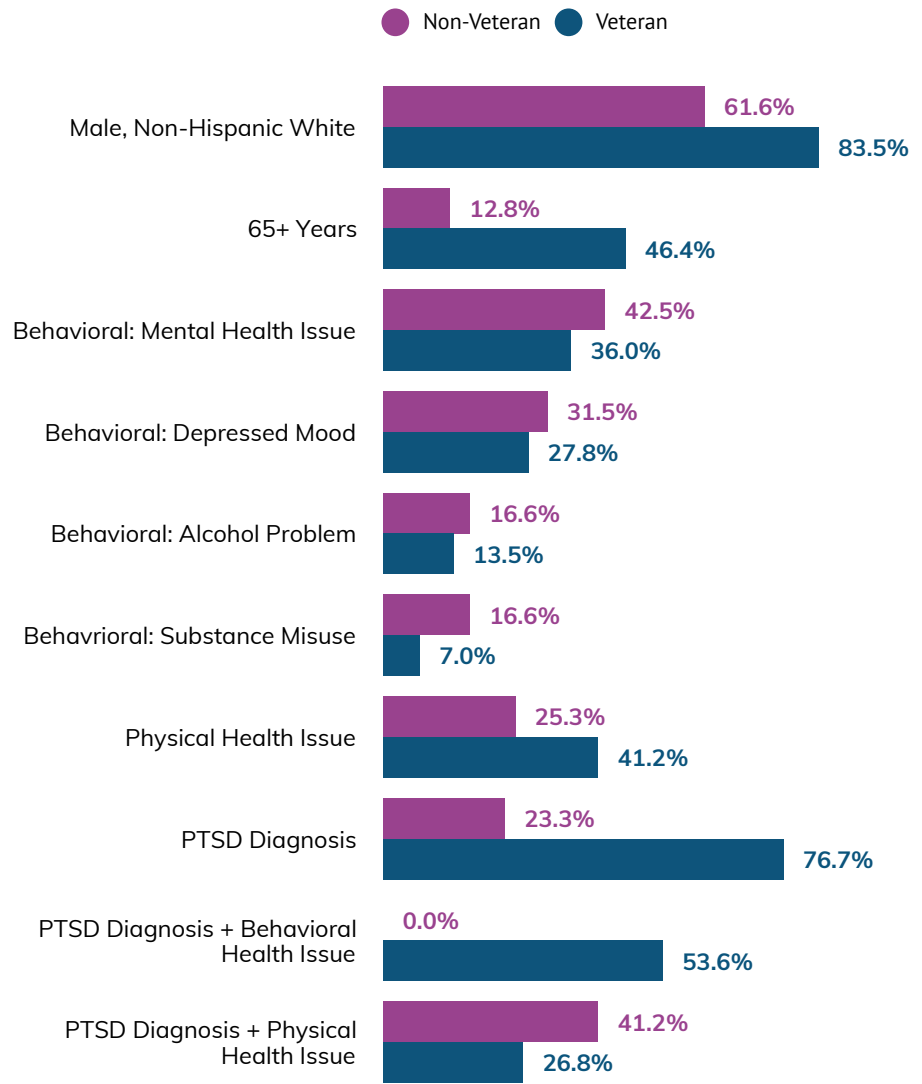
Source: SC DHEC Vital Statistics, 2021.

Note: Adults 18+ years only. Veteran is ever-served in US Army Forces. *Includes opioid overdoses (unintentional poisoning), motor vehicle crashes, unintentional drowning and unintentional falls. Parkinson's Disease was not a top 10 cause of death among non-Veterans.

FIGURE 5.33

Suicide Circumstances, by Veteran Status

Percent



Source: SC VDRS, 2016-2020.

Note: 5 years estimates. Adults 18+ only. Veteran is ever served in US Armed Forces. Behavioral health issues include mental health condition, depressed mood, alcohol, or substance misuse. Behavioral health issues are not mutually exclusive.

LGBTQIA+ Communities

As of 2021, LGBTQIA+ (lesbian, gay, bisexual, transgender, questioning or queer and other non-heterosexual) individuals are estimated to account for 7.1% of the US population, essentially doubling from 2012.¹¹¹ National surveys found LGBTQIA+ people face discrimination in their personal and family lives, workplace, public community, and in their access to health care.¹¹² Discrimination and victimization can lead to higher negative health outcomes, including substance misuse, sexually transmitted illness (STI), cancers, heart disease, mental illness, and death by suicide. Discrimination in the delivery of health care at clinics and hospitals can lead to poor therapeutic alliance, lack of appropriate illness-related education, inadequate scheduled screening for communicable diseases, and inadequate interventions.¹¹²⁻¹¹⁴ Higher levels of discrimination are reported among younger LGBTQIA+ people, transgender people, people of color, and people with disabilities.¹¹² Adverse childhood experiences (ACEs), such as childhood abuse, neglect, and family dysfunction, are positively correlated with substance misuse, depression, and attempts of suicide among LGBTQIA+ people.¹¹⁵ Accurate reporting of morbidity and mortality is complicated by deficiencies in data collection that misclassify LGBTQIA+ status, creating information gaps. Also, despite gender identity and sexual orientation being separate categories, surveys routinely treat both as the same category, thus leading to inaccurate data and increased bias in research.¹¹⁶

As of 2021, 4.2% of the SC population is estimated to be LGBTQIA+, referred to as “sexual minority” in the figures. Higher proportions are in younger age groups: 12.0% of people aged 18-24 years, and 6.3% of people aged 25-34 years, are LGBTQIA+.⁴² Risk factors such as mental wellbeing, ACEs, and lack of access to care are higher among LGBTQIA+, compared to heterosexual individuals (**Figures 5.34** and **5.35**).^{42,117,118} Consistent with national findings, LGBTQIA+ people in SC have a higher HIV risk (24.3%) compared to heterosexuals (5.2%), and larger percentages are current smokers, binge drinkers, and substance users (**Figure 5.36**).⁴² Between 2013-2020, 59 violent deaths among LGBTQIA+ residents in SC were reported, with 47 (79.7%) being suicide.¹¹⁹ Among deaths by suicides, more LGBTQIA+ than

heterosexual individuals were female, had a diagnosed mental health problem, depressed mood, non-alcohol substance misuse, history of treatment for mental health and substance misuse, and either had a known intimate partner problem, an argument or a life crisis as a precipitating circumstance (data not shown).¹¹⁹

- Death by suicide is higher among sexual minority populations in SC, most notably among those identifying as female, with intimate partner problems, or with a life stressor or conflict as a precipitating circumstance.
- Smoking, substance misuse, and adverse childhood experiences are higher among sexual minorities in SC, and access to care and mental well-being are disproportionately lower.
- Efforts to collect data inclusively on all gender identities and sexual orientations are essential to better understand health inequities among LGBTQIA+ community members.

FIGURE 5.34

Mental Wellbeing, by Sexual Minority Status
Percent

Source: SC BRFSS, 2017-2021.

Note: Poor mental health questions only asked 2018-2020. Depression is “Ever told by a doctor, nurse, or other health professional that you had a depressive disorder (including depression, major depression, dysthymia, or minor depression)?” Poor mental health is 14 or more days in the past 30 days when mental health was not good.

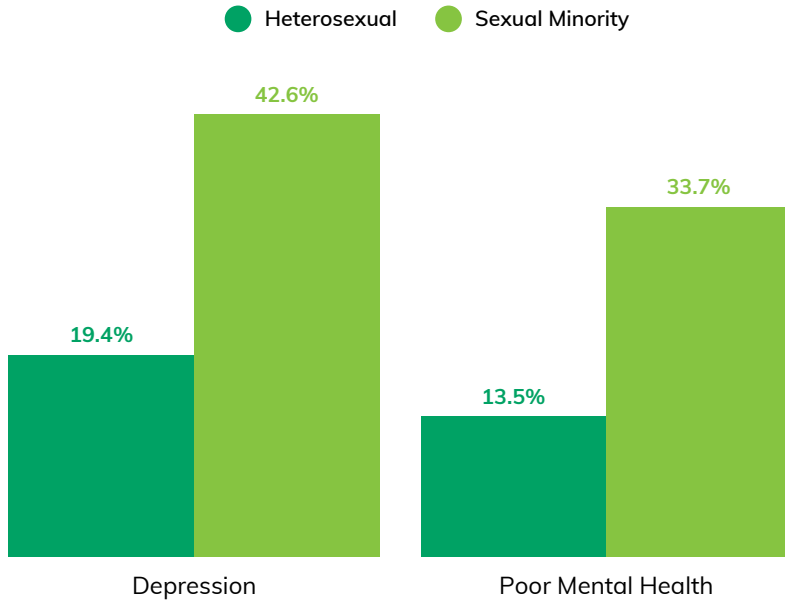


FIGURE 5.35

Access to Care, by Sexual Minority Status
Percent

Source: SC BRFSS, 2018-2020.

Note: 3 year estimates.

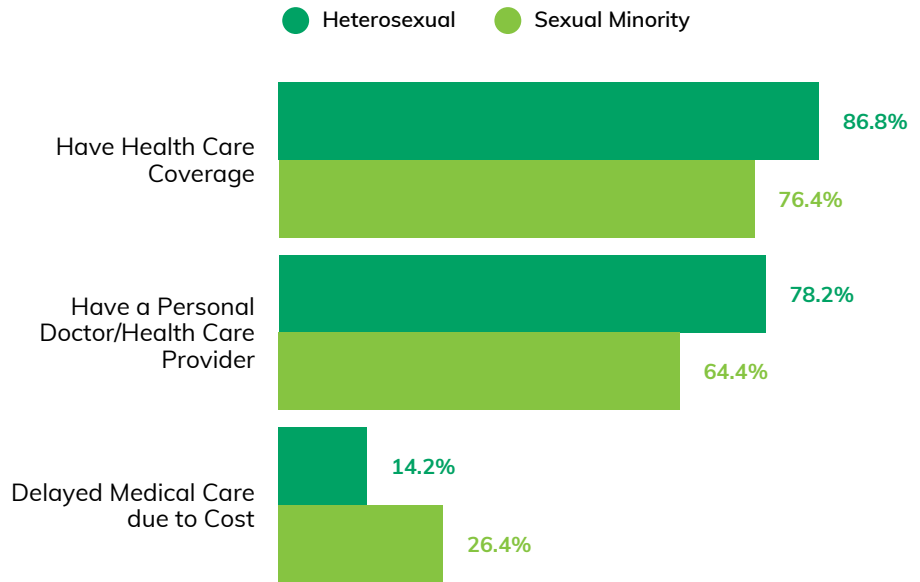
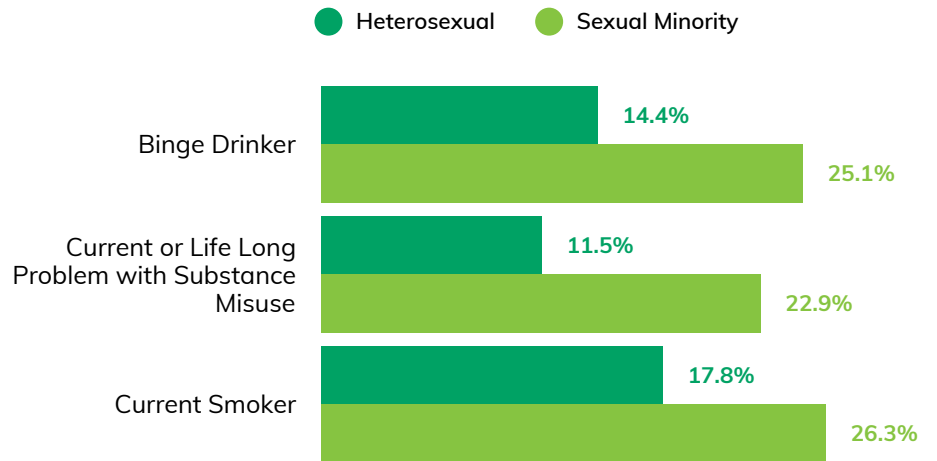


FIGURE 5.36

Smoking, Alcohol, and Substance Use, by Sexual Minority

Percent



Source: SC BRFSS, 2017-2021.

Note: Binge drinking and current smoking questions only asked 2018-2020.

Connecting the Dots/Summary

This chapter reinforces the importance of health equity and addresses the alarming health disparities experienced by diverse populations across SC. Addressing health disparities is not only important from an equity standpoint, but also for improving the state's overall health. By highlighting the specific challenges faced by rural populations, urban populations, people with low socioeconomic status, populations experiencing homelessness, those with disabilities, Indigenous populations, Veterans, and LGBTQIA+ individuals, this chapter underscores the need for targeted interventions and inclusive policies to achieve equitable health care and health outcomes for all.

Out of numerous health disparities, we chose to highlight four prevalent conditions in SC that adversely affect diverse populations. These conditions encompass diabetes, maternal mortality, infant mortality, and drug overdoses. These disparities are not new and reflect longstanding structural and systemic inequities, including structural racism and bias.

Implicit, discriminatory attitudes and behaviors restrict the access of many residents of color to better jobs, quality education, political power, healthy neighborhoods, and high-quality health care, and are a powerful contributing factor to the high negative outcomes experienced by many populations highlighted in this chapter.²³

By acknowledging and actively working to eliminate structural and systemic inequities, SC can build a more equitable health care system and improve the overall health and well-being of its residents. This can be accomplished by more inclusive policies, targeted interventions, stakeholder and community engagement, legislative and policy changes, investment in funding, and training in cultural humility. It is vital to develop culturally competent care, inclusive policies, and tailored interventions to address the specific needs of these populations. DHEC and The Alliance work to promote health equity, to create a society where everyone has an equal opportunity to live a healthy and fulfilling life, regardless of race, socioeconomic status, age, or circumstances.

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Healthy Communities



Neighborhood, Housing, & Employment

20.1%



of renters suffer from severe cost burden.

This means 50% or more of income is spent on housing and utility costs.

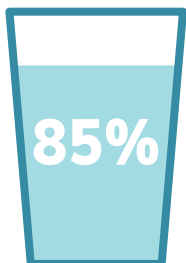
4%

of South Carolina adults were **unemployed** as of 2021, lower than national estimates.



More than 20.0% of adults did not engage in physical activity in 2021.

Environmental



85%

of South Carolinians depend on public water systems.

91% of consumers are provided water that meets all water quality standards.

South Carolina's **air is clean**, with most significant pollutants well below national standards.

Healthy Eating / Active Living

42%

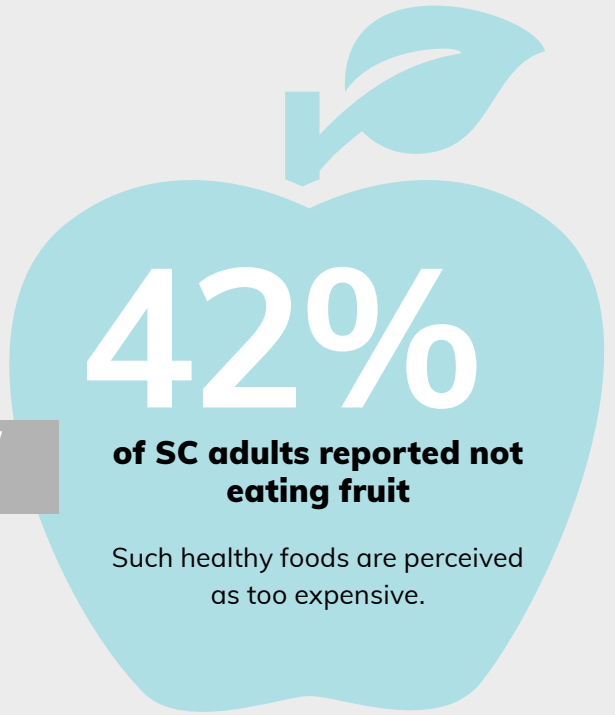
of SC adults reported not eating fruit

Such healthy foods are perceived as too expensive.

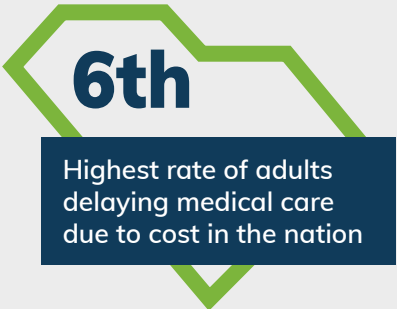
20.3% didn't eat vegetables



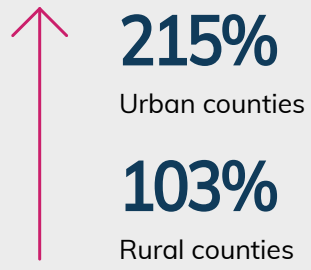
Nearly 1 in 5 Blacks experience **food insecurity**.



Access to Health Care



Increases in nurse practitioners since 2009

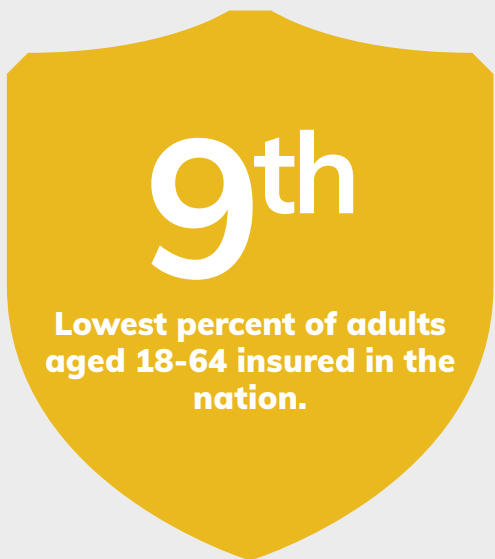


Hispanics and **Blacks** see the highest rates of delayed care in SC.



Urban counties have more than **twice as many** primary care physicians per capita than rural counties.

Blacks saw 2.1 times higher rates of avoidable emergency department visits than Whites.



Hispanics see a 25.6% lower rate of being insured.

COVID-19



of South Carolinians are fully vaccinated for COVID-19 as of 2022.

Neighborhood/Housing

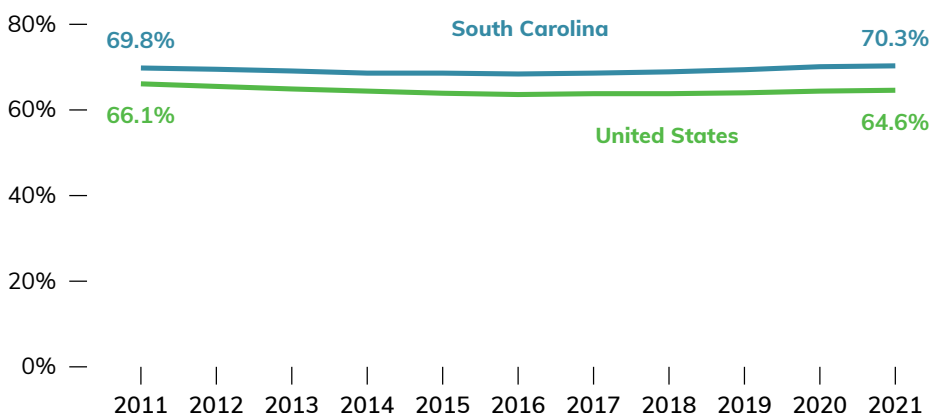
Communities in the United States (US) are currently facing a housing crisis associated with severe housing cost burdens, housing affordability, and lack of housing.¹ Housing affordability, residential stability and lack of neighborhood opportunity, a shared vision addressing the needs of the community to achieve equitable results for residents, generate barriers to accessing health care.² According to the National Low Income Housing Coalition this issue arises because severely cost-burdened, low-income renter households are more likely than other renters to delay health care and sacrifice on healthy food options, which can be more expensive, to pay the rent in addition to experiencing residential instability such as evictions. These factors make housing an important way through which health disparities in vulnerable populations and people with chronic conditions persist.¹

In 2021, nearly 1 in 3 housing units in SC comprised of renters. This large amount of renters coupled with unaffordability factors like high rent costs and severe cost burden creates a concern for vulnerable populations, those at greater risk for poor health status and health care access, having to sacrifice and/or delay health care due to cost. These high costs could also lead to homeowners and renters alike not being able to afford healthier food options or other protective health factors.

Data Interpretations: In 2021, 70.3% of South Carolina (SC) households were owner occupied, 8.8% higher than the national estimate of 64.6% (**Figure 6.1**). The rate of homeownership across the state and the nation has remained stable over the last 10 years. In 2021, SC had a median gross rent of \$970 (**Figure 6.2**). The state sees higher rental values along the coast and in more urban counties. Charleston County saw the highest median gross rent value of \$1,310, more than \$300 higher than the state median. Marlboro County saw the lowest median gross rent value of \$585. Severe renter burden is defined as households having to spend at least 50% of their income on rent and utilities or not having any income at all. In SC, 20.1% of renters suffered from severe renter cost burden in 2021 (**Figure 6.3**). The state had a wide range of severe renter cost burden from a low of 11.7% in Bamberg County to a high of 30.2% in Pickens County.

FIGURE 6.1

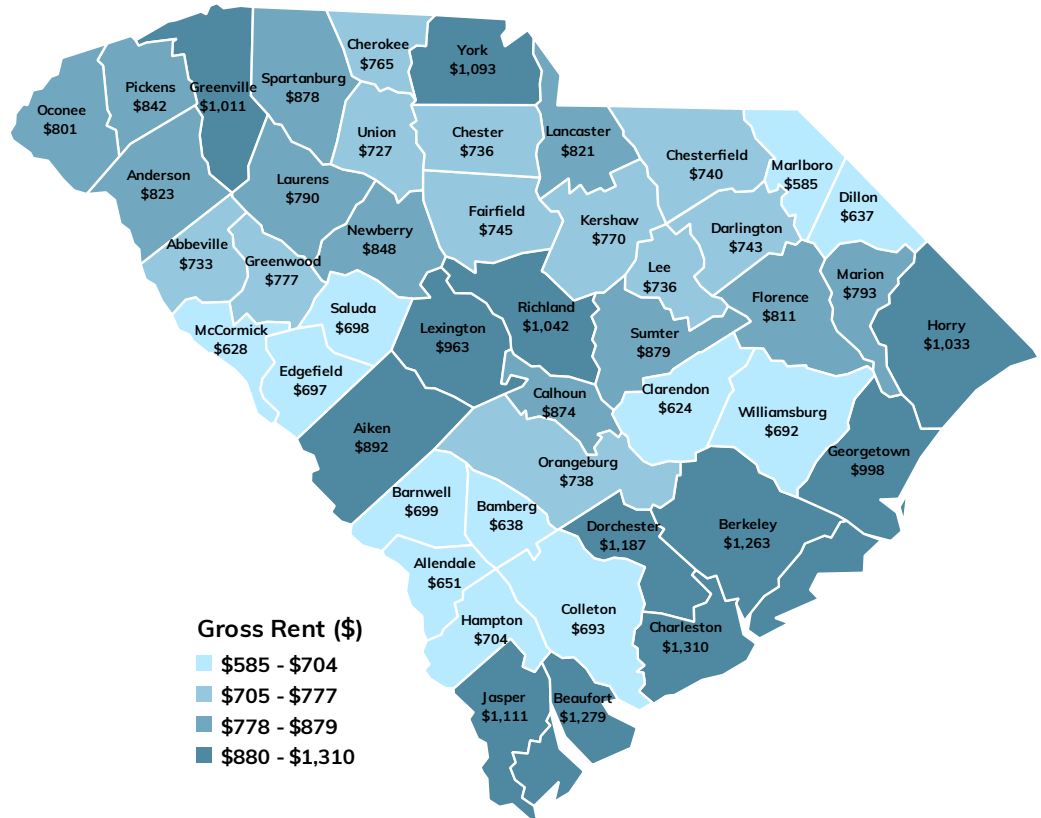
Homeownership Rate
Percent



Source: US Census Bureau: American Community Survey 5-Year Estimate.

FIGURE 6.2

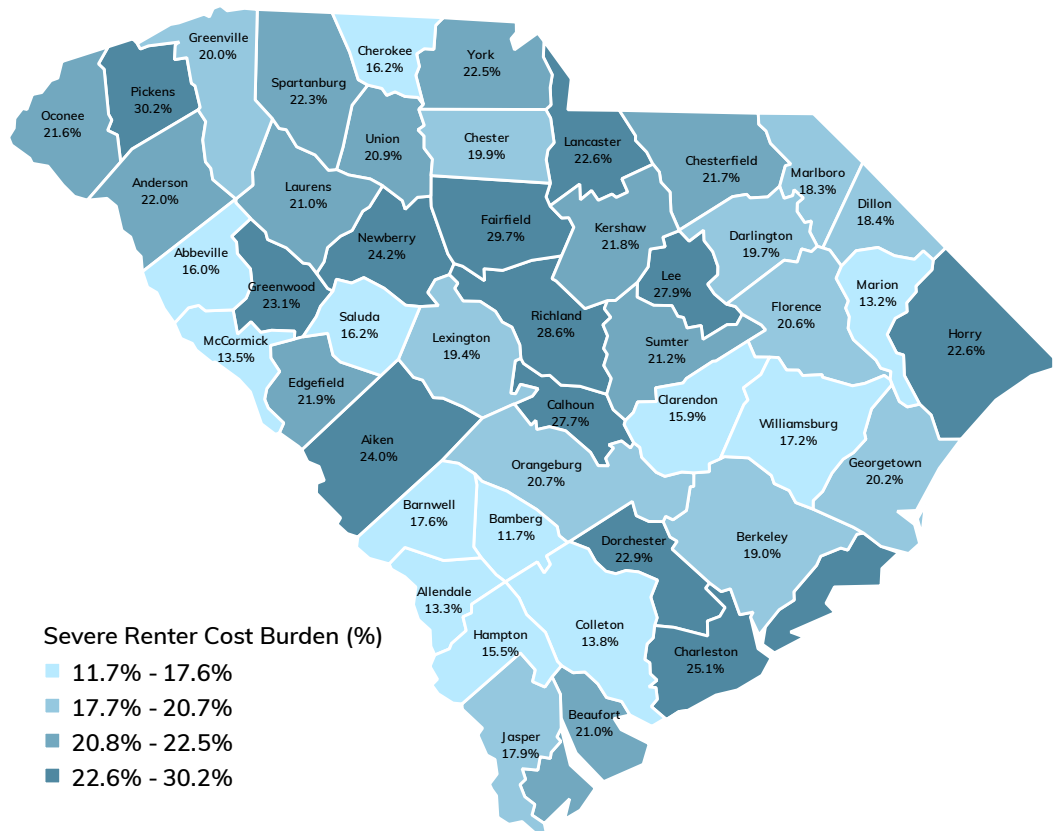
**Median Gross Rent
US Dollars (\$)**



Source: US Census ACS, 2021.

FIGURE 6.3

**Severe Renter Cost
Burden
Percent**



Source: US Census ACS, 2021.

Note: Represents households spending at least 1/2 of income on rent and utilities or not having any income at all.

Brownfields Redevelopment

The built environment in and around a community can affect how a community is viewed and how a community sees itself. Idle textile mills, an overgrown city dump, a former car-repair shop, an 1890s phosphate mine, and the old corner dry-cleaning plant all are examples of Brownfields that can impact a community and its residents.³


Brownfields are properties that have, or are perceived to have, environmental contamination.³ Even if contamination is never found, the stigma of a Brownfield site often extends beyond its boundaries, threatening the stability of entire neighborhoods. Brownfield sites often become legal, regulatory and financial burdens on the community and its taxpayers.⁴

Large and small Brownfield sites can be restored to beneficial use under the oversight of the South Carolina Voluntary Cleanup Program.⁵

Responsible Parties (RPs) and Non-Responsible Parties (NRPs) may enter into Voluntary Cleanup Contracts with the South Carolina Department of Health and Environmental Control (DHEC) and agree to perform environmental work tailored to the site and contamination to ensure safe reuse of the

property.⁵ NRPs can receive liability protection from State Superfund actions and from third-party lawsuits related to the pre-existing contamination.⁵

The Voluntary Cleanup Program provides an incentive for reuse and revitalization that can have a long-lasting impact on communities around abandoned, contaminated or underutilized sites.⁵



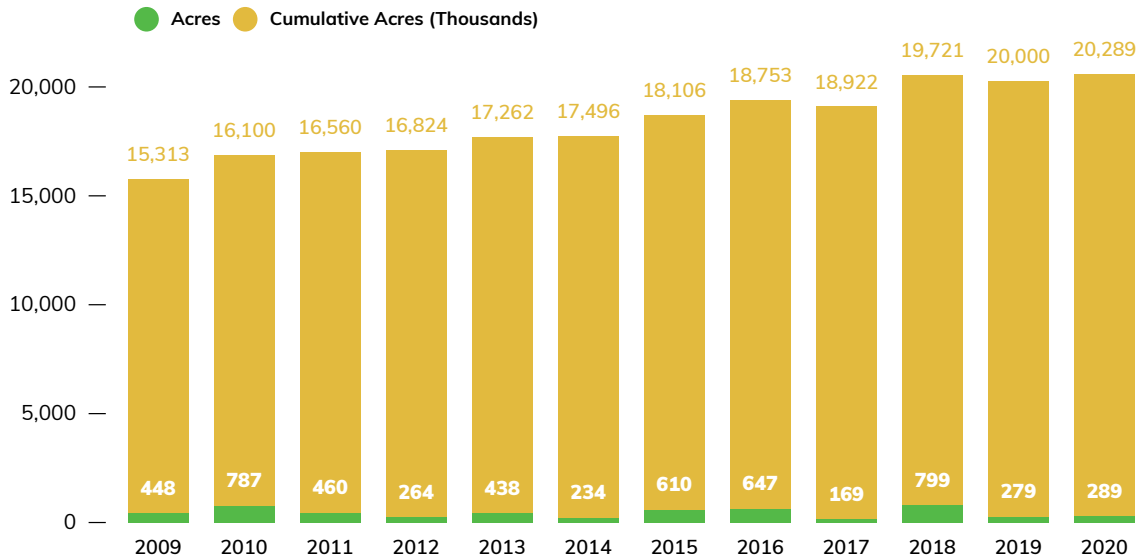
The health of a community is impacted by the physical conditions of local properties and the perceptions they create. Abandoned, blighted and potentially contaminated sites can be – and have been – tested, cleaned and revitalized to the benefit of the community with the assistance of the Voluntary Cleanup Program.

Data Interpretations: Since the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, was amended in 2002, more than 20,000 Acres of Brownfields in SC have been restored to beneficial use in the state (**Figure 6.4**). The line in the graph represents cumulative acreage gained since 2002.

FIGURE 6.4

Brownfield Areas Ready for Beneficial Reuse

Acres



Source : SC DHEC Brownfields / Voluntary Cleanup Program.

Crime

A safe and healthy community is often described as one where people know and trust their neighbors and have access to critical government services.⁶ Unfortunately, not every community and neighborhood has the same level of safety and resilience. It has been well documented that people exposed to violent crime see a variety of negative health effects, including increased risk for asthma, hypertension, cancer, stroke and mental disorders.⁷ Even people who are not directly impacted by the violence but live in areas of violence can experience long-lasting health effects including high blood pressure and increased potential for obesity, increasing the risk for cardiovascular disease.⁸ High neighborhood crime has also been associated with increased odds for adverse pregnancy outcomes.⁷ Higher violent crime rates in communities have also been shown to be related to reduced use of parks and lower physical activity levels.⁷ People living in areas with poor neighborhood safety and higher crime rates were also seen to have fewer large grocers, pharmacies and fitness resources within one mile of their home and lower health care use rates.⁹

Population groups do experience varying rates of crime, with lower-income and Black residents seeing higher rates.⁷ National estimates calculating the cost of crime see estimates upward of \$3.9 trillion, similar to the total amount spent on health care (\$3.8 trillion).¹⁰ Addressing exposure to crime in neighborhoods is necessary in reducing negative outcomes to individuals while increasing community health and well-being.⁷

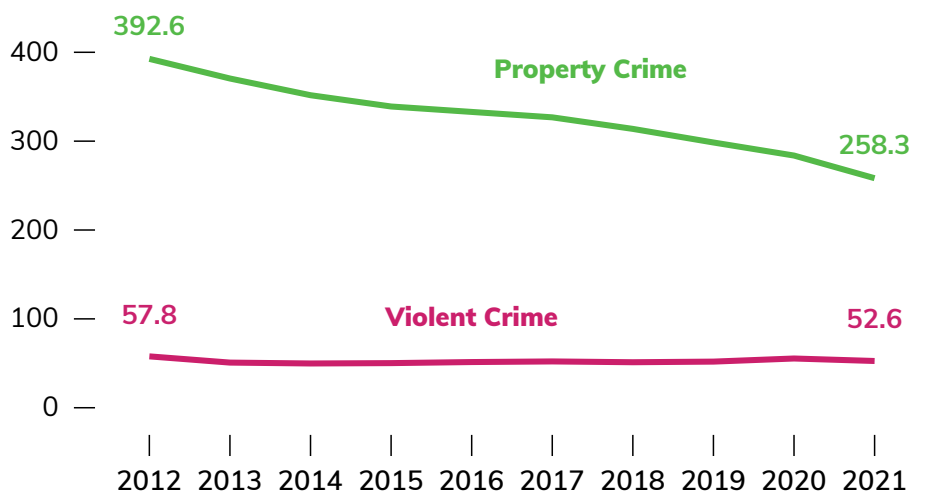
Violent and property crime rates have been decreasing in the state, although areas of high crime remain. Certain populations see disproportionately higher rates of crime including non-Hispanic Black residents and those living in rural areas.

Data Interpretations: Property and violent crime rates have decreased in SC over the past 10 years (Figure 6.5). Property crime rates, which included breaking and entering, motor vehicle theft, larceny, and arson, decreased 34.2% from a high of 392.6 per 10,000 population in 2012 to 258.3 per 10,000 population in 2021. In 2021, there were over 134,000 property crime offenses in the state, with larceny representing 73.3% of the total. Violent crime rates, including murder, sexual battery, robbery, and aggravated assault, also decreased, going from 57.8 per 10,000 population in 2012 to 52.6 per 10,000 population in 2021. Aggravated assault was the most common violent crime, representing 79.0% of the 27,300 violent crime offenses.

Violent crime rates vary across the state (Figure 6.6). Edgefield County has the lowest rate of violent crimes with a rate of 4.6 offenses per 10,000 population while Dillon County has the highest rate at 164.1 per 10,000 population. Counties along the I-95 corridor have experienced higher rates of violent crime compared to the state average. Nearly 80% of violent crime offenders were male, whereas only 60% of violent crime victims were male (Figure 6.7). Non-Hispanic Blacks saw disproportionately higher rates of being victims in homicide and aggravated assault crimes compared to their non-Hispanic White counterparts.

FIGURE 6.5

Crime in South Carolina Rate per 10,000 population

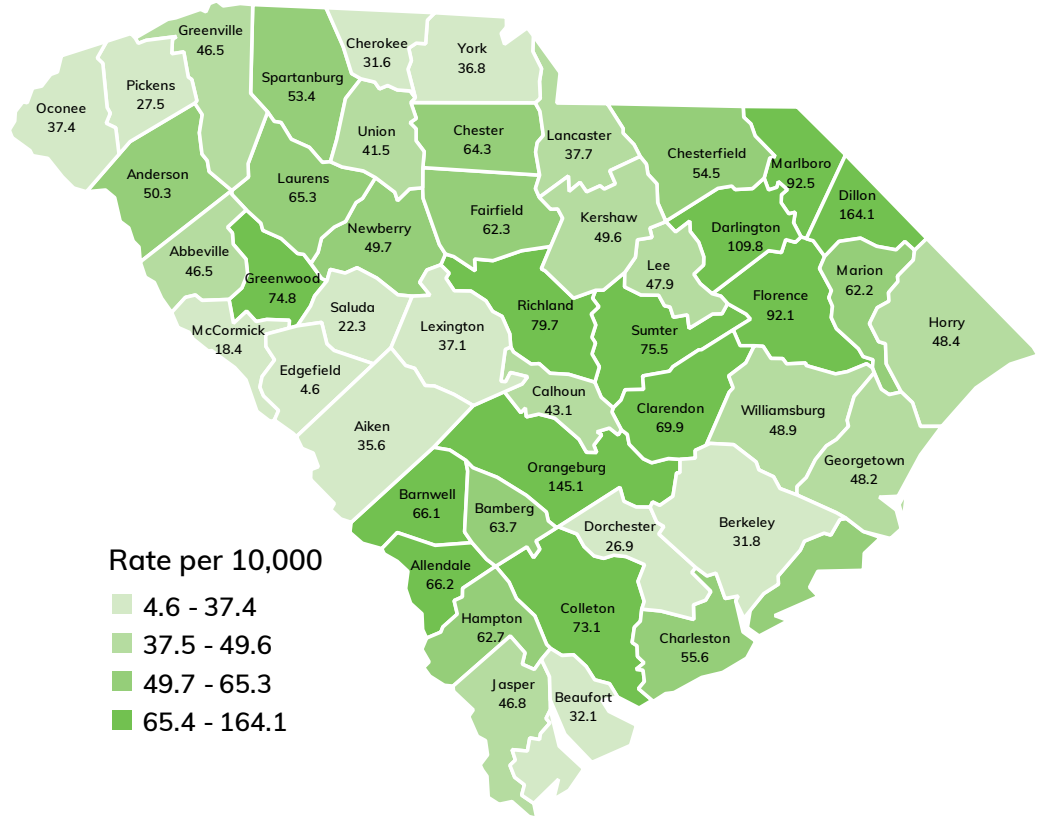


Source: SC SLED, Crime in South Carolina Book, 2021.

Note: Property crime includes breaking and entering, motor vehicle theft, larceny, and arson. Violent crime includes murder, sexual battery, robbery, and aggravated assault.

FIGURE 6.6

Violent Crime, by County
Rate per 10,000 population

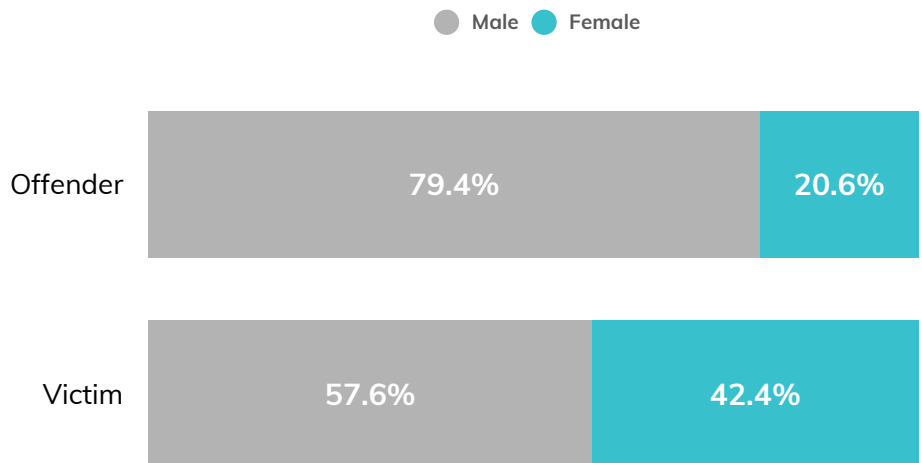


Source: SC SLED, Crime in South Carolina Book, 2021.

Note: Violent crime includes murder, sexual battery, robbery, and aggravated assault.

FIGURE 6.7

Violent Crime, by Sex
Percent




Source: SC SLED, Crime in South Carolina Book, 2021.

Note: Violent crime includes murder, sexual battery, robbery, and aggravated assault.

Employment

Economic stability is a key social determinant of health and employment plays an integral part in economic stability.¹¹ Employment security provides financial stability and can open more opportunities for accessing health care, obtaining more nutritious food, and even addressing mental health needs.¹¹ Transversely, a person's overall health and well-being can be severely harmed by job insecurity and economic changes.¹² Recent economic changes in SC included jobs lost during the COVID-19 pandemic and the ensuing recession in 2020, followed by job growth due to the economy's recovery in 2021. These economic changes can exasperate disadvantaged populations such as many living in rural areas that make up much of SC. Rural populations have seen harsh outcomes from unemployment during the COVID-19 pandemic, including lower overall life satisfaction, mental health, and economic outlook.¹³

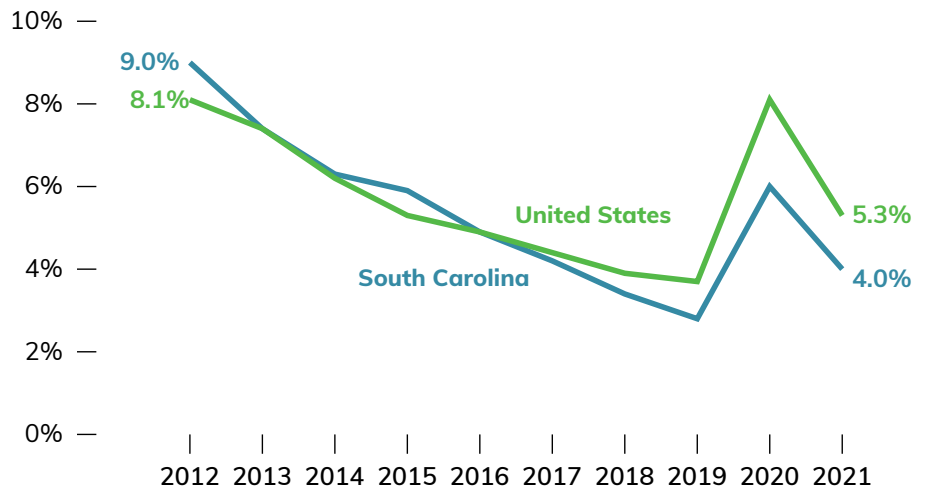


SC unemployment rates spiked in 2020 during the COVID-19 pandemic but have since decreased in 2021. Leading projected industry growth from 2020-2030 include arts, entertainment and recreation, accommodation and food services, and real estate/rental/leasing. With an increasing workforce it is important that SC workers have financial and employment stability including health care coverage, parental leave, and paid days off.

Data Interpretations: SC had seen a steady decrease in unemployment rates from 2012 until COVID-19 related increased unemployment rates in 2020 (**Figure 6.8**). In 2021, both SC and the US saw unemployment rates decreasing since the COVID-19 peak of 2020. In 2021, SC saw an unemployment rate of 4.0%, lower than national estimates (5.3%). Most of the state's residents work and live in the same county (70.9%), but 23.9% travel outside of their county of residence to work (**Figure 6.9**). An additional 5.2% of SC employees travel outside the state to work. There have been benefits shown for living and working in the same geographic area, including shorter commutes for workers, decreased congestion, lower air quality impacts, nurturing greater social and economic diversity, and building a sense of cohesion within the community. SC is a growing state and as such, industries are growing. The top 10 industries that are projected to grow the most in SC from 2020-2030 include arts, entertainment and recreation, accommodation and food services, and real state/rental/leasing (**Figure 6.10**). These top industries all speak to the great hospitality the Palmetto State has to offer.

FIGURE 6.8

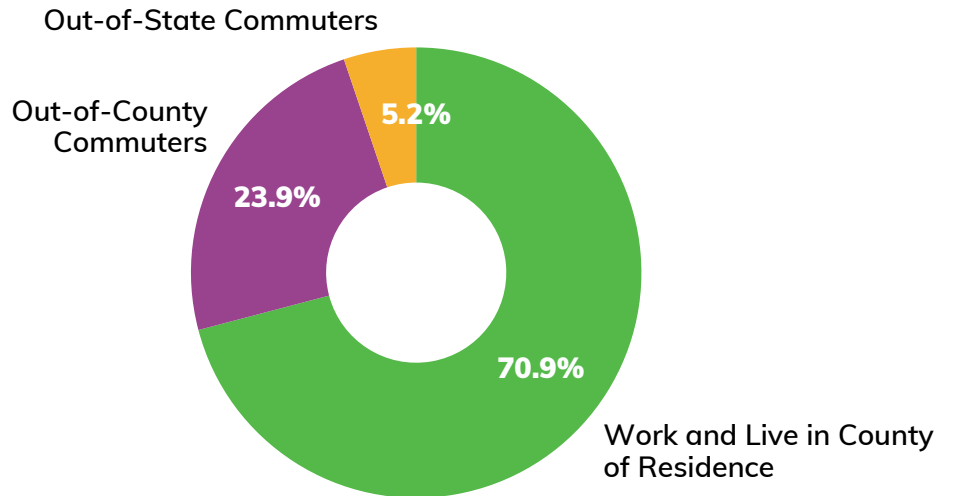
Unemployment Rate
Percent



Source: SC Department of Employment & Workforce.

FIGURE 6.9

Place of Work
Percent

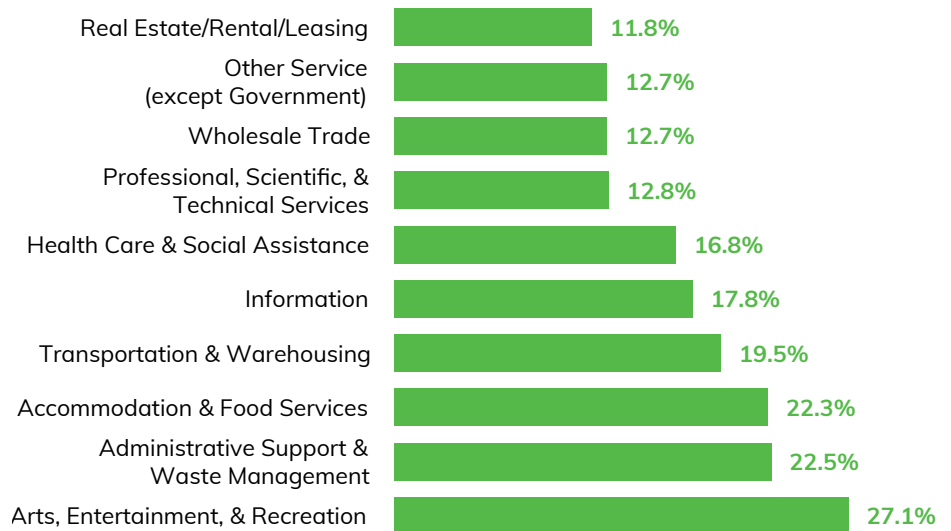


Source: US Census Bureau: American Community Survey 5-Year Estimates, 2021.

FIGURE 6.10

Top 10 Labor Market Projections from 2020-2030, by Industry Type

Percent Change



Source: SC Department of Employment & Workforce.

Food Insecurity and Food Deserts

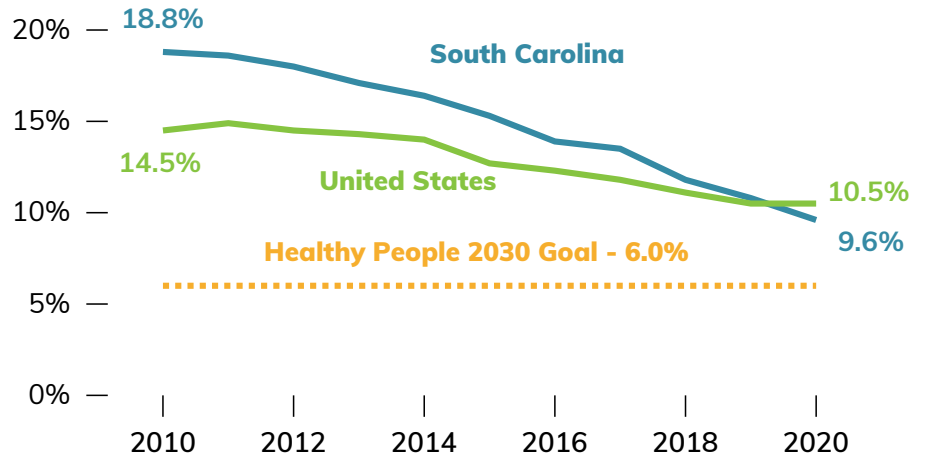
Food insecurity is defined by the United States Department of Agriculture (USDA) as reported reduced quality, variety or desirability of diet and may be in combination with reports of disrupted eating patterns and reduced food intake.¹⁴ Food insecurity is a social and economic issue because key drivers of food insecurity are unemployment, poverty and income, which can make it harder to afford food.¹⁵ Very high-food insecure households in the US suffer the most with 67% reporting they had been hungry but did not eat because they could not afford enough food, according to the USDA 2021 Current Population Survey Food Security Supplement.¹⁴ Households experiencing any level of food insecurity tend to use health care more and face significantly higher annual health care expenses compared to food secure households.¹⁶

While SC's food insecurity rate has decreased in the past 10 years, people who are Black and Hispanic see 2.7- and 2.0-times higher food insecurity rates than their non-Hispanic White counterparts and 39 out of 46 counties in SC contain a food desert.

Data Interpretations: The state’s food insecurity rate has decreased from 18.8% in 2010 to 9.6% in 2020 (Figure 6.11). 2020 was the first year where SC saw a lower food insecurity rate compared to the nation as a whole. As of 2020, both SC and the US have not met the Healthy People 2030 Objective of only 6.0% of the population having food insecurity. Thirty-nine of 46 counties in SC have a food desert located within them (Figure 6.12). The areas highlighted represent census tracts in the state that are considered food deserts, meaning tracts with low-income and low access to food outlets. People who are Black (all ethnicities) and Hispanic (any race) have a 2.7- and 2.0-times higher food insecurity rate than non-Hispanic Whites (Figure 6.13). Nearly 1 in 5 Black South Carolinians experience food insecurity. Both Blacks and Hispanics also see higher rates of overall food insecurity in SC.

FIGURE 6.11

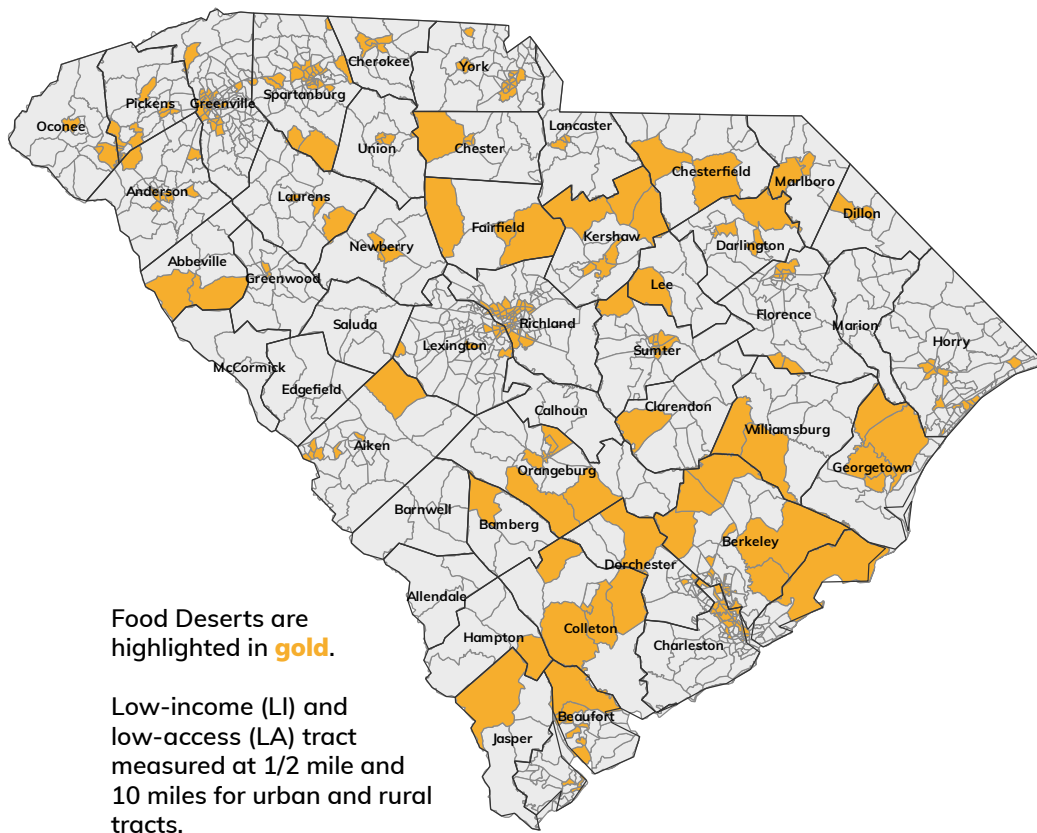
Food Insecurity Rate
Percent



Source: Feeding America Mapping the Meal Gap.

FIGURE 6.12

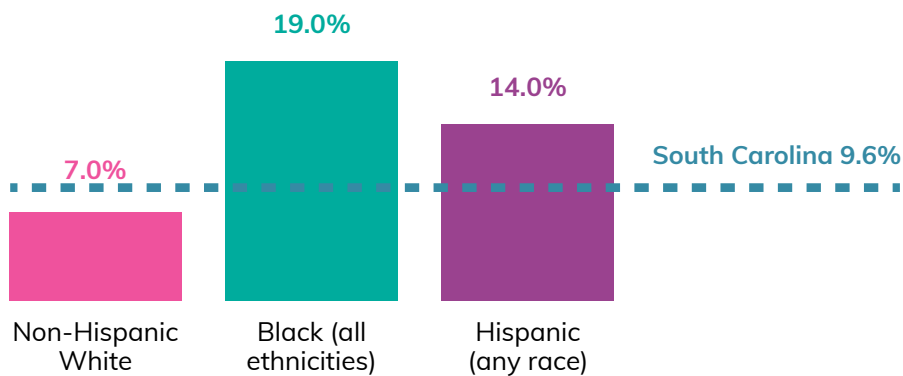
Food Desert Map



Source: US Department of Agriculture (USDA) Economic Research Service Food Access Research Atlas, 2019.

FIGURE 6.13

Food Insecurity Rate, by Race/Ethnicity
Percent



Source: Feeding America Mapping the Meal Gap.

Healthy Eating

Access to nutritious foods has a major impact on the health, well-being and quality of life of those living in SC. Food access is important to food security, which is having consistent access to enough nutritious foods for a healthy, active life. In SC, an estimated 1 in 10 people, and 1 in 7 children, face hunger.¹⁷ Developing policies and creating environments that make healthier choices easier and less expensive help with preventing costly chronic conditions such as obesity, diabetes and high blood pressure.

While food insecurity rates have decreased in SC over the past 10 years, inequities among Black and Hispanic populations continue to exist.¹⁸ People with low income and rural and vulnerable populations often face barriers to accessing nutritious foods. The color of

our skin, our economic status and where we live should not determine how long or how well we live.

People with low income and rural and vulnerable populations often face barriers to accessing nutritious foods. The color of our skin, our economic status, and where we live should not determine how long or how well we live.

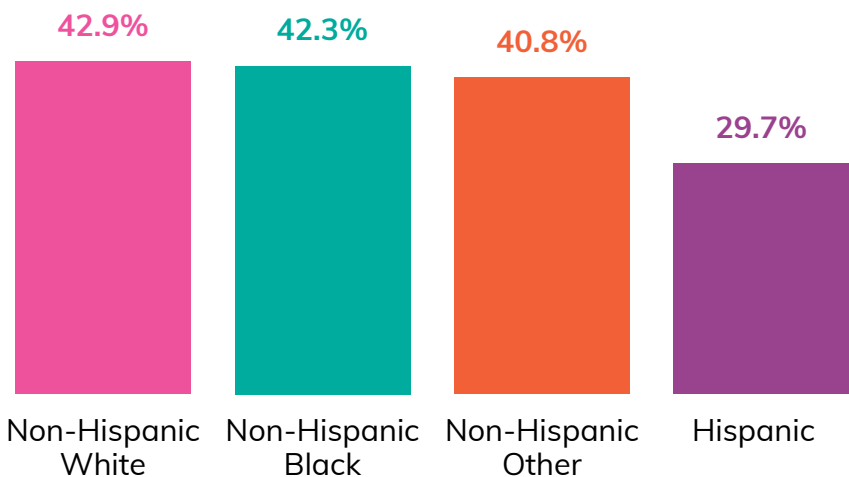
Data Interpretations: In SC, the percent of adults who did not eat fruit at least once a day was 42.0% in 2021, slightly higher than the national median of 40.8%. Non-Hispanic White adults (42.9%) reported the highest percent of not eating at least one serving of fruit a day compared to other race and ethnicity groups (Figure 6.14). Males (43.3%) had a higher prevalence of not eating fruits than females (40.8%). Younger adults ages 18-24 (46.3%) had the highest prevalence of not eating a serving of fruit daily.

In SC, adults consume more vegetables than fruit with 20.3% reported that they do not eat at least one serving of vegetables daily, higher than the national median at 19.7% in 2021. Similar to fruits, younger adults ages 18-24 (40.5%) had the highest prevalence of not eating a serving of vegetables daily. Adults with less than a high school graduation (33.4%) had the highest prevalence of not eating a serving of daily vegetables (Figure 6.15).

The results from the Community Health Needs Assessment (CHNA) indicate the top three reasons that prevent communities from eating healthy foods were price, not knowing how to eat healthy foods, and eating fast food regularly (Figure 6.16).

FIGURE 6.14

Adults Who Did Not Eat Fruit at Least Once a Day, by Race/Ethnicity
Percent



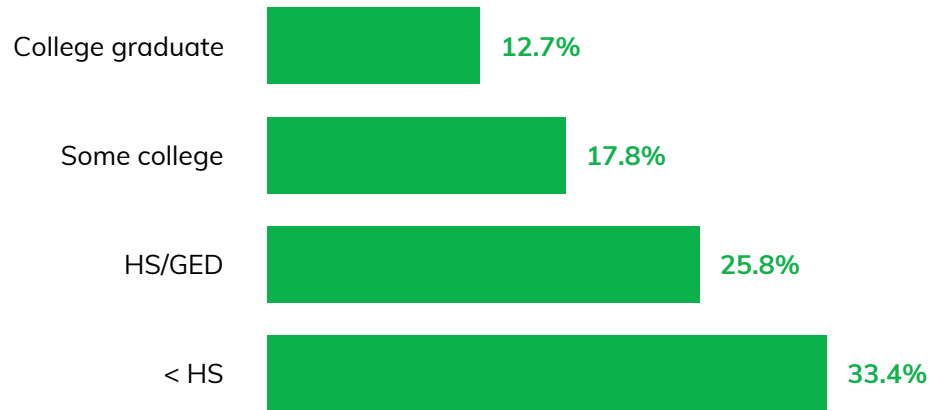
Source: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 6.15

Adults Who Did Not Eat Vegetables at Least Once a Day, by Education

Percent

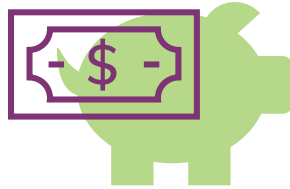


Source: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 6.16

Top Reasons for Not Eating Healthy Foods



NO. 1

Too Expensive



NO. 2

Don't Know How to Eat Healthy



NO. 3

Eat Fast Food Regularly

Source: Community Health Needs Assessment Survey, 2022.

Note: Responses as of December 31, 2022.

Physical Activity

Access to safe, conveniently located, free places to be physically active has a major impact on the health, well-being, and quality of life of those living in SC. Where people live shouldn't determine how well or how long they live, but in many communities, there are persistent barriers to health and opportunities to thrive. Rural communities in SC tend to have fewer places to be physically active compared to urban communities.

All South Carolinians, regardless of where they live or how much money they make, should have the same opportunities to engage in a physically active, healthy life. Developing policies and creating environments

that make healthy choices, like being physically active, easier and less expensive supports SC in preventing costly chronic health conditions, such as obesity, diabetes, and high blood pressure.

All South Carolinians, regardless of where they live or how much money they make, should have the same opportunities to engage in a physically active, healthy life.

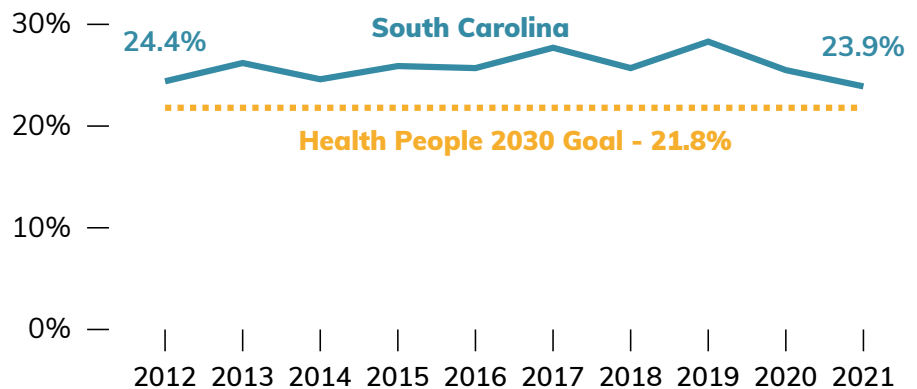
Data Interpretations: More than 20% of adults did not engage in any physical activity in 2021 (23.9%; **Figure 6.17**). The prevalence of no leisure-time physical activity in SC remained above the Healthy People 2030 target of 21.8% and higher than the national median of 23.7%. Females (25.9%) had a higher prevalence of physical inactivity than males (21.7%). Hispanic adults (32.6%) had a higher prevalence of physical inactivity than non-Hispanic Blacks (28.2%) and non-Hispanic Whites (21.5%). Those adults with less than a high school education (44.0%) was less physically active than those with a high school degree or more (**Figure 6.18**).

The prevalence of adults who met physical activity guidelines for both aerobic and muscle training increased from 18.9% in 2011 to 23.1% in 2019 and had not met the Healthy People 2030 objective of 29.7% (**Figure 6.19**).

The results from the Community Health Survey Assessment indicate that the top three reasons that prevent their community from being physically active were personal choice, not enough sidewalks or bike lanes, and safety (**Figure 6.20**).

FIGURE 6.17

No Leisure-Time Physical Activity Among Adults
Percent

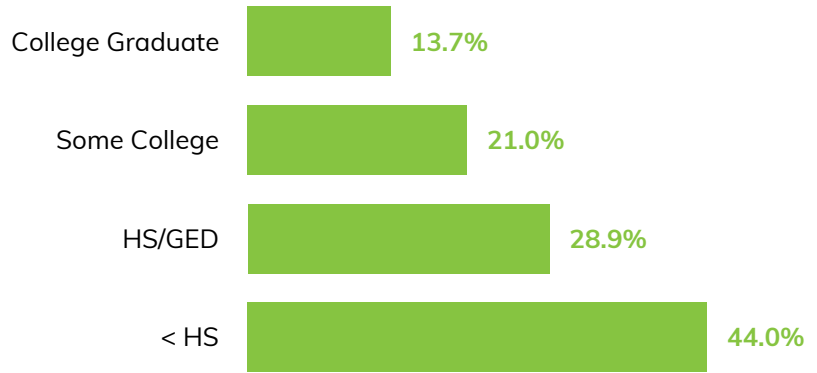


Source: SC BRFSS.

Notes: Adults 18+, age-adjusted.

FIGURE 6.18

No Leisure-Time Physical Activity Among Adults, by Education
Percent

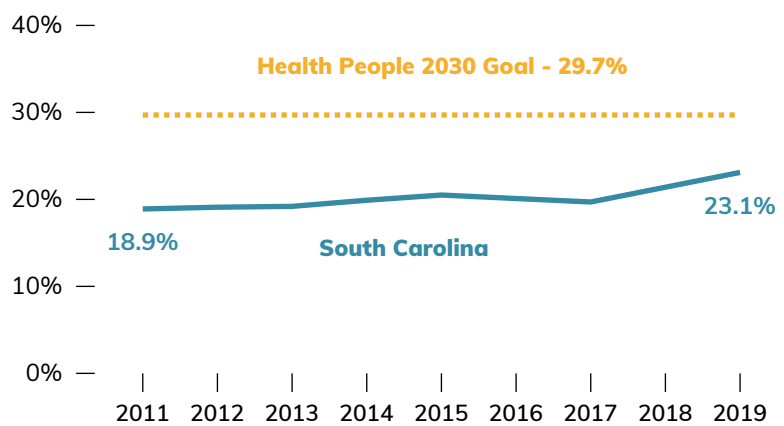


Source: SC BRFSS, 2021.

Notes: Adults 18+, age-adjusted.

FIGURE 6.19

Adults Who Met Physical Activity Recommendations
Percent




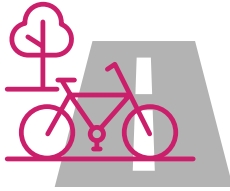
Source: SC BRFSS.

Notes: 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 6.20

Top Reasons that Prevent People in Community from being Physically Active

NO. 1

Personal Choice

NO. 2

Not enough Sidewalks or Bike Lanes

NO. 3

Safety

Source: Community Health Needs Assessment Survey, 2022.

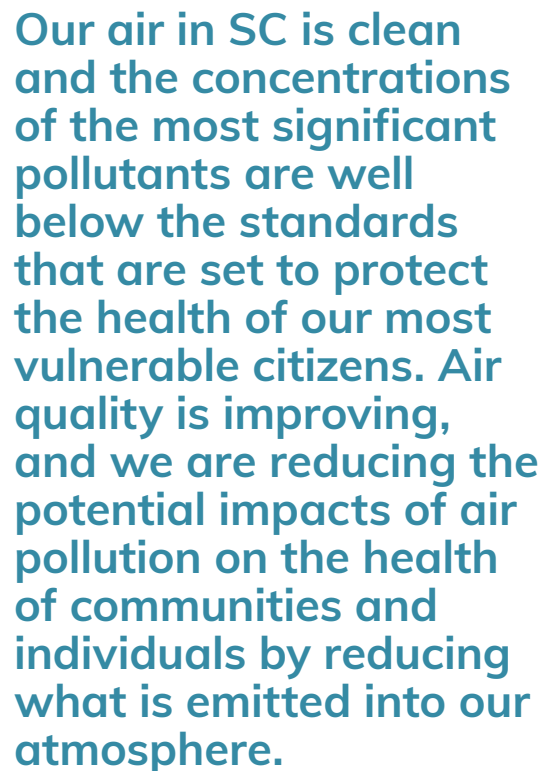
Note: Responses as of December 31, 2022.

Air Emissions

The passing of the Clean Air Act (CAA) of 1970 marked a major shift in efforts to reduce air pollution.¹⁹ The CAA required that criteria or standards be set for the ambient concentrations of the six air pollutants that were recognized to have the greatest impact on the health of Americans.²⁰ Those pollutants were contributors to a wide range of respiratory and cardiovascular diseases.²¹ Primary standards were set for each of the pollutants to protect the most sensitive individuals, and those standards are regularly reevaluated based on the latest science.¹⁹

Two measures of air quality improvement are pollutant concentrations in ambient air across the state and the amount of emissions that contribute to those concentrations. Data collected by the statewide ambient air monitoring network has shown that the air quality in SC has, for many years, met all protective standards everywhere measured.²² Air Quality measurements continue to document improvement.

An inventory of emissions from the sources of the pollutants, indicates that even as the population grows and industry expands, the impact on air quality is being reduced by cleaner cars, more efficient processes and better pollution control technology.²³ Although ambient pollutant concentrations in SC are lower than the National Ambient Air Quality Standards (NAAQS), reducing potential for impact to health, there are variations in exposure. Air tends to be cleaner on the coast than in the upstate and urban areas tend to have higher concentrations of pollutants than rural areas.²⁴ This is likely due to higher concentrations of mobile sources (cars and trucks) and busier roads.²⁴ Communities near heavily traveled roadways are often closest to this significant source and most at risk for negative health effects associated with potential exposures.



Our air in SC is clean and the concentrations of the most significant pollutants are well below the standards that are set to protect the health of our most vulnerable citizens. Air quality is improving, and we are reducing the potential impacts of air pollution on the health of communities and individuals by reducing what is emitted into our atmosphere.

Data Interpretations: The DHEC Air Program collects emissions data from facilities and provides information used to calculate the mobile source emissions that make up SC's contribution to the National Emissions Inventory (NEI). The US Environmental Protection Agency (EPA) publishes the comprehensive NEI every three years. The figure illustrates the decreasing emissions in four of the six criteria pollutants in SC over the past decade (**Figure 6.21**). Particulate emissions are split into greater and less than 2.5 microns in size to clarify the contribution of the fine particles that are most impactful to health outcomes. All illustrated pollutants are related to combustion of fuels. Carbon monoxide was the most detected pollutant while sulfur dioxide was the least detected.

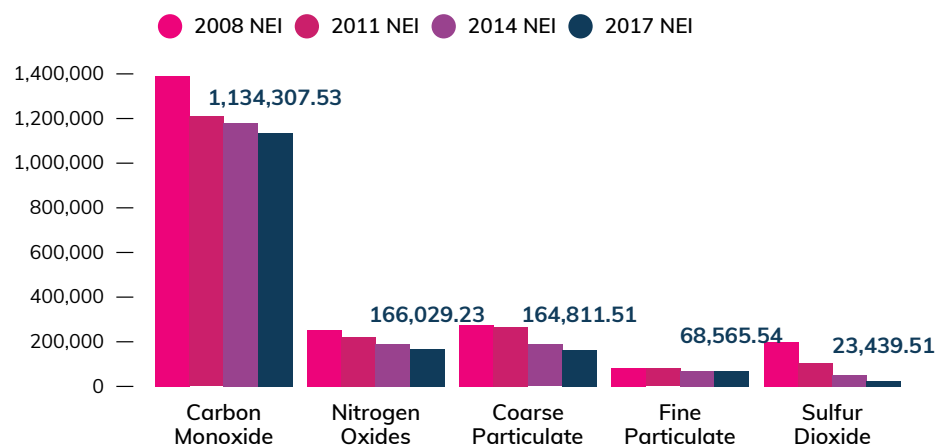
The two criteria pollutants not illustrated are lead and ozone.

Lead emissions decreased dramatically in the 1970s when it was removed from gasoline, and current totals would not be visible on the scale necessary for the combustion-related emissions. Today, greater than 80% of the lead emissions in SC are attributed to aircrafts. Aviation gasoline used in piston engine aircraft remains the only transportation fuel that contains lead.

The last criteria pollutant, ground level ozone, is not emitted by facilities or cars, but is created in the atmosphere by chemical reactions driven by sunlight and the presence of nitrogen oxides and volatile compounds. Reducing the emissions of volatile compounds and nitrogen oxides from cleaner mobile sources and from facilities helps us continue to meet the ambient standards for ozone.

FIGURE 6.21

Criteria Pollutant Air Emissions Tons



Source: US EPA National Emissions Inventory.

Ambient Water

Ambient water is defined as natural, untreated water in rivers, lakes, and groundwaters. It is DHEC's goal to maintain and improve the quality of all surface waters (rivers, lakes, and estuaries) to ensure the survival and propagation of a balanced aquatic community of plants and animals and to provide for recreation in and on the water.²⁵ Good water quality means safe use which can

impact physical activity and healthy eating whereas bad water quality can lead to illness. This ideal water quality is often described as fishable and swimmable waters. It is also a goal to provide for drinking water after conventional treatment, shellfish harvesting, and industrial and agricultural uses. Recognizing the difficulty in restoring water quality, DHEC emphasizes

a preventive approach in protecting waters of the state. DHEC monitors statewide water quality to:²⁶

- Characterize water quality at monitoring locations,
- See if water quality standards are met,
- Identify locations in need of extra attention,
- Determine long-term water quality trends,
- Provide background data for permitting, modeling, planning, evaluation of stream classifications and standards, and
- Help formulate permit limits for wastewater discharges with the goal of maintaining state and federal water quality standards and criteria in the receiving streams.

Every two years, DHEC uses the most recent five years of data to develop a list of impaired waterbodies. This requirement comes from Section 303(d) of the Clean Water Act, so it's commonly referred to as the 303(d) list.²⁶ When water quality has attained the standards or a Total Maximum Daily Load (TMDL) has been developed, the waterbody may be removed from the list.²⁶

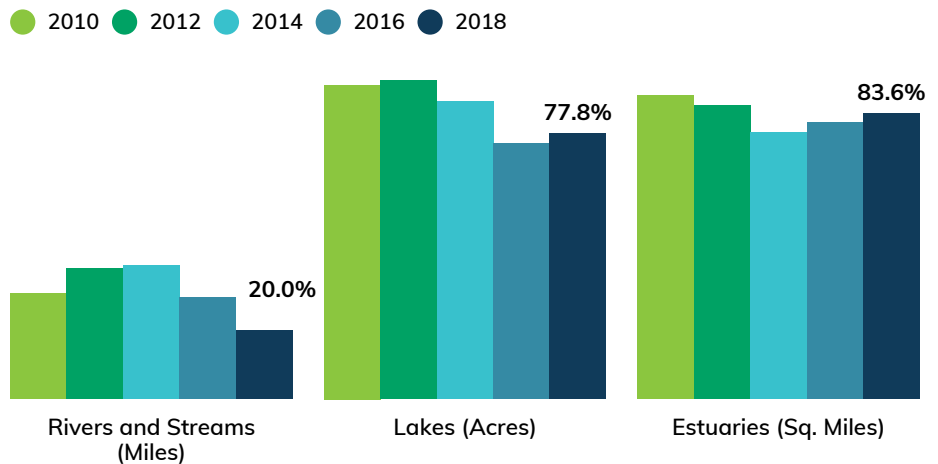
A TMDL – the amount of a single pollutant (such as bacteria, nutrients or metals) that can enter a waterbody on daily basis and still have it meet water quality standards – is determined by assessing all the point and nonpoint sources for the pollutant causing the impairment and determining the reduction necessary to meet water quality standards.²⁶ Implementation of a TMDL has a potential to reduce sources of pollution impacting a watershed and ultimately restore the full use of the waterbody.

Access to safe drinking water is essential to human health. DHEC administers and enforces drinking water quality standards and regulations by working with public water systems to keep our drinking water safe.²⁷

Data Interpretations: The figure illustrates the percentage of the miles of streams, acres of lakes and square miles of South Carolina’s coastal estuaries that monitoring indicates meet all the fishable and swimmable standards. Also illustrated are the trends in the indicator as reported in previous 303(d) lists. (Figure 6.22).

FIGURE 6.22

Aquatic Life and Recreational Use Fully Supported
Percent Fully Supporting



Source: State of South Carolina Integrated Reports Part II.

Drinking Water

Access to safe drinking water is essential to human health. DHEC administers and enforces drinking water quality standards and regulations by working with public water systems to keep our drinking water safe.²⁷

Almost 85% of South Carolinians depend on public water systems (PWS) for clean, safe water. PWSs include community systems serving towns or cities, non-transient non-community systems like schools or factories, and transient non-community systems that provide drinking water to areas like rest stops or parks.²⁸ In 2022, these critical systems provided drinking water to over 4.4 million South Carolinians. Most of the population is served by systems using surface water sources (rivers, lakes and streams) and about 14% of those served by systems using groundwater sources.

To ensure water quality, PWSs are required to maintain their systems, test water quality and report contaminants in the water they provide.²⁹ National Maximum Contaminant Levels (MCLs) have been set for some contaminants.³⁰ For others, Treatment Techniques (TT) may be required to control unacceptable concentrations.³⁰ All the systems are required to regularly test for, and report concentrations of contaminants to DHEC and their customers.²⁹

Each quarter, DHEC submits data to the EPA's Safe Drinking Water Information System (SDWIS/FED).³¹ The data submitted includes violations of MCLs, Maximum Residual Disinfectant Level (MRDL), Monitoring (M), Reporting (R) and TT violations.³¹ The reporting helps ensure that the water provided by these systems continues to meet the quality standards that protect the health of communities.³¹

The reliable availability of clean water is critical to protect the health of communities and individuals. The incidence of health-related violations (a violation of an MCL or a TT requirement) is an important indicator of the quality and safety of this important resource.

Regular testing and response to violations by notification of consumers, retesting, investigation and resolution are critical to ensuring that consumers can trust the quality of the water they are supplied.

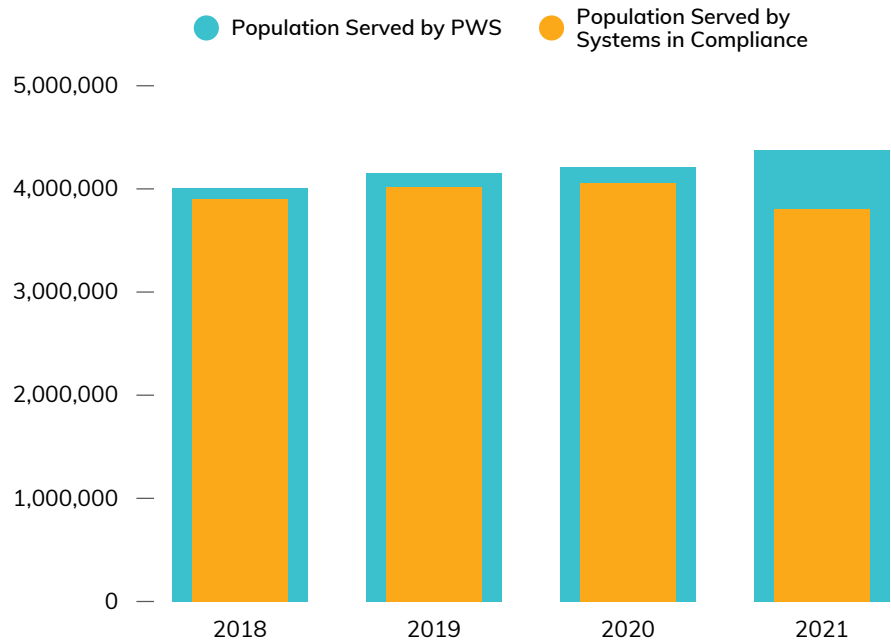


National standards, DHEC oversight and the state's PWS work together to provide clean, safe water to consumers.

Data Interpretations: The residents served by PWSs meeting all health-based standards shows that typically, better than 91% of consumers on PWSs are provided water that meets all water quality standards, all the time (**Figure 6.23**). The decrease observed in 2021 was due to two large systems experiencing standard violations for required parameters. The response of those systems to the detection, which included re-sampling, a comprehensive investigation and corrective action, is illustrative of the effectiveness of the systems in place to protect drinking water quality.

FIGURE 6.23

Residents Served by Public Water Systems Meeting All Health Based Standards Number



Source: SC DHEC Annual State Public Water System Annual Reports.

Solid Waste

Solid waste is any material that we discard. Total solid waste that must be managed includes automobile bodies, combustion ash, construction and demolition debris, industrial process waste, land-clearing debris, natural disaster debris, processed waste tires, and other material.³² The more-familiar Municipal Solid Waste (MSW) includes the “everyday” items that are discarded from residential, commercial, institutional and industrial sources.³² Management of solid waste is necessary to protect our communities and the environment through the collection, transport, storage, treatment, disposal, and recovery of solid waste.

The management of solid waste imposes costs on our communities and the environment. SC has set goals to reduce MSW generation to 3.25 pounds per person per day and to recycle at least 50% of the MSW generated.³² Progress towards these goals has been slow. Although 2022 was the 13th consecutive year that South Carolinians recycled more than 1 million

pounds of MSW, South Carolinians are on average still generating over 5 pounds of waste per day.³²

Reduction of waste reduces costs to our communities, the environment and natural resources. Effective recycling programs can help defray the costs of solid waste management.

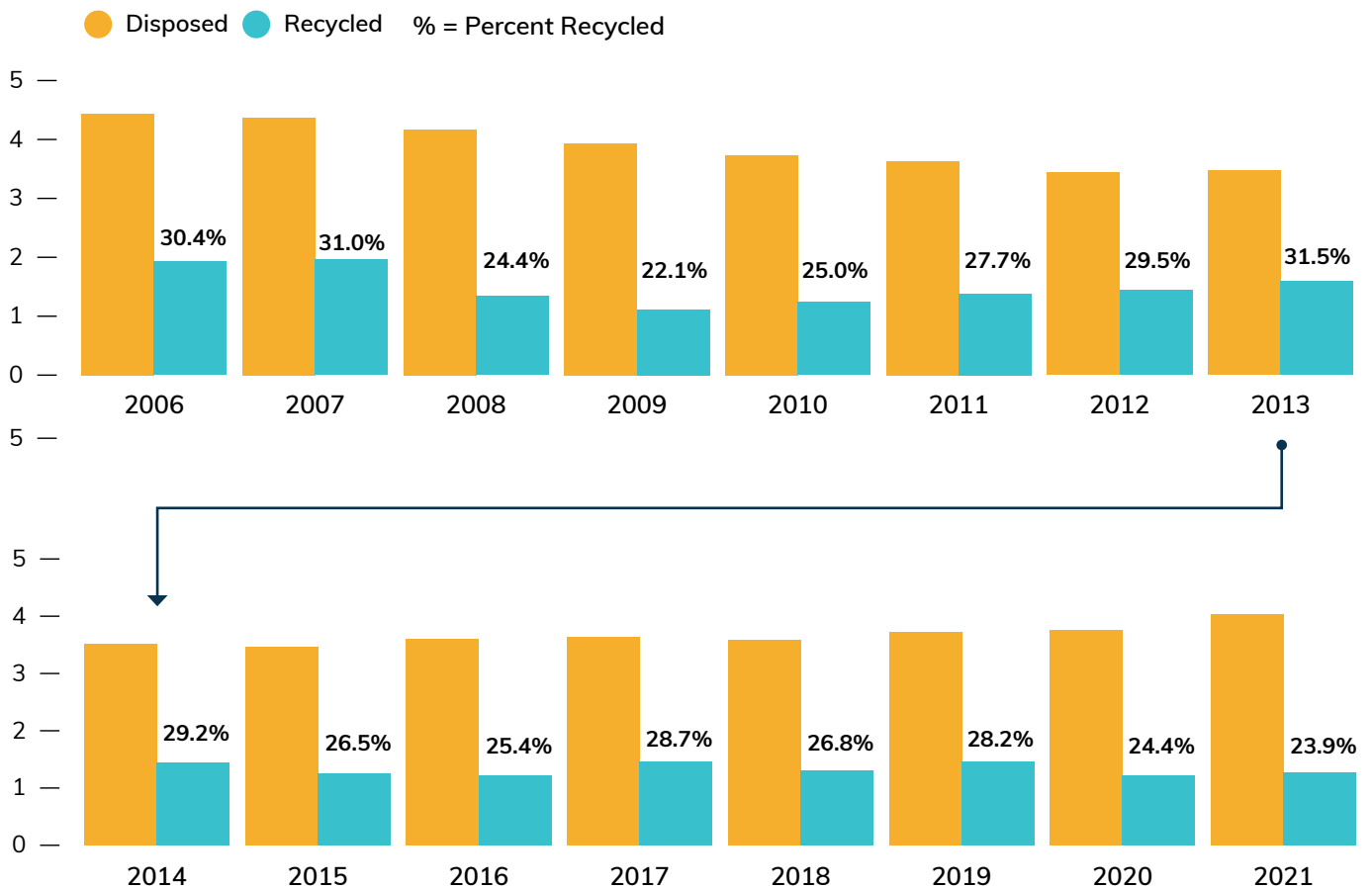
Individuals and communities can take steps to reduce the amount of waste produced and increase that portion of waste they recycle. Collective small actions can provide benefits to the environment and help reduce the necessary cost of safely managing the waste we cannot reuse.

Data Interpretations: The data illustrated shows the rate of waste generation has been relatively constant over the past decade, whereas the proportion of the waste ending up in landfills is slowly increasing (Figure 6.24).

FIGURE 6.24

Disposed and Recycled Waste

Pounds per person per day



Source: SCDHEC Solid Waste Management Annual Report.

Health Insurance

Health insurance helps cover the cost of a person’s medical and surgical expenses.³³ People obtain health insurance through a variety of private and public sources, such as through one’s employers or specialized programs such as Medicare, Medicaid and Veterans Affairs.³⁴ Having access to health insurance is critical as those who are uninsured or underinsured receive less medical care, less timely care, have worse health outcomes, and are more likely to report problems with paying medical bills.^{34,35} Additionally, people who are not insured are less likely to receive preventive care and services for major health conditions or associated chronic diseases.³⁶ Nationally in 2017, hospitals

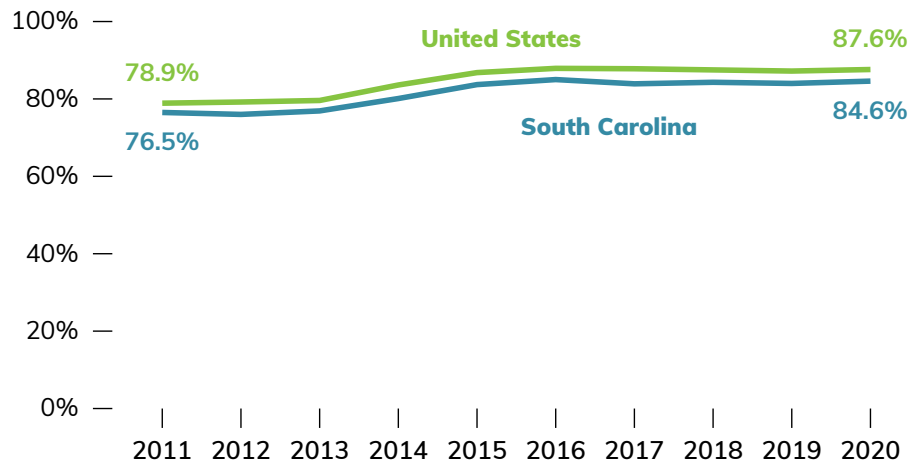
reported providing over \$38 billion in uncompensated care to patients.³⁴ National estimates show that low income families and people of color are at a greater risk of being uninsured.³⁶ Having a higher percentage of the population insured can not only reduce health care spending but can also improve the overall health of South Carolinians.

Hispanic populations disproportionately lack insurance coverage across the state and nation.

Data Interpretations: The percent of adults ages 18-64 who are insured in SC has increased from 76.5% in 2011 to 84.6% in 2020 (Figure 6.25). Despite the consistent increase in the percent of adults who are insured, SC still sees a lower rate compared to the national average (87.6%). In 2020, SC saw the 9th lowest percent of adults aged 18-64 who are insured in the nation. Non-Hispanic White adults see the highest rates of being insured at the state and national level (Figure 6.26). In SC, Hispanics (65.1%) saw the lowest percent of adults being insured, seeing a 25.6% lower rate than their non-Hispanic White counterparts. All racial and ethnic groups in the state see lower rates of adults who are insured compared to the national average, with Hispanic adults seeing the largest gap. SC adult females (86.7%) see higher rates of being insured compared to their male counterparts (82.2%). SC counties see a wide range of adults who are insured, from a low of 74.7% in Saluda County to a high of 87.0% in Charleston County (Figure 6.27). The Midlands region sees higher rates of adults being insured compared to other regions in the state.

FIGURE 6.25

Health Insurance Coverage Among Adults
Percent

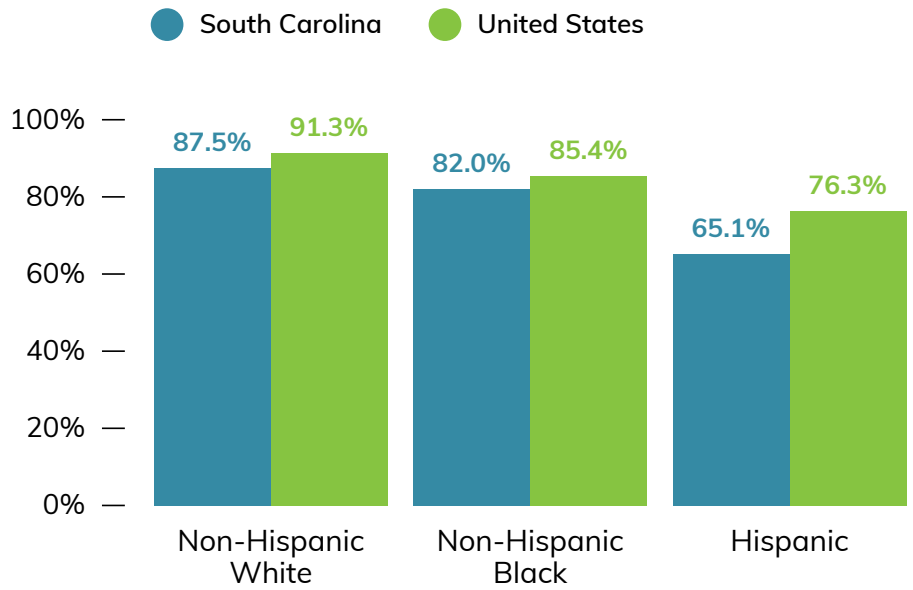


Source: US Census SAHIE.

Notes: Adults 18-64.

FIGURE 6.26

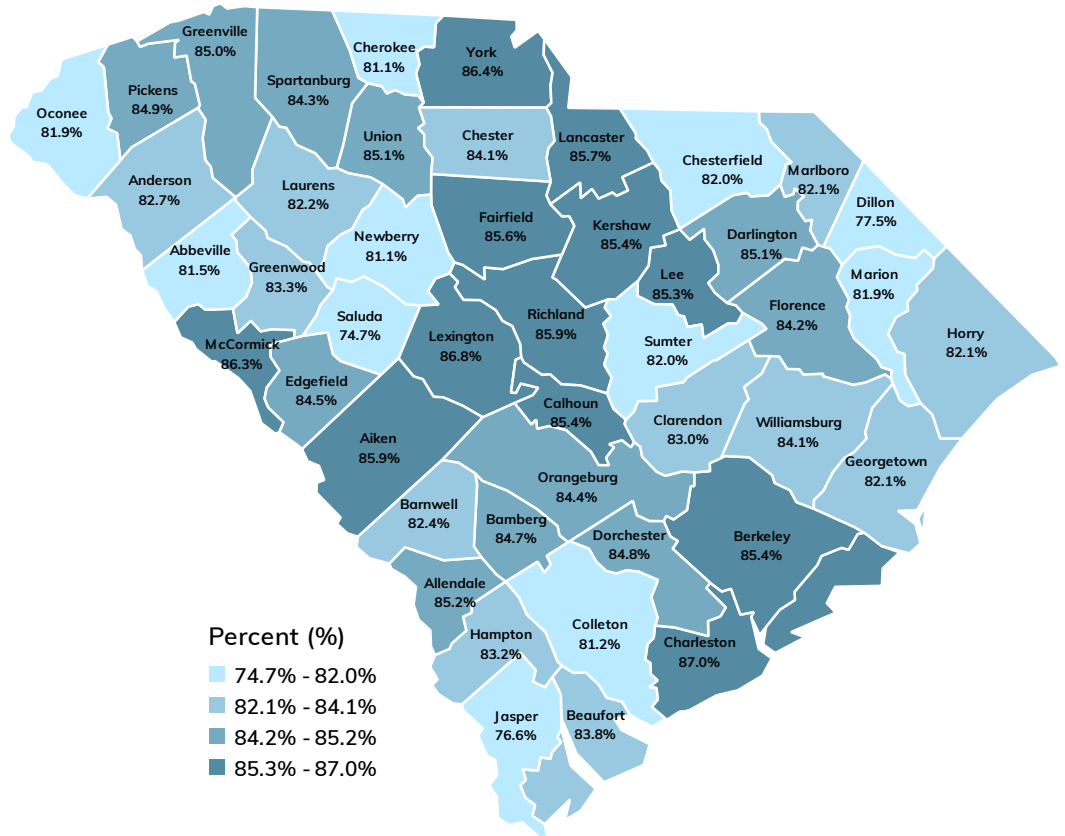
Health Insurance Coverage Among Adults, by Race/Ethnicity
Percent



Source: US Census SAHIE, 2020.
Notes: Adults 18-64.

FIGURE 6.27

Health Insurance Coverage Among Adults, by County
Percent



Source: US Census SAHIE, 2020.
Notes: Adults 18-64.

Delayed Medical Care

Ensuring all South Carolinians, regardless of income, have access to timely and affordable health care is an important factor in improving health outcomes. Delaying medical care has been found to increase the use of emergency rooms for non-urgent conditions, negatively impact health outcomes due to delays in diagnosis and treatment, be associated with higher costs, and have higher rates of emotional stress.^{37,38} People delay care for a variety of reasons, including high costs, fear of having a serious illness, dislike of medical treatments, distrust of doctors and lack of health insurance knowledge.^{39,40} During the COVID-19 pandemic there were increases delaying medical care.

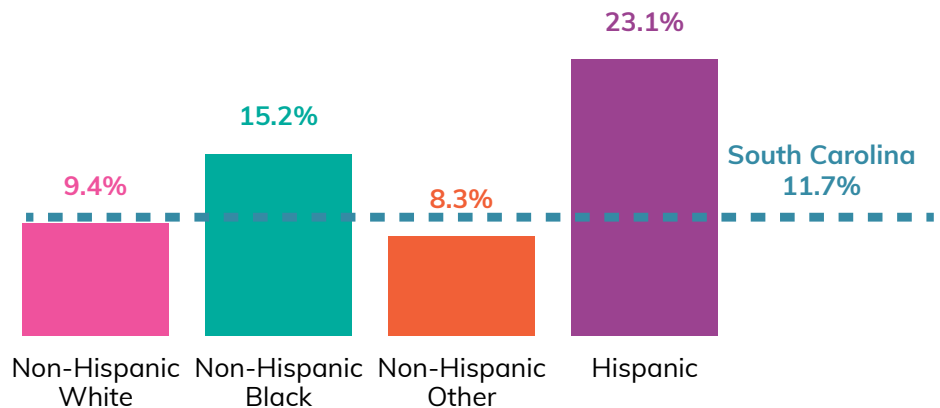
An estimated 41% of Americans delayed medical care, including urgent or emergency care and routine care, due to concerns around COVID-19.⁴¹ Regardless of extreme situations like a pandemic, it is critical to find strategies aimed at improving health information technology and ways to increase insurance coverage to reduce morbidity and mortality.³⁸

SC has the 6th highest rate of delayed medical care due to cost, with uninsured people most impacted.

Data Interpretations: From 2012 to 2021, SC has seen a 42.9% decrease in the percent of adults who delayed medical care due to cost. In 2021, 11.7% of SC adults reported delaying medical care due to cost, higher than the national average of 8.7% and the 6th highest rate in the nation. Nearly 1 in 4 Hispanic adults (23.1%) report delaying medical care due to cost, more than double the rate seen among non-Hispanic Whites (9.4%) (Figure 6.28). Hispanic and non-Hispanic Black adults see higher rates of delaying medical care due to cost compared to the state average of 11.7%. Two in five uninsured SC adults reported delaying medical care due to cost, nearly five times the rate seen among insured South Carolinians (Figure 6.29). SC adults living with a disability (21.0%) have a nearly three times higher rate of delaying care due to cost compared to those who have no disability (7.3%) (data not shown). When asked what prevents people in the community from receiving preventive screenings and care, cost was the leading response, followed by lack of knowledge and not being able to access health care facilities (Figure 6.30).

FIGURE 6.28

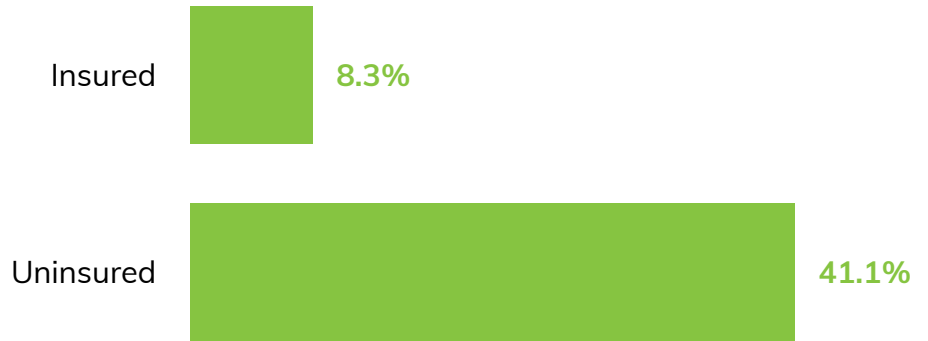
Delayed Medical Care due to Cost, by Race/Ethnicity
Percent



Source: SC BRFSS, 2021.
Notes: Adults 18+.

FIGURE 6.29

Delayed Medical Care
due to Cost, by Insurance
Status
Percent

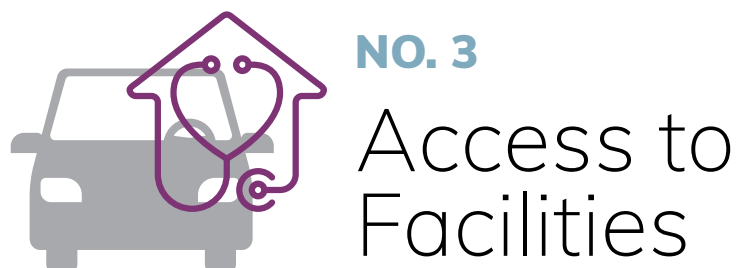


Source: SC BRFS, 2021.

Notes: Adults 18+.

FIGURE 6.30

Top Reasons that Prevent
People in Community From
Receiving Preventative
Screenings and Care



Source: SC Community Health Needs
Assessment Survey, 2022.

Notes: Responses as of 12/21/2022.

Avoidable Hospitalizations

Potentially avoidable hospitalizations and emergency department (ED) visits are admissions or visits to a hospital for certain acute illness (e.g., dehydration) or worsening chronic conditions (e.g., diabetes) that might not have required hospitalization had these conditions been managed successfully by primary care providers in various outpatient settings.⁴² A variety of chronic conditions were associated with the majority of avoidable hospital stays, with heart failure being the leading cause among adults and asthma among children.⁴³ Non-Hispanic Black and Hispanic populations see high avoidable hospitalization rates across the nation.⁴⁴ These avoidable or unnecessary hospital visits burden the health care system, through higher costs and the utilization of limited health care resources.⁴⁵ Nationally in 2017, it was estimated that 3.5 million potentially preventable adult hospital stays

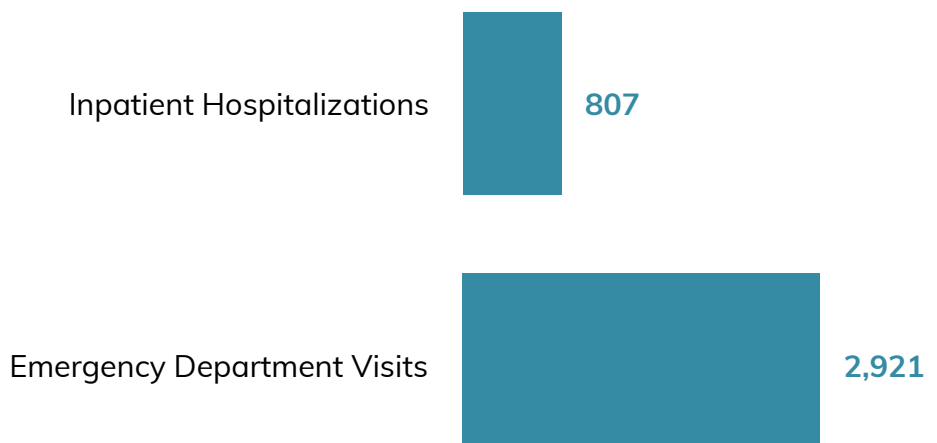
occurred, accounting for \$33.7 billion in aggregate hospital costs.⁴³ Improving health literacy and increasing primary care utilization is critical in reducing these avoidable hospital stays and associated costs.

Residents of the Pee Dee region see the highest rates of avoidable hospitalizations in the state. Additionally, Black South Carolinians see disproportionately higher rates of avoidable hospitalizations and ED visits when compared to their White counterparts.

Data Interpretations: Avoidable ED visits were 3.6 times higher than the rate of avoidable hospitalization stays seen in the state (**Figure 6.31**). In SC, the state rate for avoidable hospitalizations was 807 per 100,000 population. Amongst South Carolinians who went to the ED with an avoidable condition in 2021, individuals who were Black saw the highest rate (**Figure 6.32**). Black South Carolinians saw an avoidable ED rate of 4,690 per 100,000 population, 2.1 times higher than their White counterparts (2,208 per 100,000 population). The state saw a wide range of counties with residents being hospitalized with avoidable conditions (**Figure 6.33**). York County saw the lowest rate in the state at 425 avoidable hospitalizations per 100,000 population, whereas Marion County saw the highest at 1,668 avoidable hospitalizations per 100,000 population. Marion County’s avoidable hospitalization rate was 3.9 times higher than the rate seen in York County. The Pee Dee region of SC saw some of the highest avoidable hospitalization rates in the state. When looking at avoidable hospitalization rates, it is important to note that some residents might choose to receive care from other states, and this could potentially impact estimates associated with our border counties.

FIGURE 6.31

Avoidable Inpatient Hospitalizations and Emergency Department Visits
Rate per 100,000 population

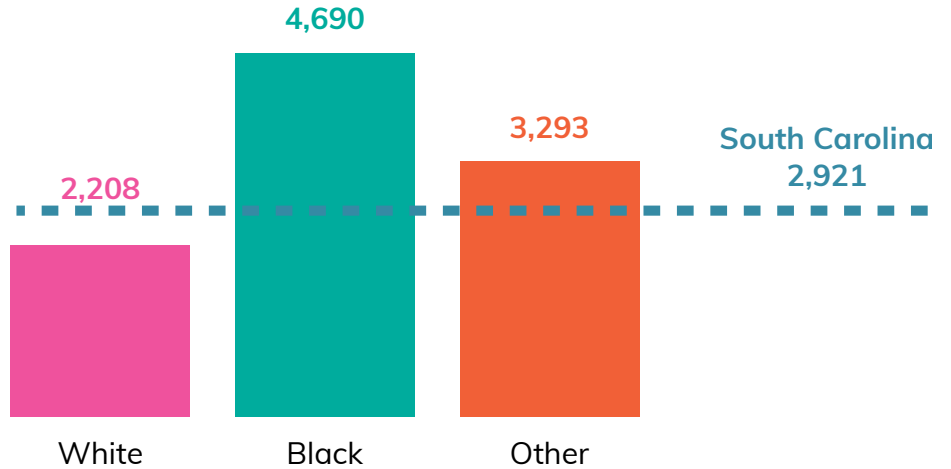


Source: SC RFA, 2021.

Notes: Federal fiscal year, data are preliminary, avoidable conditions include: convulsions, COPD, pneumonia, asthma, heart failure, hypertension, angina, cellulitis, diabetes, gastroenteritis, kidney/urinary tract infections, and dehydration.

FIGURE 6.32

Avoidable Emergency Department Visits, by Race
Rate per 100,000 population

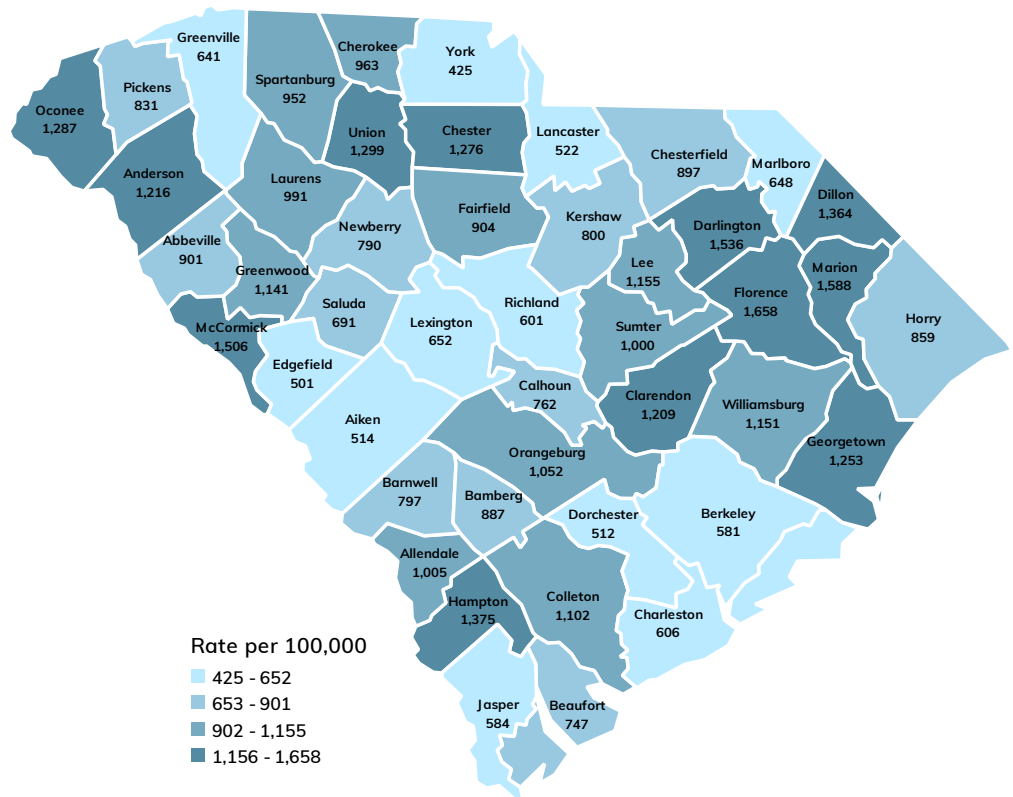


Source: SC RFA, 2021.

Notes: Federal fiscal year 2021, avoidable conditions include: convulsions, COPD, pneumonia, asthma, heart failure, hypertension, angina, cellulitis, diabetes, gastroenteritis, kidney/urinary tract infections, and dehydration.

FIGURE 6.33

Avoidable Inpatient Hospitalizations, by County
Rate per 100,000 population



Source: SC RFA, 2021.

Notes: Federal fiscal year, data are preliminary, avoidable conditions include: convulsions, COPD, pneumonia, asthma, heart failure, hypertension, angina, cellulitis, diabetes, gastroenteritis, kidney/urinary tract infections, and dehydration.

Health Professional Shortage Areas

Health Professional Shortage Area (HPSA) designations are geographic areas, population groups or health care facilities that have been deemed as having a shortage of health professionals by the Health Resources and Services Administration (HRSA).⁴⁶ There are three categories of HPSA designations based on the health discipline: primary medical, dental and mental health.⁴⁷ Each of the three categories of HPSA can then be categorized into four types: geographic, low-income population, specialty population and facility.⁴⁸ Geographic HPSAs can be a portion of a city, county or the entire county that sees lower levels of health professionals.⁴⁸ A low-income population HPSA focuses on health professionals that spend their time serving populations living below the federal poverty level.⁴⁸ A specialty-population HPSA refers to physicians that serve vulnerable populations, such as, people who are homeless or migrant workers.⁴⁸ Finally, a facility HPSA looks at facilities of need and can include state and federal prisons, rural health clinics

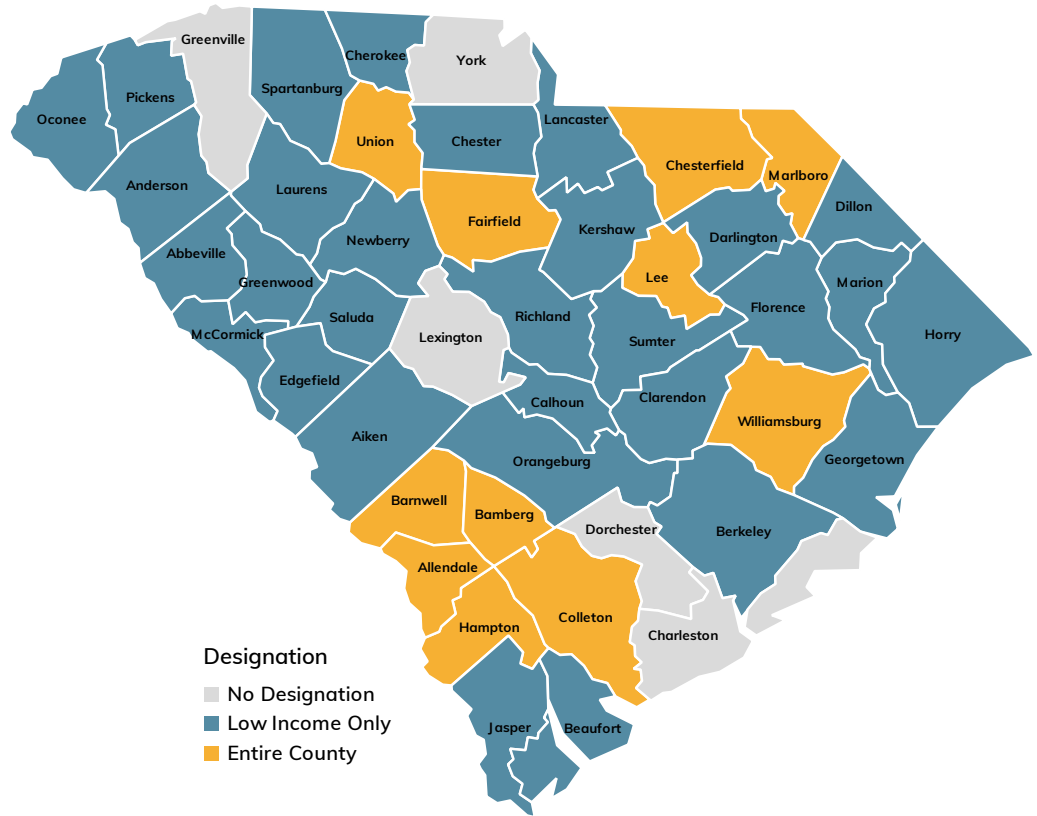
and federally qualified health centers.⁴⁸ For an area to be considered an HPSA it must show that number of health professionals relative to the population in question is less than federal limits.⁴⁷ Areas identified as HPSA are able to use government-established programs to attract new physicians and retain those currently working in the area.⁴⁸

Most SC counties live in some form of an HPSA with mental health seeing the largest numbers. HPSA is a complex issue as there are different distinctions for different health care providers. County and regional disparities are present for all HPSAs.

Data Interpretations: All but five SC counties have some HPSA designation regarding primary health care availability (**Figure 6.34**). Thirty SC counties had a low-income primary care HPSA designation, meaning there was a shortage of physicians based in these counties focusing on the population living below the 200% Federal Poverty Level. All residents of 11 SC counties saw their county being a primary care HPSA, with most counties being in the Lowcountry and Pee Dee regions, representing 5.1% of the state's population. Compared to primary care HPSA, there was an increase amongst counties that saw the entire population living in an area with a dental care HPSA (**Figure 6.35**). Seventeen counties had a dental care HPSA in the state, with an additional 24 counties having a dental care HPSA among low-income residents. Only five SC counties did not have any dental care HPSA. All but three SC counties had some form of mental-health HPSA designation (**Figure 6.36**). Nearly half of SC counties saw the entire county being a mental health care HPSA. The remaining counties were mental health HPSA for low-income populations.

FIGURE 6.34

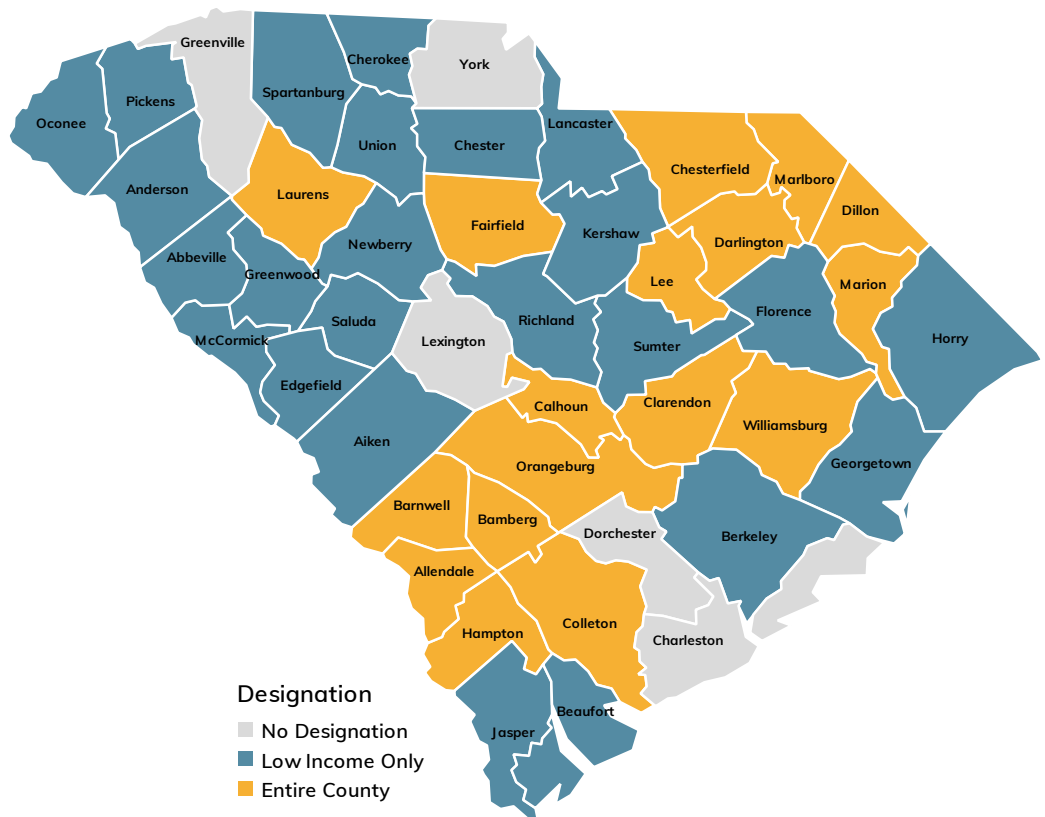
Primary Care Health Professional Shortage Areas, by Category
HPSA designation



Source: US Department of Health and Human Services, 2022.

FIGURE 6.35

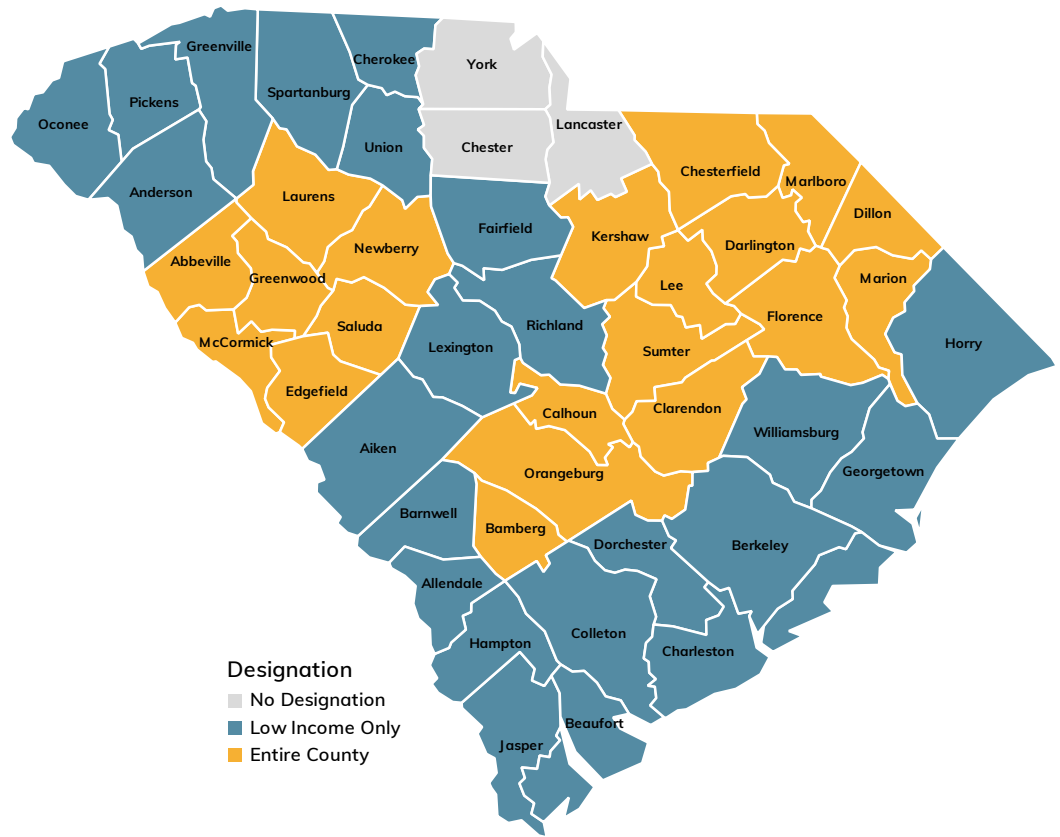
Dental Care Health Professional Shortage Areas, by Category
HPSA designation



Source: US Department of Health and Human Services, 2022.

FIGURE 6.36

Mental Health Care Health Professional Shortage Areas, by Category HPSA designation



Source: US Department of Health and Human Services, 2022.

Primary Care Physicians

Primary care physicians are providers whose goal is to manage the day-to-day health needs of individuals. These physicians are tasked with diagnosing, treating and preventing a wide variety of conditions.⁴⁹ It has been well documented that people with a primary care physician were more likely to fill more prescriptions, have routine preventive visits, receive more cancer screenings and spend less money on medical costs.^{50,51} These specially trained physicians can give complete care throughout a person’s life.⁵¹ Although primary care physicians are located throughout the nation, rural areas see disproportionately less. Nearly 20% of Americans live in rural areas, but only 10% of

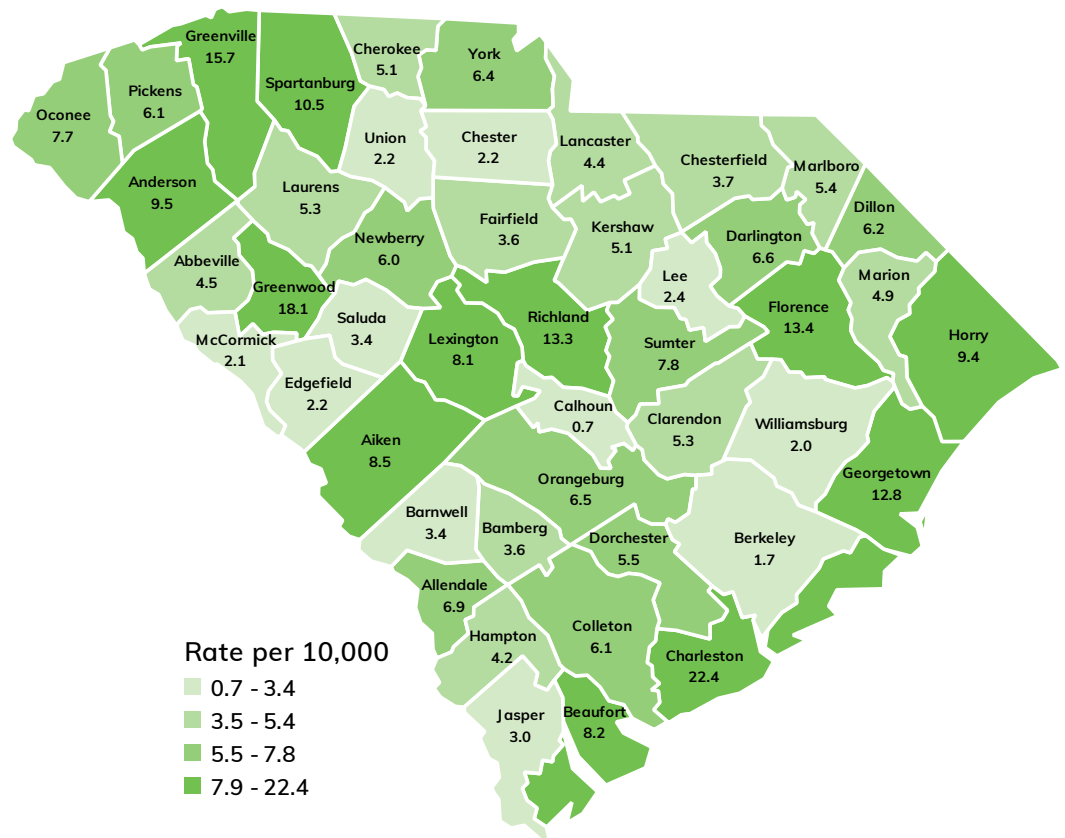
physicians practice in these areas.⁵² With SC being a highly rural state, it is imperative that all individuals have access to a primary care physician, ensuring a tailored health plan is developed aimed at reducing disease and increasing one’s quality of life.

There is a large disparity between rates of primary care physicians in rural counties and urban counties throughout the state.

Data Interpretations: Primary care physicians are those that have a specialty in family medicine, internal medicine, obstetrics/gynecology or pediatrics. In 2019, there were nearly 5,100 licensed primary care physicians throughout the state. Across SC there is a wide range of licensed primary care physicians from a low of 0.7 primary care physicians per 10,000 people in Calhoun County to a high of 22.4 primary care physicians per 10,000 people in Charleston County (Figure 6.37). Currently, Calhoun County only has one licensed and practicing primary care physician. Urban counties in SC see more than two times higher rate (11.2 per 10,000 population) of having primary care physicians compared to rural counties (4.8 per 10,000 population) (Figure 6.38). In rural counties there are 4.8 primary care physicians per 10,000 population. SC has seen a 10% increase in the rate of primary care physicians from 9.0 primary care physicians per 10,000 population in 2009 to 9.9 primary care physicians per 10,000 population in 2019 (Figure 6.39).

FIGURE 6.37

Primary Care Physicians, by County
Rate per 10,000 population

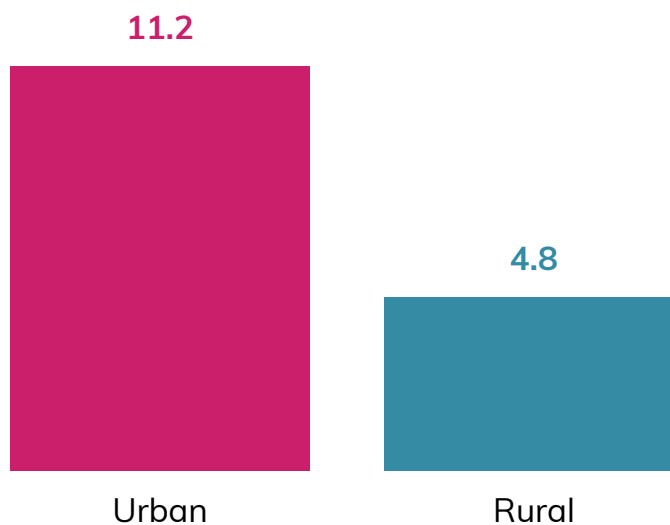


Source: SC Office of Health care Workforce Health Professionals Data Book, 2021.

FIGURE 6.38

Primary Care Physicians,
by Rurality

Rate per 10,000 population

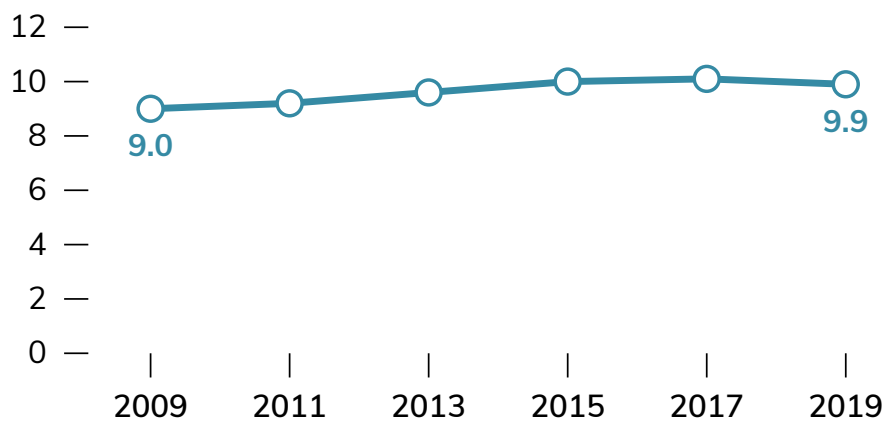


Source: SC Office of Health care Workforce Health Professionals Data Book, 2021.

FIGURE 6.39

Primary Care Physicians

Rate per 10,000 population



Source: SC Office of Health care Workforce Health Professionals Data Book, 2021.

Nurse Practitioners and Physician Associates

Primary care physician shortages are an issue across the nation, exacerbated by the increasingly aging population, overall population growth and higher percentage of the population being insured.⁵³ With more of the population insured, people can access care with less of a financial burden. Nurse practitioners and physician associates (PAs) are health professions that began in the 1960s to respond to shortages and uneven distribution of physicians, especially in the primary care setting.⁵⁴ These licensed medical professionals are estimated to provide care for 50-90% of patients presenting to primary care, allowing doctors increased time for the most seriously ill patients.⁵⁵ Nurse practitioners and PAs have helped hold down health care costs, provide care to underserved populations and enable physician practices to serve their patients better.⁵⁶ These practitioners have

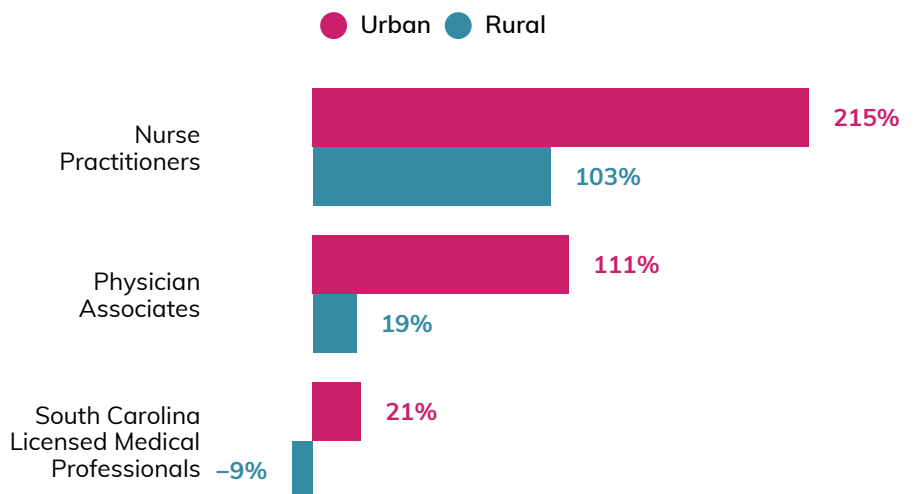
high satisfaction rates and lower wait times when compared to physician-only staffed providers.⁵⁶ Additionally, nurse practitioners and PAs have served as a primary care provider for many populations, including those in rural areas which lack primary care physicians.⁵⁵ Using these skilled medical professionals should be a viable means in increasing health care use and access across all populations.

The number of nurse practitioners and PAs are increasing throughout the state, including in rural counties which see lower rates of these type of health care providers.

Data Interpretations: Nurse practitioners and PAs saw significant growth since 2009 in both rural and urban counties (Figure 6.40). Nurse practitioners increased 215% in urban counties and 103% in rural counties. Despite numbers of physicians decreasing in rural counties, nurse practitioners and PAs saw steady growth in these counties. With over 4,500 nurse practitioners and 1,338 PAs in the state, SC still saw varying rates of providers by county. Calhoun County (1.4 per 10,000 population) saw the lowest rate of nurse practitioners and PAs in the state compared to Charleston County, which saw the highest rate (24.2 per 10,000 population) (Figure 6.41). Charleston County saw a rate 17.3 times higher than the rate in Calhoun County. Despite the increase in number of providers, there was still a disparity in the state’s rural counties. Rural counties (6.5 per 10,000 population) saw more than 50% lower rates of nurse practitioners and PAs when compared to their urban counterparts (Figure 6.42).

FIGURE 6.40

Growth in Nurse Practitioners and Physician Associates, by Rurality
Percent Change

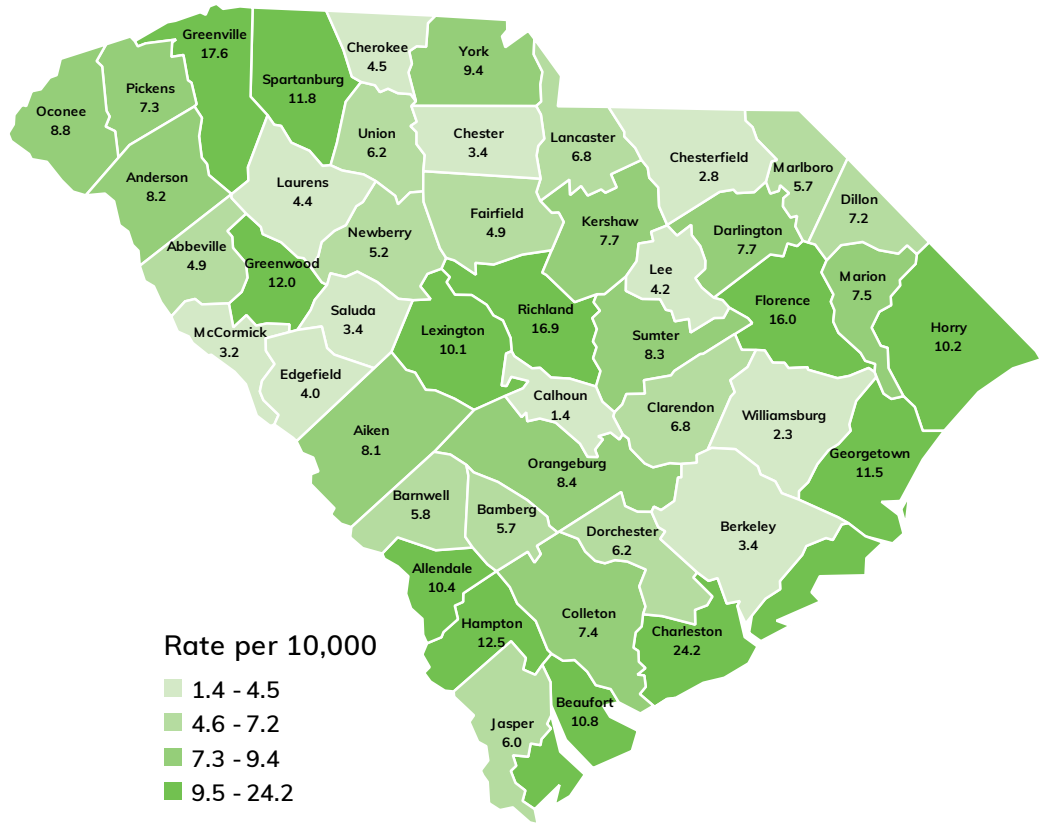


Source: SC Office of Health care Workforce Data Brief, 2022.

Notes: Percent change from 2009/2010 - 2019-2020, South Carolina total is amongst all licensed medical professionals.

FIGURE 6.41

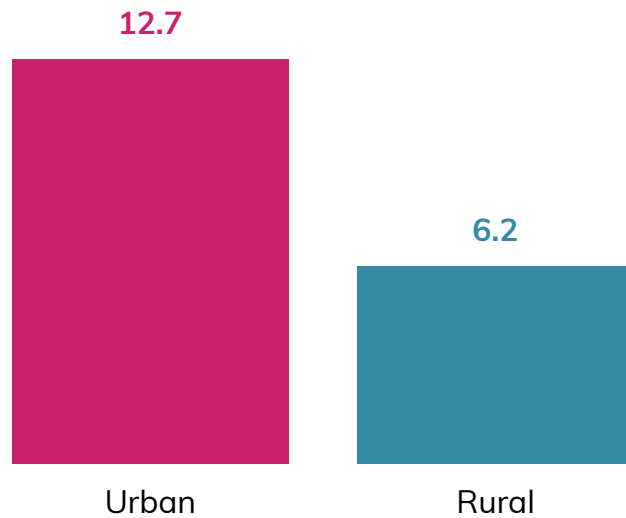
Nurse Practitioners and Physician Associates, by County
Rate per 10,000 population



Source: SC Office of Health care Workforce Health Professionals Data Book, 2021.

FIGURE 6.42

Nurse Practitioners and Physician Associates, by Rurality
Rate per 10,000 population



Source: SC Office of Health care Workforce Health Professionals Data Book, 2021.

Mental Health Providers

Mental illnesses are some of the most common health conditions in the US with more than 50% of the population being diagnosed at some point in their lifetime.⁵⁷ Both mental and physical health are important for achieving overall health and well-being.⁵⁷ Mental health services provided by trained and licensed professionals can save lives, reduce the risk of chronic diseases related to stress, anxiety and substance abuse, and lower health care costs.⁵⁸ Serious mental illnesses cost the nation \$193.2 billion in lost earnings per year.⁵⁸ Psychologists and psychiatrists are two types of mental health providers that can diagnose mental illnesses and provide therapy to individuals.⁵⁹ Although mental health illnesses are prevalent throughout the nation, approximately 60% of adults with a mental illness received no mental health services in the previous year.⁶⁰ Health utilization is even lower among minority groups, specifically among the Black

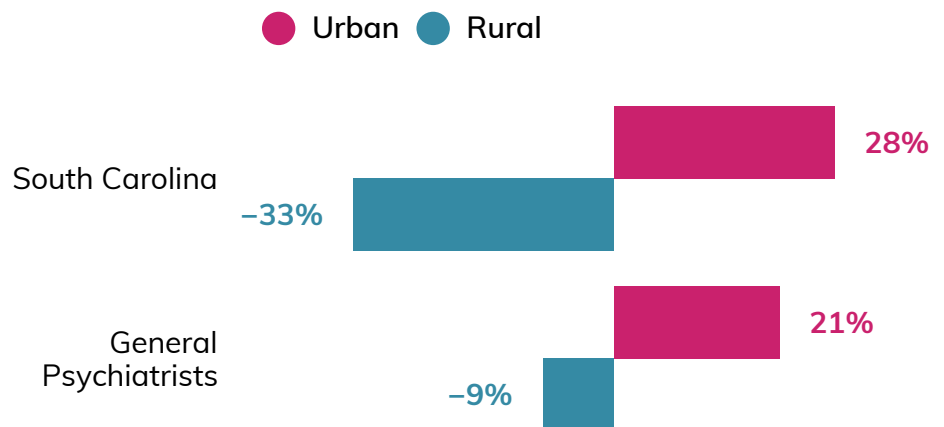
and Hispanic populations.⁶⁰ Eliminating barriers associated with mental health treatment and having accessible providers are key in reducing illness and death.

Over 25% of SC counties are lacking licensed general psychiatrists or psychologists, with rural counties seeing largest gaps. Rural counties do see lower rates of all evaluated health care providers, including primary care physicians, nurse practitioners, and physician associates.

Data Interpretations: Currently, there are 564 general psychiatrists in the state. In the past 10 years there has been a 25% increase in the number of licensed general psychiatrists in the state. However, that increase has been seen only in the urban counties. Rural counties have seen a 33% reduction in the number of licensed general psychiatrists from 2009-2019 (Figure 6.43). The reduction seen in rural counties is over three times higher than the rate seen amongst all licensed providers. Over 25% of the state, or 14 counties, have no general psychiatrists or psychologists (Figure 6.44). Another nine counties only have one licensed provider. Counties along the I-95 corridor see a lower number of mental health providers. Charleston County sees the highest number of general psychiatrists and psychologists, which is double the next highest county (Greenville – 161).

FIGURE 6.43

Growth in General Psychiatrists, by Rurality
Percent Change

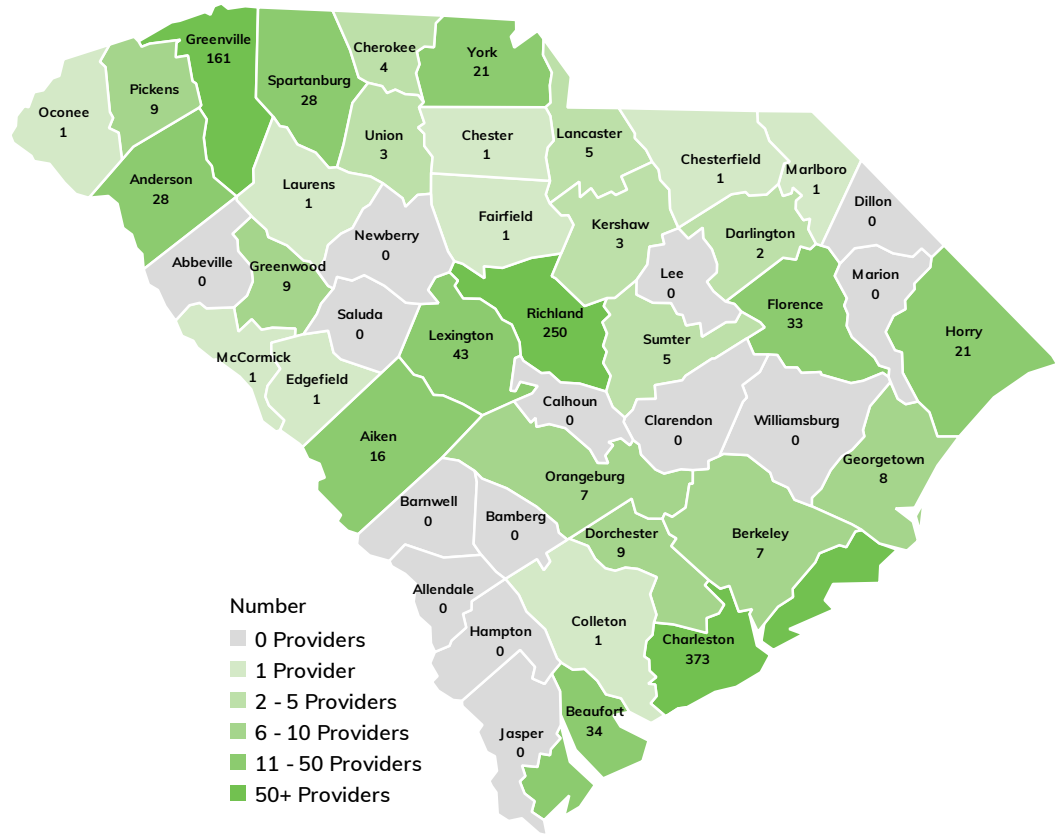


Source: SC Office of Health care Workforce Data Brief, 2022.

Notes: Percent change from 2009/2010 - 2019-2020, South Carolina total is amongst all licensed medical professionals.

FIGURE 6.44

Psychiatrists and Licensed Psychologists in South Carolina, by County
Number of Providers



Source: SC Office of Health care Workforce Health Professionals Data Book, 2021.

Dentists

Dentists are primary health care professionals trained to administer oral health care. Dentists are tasked with diagnosing and treating problems affecting the teeth, gums, tongue, lips and jaw.⁶¹ Additionally, dentists are often the first health care professionals able to recognize and identify a variety of diseases ranging from hypertension to oral cancer.⁶¹ Having good oral health is essential to general health and overall well-being as poor oral health can lead to problems with eating, speaking and learning.⁶² People who are low income, of non-Hispanic Black and/or Hispanic race and/or ethnicity, or cigarette smokers see more untreated cavities and associated oral health problems.⁶³ Oral health problems in the US

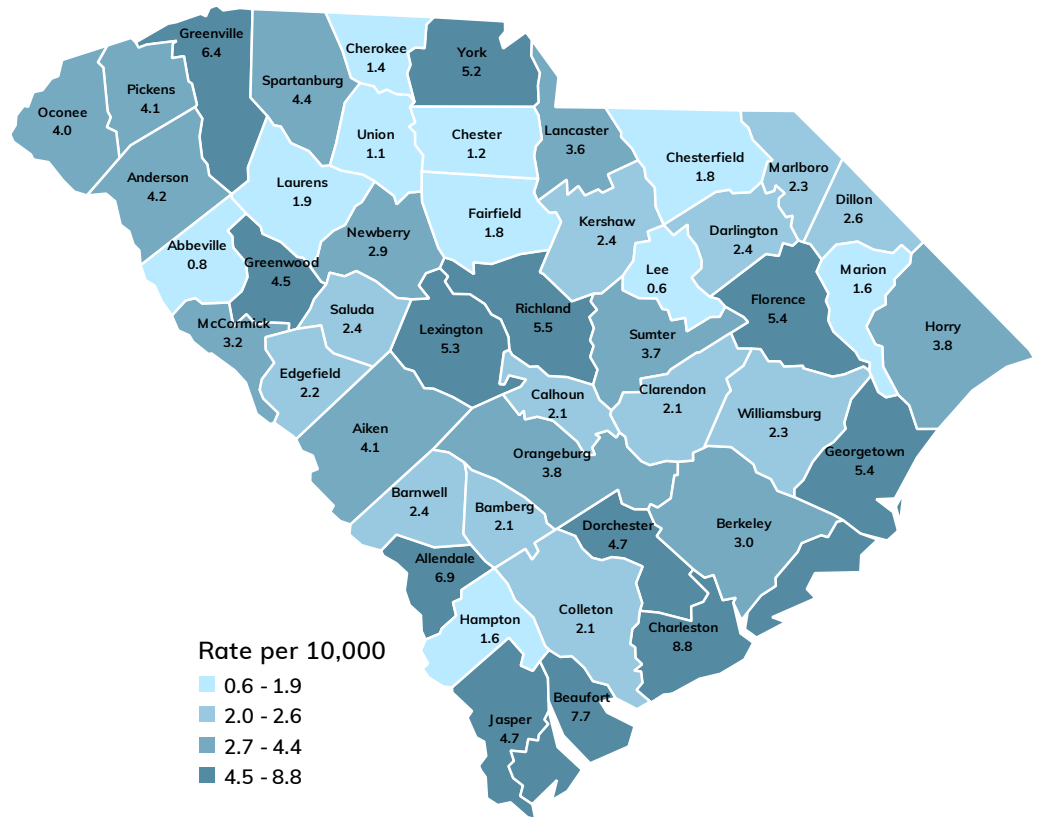
have been associated with 34 million school hours lost to unplanned dental care and over \$45 billion in productivity lost to untreated dental diseases.⁶² Dentists play an integral role in maintaining and improving the quality of life for all population groups.

Rural counties see decreasing numbers of dentists, while also having disproportionately lower rates of licensed dentists compared to urban counties.

Data Interpretations: In 2019, there were nearly 2,500 licensed dentists throughout the state. The state sees varying rates of practicing dentists by county with a low of 0.6 dentists per 10,000 population in Lee County to a high of 8.8 dentists per 10,000 population in Charleston County (Figure 6.45). Urban counties in the state see a 2.2 times higher rate of practicing dentists compared to their rural counterparts (Figure 6.46). From 2009 to 2019 numbers of licensed dentists have increased 23% throughout the state. Despite the statewide increase, rural counties have seen a 12% reduction in licensed dentists while urban counties have increased by 30%.

FIGURE 6.45

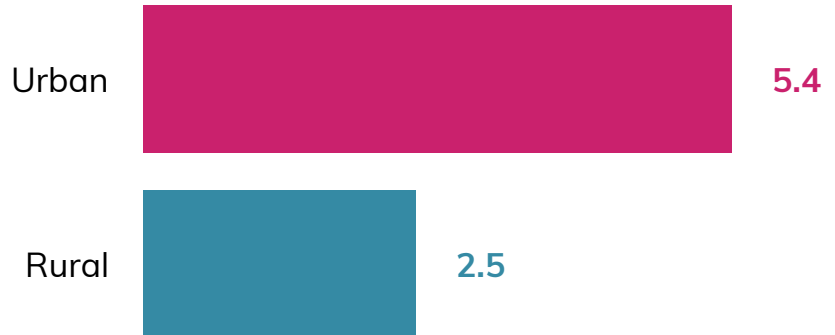
Dentists, by County
Rate per 10,000
population



Source: SC Office of Health care Workforce Health Professionals Data Book, 2021.

FIGURE 6.46

Dentists in South
Carolina, by Rurality
Rate per 10,000
population



Source: SC Office of Health care Workforce Health Professionals Data Book, 2021.

Methicillin-resistant Staphylococcus aureus Bloodstream Infections

Methicillin-resistant Staphylococcus aureus (MRSA) is a type of bacteria resistant to many antibiotics.⁶⁴ In the community, MRSA most often causes skin infections. However, in health care facilities like hospitals and nursing homes, MRSA can cause severe infections such as bloodstream infections (BSI), pneumonia, surgical site infections and death. In health care settings, MRSA is usually spread by health care providers after touching an infected wound or contaminated surface. Also, people who carry MRSA but have no signs of infection (i.e., people who are colonized) can spread the bacteria to others.

In the US, significant progress was made to reduce MRSA bloodstream infections in health care settings from 2005-2012, but there has been no substantial change in MRSA bloodstream infections since 2012.⁶⁵ SC has seen a rise in MRSA bloodstream infections in acute care hospitals from 2016-2020.⁶⁶ Strategies

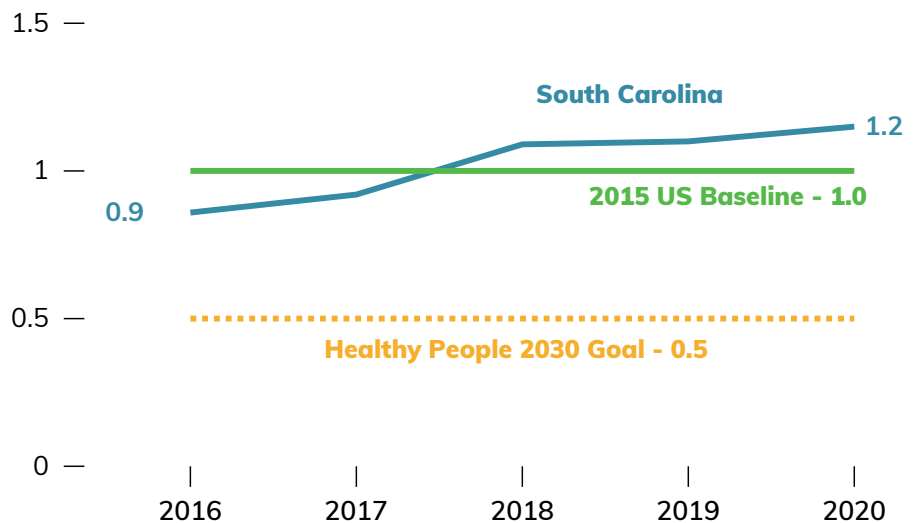
hospitals use to decrease MRSA bloodstream infections include following evidence-based guidance for the prevention of central line-associated bloodstream infections, surgical site infections, hemodialysis bloodstream infections, ventilator-associated pneumonia as well as chlorhexidine bathing and intranasal anti-staphylococcal antibiotic/antiseptic use for selected patient populations.⁶⁷

SC acute care hospitals are above the Healthy People 2030 goal and the 2015 national baseline standardized infection ratio for MRSA BSI that occur in hospitalized patients.

Data Interpretations: From 2016 to 2020, SC acute care hospitals have seen a 33.7% increase in hospital onset MRSA BSIs (Figure 6.47). The SC acute care hospital standardized infection ratio for MRSA BSI has remained above the Healthy People 2030 goal of 0.5. For 2018 to 2020, the standardized infection ratio for MRSA BSI in South Carolina was above the 2015 US baseline standard infection ratio of 1.

FIGURE 6.47

Hospital Onset Methicillin-resistant Staphylococcus aureus Bloodstream Infections Standard Infection Ratio



Source: SC DHEC Division of Acute Disease Epidemiology.

Hospital Onset *Clostridioides difficile* Infections

Clostridioides difficile (often called *C. diff*) is a bacterium that can cause diarrhea and colon inflammation. *Clostridioides difficile* infection (CDI) can lead to severe disease and death.⁶⁸ Most cases of CDI occur in people taking antibiotics or not long after finishing a course of antibiotics. Other risk factors for getting CDI include being 65 years or older, having a recent stay in a hospital or nursing home, having a weakened immune system or having a previous infection with *C. diff*.⁶⁸ *C. diff* is carried from person to person; it is present in feces and can live on people's skin. Washing hands with soap and water is the best way to prevent the spread of *C. diff*.

In 2019, *C. diff* caused an estimated 223,900 infections in hospitalized patients and 12,800 deaths

nationwide.⁶⁹ SC acute care hospitals have decreased *C. diff* infections and, in 2020, reported standardized infection ratios below the Healthy People 2030 goal of 0.5.⁷⁰

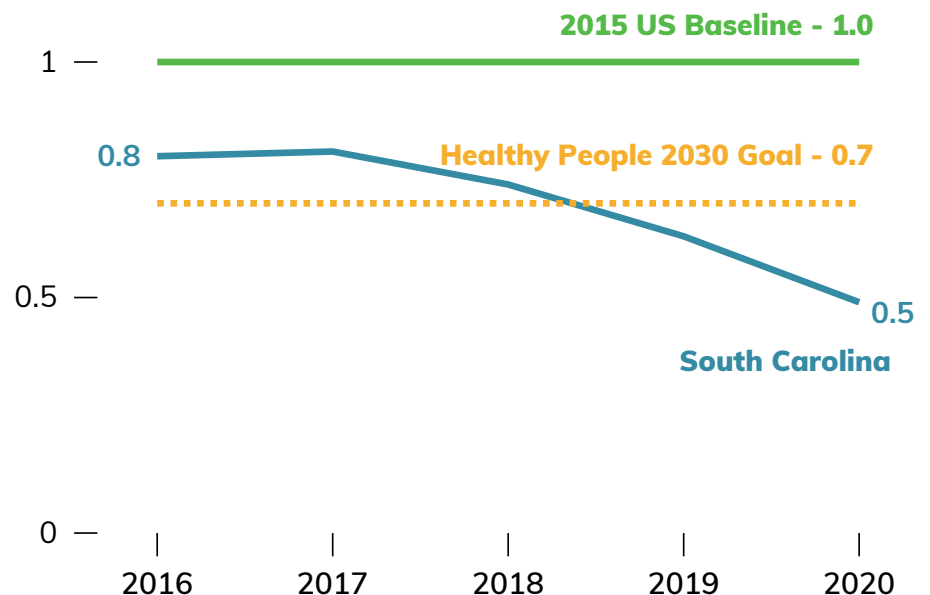
State acute care hospitals are implementing interventions to decrease CDI, including using antibiotics appropriately, timely testing of patients with compatible signs and symptoms of CDI, using contact precautions, following hand hygiene best practices and cleaning and disinfecting patient rooms.⁷¹

SC has made good progress on decreasing CDI in hospitalized patients.

Data Interpretations: From 2017 to 2020, SC hospitals saw a 39.5% decrease in CDI in hospitalized patients (Figure 6.48). SC hospitals have met the Healthy People 2030 goal for hospital onset CDI (standardized infection ratio of 0.7) and is below the US 2015 baseline of 1.0. SC hospitals strive to improve infection control practices important to decrease the number of hospital onset *C. difficile* infections including appropriate testing, good hand hygiene practices, appropriate antibiotic usage and effective environmental disinfection.

FIGURE 6.48

Hospital Onset
Clostridioides difficile
Infections
Standard Infection Ratio




Source: SC DHEC Division of Acute Disease Epidemiology.

COVID-19


In late-December 2019, a cluster of patients in China's Hubei Province, in the city of Wuhan, began experiencing symptoms of an atypical pneumonia-like illness that did not respond well to standard treatments. On Jan. 20, 2020, the Centers for Disease Control and Prevention (CDC) reported the first laboratory-confirmed case of the 2019 Novel Coronavirus in the US from samples taken on Jan. 18 in Washington state.⁷² On March 6, 2020, DHEC announced the first two cases of COVID-19 in SC and on March 9, 2020, reported the first COVID-19 associated death.^{73,74} By April 2, 2020, COVID-19 cases were reported among residents of all 46 SC counties. As of Dec. 3, 2022, over 1,745,000 cases of COVID-19 have been reported among SC residents along with 18,849 COVID-19 associated deaths.⁷⁵ In 2020, nine of the 10 leading national causes of death remained the same as in 2019. The top leading cause was heart disease, followed by cancer. COVID-19, newly added as a cause of death in 2020, became the third-leading cause of death in the US.⁷⁶

The impacts from COVID-19 continue and there are many effective actions that can help protect you, your household and your community from the impact from COVID-19. In addition to basic health and hygiene practices, such as hand-washing and staying away from others when symptoms of a respiratory disease are present, DHEC and the CDC recommend that you:^{77,78}

- keep track of your COVID-Community Level and use it to guide your precautions,
- stay up to date on vaccines and know when to get a booster,
- use masks if at high risk when COVID-19 community levels are medium and by everyone when levels are high, and
- recognize the symptoms of COVID-19 and know what to do to seek care.



COVID-19 is here to stay. It is important to continue to be educated about its negative impacts and make decisions to protect yourself and others. This includes being up to date on COVID-19 vaccinations, monitoring the COVID-19 Community Levels in your area and taking steps based upon the COVID-19 Community Level as provided by the Centers for Disease Control and Prevention.



Data Interpretations: From 2020 to 2022, SC has seen about 1.7 million confirmed and probable COVID-19 cases. During this time, slight differences in COVID-19 cases rate per 100,000 population were seen between males and females (**Figure 6.49**), and between Black and White populations (**Figure 6.50**). These differences could be due to multiple factors, including health care seeking behavior, occupational exposure and other social factors. These patterns have also been noted in other conditions/diseases.

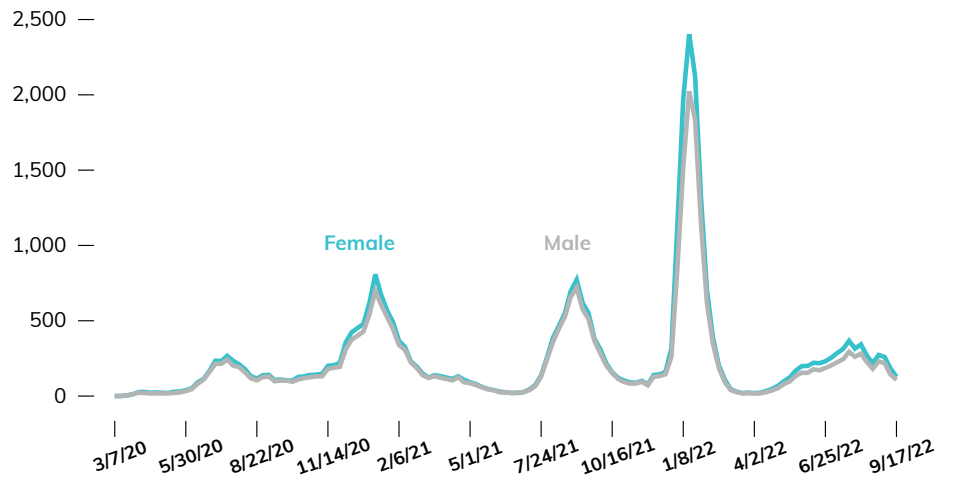
Disparities were observed in vaccination rates between races. Initially, Blacks became fully vaccinated at a much lower rate than their White counterparts through June 2021. The rate of full vaccination in Black communities caught up later and maintained a higher rate than Whites until around April 2022. After April 2022, the vaccination rates for both races have been similar. This shows how African Americans closed the vaccine gap over time, which may indicate how effective focused public health efforts and educational messaging targeting different communities were in helping to address the initial disparities. To date, cumulative fully vaccinated rates are 43.0% and 41.2% for White and Black respectively (**Figure 6.51**).

Out of greater than a million total COVID-19 deaths in the US, SC has recorded a total of 18,849 deaths from COVID-19 as of Dec. 3, 2022. Elderly people (85 and older) had a much higher rate of death across the whole period. Other age groups also bear a high burden from a “Years of Potential Life lost (YPLL)” standpoint, which is an effective metric for assessing societal cost and informing public health decision making. For example, a death at the age of 85 does not have the same weight as a death at the age of 30. The younger the age at death, the higher the YPLL. Also, due to having more comorbidities, elderly people are more susceptible to infection, hospitalization, and death from infectious diseases (**Figure 6.52**).

Historically, higher hospitalization and ventilation rates happen when there is a novel infectious disease. Most COVID-19 variants are almost like a new infectious disease equally affecting the susceptible population. COVID-19 hospitalizations and ventilation counts per Morbidity and Mortality Weekly Report (MMWR) week in SC shows the magnitude of hospitalizations across the whole period and during the surges (**Figure 6.53**). The reduction in the proportion of hospitalized patients requiring ventilation might be due to vaccination efforts aimed at reducing the severity of disease. Health care systems need to be prepared to handle similar situations, should they happen in the future. The top comorbidities (meaning someone has two or more conditions at the same time) among all COVID-19 cases, hospitalizations and deaths reported were cardiovascular disease (28.2%, 54.7%, 62% respectively), diabetes (24.5%, 45.1%, 47.3% respectively), COPD (22.2% and 25.1% among hospitalized and deaths) and asthma (19.7% among cases). Higher rates of comorbidities were reported among hospitalized cases and deaths. The evidence shows that chronic diseases and infectious diseases can often interact with each other and have synergistic effects. People with chronic diseases are more likely to become cases for infectious disease and in turn more likely to get hospitalized or die from the disease (**Figure 6.54**).

FIGURE 6.49

COVID-19 Cases, by Sex in South Carolina
Rate per 100,000 population

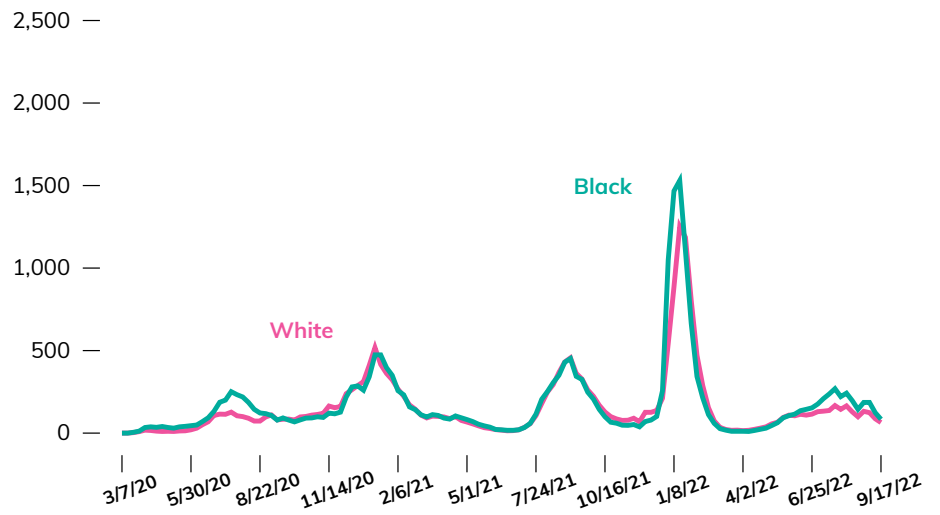


Source: SC DHEC Division of Acute Disease Epidemiology, 2022.

Notes: Data as of September 17, 2022.

FIGURE 6.50

COVID-19 Cases, by Race in South Carolina
Rate per 100,000 population



Source: SC DHEC Division of Acute Disease Epidemiology, 2022.

Notes: Data as of September 17, 2022.

Limitation: Other races are not shown because of absence of a defined population estimate denominator.

FIGURE 6.51

Fully Vaccinated Individuals, by Race in South Carolina
Rate per 100,000 population

Source: SC DHEC Division of Immunization, 2022.

Notes: Data as of September 17, 2022.
*Total percent of population of completed vaccination by race: White - 43.0%, Black - 41.2%

Limitation: Other races are not shown because of absence of a defined population estimate denominator.

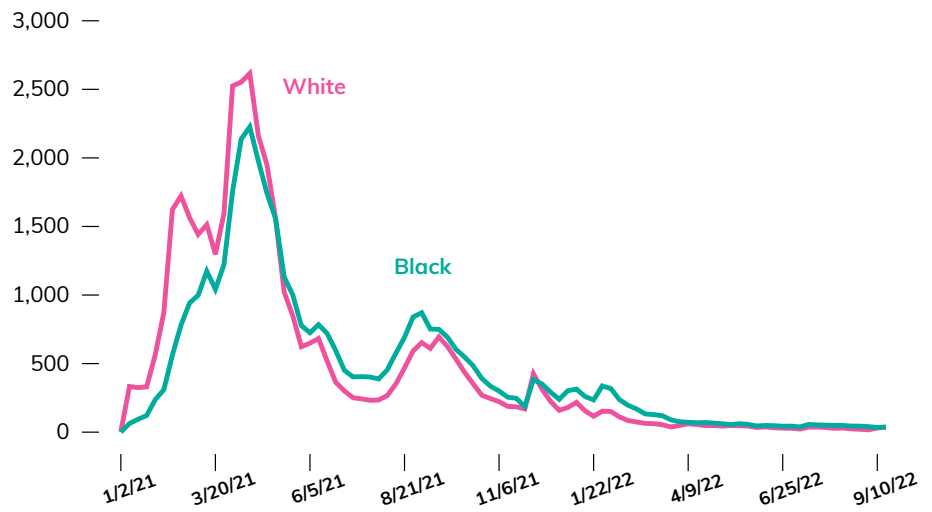


FIGURE 6.52

Deaths, by Age Group in South Carolina
Rate per 100,000 population

Source: SC DHEC Division of Acute Disease Epidemiology, 2022.

Notes: Data as of September 17, 2022.

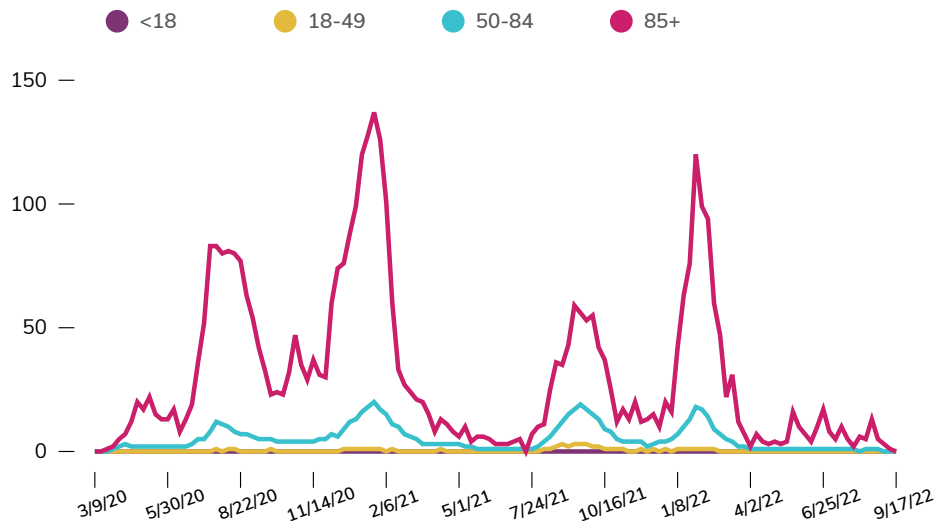
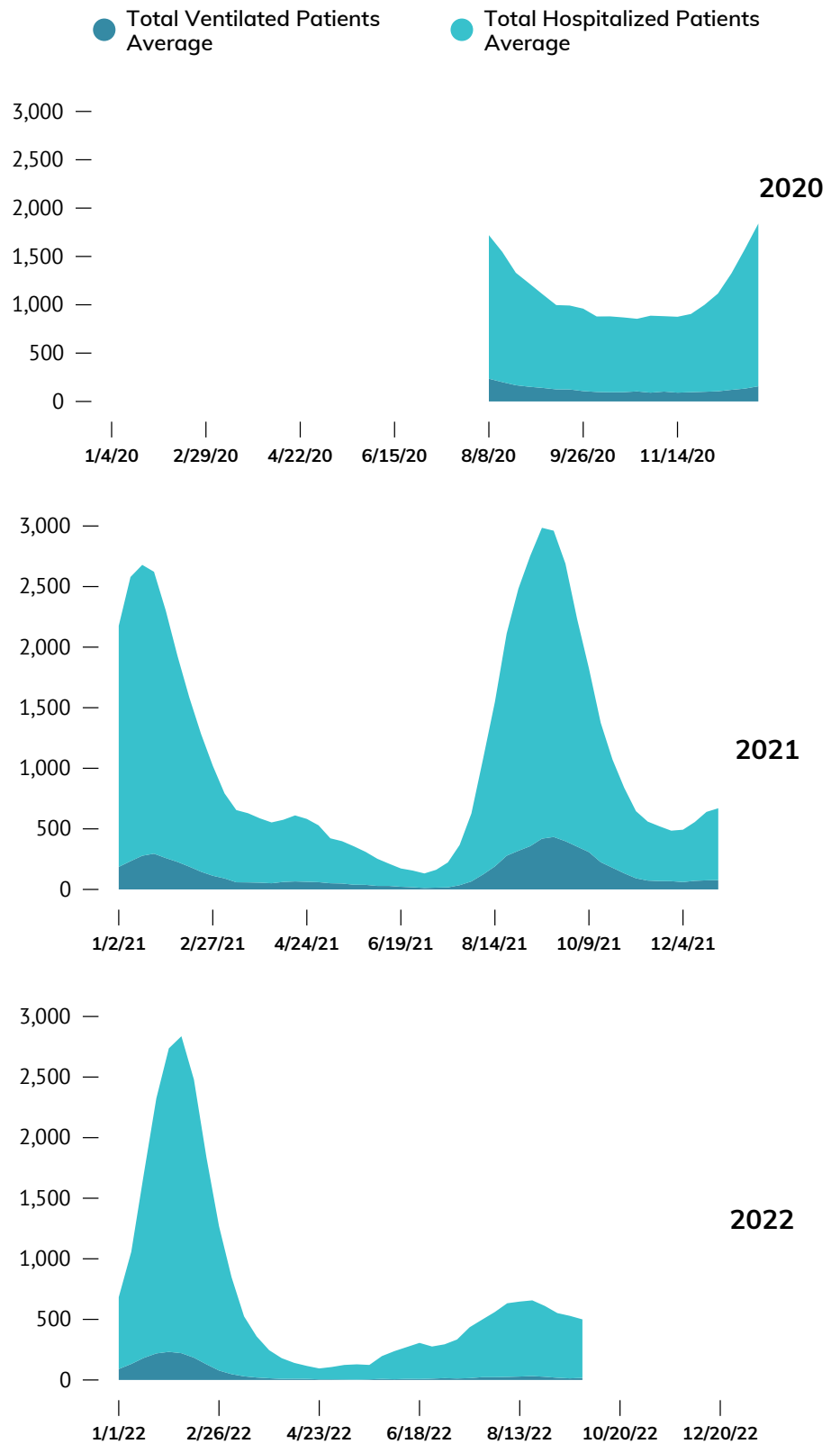


FIGURE 6.53

COVID-19 Patients Hospitalized and Ventilated, by Week
Average count per MMWR week



Source: COVID-19 hospitalization data and other key information are obtained through the federally mandated TeleTracking system.

Notes: Data as of September 17, 2022.

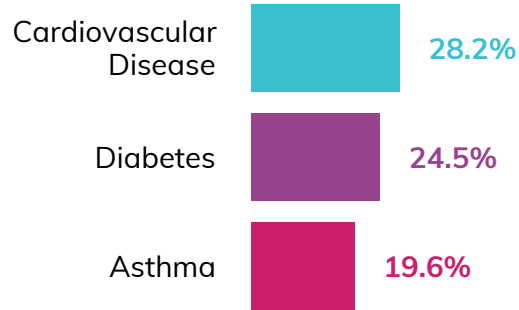
*TeleTracking system was implemented in August 2020. Therefore, hospitalization data prior to August 2020 cannot be shown due to data limitation.

FIGURE 6.54

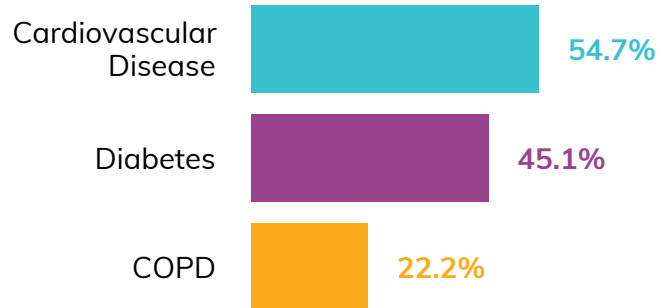
Frequently Reported Comorbidities with COVID – 19

Percent

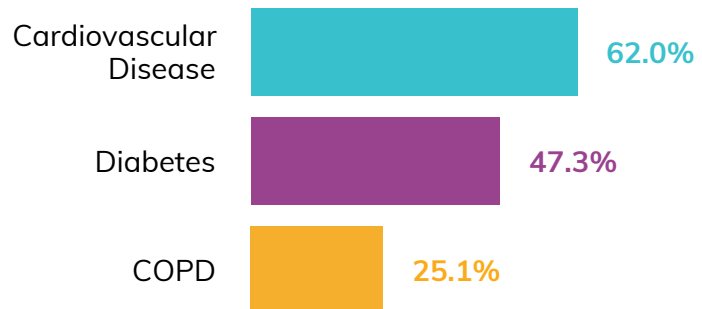
All Cases



Hospitalized Cases



Deaths



Source: SC DHEC Division of Acute Disease Epidemiology, 2022.

Notes: Data as of April 2, 2022. Comprehensive case investigation concluded on March 31, 2022. Focused investigations on congregate settings and outbreaks continue through present day. Comorbidities percentages calculated by Count of Yes to a specific comorbid condition over Count of Yes + No. Answers of unknown or no response were dropped. Percentages were calculated separately among all cases and cases that were known to be hospitalized by case investigation.

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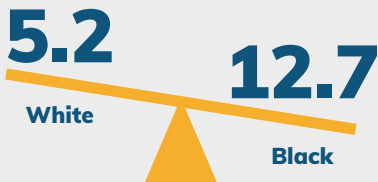
Healthy Mothers and Infants



Infant Mortality

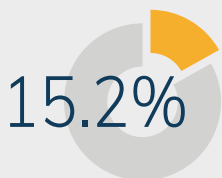


In 2021, the infant mortality rate for SC was 7.3 deaths per 1,000 live births, which exceeds the Healthy People 2030 target of 5.0.



Per 1,000 live births, Black infants die at a rate nearly 2.5 times that of White infants.

Preterm Births



Black mothers have the highest prevalence of preterm birth.

Preconception Health

35.6%

of women were at a healthy weight prior to pregnancy.

Fewer women in SC were at a healthy weight compared to other states, and the rate got worse between 2017 and 2021.

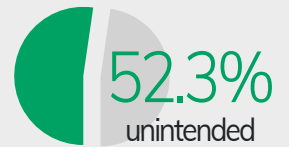
Non-Hispanic Black and **non-Hispanic Other** mothers reported the highest rate of **hypertension before pregnancy.**



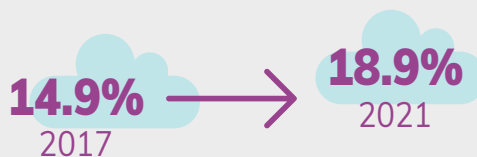
Pregnancy Intention

non-Hispanic Black women

Women less than 20 years of age



Behavioral Health



Prevalence of depression during pregnancy increased.



6.5% of SC women surveyed from 2019-2021 reported **prescription opioid use during pregnancy.**

Maternal Mortality

1,205 women died

in the US from pregnancy complications in 2021.

36.9

Pregnancy-related mortality rate in SC was 36.9 deaths per 100,000 live births from 2018-2019.

Top five underlying causes of pregnancy-related mortality in SC:

- 1** Cardiomyopathy
- 2** Mental and behavioral health conditions, such as depression and substance use
- 3** Hemorrhage
- 4** Cardiovascular conditions
- 5** Infections

Low Birthweight



Babies of **non-Hispanic Black** mothers have the highest prevalence of low birthweight births, at 15.4%.

Pregnancy Health

81.4%
White



63.1%
Hispanic

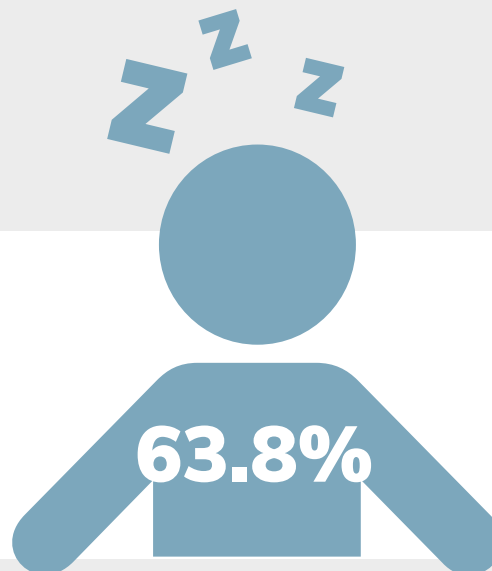
The percentage of mothers receiving **adequate prenatal care** was highest among non-Hispanic Whites (**81.4%**) and lowest among Hispanics (**63.1%**).

Non-Hispanic Black Women 67% Higher

The rate of pregnancy-related mortality among **non-Hispanic Black women** in SC was 67% higher than non-Hispanic White women.

Safe Sleep

Non-Hispanic Black mothers report the lowest rate of placing their infants to sleep on their back (63.8%).



Infant Mortality

Infant mortality refers to the unfortunate occurrence of a baby passing away before reaching the age of 1 year (<365 days). Historically, it has served as a crucial indicator of a society's overall health status.^{1,2} Multiple factors can contribute to infant mortality. In the year 2020, the United States (US) experienced the following leading causes of infant deaths: birth defects, preterm birth and low birthweight, Sudden Infant Death Syndrome (SIDS), injuries, and maternal complications of pregnancy.¹ To effectively identify existing health risks and mitigate adverse birth outcomes, women should receive regular care before (preconception care) or between pregnancies (interconception care).³ By providing targeted education, implementing interventions aimed at preventing infant deaths, and addressing the underlying factors, we can have a

meaningful impact on the communities most in need. Efforts to improve infant mortality rates should include a comprehensive approach that addresses not only medical interventions, but also factors such as access to high-quality health care, education on such topics as safe sleep practices, and social and economic support for expectant mothers and families.

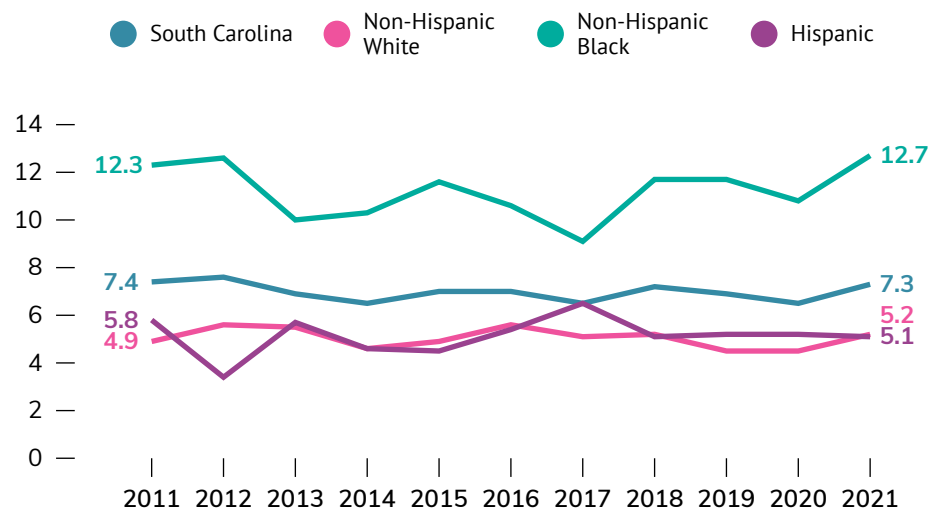
In 2021, the overall infant mortality rate for South Carolina (SC) was 7.3 deaths per 1,000 live births, and this rate is highest among non-Hispanic Black infants (12.7 deaths per 1,000 live births).

Data Interpretations: In 2021, the overall infant mortality rate for South Carolina (SC) was 7.3 deaths per 1,000 live births, and this rate has seen little change over the past decade (**Figure 7.1**). However, SC's infant mortality rate exceeds the Healthy People 2030 target of 5.0 deaths per 1,000 live births. Notably, there exists a significant disparity between infant deaths to non-Hispanic White women, with a rate of 5.2 deaths per 1,000 live births, and those born to non-Hispanic Black women, with 12.7 infant deaths per 1,000 live births (**Figure 7.1**).

It is important to examine the timing of infant deaths, classified as neonatal, or within 28 days, and postneonatal, at 28 to 364 days. Within SC, the neonatal infant death rate was 4.5 deaths per 1,000 live births, while the postneonatal infant death rate was 2.3 deaths per 1,000 live births (**Figure 7.2**). Neonatal mortality is often linked to events surrounding the prenatal period and delivery, while postneonatal deaths may reflect environmental factors and conditions arising after birth.

FIGURE 7.1

Infant Mortality, by
Maternal Race/Ethnicity
Rate per 1,000 live births

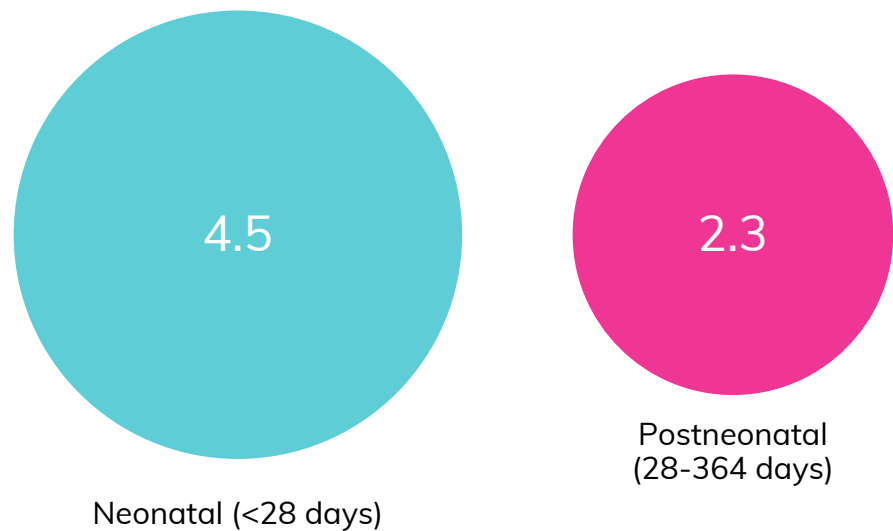


Source: SC DHEC Vital Statistics.

FIGURE 7.2

Infant Mortality, by Age at Death

Rate per 1,000 live births



Source: SC DHEC Vital Statistics, 2017-2021.

Maternal Mortality

In the US, 1,205 women died as a result of pregnancy complications in 2021.⁴ Pregnancy-related deaths are defined as a death while pregnant or within a year of the end of pregnancy from any cause related to or aggravated by pregnancy. In 2019 the pregnancy-related mortality ratio was 17.6 deaths per 100,000 live births in the US.⁵ Additionally, disparities exist by race and ethnicity; non-Hispanic Native Hawaiian or other Pacific Islander (62.8 deaths per 100,000 live births) and non-Hispanic Black women (39.9 deaths per 100,000 live births) had much higher rates of pregnancy-related death compared to non-Hispanic White women (14.1 deaths per 100,000 live births). Efforts must be made to tackle the underlying factors contributing to pregnancy-related mortality, especially among minorities, through ensuring appropriate medical interventions, promoting education and

increasing awareness regarding maternal health, and making sure birthing women of color receive equitable and comprehensive care during pregnancy and the post-partum period.

In SC, non-Hispanic Black women had a pregnancy-related mortality rate of 48.9 deaths per 100,000 live births, which was 67% higher than that of their non-Hispanic White counterparts who experienced a rate of 29.3 deaths per 100,000 live births.

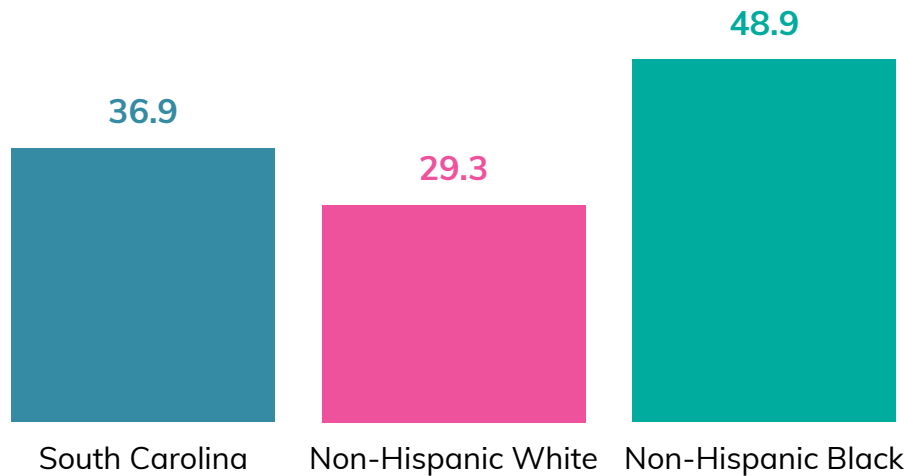
Data Interpretations: Data from the SC Maternal Morbidity and Mortality Review Committee from 2018-2019 showed that the pregnancy-related mortality rate in SC was 36.9 deaths per 100,000 live births (**Figure 7.3**). In SC, non-Hispanic Black women had a pregnancy-related mortality rate of 48.9 deaths per 100,000 live births, which was 67% higher than their non-Hispanic White counterparts who experienced a rate of 29.3 deaths per 100,000 live births (**Figure 7.3**). The top five leading underlying causes of pregnancy-related mortality in SC were: Cardiomyopathy, accounting for 16.7%; mental health conditions like depression and substance use, at 14.3%; hemorrhage at 11.9%; cardiovascular conditions at 9.5%; and infections at 9.5% (**Figure 7.4**).

FIGURE 7.3

Pregnancy-Related Mortality, by Race/Ethnicity Rate per 100,000 live births

Source: SC Maternal Morbidity and Mortality Review Committee Legislative Brief, 2023. 2018 and 2019 Pregnancy-Related deaths.

Note: A pregnancy-related death is defined as the death of a woman while pregnant or within one year of the end of pregnancy from any cause related to or aggravated by the pregnancy.

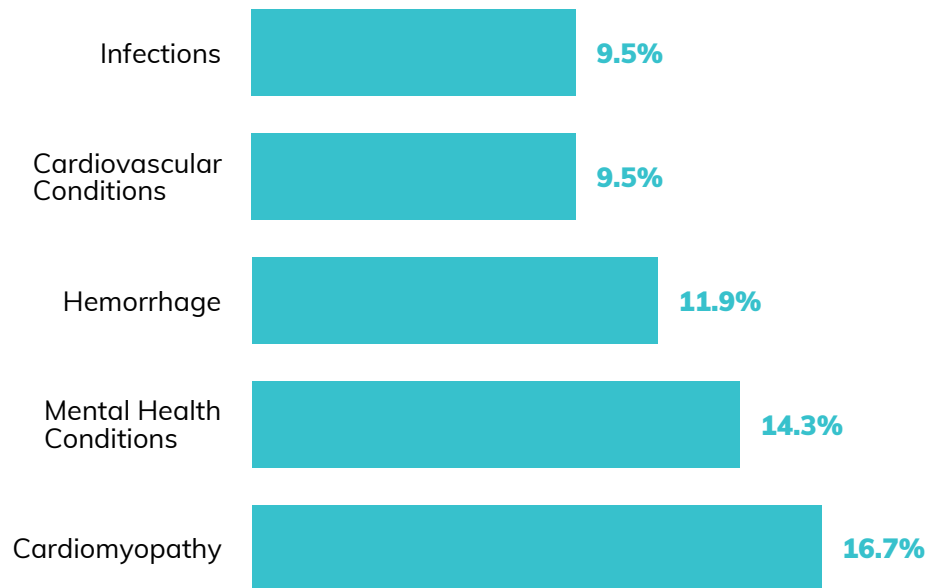
**FIGURE 7.4**

Leading Causes of Pregnancy-Related Mortality

Percent

Source: SC Maternal Morbidity and Mortality Review Committee Legislative Brief, 2023. 2018 and 2019 Pregnancy-Related deaths.

Note: A pregnancy-related death is defined as the death of a woman while pregnant or within one year of the end of pregnancy from any cause related to or aggravated by the pregnancy.



Healthy Moms - Preconception Health

Healthy Weight

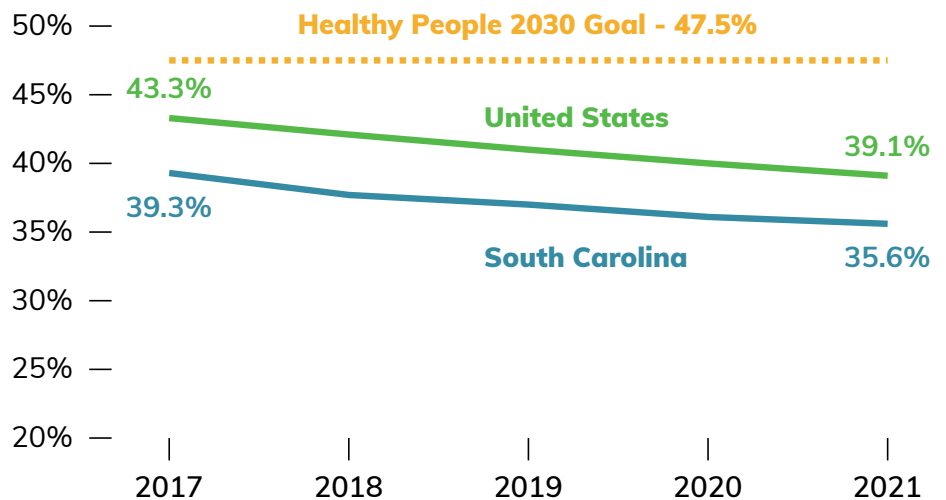
Preconception health refers to the health of people during their reproductive years, or the years they can have a child.⁶ An important aspect of preconception health is maintaining a healthy weight before pregnancy. Unhealthy weight prior to pregnancy is linked to poor pregnancy outcomes, including high blood pressure and gestational diabetes in mothers, as well as stillbirths and preterm births in infants.⁷

In SC, the proportion of women with a healthy weight prior to pregnancy was smaller compared to the US, and this decreased from 39.3% in 2017 to 35.6% in 2021, moving further away from the Healthy People 2030 goal of 47.5%.

Data Interpretations: In SC, the proportion of women with healthy weight prior to pregnancy was less than that of the US and this proportion decreased from 39.3% in 2017 to 35.6% in 2021, moving further away from the Healthy People 2030 goal of 47.5% (Figure 7.5). Between 2017 and 2021, Non-Hispanic Black and Hispanic women reported lower rates of having a healthy pre-pregnancy weight compared to non-Hispanic White mothers (Figure 7.6).

FIGURE 7.5

Healthy Weight (18.5 ≤ BMI < 25) Prior To Pregnancy
Percent



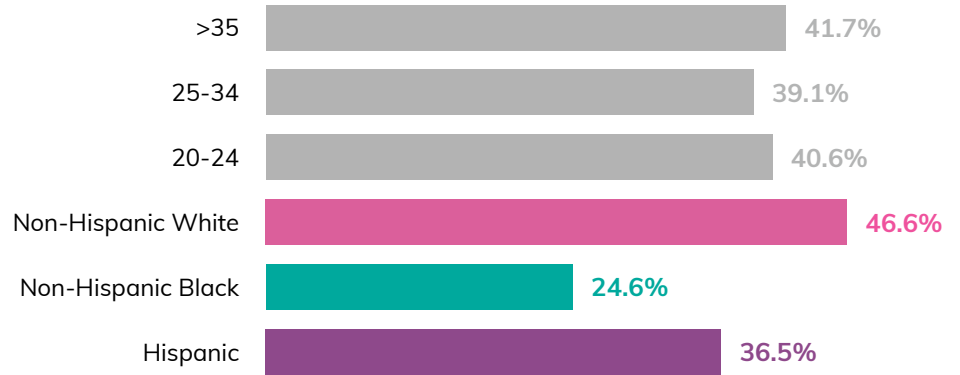
Source: National Vital Statistics System - Natality (NVSS-N), CDC/NCHS.

FIGURE 7.6

Healthy Weight (18.5 ≤ BMI < 25) Prior To Pregnancy, by Age Group and Race/Ethnicity

Percent

Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), 2017-2021.



Pre-Pregnancy Hypertension

Making sure medical conditions such as hypertension (high blood pressure) are being treated and under control is a highly important aspect of preconception health.⁸ High blood pressure during pregnancy can increase the risk of complications such as preeclampsia, eclampsia and stroke for the mother or preterm delivery and low birthweight for the child.⁹

High blood pressure during pregnancy can increase the risk of complications such as preeclampsia, eclampsia, and stroke for the mother or preterm delivery and low birthweight for the child.

Data Interpretations: In SC, the number of women who reported having hypertension in the three months prior to their pregnancies has slightly decreased between 2017-2021 (Figure 7.7). Non-Hispanic Black and non-Hispanic Other mothers reported the highest rate of hypertension before pregnancy (Figure 7.8). Additionally, the prevalence of hypertension prior to pregnancy increased with increasing age.

FIGURE 7.7

Hypertension 3 Months Before Pregnancy
Percent

Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS).

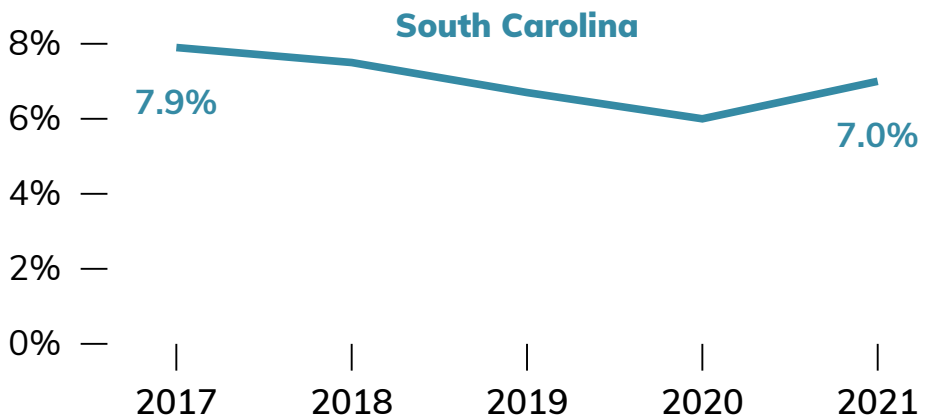
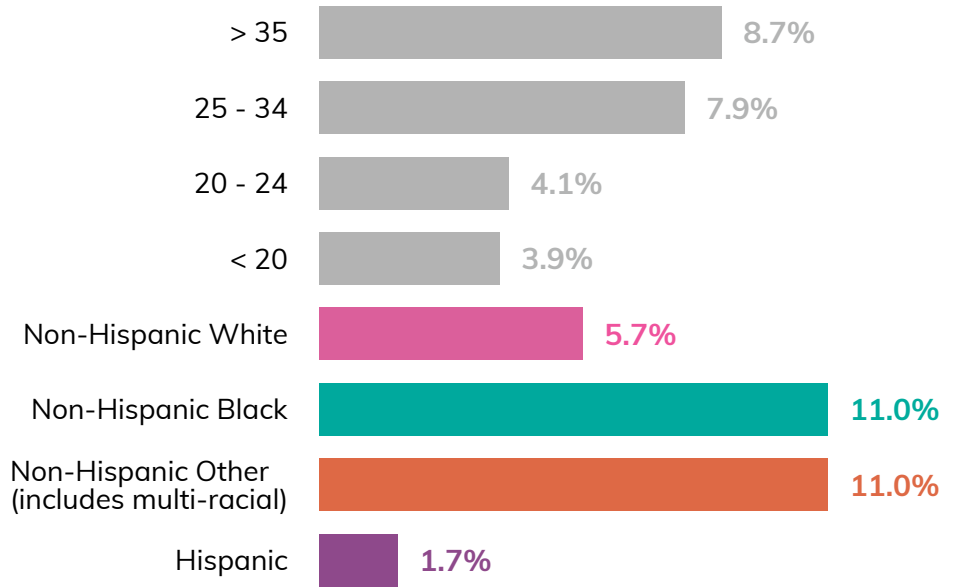


FIGURE 7.8

Hypertension 3 Months Before Pregnancy, by Age Group and Race/Ethnicity
Percent



Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), 2017-2021.

Pregnancy Intention

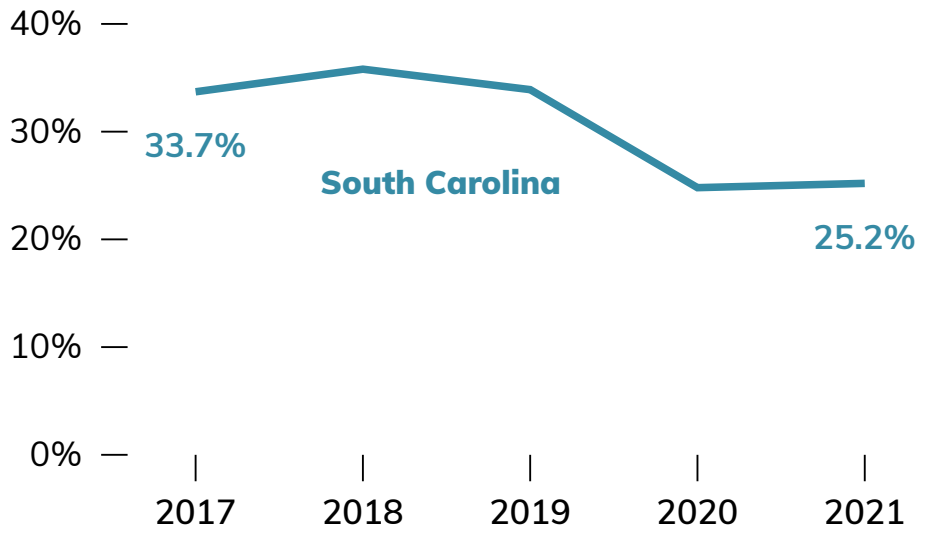
Preconception health is important for all women, whether they are planning for a pregnancy or not.⁸ However, preparing for pregnancy is an important step towards the healthiest pregnancy possible.⁸ Approximately half of pregnancies in the US are not planned, and women who have unintended pregnancies are more likely to delay getting health care during pregnancy, which could also affect the health of the baby.¹⁰

In SC, the rate of unintended pregnancies remained steady from 2017 to 2019, but has decreased from 33.9% in 2019 to 25.2% in 2021, moving in a positive direction and further below the Healthy People 2030 goal of 36.5%.

Data Interpretations: In SC, the rate of unintended pregnancies remained steady from 2017 to 2019, but has decreased from 33.9% in 2019 to 25.2% in 2021, moving in a positive direction (Figure 7.9). However, demographic disparities still exist; Non-Hispanic Black women (44.2%) and young mothers less than 20 years of age (52.3%) report the highest rates of unintended pregnancies (Figure 7.10).

FIGURE 7.9

**Unintended Pregnancy
Percent**

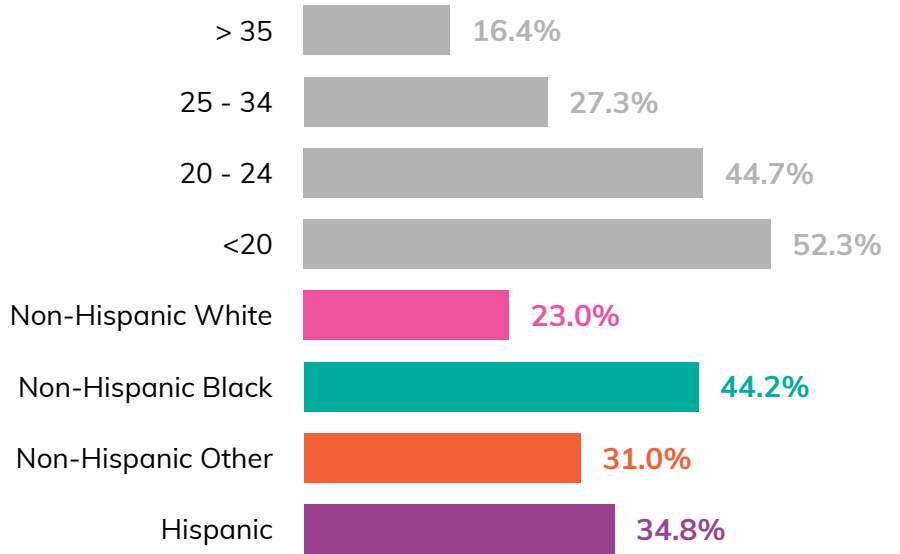


Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS).

Note: Unintended pregnancy is defined as wanting to be pregnant later (mistimed) or not wanting to be pregnant then or any time (unwanted).

FIGURE 7.10

**Unintended Pregnancy,
by Age Group and Race/
Ethnicity
Percent**



Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), 2017-2021.

Note: Unintended pregnancy is defined as wanting to be pregnant later (mistimed) or not wanting to be pregnant then or any time (unwanted).

Fertility

Overall, US fertility rate, or the birth rate per 1,000 women 15-44, have gradually declined in the past 10 years, mostly among young women ages 20-24.¹¹ Several lifestyle and economic factors (e.g., postponement of marriage and childbearing to older age, increases in women’s educational attainment and labor force participation, economic prosperity, availability and affordability of childcare) have been attributed to the decrease in fertility in developed countries such as the US.¹² These decreases in fertility

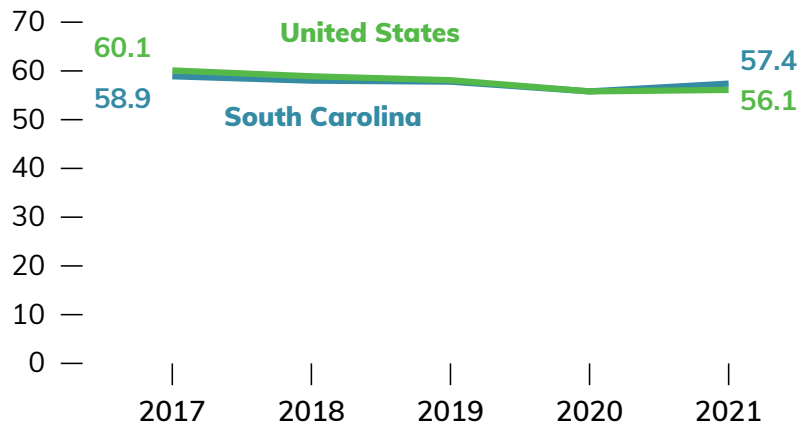
can have economic impacts, as children are needed to replenish an aging population in the labor force.¹²

General fertility in SC is highest among the Hispanic population.

Data Interpretations: In SC, general fertility among women ages 15-44 has slightly decreased from 58.9 live births per 1,000 women 15-44 in 2017 to 57.4 live births per 1,000 women 15-44 in 2021, and the SC fertility rate was very similar to that of the US over this same time period (Figure 7.11). Additionally, general fertility in SC is highest among the Hispanic population (Figure 7.12).

FIGURE 7.11

General Fertility
Birth rate per 1,000 women aged 15-44

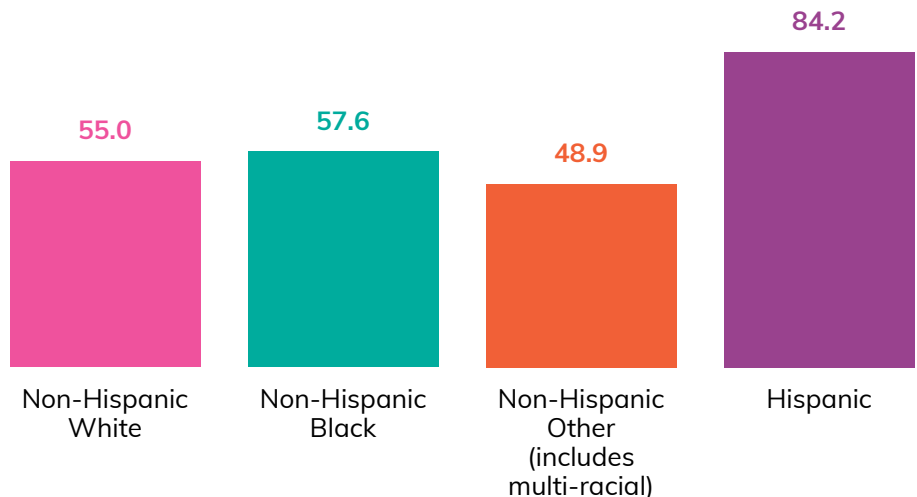


Source: SC DHEC Vital Statistics, 2017-2021. US data from natality data on CDC WONDER Online Database.

Note: Ages 15-44.

FIGURE 7.12

General Fertility, by Race/Ethnicity
Birth rate per 1,000 women aged 15-44



Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Pregnancy Health

Prenatal Care

Receiving early and regular prenatal care during pregnancy is key to monitoring and maintaining maternal and fetal health. Prenatal care assists women in preventing and reducing the risk of complications during pregnancy, including infections, gestational diabetes and preeclampsia.¹³ Once diagnosed, those complications can be treated by prenatal care providers, which improves health outcomes. Lack of prenatal care is associated with negative pregnancy outcomes. Infants in the US born to mothers who did not receive prenatal care are 3 times more likely to be of low birthweight and 5 times more likely to die; additionally, women who do not receive prenatal care are 3-4 times more likely to die from pregnancy-related

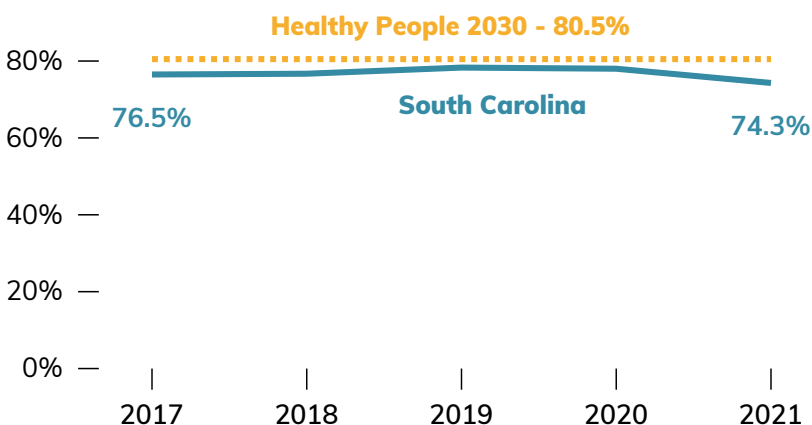
complications.^{14,15} Barriers to receiving adequate prenatal care include financial factors, social attitudes and lack of knowledge.¹⁶⁻¹⁸

The percentage of mothers receiving adequate prenatal care was highest among the non-Hispanic White population, and lowest among the Hispanic population.

Data Interpretations: The percentage of SC mothers that received adequate prenatal care from 2017 through 2020 increased from 76.5% in 2017 to 78% in 2020, but then decreased to 74.3% in 2021 (**Figure 7.13**). The Healthy People 2030 goal for adequate prenatal care is set at 80.5%, and in 2021 SC was 6.2% away from meeting that goal. The percentage of mothers receiving adequate prenatal care was highest among the non-Hispanic White population at 81.4%, followed by non-Hispanic Other (73.9%) and non-Hispanic Black (72.7%), and lowest among the Hispanic population (63.1%) (**Figure 7.14**). This rate was 18.3% higher within the non-Hispanic White population compared to the Hispanic population, indicative of a potential disparity when it comes to receiving adequate prenatal care.

FIGURE 7.13

Adequate Prenatal Care Percent



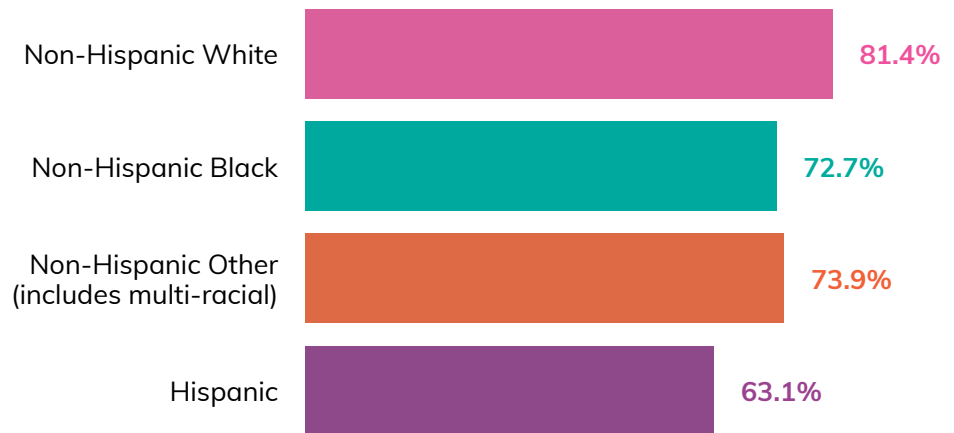
Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates. Adequate Prenatal Care = Receiving adequate or adequate plus prenatal care as defined by the Kotelchuck Index.

FIGURE 7.14

Adequate Prenatal Care, by Race/Ethnicity

Percent



Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Gestational Diabetes

Gestational diabetes mellitus (GDM) is a type of diabetes that develops in pregnant women who previously were not diabetic.¹⁹ Risk factors for developing GDM include age, level of physical activity, weight, presence of other medical conditions and family history.¹⁹ GDM affects the health of the pregnancy and can also have long-term impacts on both maternal and infant health. Half of all women who experience GDM develop type 2 diabetes later in life, and infants of GDM pregnancies are more likely to experience complications during and after delivery, including preterm birth and respiratory distress.^{20,21} Prenatal care is important to diagnose and assist in treatment for GDM. Treatment can include dietary changes, lifestyle changes, and

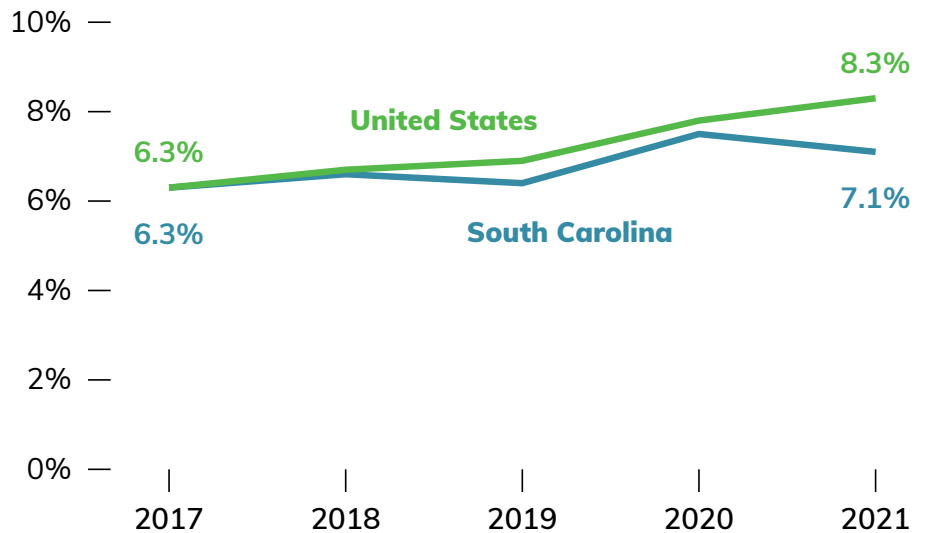
medication. Properly controlled GDM is associated with lowered health risks to maternal and infant health.²²

Risk factors for developing GDM — such as physical activity, weight, and presence of other medical conditions — should be closely monitored to lower health risks for adverse maternal and infant health outcomes.

Data Interpretations: From 2017 through 2021, the percentage of infants born to mothers experiencing GDM increased slightly from 6.3% to 7.1% (**Figure 7.15**). Although this prevalence was the same between SC and the US in 2017, SC has experienced smaller increases compared to the US between 2017 and 2021 (**Figure 7.15**). However, disparities exist in GDM rates in SC, as the non-Hispanic Other population, followed by Hispanics, had the highest rates of GDM (**Figure 7.16**).

FIGURE 7.15

Gestational Diabetes Percent

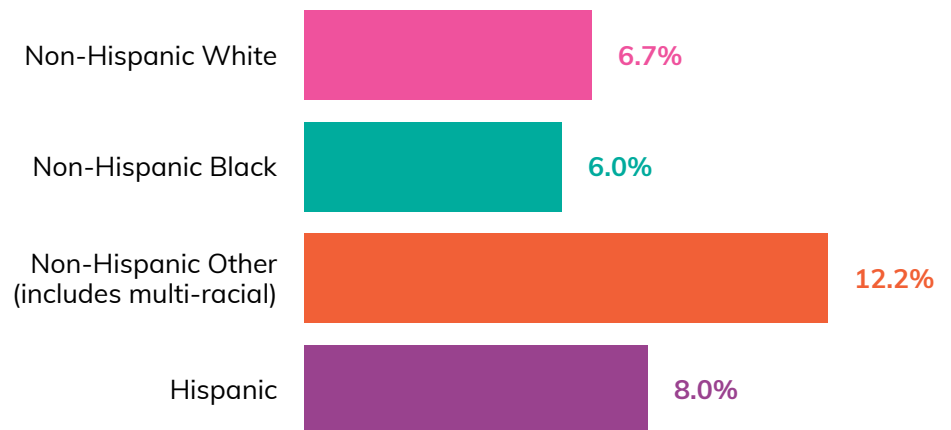


Source: SC DHEC Vital Statistics, 2017-2021. US data from natality data on CDC WONDER Online Database.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 7.16

Gestational Diabetes, by Race/Ethnicity Percent



Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Oral Health

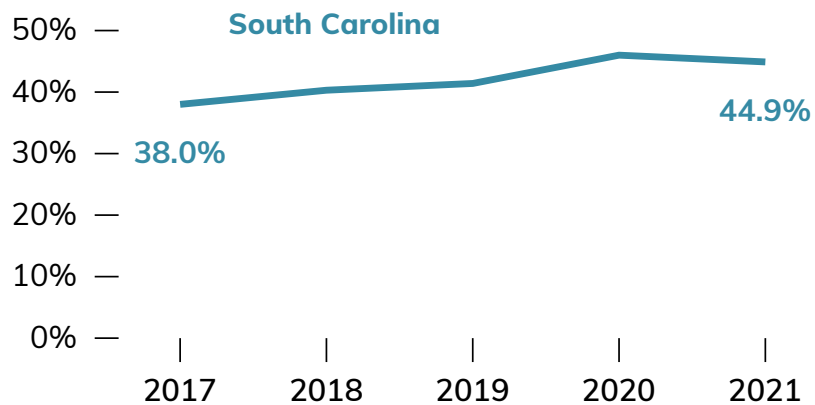
Maintaining good oral health throughout life is important, as it contributes to better general health. During pregnancy, maintaining oral health is especially important; pregnant women are more prone to dental issues, including gingivitis, periodontitis, pregnancy tumors (pyogenic granuloma), tooth decay, loose teeth and tooth loss.²³ Additionally, poor oral health like periodontitis has been associated with poor pregnancy outcomes, such as preterm birth and low birthweight.²⁴ Attending regular dental cleaning appointments during pregnancy is one key method for monitoring any developing teeth and gum issues that could affect overall health.²⁵ Barriers to receiving dental care during pregnancy include financial factors, myths and beliefs about safety of treatment, anxiety over treatment and other social factors.²⁶

Attending regular dental cleaning appointments during pregnancy is one key method to monitor any developing teeth and gum issues as poor oral health like periodontitis has been associated with poor pregnancy outcomes such as preterm birth and low birthweight.

Data Interpretations: From 2017 through 2021, the percentage of women in SC who got their teeth cleaned during pregnancy increased from 38.0% to 44.9% (Figure 7.17). When broken down by racial and ethnic groups, the rate of teeth cleaning during pregnancy was highest amongst the non-Hispanic White population at 48.0%, followed by the non-Hispanic Black and Hispanic populations at 36.2% and 29.0%, respectively (Figure 7.18).

FIGURE 7.17

Teeth Cleaned During Pregnancy
Percent

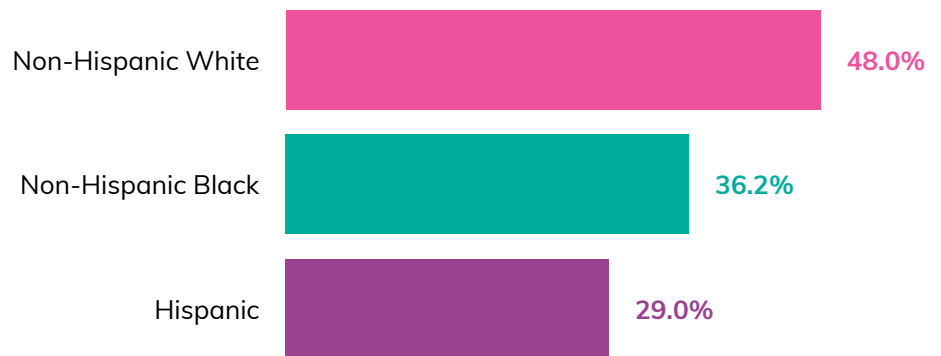


Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), 2017-2021.

FIGURE 7.18

Teeth Cleaned During Pregnancy, by Race/Ethnicity

Percent



Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), 2017-2021.

Behavioral Health

Mental Health

Mental health conditions are one of the leading causes of pregnancy-related deaths in the US and in SC.²⁷ Being mentally healthy is an important part of planning for pregnancy. However, mental health conditions such as depression are common among women of reproductive age before, during and after pregnancy. Women of all ages, whether they are planning on being pregnant or not, should talk to their health care provider about counseling or other treatments if they think they may suffer from depression or other mental health conditions.²⁸

Risk factors for developing depression during or after pregnancy include personal or family history of depression, having a difficult or complex pregnancy, having an unplanned pregnancy, and experiencing

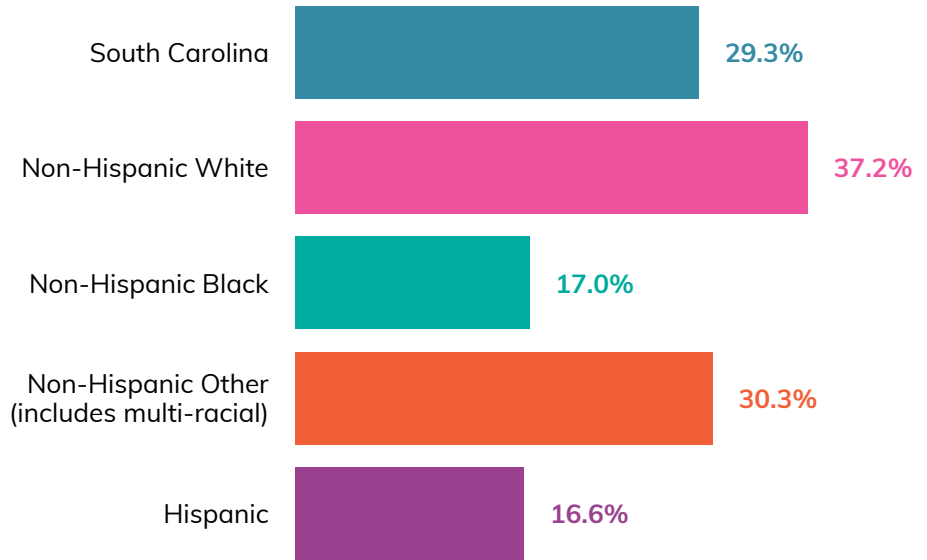
interpersonal or financial stressors.²⁹ Maternal depression can affect the health of infants as well. Left untreated, mothers experiencing depression may be less motivated to care for themselves and their developing babies during pregnancy, and may find it hard to bond with and properly care for a newborn.^{30,31}

In SC, 29% of women 18-44 reported having depression, and this was highest among non-Hispanic White women.

Data Interpretations: In SC, 29.3% of women ages 18-44 reported having depression, and this was highest among non-Hispanic White women (37.2%) (Figure 7.19). Additionally, the prevalence of depression during pregnancy is increasing over time, from 14.9% of new mothers reporting having depression during pregnancy in 2017 to 18.9% in 2021 (Figure 7.20).

FIGURE 7.19

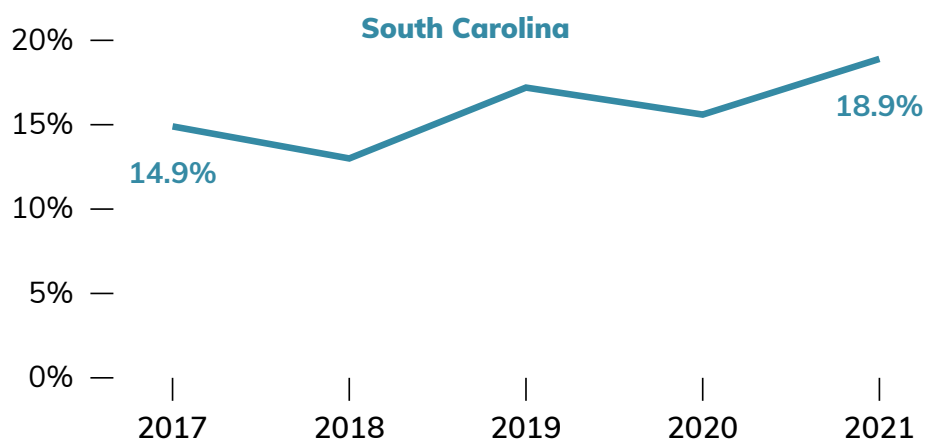
Prevalence of Depression Among Women aged 18-44, by Race/Ethnicity
Percent



Source: SC BRFSS, 2019-2021.

FIGURE 7.20

Prevalence of Depression During Pregnancy
Percent



Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS).

Substance Use

Substance use during pregnancy, including alcohol, tobacco and drugs, can be detrimental to infant health. Consuming alcohol at any point in pregnancy is risky and increases the chances of birth defects, brain damage, developmental problems, low birthweight, premature birth, miscarriage, and stillbirth.³² These issues can develop early in pregnancy, often before a woman realizes she is pregnant. Tobacco and other e-cigarette products that contain nicotine have been linked to brain and lung damage in developing infants, and usage also increases risks of low birthweight, mouth and lip defects, and premature birth.³³ Marijuana usage during pregnancy has been linked to low birthweight and abnormal neurological development in infants, which can affect impulsivity during adolescence.³⁴ Prescription opioid use during

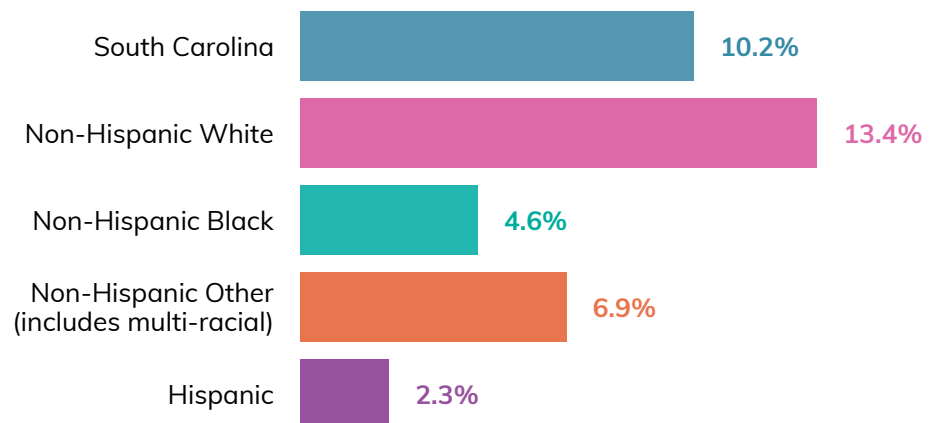
pregnancy has been associated with increased chances of preterm birth, poor fetal growth, and stillbirth, as well as the chance of neonatal opioid withdrawal syndrome after birth.³⁵ Avoiding use of substances during pregnancy and while actively trying to get pregnant is the best way to avoid negative outcomes, and raising awareness of the risks of substance use is key to prevention.

Prescription opioid use during pregnancy was reported in 6.5% of SC women surveyed in 2019-2020.

Data Interpretations: Approximately one in 10 women of childbearing age reported ever having a problem with alcohol or drugs in SC, with non-Hispanic White women of childbearing age reporting the highest percentage at 13.4% (Figure 7.21). About 1 in 50 women of childbearing age reported having current problems with alcohol or drugs in SC from 2019-2021, with Non-Hispanic White women reporting the highest current substance problem percentage 2.8% (Figure 7.22). Prescription opioid use during pregnancy was reported in 6.5% of SC women surveyed in 2019-2020 (Figure 7.23). The highest percent was reported by non-Hispanic Black women at 8.6% (Figure 7.23).

FIGURE 7.21

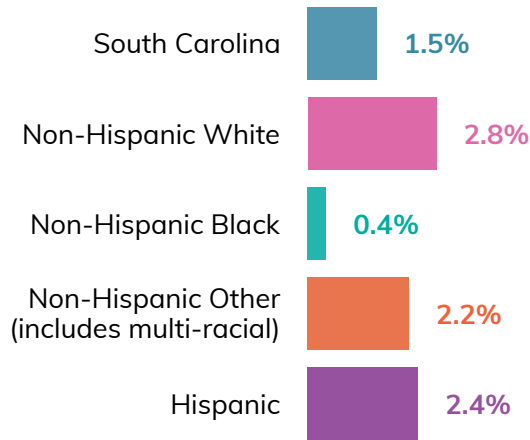
Prevalence of Ever Having a Problem with Alcohol or Drugs Among Women aged 18-44, by Race/Ethnicity
Percent



Source: SC BRFSS, 2019-2021.

FIGURE 7.22

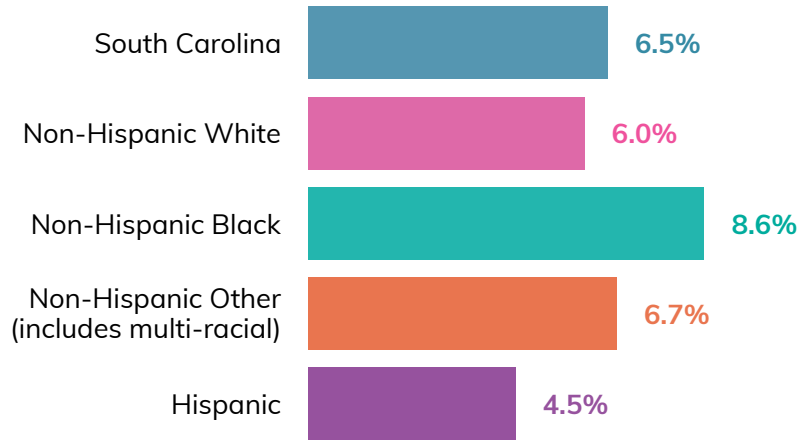
Prevalence of Currently Having a Problem with Alcohol or Drugs Among Women aged 18-44, by Race/Ethnicity
Percent



Source: SC BRFSS, 2019-2021.

FIGURE 7.23

Prevalence of Prescription Opioid Use During Pregnancy, by Race/Ethnicity
Percent



Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), 2019-2020.

Note: Opioids = Hydrocodone (like Vicodin®, Norco®, or Lortab®), Codeine (like Tylenol® #3 or #4, not regular Tylenol®), Oxycodone (like Percocet®, Percodan®, OxyContin®, or Roxicodone®), Tramadol (like Ultram® or Ultracet®), Hydromorphone or meperidine (like Demorol®, Exalgo®, or Dilaudid®), Oxymorphone (like Opana®), Morphine (like MS Contin®, Avinza®, or Kadian®), Fentanyl (like Duragesic®, Fentora®, or Actiq®).

Healthy Infants


Preterm Births

Preterm birth is defined as the occurrence of a live birth before 37 completed weeks of pregnancy, and is a significant public health priority area and Healthy People 2030 objective.^{36,37} Some challenges may exist for babies born early, such as increased risk of infections, breathing or feeding challenges, disability, and hearing and vision problems.³⁶⁻³⁸

Among the known risk factors for preterm birth, pregnancy complications due to infections or chronic conditions, having had a previous preterm birth, and stress and perinatal depression all increase the risk of preterm birth. Maternal age and exposure to racism, discrimination, and other social and economic factors can also have an adverse effect on birth outcomes.³⁶⁻³⁹ Receiving high-quality medical care early during pregnancy, maintaining a healthy pre-pregnancy weight, not engaging in substance use, participating in prenatal Women, Infants, and Children (WIC) Program visits, and waiting at least 18 months between pregnancies reduce the likelihood of delivering before 37 completed weeks of pregnancy.³⁶⁻⁴⁰

Some studies have also reported an association between indicators of social vulnerability (e.g., race and

ethnicity, population structure, socioeconomic status, housing structure, and access/functional needs) and both low birthweight and preterm birth. In addition to medical, behavioral and lifestyle factors, efforts should continue around understanding the intersection of the social environment to mitigate the drivers of poor birth outcomes.⁴¹

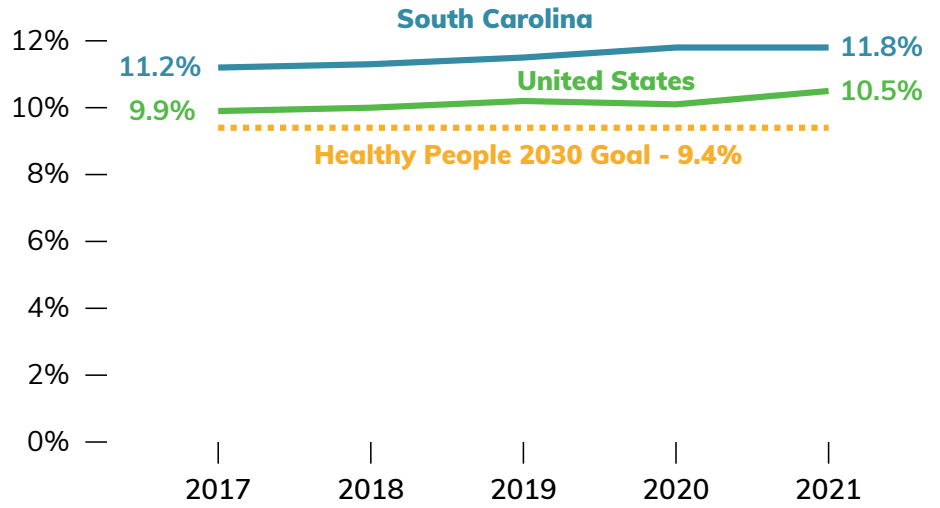


In SC, the prevalence of preterm birth has been steadily increasing over time. Some studies have reported an association between indicators of social vulnerability (e.g., race and ethnicity, population structure, socioeconomic status, housing structure, and access/functional needs) and both low birthweight and preterm birth.

Data Interpretations: In SC, the prevalence of preterm birth has been steadily increasing over time, from 11.2% in 2017 to 11.8% in 2021 statewide (**Figure 7.24**). SC's rates are higher than the US rate of 10.5% in 2021 and the Healthy People 2030 goal of 9.4%. Additionally, the prevalence of preterm birth increases with increasing maternal age (**Figure 7.25**). Non-Hispanic Black mothers have the highest prevalence of preterm birth (15.2%) as compared to other racial and ethnic populations (**Figure 7.26**).

FIGURE 7.24

Preterm Births
Percent

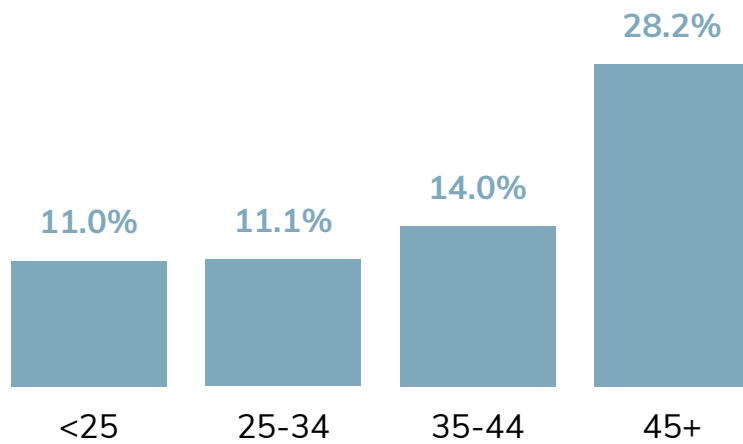


Source: SC DHEC Vital Statistics. US data from natality data on CDC WONDER Online Database.

Note: preterm birth equal to <37 weeks.

FIGURE 7.25

Preterm Births, by Maternal Age
Percent

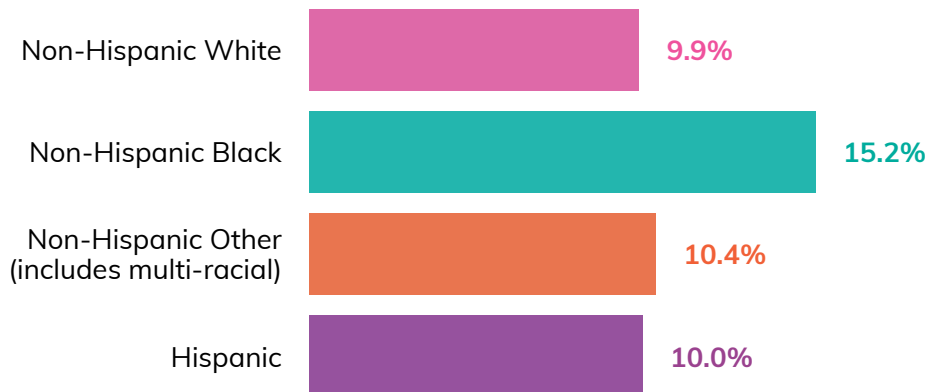


Source: SC DHEC Vital Statistics, 2017-2021.

Note: preterm birth equal to <37 weeks.

FIGURE 7.26

Preterm Births, by Maternal Race/Ethnicity
Percent



Source: SC DHEC Vital Statistics, 2017-2021.


Note: preterm birth equal to <37 weeks.

Low Birthweight

Babies weighing less than 2,500 grams (or about 5.5 pounds) at birth are classified as having low birthweight. A significant marker for infant survival, developmental delays in childhood, and disease in adulthood, low birthweight is, in many cases, preventable.^{42–44} Some challenges may exist for babies born with low birthweight, such as low oxygen levels and breathing problems at birth, decreased ability to maintain an appropriate body temperature, infection, difficulty feeding and gaining weight, digestive and nervous system issues, and increased risk of SIDS.^{43,44}

Low birthweight is largely caused by early or preterm birth. It can also result from intrauterine growth restriction (IUGR), or when a fetus does not grow as expected.⁴⁵ There are medical, behavioral, and lifestyle factors that can increase one's risk of having a low- birthweight baby. These include having chronic health conditions like high blood pressure, diabetes, and problems involving the vital organs (i.e., heart, lung, kidney), having preterm labor and a history of preterm birth, infections, placental issues, malnutrition, substance use (i.e., smoking, alcohol consumption, illicit drugs), and exposure to toxins and pollutants.^{42–45}

Maternal age, domestic violence, and exposure to racism, discrimination, and other social and economic factors can have an adverse effect on birth outcomes as well.^{44,46} Maintaining a healthy diet, being physically healthy, not engaging in substance use, and being married are associated with a lower prevalence of low birthweight.^{43–46} Prenatal WIC participation is also linked to a lower prevalence of low birthweight.⁴⁰



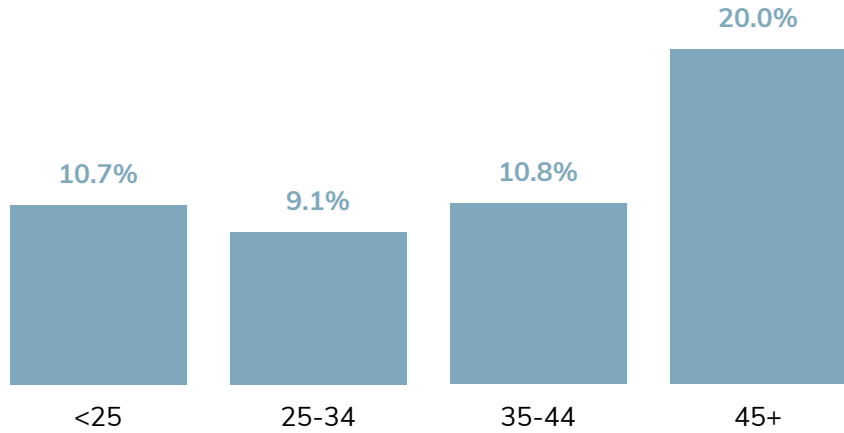
Non-Hispanic Black mothers have the highest prevalence of low-birthweight births as compared to other racial and ethnic populations. Additionally, low birthweight prevalence is lowest in highly populated counties across SC that are usually richer in resources and have better access to services.

Data Interpretations: The prevalence of low birthweight was 10% in SC in 2021, higher than that of the US in that same year (8.5%). Low birthweight prevalence is highest among older (≥ 35 years) mothers (**Figure 7.27**). Non-Hispanic Black mothers have the highest prevalence of low-birthweight births as compared to other racial and ethnic populations (**Figure 7.28**). Pregnancies resulting in multiple births tend to also have a higher risk for low-birthweight babies. There is evidence associating low birthweight with the degree of rural isolation in some communities.

Low birthweight prevalence is lowest in highly populated counties across SC which are usually richer in resources and with better access to services (**Figure 7.29**). These counties makeup the metropolitan areas of the state. Conversely, counties having the highest prevalence of low birthweight are smaller, more rural counties, many of which lie along the I-95 corridor of the state.

FIGURE 7.27

Low Birthweight, by Maternal Age
Percent

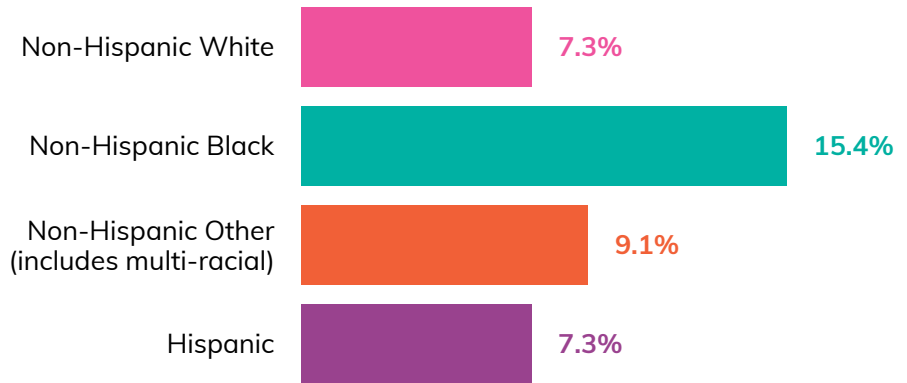


Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 7.28

Low Birthweight, by Maternal Race/Ethnicity
Percent

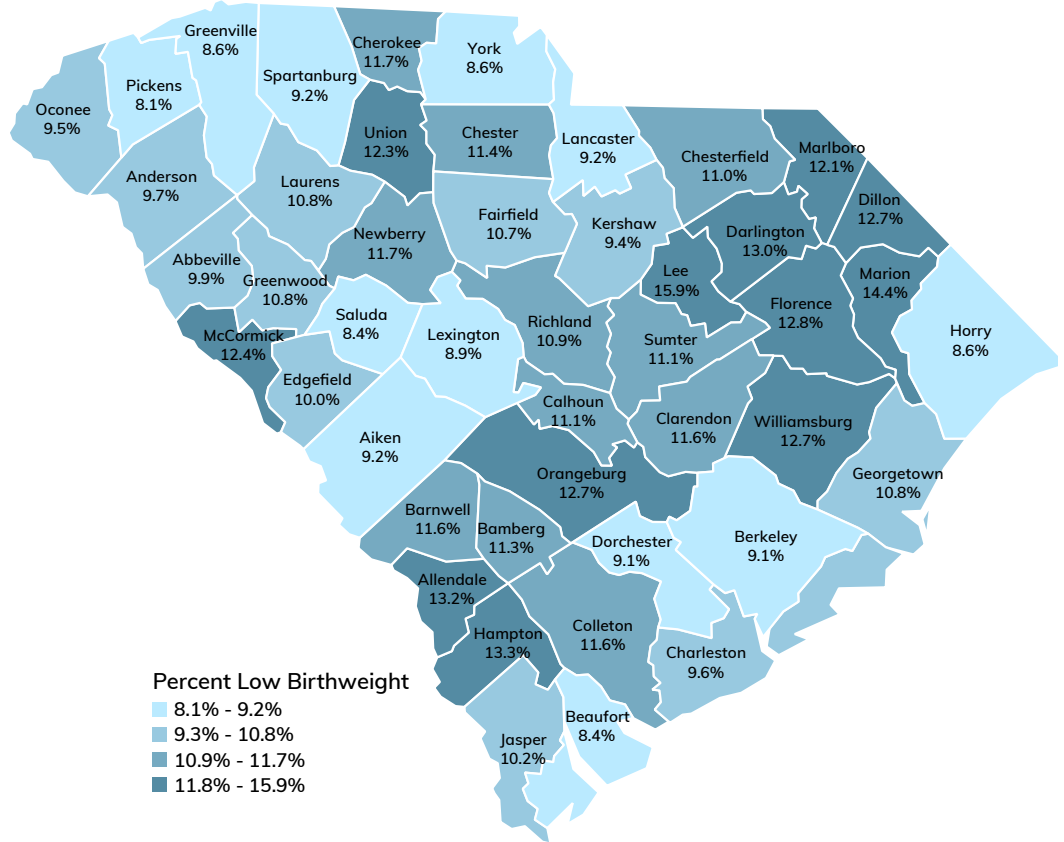


Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 7.29

Low Birthweight, by County Percent



Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Birth Defects

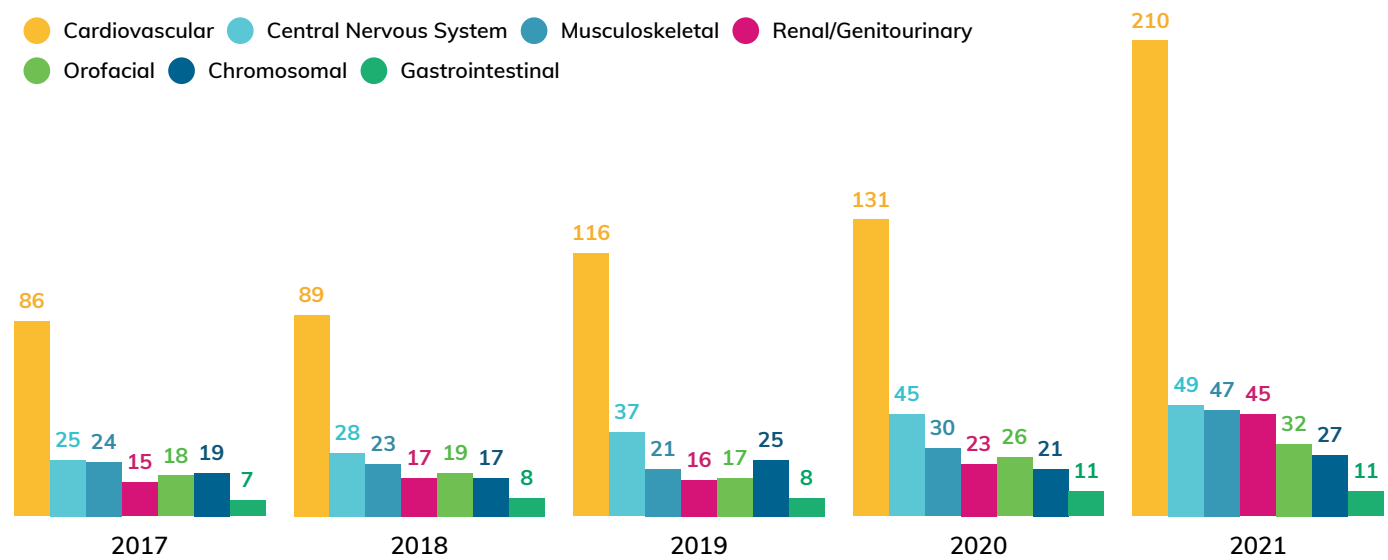
Birth defects, otherwise known as congenital malformations, are any functional or structural abnormality that has a prenatal origin.⁴⁷ They can be caused by a wide array of factors including, but not limited to, genetic abnormalities, maternal nutrition and health status, and prenatal exposure to chemicals or substances including alcohol, tobacco, and other drugs.^{47,48} Birth defects affect 1 in 33 babies in the US and are the leading cause of infant mortality nationwide.⁴⁹

In SC, the greatest burden of birth defects are from malformations of the cardiovascular system.

Data Interpretations: In SC, the greatest burden of birth defects is from malformations of the cardiovascular system (Figure 7.30). Effective ways to reduce risk for development of birth defects are to take folic acid before and during pregnancy, maintain a healthy lifestyle, and avoid behaviors and substances that could potentially be harmful to the baby.⁴⁹ Additionally, adequate prenatal care can help, with early detection and diagnosis, to improve outcomes for infants with birth defects.

FIGURE 7.30

Rate of Birth Defects, by Organ System
Rate per 10,000 Live Births



Source: SC Birth Defects Program.


Note: Hypospadias and Atrial septal defects are only collected in conjunction with other birth defects the program regularly abstracts. Surveillance expanded to additional settings in 2020.

Breastfeeding

Breastfeeding is advantageous for both mother and baby, and exclusive breastfeeding through six months is a Healthy People 2030 objective.⁵⁰ In most cases, breastfeeding can be initiated at birth, and may be the primary source of nutrition through the first six months. The benefits of breastfeeding are proven, and extend beyond the infancy period. These benefits can range from intellectual and motor development as well as a reduction in the risk of infection (e.g., gastrointestinal, respiratory), SIDS, and chronic diseases throughout infancy and childhood. Breastfeeding also reduces the risk of premenopausal breast and ovarian cancers, high blood pressure, and type 2 diabetes for the mother.⁵¹⁻⁵³

There is an array of factors that may challenge the initiation or continuation of breastfeeding for mother and baby. Age, parity, and some maternal health conditions are non-modifiable maternal risk factors that can negatively affect breastfeeding.⁵⁴ Among modifiable maternal risk factors, lack of social support, exposure to interpersonal violence and home stressors, late or lack of prenatal care, the use and timing of oral contraceptives, substance use, and the desire to return to work may also impede the initiation or continuation of breastfeeding. Family support and education, intervention, and referrals provided by pediatricians and lactation specialists offered through hospitals, birthing centers, and clinics are essential. Just as important to achieving our goals are hospital practices, workplace policies, community resources and programs such as WIC, which provide breastfeeding peer counseling and lactation support to mothers and their babies.⁵³⁻⁵⁵

The US Surgeon General has issued a Call to Action that outlines steps for the removal of barriers faced by women who desire to breastfeed. The Call to Action provides specific recommendations for the health care community, employers, community leaders, families and friends, as well as policymakers. The recommendations include ensuring access to International Board Certified Lactation Consultants, breastfeeding education geared toward providers, starting and maintaining high-quality lactation support programs for employees, using community organizations to promote and support breastfeeding, educating fathers and grandmothers about breastfeeding, supporting nonprofit organizations that promote breastfeeding in racial and ethnic minority communities, and supporting better tracking of breastfeeding rates and their associated factors.⁵⁶



In SC, the prevalence of exclusive breastfeeding through 6 months was 19.3%, far below the HP 2030 goal of 42.4%. Family and health care team support and education are essential to initiating and continuing breastfeeding.

Data Interpretations: Breastfeeding initiation rates are relatively high in non-Hispanic White (81.8%), non-Hispanic Other (85.6%), and Hispanic (85.4%) populations and lowest the among non-Hispanic Black population (65.8%) (**Figure 7.31**). By maternal age, breastfeeding initiation rates increase with increasing age (**Figure 7.32**).

With respect to exclusivity and duration, only 43.3% and 19.3% of infants born in 2019 in SC breastfed exclusively through three and six months, respectively. Exclusive breastfeeding of any duration has declined since 2016 in both SC and the US (**Figure 7.33**). In the SC WIC Program, 23.6% of infant participants were, on average, either fully (8.4%) or partially (15.2%) breastfed during 2022. Since 2020, breastfeeding rates in the WIC program have increased by 13% (**Figure 7.34**).

Breastfeeding initiation rates are highest in the metropolitan areas of the state, which usually have greater access to breastfeeding support services and community resources that encourage breastfeeding than less urban areas (**Figure 7.35**).

FIGURE 7.31

Breastfeeding Initiation, by Maternal Race/Ethnicity
Percent

Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

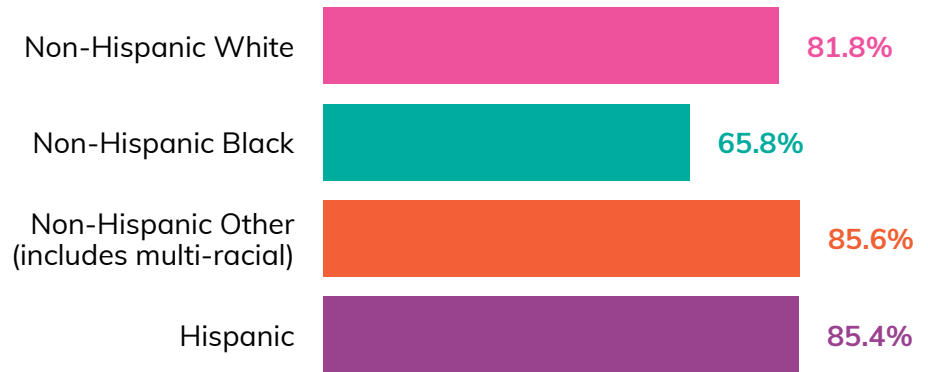


FIGURE 7.32

Breastfeeding Initiation, by Maternal Age
Percent

Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

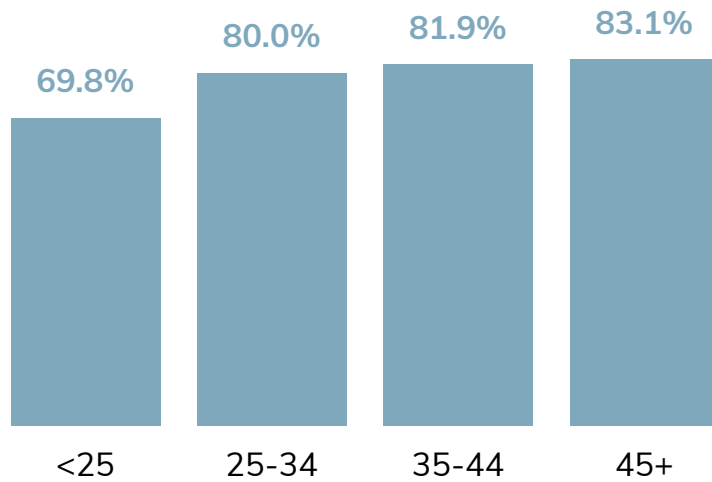
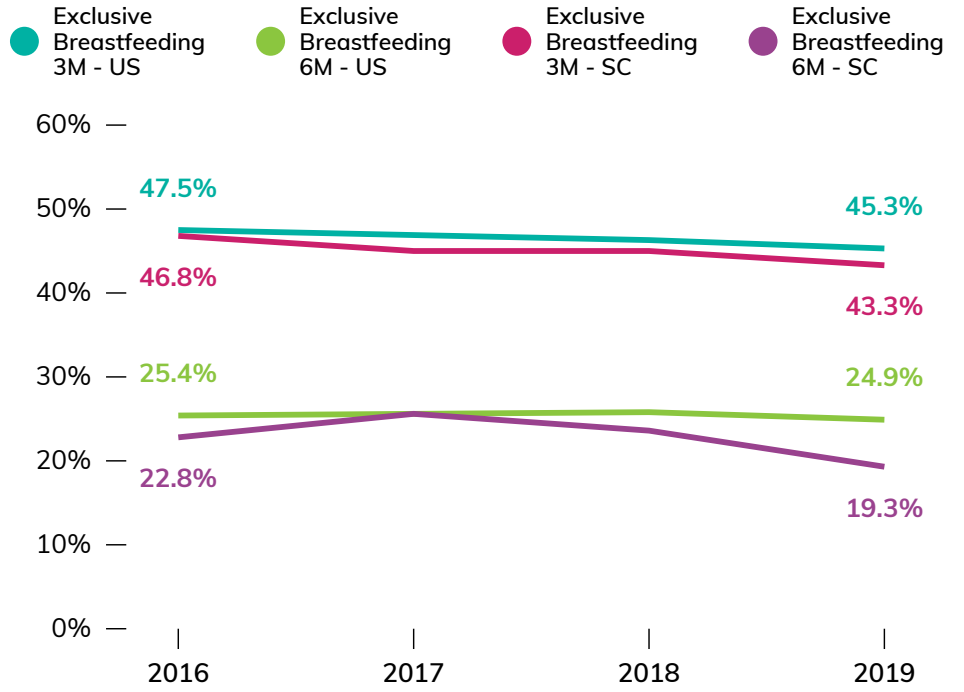


FIGURE 7.33

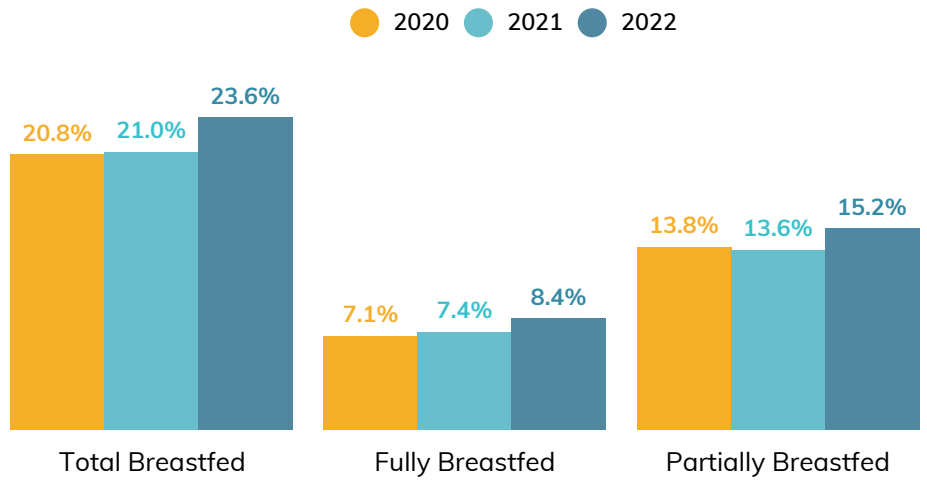
Exclusive Breastfeeding Percent



Source: National Immunization Survey, 2016-2019.

FIGURE 7.34

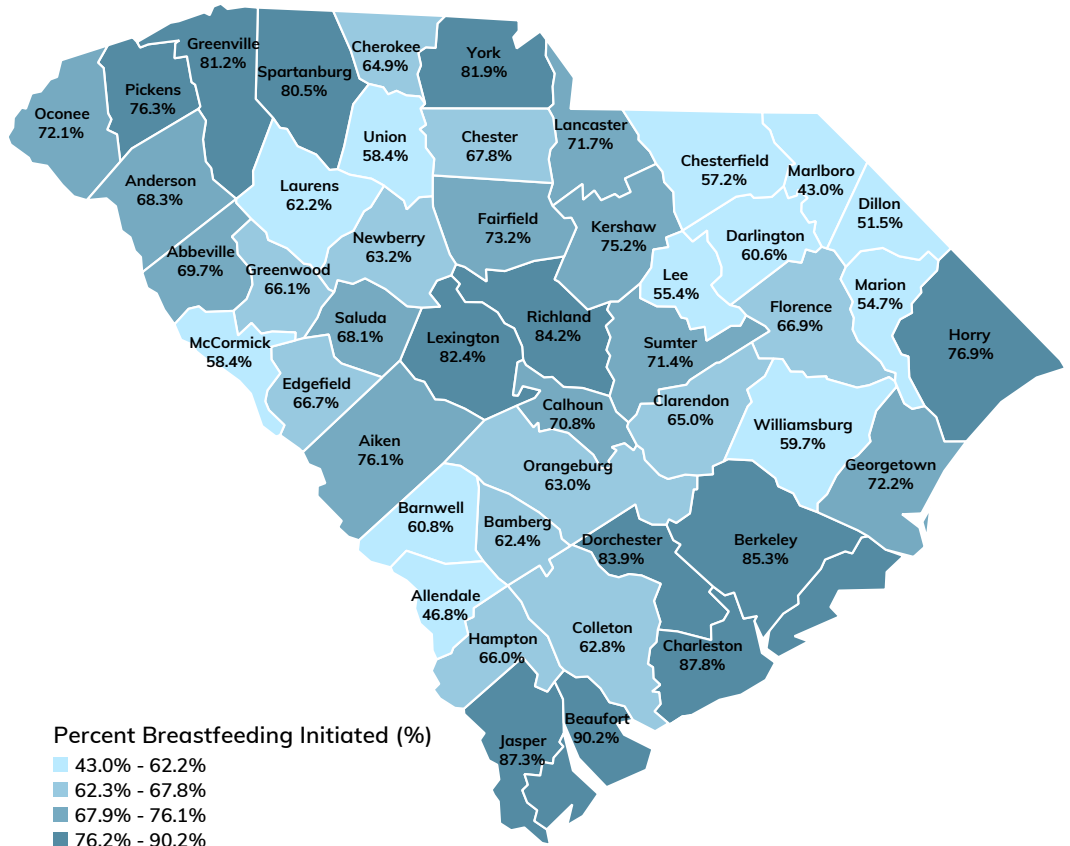
Breastfeeding Among Infants Who Are Part of the WIC Program Percent



Source: SC WIC.

FIGURE 7.35

Breastfeeding Initiation, by County Percent



Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Safe Sleep

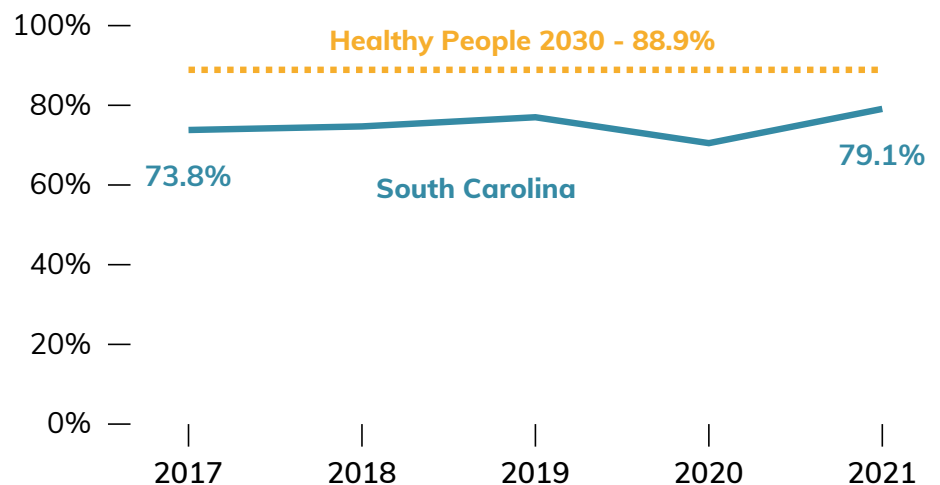
Safe sleep is the practice of putting infants to sleep in a protective way to avoid adverse events, including choking, suffocation, and SIDS.⁵⁷ It is recommended that infants are put to sleep lying on their backs; in a shared room, but alone in a crib or bassinet; on a flat, firm mattress with a fitted sheet; and without hazards such as blankets, pillows, and soft toys.^{57,58} In the US, 3,500 infants die every year due to sleep-related causes.

Non-Hispanic Black populations have the lowest rate of placing their infants to sleep on their back (63.8%). By following safe sleep guidelines, parents can lower the risk of SIDS and other causes of sleep-related infant death.

Data Interpretations: In SC, the proportion of infants who are put to sleep exclusively on their backs has slightly increased from 73.8% in 2017 to 79.1% in 2021. However, this is still below the Healthy People 2030 goal of 88.9% (**Figure 7.36**). Furthermore, Non-Hispanic Black mothers report the lowest rate of placing their infants to sleep on their back (63.8%), followed by younger mothers 20-24 years of age (68.8%) (**Figure 7.37**). By following safe sleep guidelines, parents can lower the risk of SIDS and other causes of sleep-related infant death.^{1,2}

FIGURE 7.36

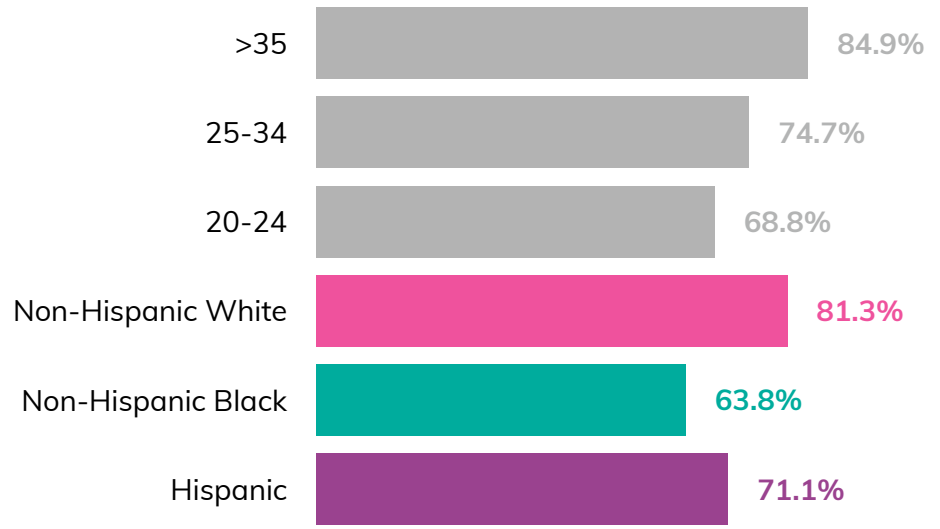
Infants Who Are Put to Sleep on Their Backs
Percent



Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), 2017-2021.

FIGURE 7.37

Infants Who Are Put to Sleep on Their Backs, by Maternal Race/Ethnicity and Age
Percent



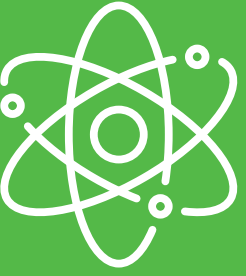
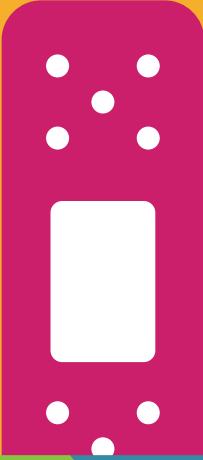
Source: South Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), 2017-2021.

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Healthy Children and Adolescents



Injuries

78%



In 2021, SC's pediatric firearm-related death rate was 78% higher than the national rate.

35.3%



of unintentional **firearm deaths**, the shooter was playing with the gun when it discharged.

From 2017-2021, the rate of suicide was highest among non-Hispanic White males 10-17 (11.5 per 100,000).

Chronic Disease

From 2016 through 2020, **Black males** had the highest mortality rate from all pediatric cancers, despite having a lower incidence rate than both **White males** and **White females**.

Drowning

A leading cause of injury related death for SC children 1-14

Motor Vehicle Crashes (MVC)

Among SC children, those aged 15 to 17 died from a MVC more than 5 times the rate of children ages 1 to 14.



From 2017-2021, SC male children ages 15 to 17 had the highest rate of Traumatic Brain Injury (TBI) deaths.

Nutrition, Physical Activity and Obesity

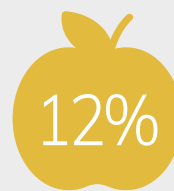
Immunizations



In the last decade, the number of students whose parents claim religious exemptions to vaccinations has increased significantly.

Spartanburg and **Greenville** counties have the highest rates of religious exemptions.

12%



of SC high school students **didn't eat fruits and vegetables**, and

only 1 in 5 was physically active in 2019.

Obesity is rising among SC children 10-17.

Leading Causes of Death and Hospitalizations

Leading causes of hospitalizations



Ages 1-4 years
Acute bronchiolitis



Ages 5-14 years
Encounter for other aftercare



Ages 15-17 years
Major depressive disorder

Unintentional injuries were the leading cause of death for children and adolescents. This surpasses the combined occurrence of the subsequent three leading causes.

34% – Unintentional Injuries

33.6% – Homicide/Suicide/Cancer

Behavioral Health

Youth aged 12-17 reporting a major depressive episode in the last year increased to 13.2% in 2016-2019 from 8.6% in 2004-2007 .



23.1%

9th-12th graders reported drinking alcohol in the last month in 2019 (which was lower than the national rate).

Healthy Schools

COVID Impact

K-5 readiness declined in two of the school years affected by the pandemic.

Graduation Rates

Asian/Pacific Islander students have the highest rates of graduation, followed by **White, Hispanic, and Black** students.



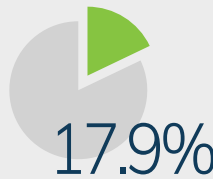
The **Hispanic** population has the highest rate of teen births (36.4 per 1,000 females) followed by the **non-Hispanic Black** population (27.5 per 1,000).

Use of e-cigarettes/vapes has increased among SC youth, while cigarette smoking has declined.



Overall cigarette smoking rates among SC youth have declined.

17.9% of students in grades 9 through 12 reported using marijuana in the past month in 2019. This is lower than the national prevalence rate of 21.7%



Pregnancy

A leading reason why adolescent girls leave school.




Leading Causes of Hospitalizations and Deaths

Monitoring hospitalizations and deaths among children and adolescents is of utmost importance, as it yields invaluable insights into the health conditions that affect these specific populations. Through analysis of hospitalization and mortality data, targeted programs can be developed and implemented to effectively reduce the prevalence of preventable causes of hospitalization and death within these age groups.

In the United States (US), the leading causes of hospitalization among children (aged 1-9) and adolescents (aged 10-17) exhibit notable differences: for children, pneumonia and asthma were found to be the primary causes of hospitalization, underscoring the significance of respiratory conditions in this age range.¹ Conversely, depressive disorders emerged as the leading cause of hospitalization among adolescents, highlighting the substantial impact of mental health issues experienced by those in middle and high school. While causes of hospitalizations diverge between children and adolescents, causes of death are similar within these two groups. Unintentional injuries were identified as the primary cause of death for both children and adolescents.^{2,3}

Understanding the leading causes of hospitalization and death in South Carolina (SC) for children and adolescents is crucial to helping inform public health interventions and policies. By examining hospitalization and mortality data, we can identify the key health challenges faced by these populations in SC. This understanding enables policymakers, health care providers, and public health officials to develop targeted strategies to address their specific needs.



Among children and adolescents, unintentional injuries were the leading cause of death, constituting 34% of all fatalities, surpassing the combined occurrence of the subsequent three leading causes: homicide (14.5%), suicide (10.6%), and cancer (8.5%).

Data Interpretations: The leading cause of hospitalizations in SC varies by age, with those ages 1-4 years being hospitalized due to acute bronchiolitis, those 5-9 and 10-14 years due to encounter for other aftercare, and those 15-17 years due to major depressive disorder (**Table 8.1**). Among children and adolescents, unintentional injuries were the leading cause of death, constituting 34% of all fatalities. This surpasses the combined occurrence of the subsequent three leading causes: homicide (14.5%), suicide (10.6%), and cancer (8.5%) (**Figure 8.1**).

TABLE 8.1

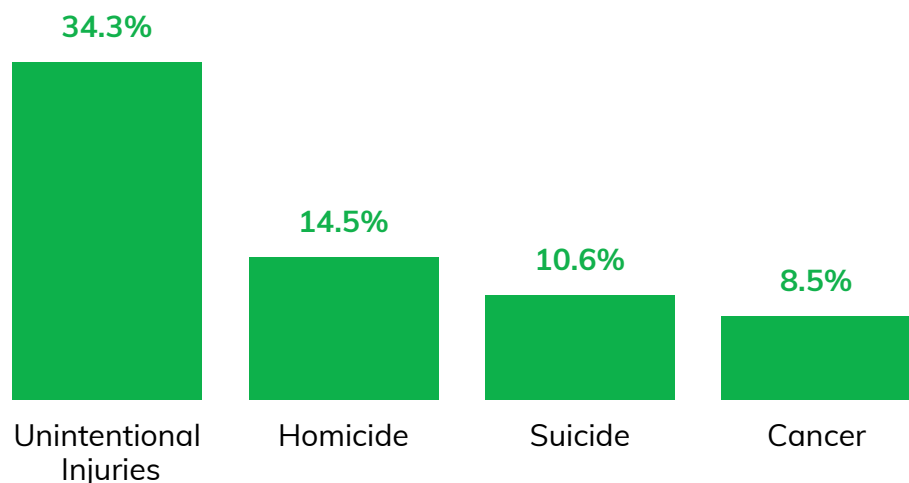
Leading Hospitalizations
in Children Aged 1-17,
by Inpatient Discharge
Primary Diagnoses and
Age Group
Rank, descending

Rank	Ages 1-4	Ages 5-9	Ages 10-14	Ages 15-17
1	Acute bronchiolitis	Encounter for other aftercare	Encounter for other aftercare	Major depressive disorder, single episode
2	Asthma	Asthma	Major depressive disorder, single episode	Major depressive disorder, recurrent
3	Encounter for other aftercare	Acute appendicitis	Type 1 diabetes mellitus	Type 1 diabetes mellitus
4	Pneumonia, unspecified organism	Epilepsy and recurrent seizures	Major depressive disorder, recurrent	Other maternal diseases and pregnancy complications.
5	Epilepsy and recurrent seizures	Sickle-cell disorders	Acute appendicitis	Sickle-cell disorders

Source: SC Revenue and Fiscal Affairs Office, Health and Demographics, 2019-2020.

FIGURE 8.1

Leading Causes of Death in
Children Aged 1-17
Percent



Source: SC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Injuries and Injury-Related Deaths

Drownings

Every year in the US, approximately 4,000 people die from unintentional drowning, with nearly 900 of them under the age of 19.⁴ In the US, more children ages 1-4 die from drowning than any other cause of death, and drownings are the second cause of unintentional-injury deaths for children ages 5-14.⁵ Drowning is not always fatal. People who experience a nonfatal drowning incident can have a wide range of outcomes, from no injury to very serious injuries such as brain damage or permanent disability.⁵ Nearly 40% of drownings in the US treated in emergency departments (ED) require hospitalizations or transfers for further care.⁵

Overall in the US, male children are at a higher risk

for drowning, with more than twice the death rate of female children.⁴ Rates of drowning deaths are higher for Black and Native Hawaiian or Other Pacific Islander children and adolescents.⁴ Additionally, children and adolescents in the South generally have higher rates of drowning deaths compared to those in other US regions.⁴

Drowning is a leading cause of death for South Carolina children ages 1-14.

Data Interpretations: From 2017-2021, drowning was the 2nd-leading cause of unintentional-injury death in SC children ages 1 to 9.⁶ From 2017-2021, SC children ages 1 to 4 had an unintentional-drowning mortality rate of 2.9 drownings per 100,000 population, which is over more than four times as high than children ages 5 to 9 and 10 to 14 (**Figure 8.2**). The second-highest drowning mortality rates were in children ages 15 to 17 (1.5 drownings per 100,000 population) (**Figure 8.2**). SC male children had higher rates of unintentional drowning compared to females. From 2017-2021, SC male children died from unintentional drowning at a rate of 1.9 drownings per 100,000 population, compared to SC female children with a rate of 0.5 drownings per 100,000 population (**Figure 8.3**). According to the SC Revenue and Fiscal Affairs Office (RFA), from 2019-2021 the most common location of nonfatal, unintentional-drowning-related ED visits among children ages 1 to 17 was in a swimming pool.

FIGURE 8.2

Unintentional Drowning
Mortality in Children Ages
1-17, by Age Group
Rate per 100,000 population

Source: SC DHEC Vital Statistics, 2017-2021.

Note: Excludes water transport; rates denoted with a * are suppressed due to counts < 5; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

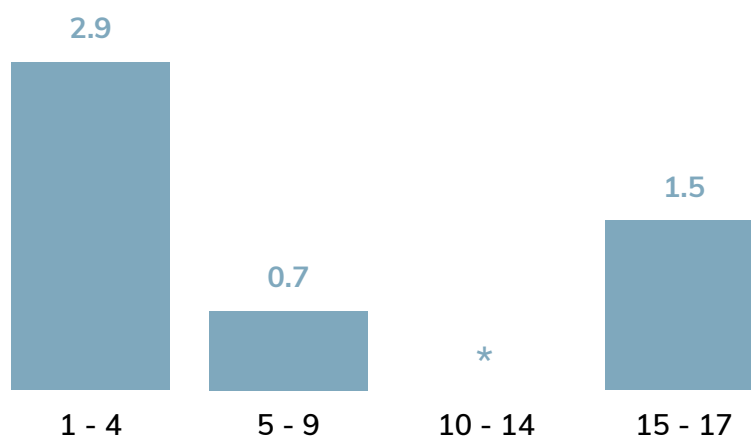
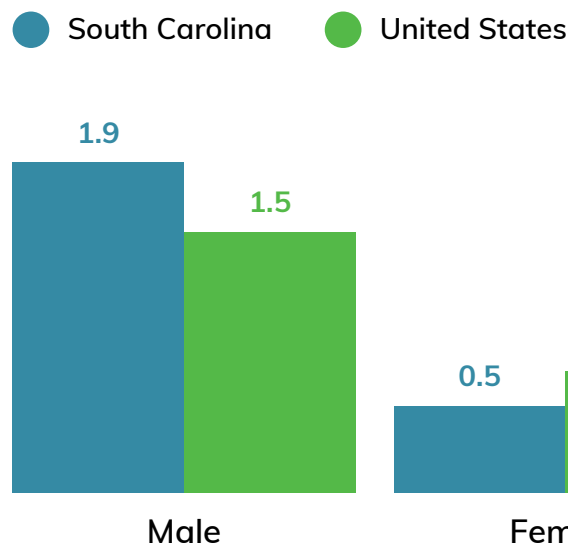


FIGURE 8.3

Unintentional Drowning Mortality in Children Aged 1-17, by Sex

Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2017-2021. United States data come from CDC WONDER.

Note: Excludes water transport; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Motor Vehicle Crashes

Among children, motor-vehicle crash (MVC) deaths are most common among ages 15-19, and cause more deaths than other causes of unintentional injury.⁶ Nationally, children aged 0-17 had a nonfatal unintentional motor vehicle related ED visit rate of 211.6 visits per 100,000 population in 2020, and a motor vehicle-related mortality rate of 3.7 deaths per 100,000 population in 2021.⁶ Of the children who were killed in a MVC with a known restraint status, 38% were not properly buckled up.⁷ Among young children, car seat use reduces the risk of injury in a crash by 71-82%, when compared with seat belt use alone.⁷

Certain populations are more at risk for experiencing MVC. Black and Hispanic children, as well as children in rural areas, are more likely to travel unrestrained

or improperly restrained in vehicles.⁷ Children in rural areas are typically at higher risk of being killed in a MVC, compared to children in urban areas.⁷

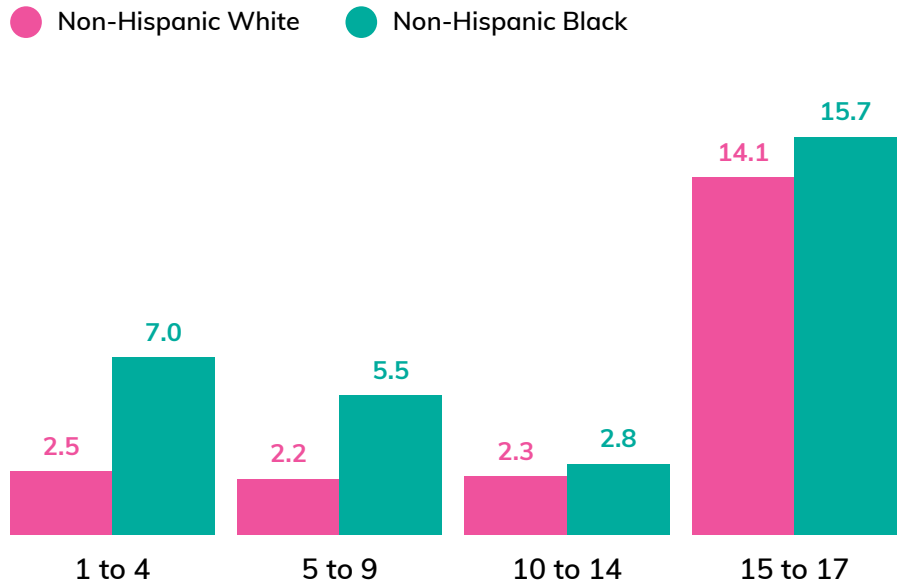
Among children in South Carolina ages 1 to 17, children ages 15 to 17 died from a MVC more than 5 times the rate of children ages 1 to 14.

Data Interpretations: Among children in SC ages 1 to 17, those ages 15 to 17 died from a MVC more than 5 times the rate of children ages 1 to 14. From 2017-2021, non-Hispanic Black children ages 1 to 17 had higher mortality rates due to MVCs than non-Hispanic White children of the same age (Figure 8.4). Males ages 15 to 17 had the highest MVC mortality rate (17.0 deaths per 100,000 population), which was more than 50% higher than females ages 15 to 17 (11.1 deaths per 100,000 population) (Figure 8.5).

FIGURE 8.4

Motor Vehicle Crash Deaths
in Children Aged 1-17, by
Race/Ethnicity and Age
Group

Rate per 100,000 population



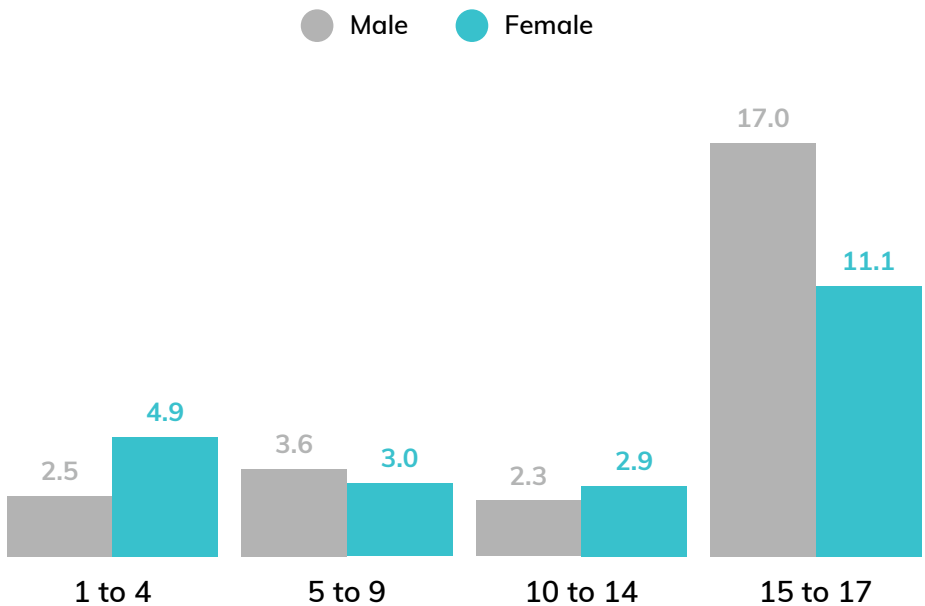
Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 8.5

Motor Vehicle Crash Deaths
in Children Aged 1-17, by
Sex and Age Group

Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Homicide Deaths

Homicide is a leading cause of death among children aged 0-17 in the US, disproportionately affecting adolescent males, older children, infants, and children of color.⁸ From 2017-2021 the rate of child homicide in the US increased by about 34%, with 2,220 children under the age of 17 being victims of homicide in 2021.⁶ Youth homicides and nonfatal physical assault-related injuries result in an estimated \$100 billion annually in costs, including medical, lost work, and quality and value of life in the US.⁹ Youth homicide and non-fatal violence not only contribute to the global burden of

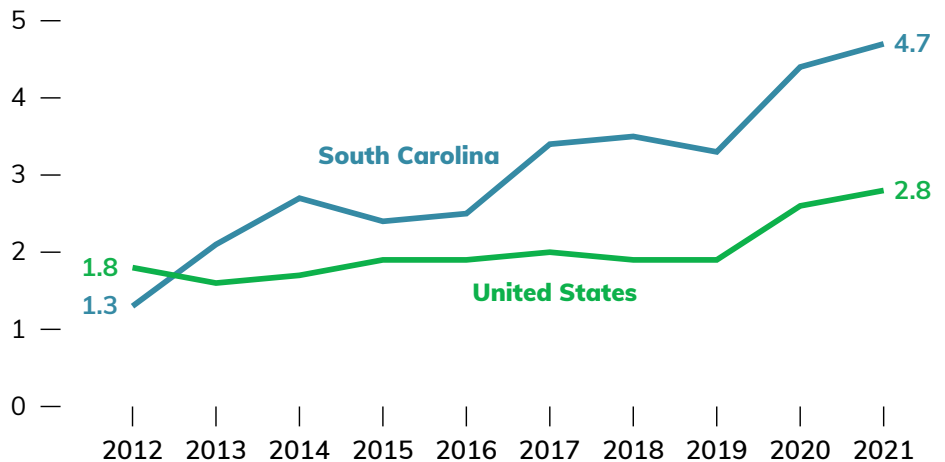
premature death, injury, and disability, but also have a serious impact on a person's psychological and social functioning.¹⁰ This can affect victims' families, friends, and communities.¹⁰

Non-Hispanic black male children in South Carolina are disproportionately affected by homicide.

Data Interpretations: From 2012-2021, homicide in SC children ages 1 to 17 increased from a rate of 1.3 deaths per 100,000 population to 4.7 deaths per 100,000 population. SC's 2021 rate was almost double the national rate of 2.8 per 100,000 (Figure 8.6). According to the SC Violent Death Reporting System (SCVDRS), nearly 75% of homicides among children aged 1 to 4 in SC with known circumstances were directly related to or precipitated by caretaker abuse or neglect.¹¹ From 2017-2021, SC non-Hispanic Black males had the highest homicide rate among children ages 1 to 17 (13.4 deaths per 100,000 population), which was more than 6 times as high as non-Hispanic White males (2.0 deaths per 100,000 population) (Figure 8.7). The homicide rate for Non-Hispanic Black females ages 1 to 17 (4.3 deaths per 100,000 population) was more than 5 times higher than non-Hispanic White females (0.8 deaths per 100,000 population) (Figure 8.7). From 2017-2021, the majority of homicides among SC children ages 10 to 14 (92.9%) and ages 15 to 17 (97.2%) were by firearms (Figure 8.8).

FIGURE 8.6

Homicide in Children Aged 1-17
Rate per 100,000 population



Source: SC DHEC Vital Statistics.; US data from CDC NCHS.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 8.7

Homicide in Children and Teens Aged 1-17, by Sex and Race/Ethnicity
Rate per 100,000 population

Source: SC DHEC Vital Statistics, 2017-2021.

Note: Rates denoted with an asterisk are suppressed due to counts < 5; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

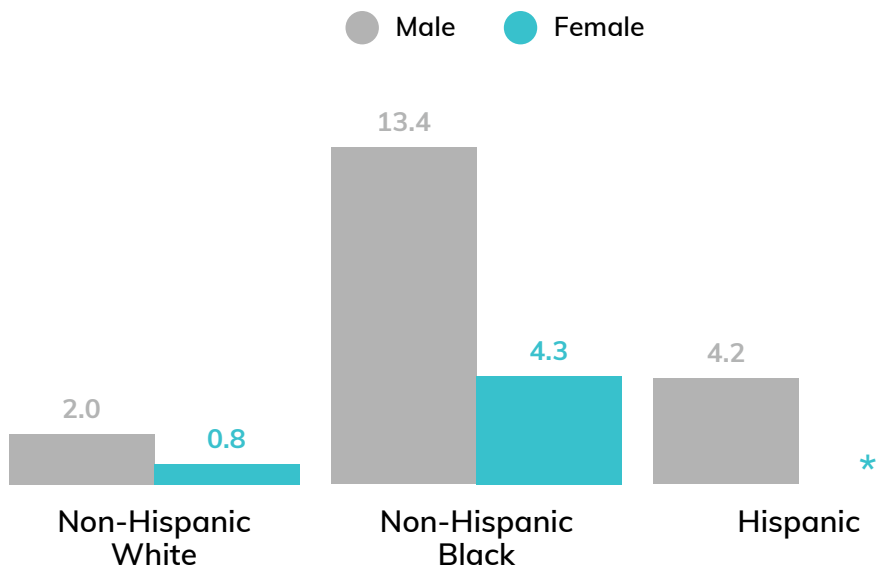
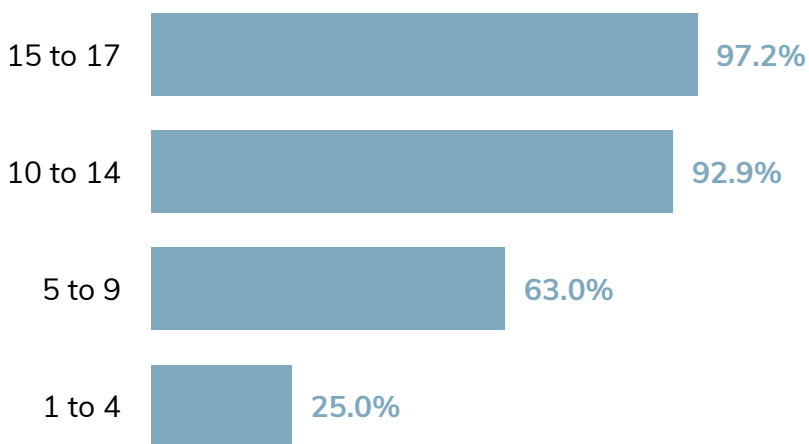


FIGURE 8.8

Percent of Homicides by Firearm Among Children Ages 1-17, by Age Group
Percent

Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.



Suicide Deaths

Rates of suicide attempts and deaths among children have increased in the US over the past decade.¹² Suicide is the 2nd-leading cause of death among children and young adults ages 10-24 in the US.¹³ In 2021, EDs across the US noted a sharp rise in people aged 12-17 needing treatment for suicidal ideation or actions.¹⁴ Firearms are the top cause of death for teens 15-19 who die by suicide, and children who live in homes with firearms are more likely to attempt suicide.¹⁴

There are many factors that make certain young people more susceptible to suicide. Young people who have already tried to take their lives face higher risks of

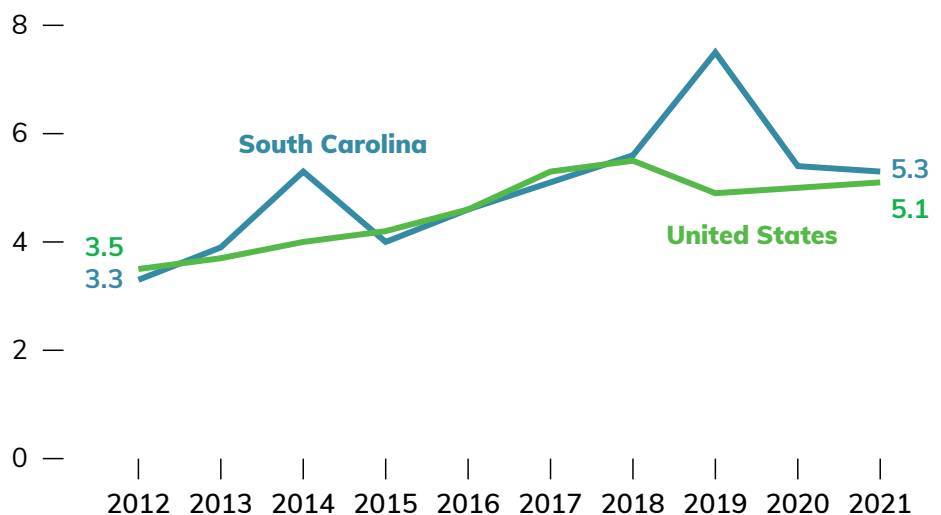
suicide.¹⁴ Children who experience Adverse Childhood Experiences (ACEs) such as abuse, violence, death of family members, and other trauma are at a greater risk of suicide.¹⁴ Additionally, females think about and attempt suicide about twice as often as males, yet males die by suicide about 4 times more than females due to use of more lethal methods.¹³

From 2017-2021, non-Hispanic White males had the highest suicide rates (11.5 suicides per 100,000 population)

Data Interpretations: Suicide rates in SC children aged 10 to 17 have fluctuated since 2017 but continue to rise (3.3 suicides per 100,000 population). There was a peak in suicides among 10- to 17-year-olds in 2019, with a rate of 7.5 suicides per 100,000 population, but this has since decreased to 5.3 suicides per 100,000 population in 2021 (Figure 8.9). Male children aged 10 to 17 died from suicide more than females. From 2017-2021, non-Hispanic White males had the highest suicide rates (11.5 suicides per 100,000 population), followed by Hispanic males (9.8 suicides per 100,000 population) and non-Hispanic Black males (5.2 suicides per 100,000 population) (Figure 8.10). Non-Hispanic White females aged 10 to 17 had a suicide rate of 2.5 suicides per 100,000 population, while non-Hispanic Black females had a rate of 1.3 suicides per 100,000 population. Suicide counts for Hispanic females aged 10 to 17 were too low to calculate rates (Figure 8.10).

FIGURE 8.9

Suicide in Teens Aged 10-17
Rate per 100,000 population



Source: SC DHEC Vital Statistics, CDC NCHS.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

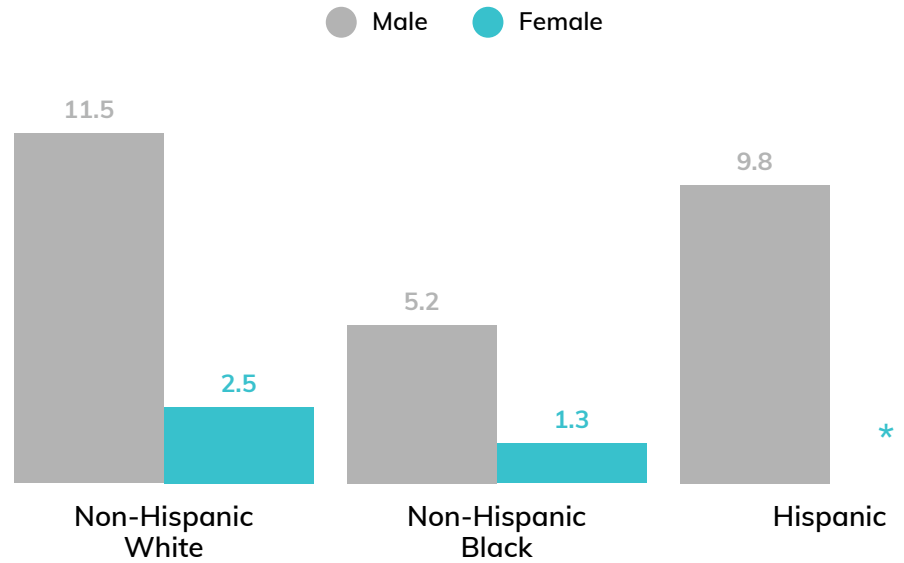
FIGURE 8.10

Suicide in Teens Aged 10-17, by Sex and Race/Ethnicity

Rate per 100,000 population

Source: SC DHEC Vital Statistics, 2017-2021.

Note: Rates denoted with a * are suppressed due to counts < 5; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.



Firearm-Related Deaths

Firearm injuries and deaths in the US have increased in recent years, and adversely affect many children and adolescents.¹⁵ In 2020, firearms became the leading cause of death among children under the age of 19.¹⁵ During the COVID-19 pandemic, US firearm-related deaths increased among children, with seven children per day dying by firearm in 2021.¹⁵ From 2019-2021, the firearm death rate among children increased by 50% in the US.¹⁵ Firearms were used in at least 50% of suicide deaths among children and adolescents.¹⁵

Not only does firearm violence cause physical harm, but it can negatively affect the mental health and well-

being of youth. Black youth have substantially higher rates of firearm-related deaths than any other racial or ethnic group, and they accounted for 46% of youth firearm deaths.¹⁵ Additionally, male youth are more than four times as more likely to die by firearm than their female peers.¹⁵

In 2021, SC's pediatric firearm-related death rate was 78% higher than the national rate.⁶

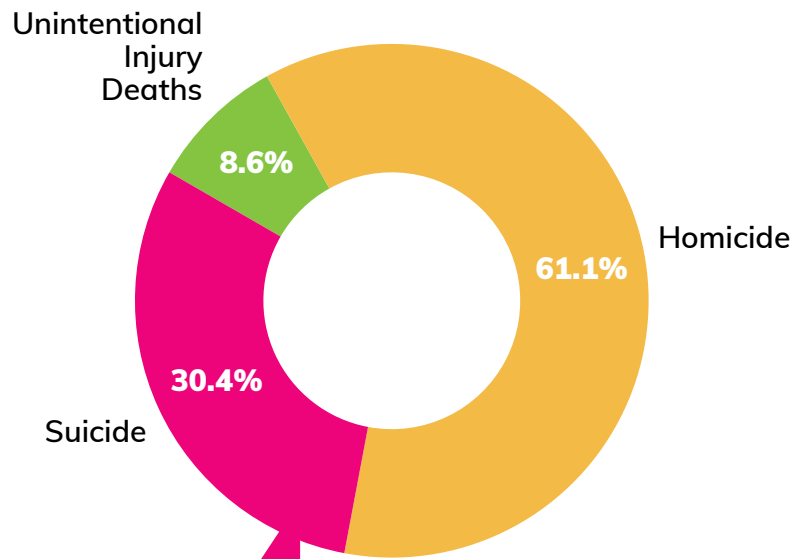
Data Interpretations: In 2021, SC's pediatric firearm-related death rate was 78% higher than the national rate. From 2017-2021, 61% of firearm-related deaths in SC children ages 1 to 17 were homicides, 30% were suicides, and 9% were unintentional injury deaths (**Figure 8.11**). Unintentional injury deaths were seen most among ages 1 to 4, while homicides and suicides were seen most in ages 15 to 17. Male children are disproportionately affected by firearms with 84% of pediatric firearm deaths in SC being among male children.¹⁶

From 2016-2020, unintentional firearm deaths among children ages 1 to 17 were either inflicted by another person (30.4%), self-inflicted (34.8%), or it was unknown who inflicted the fatal injury (34.8%) (**Figure 8.12**). In more than one-third (35.3%) of these unintentional firearm deaths, the shooter was playing with the gun when it discharged.¹¹

FIGURE 8.11

Type of Firearm-Related Deaths in Children Aged 1-17

Percent



Age groups most affected, by rate:
 Unintentional injury: 1 to 4 years
 Homicide: 15 to 17 years
 Suicide: 15 to 17 years

Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates.

FIGURE 8.12

Unintentional Firearm Deaths Among Children Aged 1-17 by Relationship to Shooter

Percent



Source: SCVDRS, 2016-2020.

Note: Percentages are among those with known circumstances.

Traumatic Brain Injuries

While the symptoms of brain injuries in children are similar to those experienced by adults, the impact can be very different.¹⁷ Children's brains are still developing, and the implications of a traumatic brain injury (TBI) can create lifetime challenges for living and learning for children, their families, schools, and communities.¹⁷ Brain injury is the leading cause of disability in children and adolescents in the US.¹⁸ Children aged 1-17 had a nonfatal TBI-related hospitalization rate of 22.5 hospitalizations per 100,000 population in 2018, and a TBI-related mortality rate of 3.4 deaths per 100,000 population

in 2019.^{19,20} TBI in children and adolescents are typically a result of MVCs, falls, sports injuries, physical abuse, or other causes.¹⁸ Children living in rural areas are more likely to experience a TBI, die as a result of the injury and experience delays in receiving care, compared to urban areas.²¹

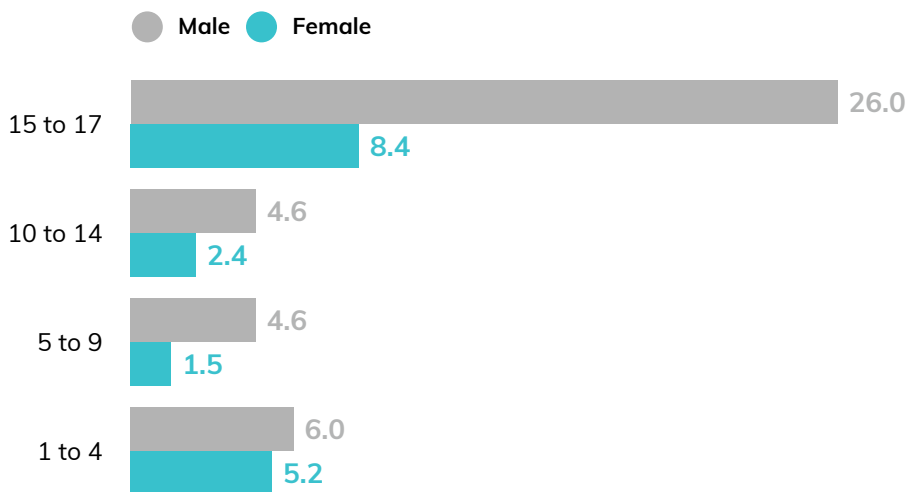
South Carolina male children ages 15 to 19 have the highest rate of TBI deaths.

Data Interpretations: From 2017-2021, SC male children ages 15 to 17 had the highest rate of TBI deaths (26.0 deaths per 100,000 population), which was more than 3 times as high as the rate in females 15 to 17 (8.4 deaths per 100,000 population) (**Figure 8.13**). SC male children also had higher rates of TBI deaths than females in the other age groups, with the second-highest rate being males in the 1 to 4 age group (6.0 deaths per 100,000 population) (**Figure 8.13**).

Nonfatal TBI ED visits among children have decreased from 2017 to 2021 in all age groups among children 1 to 17 (**Figure 8.14**). The drop in nonfatal TBI ED visits in 2020 can potentially be attributed to the COVID-19 pandemic. From 2017-2021, SC children ages 15 to 17 had the highest rates of nonfatal TBI ED visits, and children ages 1 to 9 had the lowest rates (**Figure 8.14**). In SC, falls are the leading cause of nonfatal TBI ED visits among children 1 to 9, and among children 10 to 17, the leading cause is events in which the person is struck by or against someone/something

FIGURE 8.13

Traumatic Brain Injury Deaths in Children Aged 1-17, by Sex and Age Group
Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2017-2021.

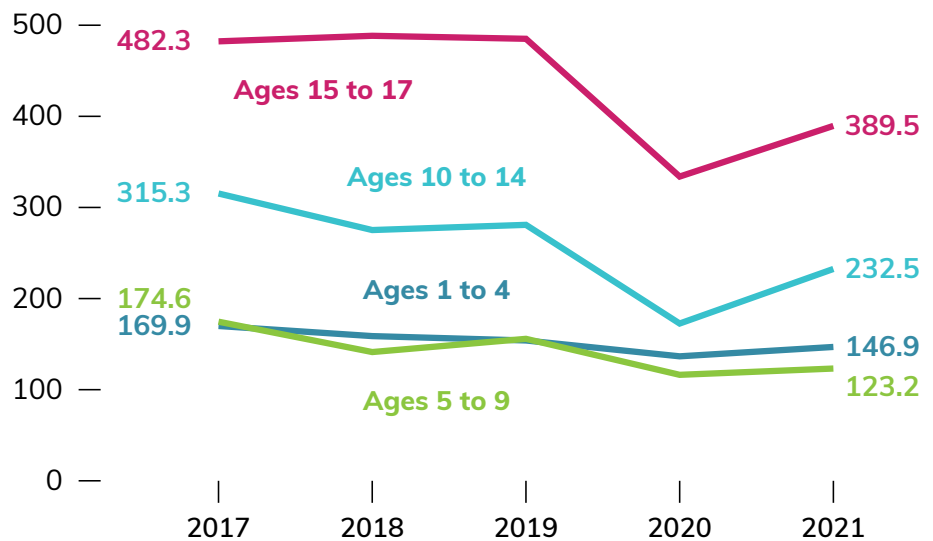
Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 8.14

Rate of Nonfatal TBIs seen in the Emergency Department among children 1-17, by Age Group
Rate per 100,000 population

Source: SC RFA.

Note: Includes cases subsequently admitted as an inpatient to the same hospital from the ED, initial encounter for injury only; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.



Healthy Children

Nutrition, Physical Activity and Obesity

More children than ever face the prospect of growing up less healthy and living shorter lives than their parents.²² The obesity rate for SC children ages 2-4 who participate in the Women, Infants, and Children (WIC) program is 13%.²³ According to SC FitnessGram data, 2 in 5 (42%) SC public school students ages 5 to 18 are overweight or obese, and more than half (57%) are not meeting minimum standards for heart and lung health (**Figure 8.15**).²⁴ Black females and students living in poverty have the lowest rates of meeting fitness standards.²⁴ Children are exhibiting earlier onset of what used to be considered adult conditions, including type 2 diabetes and hypertension.²⁵ These children are also at higher risk for obesity and its related health risks as adults. Additionally, the proportion of SC children aged 10-17 who are obese is increasing away from the Healthy People 2030 goal of 15.5% (**Figure 8.16**).

Access to nutritious foods and physical activity have a major impact on the health, well-being, and quality of life of those living in SC. However, 12% of SC high school students were not eating fruits and

vegetables (**Figure 8.17**) and only 1 of 5 (19.5%) were physically active as of 2019 (**Figure 8.18**). The healthy development of children is most affected by their home, school, and community environments. Therefore, it is necessary for these environments to provide access to healthy, affordable foods and safe, conveniently located places for daily physical activity. Developing policies and creating environments that make healthy choices easier and less expensive can prevent costly chronic health conditions, such as obesity, diabetes, and high blood pressure.

Children today face the prospect of growing up less healthy and living shorter lives than their parents. Establishing healthy trajectories during childhood has the greatest overall return on investment.

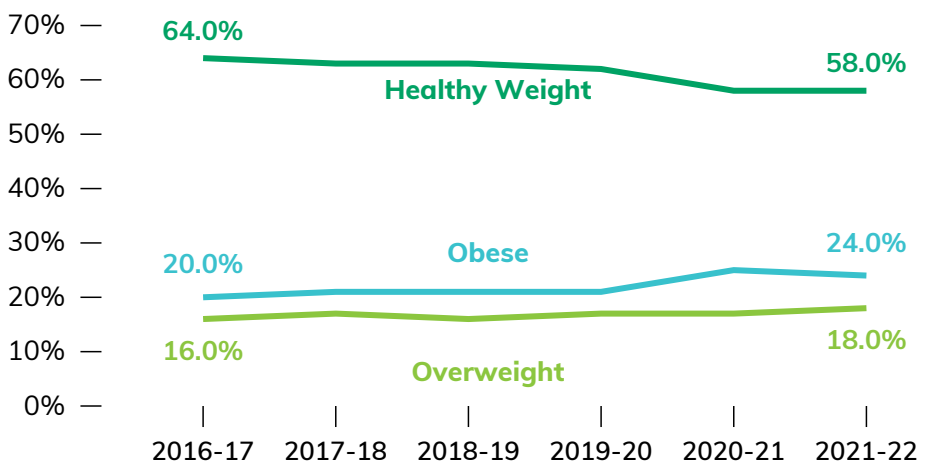
FIGURE 8.15

Weight Status among South Carolina Students, by School Year

Percent

Source: South Carolina FitnessGram.

Note: Healthy Weight (normal weight = <85th percentile), Overweight (overweight = 85th percentile to <95th percentile), and Obese (obese = ≥95th percentile).

**FIGURE 8.16**

Obesity among Children Aged 10-17

Percent

Source: National Survey of Children's Health, Health Resources and Services Administration, Maternal and Child Health Bureau.

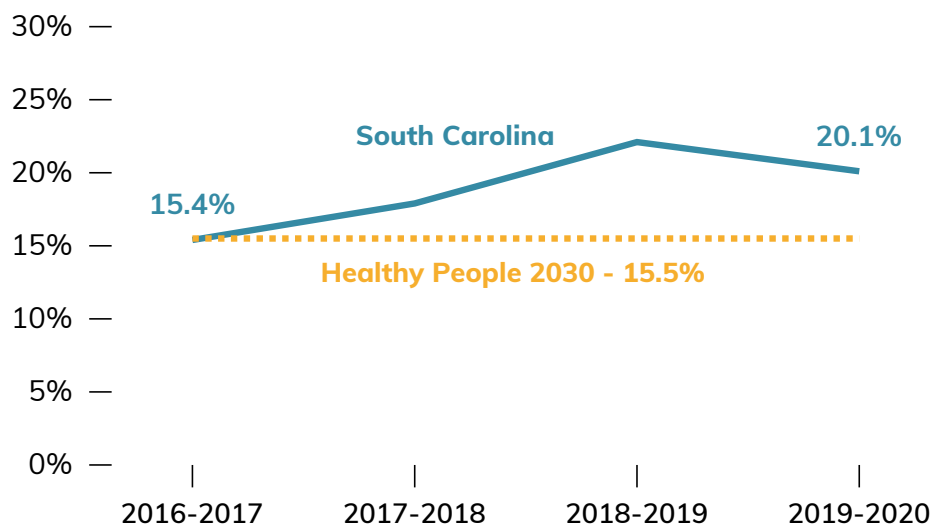


FIGURE 8.17

Consuming Fruits and Vegetables among High School Students Grades 9-12

Percent

Source: SC Youth Risk Behavior Surveillance System (YRBSS).

Note: No vegetables defined as (green salad, potatoes (not counting French fries, fried potatoes, or potato chips), carrots, or other vegetables, during the seven days before the survey). No fruits defined as (such as orange juice, apple juice, or grape juice, not counting punch, Kool-Aid, sports drinks, or other fruit-flavored drinks, during the seven days before the survey). High school students, grades 9-12.

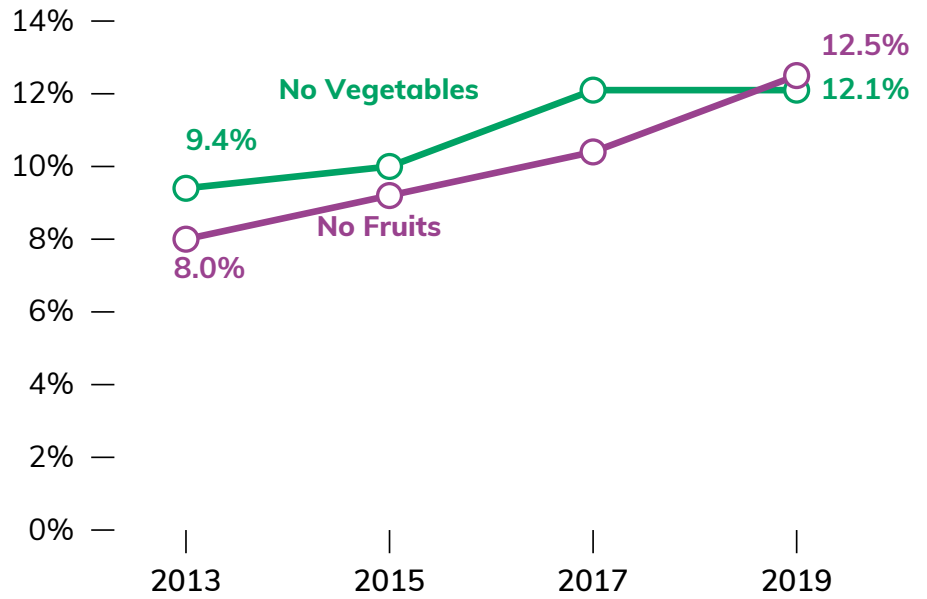


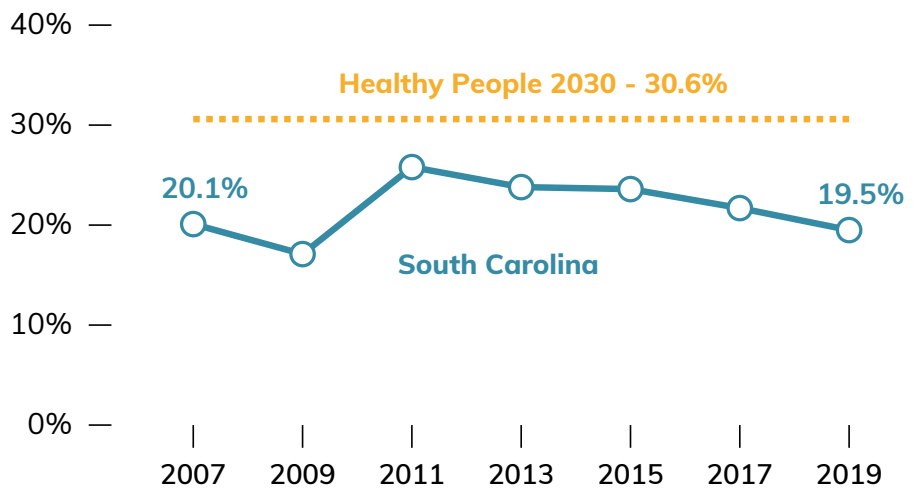
FIGURE 8.18

Physical Activity among High School Students Grades 9-12

Percent

Source: SC Youth Risk Behavior Surveillance System (YRBSS).

Note: Physical activity is defined as adolescents exercising at least 60 minutes on all seven days of the past week, high school students grades 9-12.



Childhood Lead Exposure

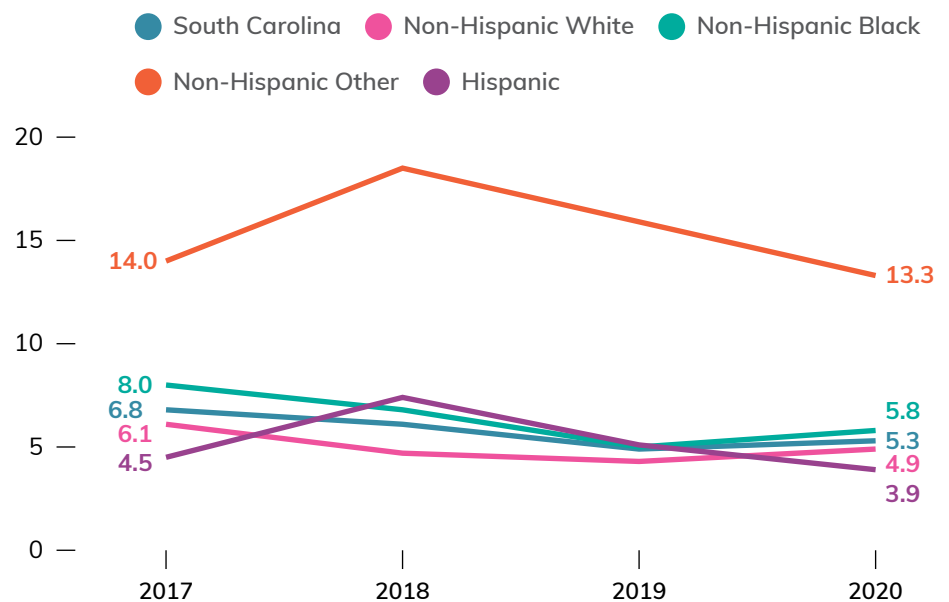
The harmful effects of childhood lead exposure can be prevented. However, the degree of exposure can most times go unnoticed. Exposure to lead can seriously harm a child's health, including damage to the brain and nervous system, slowed growth and development, learning and behavior problems, and hearing and speech problems.²⁶ The main sources of lead in SC are related to contaminated soil and dust, and chipping lead-based paint in older houses, particularly those built before 1950.²⁷

Exposure to lead can seriously harm a child's health, including damage to the brain and nervous system, slowed growth and development, learning and behavior problems, and hearing and speech problems.

Data Interpretations: In SC, the rate of children tested with confirmed elevated blood lead levels (venous test results greater than or equal to 5 µg/dL) decreased from 6.8 cases per 1,000 children tested in 2017 to 5.3 cases per 1,000 children tested in 2020 (Figure 8.19). In 2020, children from other minorities had the highest rate of confirmed elevated blood lead levels (13.3) followed by Black children (5.8) (Figure 8.19).

FIGURE 8.19

Confirmed Elevated Blood Levels, by Race/Ethnicity Rate per 1,000 children tested



Source: SC DHEC Lead Surveillance.

Note: Confirmed elevated blood lead levels defined as venous test results greater than or equal to 5 µg/dL.

Children defined as less than 6 years of age.

Oral Health

The condition of a person’s oral health affects the ability to eat, speak, smile, and show emotions. Poor oral health can also negatively affect someone’s self-esteem, school performance, and attendance at work or school. Oral diseases, which range from cavities and gum disease to oral cancer, cause pain and disability for millions of Americans, and cost taxpayers billions of dollars each year.²⁸

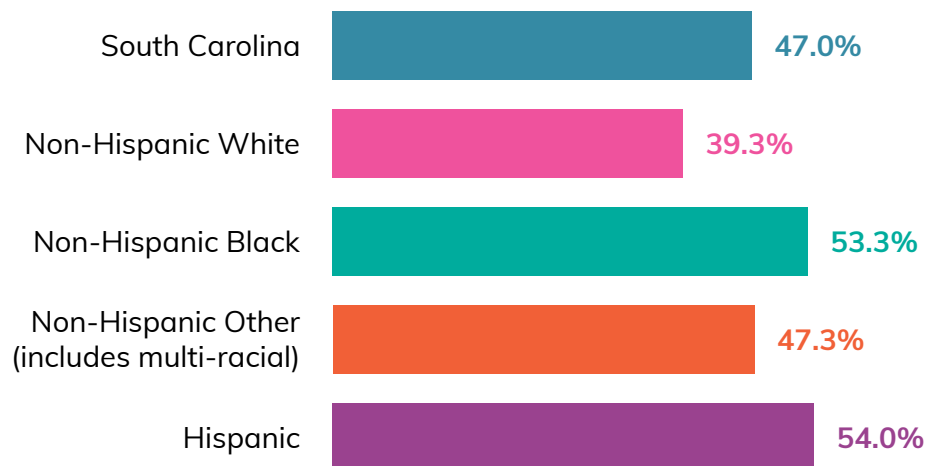
Most oral health issues that affect children can be prevented by good oral health practices. Brushing and flossing daily, consuming a diet that is low in sugar and visiting the dentist regularly will help reduce oral health problems.

Data Interpretations: Important disparities exist in oral health among children; according to SC Medicaid billing data, the percentage of children and adolescents aged 5 to 19 years with untreated tooth decay, is twice as high for those from low-income families (25%) compared with children from higher-income households (11%). In SC, the percentage of children with decayed teeth is 47.0% (Figure 8.20). The prevalence of tooth decay is higher among racial and ethnic minorities, primarily Hispanic children (54.0%) (Figure 8.20). Additionally, geographic disparities exist; children in the Pee Dee region have the highest prevalence of tooth decay (59%).²⁹

An effective way to prevent cavities among children, particularly those who are most vulnerable to decay, is through Public Health Dental Prevention Provider programs. These preventive services were created to address the needs of priority populations identified by DHEC using standard public health principles. School-based programs can provide preventive services such as dental sealants and fluoride varnish. Dental sealants are thin plastic coatings that are applied on the chewing surfaces of the back teeth to keep out tooth decay, germs and food. Once applied, sealants protect against 80% of cavities for two years and continue to protect against 50% of cavities for up to four years. In SC, the proportion of children assessed with a sealant present was 27.2% between 2017 and 2018 (Figure 8.21). However, racial and ethnic disparities exist, particularly among non-Hispanic Other children, who experience the lowest proportion of having a dental sealant (23.2%) (Figure 8.21).

FIGURE 8.20

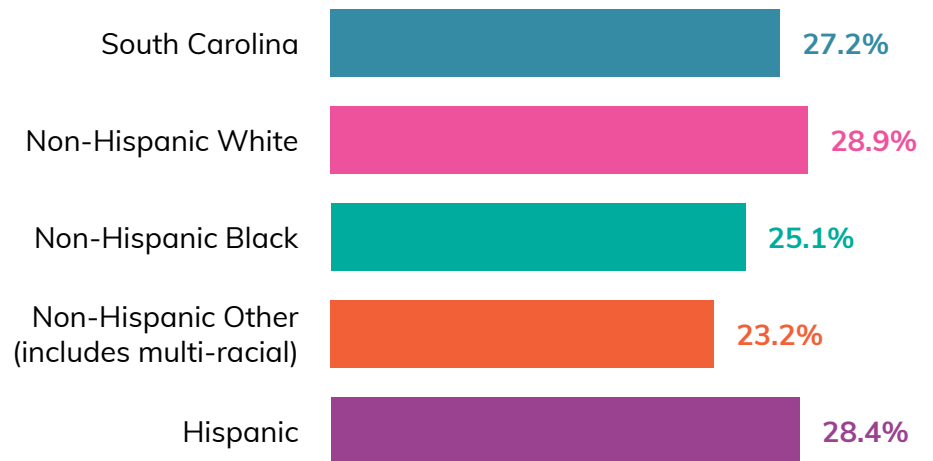
Proportion of Children and Adolescents With Tooth Decay Percent



Source: South Carolina Oral Health Needs Assessment 2017-2018.

FIGURE 8.21

Proportion of Children and Adolescents Who Have Dental Sealant
Percent



Source: South Carolina Oral Health Needs Assessment 2017-2018.

Behavioral Health

Adolescent Mental Health

While childhood and adolescence are times of growth and potential, navigating new milestones in preparation for adult roles involving education, employment, relationships, and living circumstances can be difficult. These transitions can lead to various mental health challenges that can be associated with increased risk for suicide.³⁰ Approximately one out of every 15 high school students reports attempting suicide each year.³⁰

Since the COVID-19 pandemic, rates of psychological distress among young people have increased.³¹ More than 1 in 10 youth in the US experience depression that severely impairs their ability to function at school, work, home, with family, or in their social

lives.² Vulnerable populations such as youths with disabilities, racial and ethnic minorities, LGBTQ+, and other marginalized communities, have been the most affected.³² While males are four times more likely to die from suicide, females are more likely to attempt suicide.³³

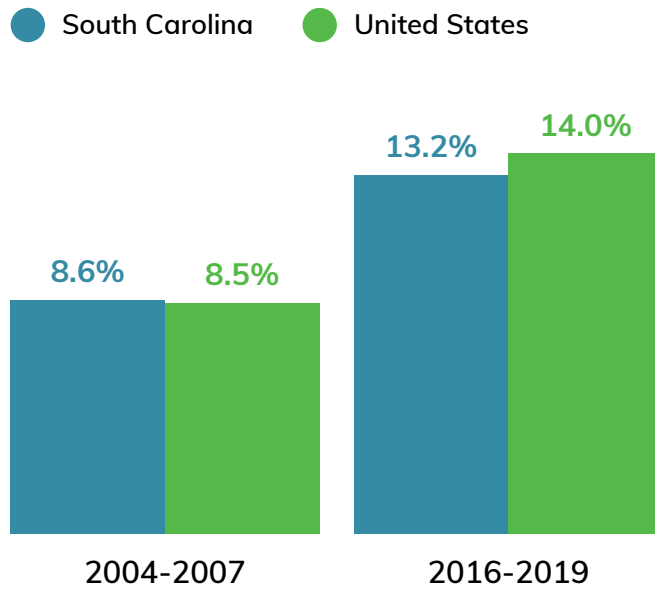


Since the COVID-19 pandemic, rates of psychological distress among young people have increased.

Data Interpretations: In SC, similar to the US, the percentage of youth aged 12-17 who reported a major depressive episode in the past year increased from 8.6% between 2004-2007 to 13.2% between 2016-2019 (Figure 8.22). Additionally, although the proportion of high school students in SC who reported attempting suicide in the past 12 months slightly decreased from 11% in 2015 to 10.3% in 2019, SC rates were still higher than the US in 2019 and much higher than the Healthy People 2030 goal of 1.8% (Figure 8.23).

FIGURE 8.22

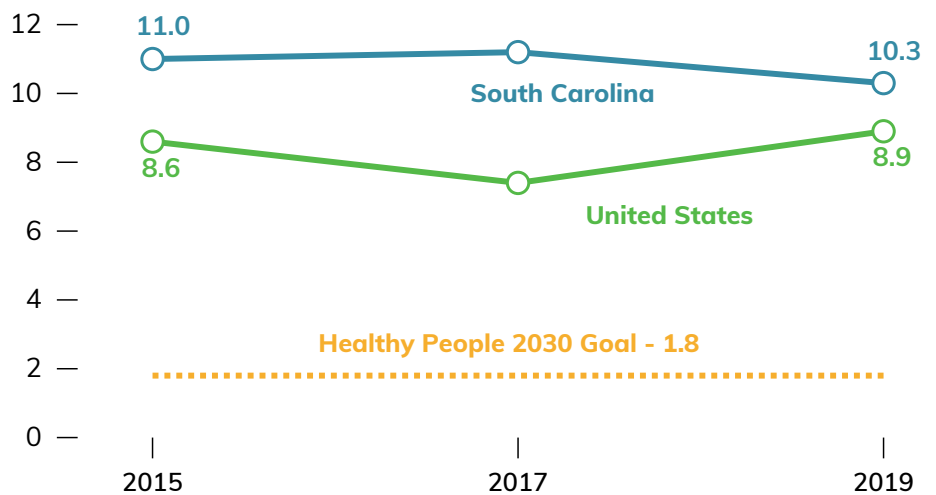
Changes in Past-Year Major Depressive Episode (MDE) among Youth Aged 12-17 in South Carolina
Percent



Source: Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2004-2007 and 2016-2019.

FIGURE 8.23

Suicide Attempts in the Past 12 months
Rate per 100 students



Source: CDC, Youth Risk Behavior Surveillance System (YRBSS).

Note: Among students in grades 9 through 12.

Adolescent Substance Use

Adolescent Alcohol Use

As the most commonly used substance among youth in the US, addressing adolescent alcohol use is a major public health concern.³⁴ With its usage, adolescents are at risk of affecting growth and brain development, to include life-long effects such as memory problems and alcohol use disorder.³⁵ Additionally, use of alcohol has a relationship with increased problems at school, social problems such as violence, and poor participation in youth-specific activities. Risks for adolescent drinking include genetics, increased access, poor enforcement of identification purchasing requirements, family attitudes and history of alcohol use, and peer perception of alcohol; peer behavior is considered one of the most reliable predictors of youth drinking.³⁶⁻³⁹ Further, data from the national Youth Risk Behavior Survey (YRBS) in 2019 showed rates of underage alcohol use among women have surpassed those of men, indicating a gender disparity. As such,

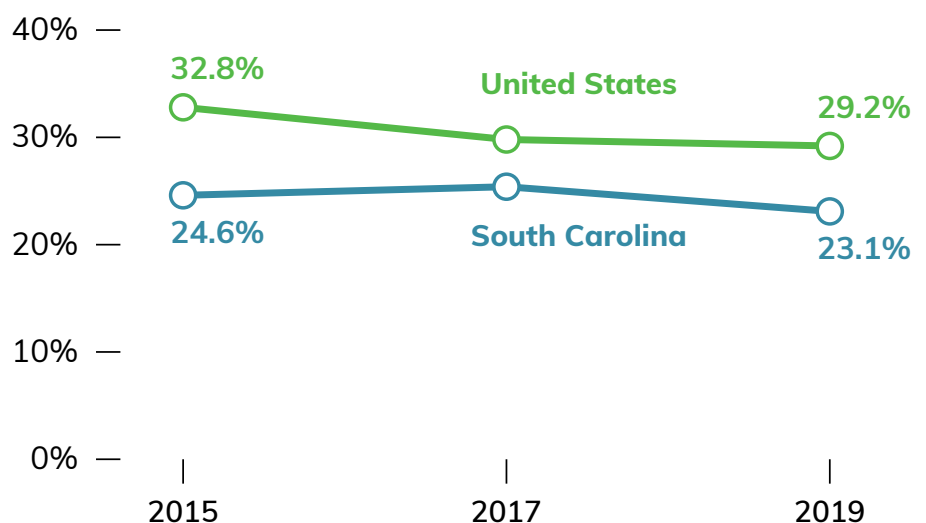
prevention strategies often center around education and increased community-based interventions. Targeting youth knowledge and beliefs regarding risks associated with alcohol use and social norms around drinking are education-based public health interventions. Additionally, youth involvement with strong social networks and high participation in school and extracurricular activities are all protective factors against underage drinking.⁴⁰⁻⁴² Such prevention strategies should be tailored to the populations at highest risk.

Early initiation of alcohol use is associated with the development of alcohol use disorder later in life.

Data Interpretations: In SC, 23.1% of students grades 9 through 12 reported alcohol use in the last month in 2019, lower than the national prevalence of 29.2% (Figure 8.24). Additionally, according to the 2019 SC YRBS, alcohol use in the last month was higher among male high school students (25.5%) compared to female high school students (20.5%) and highest among non-Hispanic White students (27.1%).

FIGURE 8.24

Adolescent Alcohol Use
Past Month
Percent



Source: CDC, Youth Risk Behavior Survey (YRBS).

Note: Among students in grades 9 through 12.

Adolescent Marijuana Use

Adolescent use of marijuana is at an all-time high.⁴³ This poses serious risks to youth as marijuana can harm a developing brain and has the potential for addiction.⁴⁴ Adolescent use is also associated with increased risk of mental health issues, including risk for future depression and neurodevelopmental decline, and poor school performance, to include school drop-out rates. Factors such as widespread marijuana availability, and commercialization of high-potency products appealing to youth, increase adolescent marijuana use. Socially, parental acceptance of substance use, family conflict, poor familial relationships, and perception of peer marijuana use are all associated with early initiation and current use of marijuana among adolescents.^{45,46} Conversely, protective factors include, protective peer norms, participation in extracurricular activities, perceived parental trust, future college or career aspirations, and self-efficacy to decline substances.^{45,47,48} The burden of marijuana use is not equal across all youth demographics. At the national level, higher use is associated with lower socioeconomic status.⁴⁷

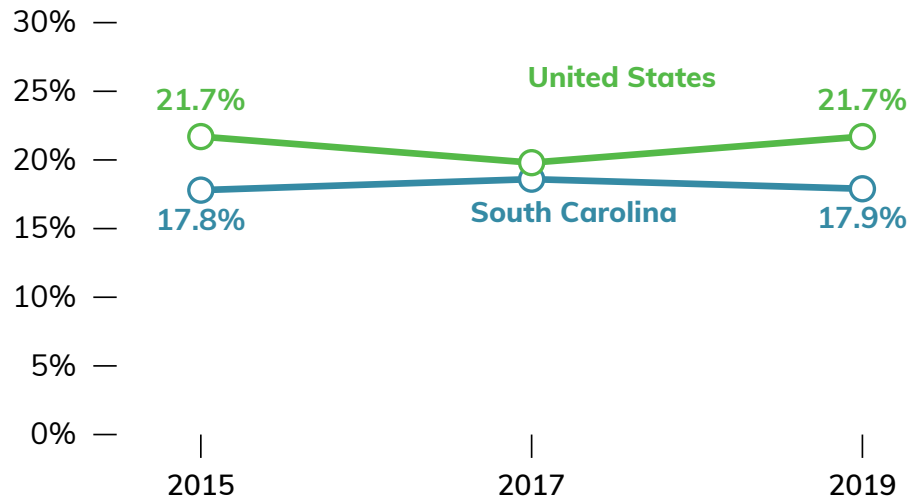
Males also use marijuana at higher rates than their female counterparts.⁴⁸ Finally, non-White youth, with the exception of Asian Americans, report higher use of marijuana than White adolescents. Among adolescents, Native Americans report the highest past-year and lifetime use.⁴⁹ These disparities at the national level and SC-specific data on youth marijuana use should be used to develop tailored prevention strategies.

Marijuana can harm a developing brain and has the potential for addiction. Marijuana use prevention strategies should be tailored toward high-risk populations, such as male youth and youth from racial and ethnic minorities.

Data Interpretations: In SC, 17.9% of students grades 9 through 12 reported using marijuana in the past month in 2019, lower than the national prevalence of 21.7% (Figure 8.25). Additionally, according to the 2019 SC YRBS, marijuana use in the last month was higher among racial and ethnic minorities and older students; 22.2% of 12th-grade students reported currently using marijuana (data not shown).

FIGURE 8.25

Adolescent Marijuana Use Past Month Percent



Source: CDC, Youth Risk Behavior Survey (YRBS).

Note: Among students in grades 9 through 12.

Adolescent Tobacco Use

The use of commercial tobacco products is primarily established during adolescence.^{50,51} According to the SC Adult Tobacco Survey, most adult smokers in SC smoked their first cigarette before the age of 18. Nicotine is harmful to developing adolescent brains because it damages the normal course of brain maturation, and can have lasting consequences on cognitive ability, mental health, and personality (including susceptibility to addiction to other substances).⁵² Youth who use commercial tobacco products are often unaware of the possibility of nicotine addiction, and believe that quitting will be easy. Research shows that youth who smoke and vape are more likely to become lifelong tobacco users than youth who do not smoke or vape.⁵³

Factors affecting youth tobacco use include mass media depictions of tobacco use, tobacco industry marketing, parental tobacco use, flavored tobacco products, low socioeconomic status, affordability/

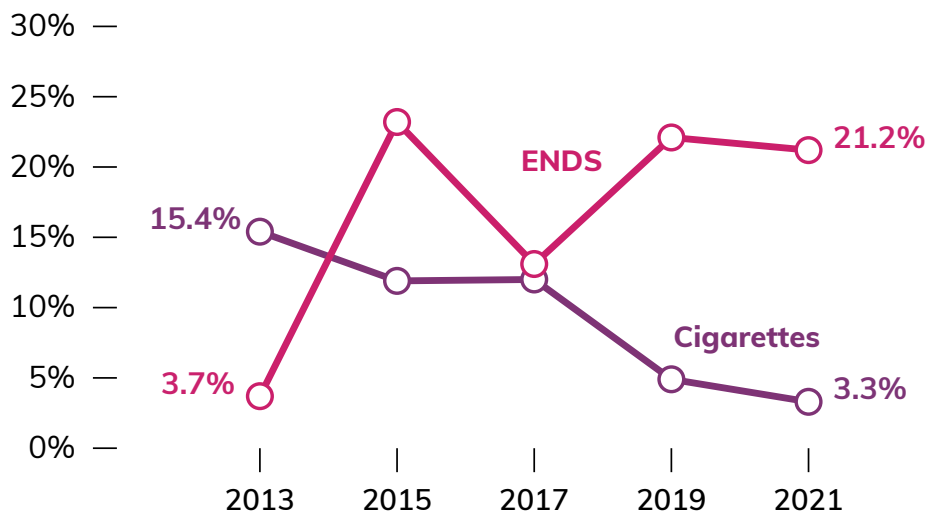
cost, and availability of tobacco products. In addition, children and teens experiencing social and environmental stress related to hunger, violence, incarceration, discrimination, substance use, homelessness, mental health issues, or other potential traumas are more likely to vape or smoke commercial tobacco products.⁵⁴

Nicotine is harmful to developing adolescent brains because it damages the normal course of brain maturation and has lasting consequences on cognitive ability, mental health, and personality (including susceptibility to addiction to other substances).

Data Interpretations: Trend data show a decline in overall cigarette smoking rates among SC youth; however, use of Electronic Nicotine Delivery System devices (ENDS) such as e-cigarettes/vapes has increased (**Figure 8.26**). The majority of e-cigarettes/vapes contain nicotine, which has long-lasting, negative health effects, especially for youth. Exposure to nicotine among youth is particularly dangerous, since it has been shown to have an effect on key brain receptors, making young people more susceptible to nicotine addiction.⁵⁰ In young people, five milligrams of nicotine a day is enough to establish a nicotine addiction — about the amount of nicotine in one-quarter of an e-cigarette pod.^{55,56} One e-cigarette pod contains the same amount of nicotine as an entire pack of cigarettes.

FIGURE 8.26

Current Smoking and Vaping among SC Youth
Percent



Source: SC Youth Tobacco Survey.

Note: ENDS = Electronic Nicotine Delivery System device.

Bullying and Violence

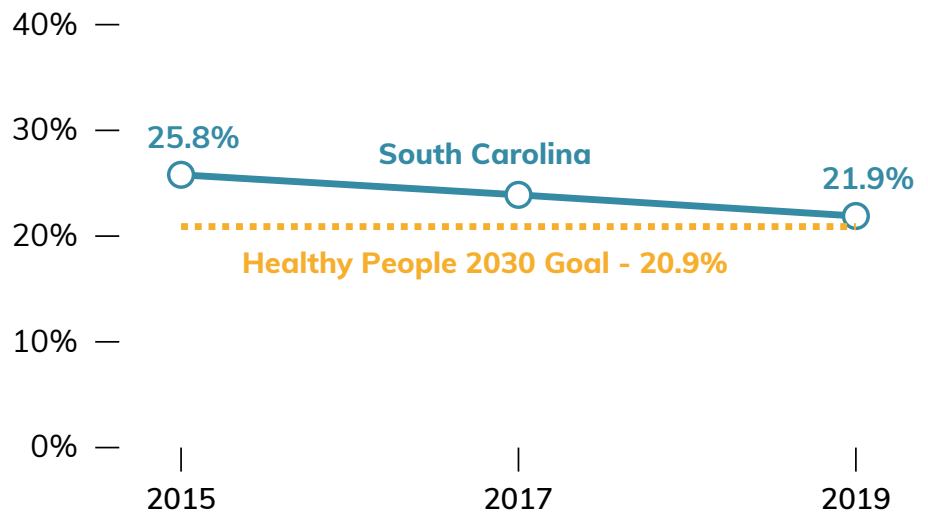
Bullying can result in physical injury, social and emotional distress, self-harm, and even death.⁵⁷ About 1 in 5 US high school students reported being bullied on school property, and more than 1 in 6 reported being cyberbullied in the last year.⁵⁷ Other forms of violence such as fighting, weapon use, and sexual assault occur at schools. According to the 2019 YRBS, in the 12 months before the survey, 21.9% of high school students reported being in a physical fight at least once in the last year, and more than 7% of high school students had been threatened or injured with a weapon at school.⁵⁸

Nearly 40% of US high school students who identify as lesbian, gay, or bisexual experienced bullying at school or electronically in the last year, compared to 22% of heterosexual students.

Data Interpretations: Some youth experience bullying more than others. Nearly 40% of US high school students who identify as lesbian, gay, or bisexual experienced bullying at school or electronically in the last year, compared to 22% of heterosexual students.⁵⁷ About 30% of female high school students experienced bullying at school or electronically in the last year, compared to about 19% of males.⁵⁷ In SC, the proportion of students reporting being in a physical fight in the last 12 months decreased from 25.8% in 2015 to 21.9% in 2019, but this is still higher than the Healthy People 2030 goal of 20.9% (Figure 8.27). Additionally, in 2019, the prevalence of being in a physical fight in the last year was highest among non-Hispanic Black (30.2%) and Hispanic (29.0%) high school students in SC (Figure 8.28).

FIGURE 8.27

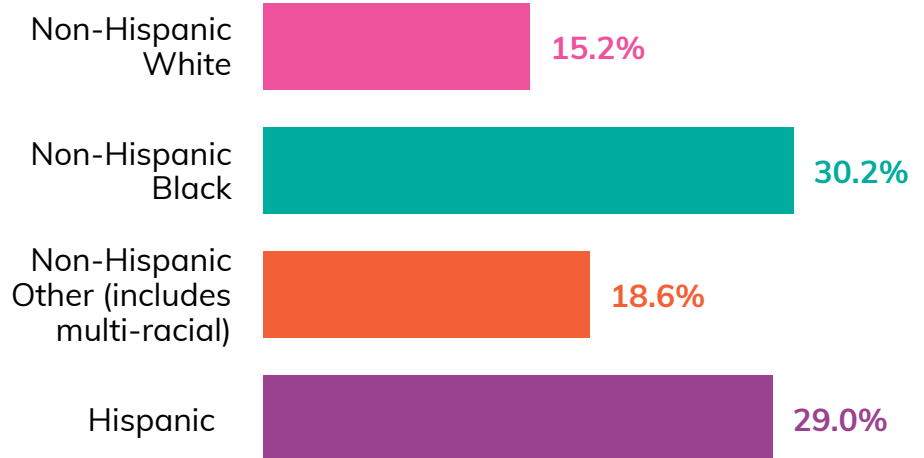
Physical Fight At Least Once In the Last 12 Months
Percent



Source: South Carolina, High School Youth Risk Behavior Survey (YRBS),

FIGURE 8.28

Physical Fight At Least
Once in the Last 12
Months, by Race/Ethnicity
Percent



Source: South Carolina, High School Youth Risk Behavior Survey (YRBS), 2019.

Teen Pregnancy

In the US, the teen birth rate (births per 1,000 females aged 15 to 19 years) has been declining since 1991.⁵⁹ Rates over the last few years have continued to decline, from 18.8 births per 1,000 females in 2017 to 13.9 births per 1,000 females in 2021.⁶⁰ However, the teen birth rate in the US is still substantially higher than other industrialized nations, and racial and ethnic disparities persist.⁵⁹

Teen pregnancy and childbearing can have short- and long-term negative consequences for teen parents and their children. For example, teen pregnancies can negatively affect educational attainment; only around 50% of teen mothers have received a high school diploma, compared to 90% of women who did not give birth during adolescence.⁶¹ Additionally, children who are born to teen mothers are more likely to experience

adverse birth outcomes, such as having a higher risk for low birthweight and infant mortality.⁶¹ Being born to a teen mother also places children at higher risk of long-term adverse outcomes, such as behavioral problems, chronic health conditions, being placed in foster care, and more.⁶¹

Children who are born to teen mothers are more likely to experience adverse birth outcomes, such as having a higher risk for low birthweight and infant mortality.

Data Interpretations: In SC, the teen birth rate has also decreased, from 21.7 births per 1,000 females in 2017 to 18.3 births per 1,000 females in 2021. However, the teen birth rate is still higher than that of the US (**Figure 8.29**). Additionally, important racial and ethnic disparities exist in SC's teen birth rate, with the Hispanic population having the largest rate of teen births (36.4 births per 1,000 females) followed by the non-Hispanic Black population (27.5 births per 1,000 females) (**Figure 8.30**).

FIGURE 8.29

Teen Birth Rate
Rate per 1,000

Source: SC DHEC Vital Statistics, 2017-2021. United States data come from CDC WONDER.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates. Teen = Ages 15-19.

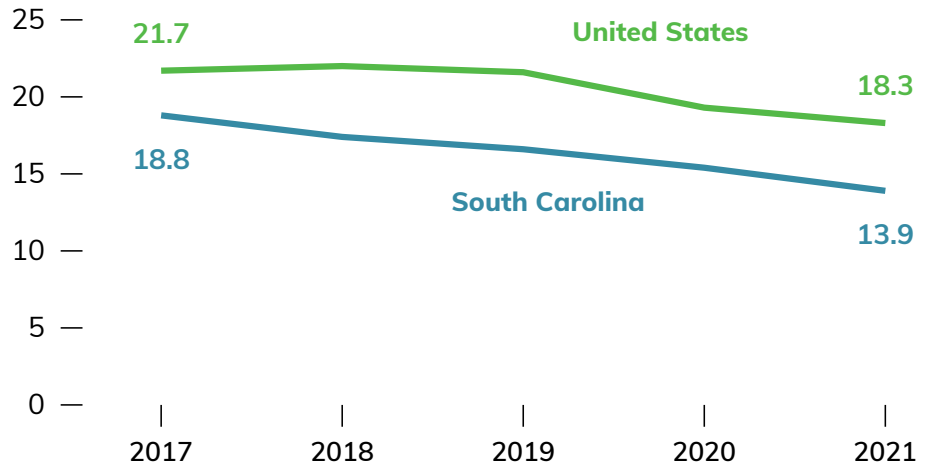
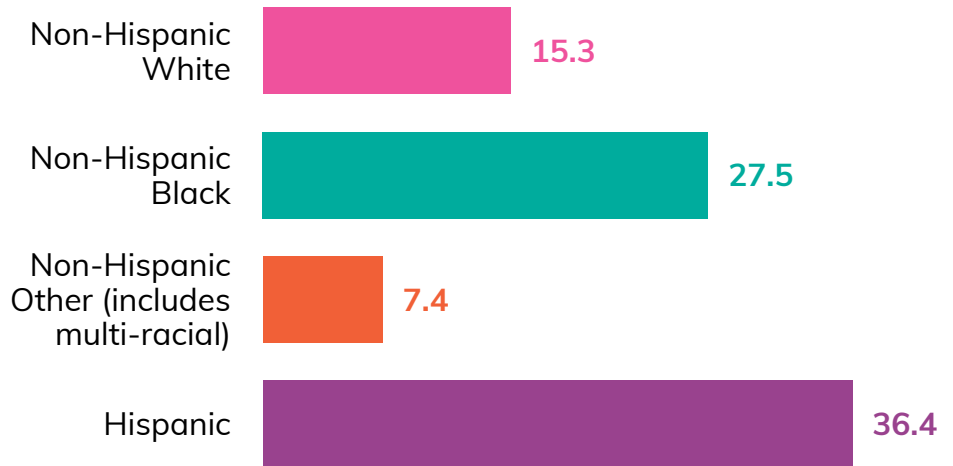


FIGURE 8.30

Teen Birth Rate, by Race/Ethnicity
Rate per 1,000

Source: SC DHEC Vital Statistics, 2017-2021.

Note: population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates. Teen = Ages 15-19.



Adverse Childhood Experiences

Adverse childhood experiences (ACEs) are traumatic events that occur before a child reaches the age of 18.⁶² These experiences can include such things as physical and emotional abuse, neglect, caregiver mental illness, and household dysfunction.⁶³ The association between ACEs and long-term adverse health outcomes has been well-documented; the more ACEs a child experiences, the more likely they are to suffer from chronic diseases such as heart disease

and diabetes later in life. Additionally, ACEs have been associated with poor academic achievement and substance use later in life.

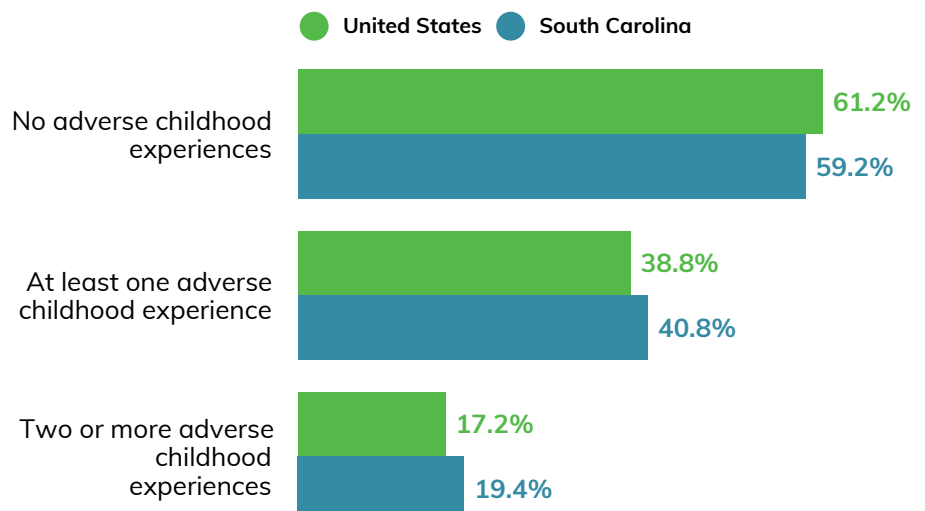
More than half of children 12-17 in SC have experienced at least one ACE.

Data Interpretations: In SC, 40.8% of children have experienced at least one ACE, and this was higher than the national estimate (38.8%) (Figure 8.31). Additionally, 19.4% of children in SC have experienced two or more ACEs, and this was also higher than the national estimate (17.2%) (Figure 8.31). An important note is that this is an average for all children 0-18. When looking at ACEs by age group, we can see that the proportion of children experiencing at least one, or two or more ACEs increases as age increases; more than half of children 12-17 in SC have experienced at least one ACE (Figure 8.32).

Mitigating the effects of ACEs by building and promoting resilience is extremely important. By building support systems in a child's community, we can begin managing the effects of toxic stress from ACEs on children's health. This process should involve teachers in the school system and other adults in a child's community. Experiencing positive childhood experiences such as having safe, stable, and nurturing relationships can help mitigate the effects of ACEs and buffer against the effects of toxic stress on children's health.

FIGURE 8.31

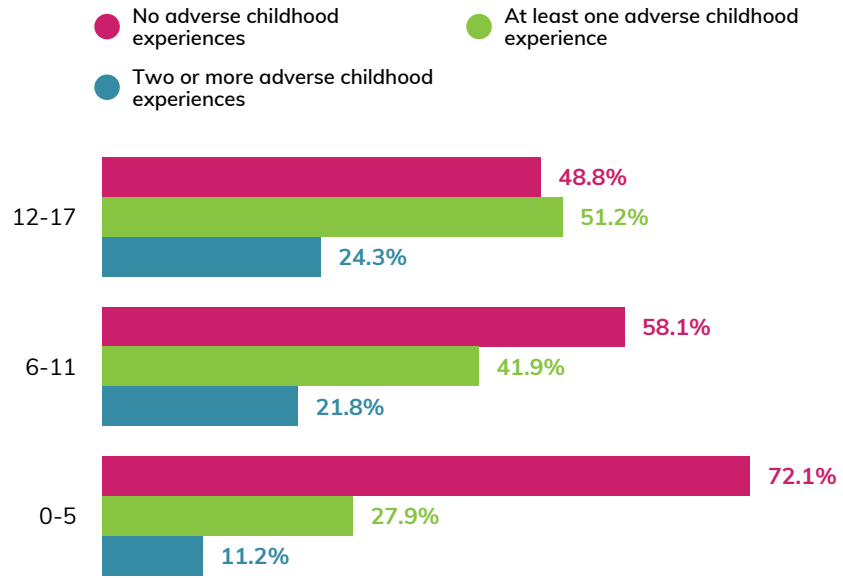
Children who Experienced One or More Adverse Childhood Experiences
Percent



Source: National Survey of Children's Health, 2020-2021.

FIGURE 8.32

South Carolina Children who Experienced One or More Adverse Childhood Experiences, by Age Group
Percent



Source: National Survey of Children's Health, 2020-2021.

Chronic Disease

Childhood Cancer

Malignant neoplasms are the 4th-leading cause of death among children and adolescents (aged 0-19) in the US, which is behind firearm related injury, MVC, and drug overdose and poisoning, respectively.⁶⁴ The top five occurring pediatric cancers for both the US and SC, are leukemias, central nervous system cancers, lymphomas, melanomas, and soft tissue cancers, respectively.^{65,66} In SC, there are roughly 207 pediatric cancer cases and 32 pediatric cancer deaths per year.^{16,66} Black children are about 30% less likely to have pediatric cancer compared to White children; however, Black children are about 22% more likely to die from a pediatric cancer. In 2021, according to the SC RFA, the average inpatient charges for any

childhood cancer was \$130,631, which added up to a total economic impact of \$56,425,507.

In SC, there are roughly 207 pediatric cancer cases and 32 pediatric cancer deaths per year. In 2023, an estimated 9,910 children younger than 15 and about 5,280 teens ages 15 to 19 in the United States will be diagnosed with cancer.

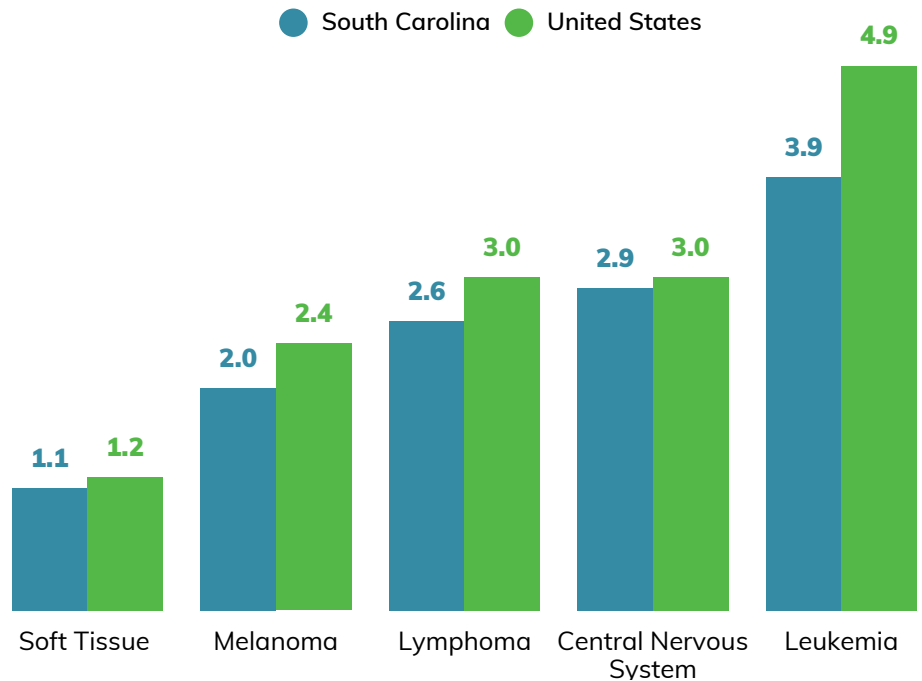
Data Interpretations: From 2015 through 2019, the incidence rate of each of the top five occurring pediatric cancers was lower in SC, compared to the US (**Figure 8.33**). Leukemia, the most commonly occurring pediatric cancer, is 23% higher in the US compared to SC. Melanoma, the fourth most-common pediatric cancer, is 18% higher in the US compared to SC.

Child and adolescent cancer incidence rates broken down by race and sex are unstable due to small case counts (**Figure 8.34**). For example, in 2019, Black females had the highest all pediatric cancer incidence rates of any sex and race combination; however, in 2016 and 2018 Black females had the lowest all pediatric cancer incidence rate among the same groups. Over the entire time period, White males had the highest average incidence rates (18.6 cases per 100,000 population) of all pediatric cancers, followed by White females (17.9 cases per 100,000 population), Black males (13.1 cases per 100,000 population), and Black females (12.7 cases per 100,000 population).

From 2016 through 2020, Black Males had the highest mortality rate from all pediatric cancers (3.5 deaths per 100,000 population), despite Black Males having a lower incidence rate than both White Males and White Females (**Figure 8.35**). The lowest pediatric mortality rates were observed among Black Females (2.1 deaths per 100,000 population).

FIGURE 8.33

Top 5 Pediatric Cancers Rate per 100,000 individuals



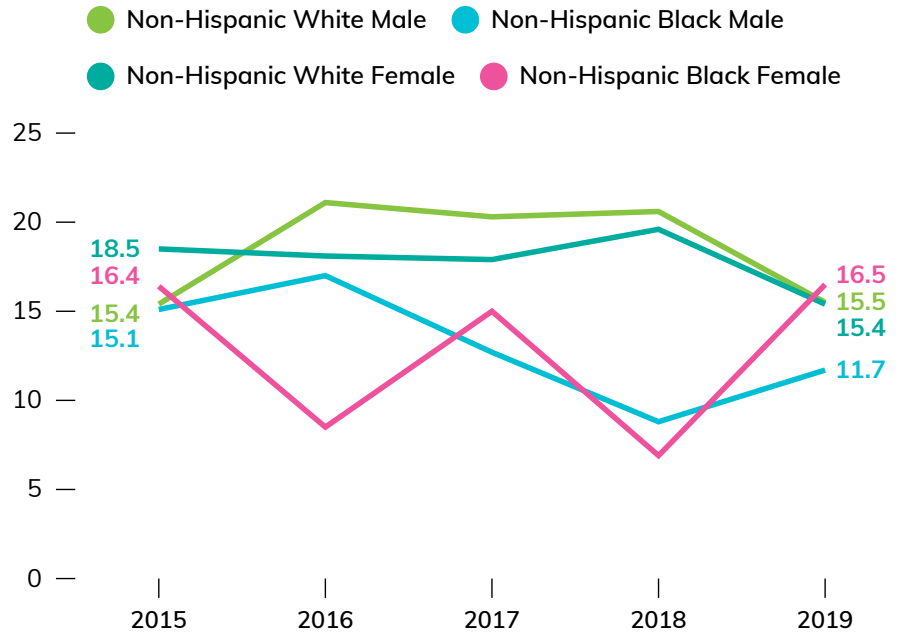
Source: National Incidence: National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2021 Submission (2001-2019). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2022. South Carolina Incidence: 1996-2020ytd SC Cancer Incidence Data. Based file run date 11/23/21. SC Central Cancer Registry, Bureau of Chronic Disease & Injury Prevention, SC Dept. of Health & Environmental Control. 02/25/2022.

Note: Ages 0-19.

FIGURE 8.34

South Carolina All Pediatric Cancer Incidence, by Race & Sex

Rate per 100,000 individuals



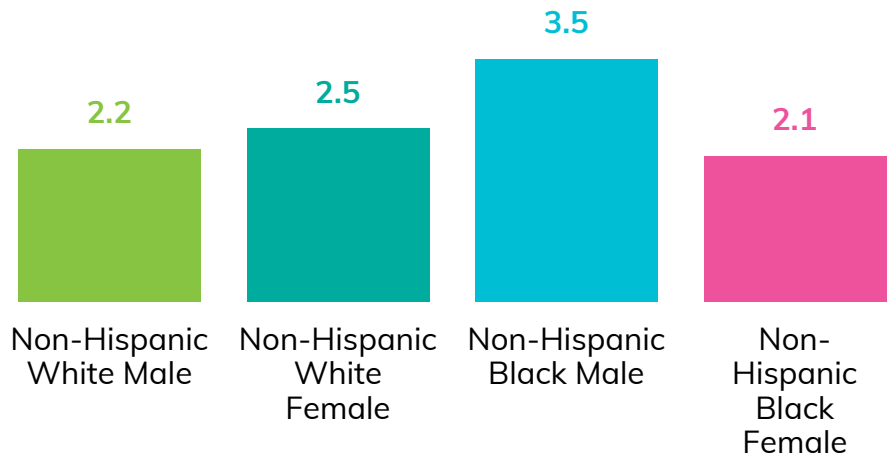
Source: South Carolina Incidence: 1996-2020ytd SC Cancer Incidence Data. Based on file run date 11/23/21. SC Central Cancer Registry, Bureau of Chronic Disease & Injury Prevention, SC Dept. of Health & Environmental Control. 02/25/2022.

Note: Ages 0-19.

FIGURE 8.35

South Carolina All Pediatric Cancer Mortality, by Race & Sex

Rate per 100,000 individuals



Source: 1996-2020 SC Cancer Mortality Data. Based on SC Vital Records Death Data file run date 8/5/2021. SC Central Cancer Registry, SC DHEC. 06/14/2022

Note: Ages 0-19.

Childhood Asthma

Asthma is a chronic lung disorder characterized by narrowing of the airway tubes that carry air into the lungs. Asthma causes the airways to become inflamed and constricted, leading to shortness of breath, wheezing and coughing. Over a lifetime, if untreated, asthma can cause permanent lung damage. In SC, the prevalence of lifetime childhood asthma in 2020 was 11.2%, and this was highest among non-Hispanic Black children (15.2%) and Hispanic children (15.8%) (**Figure 8.36**). Asthma places a significant economic burden on the US, with a total cost of asthma, including costs incurred by absenteeism and mortality, of \$81.9 billion in 2013.⁶⁷ Factors that may increase a child's likelihood of developing asthma include:^{68,69}

- Exposure to tobacco smoke, including before birth
- Previous allergic reactions, including skin reactions, food allergies or hay fever (allergic rhinitis)
- A family history of asthma or allergies
- Living in an area with high pollution
- Obesity
- Respiratory conditions, such as a chronic runny or stuffy nose (rhinitis), inflamed sinuses (sinusitis) or pneumonia
- Heartburn (gastroesophageal reflux disease, or GERD)
- Being male
- Being Black or Puerto Rican

Asthma can result in several health complications and affect a person's quality of life, in ways that include:

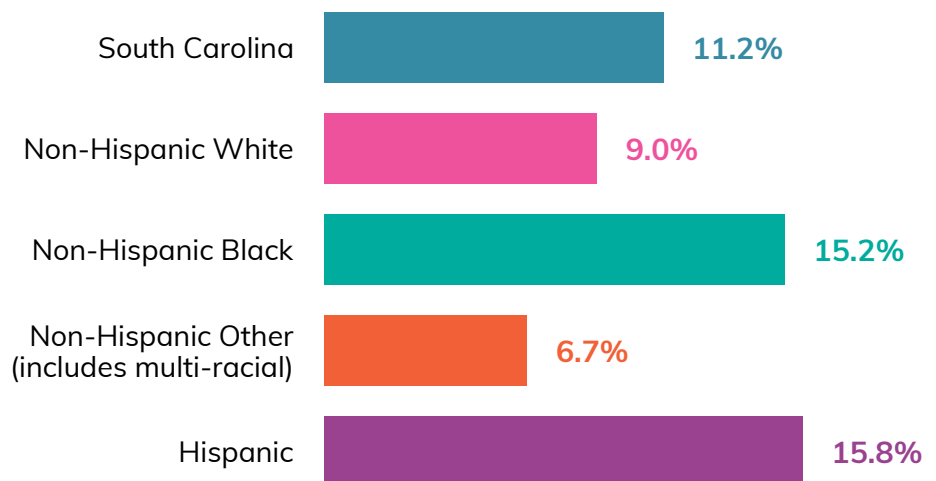
- Severe asthma attacks that require emergency treatment or hospital care
- Permanent decline in lung function
- Missed school days or getting behind in school
- Poor sleep and fatigue
- Symptoms that interfere with play, sports or other activities

While the causes of asthma are not always known, prevention and timely management of symptoms can make asthma symptoms less severe and result in fewer episodes, missed school days, and hospital visits.

Asthma is a serious, but treatable, chronic condition. It is important to take it seriously but it shouldn't dictate a child's life. Children with asthma can and should play sports and be physically active.

FIGURE 8.36

Childhood Asthma
Prevalence, by Race/
Ethnicity
Percent




Source: National Survey of Children's Health (NSCH), 2020.

Note: Data shows prevalence of ever having asthma.

Immunizations

Immunizations are a critical form of primary disease prevention and one of the most successful public health interventions in reducing disease spread, preventing complications, and death from vaccine-preventable disease (VPD). Although immunizations have significantly reduced the spread of vaccine-preventable diseases, this does not mean that these diseases are no longer a threat.

The rise in parental refusal of immunizations over the last several years is a worrying trend because VPDs can still pose a threat, especially among under-immunized populations. "Parental refusal of vaccines" refers to parents choosing not to vaccinate their children for various reasons, including religious belief, fear of pain, fear of serious side effects, or a belief that VPDs are not harmful. One way to measure parental vaccination refusal is by tracking data on religious exemptions granted to daycare and school-aged children. In order to attend daycare and public schools (grades 5K-12), families must provide proof of their children being up to date on all required immunizations. Medical and religious exemptions are the only available immunization exemptions in SC. A religious exemption may be granted to any student whose parent, guardian, or person *in loco parentis* signs and has notarized the appropriate section of the SC Certificate of Religious Exemption. The religious exemption form can only be obtained from a county health department.

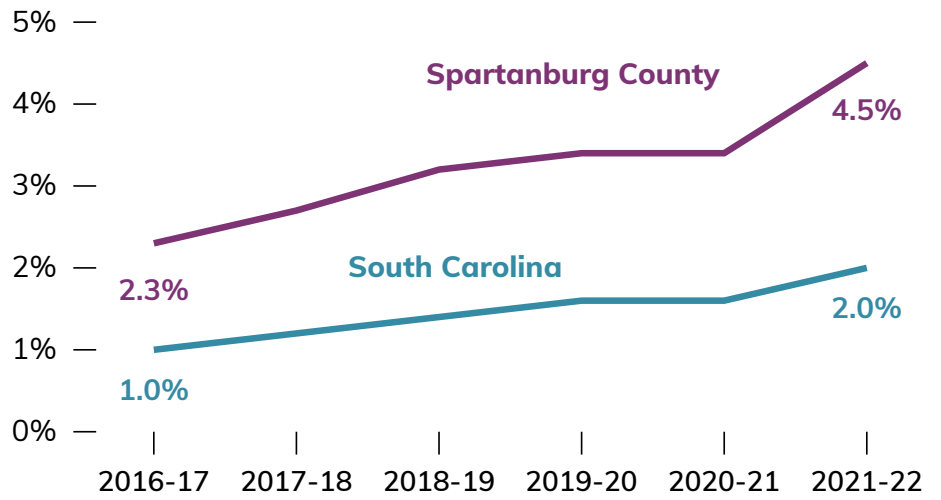


Immunizations are the ultimate form of preventive medicine. There are not many options a physician has that can still provide protection to children 10 years from now or for their lifetime. Misconceptions around immunizations have had a negative effect on vaccine uptake in our communities. The best way to address this issue is through education on the benefits and risks of vaccines. The Upstate region experiences the most disparity in vaccine uptake compared to other regions. It may be beneficial to focus resources toward educational efforts in this region.

Data Interpretations: The last 10 school years have seen a significant increase of 12,000 students whose parents completed religious exemptions rather than having their children vaccinated against VPDs. Certain population groups tend to show higher rates of parental vaccine refusal. The Upstate region shows the highest rates of student and childcare religious exemptions (**Figure 8.37**). Spartanburg and Greenville counties have the highest and second-highest county religious exemption rates respectively (**Figure 8.38**). School districts in this area appear to experience a greater number of VPD outbreaks than counties with lower rates of religious exemption. Disparities in DTaP (diphtheria, tetanus and acellular pertussis) vaccination coverage by race/ethnicity are not statistically significant (**Figure 8.39**). One cause of parental vaccine refusal is due to misinformation that vaccines can cause more harm to a child than benefit. The best way to prevent this problem is through education that serious side effects from vaccines are extremely rare, and that benefits of vaccination far outweigh the associated risks.

FIGURE 8.37

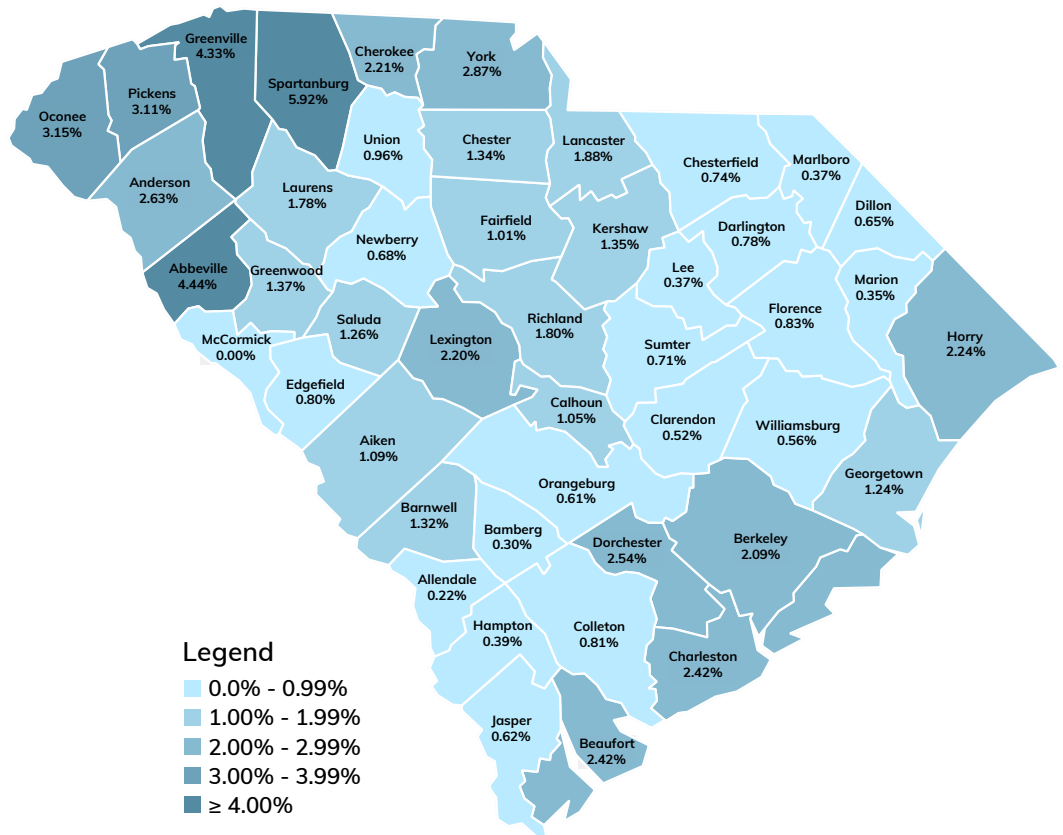
SC and Highest County
K12 School Religious
Exemptions for
Vaccinations
Percent



Source: DHEC School Summary of Student Immunization Status (45 Day Report).

FIGURE 8.38

K12 School
Religious
Exemptions for
Vaccinations, by
County
Percent



Source: DHEC School Summary of Student Immunization Status (45-Day Report).

Note: For the 2021-2022 school year.

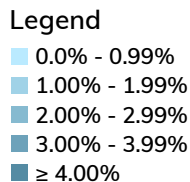
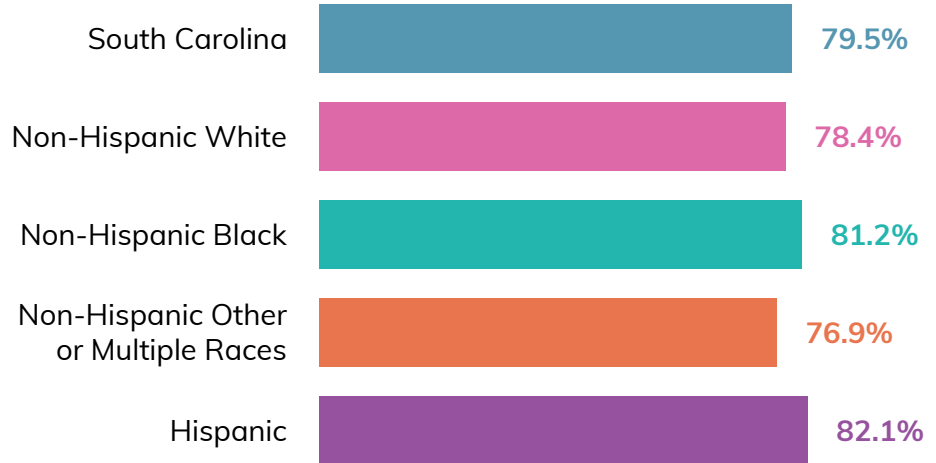


FIGURE 8.39

≥4 Doses DTaP Vaccination Coverage by 24 Months of Age, by Race/Ethnicity Percent



Source: National Immunization Survey (NIS), 2018.

Healthy Schools

K-5 Readiness

While the subject of an ideal state of readiness for kindergarten may be controversial because not all children learn to walk or talk at the same pace, the establishment of key developmental milestones can help provide early identification of children who have experienced adverse childhood experiences (ACEs), may be on the autism spectrum, or have other learning difficulties, so they can get early access to support. Some states perform readiness tests to assess the incoming kindergarten class. However, there is no national standard test. SC law requires all students be assessed using the Kindergarten Readiness Assessment (KRA).⁷⁰⁻⁷² The KRA is an assessment performed by the teacher over the first 45 days of school and is done by observation of play, interactions with peers and adults, participation in activities, and

responses to questions. It focuses on key areas such as social, emotional, and behavioral development, sensory and motor development, mathematics, and early language and literacy development. The resulting data help stakeholders make informed decisions about any learning gaps that are identified.^{73,74}

In SC, the data demonstrate a decline in K-5 readiness over the three school years examined, two of which were affected by the COVID-19 pandemic.

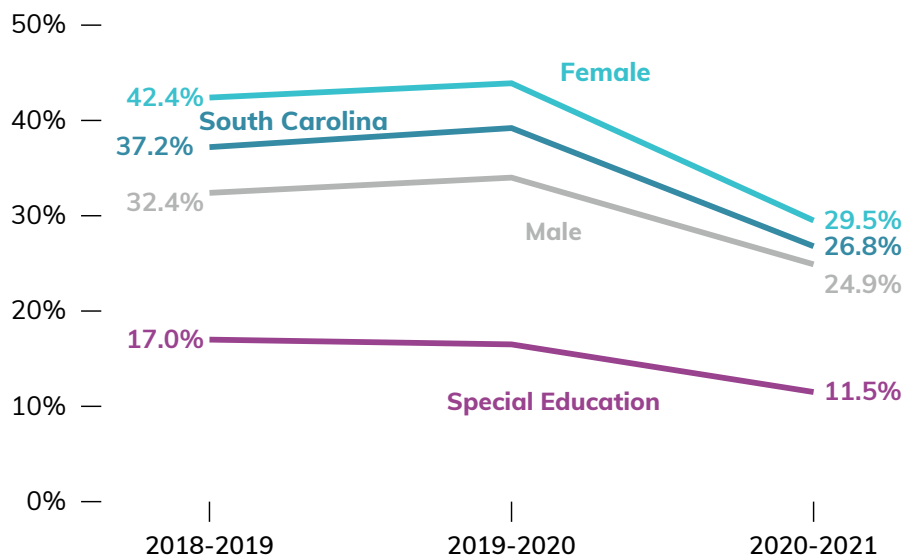
Data Interpretations: In SC, data show a decline in K-5 readiness between the 2018-2019 and 2020-2021 school years, however, two of these were school years affected by the COVID-19 pandemic (**Figure 8.40**). The overall readiness for SC children for the 2018-2019 school year was 37.2%, and this declined to 26.8% for the 2020-2021 school year (**Figure 8.40**). Females demonstrated a higher level of K-5 readiness than males in all three school years, and both genders showed a decline over time (**Figure 8.40**). The percentage of children in special education who were ready for K-5 was significantly lower than the overall readiness of SC students and declined during the three school years, with the most decline during the school years affected by the pandemic (**Figure 8.40**).

When examining K-5 readiness by race and ethnicity, White and Asian students demonstrate greater levels of readiness, but White students declined more sharply during the school years affected by the pandemic (**Figure 8.41**). Black and Hispanic students, while demonstrating significant gaps in readiness compared to their White and Asian classmates, had also been increasing in readiness pre-pandemic, but both declined in readiness during the pandemic. Declines were also observed in American Indian/Alaskan Native, Multiracial, and Native Hawaiian/Pacific Islander populations (**Figure 8.41**).

Health care providers and organizations that work with families can educate parents and caregivers on the importance of their children being ready to learn in the school environment. Promotion of early learning experiences such as reading vocabulary, critical thinking, and a love of learning. While childcare and preschool may provide these opportunities, free and low-cost community activities that promote social skills, motor development and tactile experiences — such as waiting in lines, taking turns, and participation circles — can be found at places such as the zoo, a park playground or a library children’s room. Interaction with siblings, neighbors and family members can foster communication skills and instill curiosity. Health care providers can also help the parent understand and monitor for developmental milestones. This can help with early referral to medical and developmental resources to improve outcomes for children who may require special education.

FIGURE 8.40

Students Demonstrating Readiness, Overall and by Selected Characteristics Percent

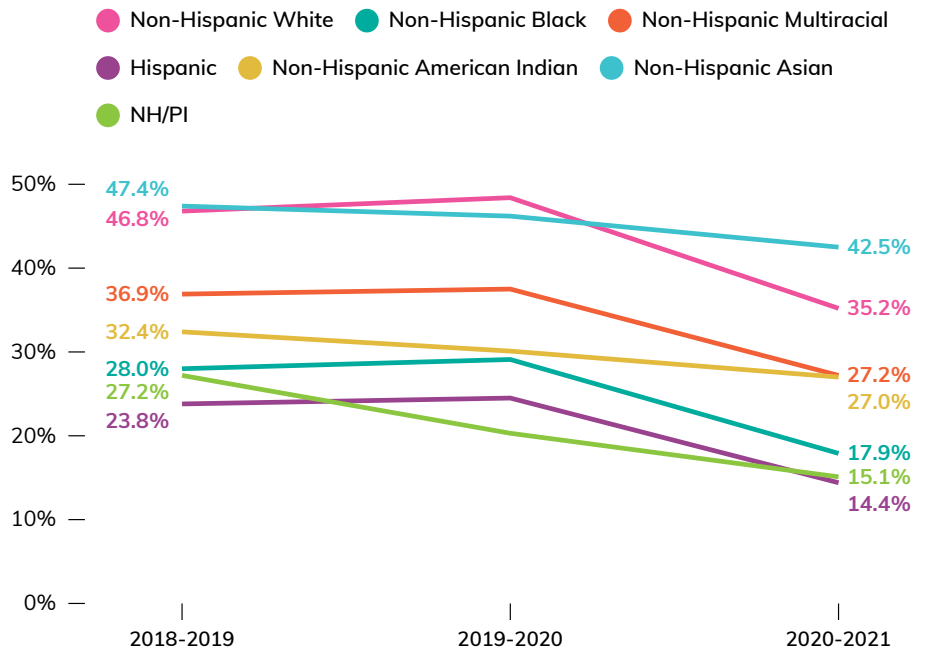


Source: SC Department of Education, Kindergarten Readiness Assessment (KRA).

Special education means specially designed instruction to meet the unique needs of a child with a disability.

FIGURE 8.41

Students Demonstrating Readiness, by Race/Ethnicity
Percent



Source: SC Department of Education, Kindergarten Readiness Assessment (KRA).
NH/PI = Native Hawaiian/Pacific Islander.

High School Dropout Rates

Historically, high school dropout rates may not have been considered a public health issue, but research has shown that education is one of the greatest predictors of health. Understanding the complex and vast reasons why young students drop out of high school can inform policy and advocacy. Partnerships between education, health agencies and other organizations are essential to helping young people want to stay in school. Fostering student engagement and making adolescents feel connected to their school and community has been demonstrated to increase the student's likelihood of graduation. Physical and mental health challenges have been shown to be significant reasons why young people do not stay in school and graduate. Pregnancy is a leading reason why adolescent women leave school and can also affect males who become fathers while still in school.

Substance use can also lead to dropping out. Caring for mental illness, either for themselves or for a family member, and dealing with chronic disease are other reasons for leaving school before graduation.⁷⁵ Racial and ethnic disparities permeate, even in states with high rates of graduation. Hispanic, Native American, Native Alaskan, and Black students have lower rates of graduation.

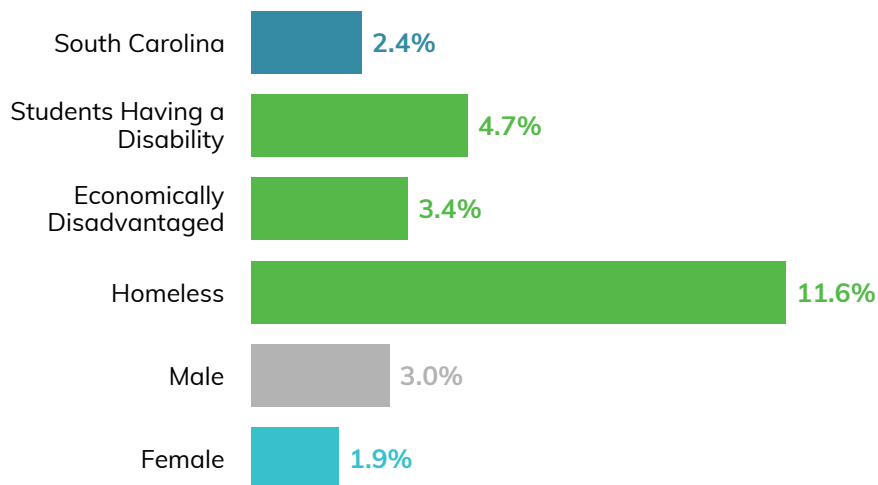
Pregnancy is a leading reason why adolescent females leave school and can also affect parenting young males.

Data Interpretations: In SC the overall dropout rate, or the rate of students who drop out from school during a calendar year while enrolled in grades 9-12, was 2.4% in 2020-2021 (Figure 8.42). Male students are more likely to drop out than female students, and the risk factor associated with the highest dropout rate was homelessness (Figure 8.42). Other factors that significantly affected the dropout rate for students included economic disadvantages and disabilities (Figure 8.42).

It is essential to bridge the gaps between those students who make it to graduation and those who do not. Cultural competence and programming that engage more students — such as career training, better college preparation, and identifying and working collaboratively to resolve disparities that result in homelessness and economic disadvantage — can improve opportunities for students to stay in school and graduate. Most students in SC who drop out do so in their 9th grade year, which means that we need to initiate these programs while students are in elementary and middle school. We must also engage their families and caregivers to increase their vision of the importance and value of education and the opportunities it provides.

FIGURE 8.42

High School Dropout, by Selected Characteristics
Percent



Source: SC Department of Education 2020-2021.

High School Graduation

Many of the reasons why graduating from high school can contribute to good health are obvious. Higher levels of education can lead to better jobs, higher income, further education, health insurance and funds to pay for health care, ability to live in safer neighborhoods with green spaces for play and exercise, and access to healthy foods. Alternatively, those with less education are more likely to engage in risky behaviors, which can negatively affect their health and safety.⁷⁶ Bringing public health and education leaders together to address improving graduation rates has the potential to provide long-term health benefits for the residents of SC.

Programs that urge young people to seek higher levels of education, gain workplace skills and live healthier lifestyles should be prioritized in order to increase graduation rates. Support systems for students who face mental illness, chronic disease and nutritional challenges should be developed to reduce barriers to success. Engaging families and caregivers can provide additional insight into what can help students

graduate. Students who may not be able to graduate in four years may benefit from extended graduation options that allow them to continue in high school to help them graduate.

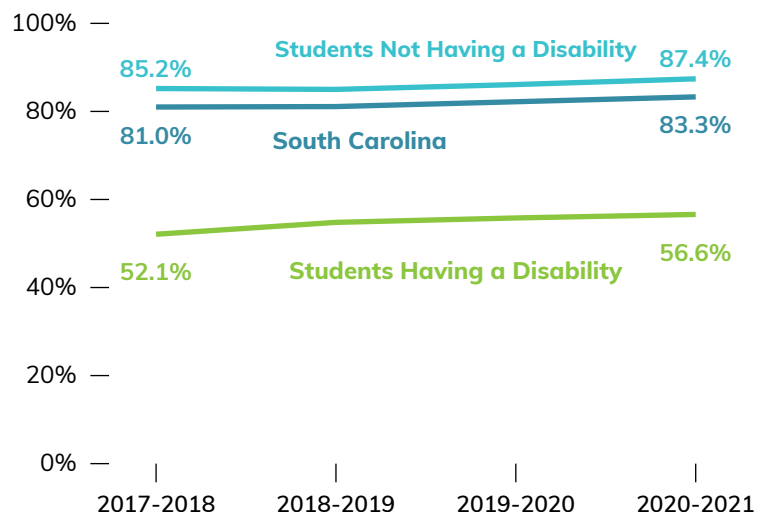


Higher levels of education can lead to better jobs, higher income, further education, health insurance and funds to pay for health care, ability to live in safer neighborhoods with green spaces for play and exercise, and access to healthy foods. Helping young people begin the process of leading healthier lives will lead to healthier adults, living in healthier communities.

Data Interpretations: The SC overall graduation rate has been broken down by those with and without a disability, and by race and ethnicity. While all categories have been improving from 2017-2018 through 2020-2021, those without a disability have higher rates of graduation than students with a disability (Figure 8.43). Asian/Pacific Islander students have the highest rates of graduation, followed by White, Hispanic, and Black students (Figure 8.44). American Indian/Alaskan Native student graduations were on a dramatic incline until the pandemic, when they started to decline again, but remained higher than the pre-pandemic 2017-2018 school year (Figure 8.44).

FIGURE 8.43

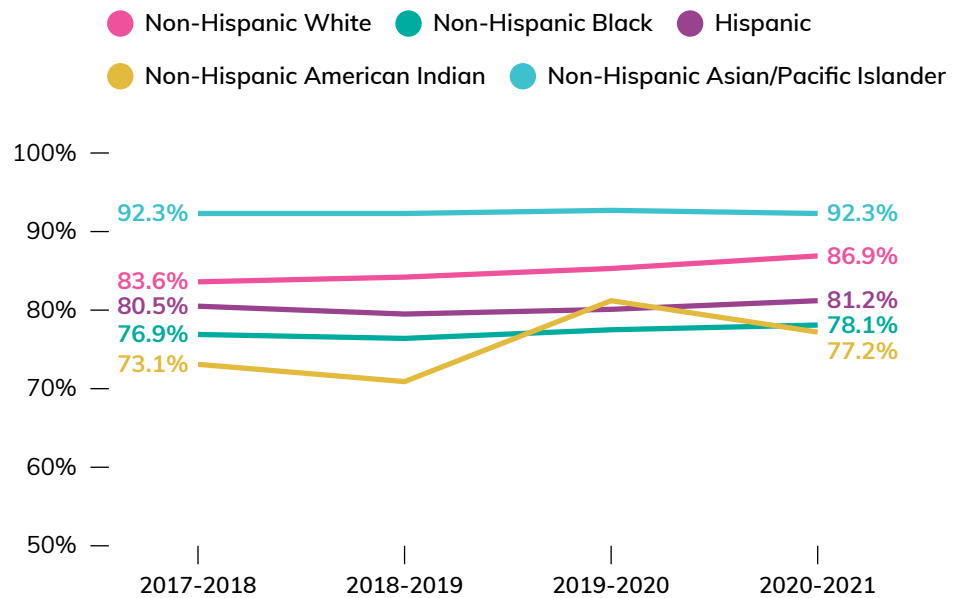
High School Graduation, Overall and by Disability Status
Percent



Source: SC Department of Education 2020-2021.

FIGURE 8.44

High School Graduation, by Race/Ethnicity Percent



Source: SC Department of Education, SC School Report Cards.

Children and Youth with Special Health Care Needs

Children and youth with special health care needs (CYSHCN) are a unique population that face varying degrees of challenges. This population is defined as individuals who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally.⁷⁷

The percent of children and youth with special health care needs has been increasing in SC over the past five years, from 20.4% in 2016-2017 to 23.7% in 2020-2021, with the most notable increases seen among Hispanic children (12.1% in 2016-2017 to 21.7% in 2020-2021).

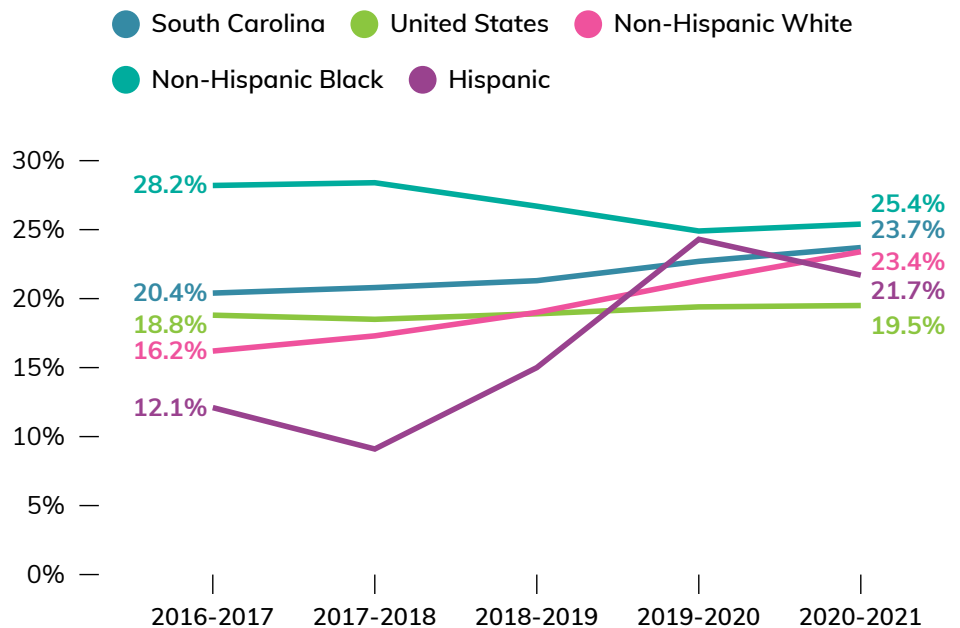
Data Interpretations: According to the National Survey of Children's Health (NSCH), about 14 million children under 18 years of age (19.5%) had a special health care need in the US in 2020-2021. In SC, 23.7% of children and youth met this definition during the same time period, and it's been increasing steadily over the past five years, especially among non-Hispanic White and Hispanic children (**Figure 8.45**).

Having a medical home is a critical component to successful health outcomes for CYSHCN. About half (49.7%) of CYSHCN reported having a medical home in 2020-2021 (**Figure 8.46**). Research has shown that children with an established health care provider are more likely to receive consistent, appropriate medical care and immunizations, and experience a reduced rate of hospitalizations for preventable conditions. Those who receive care in a well-functioning system are also more likely to be diagnosed promptly for other chronic conditions.⁷⁸ By providing comprehensive care in a medical home setting as an evidence-based practice and providing education to both providers and families on the importance of establishing a medical home, we can improve health outcomes and complications for this population.

Transition of youth to adulthood has also been identified as a crucial factor when considering health for youth and adolescents. According to the NSCH, in SC, about 1 in 5 CYSHCN 12-17 years of age (20.5%) received transition services in 2020-2021. Research has shown that youth who do not have the opportunity to engage in a structured transition process may experience an increase in medical complications, leading to difficulties in treatment and medication adherence, the absence of a medical home, an increase in preventable emergency department and hospital use, and higher healthcare associated costs. Poor health in adolescence and early adulthood has been shown to have a negative impact on academic and professional outcomes for adolescents and young adults. Over 90 percent of children with special health care needs live to adulthood, however, are less likely to complete high-school, college, or be actively employed.⁷⁹ Evidence shows that a successful transition to adulthood leads to a positive outcome for overall population health.⁸⁰

FIGURE 8.45

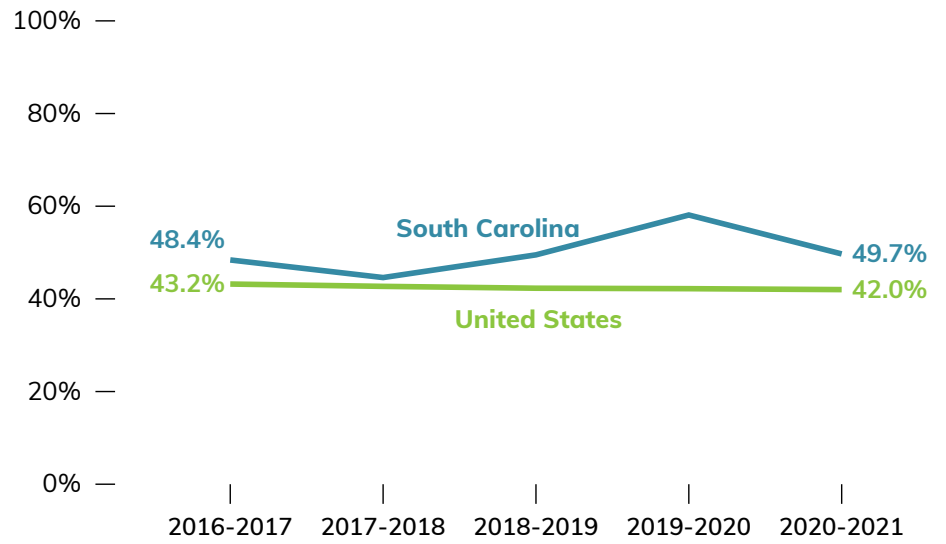
Children with Special Health Care Needs, Aged 0-17, by Race/Ethnicity
Percent



Source: National Survey of Children's Health, Health Resources and Services Administration, Maternal and Child Health Bureau.

FIGURE 8.46

Children with Special Health Care Needs, Aged 0-17, Who Have a Medical Home
Percent



Source: National Survey of Children's Health, Health Resources and Services Administration, Maternal and Child Health Bureau.

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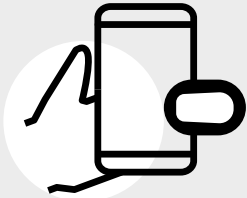
Healthy Adults



Chronic Conditions



One-third of adults in SC have **high blood pressure**.



Non-Hispanic Black men die from diabetes 2 times more often than **non-Hispanic White men**.

#1

cause of death was heart disease for all ages in SC.



One-third of adults in South Carolina had at least two chronic conditions.



COVID-19 was the **leading cause of hospitalization** and **2nd-leading cause of death** for adults aged 18-64 in 2021.

13th

SC had the **13th-highest prevalence of obesity** among adults in the US

Cancer

Non-Hispanic Black women get screened for breast cancer at a higher rate, but have a higher mortality rate than **non-Hispanic White women**.

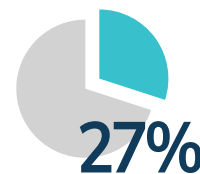


Prostate Cancer Mortality

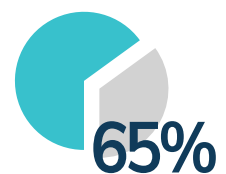
More than two times higher among **non-Hispanic Black men** than **non-Hispanic White men**.

Infectious Diseases

Sexually Transmitted Infections continue to rise



Blacks make up 27% of SC population...



...but 65% of the HIV-positive population.

Mental Health

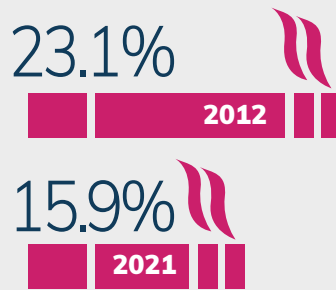
Adults with a disability were **nearly 3 times** as likely to report 14 or more poor mental health days, compared to adults without a disability.



Depressive disorders were more prevalent among those with lower incomes.

Smoking

Adult cigarette smoking decreased in 2021



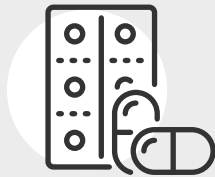
Adult cigarette smoking decreased from 2012 to 2021. It was highest among **American Indian** or **Alaskan Native** adults compared to other racial and ethnic groups.

Behavioral Health

Opioid overdoses account for

80%
of all overdose deaths in SC.

The number of **deaths** involving **synthetic opioids** in the last three years has **tripled**.



Injury

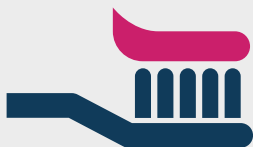
↑
68%

Increase in the rate of injury deaths in SC since 2012.

Death by firearms increased **nearly 50%** from 2012 to 2021.



Oral Health



Regular dental visits are especially important to adults with a chronic disease.

Leading Causes of Hospitalizations and Deaths

Hospitals and emergency departments (ED) are essential sources of care for acute, chronic, and emergency conditions. The most frequent diagnoses for hospitalizations in the United States (US) are septicemia, heart failure, osteoarthritis, pneumonia, and diabetes.¹ Identifying the most frequent primary conditions for which patients are admitted to the hospital is important to the implementation and improvement of health care delivery, quality initiatives, and health policy.¹ For example, this information can help establish national health priorities, initiatives, and action plans.

Leading causes of death are an important measure of population health. They can highlight the need to

address growing epidemics in health care and lead to understanding how preventive measures may help people live longer and healthier lives.² For more than a decade, heart disease and cancer have claimed the first and second spots respectively as the leading causes of death in US. Together, the two causes are responsible for 46% of deaths in the US.²



COVID-19 was the leading cause of hospitalization and the 2nd-leading cause of death among adults ages 18-64 years in 2021.

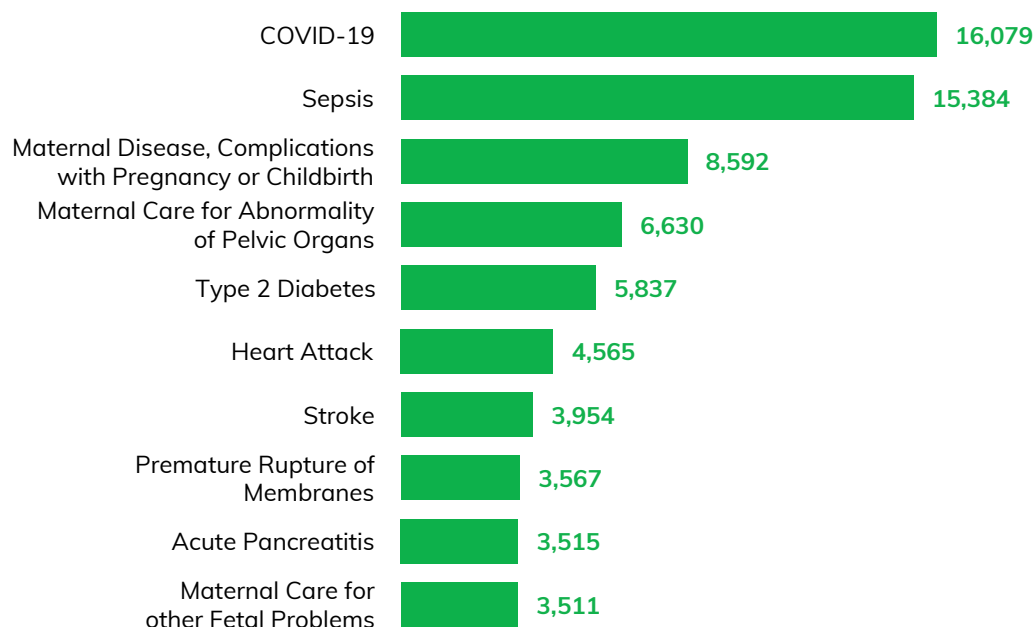
Data Interpretations: In 2021, the leading cause of hospitalization among South Carolina (SC) adults ages 18-64 years was COVID-19 with 16,079 hospitalizations (**Figure 9.1**). Sepsis was second and these two top conditions accounted for 12.6% of all hospitalizations among adults ages 18-64. Hospitalizations among adults accounted for over \$16 billion in charges with an average stay of 4.3 days.

Unintentional injuries, such as motor vehicle crashes, falls, and accidental poisonings, were the leading cause of death among adults ages 18-64 in 2021, followed by COVID-19, heart disease, and cancer (**Table 9.1**). Chronic diseases accounted for six of the top 10 leading causes of death among adults. Unintentional injuries were the leading cause of death among all age groups, except among 45- to 54-year-olds and 55- to 64-year-olds.

FIGURE 9.1

Leading Causes of Hospitalizations, Ages 18-64 Years

Number



Source: SC RFA, 2021.

Note: Federal fiscal year.

TABLE 9.1

Leading Causes of Death, by Age Group

Ages 18-24

Cause of Death	Number
Unintentional Injuries	333
Homicide	145
Suicide	102
COVID-19	28
Cancer	15
Heart Disease	11
Congenital Malformation	5
Diabetes	5
All Deaths	723

Ages 35-44

Cause of Death	Number
Unintentional Injuries	746
COVID-19	353
Heart Disease	288
Cancer	199
Suicide	122
Chronic Liver Disease And Cirrhosis	109
Homicide	103
Stroke	59
Diabetes	58
Kidney Disease	33
All Deaths	2,509

Ages 25-34

Cause of Death	Number
Unintentional Injuries	818
Homicide	195
Suicide	134
COVID-19	119
Heart Disease	87
Cancer	55
Chronic Liver Disease And Cirrhosis	30
Diabetes	28
Pregnancy , Childbirth And The Puerperium	20
HIV	19
All Deaths	1,706

Ages 45-54

Cause of Death	Number
COVID-19	858
Heart Disease	729
Unintentional Injuries	704
Cancer	606
Chronic Liver Disease And Cirrhosis	203
Suicide	136
Diabetes	131
Stroke	125
Chronic Lower Respiratory Disease	72
Kidney Disease	62
All Deaths	4,532

Ages 55-64

Cause of Death	Number
Heart Disease	2,018
Disease Of Heart	1,830
COVID-19	1,628
Unintentional Injuries	658
Chronic Lower Respiratory Disease	423
Diabetes	347
Chronic Liver Disease And Cirrhosis	341
Stroke	298
Septicemia	141
Kidney Disease	127
All Deaths	9,651

Ages 18-64

Cause of Death	Number
Unintentional Injuries	3,259
COVID-19	2,986
Heart Disease	2,945
Cancer	2,893
Chronic Liver Disease And Cirrhosis	683
Suicide	597
Diabetes	569
Homicide	552
Chronic Lower Respiratory Disease	525
Stroke	495
All Deaths	19,121

Source: SC DHEC Vital Statistics, 2021.

Multiple Chronic Conditions

Chronic disease is the leading cause of death and disability in the US.³ Multiple chronic conditions (MCCs) means that a person is living with two or more chronic conditions, such as asthma, coronary heart disease, diabetes, hypertension, Chronic obstructive pulmonary disease (COPD), depression, or stroke. Six in 10 Americans live with a chronic disease, and one in three have two or more.⁴ Furthermore, 4 in 5 Medicare beneficiaries have MCC and the prevalence of MCC is greater among people with low-income and racial ethnic minorities.⁵

People living with MCC account for a disproportionate share of health care utilization and costs. In fact, these chronic conditions account for over 90% of our national health care cost or \$3.5 trillion annually.³

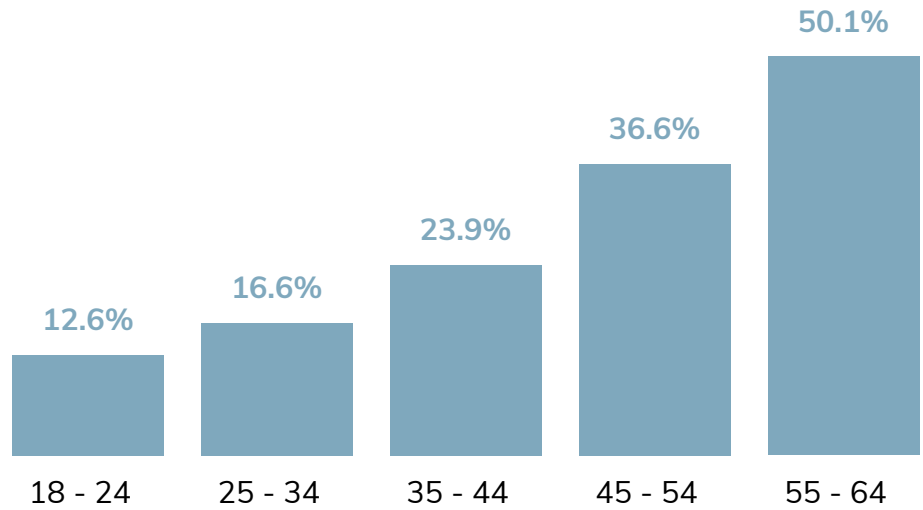


One in three adults have at least two chronic conditions.

Data Interpretations: One-third of adults in SC had at least two chronic conditions in 2021. The prevalence of MCC increased with age with the highest among those ages 55-64 (**Figure 9.2**). More female adults (39.5%) had MCC than male adults (32.8%). Non-Hispanic Black adults had a slightly higher prevalence of MCC than non-Hispanic White adults (**Figure 9.3**). The prevalence of MCC was highest among adults with an annual household income of less than \$15,000.

FIGURE 9.2

**Multiple Chronic Conditions,
by Age Group**
Percent

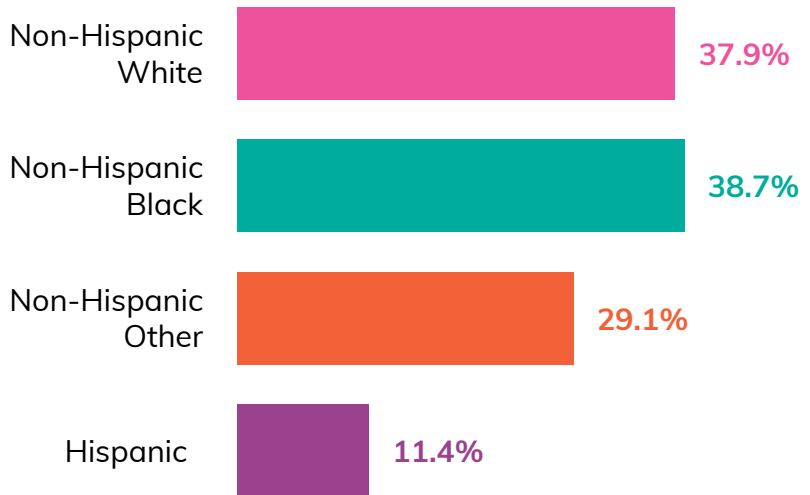


Source: SC BRFSS, 2021.

Note: Diagnosed with two or more chronic conditions (asthma, coronary heart disease, diabetes, arthritis, COPD, depression, stroke, heart attack, hypertension).

FIGURE 9.3

**Multiple Chronic Conditions,
by Race/Ethnicity**
Percent



Source: SC BRFSS, 2021.


Notes: Adults 18+. diagnosed with two or more chronic conditions (asthma, coronary heart disease, diabetes, arthritis, COPD, depression, stroke, heart attack, hypertension).

Obesity

Access to nutritious foods and physical activity have a major impact on overall health, well-being, and quality of life. Developing policies and creating environments that make healthy choices easier and less expensive supports South Carolinians in preventing costly chronic health conditions, such as obesity, diabetes, and high blood pressure.

Obesity disproportionately affects low-income and rural communities, as well as certain racial and ethnic groups.^{6,7} Adults with obesity are at increased risk for many other serious health conditions such as heart disease, stroke, type 2 diabetes, some cancers, and poorer mental health. Obesity threatens our military readiness, as well as the number of individuals capable of serving as first responders, firefighters, and police officers.⁸ Furthermore, obesity is costing SC more than \$8.7 billion per year.⁹ There is a financial return on investment for proven community-based prevention programs that increase physical activity, improve nutrition and prevent smoking and other tobacco use of \$5.60 for every \$1 invested. This return on investment

represents medical cost savings only and does not include the significant gains that could be achieved in worker productivity, reduced absenteeism at work and school, and enhanced quality of life.¹⁰ Where people live should not determine how long or how well they live, but many communities face obstacles in accessing healthy food and safe spaces for physical activity, thereby limiting opportunities to truly flourish.



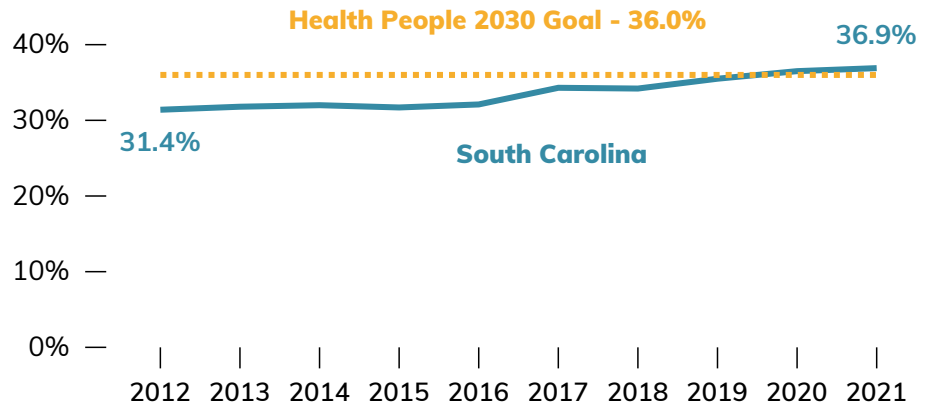
Implementing policies and creating environments that make healthy choices easier and less expensive supports South Carolinians in preventing costly chronic health conditions, such as obesity, diabetes, and high blood pressure.

Data Interpretations: In 2021, SC had the 13th-highest prevalence of obesity among adults in the nation. For adults, obesity was defined as having a body mass index (BMI) of 30.0 or higher. The prevalence of obesity among adults 20 years of age or older in SC increased from 31.4% in 2012 to 36.9% in 2021 (**Figure 9.4**). The prevalence of obesity was slightly higher than the Healthy People 2030 target of 36.0%.

In 2021, over half of non-Hispanic Black females were obese and this prevalence was 57.1% higher than that of non-Hispanic White females (**Figure 9.5**). Overweight, defined as having a BMI of 25.0-29.9, was highest among those with an annual household income of \$200,000 or greater, while those with an annual household income of less than \$15,000 had the highest prevalence of obesity (**Figure 9.6**). The prevalence of obesity was highest among those ages 45-54 (47.1%) compared to other age groups. Williamsburg County (50.2%) had the highest prevalence of obesity between 2017 and 2021, while Beaufort County had the lowest (27.6%).

FIGURE 9.4

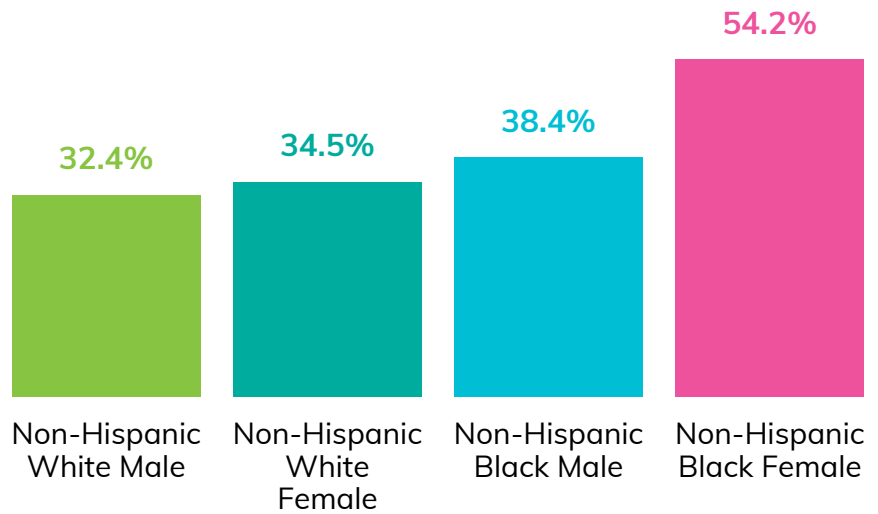
Adults Who Are Obese
Percent



Source: SC BRFSS.
Notes: Adults 20+, age-adjusted.

FIGURE 9.5

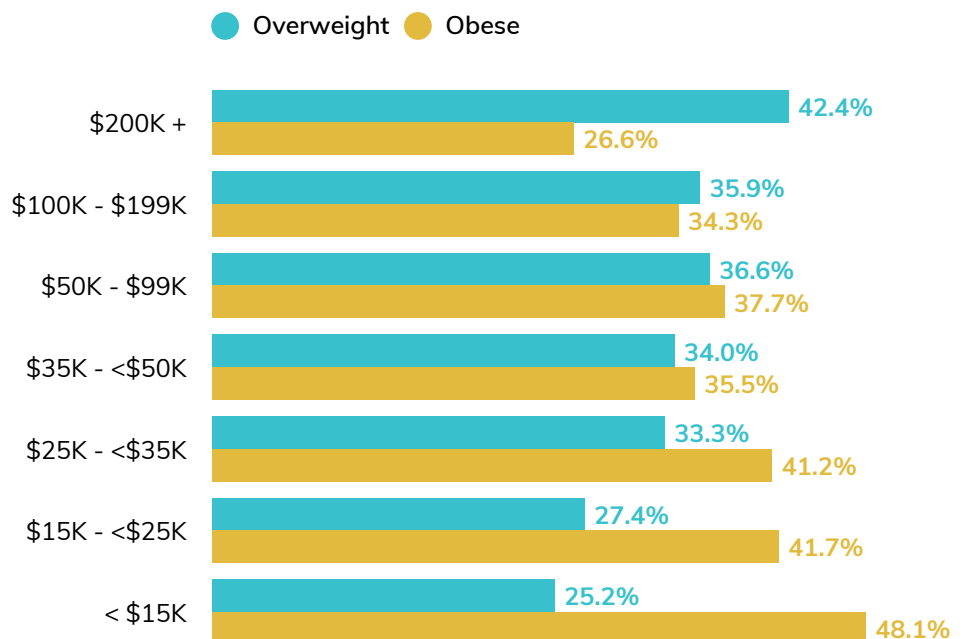
Adults Who Are Obese, by
Race/Ethnicity and Sex
Percent



Source: SC BRFSS, 2021.
Notes: Adults 20+, age-adjusted.

FIGURE 9.6

Adults Who Are
Overweight or Obese, by
Income Level
Percent



Source: SC BRFSS, 2021.
Notes: Adults 18+.

Cholesterol

High blood cholesterol occurs when fatty deposits (plaque) build up in blood vessels.¹¹ Also known as hyperlipemia, high blood cholesterol is when your cholesterol levels are greater than 200 mg/dl.¹² In the US, about 94 million adults ages 20 and older have high blood cholesterol.¹³ The only way to determine if you have high blood cholesterol is to have your blood levels checked by a health care provider.¹² Eating a diet high in saturated and trans fats, not getting enough physical activity, smoking and other factors like family history, age, and sex increase the risk for high

cholesterol.¹⁴ Various cholesterol-focused intervention programs are available to help patients prevent and control their high cholesterol.¹⁵

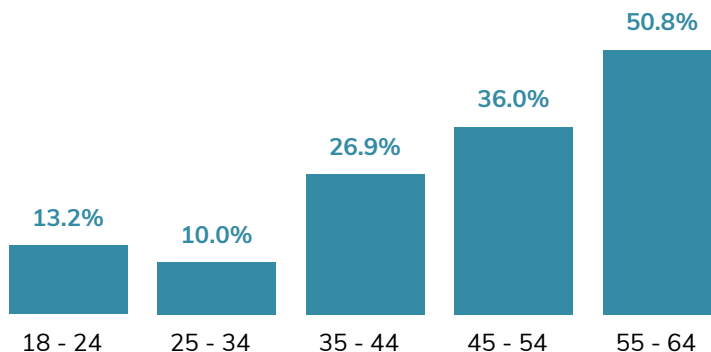
In 2021, non-Hispanic American Indian or Alaskan Native populations had the highest prevalence of high cholesterol compared to other race/ethnicities.

Data Interpretations: In 2021, over a third of adults (37.7%) in SC reported that their blood cholesterol was checked and that they were told it was high. This prevalence is higher than the US prevalence of 35.7%. Among adults ages 18-64 years, the prevalence of high cholesterol increased with age with the highest rates among those ages 55 to 64 (50.8%) (Figure 9.7) Non-Hispanic American Indian or Alaskan Native populations (46.6%) had the highest prevalence of high cholesterol compared to other race/ethnicities (Figure 9.8). Females (38.1%) reported a slightly higher prevalence than males (37.2%), and the prevalence of high cholesterol was highest among those with an annual household income level of less than \$15,000.

FIGURE 9.7

Adults with High Cholesterol, by Age Group

Percent



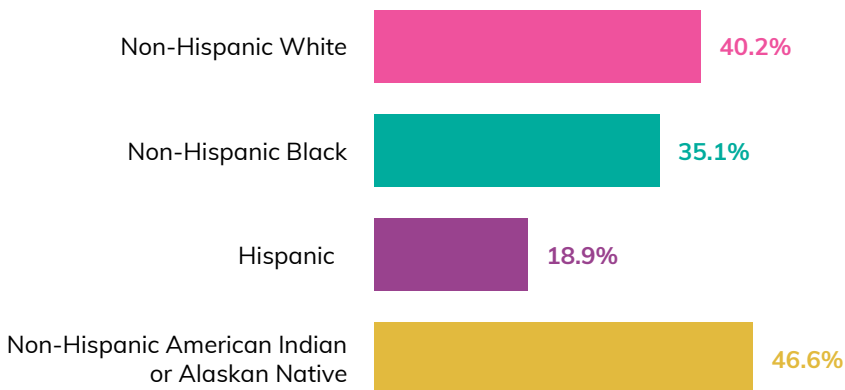
Source: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 9.8

Adults with High Cholesterol, by Race/Ethnicity

Percent



Source: SC BRFSS, 2021.

Note: Adults 18+.

Hypertension

Hypertension, or high blood pressure, occurs when a person has a higher-than-normal blood pressure level at or above 130/80 mmHg.¹⁶ Hypertension is also known as the “silent killer” because it typically has no symptoms.¹⁷ In 2020 in the US, over 670,000 deaths indicated that hypertension was a primary or contributing cause. According to the Centers for Disease Control and Prevention (CDC), about 1 in 4 persons with hypertension have their condition under control.¹⁶ Family history, lack of physical activity, an unhealthy diet, being overweight or obese, stress, and tobacco use are some risk factors that contribute to hypertension.¹⁸ Persons with hypertension are also at an increased risk of developing heart disease and stroke, the leading causes of death in the US.¹⁶ In the US, the cost of treating hypertension is rather expensive. Compared to non-hypertensive patients,

patients with hypertension are likely to face higher annual health care expenditure costs.¹⁹ The costs associated with hypertension in the US are about \$131 billion annually.¹⁹

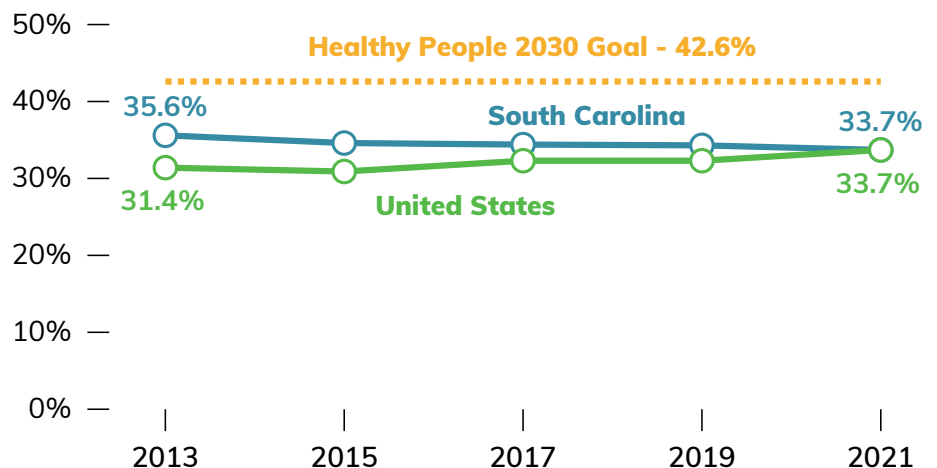
The burden of hypertension is evident in SC and racial disparities exist. In SC, American Indian or Alaskan Native, non-Hispanic Black, and non-Hispanic White populations are more likely to have high blood pressure than Hispanic and non-Hispanic Other populations.²⁰ SC has various programs available to prevent and monitor high blood pressure.

In 2021, one-third of adults in SC had high blood pressure.

Data Interpretations: In 2021, one-third (33.7%) of adults in SC and in the US had high blood pressure (Figure 9.9). The prevalence of high blood pressure among adults in SC has decreased from 35.6% in 2013 to 33.7% in 2021 and remains lower than the Healthy People 2030 target of 42.6%. In 2021, the prevalence of hypertension increased with age. The prevalence of hypertension was higher in non-Hispanic Black adults (44.5%) than in non-Hispanic White adults (30.9%) and Hispanic adults (24.0%). More adult males (34.8%) reported high blood pressure than females (32.6%), and the prevalence of high blood pressure was higher in those with an annual household income of less than \$15,000 (40.5%), than in those with an annual household income of \$50,000 and greater (31.3%). Thirty-three counties had a prevalence of high blood pressure higher than the state average at 38.6% and Marlboro County had the highest prevalence (54.6%) (Figure 9.10).

FIGURE 9.9

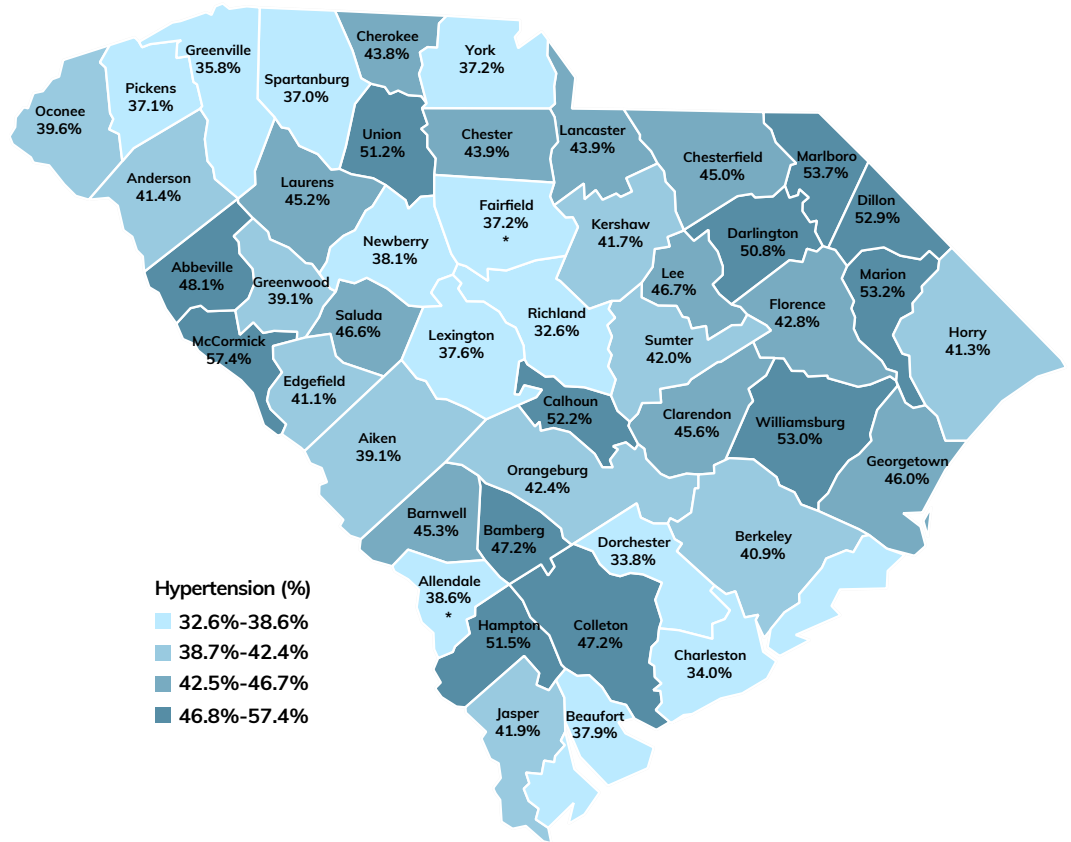
Adults with High Blood Pressure
Percent



Sources: SC BRFSS, CDC BRFSS.
Notes: Adults 18+, age-adjusted.

FIGURE 9.10

Prevalence of Hypertension among Adults, by County Percent



Source: SC BRFSS, 2016-2019, 2021.

Notes: Adults 18+, * suppressed regional estimates.


Heart Disease

Nearly 1 in every 5 deaths in the US in 2020, accounting for 700,000 people, were the result of heart disease.^{21,22} In 2020, heart disease was the leading cause of death in the US.²¹ Heart disease has several types but the most common type of heart disease is coronary artery disease (CAD), which affects the flow of blood to the heart. The primary risk factors for heart disease are high blood pressure, high blood cholesterol, and smoking.²³ Other behaviors and health conditions associated with heart disease include diabetes, being overweight or obese, poor nutrition, physical inactivity, and excessive alcohol use.²³ Having a family history of developing heart disease by age 50 or younger also increases a person's risk of developing heart disease.²⁴ The risk of developing heart disease increases with age.²⁴ A person can reduce their risk of developing heart disease through lifestyle changes, including healthy eating, active living, stress management, and medication adherence.²⁴

Although heart disease is the number one killer for men and women, research has shown that only about half (56%) of women recognize heart disease as

their leading cause of death.²⁵ Heart disease is the leading cause of death for people of most racial and ethnic groups in the US, including non-Hispanic Black, American Indian or Alaskan Native, and non-Hispanic White populations. For Asian American, Pacific Islander, and Hispanic populations, heart disease is the 2nd-leading cause of death behind cancer.²⁸

Heart disease is described as the costliest disease among any major diagnostic group.⁶ The direct and indirect economic impact of cardiovascular disease in the US is estimated to be \$378 billion.²⁶ The cost of heart disease per capita in 2017, ranged from \$16,055-\$24,110 for Medicare beneficiaries living in SC.²⁷

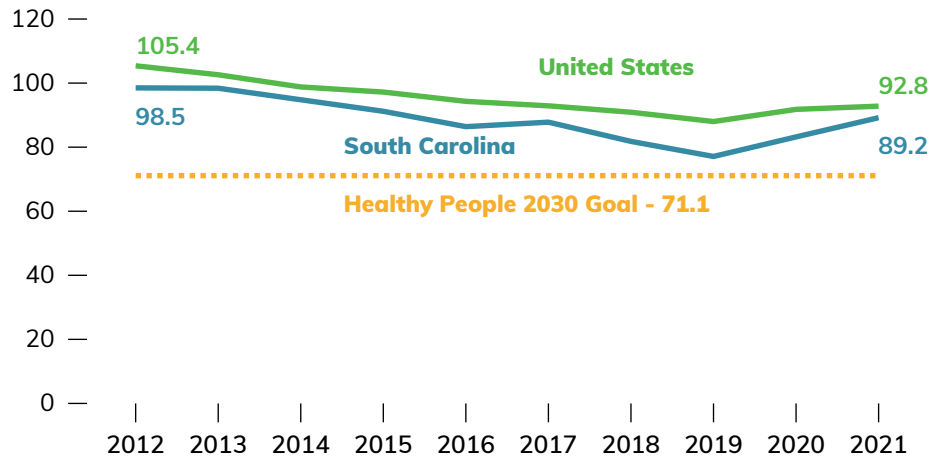


Male South Carolinians are twice as likely to die from coronary heart disease compared to female residents.

Data Interpretations: Heart disease is the leading cause of death for all ages in SC and was the 3rd-leading cause of death among adults ages 18-64 years in 2021. There were 5,859 deaths among all ages in SC from coronary heart disease in 2021, which is the most common form of heart disease. From 2012 to 2021, there was a decrease in the death rate of coronary heart disease in SC from 98.5 deaths per 100,000 population in 2012 to 89.2 deaths per 100,000 population in 2021 (**Figure 9.11**). SC had a lower death rate compared to the US and has not met the Healthy People 2030 goal of 71.1 coronary heart disease deaths per 100,000 population. Male residents (124.7 deaths per 100,000 population) had a two-times higher death rate than female residents (60.6 deaths per 100,000 population). Non-Hispanic Blacks experienced a higher death rate than all other racial ethnic groups (**Figure 9.12**). Lee County (159.6 deaths per 100,000) had the highest coronary heart disease death rate while Beaufort County (46.1 deaths per 100,000) had the lowest in 2021.

FIGURE 9.11

Coronary Heart Disease Deaths
Rate per 100,000 population

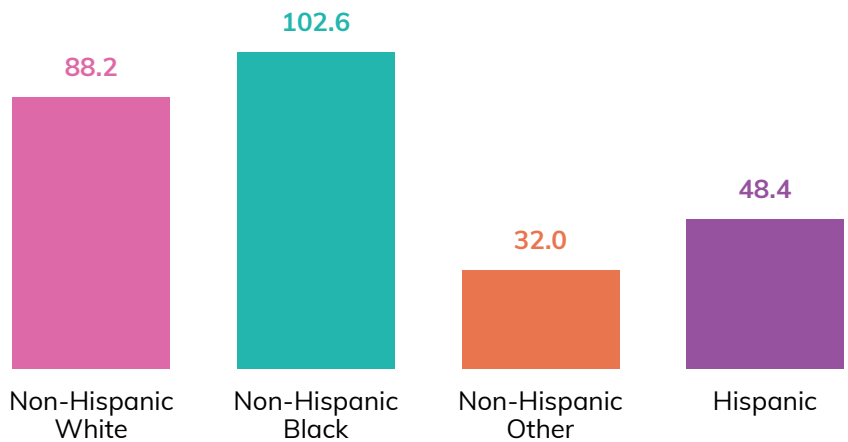


Sources: SC DHEC Vital Statistics, CDC NCHS.

Notes: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.12

Coronary Heart Disease Deaths, by Race/Ethnicity
Rate per 100,000 population



Sources: SC DHEC Vital Statistics, 2021.

Notes: Age-adjusted. Population for year 2021 based on single-race estimates.

Prediabetes

SC faces a mounting health challenge with prediabetes, as it is estimated more than 1 million people in SC are affected.²⁹ The CDC defines prediabetes as a serious condition where one’s blood sugar levels are higher than normal but not high enough to be diagnosed as type 2 diabetes. Prediabetes, when left untreated, increases the risk for developing other chronic diseases, including stroke, heart disease, and type 2 diabetes.²⁹ With increasing rates of prediabetes, there have also been increasing costs of care. In 2012, \$710 million was spent on prediabetes care, but costs increased to \$740 million in 2015 in the US.³⁰ The greater challenge regarding prediabetes care, is the lack of awareness about prediabetes and the seriousness of the condition from both the provider and patient’s perspectives.

There are several risk factors that can increase someone’s chance of developing prediabetes. For adults, risk factors include being 45 years or older, being overweight or obese, having a sedentary lifestyle,

having high blood pressure, having a family history of type 2 diabetes, and having a diagnosis of gestational diabetes or a baby weighing more than 9 pounds during pregnancy.²⁹

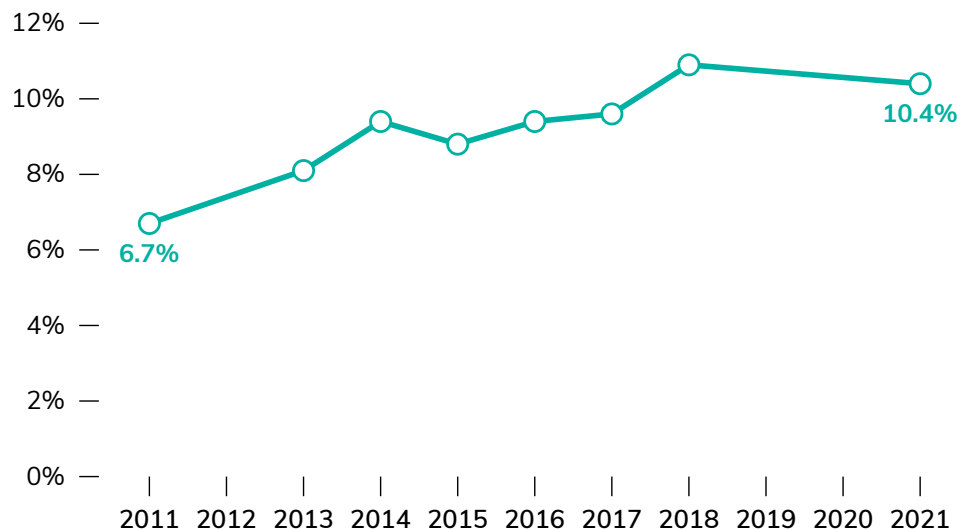
American Indians, non-Hispanic Blacks, Hispanics, Pacific Islanders and some Asian Americans are at higher risk of developing prediabetes than other racial and ethnic groups.³¹ There are also programs that can assist with prediabetes and diabetes prevention in SC, such as the National Diabetes Prevention Program.

As the awareness of prediabetes continues to increase, diagnoses among adults with prediabetes increased by 55% between 2011 and 2021.

Data Interpretations: The prevalence of adults in SC diagnosed with prediabetes increased by 55% in the last decade, from 6.7% in 2011 to 10.4% in 2021 (Figure 9.13). In 2021, the prevalence of prediabetes was highest among non-Hispanic White females (12.5%) (Figure 9.14). Non-Hispanic White males (10.2%) had over two times higher prevalence of prediabetes than non-Hispanic Black males (4.5%). The prevalence of prediabetes increases with age and was highest in those with some college education.

FIGURE 9.13

Adults with Prediabetes
Percent



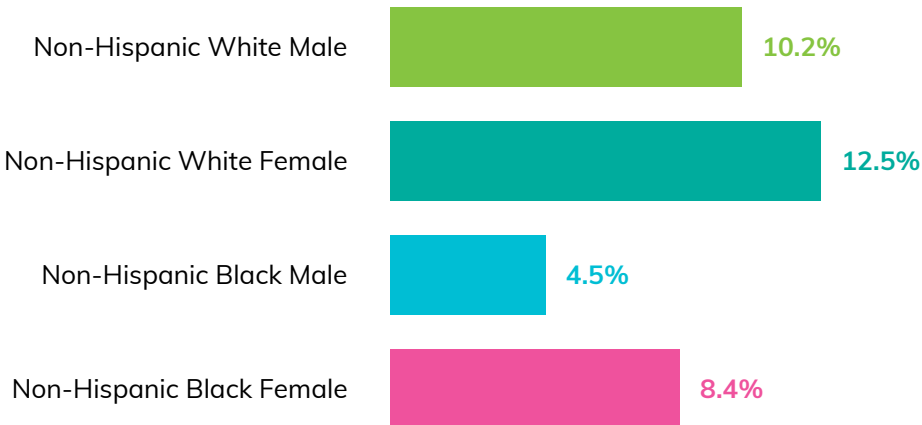
Source: SC BRFSS.

Note: Adults 18+.

FIGURE 9.14

Adults with Prediabetes, by Race/Ethnicity and Sex

Percent



Source: SC BRFSS, 2021.

Note: Adults 18+.

Diabetes

The three most common types of diabetes are type 1, type 2, and gestational.³² About 90-95% of people with diabetes have type 2.³³ Once thought of as a chronic condition for adults, type 2 diabetes is being diagnosed more and more in children, teens, and young adults, due in part to obesity.³³ SC has one of the highest prevalence rates of diabetes in the country.³⁴ At 8.4%, SC's rate of patients with newly diagnosed type 2 diabetes is higher than the national median of 7.8%.³⁵

Nearly 70% of SC counties have high and rapidly growing rates of diabetes and are part of what is labeled the "Diabetes Belt".³⁶ The "Diabetes Belt", is an area in the southern part of the US consisting of 15 states and approximately 644 counties.³⁷ The cost of diabetes care alone in SC in 2017 was nearly \$6 billion in direct and indirect medical expenses.³⁴

There are also several comorbidities that exist for people with diabetes, including hypertension, high

cholesterol, obesity or being overweight, and renal disease.³⁴

Diabetes disparities exist within SC. The prevalence of diabetes is higher among non-Hispanic Black adults than non-Hispanic White adults.³⁴ There are also programs that can help with diabetes management in SC including the Diabetes Self-Management Education and Support program.

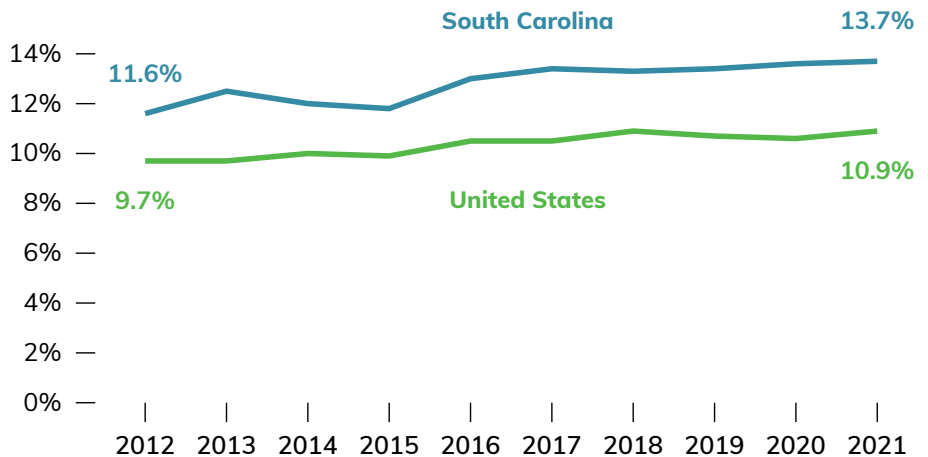
In 2021, SC had one of the highest prevalence of diabetes in the country and type 2 diabetes is being diagnosed more and more in children, teens, and young adults, due in part to obesity.

Data Interpretations: SC had the sixth-highest prevalence of diabetes in the country in 2021 with approximately 1 in 7 adults being diagnosed. The prevalence of adults with diabetes increased from 11.6% in 2012 to 13.7% in 2021 and remains above the US prevalence of 10.9% (Figure 9.15). The prevalence of diabetes increases with age with 1 in 4 adults aged 65 or older (25.2%) diagnosed with diabetes. The prevalence of diabetes was highest among non-Hispanic Black adults (17.4%) compared to non-Hispanic White adults (12.9%) and Hispanic adults (8.9%). Those with an annual household income of less than \$15,000 had the highest prevalence of diabetes (Figure 9.16). According to SC BRFSS, for every 10 adults diagnosed with diabetes, only five have taken a class to manage their diabetes.

Diabetes was the eighth-leading cause of death in 2021 with 1,757 deaths in SC. Non-Hispanic Black males saw the highest age-adjusted death rates from diabetes in the state, 2.2 and 2.3 times higher than non-Hispanic White and Hispanic males respectively (Figure 9.17). Non-Hispanic Black females saw higher rates of age-adjusted diabetes death rates when compared to their non-Hispanic White and Hispanic female counterparts.

FIGURE 9.15

Adults with Diabetes
Percent

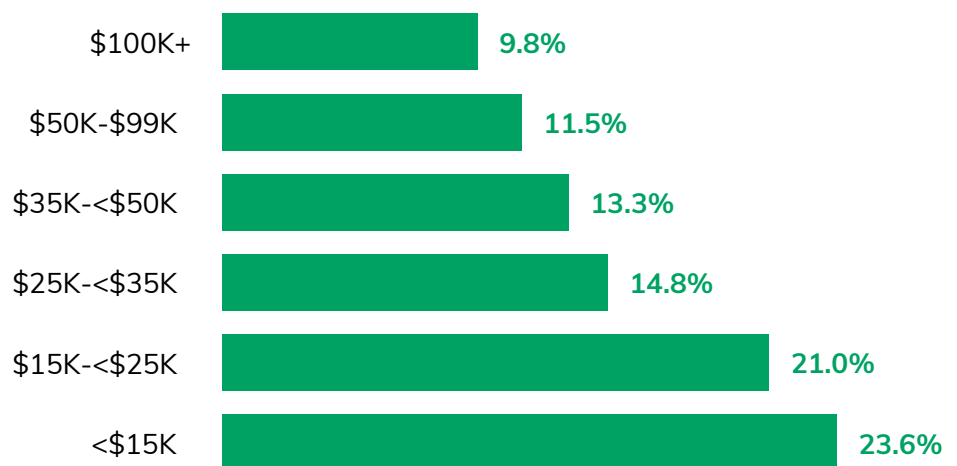


Sources: SC BRFSS, CDC BRFSS.

Note: Adults 18+.

FIGURE 9.16

Adults with Diabetes, by Income
Percent

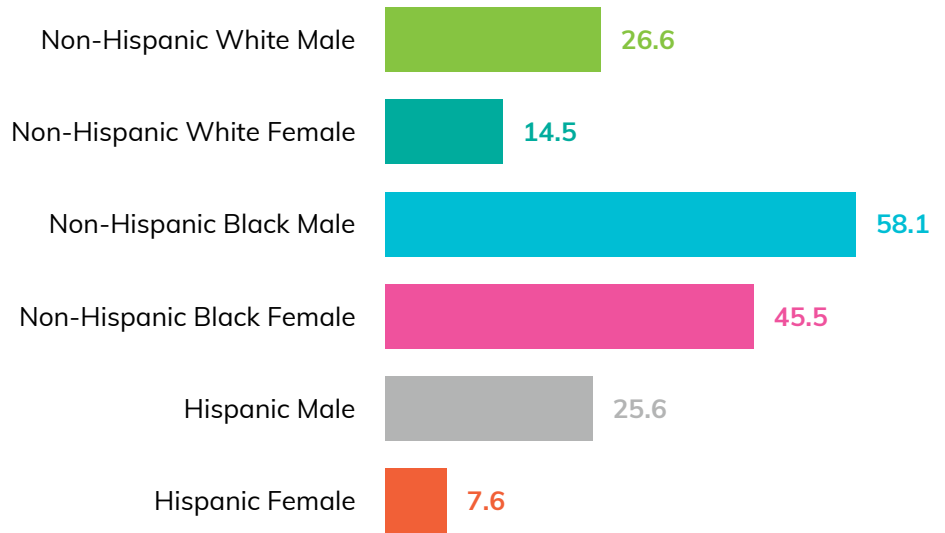


Sources: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 9.17**Diabetes Deaths, by Race/
Ethnicity and Sex**

Rate per 100,000 population



Sources: SC DHEC Vital Statistics, 2021.

Notes: Age-adjusted, population for year 2021 based on single-race estimates.

Oral Health

Many oral health problems (i.e., tooth decay, gum disease, oral cancer) can be prevented with routine dental visits. Dentists can detect signs of nutritional deficiencies, bacterial infections, immune disorders, and cancers.³⁸ Having a chronic disease, such as arthritis, heart disease or stroke, diabetes, emphysema, hepatitis C, a liver condition, or being obese may increase a person's risk of having missing teeth and poor oral health.³⁹ Adults 20 or older with diabetes are 40% more likely to have untreated cavities than similar adults without diabetes.⁴⁰ Tobacco use and diabetes are two risk factors for gum disease.⁴¹ Regular dental visits as an adult, specifically an adult with a chronic disease, is important. Regular dental visits allow for dental professionals to properly evaluate an adult patient with a treatment plan and goals specific to

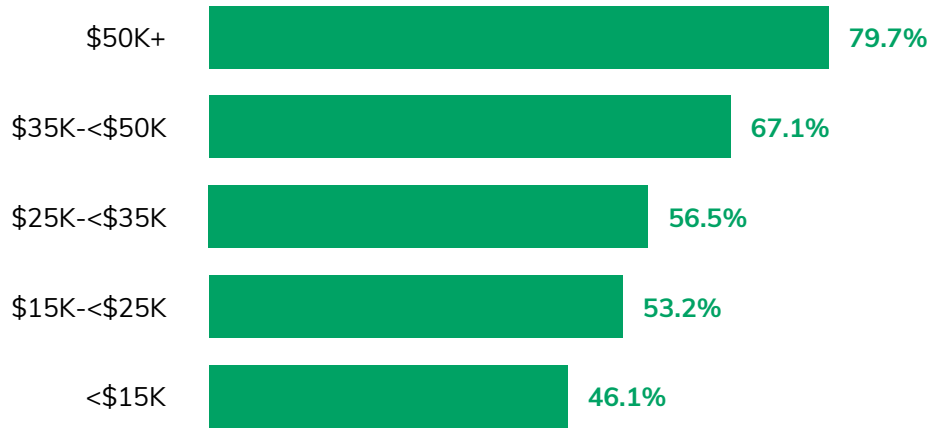
their health conditions and needs, while providing a prophylaxis (teeth cleaning), radiographs, examination, and oral health education. Along with proper oral hygiene education and instruction, regular dental visits play an essential part in maintaining positive oral health for a lifetime. Among adults who reported an unmet dental care need, 80% report they could not afford it.⁴² Furthermore, 40% of low-income adults had untreated cavities.⁴²

Regular dental visits as an adult, specifically an adult with a chronic disease, is important.

Data Interpretations: Two-thirds (67.7%) of SC adults visited the dentist within the past year for any reason. In 2020, the median prevalence of adults visiting a dentist in the past year was 66.7% in the US. In 2020, SC residents who had an annual household income of \$50,000 or more (79.7%) had a higher prevalence of visiting a dentist compared to those making less than \$50,000 a year (**Figure 9.18**). More females (70.9%) visited the dentist compared to males (64.2%). Visiting the dentist was highest among non-Hispanic White adults (70.2%) compared to other racial/ethnicity groups. Those with health insurance (72.0%) visited the dentist more often than those without health insurance (41.3%).

FIGURE 9.18

Adults Who Were Seen by a Dentist in the past Year for any Reason, by Income Percent



Source: SC BRFSS, 2020.

Note: Adults 18+.

Cigarette Smoking

Commercial tobacco use remains the leading cause of preventable death in SC and is causally linked to type 2 diabetes, COPD, high blood pressure, heart disease, and many different types of cancer.^{43,44} The nicotine found in commercial tobacco products is highly addictive and difficult to quit.⁴⁵ In addition to causing chronic health conditions, the use of commercial tobacco products worsens existing chronic conditions. For example, people with diabetes who smoke are more likely than those who do not smoke to have trouble with insulin dosing and with managing their condition.^{43,46} Use of commercial tobacco products also decreases the effectiveness of cancer treatments and weakens the immune system.⁴³

Factors that impact exposure to and use of commercial

tobacco products like cigarettes include mental/behavioral health, income, education, smoke-free/tobacco-free protections, and industry marketing.⁴⁷ Under-resourced areas and people experiencing significant stress and pressure in everyday life also see higher rates of tobacco use. This is especially true for certain racial and ethnic groups, as well as for LGBTQ+ people.^{48,49}

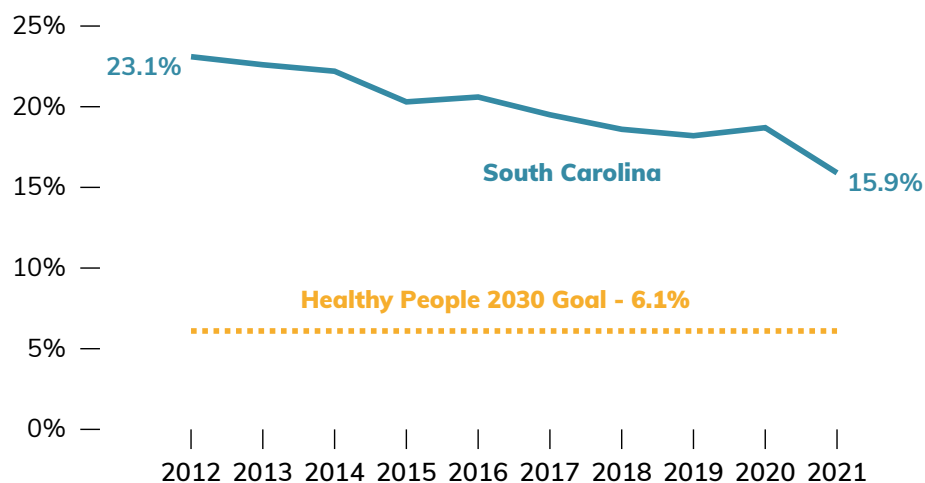


Discrimination, poverty, and other social conditions are associated with commercial tobacco use and can make it harder to quit.

Data Interpretations: Adult cigarette smoking decreased from 23.1% in 2012 to 15.9% in 2021 (Figure 9.19). As of 2021, SC has not met the Healthy People 2030 goal of 6.1%. The prevalence of adults who smoke is highest among people who identify as American Indian or Alaskan Native (24.3%), followed by people who identify as White (16.2%) and Multiracial (16.0%) (Figure 9.20). In 2021, the prevalence of smoking among adults earning less than \$50,000/year was higher compared to those earning more than \$50,000 (Figure 9.21). Smoking is also highest among those with less than a high school education compared to those who graduated high school or had some post-high school education. The prevalence of smoking is higher among males (17.7%) compared to females (13.4%). While cigarette smoking prevalence in 2021 among 18- to 24-year-olds was only 7.4% compared to 27.1% in 2011 for that same age group, recent data from the SC Adult Tobacco Survey shows that overall tobacco use is still a concern as the use of e-cigarettes and other commercial tobacco products has increased significantly among this population.

FIGURE 9.19

Current Cigarette Smoking
Among Adults
Percent

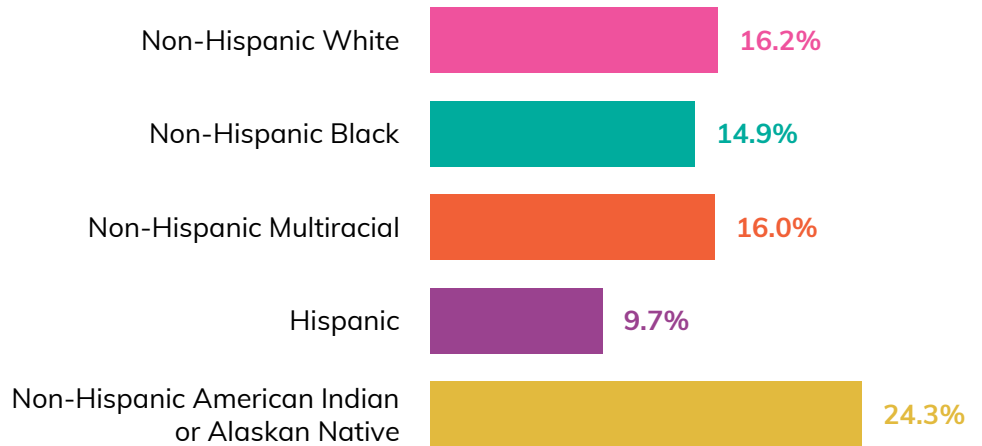


Source: SC BRFSS.

Notes: Age-adjusted, adults 18+.

FIGURE 9.20

Current Cigarette Smoking
Among Adults, by Race/
Ethnicity
Percent

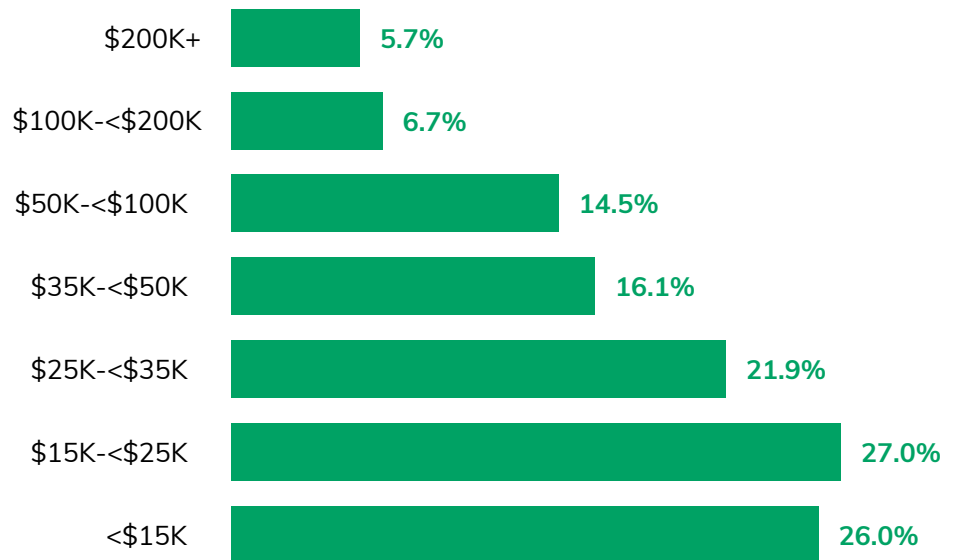


Source: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 9.21

Current Cigarette Smoking
Among Adults, by Income
Percent



Source: SC BRFSS, 2021.

Note: Adults 18+.


Smoking Attributable Deaths

Smoking and exposure to secondhand smoke cause and worsen 5 out of 10 of the leading causes of death in SC (heart disease, cancer, chronic obstructive pulmonary disease or COPD, stroke, and diabetes). Race/ethnicity, level of education, stress, rurality, and especially poverty are factors that increase the risk of diabetes, various cancers, and other leading causes of death.⁵⁰ These same factors also impact smoking behavior.^{49,51-53}

People facing stress and pressure from racial discrimination, inadequate or no health insurance coverage, unemployment, and financial instability often experience a disproportionate burden of tobacco use compared to other groups of people.⁴⁸ Data show that in SC, tobacco-related death rates are highest in areas of the state where the majority of residents have lower income, are chronically under-resourced, have chronic diseases exacerbated by smoking or secondhand smoke exposure, and/or identify as Hispanic and/or Latino; Black and/or African American; American Indian and/or Alaskan Native; and Asian, Asian American and/or Pacific Islander.^{54,55} Nicotine is highly addictive

and hard to quit. Reduced tobacco use can decrease the nearly \$2 billion in health care funding needed for chronic disease management, to provide care for premature births and pregnancy complications, and to treat other tobacco-related illnesses.⁵⁶

The use of commercial tobacco products is highest in counties where residents earn lower annual incomes, have less education, or are uninsured, are unemployed.⁵⁷ Counties experiencing these difficulties often overlap with counties that experience high rates of chronic diseases like heart disease, cancer, COPD, and diabetes.⁵⁸

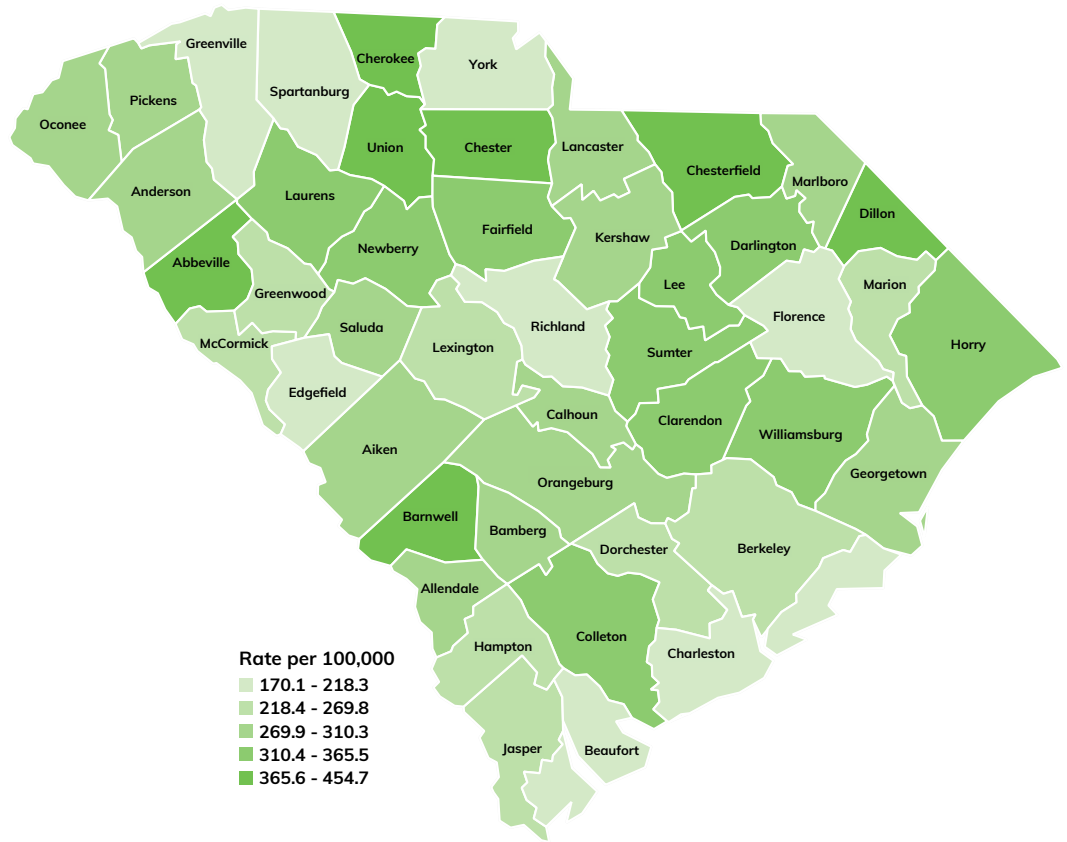


The counties that struggle most with poverty, unemployment, low educational attainment, and high rates of chronic diseases like lung cancer and diabetes are often the same counties experiencing high rates of tobacco-related deaths.

Data Interpretations: Data from the SC DHEC Adult Tobacco Survey and SC DHEC Vital Statistics show specific counties experiencing higher rates of death linked to smoking (**Figure 9.22**). Smoking-attributable deaths are determined by multiplying the relative risk of death for people who currently use cigarettes and people who formerly used cigarettes adjusting for the relative risk of death for those who never smoked cigarettes. Smoking-attributable death is a term that combines deaths from various cancers and cardiovascular and respiratory diseases that have been shown to be highly correlated with smoking. Many of the counties with the highest rates of deaths linked to smoking also experience high rates of other smoking-related health outcomes such as diabetes.⁵⁹ Union County had the highest smoking-attributed death rate (454.7 deaths per 100,000 population) while Richland County had the lowest (170.1 deaths per 100,000 population). Understanding everyday stress and pressure related to social and environmental factors and the highly addictive nature of nicotine could help explain the high rates of smoking in these counties.

FIGURE 9.22

Deaths Linked to Smoking, by County
Rate per 100,000 population



Source: SC DHEC ATS and Vital Statistics, 2009-2018.

Notes: Adults 35+, age-adjusted, causes of mortality attributable to various cancers, cardiovascular, and respiratory diseases.

Secondhand Smoke Exposure

Exposure to secondhand smoke from burning commercial tobacco products causes disease and premature death among people who do not smoke.⁶⁰ E-cigarettes/vapes produce an aerosol (not a water vapor) that can contain harmful and potentially harmful substances such as nicotine, heavy metals like lead, volatile organic compounds, and cancer-causing agents.⁶¹

There is no risk-free level of secondhand smoke exposure, and even brief exposure can cause immediate harm.⁶⁰ Secondhand smoke exposure among babies and young children can cause sudden and infant death syndrome (SIDS), lung problems, ear infections, and asthma.⁶⁰ Risks for older children include asthma, sinusitis, bacterial respiratory infections, decreased lung growth, and cognitive deficits. Non-smokers exposed to the chemicals and toxins found in secondhand smoke are 25%-30% more likely to develop heart disease and/or lung cancer.⁴³

Uneven protections from secondhand smoke and vaping aerosol create disparities in communities of color, rural communities, and among low-income populations. Recent research shows that Blacks and rural nonsmokers are exposed to more secondhand smoke and vaping aerosol than their White and urban counterparts due to the lack of local laws that provide smoke-free protections to residents living in these areas.^{62,63} Lower-income people living in states without comprehensive smoke-free protections, or who

work in service and hospitality jobs have the greatest disparities in exposure to secondhand smoke.⁴³ People living in multi-unit rental housing, public or private, where smoking is allowed are more frequently exposed to the toxins in secondhand smoke and vaping aerosol as the smoke and aerosol seep through cracks and crevices and travel through air ducts. The result is that children in lower-income families are three times more likely to be exposed to secondhand smoke, as many people lack the resources to become homeowners and rent housing out of economic necessity.⁴³ SC data show that residents in more than 467,000 multi-unit housing (which is majority rental properties) experience secondhand smoke infiltration in their homes each year.⁶⁴

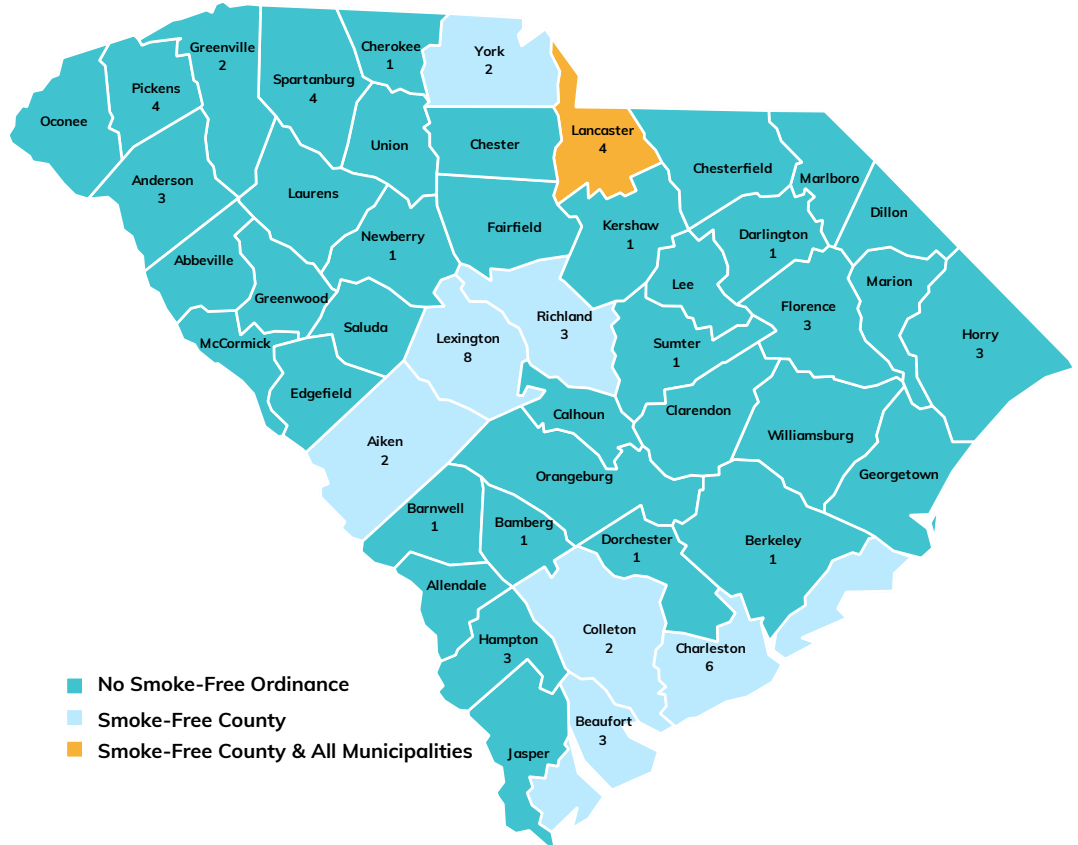
Uneven air protections in SC create disparities where working-class people, non-White people, and rural residents are more likely to be exposed to secondhand smoke and vaping aerosol which can lead to childhood illnesses, low birth weight babies, heart attacks, and lung cancer.

Data Interpretations: Comprehensive smoke-free policies benefit people from all socioeconomic, educational, and racial/ethnic backgrounds by creating environments where people are protected from secondhand smoke and vaping aerosol.⁶⁵ Comprehensive smoke-free policies also reduce the social acceptability of smoking and vaping, which can motivate people to attempt to quit.⁶⁶ Smoke-free efforts include cessation resources for this reason, as a best practice.

Unfortunately, clean air is not available for everyone in SC. As of Dec. 1, 2022, only 45% of South Carolinians are protected from secondhand smoke or vaping aerosol at work. Even fewer people live in areas with county-wide or city-wide protections (**Figure 9.23**). Data from the SC DHEC Adult Tobacco Survey and SC DHEC Vital Statistics show that among the 17 counties with the highest rates of deaths linked to smoking, 10 do not have any smoke-free or tobacco-free protections (see **Figure 9.22**). Data show that the counties with no protections also have some of the highest rates of lung cancer, diabetes, unemployment, poverty, uninsured people, full-benefit Medicaid recipients, are predominately rural and have some of the largest numbers of residents who identify as Black in the state.^{54,67-72}

FIGURE 9.23

**Smoke-Free Work Ordinances
Number of Smoke-Free Municipalities**



Source: SC DHEC Division of Tobacco Prevention and Control.

Note: As of December 1, 2022.

All Cancers

Cancer is currently the second-leading cause of death among all ages in both SC and the US.^{73,74} A key indicator for evidence of progress against cancer is a decreased cancer death rate, and from 2016 to 2020 the US saw a 7.9% decrease.⁷⁵ SC ranks 37th in the nation for all-cancer incidence rate; however, SC ranks 14th in the nation for death rate due to cancer.^{67,75} Approximately 42% of cancer cases and 45% of cancer deaths are caused by modifiable risk factors such as smoking, having excess body weight, and drinking alcohol.⁷⁶ Nationally, Black males have an 18% higher mortality rate from cancer.⁷⁵ In 2021, the average inpatient charges for all cancers was \$84,676

which added up to a total economic impact of at least \$1,652,829,471 for the state of SC.⁷⁷

Cancer is currently the second-leading cause of death among all ages in both SC and the US and non-Hispanic Black males assume the highest burden for cancer cases and deaths.

Data Interpretations: In 2019, there were 28,296 new cases of cancer in SC (Table 9.2). Female breast cancer, cancer of the lung and bronchus, and prostate cancer contributed the greatest number of new cases among SC residents, followed by cancer of the colon and rectum, and melanoma of the skin. In 2020, 10,793 SC residents died from cancer (Table 9.2). Cancer of the lung and bronchus contributed to the largest number of deaths for residents of SC, followed by cancer of the colon and rectum, pancreatic cancer, female breast cancer, and prostate cancer (Table 9.2).

Between 2011 and 2015, SC had a higher incidence rate of cancers (466.1 cases per 100,000 population) as compared to the US rate (459.0 cases per 100,000 population); however, between 2015 and 2019 SC's overall cancer incidence fell below the US average (Figure 9.24). Non-Hispanic Black males have the highest incidence rate of cancer as compared to any other race/ethnicity and sex combination; however, all race and sex groupings have seen a decrease in overall cancer incidence from 2011-2015 to 2015-2019 (Figure 9.25).

The SC cancer mortality rate has decreased from 2012-2016 (171.2 cases per 100,000 population) to 2016-2020 (158.6 cases per 100,000 population); however, the rate has remained above the overall US cancer mortality rate (Figure 9.26). As of 2020, SC had not met the Healthy People 2030 overall cancer mortality goal of 122.7 cases per 100,000 population. Across the timeline, non-Hispanic Black males have had the highest mortality rates from cancer (231.7 per 100,000 population between 2016 and 2020), followed by non-Hispanic White males, non-Hispanic White females, and non-Hispanic Black females, respectively (Figure 9.27).

TABLE 9.2

Leading Number of New Cases of Cancer, SC 2019

Cancer Type	Number
Female Breast	4,545
Lung & Bronchus	4,100
Prostate	3,715
Colon & Rectum	2,353
Melanoma	1,317
Total	28,296

Leading Number of Cancer Deaths, SC 2020

Cancer Type	Number
Lung & Bronchus	2,692
Colon & Rectum	898
Pancreas	799
Female Breast	796
Prostate	600
Total	10,793

Sources: SC DHEC CCR, SC DHEC Vital Statistics.

FIGURE 9.24

All Cancer Incidence
Rate per 100,000 population

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

Note: Age-adjusted.

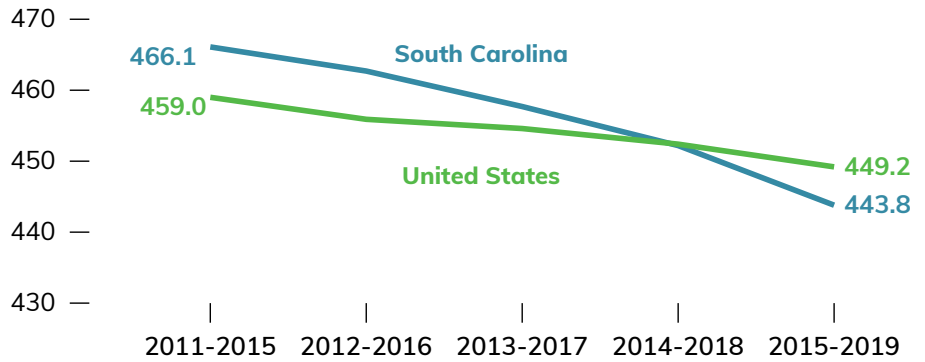


FIGURE 9.25

All Cancer Incidence, by Race/Ethnicity and Sex
Rate per 100,000 population

Source: SC DHEC CCR.

Note: Age-adjusted.

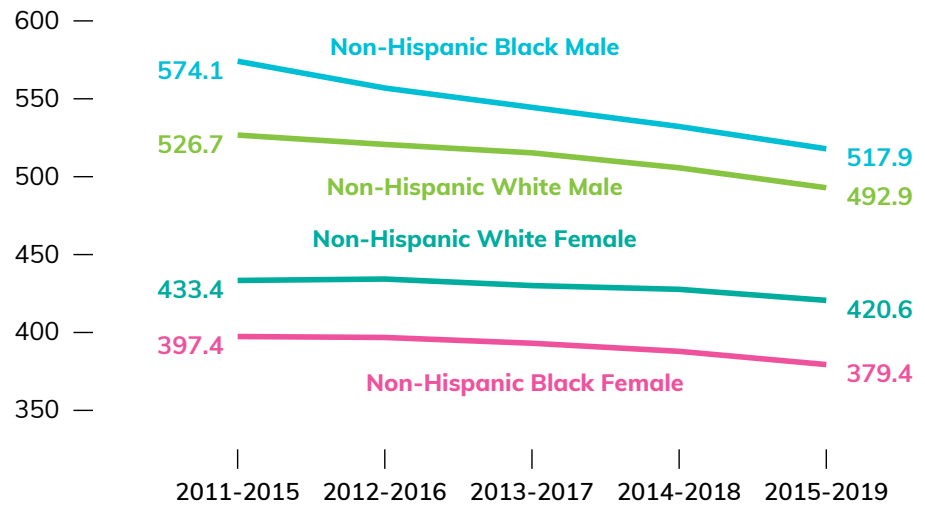


FIGURE 9.26

All Cancer Deaths
Rate per 100,000 population

Sources: SC DHEC Vital Statistics, CDC NCHS.

Note: Age-adjusted.

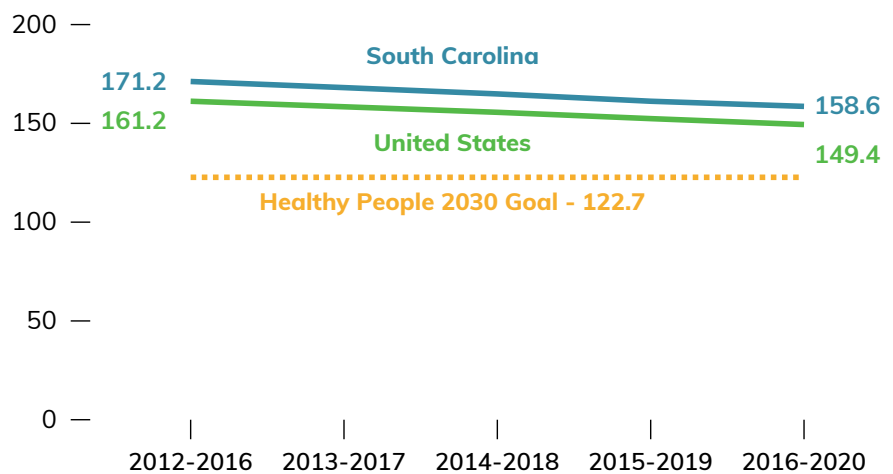
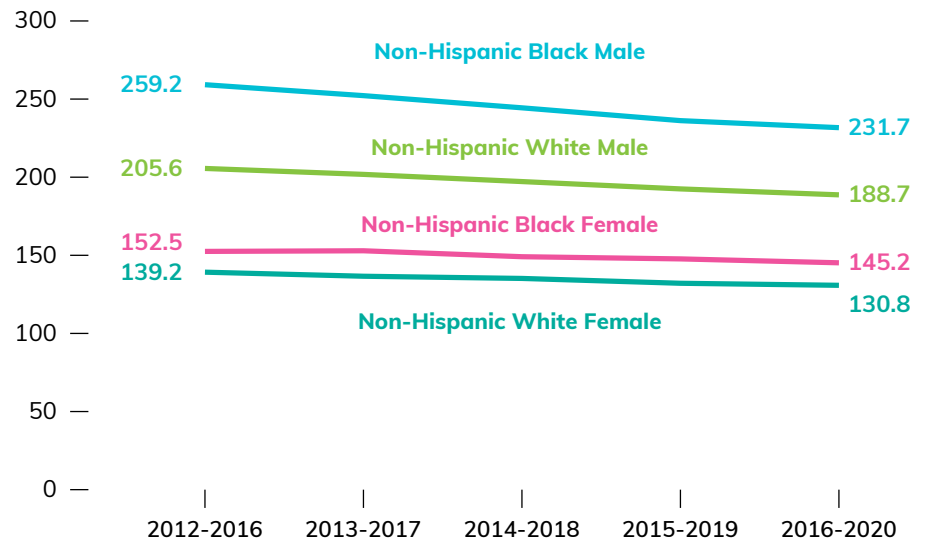


FIGURE 9.27

All Cancer Deaths, by
Race/Ethnicity and Sex
Rate per 100,000 population



Source: SC DHEC Vital Statistics.

Note: Age-adjusted.

Lung Cancer

Lung cancer is the leading cause of cancer death and the third-most common cancer in the US.⁷⁸ Cigarette smoking is the leading cause of lung cancer and is estimated to account for 80% of lung cancer cases.⁷⁹ Nationally, only 24% of lung cancer cases are diagnosed in the early stage when the five-year survival is 60%.⁸⁰ Many lung cancer cases are found during the late stage (46%) when the five-year survival is only 6%. SC early stage and late-stage diagnoses and survival times mirror those of the nation. SC ranks 21st in the nation for lung cancer incidence rate and 15th in the nation for lung cancer death rate.^{67,75}

Males have a 47% higher incidence rate and 67% higher mortality rate from lung cancer as compared to their female counterparts.^{80,81} In 2021, the average inpatient charges associated with lung cancer were \$84,471, which added up to a total economic impact of \$158,953,010 for the state of SC.⁷⁷

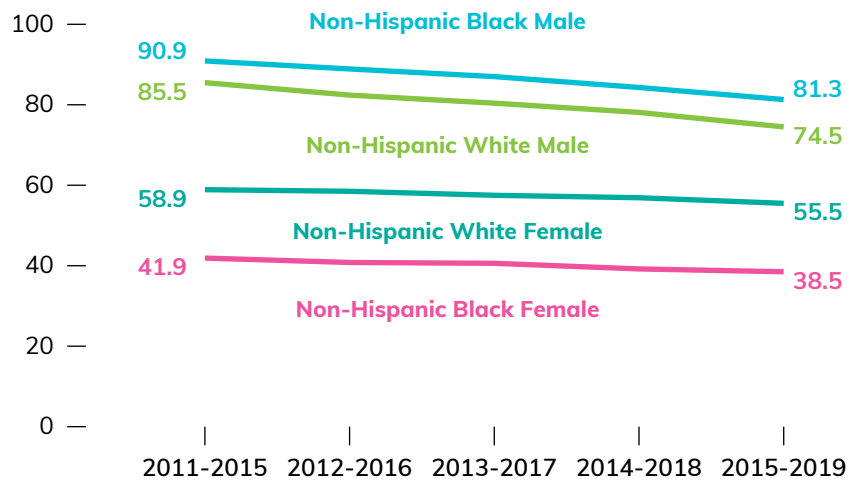
SC's male lung cancer mortality rate is the 13th highest in the nation.

Data Interpretations: Lung cancer was the second-leading cause of new cases of cancer in 2019 with 4,100 cases in SC (Table 9.2). From 2015 through 2019, lung cancer incidence rates were larger in the state of SC (61.2 cases per 100,000 population) as compared to the US (56.3 cases per 100,000 population). From 2011 through 2019 non-Hispanic Black males had the highest incidence rate of lung cancer, followed by non-Hispanic White males, non-Hispanic White females, and non-Hispanic Black females, respectively (Figure 9.28).

Lung cancer was the leading cause of cancer deaths in 2020, claiming the lives of 2,692 SC residents (Table 9.2). From 2016 through 2020, the lung cancer mortality rate in SC (39.3 deaths per 100,000 population) was greater than the lung cancer mortality rate in the US (35.0 deaths per 100,000 population). As of 2020, neither SC nor the US had met the Healthy People 2030 goal of 25.1 deaths from lung cancer per 100,000 population. From 2012 through 2020, non-Hispanic Black males had the highest mortality rate associated with lung cancer, followed by non-Hispanic White males, non-Hispanic White females, and non-Hispanic Black females, respectively (Figure 9.29).

FIGURE 9.28

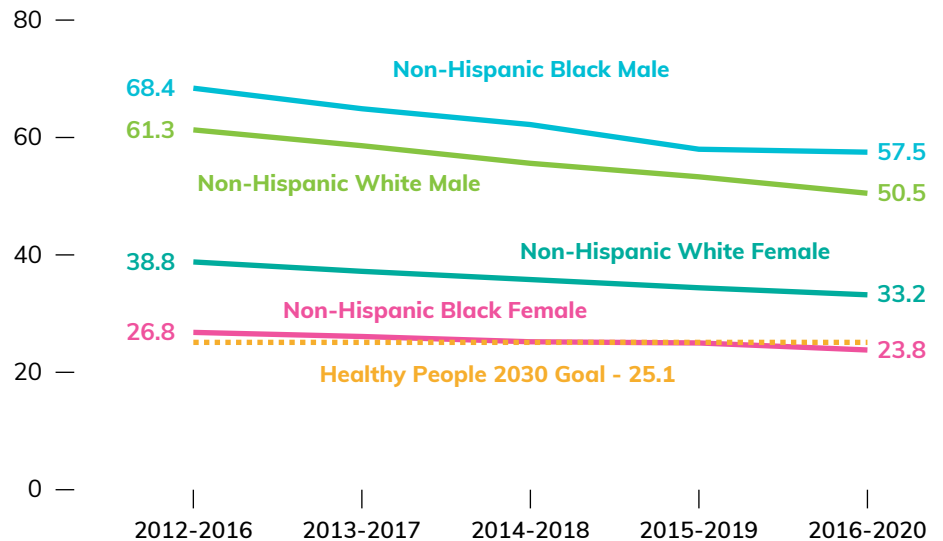
Lung Cancer Incidence, by Race/Ethnicity and Sex
Rate per 100,000 population



Source: SC DHEC CCR.
Note: Age-adjusted.

FIGURE 9.29

Lung Cancer Deaths, by Race/Ethnicity and Sex
Rate per 100,000 population




Source: SC DHEC CCR.
Note: Age-adjusted.

Colorectal Cancer

Colorectal cancer is the second-leading cause of cancer death and the third most commonly occurring cancer in both men and women.⁸² Some common risk factors for colorectal cancer are having a family history of colorectal cancer, being older in age, being obese, being physically inactive, and eating certain types of diets.⁸³ The American Cancer Society recommends the average person start screening for colorectal cancer at 45 years of age with either a stool-based test or visual examination.⁸⁴ SC ranks 25th in the nation for colorectal cancer incidence rate and 23rd in the nation for colorectal cancer mortality rate.^{67,75} Non-Hispanic Blacks are diagnosed with colorectal cancer at a 17%

higher rate and die from colorectal cancer at a 45% higher rate than non-Hispanic Whites.^{80,81} In 2021, the average inpatient charges for colorectal cancer was \$86,397, which added up to a minimum total economic impact of \$180,531,790 for the state of SC.⁷⁷



Colorectal cancer is the second-leading cause of cancer death and the third most commonly occurring cancer for both men and women in SC.

Data Interpretations: As of 2020, SC exceeded the Healthy People 2030 goal for colorectal screening recommendations for those aged 50-75 (68.3%) with a prevalence of 75.7%. Non-Hispanic Black individuals had a higher prevalence of meeting the US Preventive Services Task Force (USPSTF) recommendation for colorectal cancer screening as compared to non-Hispanic White individuals (**Figure 9.30**). The prevalence of colorectal screening was 81.4% among individuals who had a college degree; whereas the prevalence was 67.4% among individuals who did not graduate high school (69.7%).

In 2019, there were 2,353 new cases of invasive colorectal cancer in SC (**Table 9.2**). From 2015 through 2019, the colorectal cancer incidence rate in SC (37.4 cases per 100,000 population) was lower than the US incidence rate (37.6 cases per 100,000 population). Non-Hispanic Black males had the highest incidence rate of colorectal cancer (51.9 cases per 100,000 population), followed by non-Hispanic White males (41.5 cases per 100,000 population), non-Hispanic Black females (35.0 cases per 100,000), and non-Hispanic White females (31.6 cases per 100,000), respectively (**Figure 9.31**).

In 2020, colorectal cancer killed 898 SC residents, which made colorectal cancer the second-leading cause of cancer deaths in SC (**Table 9.2**). Colorectal cancer mortality rates are slightly worse in SC (13.4 deaths per 100,000 population) as compared to the US (13.1 deaths per 100,000 population). Both SC and the US are far from the Healthy People 2030 colorectal cancer mortality rate goal of 8.9 deaths per 100,000 population. From 2016 through 2020, non-Hispanic Black males had the highest colorectal cancer mortality rate (24.0 deaths per 100,000 population), followed by non-Hispanic White males (15.4 deaths per 100,000 population), non-Hispanic Black females (13.6 deaths per 100,000 population), and non-Hispanic White females (10.1 deaths per 100,000 population respectively) (**Figure 9.32**).

FIGURE 9.30

Received the Recommended Colorectal Cancer Screenings, by Race/Ethnicity
Percent

Source: SC BRFSS, 2020.

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.

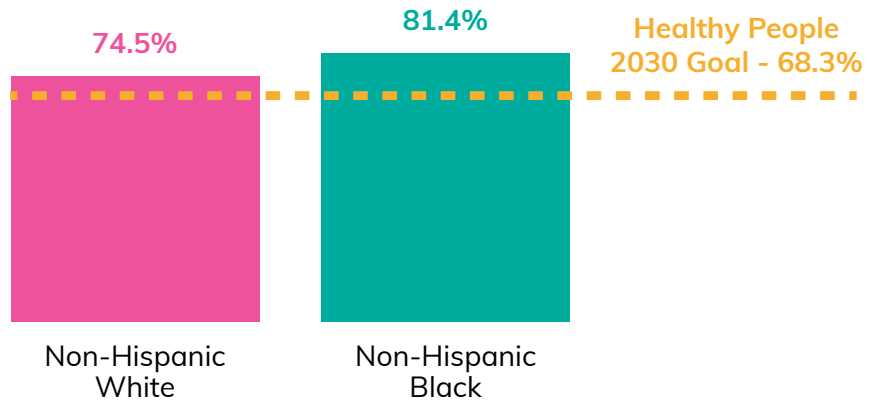


FIGURE 9.31

Colorectal Cancer Incidence, by Race/Ethnicity and Sex
Rate per 100,000 population

Source: SC DHEC CCR.

Note: Age-adjusted.

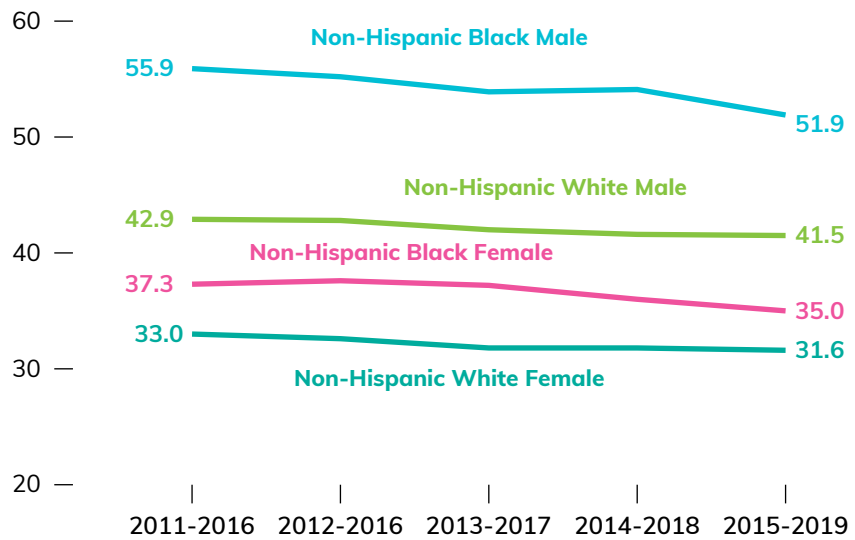
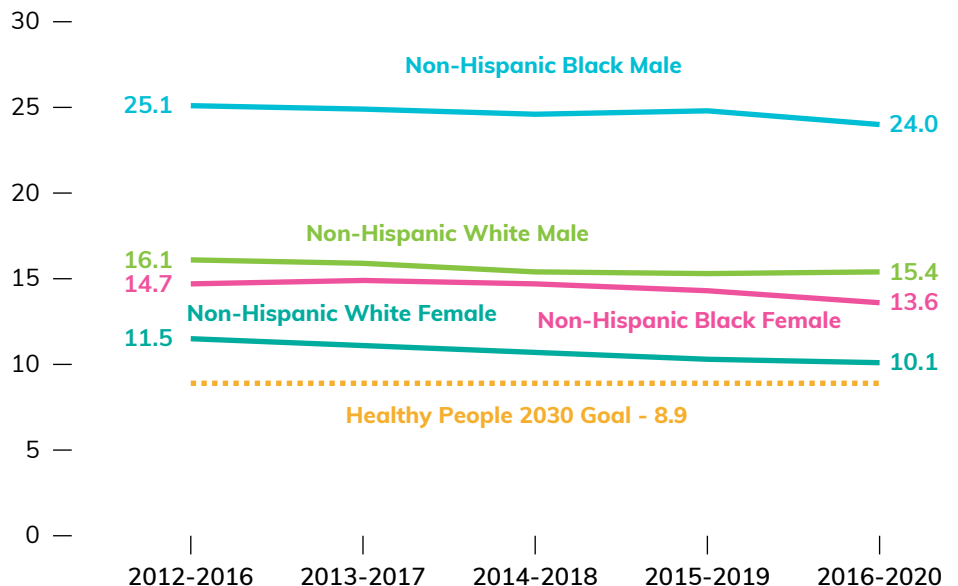


FIGURE 9.32

Colorectal Cancer Deaths, by Race/Ethnicity and Sex
Rate per 100,000 population

Source: SC DHEC Vital Statistics.


Note: Age-adjusted.



Female Breast Cancer

Breast cancer is the most common cancer diagnosis for women with nearly one-third of female cancer cases being breast cancer.⁸⁵ One in 8 women will be diagnosed with breast cancer in their lifetime. In recent years, the national breast cancer incidence rate has been increasing by an average of 0.5% per year.⁶⁷ Breast cancer is the second-most common cause of cancer death among women, following lung cancer. Detecting breast cancer at an early stage is essential for survival, as the five-year survival rate for a woman with early-stage breast cancer is 99%.⁸⁶ SC ranks 23rd in the nation for female breast cancer incidence rate and 7th in the nation for female breast cancer mortality rate.^{67,75} White women are diagnosed with breast cancer at a slightly higher rate than Black women;

however, Black women die at a 40% higher rate.^{80,81} In 2021, the average inpatient charges associated with breast cancer were \$69,831 which added up to a total economic impact of \$25,883,071 for the state of SC.⁷⁷



Data shows that Black women get screened for breast cancer at a higher rate than White women, yet Black women die at higher rates than White women (40% higher).

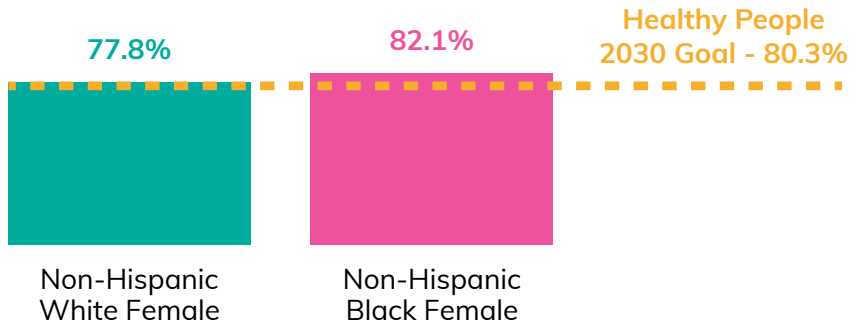
Data Interpretations: In SC during 2020, 78.7% of women aged 50-74 years old, reported receiving a mammogram in the past two years. As of 2020, SC had not met the Healthy People 2030 goal of 80.3%. Women with a college degree had a higher prevalence (85.9%) of mammogram screening as compared to women with a GED/high school diploma (74.4%). A lower prevalence of non-Hispanic White women, 77.8%, reported a mammogram screening compared to non-Hispanic Black women, 82.1%, in 2020 (**Figure 9.33**).

Female breast cancer was the leading cause of new cases of cancer in 2019 with 4,545 cases diagnosed (**Table 9.2**). Additionally, the female breast cancer incidence rate in SC (130.9 cases per 100,000 females) was greater than the female breast cancer incidence rate in the US (128.0 cases per 100,000 population). In SC between 2015 and 2019, non-Hispanic White women (132.9 cases per 100,000 females) had a slightly higher incidence rate of breast cancer as compared to their non-Hispanic Black counterparts (129.3 cases per females) (**Figure 9.34**). On the contrary, non-Hispanic Black women were more likely to be diagnosed with late-stage breast cancer as compared to non-Hispanic White women.⁶⁷

In 2020, 796 women died from breast cancer in SC. From 2016-2020, the female breast cancer mortality rate in SC (21.5 deaths per 100,000 females) was higher than the mortality rate in the US (19.6 deaths per 100,000 females) (**Figure 9.35**). As of 2020, SC had not reached the Healthy People 2030 female breast cancer mortality rate goal of 15.3 deaths per 100,000 females. From 2016 to 2020, non-Hispanic Black women died at a higher rate from breast cancer (27.6 deaths per 100,000 females) as compared to non-Hispanic White women (19.8 deaths per 100,000 females) (**Figure 9.35**).

FIGURE 9.33

Mammogram in the Past Two Years, by Race/Ethnicity
Percent

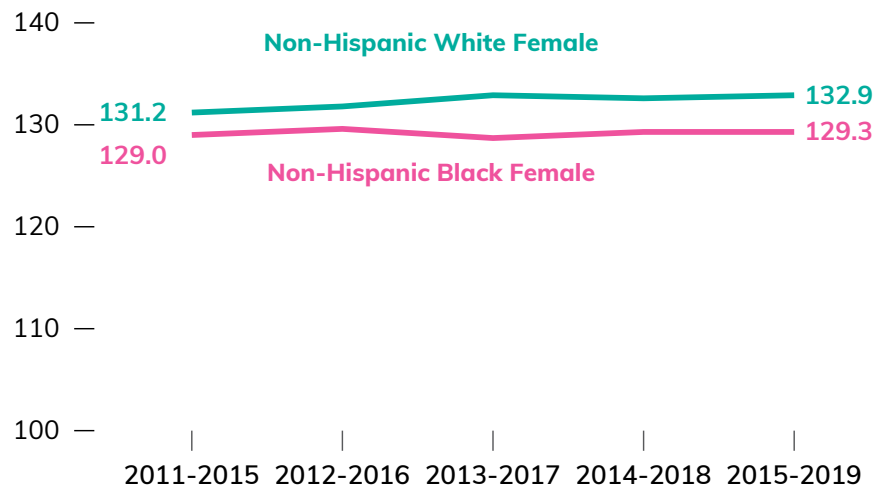


Source: SC BRFSS, 2020.

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

FIGURE 9.34

Breast Cancer Incidence, by Race/Ethnicity
Rate per 100,000 females

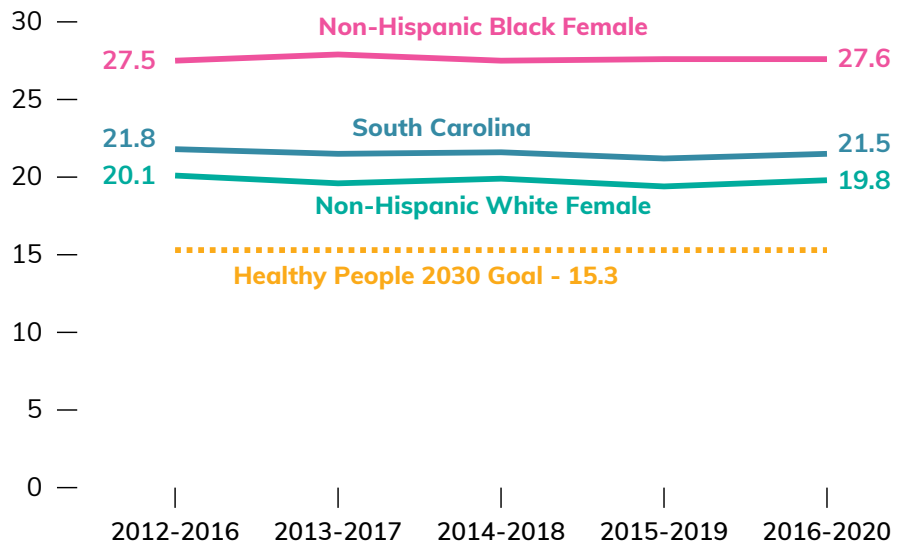


Source: SC DHEC CCR.

Note: Age-adjusted.

FIGURE 9.35

Breast Cancer Deaths, by Race/Ethnicity
Rate per 100,000 females




Source: SC DHEC Vital Statistics.

Note: Age-adjusted.

Cervical Cancer

Approximately 93% of cervical cancer cases could be prevented by screening for the disease and receiving a human papillomavirus (HPV) vaccination.⁸⁷ Over the previous few years, HPV vaccination coverage among adolescents in SC has increased substantially, and as of 2021, SC's HPV vaccination coverage is better than the national average.⁸⁸ SC ranks 19th in the nation for cervical cancer incidence and 16th in the nation for cervical cancer mortality rate.^{67,75} Black women are diagnosed with cervical cancer at a 10% higher rate and die at a 62% higher rate than their white counterparts.^{80,81} In 2021, the average inpatient charges for cervical cancer was \$56,861, which added

up to a minimum total economic impact of \$8,215,484 for the state of SC.⁷⁷



Data shows that Black women get screened for cervical cancer at a higher rate than White women, yet Black women die at significantly higher rates than White women.

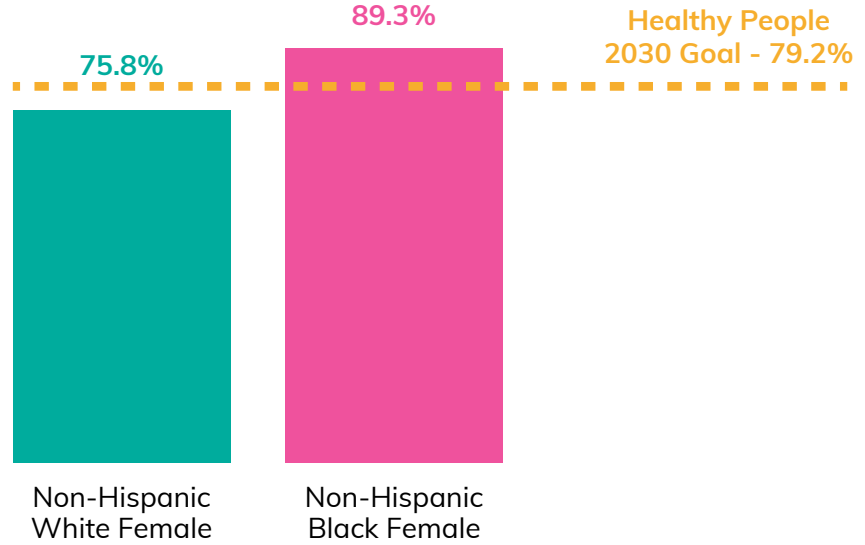
Data Interpretations: In 2020, 78.6% of women in SC aged 21-65 had obtained a Pap test within the past three years. As of 2020, SC had not met the Healthy People 2030 goal of 79.2%. Non-Hispanic White women (75.8%) reported a lower prevalence of having had a Pap Test in the past three years as compared to non-Hispanic Black women (89.3%) (**Figure 9.36**). Pap Test adherence varied widely by county with Pickens County having the lowest prevalence of Pap Tests at 62.5% and Fairfield County having the highest prevalence of Pap Tests at 95.7%.

In 2019, 217 SC residents were diagnosed with cervical cancer. From 2015 to 2019, the cervical cancer incidence rate in SC (7.9 cases per 100,000 females) was higher than the incidence rate in the US (7.7 cases per 100,000 females). From 2011 through 2019, cervical cancer incidence rates remained relatively consistent with non-Hispanic Black women experiencing slightly higher cervical cancer incidence rates than non-Hispanic White women across the entire period (**Figure 9.37**).

In 2020, 65 SC residents died from cervical cancer. Cervical cancer mortality rates have been slightly worse in SC (2.4 deaths per 100,000 females) as compared to the US (2.2 deaths per 100,000 females). From 2012-2020, non-Hispanic Black women had higher cervical cancer mortality rates as compared to non-Hispanic White women; however, non-Hispanic Black women's cervical cancer mortality rate has been decreasing over the years, whereas non-Hispanic White women's cervical cancer mortality rate has remained stable (**Figure 9.38**).

FIGURE 9.36

Pap Test within the Past Two Years, by Race/Ethnicity
Percent

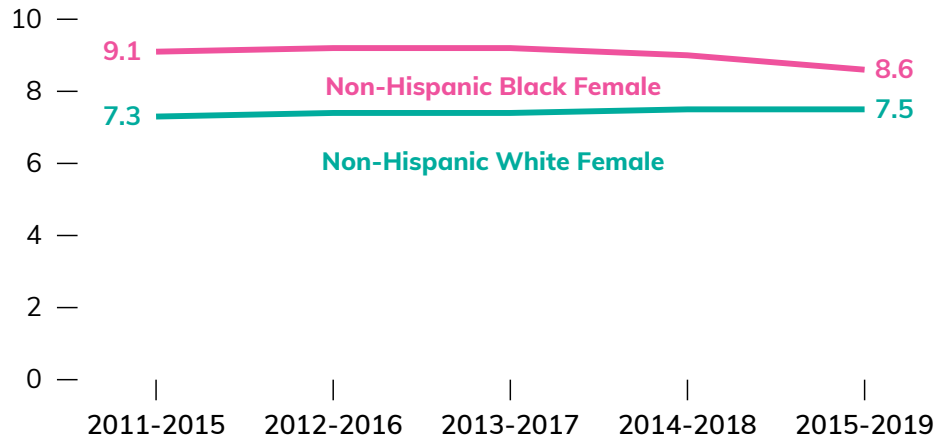


Source: SC BRFSS, 2020.

Notes: Female ages 21-65, age-adjusted.

FIGURE 9.37

Cervical Cancer Incidence, by Race/Ethnicity
Rate per 100,000 females

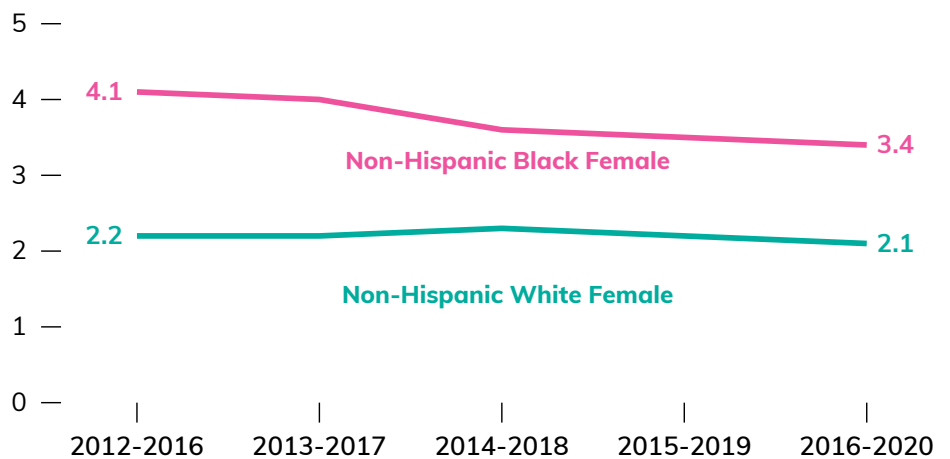


Source: SC DHEC CCR.

Note: Age-adjusted.

FIGURE 9.38

Cervical Cancer Deaths, by Race/Ethnicity
Rate per 100,000 females




Source: SC DHEC Vital Statistics.

Note: Age-adjusted.

Prostate Cancer

Prostate cancer is the most common form of cancer for men in the nation.⁸² The main known risk factor for prostate cancer is old age; however, recent studies are looking into the ways diet, obesity, smoking, and chemical exposures affect one's likelihood of being diagnosed with prostate cancer.⁸⁹ SC ranks 26th in the nation for prostate cancer incidence rate and ninth in the nation for prostate cancer mortality rate.^{67,75} Non-Hispanic Black men are 73% more likely to be diagnosed with prostate cancer and are 128% more likely to die from prostate cancer as compared to their non-Hispanic White male counterparts.^{80,81} In

2021, the average inpatient charges associated with prostate cancer were \$66,841, which added up to a minimum total economic impact of \$41,099,760 SC.⁷⁷



The prostate cancer mortality rate for non-Hispanic Black men is more than twice the prostate cancer mortality rate for non-Hispanic White men.

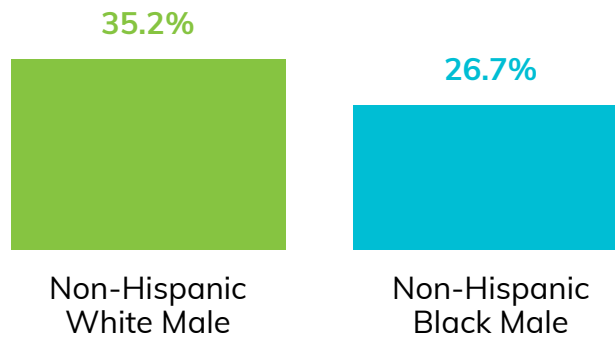
Data Interpretations: Prostate screening prevalence has been declining over the last decade. The USPSTF recommendation starting on May 8, 2018, is that the decision to be screened for prostate cancer (PSA test) should be an individual one and should be a patient-provider shared decision. In 2012, approximately 49.5% of males aged 40 and older in SC had received a prostate-specific antigen (PSA) test within the past two years; however, the PSA test prevalence in 2020 fell to 32.8%. In 2020, non-Hispanic White males aged 40 and above (35.2%) were more likely to have had a PSA test in the previous two years as compared to non-Hispanic Black males of the same age (26.7%; **Figure 9.39**). Prostate screening prevalence also varies widely based on the highest education a person has obtained. Men who did not graduate high school have a 16.2% prevalence of having had a PSA test in SC; whereas 42.2% of men who had graduated college have had a PSA test.

In 2019, there were 3,715 new cases of prostate cancer in SC (**Table 9.2**). From 2015 through 2019, prostate cancer incidence rates were higher in SC (113.3 cases per 100,000 males) as compared to the US (109.8 cases per 100,000 males). From 2011 to 2019, non-Hispanic Black males had a much larger prostate cancer incidence rate than non-Hispanic White males; however, the disparity has narrowed in recent years (**Figure 9.40**).

In 2020, prostate cancer took the lives of 600 SC residents (**Table 9.2**). From 2016 through 2020, the prostate cancer incidence rate in SC (20.8 deaths per 100,000 males) was higher than the US (18.8 deaths per 100,000 males). From the five-year period of 2012 through 2016 to the five-year period of 2016 through 2020, the non-Hispanic Black prostate cancer mortality rate fell from 45.4 deaths per 100,000 males to 39.0 deaths per 100,000 males (**Figure 9.41**). Across the same period, the non-Hispanic White male prostate cancer mortality rate remained relatively constant. Despite these changes, non-Hispanic Black males still have a much higher mortality rate (39.0 deaths per 100,000 males) as compared to non-Hispanic White males (17.0 deaths per 100,000 males) (**Figure 9.41**).

FIGURE 9.39

Received PSA Test in the Past Two Years, by Race/Ethnicity
Percent

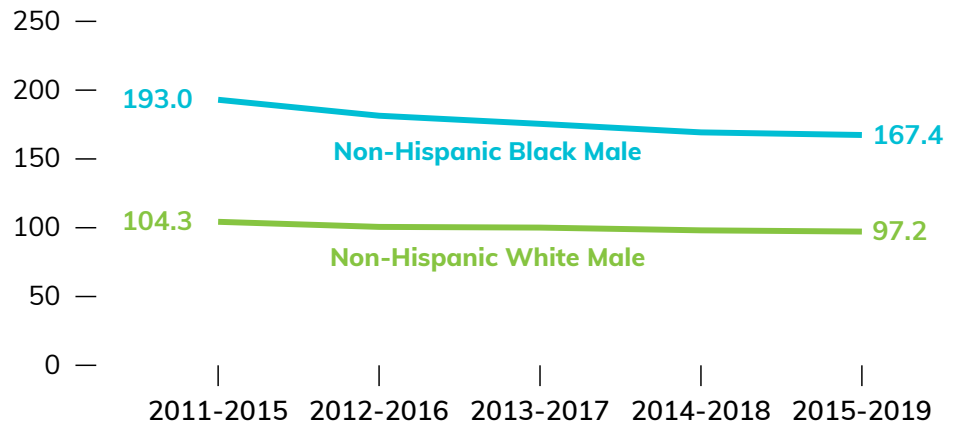


Source: SC BRFSS, 2020.

Note: Males ages 40+.

FIGURE 9.40

Prostate Cancer Incidence, by Race/Ethnicity
Rate per 100,000 males

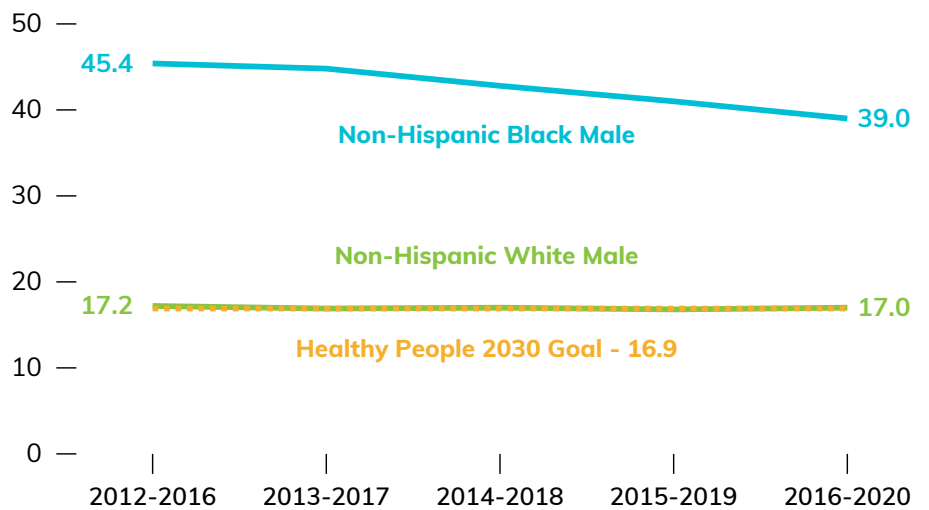


Source: SC DHEC CCR.

Note: Age-adjusted.

FIGURE 9.41

Prostate Cancer Deaths, by Race/Ethnicity
Rate per 100,000 males



Source: SC DHEC Vital Statistics.

Note: Age-adjusted.

Poor Mental Health

Poor mental health is the state of experiencing significant emotional distress or problems with one's psychological or social well-being and may include the presence of a mental illness.⁹⁰ Nearly 20% of US adults aged 18 or older had a mental illness in 2019 and nearly 5% were living with a severe mental illness that interfered with their daily functioning at home, work, or in relationships.⁹⁰ Poor mental health is associated with other poor health outcomes, including disability and chronic physical or mental health conditions such as diabetes, heart disease, stroke, or depression.⁹⁰ According to a recent study, COVID-19 infection rates in 2020 were notably higher in US counties with a higher average of poor mental health days in the past year.⁹³ Disability, chronic health conditions, and stressful life events, including trauma, abuse, or other early adverse life experiences may also increase risk of experiencing poor mental health as an adult.^{90,91} According to a recent survey, adults with disability were significantly more likely than adults without disability to report poor mental health and increased life stressors during COVID-19.⁹² Racial and ethnic minorities and other subpopulations may also experience greater rates of poor mental health

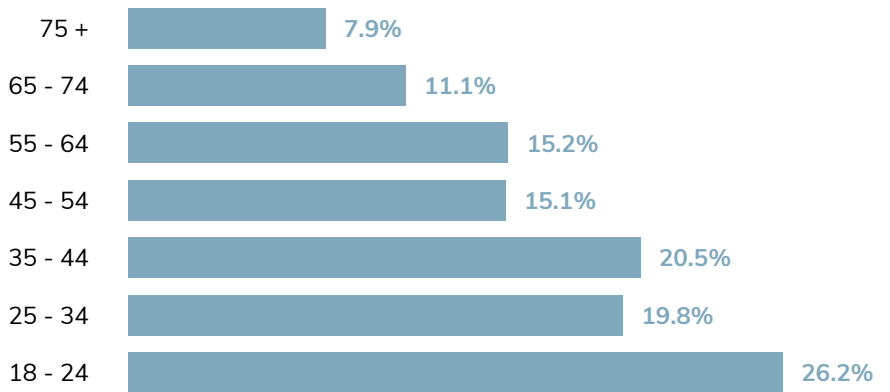
days because of stigma, discrimination, or targeted violence.⁹³ Managing stress by reducing isolation and connecting with others, exercising, and taking time to relax and unwind can help to reduce the number of days poor mental health is experienced.^{90,92}

Young, disabled, and lower-income adults who experience poor mental health in SC would benefit from increased opportunities for community and social engagement and interventions that address trauma and other adverse life events; provide tangible financial and other support; and mitigate barriers to care such as stigma, high medical costs, and difficulty navigating health care systems.

Data Interpretations: In SC, the frequency of poor mental health days in the past month differed by age group, disability status, and income among adults aged 18 and older. Nearly 1 in 5 women reported 14 or more poor mental health days in the past month compared to slightly more than 1 in 10 men. One in four (26.2%) young adults aged 18-24 experienced 14 or more poor mental health days compared to 7.9% of older adults ages 75+ (Figure 9.42). Additionally, adults with a disability were nearly three times as likely to report 14 or more poor mental health days as compared to adults without a disability (Figure 9.43). The burden of experiencing more than 14 days of poor mental days in a month increases as incomes decrease (Figure 9.44).

FIGURE 9.42

Adults Who Experienced 14 or More Poor Mental Health Days, by Age Group
Percent

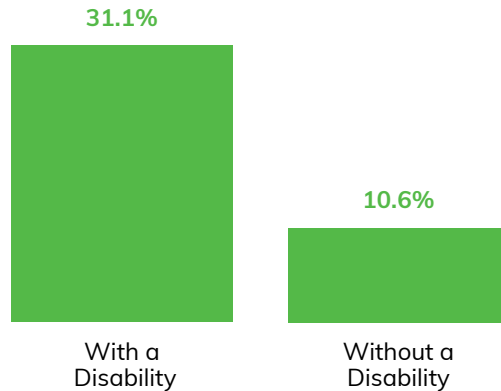


Source: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 9.43

Adults Who Experienced 14 or More Poor Mental Health Days, by Disability Status
Percent

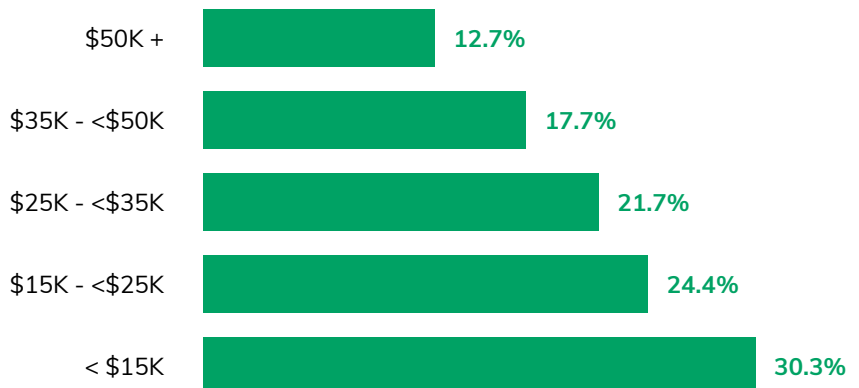


Source: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 9.44

Adults Who Experienced 14 or More Poor Mental Health Days, by Income
Percent



Source: SC BRFSS, 2021.

Note: Adults 18+.


Depression

Depression is one of the most common mental health conditions in the US and a leading cause of disability globally.⁹⁴ Also called clinical depression or major depressive disorder, depression is a serious mood disorder with episodes that last for at least two weeks. During major depressive episodes, adults may lose interest in daily activities, have low energy, concentration, or self-worth, or have trouble sleeping or eating. Recurring suicidal thoughts may also occur.⁹⁴ Different types of depression exist ranging in symptom severity and duration and may include depressive episodes related to seasonal changes, pregnancy, or bipolar disorder. Rates and symptoms differ by age, racial/ethnic group, and sex.

Risks for developing depression result from a complex interplay of environmental, genetic, psychological, and social factors including adverse life experiences.^{94,95} Depression often begins in adulthood and may co-occur with other serious medical conditions that emerge as people age.⁹⁴ People with chronic medical conditions are also at higher risk of developing depression.⁹⁷ They may have more severe symptoms of both their depression and medical illness and

experience higher medical costs.

Treatment and support are available for people experiencing depression. However, access to treatment varies by age, race/ethnicity, and insurance coverage status and types of available treatment vary by whether someone lives in a rural or metropolitan area.^{96,95,94} Barriers to receiving treatment include high cost of care, provider shortages, and lack of awareness about how to access available care.^{95,94} Stigma and perceived discrimination may also prevent adults from seeking or receiving treatment for depression.^{95,98}



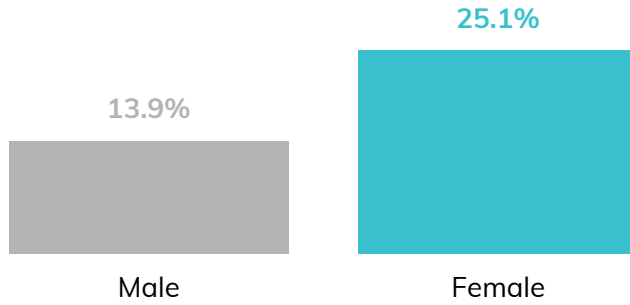
A collaborative system of care is needed to manage both the physical and mental health needs of all adults with depression, especially those who also have another serious medical condition.

Data Interpretations: 1 in 5 SC adult residents aged 18 or older reported a depressive disorder in 2021. Prevalence of depressive disorders in SC varied by county, household income, and demographics. Females (25.1%) had a higher prevalence of reporting a depressive disorder than males (13.9%) (**Figure 9.45**). Non-Hispanic Whites had a higher prevalence of reporting a depressive disorder than non-Hispanic Blacks and Hispanics (**Figure 9.46**). Union County had the highest percentage of adults living with a depressive disorder compared to the state (28.5% vs. 20.3%). Depressive disorders were also more prevalent among residents with lower incomes. Residents with annual household income less than \$15,000 (28.3%) had a higher prevalence of reporting a depressive disorder than residents with annual household income exceeding \$200,000 (11.1%). According to the National Survey of Drug Use and Health (NSDUH), SC young adults aged 18-25 had a higher prevalence of mental illness compared to SC adults aged 26 or older. Nearly 16% of both age groups received mental health services (**Figure 9.47**).

FIGURE 9.45

Depression Among Adults, by Sex

Percent



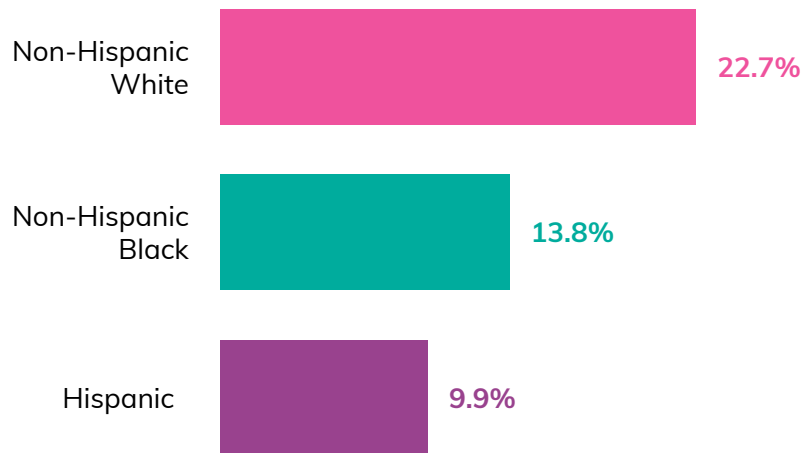
Source: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 9.46

Depression Among Adults, by Race/Ethnicity

Percent



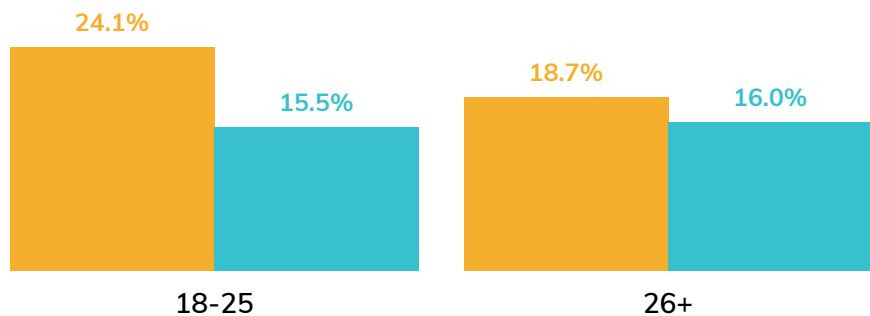
Source: SC BRFSS, 2021.

Note: Adults 18+.

FIGURE 9.47

Any Mental Illness Compared to Receipt of Mental Health Services among Adults, by Age Group

● Any Mental Illness ● Received Mental Health Services



Source: National Survey on Drug Use and Health, 2018-2019.

Note: Adults 18+.

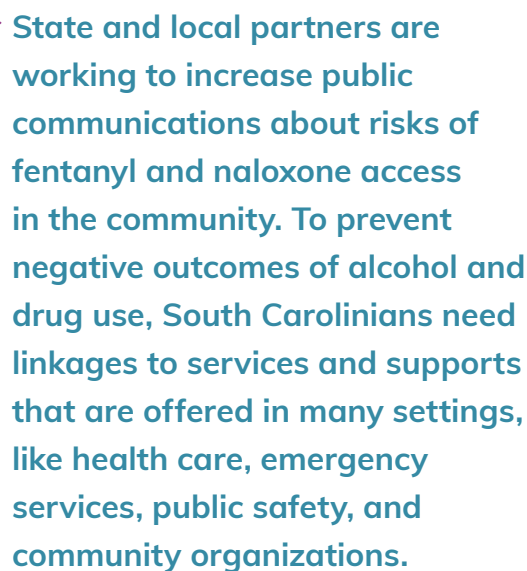
Substance Use

Use of alcohol and other drugs in adults has increased, particularly during the COVID-19 pandemic.⁹⁹ Reasons for alcohol and drug misuse by people may be to help cope with stress or trauma. Furthermore, research has found that co-occurring substance use and mental health issues are common.¹⁰⁰ Although the majority of overdoses are experienced by people who are White, the burden has increased among non-Hispanic Black, Hispanic, and non-Hispanic Other racial and ethnic groups.¹⁰¹ Overall, any person, regardless of age, gender, or race, may be at risk of an overdose if they misuse prescription drugs or use illicit drugs.

Drug use can increase the risk of brain injury, heart attack, stroke, and blood-borne infections, including HIV, hepatitis C, and heart infections called endocarditis.^{102,103} Polysubstance use, or exposure to more than one drug, further increases risks for adverse health outcomes.¹⁰³ Finally, excessive alcohol consumption or hepatitis C is associated with increased rates of liver-scarring or cirrhosis. This condition can lead to morbidity and mortality and most cirrhosis deaths are associated with excessive alcohol use.¹⁰⁴

To combat substance misuse, communities and health care systems can provide education and awareness of the harms of using substances and support protective factors like positive family/mentoring relationships and financial stability.¹⁰⁵ Outpatient care, emergency services, and criminal justice settings can identify

and link people to care.¹⁰⁶ Harm reduction, which focuses on meeting people “where they are” to prevent overdose and infectious disease transmission, can also be a pathway to other prevention, treatment, recovery, and health services.¹⁰⁷ Anyone can learn to give naloxone to save a life by reversing an overdose from opioids.¹⁰⁸ Stigma surrounding these conditions is often a barrier to seeking services and support.¹⁰⁹ Therefore, communities that also address stigma may find more people receptive to treatment and preventative care.



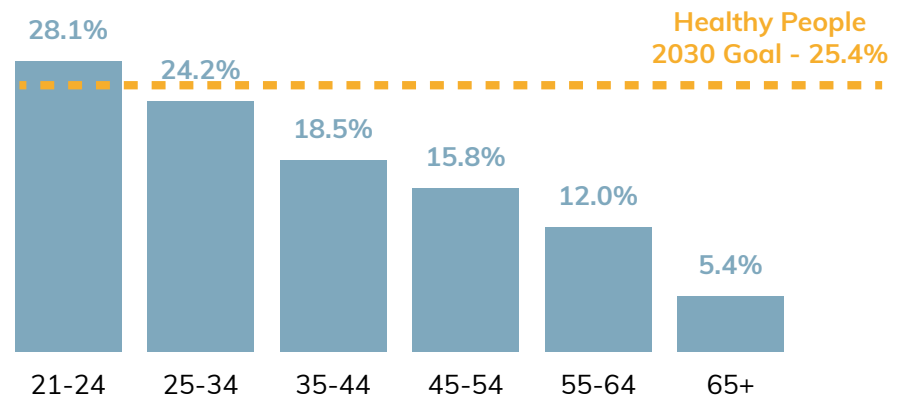
State and local partners are working to increase public communications about risks of fentanyl and naloxone access in the community. To prevent negative outcomes of alcohol and drug use, South Carolinians need linkages to services and supports that are offered in many settings, like health care, emergency services, public safety, and community organizations.

Alcohol Use Data Interpretation: The percentage of SC adults involved in binge drinking (males having five or more drinks on one occasion, females having four or more on one occasion) was highest among younger adults (**Figure 9.48**). In 2021, the percentage of binge drinking among adults ages 21 years and older was 15.2% and met the Healthy People 2030 objective of 25.4%. Binge drinking was nearly two times higher among males (20.1%) than females (10.8%).

The age-adjusted rate of cirrhosis deaths among South Carolinians increased significantly from 12.8 in 2019 to 17.3 per 100,000 in 2021 and is above the Healthy People 2030 goal (**Figure 9.49**). Cirrhosis deaths were highest among non-Hispanic Whites and among males.

FIGURE 9.48

Binge Drinking, by Age Group Percent

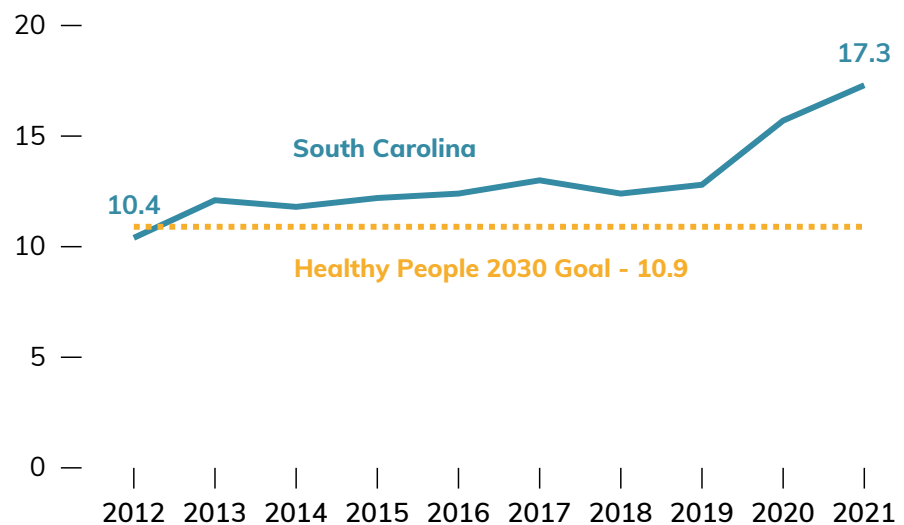


Source: SC BRFSS, 2021.

Notes: Ages 21+.

FIGURE 9.49

Cirrhosis Deaths Rate per 100,000 population



Source: SC DHEC Vital Statistics.

Notes: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Drug Use Data Interpretation: Prescriptions for many controlled drugs, with the exception of stimulants, have decreased since 2016 (Figure 9.50). The rate of opioid prescriptions has decreased by 31% from 2016 to 2021 (Figure 9.50).

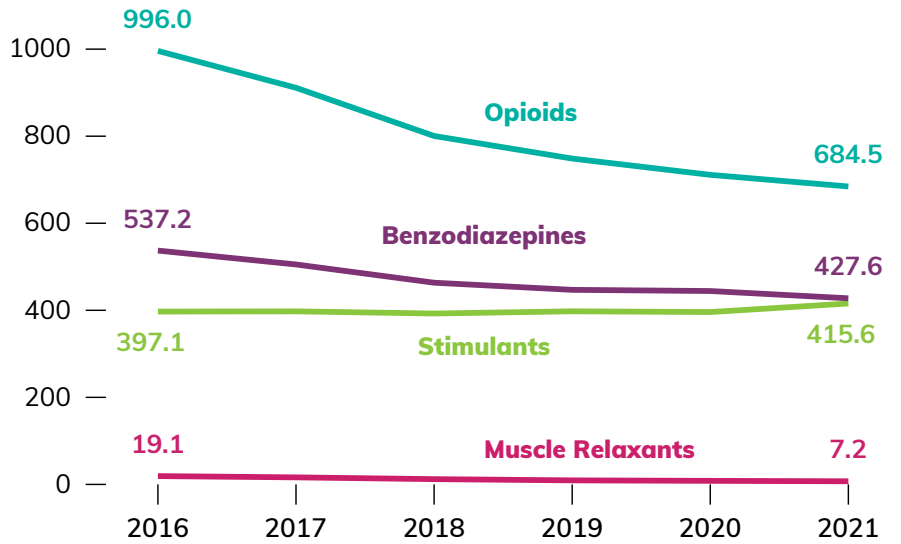
Opioid overdoses account for 80% of all drug overdose deaths in SC. Drug overdose deaths are rising, especially related to the highly potent synthetic opioid fentanyl. Contamination of look-alike pills or other illicit substances with fentanyl, particularly without the person's knowledge, is a growing concern.¹¹⁰ The number of deaths involving synthetic opioids in the last three years has tripled. Drug overdose deaths involving heroin have met the Healthy People 2030 goal, while all drug overdose deaths and deaths involving opioids have not met the goals (Figure 9.51).

The percentage of people ages 18 and older with substance use disorder in 2021 was comparable to the national average (15.5% in SC compared with 17.4% nationally; Figure 9.52). However, 13.2% of South Carolinians needed but did not receive treatment for substance use disorder in the past year. Barriers to accessing care include cost, availability, and stigma.¹¹¹

FIGURE 9.50

Prescriptions of Controlled Drugs

Rate per 1,000 population



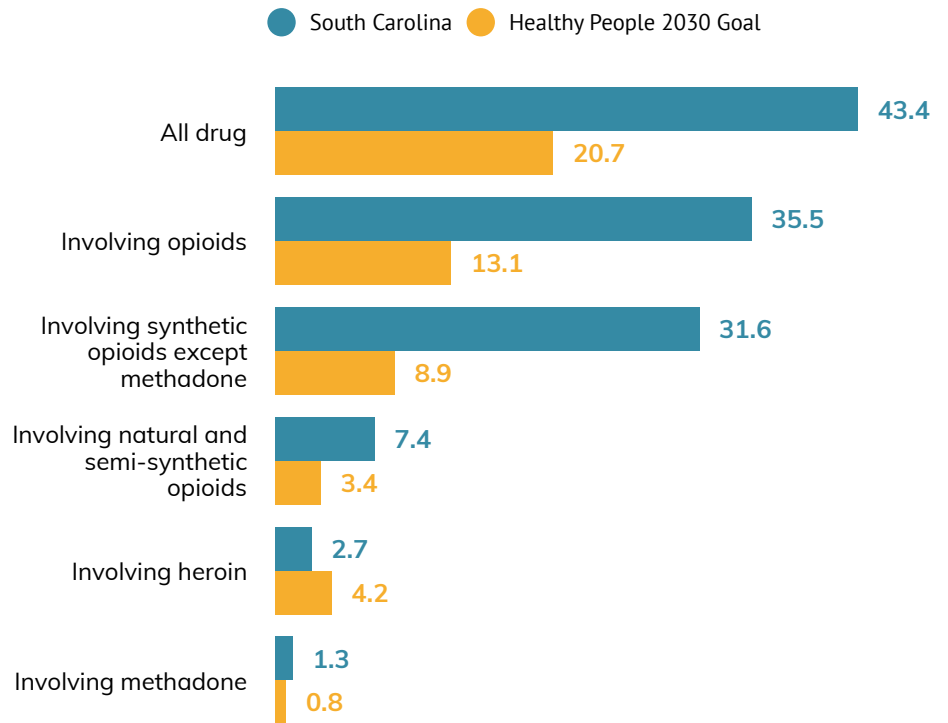
Source: SC DHEC Prescription Drug Monitoring Program.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.51

Drug Overdose Deaths

Rate per 100,000 population



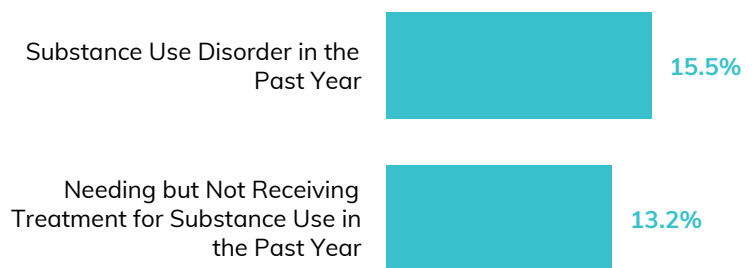
Source: SC DHEC Vital Statistics, 2021.

Notes: Age-adjusted, population for year 2021 based on single-race estimates.

FIGURE 9.52

Prevalence of Substance Use Disorder and Treatment

Percent



Source: National Survey on Drug Use and Health, 2021.

Note: Ages 18+.

Overall Injuries

Injuries are classified as unintentional and intentional injuries. Common causes of unintentional injuries include falls, drowning, motor vehicle crashes (MVCs), unintentional drug overdose, and suffocation. Intentional injuries include homicide, assault, suicide, and self-inflicted injuries. All injuries are predictable and preventable.¹¹² Despite this, they are among the top 10 leading causes of death in the US.¹¹² Each year, more and more people experience nonfatal injuries. These injuries can cause lifelong mental, physical, and financial problems.¹¹³ Each year there are approximately 28 million ED visits for nonfatal injuries.¹¹³

Males and Blacks have higher rates of fatal injuries compared to females and other racial and ethnic

groups. However, disparities vary by the type of unintentional or intentional injury.¹¹² Risk factors for injury include but are not limited to sex, racial and ethnic groups, age, socioeconomic status, geographic location, sexual identity, and disability status.¹¹²

The economic burden of fatal and nonfatal injuries is high. In 2020, the total cost of injury in the US was \$4.6 trillion, which includes spending on health care, lost work productivity, estimates of cost for lost quality of life, and lives lost.¹¹⁴ Over half of this cost was among adults 18-64 years of age (\$3.2 trillion).¹¹⁴

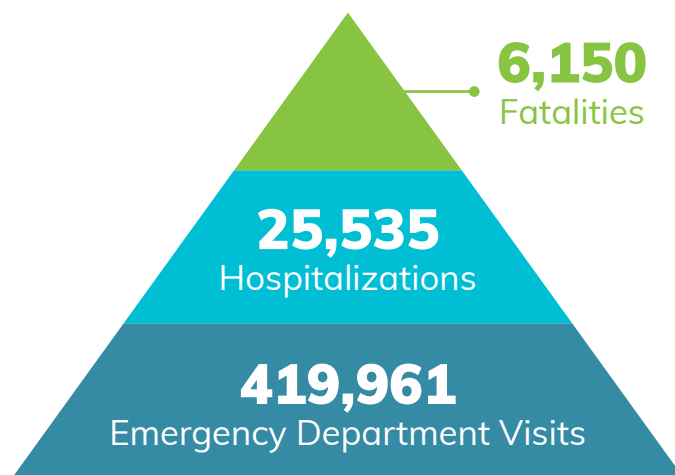
Deaths due to injuries have increased by 68% since 2012.

Data Interpretations: In 2021, there were 6,150 fatalities, 25,535 hospitalizations, and 419,961 ED visits due to injury in SC (Figure 9.53). The number of nonfatal injury ED visits in SC has gone down over time.¹¹⁵ However, the decrease in nonfatal injuries seen in the ED does not necessarily mean a decrease in injuries. Studies have shown that the availability of free-standing clinics, such as urgent cares, has decreased ED visits for low-severity and non-urgent injuries and illnesses, whereas these clinics have seen an increase over time.^{116,117} In addition, COVID-19 also contributed to the decline in injury ED visits in 2020.¹¹⁸ The rate of injury deaths in SC has increased by 68% since 2012 (Figure 9.54). In 2012, the rate of injury deaths in SC was 69.7 deaths per 100,000 population and in 2021 it was 116.9 deaths per 100,000 population (Figure 9.54). The rate of fatal injuries in the US has also increased since 2012, and SC’s 2021 rate was 30% greater than that of the US (116.9 vs 89.0 deaths per 100,000 population).

Overall injury deaths in SC vary by county. From 2019-2021, Dillon County had the highest rate of injury deaths at 169.0 per 100,000 population, followed by Colleton County (167.2 deaths per 100,000 population) and Chester County (153.3 deaths per 100,000 population; Figure 9.55). Beaufort County had the lowest rate of injury deaths at 76.5 deaths per 100,000 population (Figure 9.55).

FIGURE 9.53

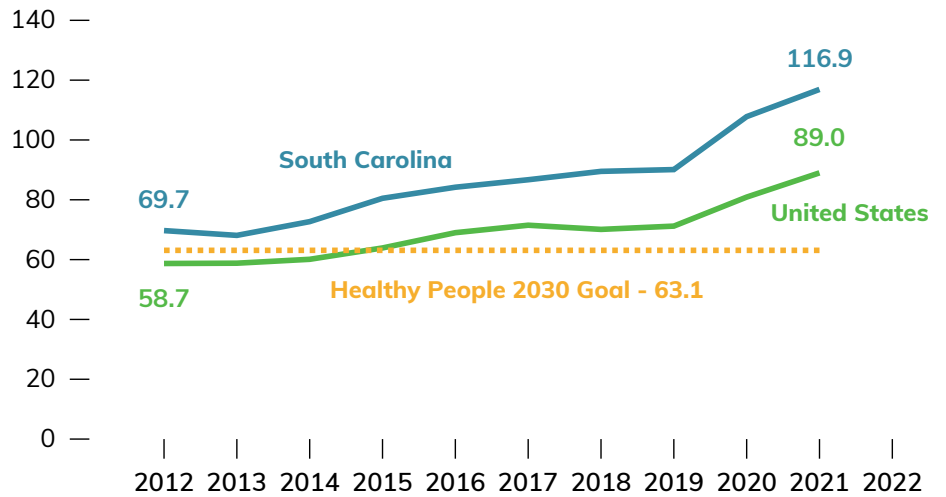
Injuries in South Carolina, 2021
Number



Source: SC DHEC Vital Statistics, 2021; SC RFA, 2021.

FIGURE 9.54

Fatal Injuries in South Carolina
Rate per 100,000 population

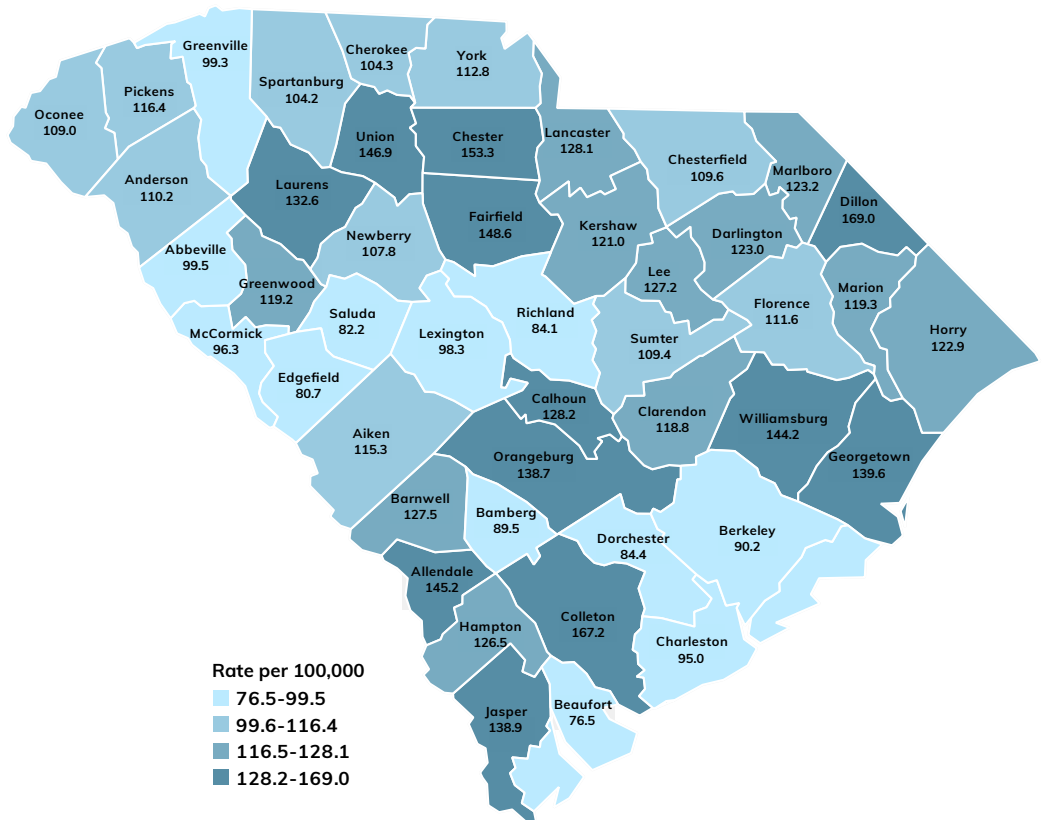


Source: SC DHEC Vital Statistics; CDC NCHS.

Note: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.55

Overall Injury Deaths, by County
Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2019-2021.

Notes: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Homicide

Homicide rates are increasing across the nation.¹¹⁹ There was a 30% increase in the US homicide rate from 2019 to 2020, which was the biggest one-year increase in a century.¹¹⁹ There were 26,031 homicide deaths in 2021.¹¹⁴ Over half of US homicides in 2020 occurred among people ages 15-34.¹¹⁴ Increases in homicides and assaults can be attributed to community violence. Community violence affects millions of people, and their families, schools, and communities every year, especially in racially segregated and high-poverty neighborhoods.¹¹⁹ Communities of color are more likely to experience health inequities and disparities such as violence. Black, American Indian or Alaskan Native, and Hispanic or Latino persons experience higher homicide rates than other racial and ethnic demographic groups.¹²⁰ Community violence can cause significant physical injuries and mental health conditions such as

depression, anxiety, and post-traumatic stress disorder (PTSD), and is also associated with increased risk of developing chronic diseases.¹²⁰ Violence can prevent some people from engaging in healthy behaviors such as walking, biking, and being outside, and can also negatively affect neighborhood activities, business growth, and community progress.¹²⁰

For many groups, SC has higher homicide rates when compared to national averages. Non-Hispanic Black males are disproportionately affected by homicide in SC.

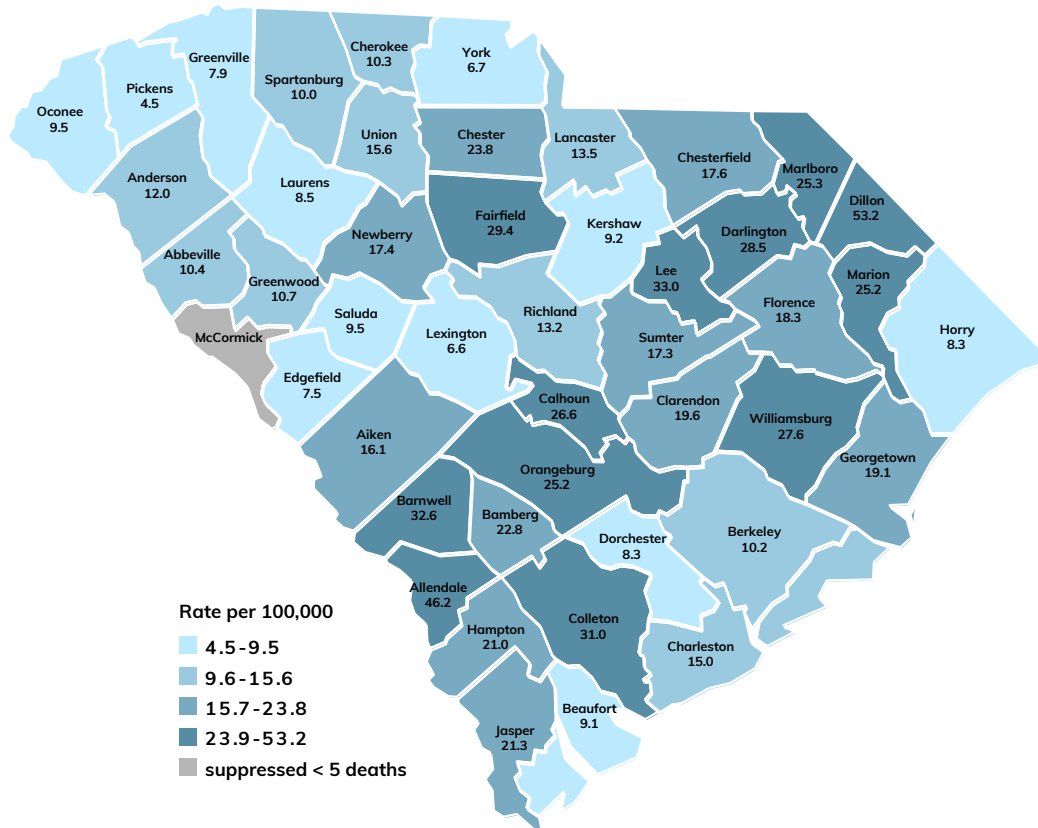
Data Interpretations: From 2019-2021 Dillion County had the highest homicide rate in SC (53.2 deaths per 100,000 population) while Pickens County had the lowest homicide rate (4.5)(**Figure 9.56**). The rate of homicide in SC has increased over 60%, going from a rate of 8.2 deaths per 100,000 population in 2012 to 13.2 deaths per 100,000 population in 2021 (**Figure 9.57**). SC's homicide rate in 2021 was higher than the US rate of 8.2 deaths per 100,000 population (**Figure 9.57**). Among SC adults aged 18-64, the rate of homicides in 2021 was 18.6 deaths per 100,000 population. As of 2021, SC has not reached the Healthy People 2030 goal to reduce the rate of homicides to 5.5 deaths per 100,000 population (**Figure 9.57**).

Non-Hispanic Black males in SC are disproportionately affected by homicide compared to other sexes and races/ethnicities. From 2017-2021 among people aged 18 to 64, SC non-Hispanic Black males had a homicide rate of 71.9 deaths per 100,000 population, which was over seven times higher than the homicide rate in non-Hispanic White males (9.3 deaths per 100,000 population) (**Figure 9.58**). Both non-Hispanic Black females (8.8 deaths per 100,000 population) and non-Hispanic White females (3.4 deaths per 100,000 population) in SC had much lower rates of homicide. Data from the SC Violent Death Reporting System (SCVDRS) from 2016-2019 shows that among adults 18-64 with known circumstances, female homicides were more likely due to intimate partner violence (57.7% of female homicides), whereas male homicides were more likely due to an argument (40.0% of male homicides).

When comparing rates of homicide by age group, SC had higher rates of homicide than the US across all age groups (**Figure 9.59**). In SC, the age groups with the highest homicide rates from 2017-2021 were 18-24 (26.5 deaths per 100,000 population) and 25-34 (24.0 deaths per 100,000 population) (**Figure 9.59**). These rates are almost double the US homicide rates for the same age groups (**Figure 9.59**). The age groups with the lowest homicide rates from 2017-2021 were 65 and older (3.0 deaths per 100,000 population) and <10 (3.4 deaths per 100,000 population) (**Figure 9.59**).

FIGURE 9.56

Homicide Deaths, by County
Rate per 100,000 population

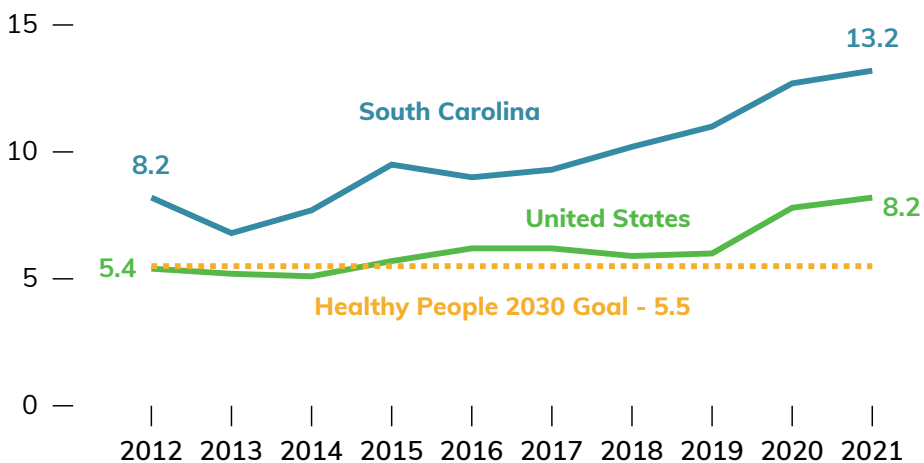


Source: SC DHEC Vital Statistics, 2019-2021.

Notes: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.57

Homicide, All Ages
Rate per 100,000 population



Source: SC DHEC Vital Statistics; CDC NCHS.

Note: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.58

Homicide Among Adults Aged 18-64, by Sex and Race/Ethnicity
Rate per 100,000 population

Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

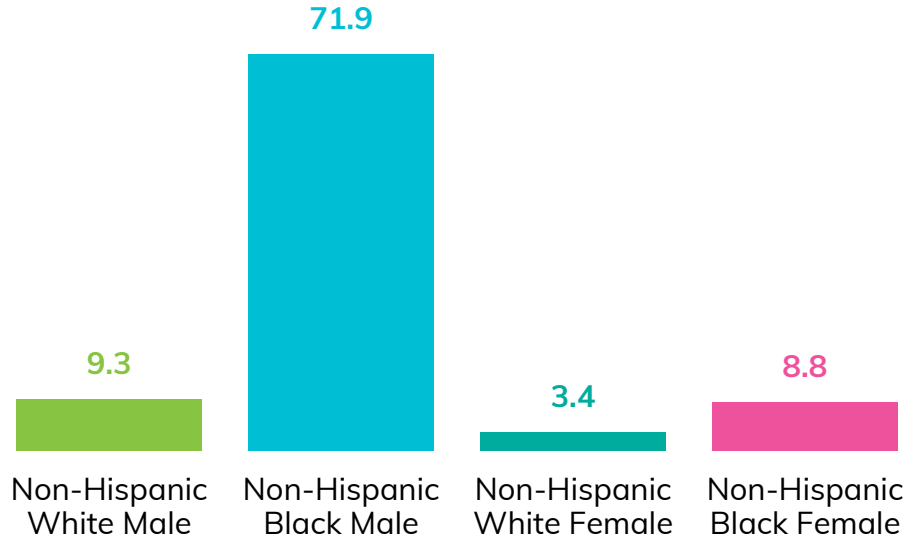
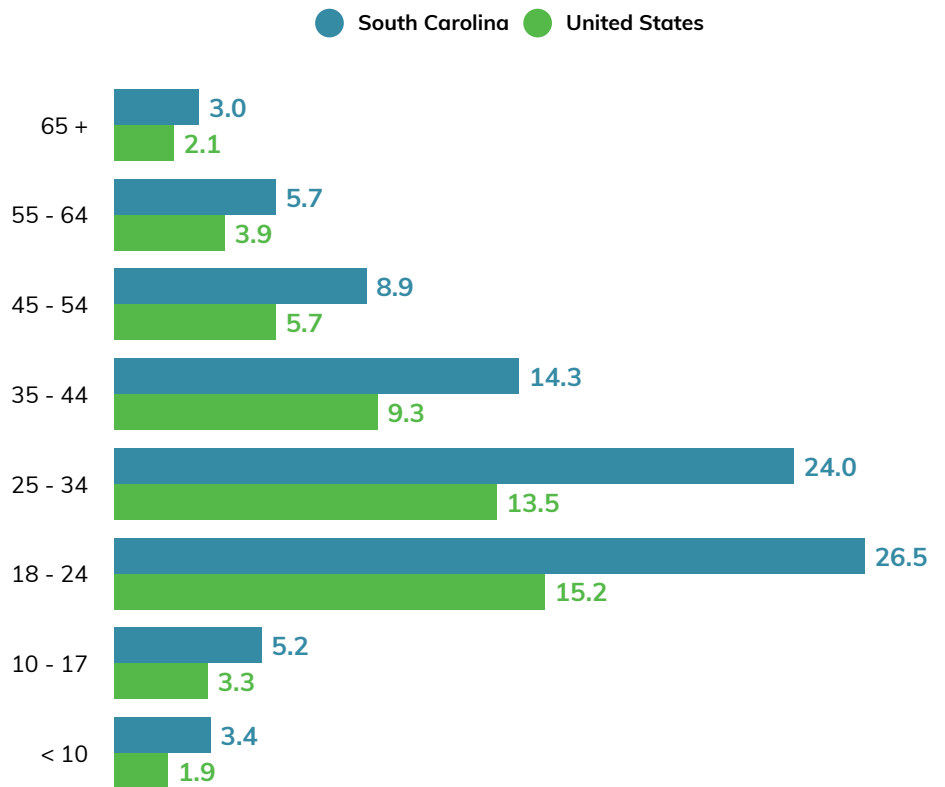


FIGURE 9.59

Homicide, by Age Group
Rate per 100,000 population

Source: SC DHEC Vital Statistics, 2017-2021; CDC NCHS, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.



Suicide

Suicide is a serious public health problem that has lasting harmful effects on individuals, families, and communities. In 2021, suicide was among the top nine leading causes of death for ages 10-64.¹²¹ In 2021, there were 597 adults aged 18-64 who died by suicide in SC, and over 48,000 people nationally.^{122,121}

Suicide is defined as a death caused by someone injuring themselves with the intent to end their life. A suicide attempt is when someone harms themselves with any intent to end their life, but they do not die as a result of their actions.¹²¹ There are many risks

and protective factors for suicide. People who have experienced other injuries and violence, such as child abuse, bullying, or sexual violence have a higher risk of dying by suicide.¹²¹ Family and community support as well as access to health care have been shown to decrease suicidal thoughts and behaviors.¹²¹



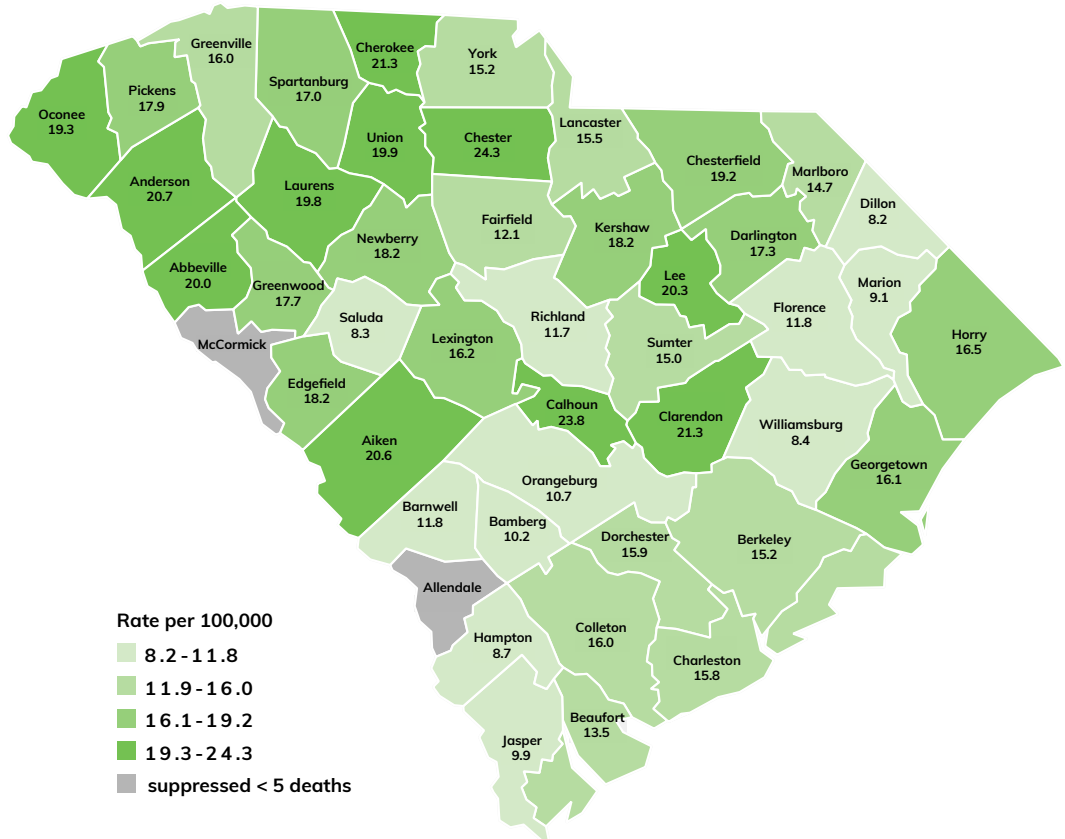
Non-Hispanic White males have the highest rates of suicide in SC.

Data Interpretations: From 2019-2021 in SC, Chester County had the highest suicide rate (24.3 deaths per 100,000 population) while Dillon County had the lowest suicide rate (8.2 deaths per 100,000 population) (**Figure 9.60**). Suicide has increased in SC from a rate of 13.5 deaths per 100,000 population in 2012, to 15.0 deaths per 100,000 population in 2021 (**Figure 9.61**). This rate is higher than the US's 2021 suicide rate of 14.1 deaths per 100,000 population (**Figure 9.61**). The rate of suicide for SC adults ages 18-64 was 19.5 deaths per 100,000 population in 2021. As of 2021, SC did not reach the Healthy People 2030 goal to reduce the rate of suicide deaths to 12.8 suicides per 100,000 population. SC had higher rates of suicide than the US in every age group, with the exception of the 55-64 age group (**Figure 9.62**). The highest rates of suicide in SC from 2017-2021 were in the 18-24 age group with a rate of 22.0 deaths per 100,000 (**Figure 9.62**). The lowest rates of suicide were among the 10-17 age group with a rate of 5.3 deaths per 100,000 population (**Figure 9.62**).

Males in SC are more likely to die by suicide than females. Among the SC adult (ages 18-64) population, non-Hispanic White males have the highest rate of suicide with a rate of 42.4 deaths per 100,000 population from 2017-2021 (**Figure 9.63**). Non-Hispanic Black males also have a higher rate of suicide compared to females, with a rate of 19.0 deaths per 100,000 population (**Figure 9.63**). The suicide rate for non-Hispanic White females is 11.8 deaths per 100,000 population and 2.6 deaths per 100,000 population for non-Hispanic Black females (**Figure 9.63**). Although suicide rates were higher for males, data from SCVDRS from 2016-2019 shows that among those with known circumstances, females who died by suicide were more likely to have a diagnosed mental health problem compared to males. In addition, females aged 18-64 in SC had a higher rate of nonfatal self-harm ED visits compared to males of the same age from 2019-2021 (**Figure 9.64**).

FIGURE 9.60

Suicide Deaths, by County
Rate per 100,000 population

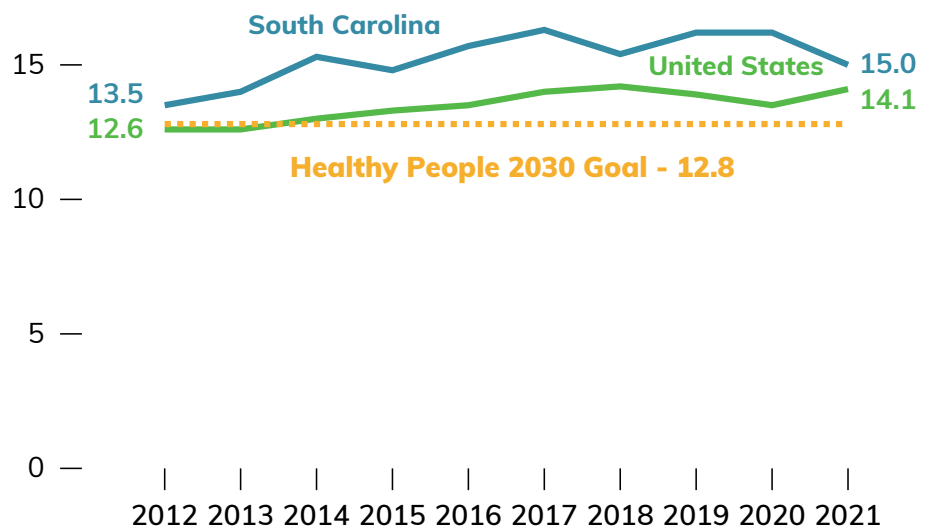


Source: SC DHEC Vital Statistics, 2019-2021.

Notes: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.61

Suicide, All Ages
Rate per 100,000 population

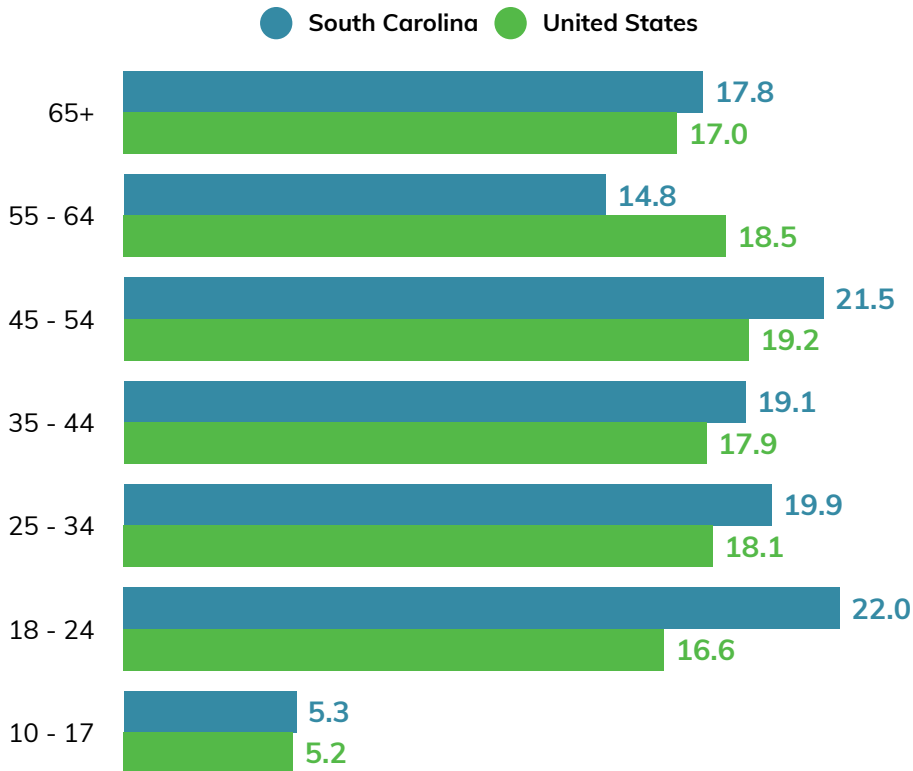


Source: SC DHEC Vital Statistics; CDC NCHS.

Note: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.62

Suicide, by Age Group
Rate per 100,000 population

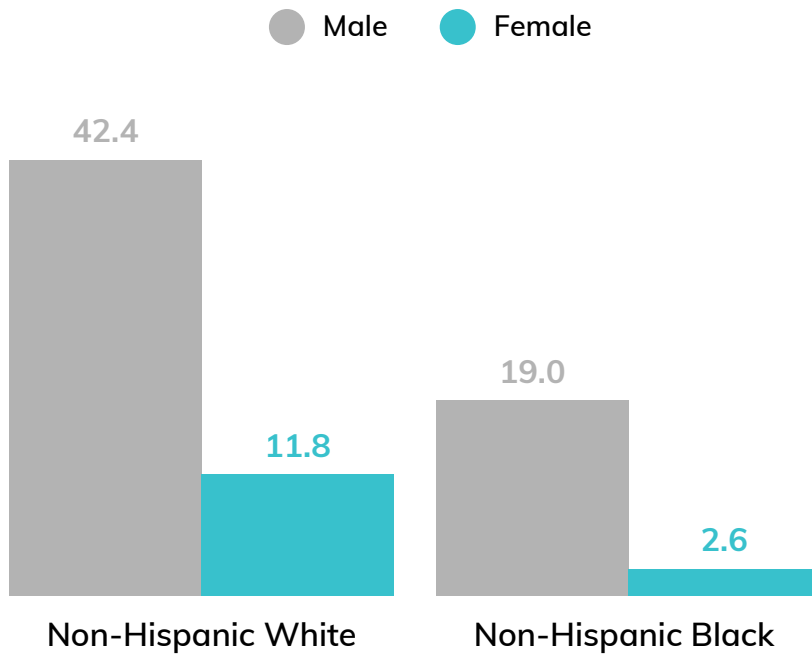


Source: SC DHEC Vital Statistics, 2017-2021; CDC NCHS, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.63

Suicide Among Adults Aged 18-64, by Sex and Race/Ethnicity
Rate per 100,000 population

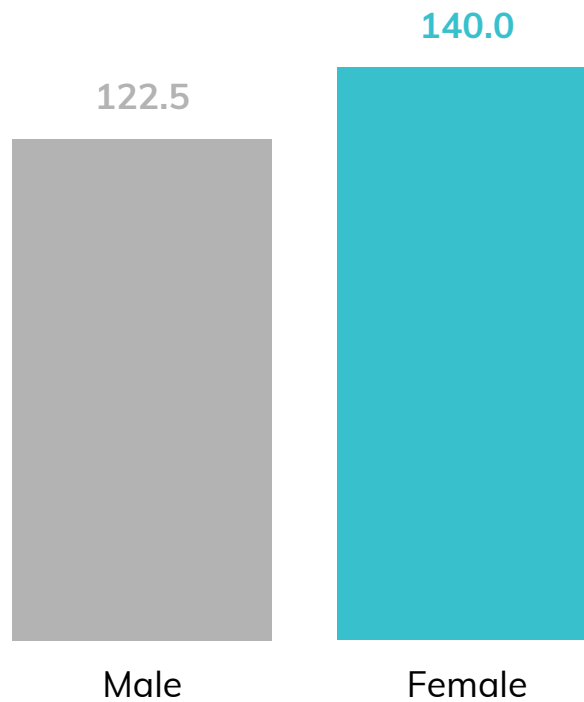


Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.64

Nonfatal Self-Harm
Emergency Department
Visits Among Adults
18-64, by Sex.
Rate per 100,000 population



Source: SC RFA, 2019-2021.

Note: Includes cases subsequently admitted as an inpatient to the same hospital from the ED, initial encounter for injury only. Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Firearm-Related Injuries

There are many types of firearm injuries, which can be either fatal or non-fatal. These can include categories of intentionally self-inflicted, unintentional, and interpersonal violence.¹²³ In 2021, more than half of firearm-related deaths in the US were suicides, while more than 40% were homicides.¹¹⁴ Firearm injuries affect people of all ages; however, adults ages 20-34 are most affected by firearm-related deaths.¹¹⁴ Firearm-related injuries were among the top five leading causes of death for people 1-44 in 2020.¹²³ Males account for 86% of all victims of firearm deaths and 87% of nonfatal firearm injuries.¹²³ People who survive a firearm-related injury may experience long-term consequences, but the effects of firearm violence extend beyond victims and their families.¹²³ Shooting incidents can affect the sense of safety and security of entire communities and are also costly.¹²³ Firearm

violence costs the US tens of billions of dollars each year in medical and lost productivity costs.¹²³

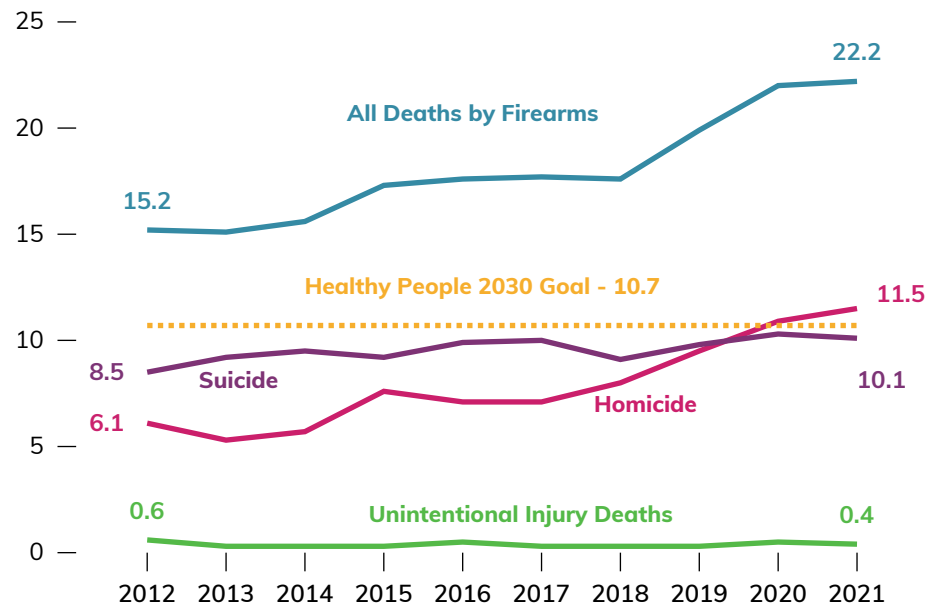
The rate of deaths by firearm in SC has increased by nearly 50% from 2012-2021.

Data Interpretations: Death by firearms has been on the rise in SC, with a nearly 50% increase from 15.2 deaths per 100,000 population in 2012 to 22.2 per 100,000 population in 2021 (**Figure 9.65**). As of 2021, SC has not reached the Healthy People 2030 goal to reduce the rate of all deaths by firearms to 10.7 deaths per 100,000 population (**Figure 9.65**). Suicide by firearms remained relatively stable, with a slight increase from 8.5 deaths per 100,000 population in 2012 to 10.1 deaths per 100,000 population in 2021 (**Figure 9.65**). Homicide by firearms nearly doubled since 2012 (6.1 deaths per 100,000 population), with a rate of 11.5 deaths per 100,000 population in 2021 (**Figure 9.65**). Unintentional firearm deaths remained low and stable since 2012 and had a rate of 0.4 deaths per 100,000 population in 2021 (**Figure 9.65**).

Like homicide, non-Hispanic Black males are disproportionately affected by firearm deaths. SC non-Hispanic Black males experienced firearm-related deaths (65.9 deaths per 100,000 population) over 2 times more than non-Hispanic White males (29.3 deaths per 100,000 population) in 2021 (**Figure 9.66**). Non-Hispanic White females (5.6 deaths per 100,000 population), non-Hispanic Black females (9.5 deaths per 100,000 population), Hispanic males (14.8 deaths per 100,000 population), and Hispanic females (5.6 deaths per 100,000 population) had much lower firearm-related death rates (**Figure 9.66**).

FIGURE 9.65

Firearm-Related Deaths,
All Ages
Rate per 100,000
population



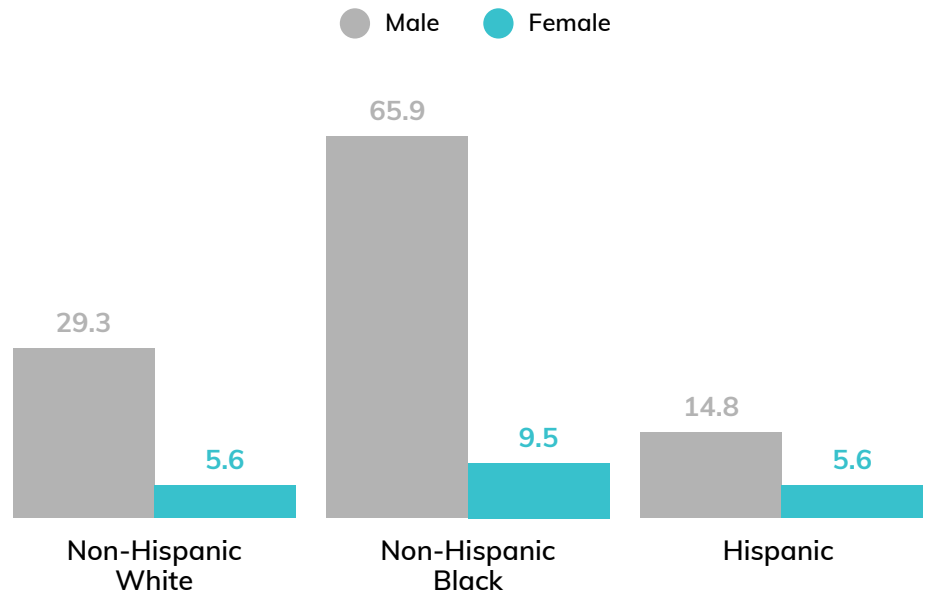
Source: SC DHEC Vital Statistics, 2012-2021.

Notes: Age-adjusted rate, the Healthy People 2030 Goal is for all deaths by firearm, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.66

Firearm-Related Deaths, by Sex and Race/Ethnicity

Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2021.

Notes: Age-adjusted rate, population for year 2021 based on single-race estimates.

Unintentional Injuries

Unintentional injuries can affect everyone, regardless of age, race, or economic status. In the US, unintentional injury is the leading cause of death for people 1-44 and contributed to 3.8 million years of potential life lost, more than any other cause of death in 2021.¹¹⁴ In 2021, SC had the 6th-highest rate of unintentional injury deaths among adults 18-64 in the US.¹¹⁴

People who experience injuries can suffer from short-term effects, such as missing work or school, and long-term effects, such as chronic illness and death.¹²⁵ Examples of unintentional injuries include

MVCs, poisonings, traumatic brain injuries (TBI), falls, suffocation, and drowning.¹²⁶ Most injuries or deaths caused by injuries can be prevented by evidence-based public health strategies and practices.¹²⁶

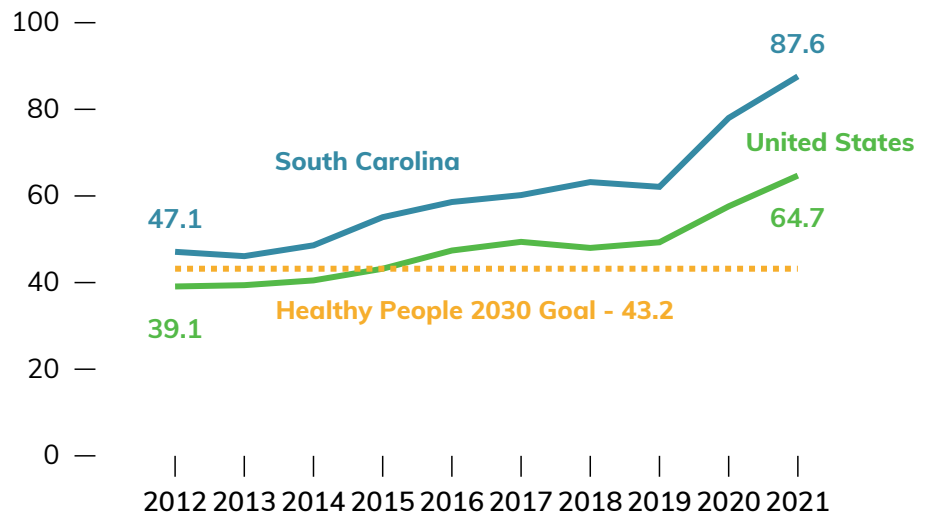
In 2021, SC ranked sixth in the country for the highest rate of unintentional injury deaths among adults aged 18-64.

Data Interpretations: Unintentional injury deaths have increased for all ages in SC from a rate of 47.1 deaths per 100,000 population in 2012, to 87.6 deaths per 100,000 population in 2021 (**Figure 9.67**). The unintentional injury death rate has also increased for the US, but the US still had a lower death rate compared to SC in 2021, with 64.7 deaths per 100,000 population (**Figure 9.67**). As of 2021, SC has not reached the Healthy People 2030 goal of 43.2 unintentional injury deaths per 100,000 population. The leading cause of unintentional injury deaths among SC adults ages 18-24 was MVCs (**Table 9.3**). The leading cause of unintentional injury deaths among adults ages 25-64 in SC was unintentional drug overdoses (**Table 9.3**). Unintentional overdoses have been on the rise in SC and nationally due to an increase in illicit fentanyl.¹²⁷

Nonfatal unintentional injury ED visits have decreased since 2017. In 2017, the rate of nonfatal unintentional injury ED visits was 9,787.9 per 100,000 population, and in 2021 the rate was 7,997.7 visits per 100,000 population (**Figure 9.68**). In 2021, the leading cause of nonfatal unintentional injury ED visits in SC adults ages 18-64 was MVCs.

FIGURE 9.67

Unintentional Injury Deaths,
All Ages
Rate per 100,000 population



Source: SC DHEC Vital Statistics; CDC NCHS.

Note: Age-adjusted. Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

TABLE 9.3

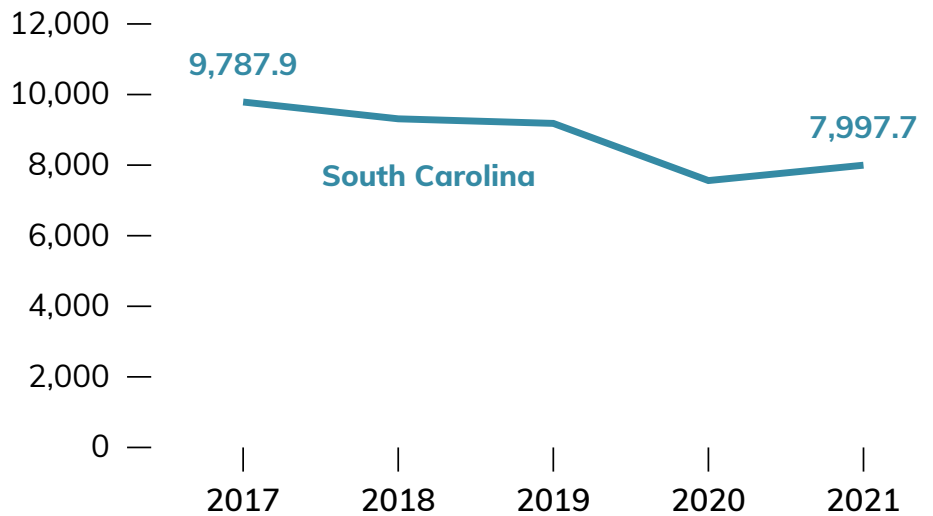
Leading Causes of Unintentional Injury Deaths Among Adults Ages 18-64

Age Group	Leading Cause of Injury Death	Number of Total Deaths due to Injury
18 – 24 Years	Motor Vehicle Crashes	689
25 – 34 Years	Unintentional Overdoses	1,588
35 – 44 Years	Unintentional Overdoses	1,673
45 – 54 Years	Unintentional Overdoses	1,479
55 – 64 Years	Unintentional Overdoses	1,137
18 – 64 Years	Unintentional Overdoses	6,365

Source: SC DHEC Vital Statistics, 2017-2021.

FIGURE 9.68

Nonfatal Unintentional Injury Emergency Department Visits Rate per 100,000 population



Source: SC RFA.

Note: Includes cases subsequently admitted as an inpatient to the same hospital from the ED, initial encounter for injury only. Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Motor Vehicle Crashes

MVCs are one of the most common types of injuries that Americans face. In 2020, almost 41,000 people died from MVCs and there were over 2.1 million ED visits from MVCs in the US.¹²⁸ In 2021, SC had 147,724 collisions, 1,198 fatalities, and 53,596 nonfatal injuries due to MVCs.¹²⁹ It is estimated that the economic loss due to MVCs was around \$5.20 billion in SC in 2021.¹²⁹

Major risk factors for MVC deaths in the US are not using or improper use of seat belts; car seats and booster seats; drunk driving; and speeding.¹³⁰ Reducing risk factors and promoting education around

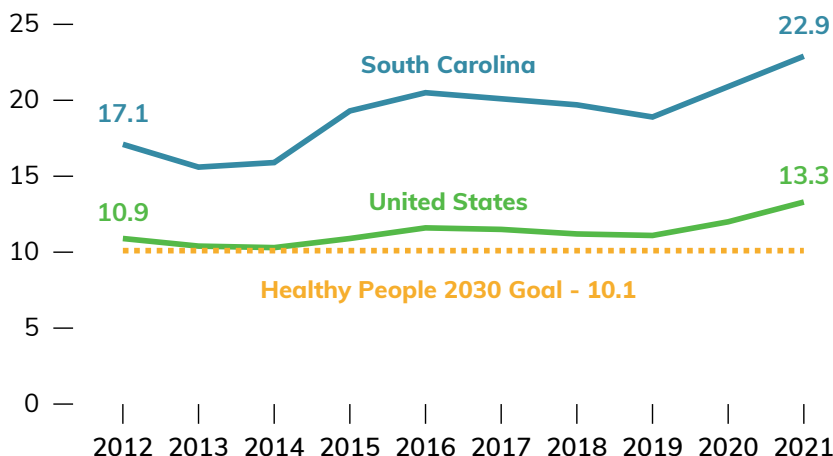
transportation safety such as child passenger safety and distracted driving can save lives and costs.¹³⁰

MVCs are the leading cause of injury death for SC adults ages 18-24, and the second-leading cause of injury death for adults 25 and older.

Data Interpretations: MVCs are the leading cause of injury death for SC adults 18-24, and the 2nd-leading cause of injury death for adults 25 and older.¹¹⁴ SC's MVC death rates have been consistently higher than the US's rates and have been on the rise since 2012 (**Figure 9.69**). MVC deaths in SC have increased from 17.1 deaths per 100,000 population in 2012 to 22.9 deaths per 100,000 population in 2021 (**Figure 9.69**). The US MVC death rate in 2021 was 13.3 deaths per 100,000 population (**Figure 9.69**). As of 2021, SC has not reached the Healthy People 2030 goal to reduce the MVC death rate to 10.1 deaths per 100,000 population (**Figure 9.69**). Males die from MVCs more than females, but non-Hispanic Black males in SC had the highest MVC death rate of 58.3 deaths per 100,000 population from 2017-2021, compared to non-Hispanic White males with 34.9 deaths per 100,000 population (**Figure 9.70**). Non-Hispanic Black females had a slightly higher MVC death rate of 15.7 deaths per 100,000 population compared to non-Hispanic White females with 13.2 deaths per 100,000 population (**Figure 9.70**). In 2020, 55.7% of car passenger deaths in SC were among those who were unrestrained (not wearing a seat belt), compared to 44.3% who were restrained. SC's unrestrained MVC deaths were higher than the US's (51.0%) (**Figure 9.71**).

FIGURE 9.69

Motor Vehicle Crash Deaths Rate per 100,000 population

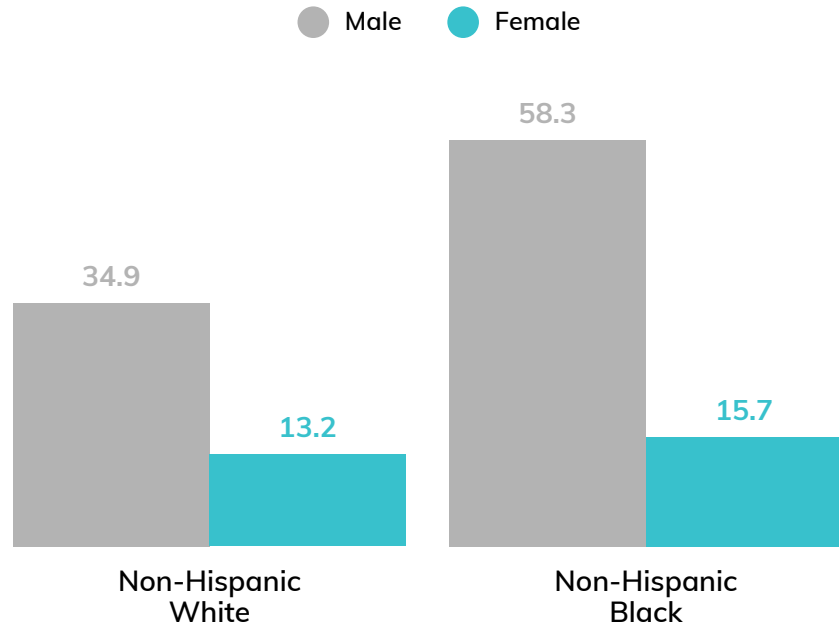


Source: SC DHEC Vital Statistics; CDC NCHS.

Note: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.70

Motor Vehicle Crash Deaths Among Adults Aged 18-64, by Sex and Race/Ethnicity
Rate per 100,000 population

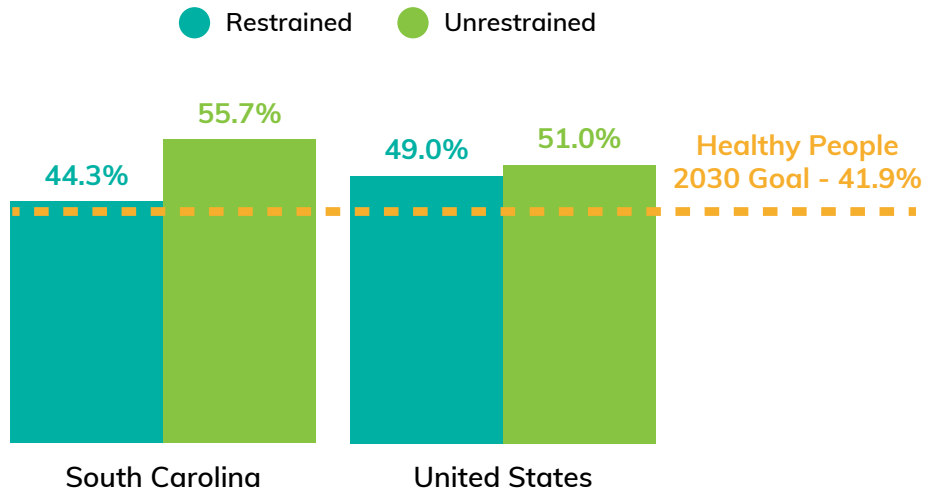


Source: SC DHEC Vital Statistics, 2017-2021.

Notes: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 9.71

Car Passenger Deaths, by Restraint Status
Percent



Source: FARS ARF, 2020.

Note: Among those with known restraint status.


Sexually Transmitted Infections

Chlamydia, gonorrhea, and syphilis are sexually transmitted infections (STIs) that are passed from one person to another through intimate physical contact.¹³¹ Unprotected sex and multiple sexual partners increase the risk of acquiring an STI. STIs most frequently appear in younger people. However, it is important to note that STIs can affect sexually active persons of all ages.

Chlamydia, gonorrhea, and syphilis are treatable STIs, but if left untreated they can lead to serious consequences such as blindness and other neurologic manifestations, infertility, and birth defects.¹³² Sexually transmitted infections do not always have signs or symptoms. Therefore, it is important for people who are sexually active to engage in routine testing to detect and treat the infection and prevent further infections.

Reported cases of STIs decreased after COVID-19 preventive measures were put in place. The decreases in cases may not be due to decreases in infection

acquisition, but rather due to decreased STI testing as STI services were scaled down in response to COVID-19. The reported number of cases may not reflect the true incidence of infection. It is likely that the effects of decreased testing and subsequent infection underreporting will persist for several more years, thereby hindering the knowledge of the full impact of the COVID-19 pandemic on STIs.



Sexually transmitted infections continue to rise in SC. Early identification, treatment, and reporting, along with other individualized intervention activities are ways to prevent or reduce new cases.

Data Interpretations: Reported cases of chlamydia have increased annually in SC since 2012. In 2021, there were 35,950 cases of chlamydia diagnosed in SC (**Figure 9.72**). Among chlamydia cases in 2021 with a reported race, 39% were Black women and 23% were White women. Black men comprised 24% of chlamydia cases, and White men accounted for 7%. Additionally, of the reported cases diagnosed in 2021, 82% were adolescents and adults under the age of 30.

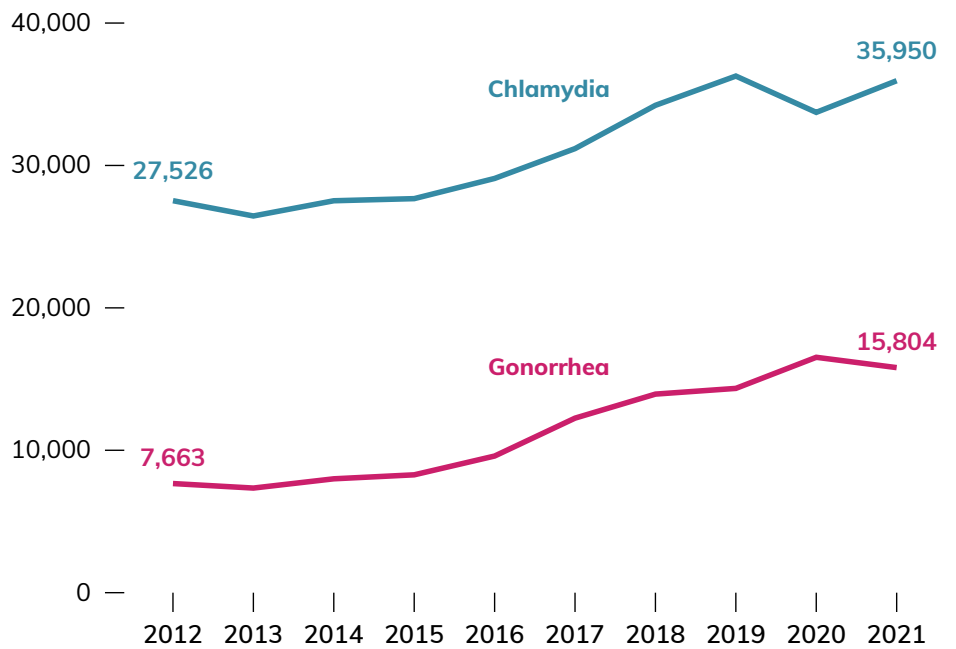
From 2012 to 2020 in SC the number of gonorrhea cases increased steadily. From 2020 to 2021 the number of cases decreased. In 2021, 15,804 gonorrhea cases were diagnosed in SC (**Figure 9.72**). Of cases with a reported race, Black men and women accounted for 70% of reported cases, with Black men and women accounting for 40% and 30% of cases, respectively. As with chlamydia, 69% of gonorrhea cases diagnosed in 2021 were in people ages 15-29, 18% were aged 15-19, 30% were aged 20-24, 21% were aged 25-29, with the majority in those ages 30+.

The number of syphilis cases diagnosed each year in SC has increased over the past 10 years. In 2021, 2,244 cases of syphilis were diagnosed, which is a 268% increase from 2012 (**Figure 9.73**). On average, primary and secondary (P&S) syphilis diagnoses have increased by 16% per year over the last decade.

In 2021, a majority of syphilis cases (70%) were among men. Black men comprised 44%, White men 20%, and Hispanic and other races accounted for 3% of cases. Women accounted for 29% of syphilis cases. Black women comprised 14%, White women 13%, and Hispanic and other races less than 1%. Only 1.5% of syphilis cases had an unknown race, and this is mainly attributable to the active surveillance and case investigation efforts performed by disease intervention staff. Forty-three percent of syphilis cases diagnosed in 2021 were under the age of 30.

FIGURE 9.72

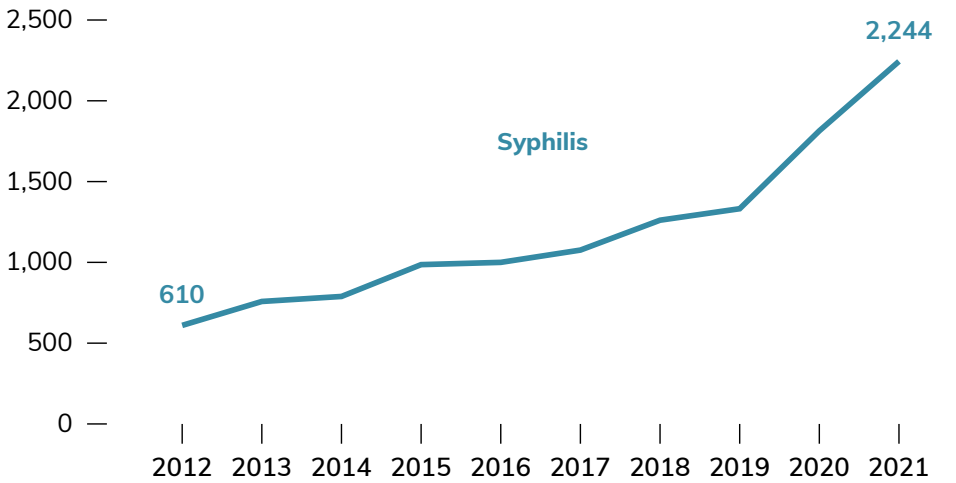
Chlamydia and Gonorrhea Cases
Number



Source: SC DHEC SCION.
Note: Cases reported by year of diagnosis.

FIGURE 9.73

Syphilis Cases
Number



Source: SC DHEC SCION.
Note: Cases reported by year of diagnosis.

Hepatitis


Hepatitis C is a liver disease that results from infection with the hepatitis C virus. 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. People born from 1946 to 1964, sometimes referred to as baby boomers, are five times more likely to have hepatitis C than other adults. However, in the past five years, acute (new) infection rates among young adults (aged 20-39 years) have increased rapidly. This has been largely driven by the opioid and injection drug use epidemic.¹³³

Hepatitis C can lead to liver damage, cirrhosis, and liver cancer. Hepatitis C is the leading cause of liver transplants. In the US, hepatitis C is responsible for more deaths than all other reportable infectious diseases. Most people with hepatitis C do not know they are infected. Since many people can live with hepatitis C for decades without symptoms or feeling sick, testing is crucial so those who are infected can get treated and cured. Current treatments usually involve just eight to 12 weeks of oral therapy (pills) and cure rates are over 90% with few side effects.¹³³

During 2020, the COVID-19 pandemic caused major disruptions in access to medical care and routine public health activities. Stay-at-home orders suspended or delayed many routine health care visits, patients avoided seeking medical and preventive services in a health care setting, and many health department staff

routinely assigned to viral hepatitis case investigation and surveillance activities were reassigned to respond to the COVID-19 pandemic.¹³⁴

To illustrate the potential magnitude of the impact of the COVID-19 pandemic on viral hepatitis testing and subsequently on surveillance data, a study examining national reference clinical laboratory data reported an approximate 60% decline in positive hepatitis C test results during the first months of the pandemic in 2020, relative to the prior non-pandemic months.¹³⁴



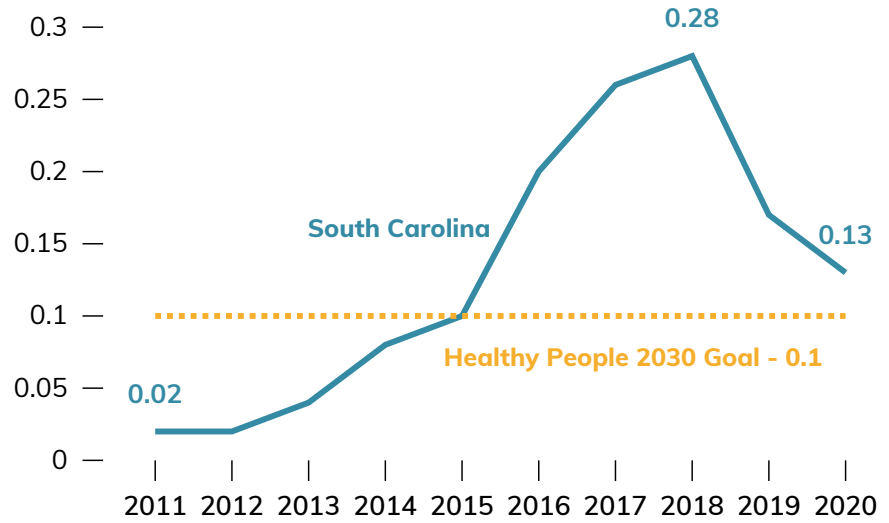
Most people with hepatitis C do not know they are infected. Since many people can live with hepatitis C for decades without symptoms or feeling sick; testing is critical so those who are infected can get treated and cured. Current treatments usually involve just eight to 12 weeks of oral therapy (pills) and cure rates are over 90% with few side effects.

Data Interpretations: In SC in 2020, 0.13 cases per 100,000 individuals were diagnosed with acute hepatitis C, compared to 0.28 reported in 2018 (**Figure 9.74**). SC has not achieved the Healthy People 2030 goal of 0.1 cases per 100,000 population new cases of acute hepatitis C. In 2020, newly reported chronic hepatitis C infections were most common in the 20-39 and 55-70 age, trend consistent with national reports.¹³⁴ SC reported a case rate of 54 cases per 100,000 individuals in 2020 (**Figure 9.75**).

During 2019, national rates of acute hepatitis C were highest among persons aged 20-49 years, males, American Indian/Alaskan Native persons, and those living in the southern and midwestern US. The national geographic distribution of hepatitis C correlates with the geographic distribution of fatal overdose.¹³⁴

FIGURE 9.74

New Cases of Acute Hepatitis C
Rate per 100,000 population

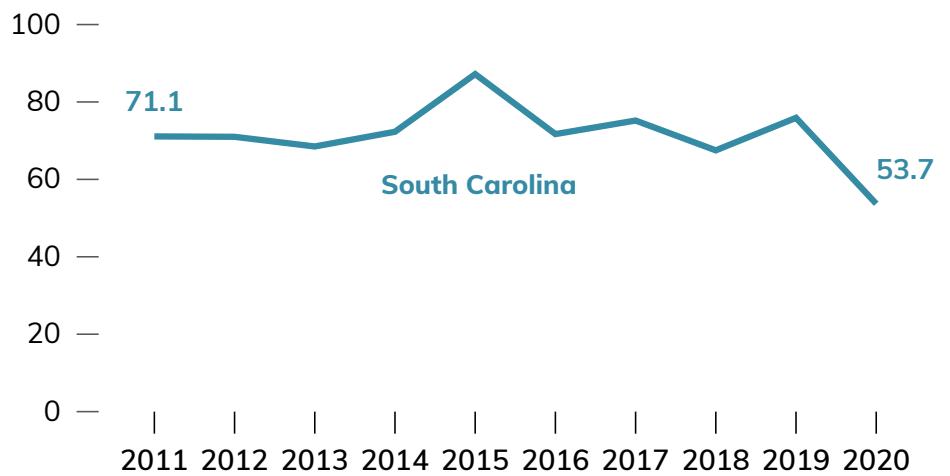


Source: SC DHEC SCION, January 18, 2023.

Note: All data provisional.

FIGURE 9.75

New Cases of Chronic Hepatitis C
Rate per 100,000 population



Source: SC DHEC SCION, January 18, 2023.

Note: All data provisional.

HIV/AIDS

According to CDC HIV surveillance data, there are approximately 1.2 million people living with HIV (PWH) in the US.¹³⁵ Thirteen percent of those living with HIV are not aware of their HIV status, and therefore not taking advantage of available treatment and prevention interventions. As a result, in 2019, an estimated 32,100 new HIV diagnoses occurred. The majority of those (70%) were in men who have sex with men (MSM). HIV can also be transmitted through heterosexual sex, sharing needles, syringes, or other drug injection equipment, as well as a mother-to-child transmission through breast milk. Due to advances in HIV/AIDS medical research, there has been a 12% decline in new HIV diagnoses from 2017 (36,500 cases) to 2021 (32,100), and an overall 52% decrease in HIV deaths for PWH from 2010 to 2021.

The drivers of HIV transmission in SC mimic US national transmission patterns, predominantly influenced by sexual exposure among MSM, heterosexuals, and people who inject drugs (PWID).



There is no cure for HIV. However, there are effective antiretroviral medications which, if taken as prescribed, can treat or prevent HIV. Early diagnosis is key to successful treatment, a reduction in new HIV transmissions, and an overall increase in quality and longevity of life.

Data Interpretations: From 2002 to 2021 there was a steady increase in the number of people living with HIV/AIDS (or HIV/AIDS prevalence) in SC, while the number of new diagnoses (incidence) and deaths remained approximately stable (**Figure 9.76**). As more people are diagnosed, start antiretroviral treatment, and remain in care, PWH will continue to live longer and healthier lives while HIV/AIDS mortality will continue to decline in the state. Within the same population, men are disproportionately affected by HIV/AIDS more than women. Men make up 48% of SC's total population but comprise 79% of the total HIV/AIDS burden in the state.¹³⁶ Between 2012 and 2021, the rate of newly diagnosed HIV cases decreased in women by up to 10% from 2012 (6.38) to 2021 (5.72), with only a slight decrease reported in men during the same reporting period (**Figure 9.77**).

Blacks were disproportionately impacted more than other populations.¹³⁶ Blacks make up 27% of the population of SC yet contribute up to 65% of the total HIV burden in the state. MSM contributed up to 83% of newly diagnosed HIV cases in SC in 2021, the majority of whom were Black men.

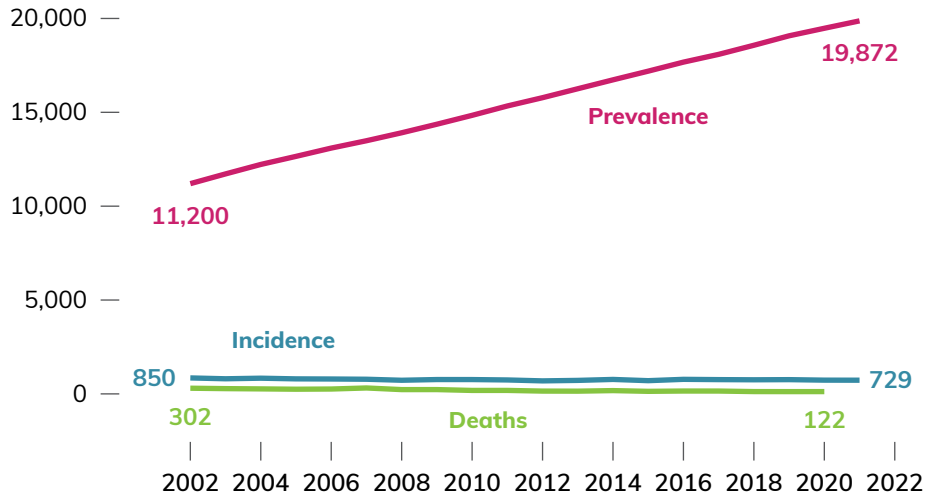
In SC from 2017-2021, adolescents and young adults experienced a disproportionate burden of HIV/AIDS when compared to other age groups in the state. Between 2020-2021, 68% of new cases diagnosed were under age 40, with the largest proportion in ages 20-29 (46%; **Figure 9.78**).

HIV/AIDS transmission is more prevalent among populations that experience disparities in social determinants of health, including poverty, health insurance, income inequality, education, and unemployment. These are predictors of whether a person would access HIV treatment or prevention services or not, and may lead to disproportionately high burden of HIV within a given community.

Eighty-seven percent of new HIV diagnoses in SC are linked to people who are not in care or those who do not know their HIV status. Ending the HIV epidemic will require building and strengthening partnerships, addressing stigma and disparities, expanding HIV testing, treatment, rapid linkage to care services, and ensuring people are retained in care to achieve viral suppression. PWH who achieve viral suppression and remain virally undetectable cannot transmit HIV to sexual partners. Of the 19,872 PWH in SC in 2021, 15,077 (76%) received any form of care, and 13,199 (67%) attained viral suppression.

FIGURE 9.76

HIV/AIDS Incidence, Prevalence, and Deaths Number

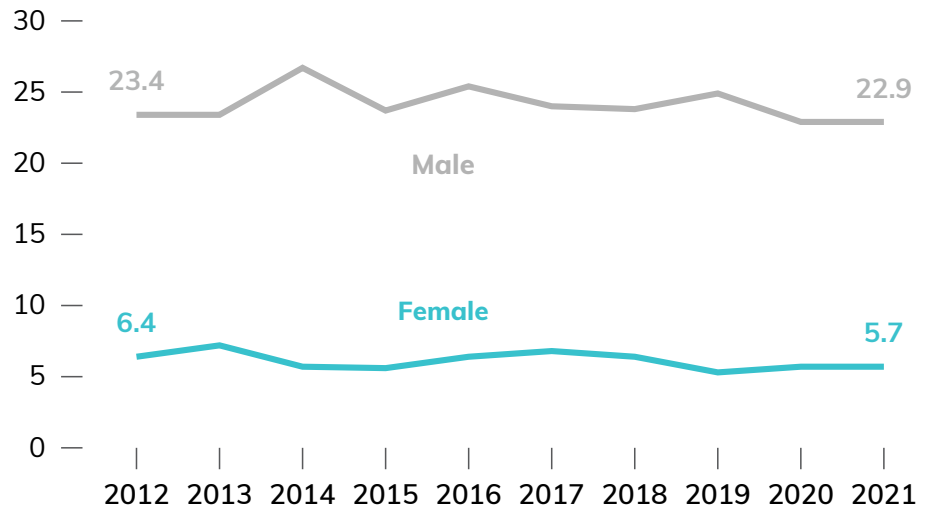


Sources: SC DHEC Vital Statistics, SC DHEC Enhanced HIV/AIDS Reporting Surveillance System.

Notes: Number of cases diagnosed in SC only; excludes out of state cases returning to SC.

FIGURE 9.77

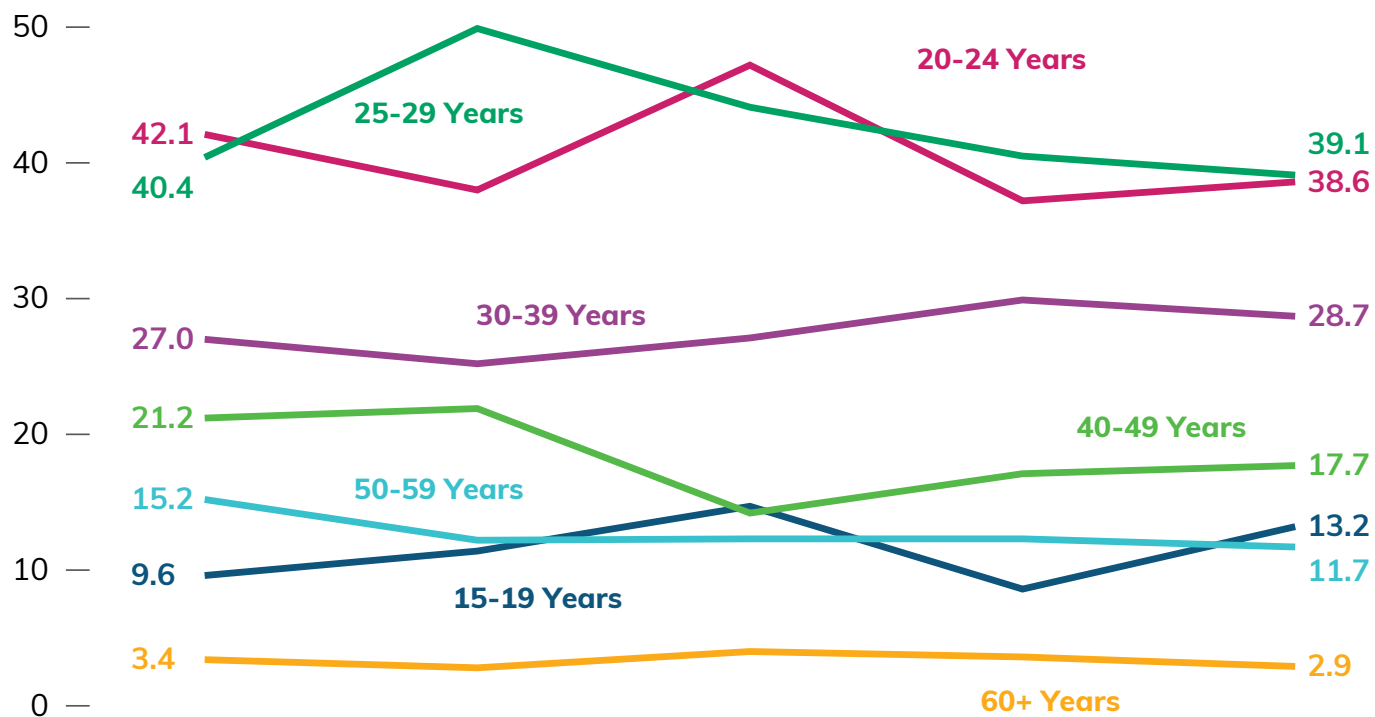
HIV/AIDS Cases, by Sex Rate per 100,000 population



Source: SC DHEC Enhanced HIV/AIDS Reporting Surveillance System.

FIGURE 9.78

HIV/AIDS Cases, by
Age Group
Rate per 100,000 population



Source: SC DHEC Enhanced HIV/AIDS Reporting Surveillance System.

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Healthy Aging



Chronic Conditions



Over 3 in 5 adults 65+ have been diagnosed with two or more **chronic conditions**.

South Carolina had the

7th Highest

stroke mortality rate in the nation.



Non-Hispanic White women are **26%** more likely to die from Alzheimer's than **non-Hispanic Black women**.

Stroke deaths

are almost twice as likely among **non-Hispanic Black men**, compared to **non-Hispanic White men**.

COPD is more deadly for older adults, with those 85+ dying **5.2 times** the rate of those 65-74.



10th

highest rate of **arthritis** in the nation, with more than **1 in 4 adults** being diagnosed.

Leading Causes of Death and Hospitalizations

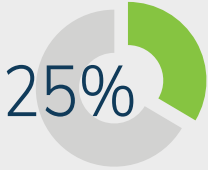


Over **1/2** of deaths among those 65+ were from **heart disease, cancer, and COVID-19**.

\$15 Billion

More than \$15 billion dollars in medical spending was charged due to hospitalizations among those over 65 in SC.

Injury



1/4 of **unintentional-injury deaths** were among adults 65+. Falls and motor vehicle crashes were leading causes.

81.5% of suicides in adults 65+ were due to firearms.

81.5%



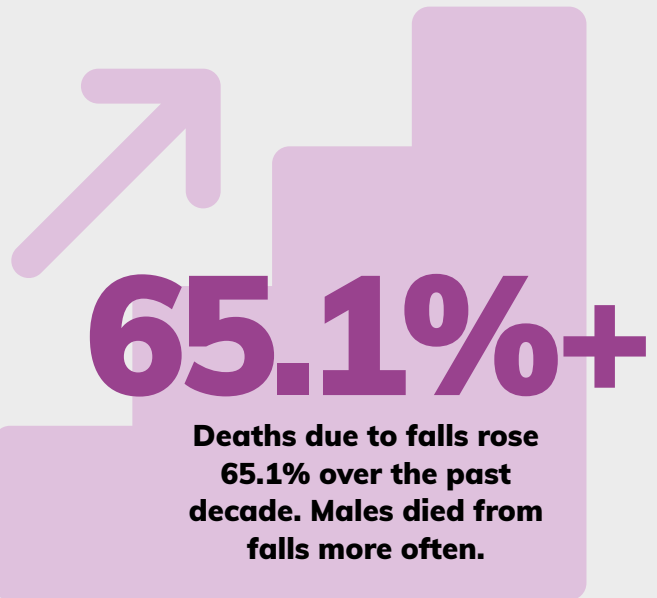
South Carolina sees higher rates of **motor vehicle crash deaths** when compared to the nation.



Elder Abuse



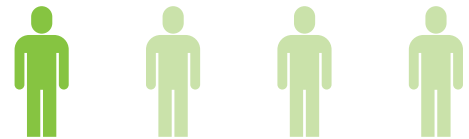
1 in 3 adult protective service investigations were due to actual **self-neglect**.



Deaths due to falls rose 65.1% over the past decade. Males died from falls more often.

Caregiver and Caregiver Health

1 in 4 adults report providing regular care to a family member or friend, with household tasks being the primary type of care.



Immunizations



Non-Hispanic Whites report getting **regular vaccines** more often than **non-Hispanic Black** individuals.

Leading Causes of Death and Hospitalizations

In 2019, 54.1 million United States (US) adults were 65 and older, representing 16% of the American population.¹ By 2060, it is estimated that there will be 94.7 million adults 65 and older, or nearly one quarter of the population.¹ On average, a 65-year-old American can expect to live another 19 years.² Aging increases the risk for a variety of chronic diseases, including dementias, heart disease, type 2 diabetes, arthritis, cancer, injuries such as falls, and infectious diseases such as pneumonia.^{1,3} The leading causes of death among older adults in the US are chronic diseases and roughly 80% of this population have at least one chronic condition.² People with multiple chronic diseases account for 2/3 of all health care costs and 93% of Medicare spending.² Falls are a leading injury in the older adult population, with an older adult

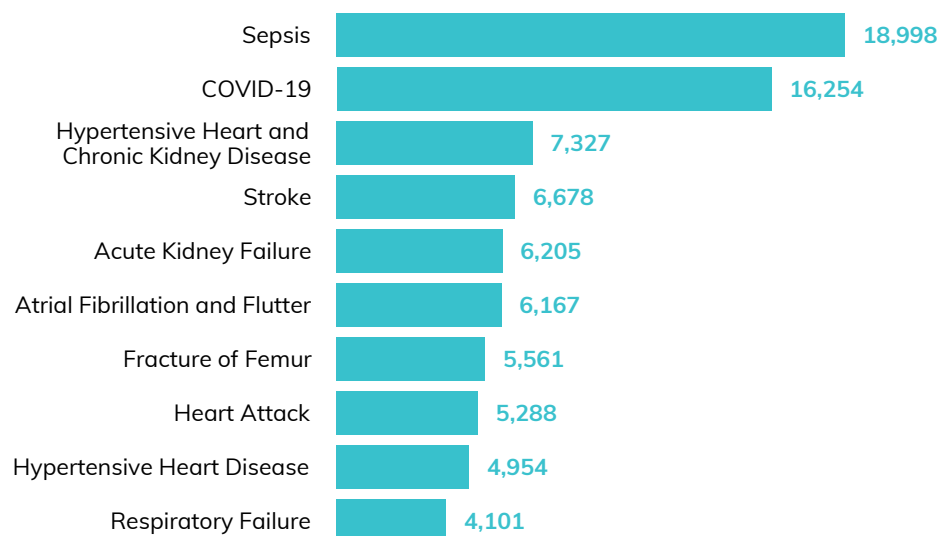
being treated for a fall in the emergency room every 11 seconds and one dying every 19 minutes.² Nationally, \$50 billion a year is spent treating older adults for the effects of falls.² Some protective factors that influence healthy aging include frequent physical activity, a healthy diet, going to the doctor regularly, and taking care of one's mental health.⁴ These actions will help manage chronic conditions, increase the ability to live independently, and maintain a good quality of life.⁴

Chronic diseases, such as heart disease, cancer and stroke, are common causes of hospitalization and death among individuals 65+.

Data Interpretations: In South Carolina (SC), during federal fiscal year 2021 there were over 200,000 hospitalizations for people aged 65 and older. The leading cause of hospitalization among South Carolinians 65 and older was sepsis, with nearly 19,000 visits (**Figure 10.1**). The second leading cause for hospitalization among people 65 and older was COVID-19, seeing 16,254 visits. The majority of the 10 leading causes of hospitalizations were chronic diseases and injuries. Over \$15 billion dollars in medical spending was charged due to hospitalizations from adults 65 and older with those spending on average 5.2 days in the hospital. In 2021, 45,470 South Carolinians aged 65 and older died with heart disease being the leading cause of death (**Table 10.1**). Regardless of age group, heart disease, cancer and COVID-19 were the three leading causes of death for people 65 and older (**Table 10.1**). Conditions primarily affecting older adults such as Alzheimer's Disease and Parkinson's Disease are also among the top causes of death for individuals 65 and older (**Table 10.1**).

FIGURE 10.1

Leading Causes of Hospitalizations Among Those 65+ Number



Source: SC RFA, 2021.

Note: Federal fiscal year.

TABLE 10.1

Leading Causes of Death, by Age Group

Ages 65 - 74

Cause of Death	Number
Cancer	3,256
Heart Disease	2,767
COVID-19	2,501
Chronic Lower Respiratory Disease	806
Stroke	697
Diabetes	506
Unintentional Injuries	454
Kidney Diseases	269
Chronic Liver Disease and Cirrhosis	267
Alzheimer's Disease	219
All Deaths	14,953

Ages 85+

Cause of Death	Number
Heart Disease	3,393
Cancer	1,499
COVID-19	1,398
Alzheimer's Disease	1,369
Stroke	969
Chronic Lower Respiratory Disease	579
Unintentional Injuries	418
Nutrition Deficiency	313
Diabetes	239
Parkinson's Disease	220
All Deaths	14,449

Ages 75-84

Cause of Death	Number
Heart Disease	2,999
Cancer	2,922
COVID-19	2,177
Chronic Lower Respiratory Disease	962
Stroke	903
Alzheimer's Disease	799
Diabetes	440
Unintentional Injuries	392
Parkinson's Disease	298
Kidney Diseases	268
All Deaths	16,068

Ages 65+

Cause of Death	Number
Heart Disease	9,159
Cancer	7,677
COVID-19	6,076
Stroke	2,569
Alzheimer's Disease	2,387
Chronic Lower Respiratory Disease	2,347
Unintentional Injuries	1,264
Diabetes	1,185
Kidney Diseases	697
Parkinson's Disease	666
All Deaths	45,470

Multiple Chronic Conditions

National estimates show that 6 in 10 adults live with a chronic disease and 1 in 3 have two or more.⁵ For older adults living with multiple chronic conditions (MCC) — having two or more chronic conditions simultaneously — can be challenging and costly. More than 90% of the nation's health care costs relate to chronic diseases and most of these costs are preventable.⁵ The prevalence of MCC is highest among older adults with over 80% of those ages 65 years and older experiencing MCC.⁶ The prevalence of MCC is also higher among women, as many women live longer than men.⁶

The prevalence of MCC will grow with our aging population. The projected prevalence of any cardiovascular disease in the US will increase by up to 45% by 2023.⁵ This will require a level of care coordination among clinicians and care settings, especially among the older population.

More than 3 out of 4 adults 65 and older living with a disability report being diagnosed with MCC.

Data Interpretations: In SC in 2021, 61% of adults ages 65 and older were diagnosed with two or more chronic conditions. Nearly 7 out of 10 non-Hispanic Black SC adults 65 and older were diagnosed with MCC, higher than their non-Hispanic White counterparts who saw 6 out of 10 being diagnosed with MCC (**Figure 10.2**). Non-Hispanic Black adults 65 and older saw a 16.2% higher percentage of being diagnosed with MCC when compared to their non-Hispanic White counterparts (**Figure 10.2**). More females had MCC (62.3%) than males (59.5%). More than 3 out of 4 adults 65 and older living with a disability report being diagnosed with MCC, 56.9% higher than those South Carolinians 65 and older living without a disability (**Figure 10.3**). Half of adults 65 and older in SC without a disability report being diagnosed with MCC.

FIGURE 10.2

Adults 65+ Diagnosed with Multiple Chronic Conditions, by Race/Ethnicity Percent

Source: SC BRFSS, 2021.

Notes: Adults 65+ diagnosed with two or more chronic conditions (asthma, coronary heart disease, diabetes, arthritis, COPD, depression, stroke, heart attack, hypertension).

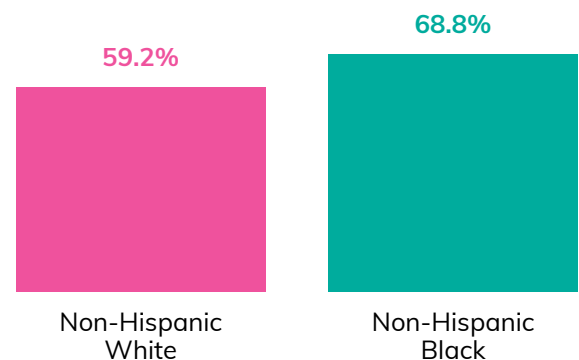


FIGURE 10.3

Adults 65+ Diagnosed with Multiple Chronic Conditions, by Disability Status Percent

Source: SC BRFSS, 2021.

Notes: Adults 65+ diagnosed with two or more chronic conditions (asthma, coronary heart disease, diabetes, arthritis, COPD, depression, stroke, heart attack, hypertension).



Stroke

A stroke occurs when something blocks the blood supply to part of the brain, or when a blood vessel in the brain bursts.⁷ Stroke was the fifth-leading cause of death in the US in 2021, and is a leading cause of serious, long-term disability. About 795,000 people in the US have a stroke each year.^{7,8} Stroke risk increases with age and reduces mobility in more than half of stroke survivors aged 65 and older.⁸

According to the most recent national data available (2021), SC had the seventh highest stroke death rate in the nation and is part of the “Stroke Belt,” a group

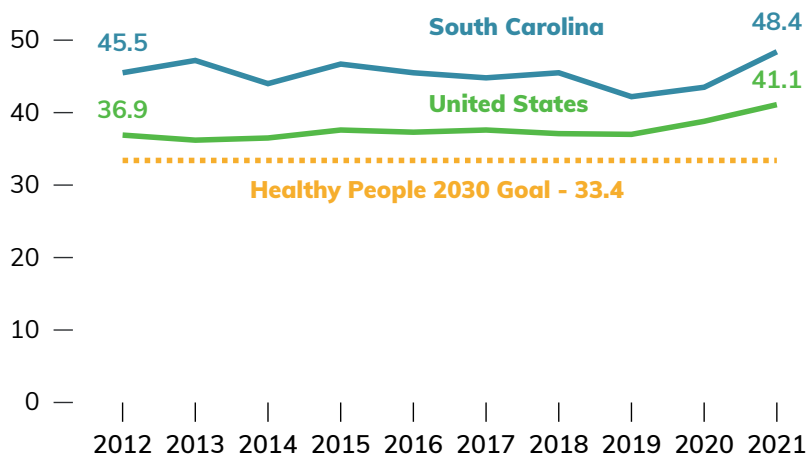
of Southeastern states with high stroke death rates. Stroke was the fourth-leading cause of death in SC among residents aged 65 years and older, resulting in 2,569 deaths in 2021 (see **Table 10.1**).

Adults aged 65 and more than comprised over 83% of all stroke deaths in 2021.

Data Interpretations: Stroke deaths in SC have increased from 45.5 deaths per 100,000 population in 2012 to 48.4 deaths per 100,000 population in 2021 (**Figure 10.4**). SC sees a 17.8% higher rate of stroke deaths when compared to the US in 2021 and did not meet the Healthy People 2030 goal of 33.4 deaths per 100,000 population. Regardless of sex, non-Hispanic Blacks see the highest rate of stroke deaths in SC when compared to their non-Hispanic White and Hispanic counterparts (**Figure 10.5**). Non-Hispanic Black males see the highest rate of stroke deaths in the state, with a rate of 82.7 stroke deaths per 100,000. Non-Hispanic Black males had a stroke death rate 1.9 times higher than non-Hispanic White males and 3.4 times higher than Hispanic males. Counties located along the I-95 corridor have the highest stroke death rates in the state (**Figure 10.6**). Darlington County sees the highest rate of stroke death with a rate of 98.8 stroke deaths per 100,000. This is more than three times higher than the rate seen in Kershaw County (30.0 stroke deaths per 100,000). In SC, adults ages 65 and over comprised over 83% of all stroke deaths in 2021. Those residents ages 85 and older saw the highest rate of dying from a stroke.

FIGURE 10.4

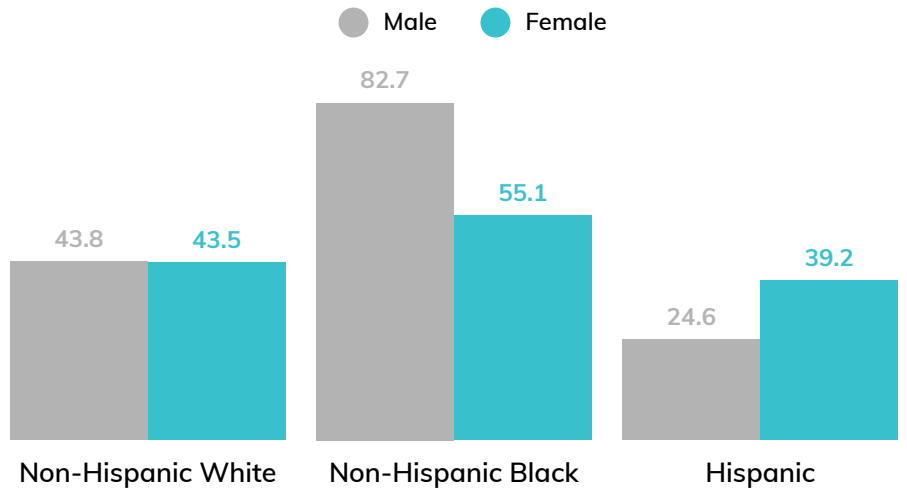
Stroke Deaths
Rate per 100,000 population



Data Source: SC DHEC Vital Statistics.
Notes: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 10.5

**Stroke Deaths, by Race/
Ethnicity and Sex**
Rate per 100,000 population

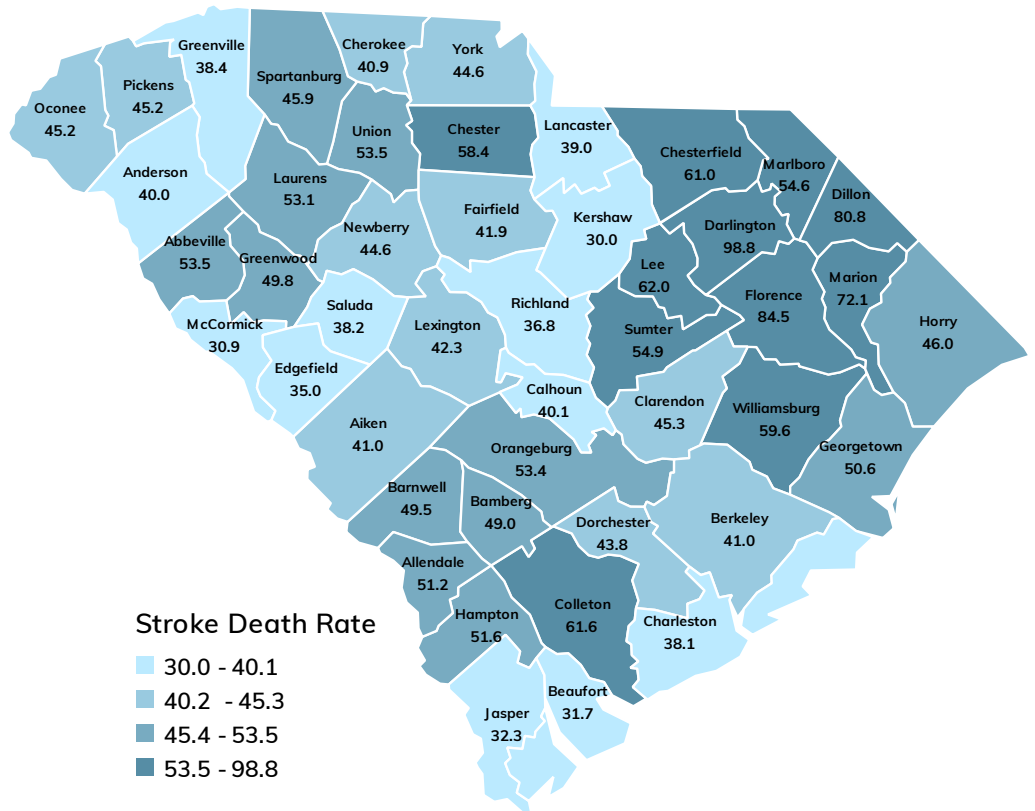


Source: SC DHEC Vital Statistics, 2021.

Notes: Age-adjusted, population for year 2021 based on single-race estimates.

FIGURE 10.6

**Stroke Deaths, by
County**
Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2019-2021.

Notes: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Chronic Lower Respiratory Diseases

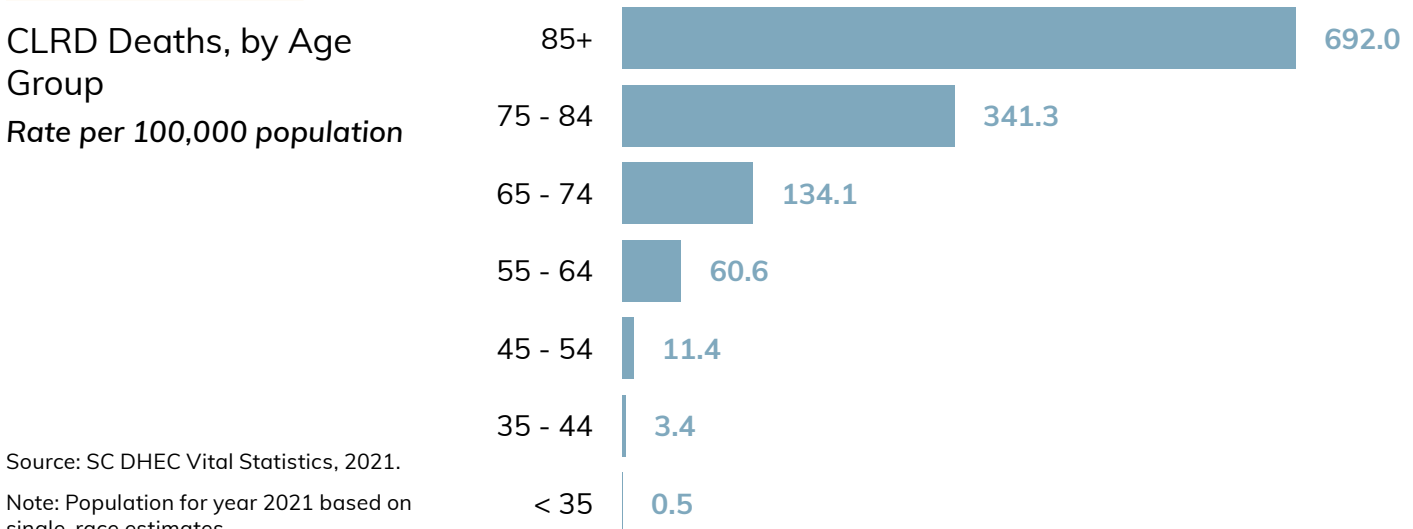
Chronic lower respiratory disease (CLRD) refers to a group of lung diseases that make it hard to breathe and can worsen over time.⁹ CLRD includes many conditions, including emphysema and chronic bronchitis.⁹ Smoking tobacco is a key cause of CLRD as well as long-term exposure to air pollutants.¹⁰ Adults who have been diagnosed with CLRD are more likely to have activity limitations, be unable to work, need the use of oxygen tanks, not engage in social activities, have increased confusion or memory loss, have more emergency room visits, and report worse health than when compared to those without CLRD.¹⁰ Additionally, people with CLRD are at increased risk for developing heart disease, lung disease, and other chronic conditions.¹¹ CLRD has a large economic

impact, with total costs reaching upwards of \$50 billion each year, including nearly \$30 billion for direct health costs.¹² Although there is no cure for CLRD, early diagnosis and treatment plans, including smoking cessation support, are necessary to slow the progression of associated symptoms and reduce harmful flare-ups.¹³

Racial disparities are present in the rates of CLRD deaths, with non-Hispanic Whites seeing the highest rates of death.

Data Interpretations: In 2021, 2,875 South Carolinians died from CLRD. From 2012-2021 there has been an 8.6% decrease in the rate of people dying from CLRD. The rate of dying from CLRD increases with age, with those aged 85 and older seeing the highest rates of death (**Figure 10.7**). Adults aged 85 and older see a rate of death due to CLRD of 692 deaths per 100,000, 5.2 times higher than the rate seen in those aged 65 - 74 and 1,384 times the rate seen in those aged less than 35 years. Non-Hispanic Whites see the highest rates of CLRD, regardless of sex (**Figure 10.8**). Non-Hispanic White and non-Hispanic Black males see higher rates of dying from CLRD whereas Hispanic females see higher rates when compared to Hispanic males. In SC there is a range in CLRD deaths from a low of 19.9 deaths per 100,000 population in Beaufort County to a high of 85.2 deaths per 100,000 population in Chester County. Higher rates of CLRD deaths are seen in rural counties when compared to urban counties.

FIGURE 10.7

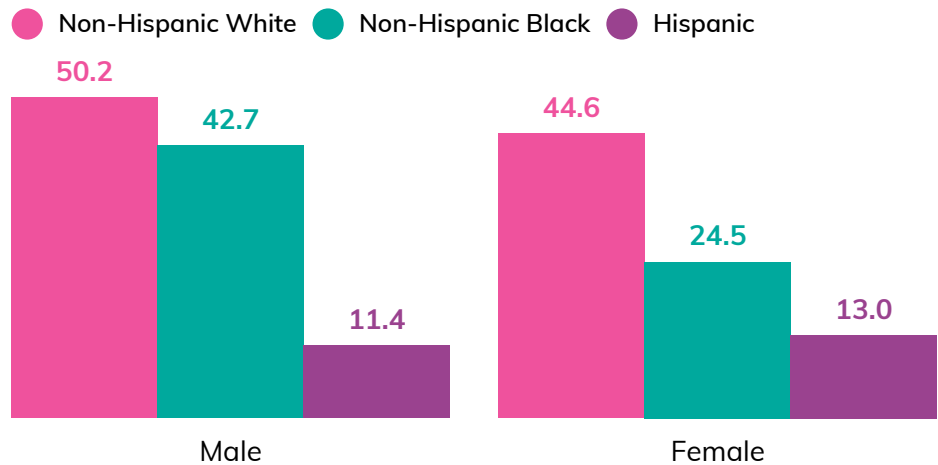


Source: SC DHEC Vital Statistics, 2021.
 Note: Population for year 2021 based on single-race estimates.

FIGURE 10.8

CLRD Deaths, by Race/ Ethnicity and Sex

Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2021.

Notes: Age-adjusted, population for year 2021 based on single-race estimates.

Alzheimer's Disease

In 2021, SC ranked ninth in the nation for the age-adjusted rate of deaths due to Alzheimer's disease.¹⁴ It was estimated that 95,000 adults aged 65 and older were living with Alzheimer's Disease and other dementias in 2020, which is expected to increase to 120,000 by 2025.¹⁵ Older non-Hispanic Blacks and Hispanic adults are disproportionately more likely than older Whites to have Alzheimer's or other dementias.¹⁶ Almost two-thirds of Americans with Alzheimer's are women.¹⁶ Women live longer than men on average, and older age is the greatest risk factor for Alzheimer's.¹⁶ This survival difference contributes to a higher prevalence of Alzheimer's and other

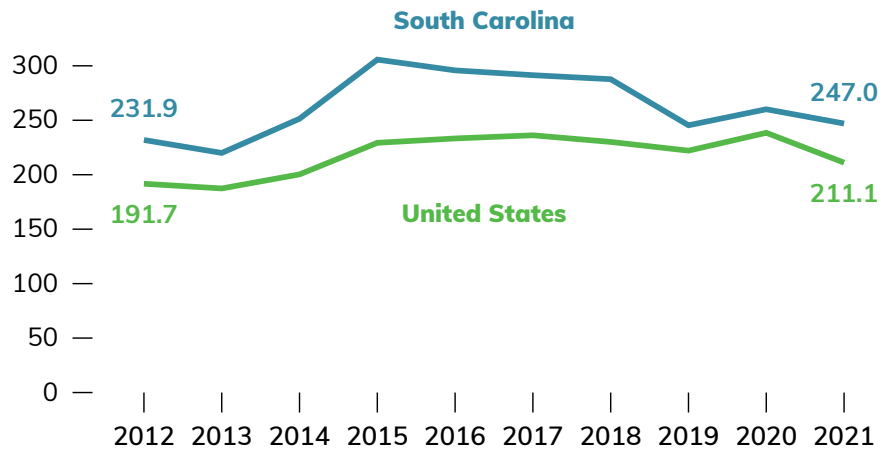
dementias in women compared to men.¹⁶ While age, genetics, and family history cannot be changed, other risk factors can be changed or modified to reduce the risk of cognitive decline and dementia.¹⁶ Examples of modifiable risk factors are physical activity, smoking, education, staying socially and mentally active, blood pressure, and diet.¹⁶

Women aged 65 and older die from Alzheimer's disease at twice the rate of their male counterparts.

Data Interpretations: Over the past 10 years, there has been an increase in deaths due to Alzheimer's Disease in adults 65 and older (Figure 10.9). SC has consistently trended at a higher rate than the US over the past 10 years with a rate of 247.0 deaths per 100,000 population versus the national rate of 211.1 deaths per 100,000 population in 2021 (Figure 10.9). From 2019 to 2021, women aged 65 and older have died at a higher rate than their male counterparts with non-Hispanic White women having the highest death rate of 342.6 deaths per 100,000 population (Figure 10.10). Historically, minorities are less likely to receive an accurate Alzheimer's diagnosis, thus potentially leading to an inaccurate record of causes of death for these populations.¹⁶ When surveyed in 2019, only 45.7% of South Carolinians 45 and older who experienced subjective cognitive decline discussed their symptoms with their health care provider (Figure 10.11). This is only 4.7% less than the Healthy People 2023 goal of 50.4%.

FIGURE 10.9

**Alzheimer’s Disease Deaths Among Adults Aged 65+
Rate per 100,000 population**

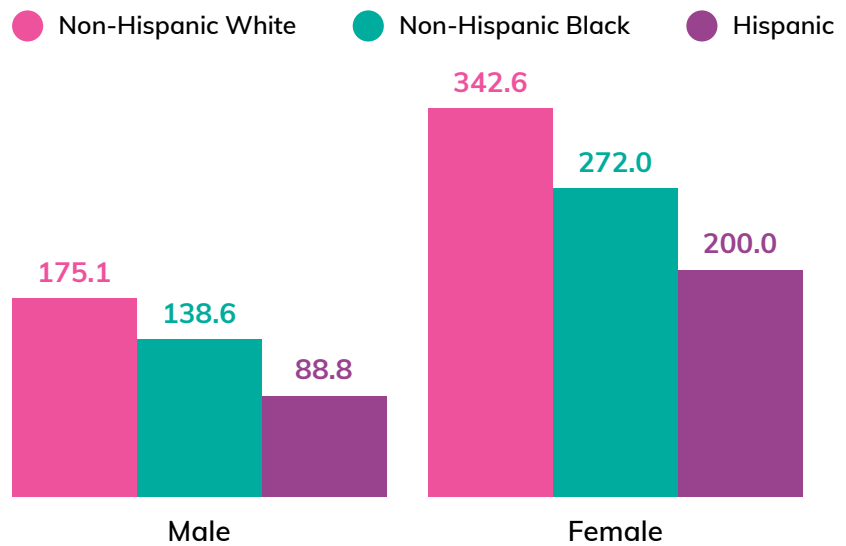


Source: SC DHEC Vital Statistics, CDC NCHS.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 10.10

**Alzheimer’s Disease Deaths Among Adults Aged 65+,
by Sex and Race/Ethnicity
Rate per 100,000 population**

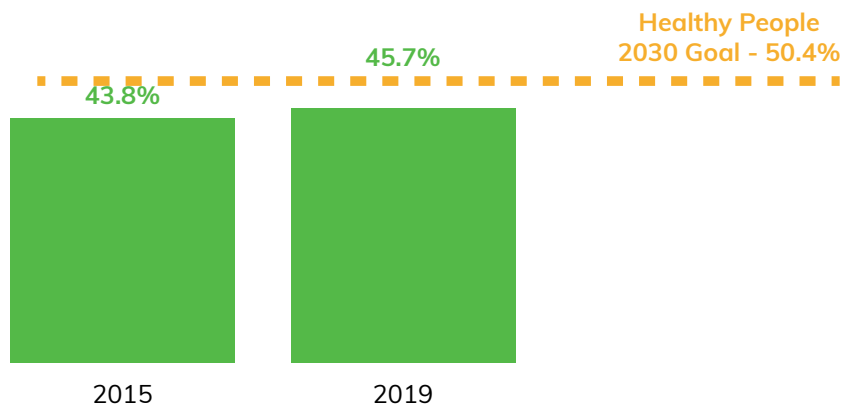


Source: SC DHEC Vital Statistics, 2019-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 10.11

**Adults With Subjective Cognitive Decline Who
Have Discussed Their
Symptoms With a Provider
Percent**



Source: SC BRFSS.

Note: Adults aged 45+.

Arthritis

Arthritis is the pain and swelling in the joints, the location where two bones meet such as an elbow or knee.¹⁷ This common condition impacts millions each year, with 1 in 4 adults in the US being diagnosed with arthritis and 50% of adults 65 and older being diagnosed.¹⁸ Osteoarthritis is the most common form of arthritis among older adults and one that can cause severe physical disability.¹⁹ The swelling and severe pain that arthritis can cause can limit the daily activities that one participates in, potentially impacting one's mental health.¹⁸ Aging as well as being overweight or obese, smoking, infections, and joint overuse can increase the risk of being diagnosed with arthritis.¹⁸ Although there is no cure for arthritis,

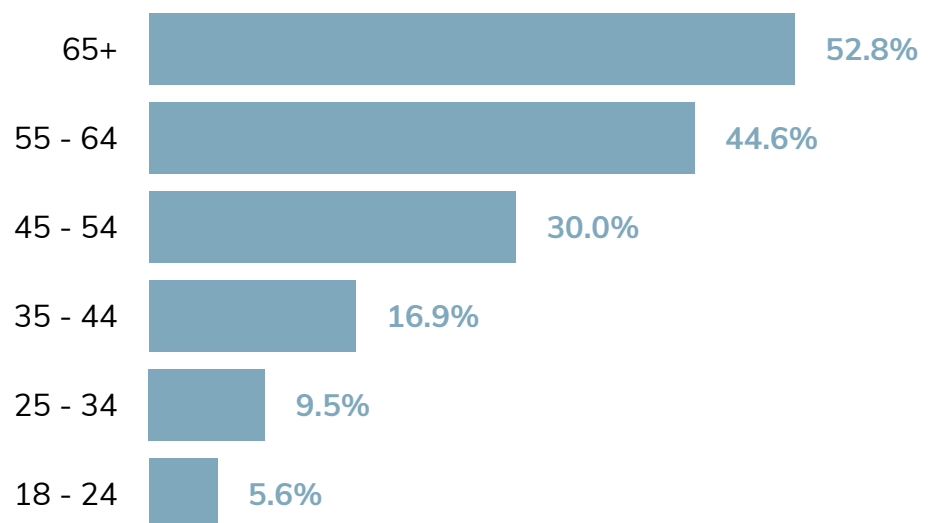
joint-friendly physical activity and self-management plans are two ways to reduce pain, improve one's mood, reduce stress, and improve range of motion and function.¹⁸ Decreasing arthritis rates will have a big economic impact as over \$300 billion in arthritis-attributable medical care costs and earnings losses were seen in 2013.²⁰

More than half of adults 65 and older in SC reported being diagnosed with arthritis.

Data Interpretations: According to the Behavioral Risk Factors Surveillance Survey (BRFSS), in 2021, it was estimated that 26.1% of the SC adult population had been diagnosed with some form of arthritis, the 10th-highest percent in the nation. The percentage of adults diagnosed with arthritis increases as one ages, with those 65 and older seeing the highest percentage (52.8%) (**Figure 10.12**). Adults 65 and older have a 9.4 times higher rate of being diagnosed with arthritis when compared to those aged 18 - 24. Despite the percentage of adults being diagnosed with arthritis being relatively stable over the past 10 years, there has been a 21.0% decrease in the percentage of adults saying arthritis has limited activities in any way (**Figure 10.13**). In 2021, 2 in 5 adults with arthritis had activities limited in any way (**Figure 10.13**). Females with arthritis report having activities limited 36.7% more than their male counterparts (**Figure 10.14**).

FIGURE 10.12

Adults Who Have Been Told They Have Arthritis, by Age Group
Percent

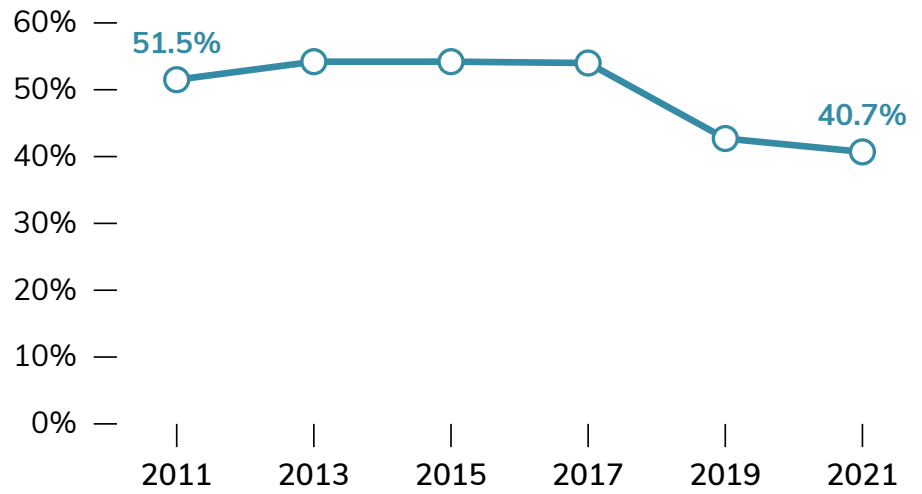


Source: SC BRFSS, 2021.

Notes: Adults 18+.

FIGURE 10.13

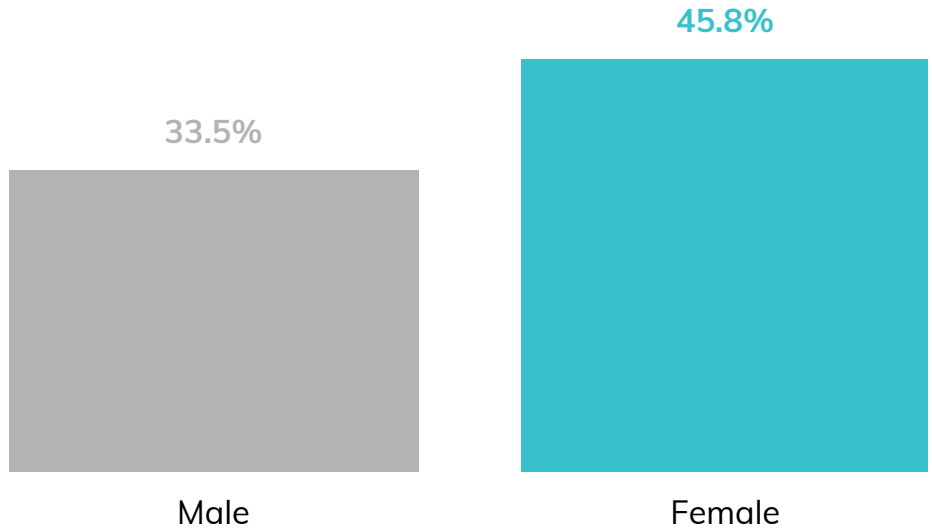
Any Activities Limited in Any Way due to Arthritis
Percent



Source: SC BRFSS.
Notes: Adults 18+.

FIGURE 10.14

Any Activities Limited in Any Way due to Arthritis,
by Sex
Percent



Source: SC BRFSS, 2021.
Notes: Adults 18+.

Unintentional Injury

Over 10,000 people in the US turn 65 every day.²¹ With this increase in the population of older adults, injuries to these people and associated health care costs will also increase. Unintentional injuries have traditionally been the 7th-leading cause of death among adults aged 65 and over.²¹ Falls and motor vehicle crashes (MVCs) result in most of the traumatic brain injury (TBI) related hospitalizations and deaths among older adults.²¹ Nonfatal injuries in this age group can lead to long-term health consequences, such as brain injury and loss of independence.²¹

In 2021, there were over 1,200 deaths in adults aged 65 and older due to unintentional injuries in SC.¹⁴

Nationally, approximately 70,000 older adults over the age of 65 die from unintentional injuries each year.²² In 2020, an estimated 4.2 million emergency department (ED) visits among adults aged 65 and over were associated with unintentional injuries such as falls, MVC, and overdoses.²²

Unintentional injuries are a leading cause of death among adults 65 and older, with 1,264 deaths in 2021.

Data Interpretations: In 2021, there were a total of 4,653 deaths in SC due to unintentional injuries, with 27.2% of those deaths being among people 65 and older. There were 88,498 nonfatal unintentional injury ED visits in 2021 among South Carolinians 65 and older.²³ From 2017 to 2021, MVCs were the leading cause of unintentional injury deaths among those aged 65 - 74, while falls were the leading cause of unintentional injury deaths for those 75 and older (**Table 10.2**). From 2012 to 2021, there was an 88.9% increase in the number of unintentional injury deaths in SC adults 65 and older. When compared to the US, SC had a lower rate of unintentional injury deaths among those aged 65 and older in 2012 (103.6 deaths per 100,000 population and 96.2 deaths per 100,000 population respectively) but surpassed the national rate in 2021, with a rate of 130.8 deaths per 100,000 population (US 2021 rate 114.5 deaths per 100,000 population) (**Figure 10.15**).

TABLE 10.2

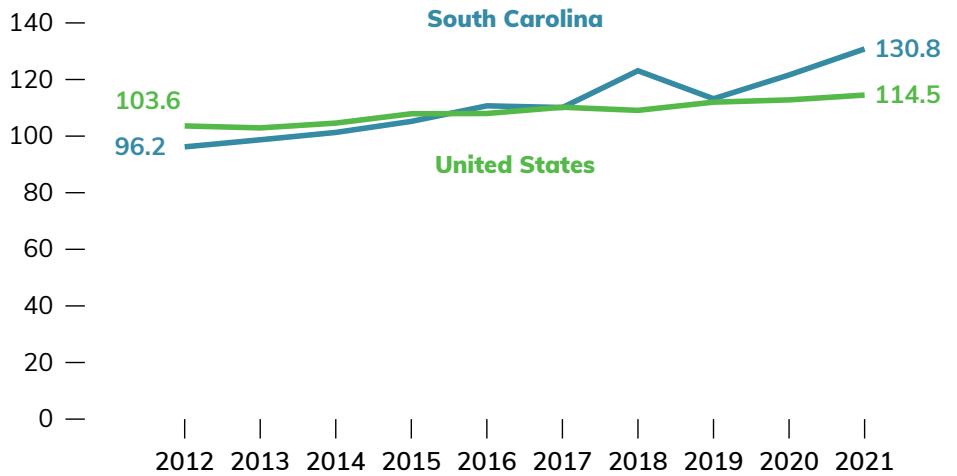
Top Two Leading Causes of Unintentional Injury Deaths, Ages 65+

Age Group	Top 2 Leading Cause of Injury Death	Number of Total Deaths due to Injury
65 - 74 Years	1. Motor vehicle crashes	513
	2. Falls	488
75 - 84 Years	1. Falls	870
	2. Motor vehicle crashes	288
85+ Years	1. Falls	1,274
	2. Unspecified Injury	315

Source: SC DHEC Vital Statistics, 2017-2021.

FIGURE 10.15

Unintentional Injury Deaths, Ages 65+
Rate per 100,000 population



Source: SC DHEC Vital Statistics; CDC NCHS.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Falls

Falls are a threat to the health of older adults and reduce their ability to remain independent. Even though all people age, falls are not inevitable and can be reduced and prevented. Falls among adults over the age of 65 caused over 36,000 deaths in 2020 in the US, making it the leading cause of injury death for that age group.²⁴ One out of five falls causes a serious injury such as broken bones and head injuries.²⁵ These injuries can make it hard for a person to do everyday activities or live on their own.

Nationally, there were three million fall-related ED visits for older adults in 2020.²⁴ Older adult falls lead to \$50 billion in medical costs annually, with three-

fourths being paid by Medicare and Medicaid.²⁴ Most falls are caused by a combination of risk factors such as lower body weakness, vitamin D deficiency, walking and balance difficulties, certain medications, vision problems, and home hazards.²⁵ Falling once doubles a person's chances of falling again.²⁵



In 2021, 49% of unintentional injury deaths in adults 65 and older were due to falls.

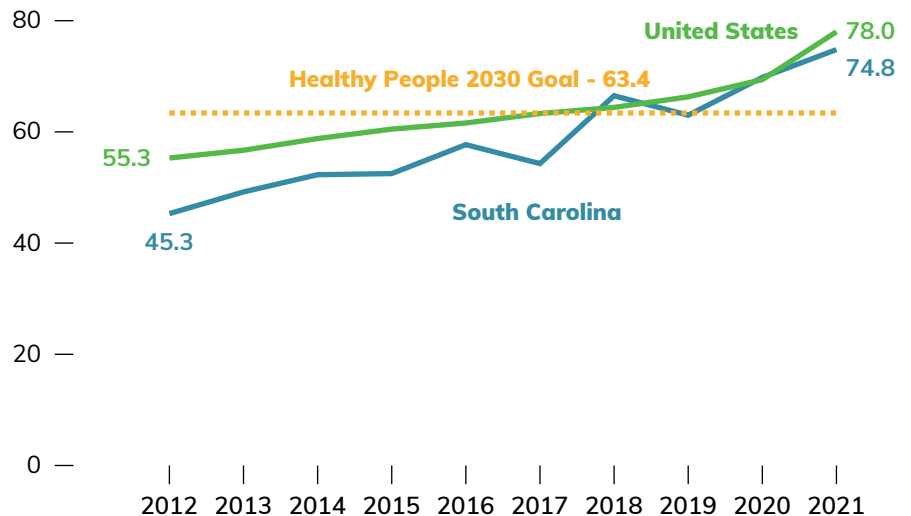


Data Interpretations: Deaths from unintentional falls among adults 65 and older in SC have steadily been on the rise. The falls death rate for adults 65 and older in SC increased from 45.3 deaths per 100,000 population in 2012 to 74.8 deaths per 100,000 population in 2021 (**Figure 10.16**). SC is almost equivalent to the US's falls death rate of 78.0 deaths per 100,000 adults 65 and older. As of 2021, SC did not achieve the Healthy People 2030 goal of 63.4 fall deaths per 100,000 adults 65 and older. Among adults ages 65 and older in SC, those 85 and older have the highest number and rate of deaths due to falls. In 2021, SC males ages 65 and older had a higher rate of death due to falls (69.6 deaths per 100,000 adults 65+) compared to females (58.6 deaths per 100,000 adults 65 and older). Non-Hispanic Whites over the age of 65 died the most from falls in 2021 with a rate of 76.8 deaths per 100,000 adults 65+, compared to 22.3 and 33.1 deaths per 100,000 adults 65 and older for non-Hispanic Blacks and Hispanics respectively.

Although men have a higher rate of death due to falls, women have a higher rate of nonfatal ED visits due to falls. From 2019-2021, SC females ages 65 and older experienced higher rates of ED visits due to nonfatal fall injuries compared to males (**Figure 10.17**). Females 85 and older had the highest rate of nonfatal fall injury ED visits (18,259.2 visits per 100,000 population), which was 36% higher than the rate in males 85 and older (13,396 visits per 100,000 population). Females 85 and older were 2 times more likely to experience an ED visit related to a fall compared to females ages 75 - 84 and were 4.5 times more likely than females ages 65 - 74.

FIGURE 10.16

Death from Falls, Ages 65+
Rate per 100,000 population

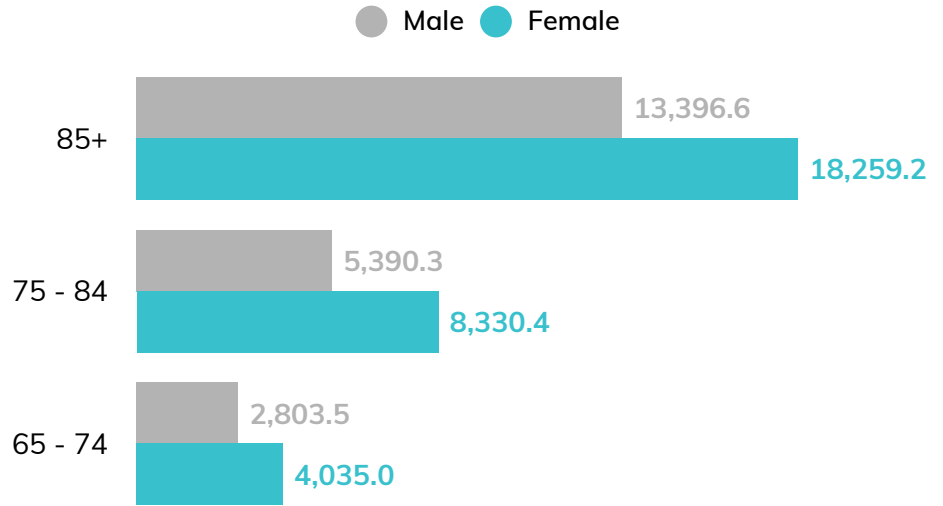


Source: SC DHEC Vital Statistics; CDC NCHS.

Note: Age-adjusted, ages 65 and older; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 10.17

Nonfatal Fall Injury Emergency Department Visits, Ages 65+, by Age Group and Sex
Rate per 100,000 population



Source: SC RFA, 2019-2021.

Note: Includes cases subsequently admitted as an inpatient to the same hospital from the ED, initial encounter for injury only; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Traumatic Brain Injury

A TBI is an injury that affects how the brain works that may be caused by a bump, blow, or jolt to the head, or a penetrating head injury.²⁶ The severity of a TBI may range from mild to moderate to severe.²⁶ There were over 69,000 TBI-related deaths in the US in 2021.²⁶

TBI is a special health concern for older adults. They have the highest rate of TBI-related hospitalizations and deaths, and they can take longer to recover from the injury.²⁶ TBIs are more likely to be missed or misdiagnosed in older adults because symptoms of TBI

overlap with other medical conditions that are common among older adults, such as dementia.²⁶ Older adults are also at a higher risk of TBI due to the increased risk of falls, which are the most common cause of TBIs.²⁵

The majority of traumatic brain injuries in older adults are caused by falls.

Data Interpretations: Rates of TBI deaths in SC older adults have increased over the past few years. In 2017, the rate of TBI death in SC adults 65 and older was 48.5 deaths per 100,000 adults 65 and older, and in 2021 the rate was 55.7 deaths per 100,000 adults 65 and older. Rates of TBI deaths increase with age. Between 2017-2021, SC adults 85 and older had a TBI death rate of 149.3 deaths per 100,000 population (**Figure 10.18**). This is almost 2.5 times higher than the rate of TBI deaths among ages 75 - 84 (60.9 deaths per 100,000 population) and over 5 times higher than those aged 65 - 74 (29.2 deaths per 100,000 population). The rate of TBI deaths for all ages (28.7 deaths per 100,000 population) is similar to the rate for ages 65 - 74. As of 2021, SC did not reach the Healthy People 2030 goal of 16.9 deaths per 100,000. In 2021, there were 2,021 nonfatal outpatient ED visits related to TBIs among adults 65 and older in SC. This resulted in an average billing charge of \$14,470, for a total of \$29 million.

Falls cause the most TBIs in SC older adults. From 2019-2021, 78.2% of nonfatal TBI ED visits in adults 65 and older were caused by falls (**Figure 10.19**). Other causes of TBI ED visits during this time period include MVC (9.3%) and being struck by or against something (4.4%). Due to the high percentage of TBIs related to falls, fall prevention efforts are important for the prevention of TBIs in older adults.

FIGURE 10.18

Traumatic Brain Injury Deaths in Adults 65+, by Age Group Rate per 100,000 population

Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

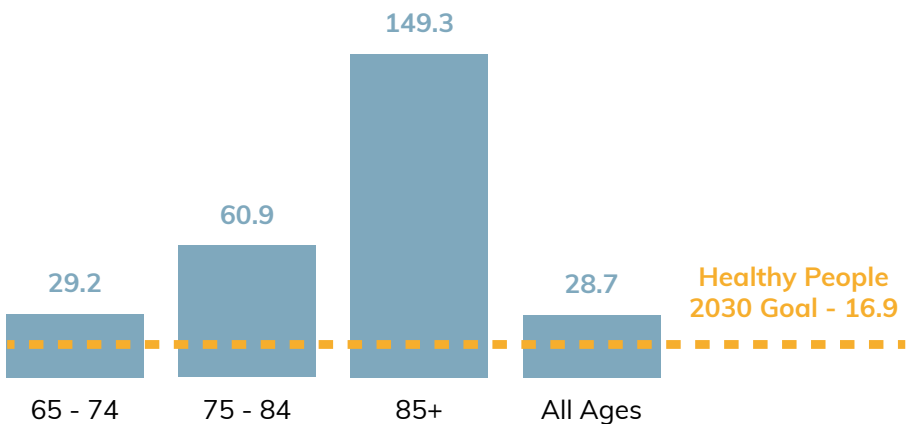
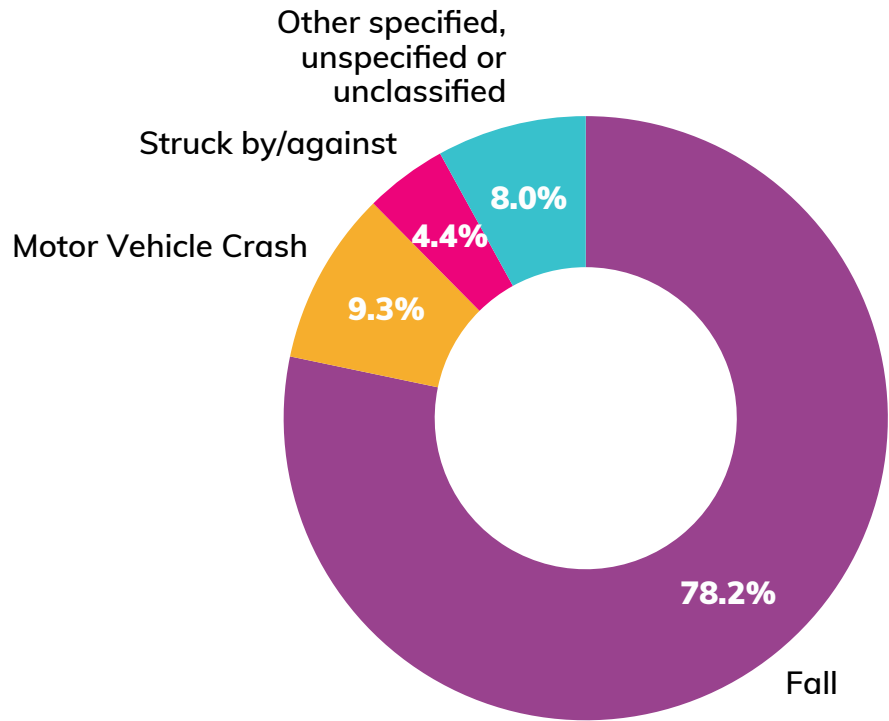


FIGURE 10.19

Causes of Nonfatal Traumatic Brain Injuries Seen in the Emergency Department Among Adults Aged 65+
Percent



Source: SC RFA, 2019-2021.

Note: Includes cases subsequently admitted as an inpatient to the same hospital from the ED, initial encounter for injury only.

Motor Vehicle Crashes

Driving helps older adults stay independent and mobile as they age, but their risk of being involved in a motor vehicle crash (MVC) is higher.²¹ In 2020, there were almost 48 million licensed drivers ages 65 and older in the US, which is a 68% increase since 2000.²⁷ There were 7,480 adults 65 and older who were killed from MVCs and 195,855 who were treated in EDs for MVC-related injuries in 2020.^{14,22}

There are certain medical problems that increase the risk of a MVC, including heart disease, dementia, sleep disorders, and hearing and vision loss.²¹ Drivers over the age of 70 have higher MVC death rates than

middle-aged drivers.²⁷ Like other age groups, older adult males have substantially higher crash death rates than females.²⁷

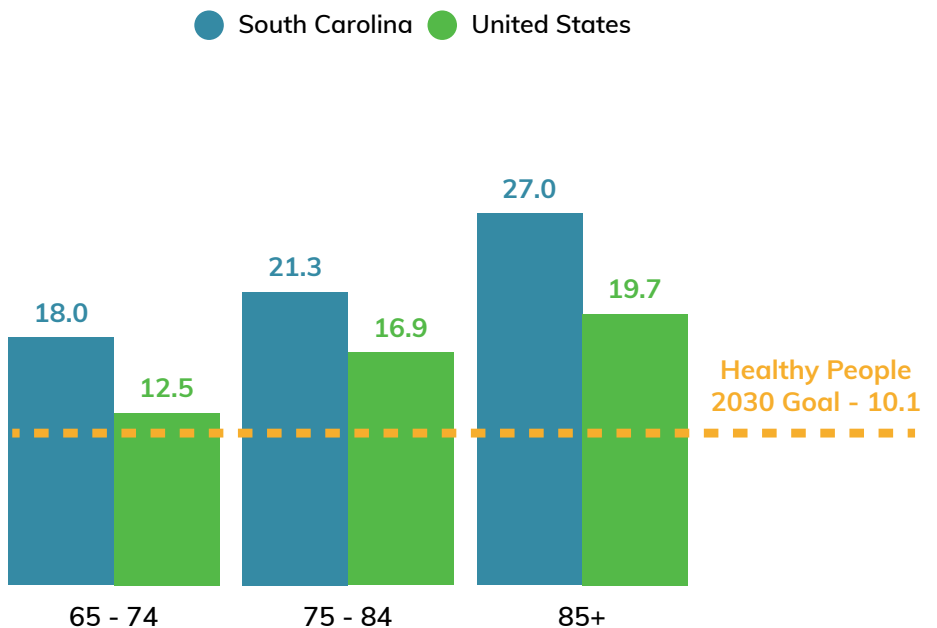
MVCs were the leading cause of unintentional injury deaths among adults 65-74 and the second leading cause among adults 75-84 from 2017-2021.

Data Interpretations: MVCs were the leading cause of unintentional injury deaths among adults 65-74 and the second-leading cause among adults 75-84 from 2017-2021. Deaths from MVCs in SC older adults have increased slightly from 2012 with a rate of 16.7 deaths per 100,000 population to 19.8 deaths per 100,000 population in 2021. SC adults 65 and older had higher MVC death rates than the US death rates for these age groups. MVC deaths increase with each age group over the age of 65. When comparing age groups over 65, SC adults ages 85 and older had the highest rate of deaths due to MVCs (27.0 deaths per 100,000 population) (**Figure 10.20**). This rate was 27% higher than those aged 75-84 and 50% higher than those aged 65-74.

While MVC deaths increase with age, nonfatal ED visits decrease with age. From 2019-2021, rates of unintentional MVC nonfatal ED visits in SC were higher in adults ages 65-74 compared to both the 75-84 and 85 and older age groups (**Figure 10.21**). When comparing males and females, the rate of nonfatal unintentional MVC ED visits among males 85 and older was almost 57% higher than the rate in females of the same age group. However, the rate of nonfatal unintentional MVC ED visits among males and females were similar in the 65-74 and 75-84 age groups.

FIGURE 10.20

Motor Vehicle Crash
Deaths, by Age Group
Rate per 100,000 population

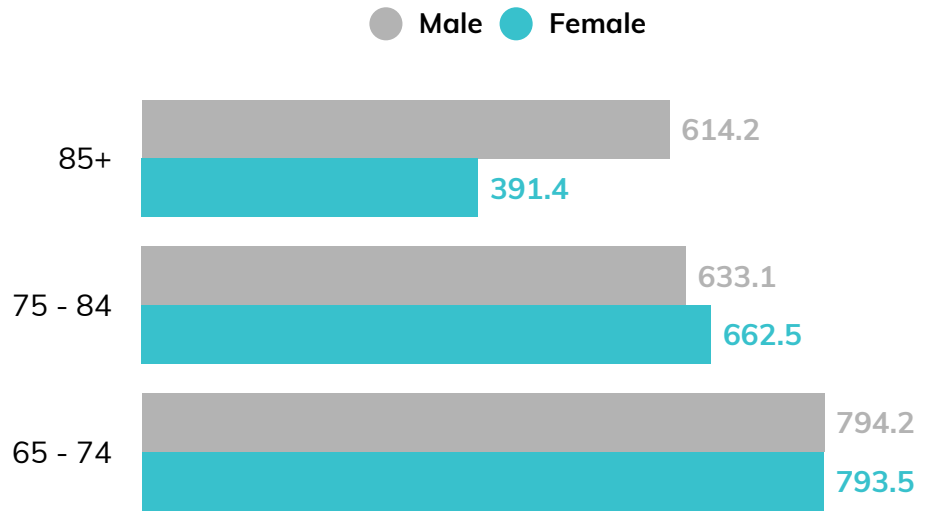


Source: SC DHEC Vital Statistics, 2017-2021; CDC NCHS, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 10.21

**Nonfatal Motor Vehicle
Crash Injury Emergency
Department Visits, Ages
65+, by Age Group and Sex
Rate per 100,000 population**



Source: SC RFA, 2019-2021.

Note: Includes cases subsequently admitted as an inpatient to the same hospital from the ED, initial encounter for injury only; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Homicide

Homicide can happen to anyone, even as an older adult. There were 1,303 homicides among people over the age of 65 in the US in 2021.¹⁴ Homicide among older adults contributes to a significant number of lives lost and lower quality of life among members of this age group due to a heightened sense of vulnerability and fear.²⁸ Common situations of older adult homicides include familial/intimate partner problems, robbery/burglary, arguments, and illness related.²⁹

From 2002-2016 in the US, more than 643,000 older adults were treated in the ED for nonfatal assaults and over 19,000 homicides occurred.²⁹ Recent trends

indicate that the rates of older adult homicides are increasing, particularly for males.²⁹ Older adult men and non-Hispanic Blacks have a higher rate of both nonfatal assaults and homicides compared to their respective counterparts.¹⁴

Homicide rates in non-Hispanic Black adults 65 and older in SC are nearly double that of their White counterparts.

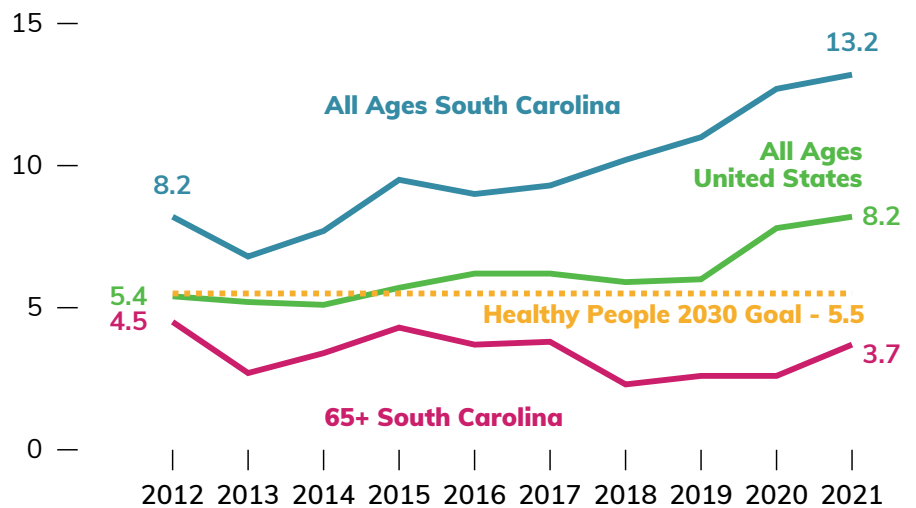
Data Interpretations: Homicide in older adults in SC has fluctuated over the years but has stayed relatively the same since 2012. In 2012, SC adults 65 and older had a homicide rate of 4.5 deaths per 100,000 population, and in 2021 the homicide rate was 3.7 deaths per 100,000 population (**Figure 10.22**). The homicide rate among SC older adults (3.7 deaths per 100,000 population) falls well below the homicide rate among all ages in SC (13.2 deaths per 100,000 population) and the US (8.2 deaths per 100,000 population). The current 2021 homicide rate in SC adults 65 and older is under the Healthy People 2030 goal of 5.5 deaths per 100,000 population for all ages (**Figure 10.22**).

Among SC adults 65-74, the homicide rate in non-Hispanic Blacks (5.7 deaths per 100,000 population) is 2.5 times higher than the rate among non-Hispanic Whites (2.3 deaths per 100,000 population) (**Figure 10.23**). Among SC adults 75-84, the homicide rate in non-Hispanic Blacks (4.0 deaths per 100,000 population) is 1.6 times higher than the rate in non-Hispanic Whites (2.5 deaths per 100,000 population) (**Figure 10.23**). Finally, among SC adults 85 and older, the homicide rate in non-Hispanic Blacks (5.9 deaths per 100,000 population) is 3.5 times higher than the rate in non-Hispanic Whites (1.7 deaths per 100,000 population) (**Figure 10.23**). Although homicide rates are not as high in the older population, there is still a disparity seen between non-Hispanic Blacks and non-Hispanic Whites.

FIGURE 10.22

Homicide

Rate per 100,000 population

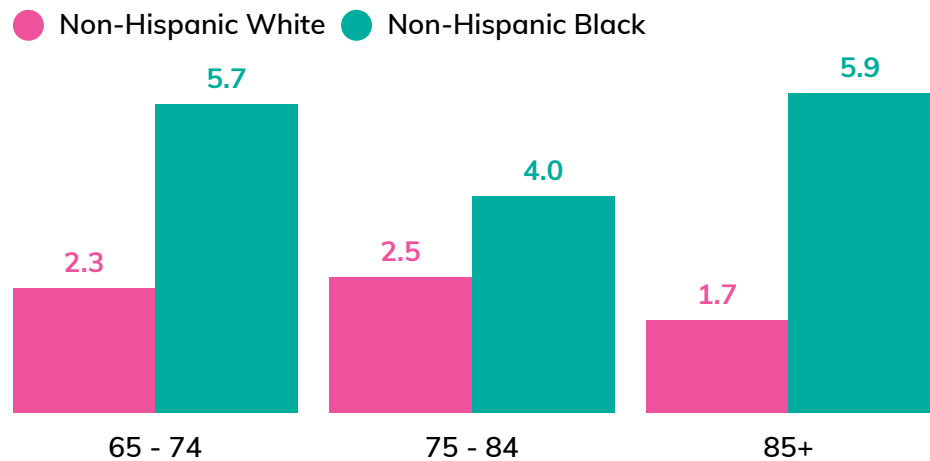


Source: SC DHEC Vital Statistics, CDC NCHS.

Note: Age-adjusted, population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 10.23

Homicide in Adults Ages 65+, by Race/Ethnicity Rate per 100,000 population



Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Suicide

Suicide is one of the leading causes of death in the US, affecting people of all ages.¹⁴ Older adults are especially vulnerable to suicide. While older adults comprise just 17% of the population, they make up approximately 20% of suicides.¹⁴ There were 9,652 suicides in people aged 65 and older in 2021.¹⁴ Men 65 and older face the highest overall rate of suicide.¹⁴

Older adults are more likely to have a fatal suicide attempt compared to other age groups. One in four suicide attempts among seniors will be fatal, and even if they are nonfatal, they are less likely to recover from the effects.³⁰ Suicidal behavior is common in older adults for several reasons, including loneliness, grief over lost loved ones, loss of self-sufficiency,

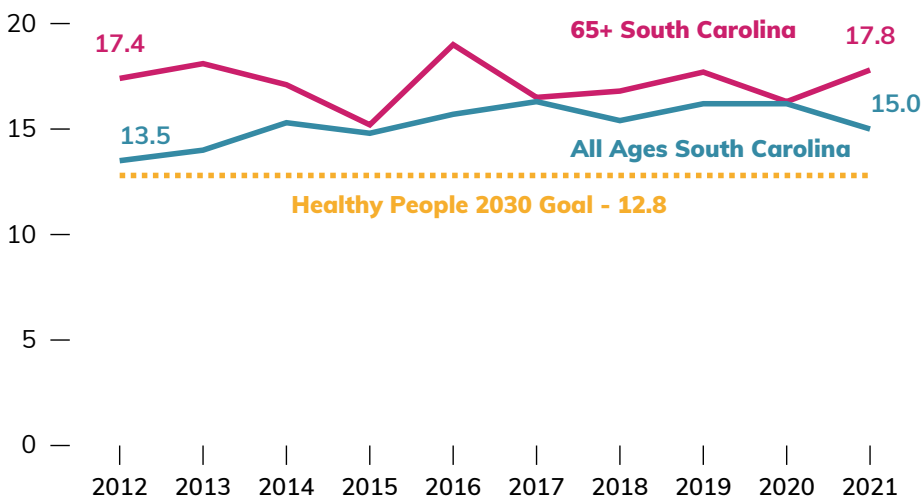
chronic illness and pain, cognitive impairment, and financial troubles.³⁰ According to the SC Violent Death Reporting System (SCVDRS), physical health problems were reported as a contributing cause to almost two-thirds of suicides among those aged 65 and older in SC from 2016-2020 (among those who died by suicide and had at least one known contributing cause).

Among SC adults 65 and older, non-Hispanic White males 85 and older have the highest rate of suicide.

Data Interpretations: SC adults 65 and older have higher suicide rates than the general SC adult population. The rate of suicide in adults aged 65 and older has increased from 17.4 to 17.8 deaths per 100,000 population from 2012 to 2021, while the overall adult rate has increased from 13.5 to 15.0 deaths per 100,000 population (**Figure 10.24**). As of 2021, the SC suicide rate for adults 65 and older has not reached the Healthy People 2030 goal of 12.8 deaths per 100,000 population (**Figure 10.24**). Among adults 65 and older, non-Hispanic White males 85 and older have the highest rate of suicide. SC adults 65 and older are more likely to use a firearm when attempting suicide than other age groups. Among SC adults aged 65 and older who died by suicide from 2017 to 2021, 81.5% were by firearm, compared to 60.5% of adults 35-64, 59.8% of adults 18-34, and 52.0% of adolescents 10 - 17 (**Figure 10.25**). SCVDRS data from 2016-2020 shows that almost half of those 65 and older who died by suicide were known to have served in the military, compared to only 13.0% of suicide decedents aged 18-64.

FIGURE 10.24

Suicide
Rate per 100,000 population

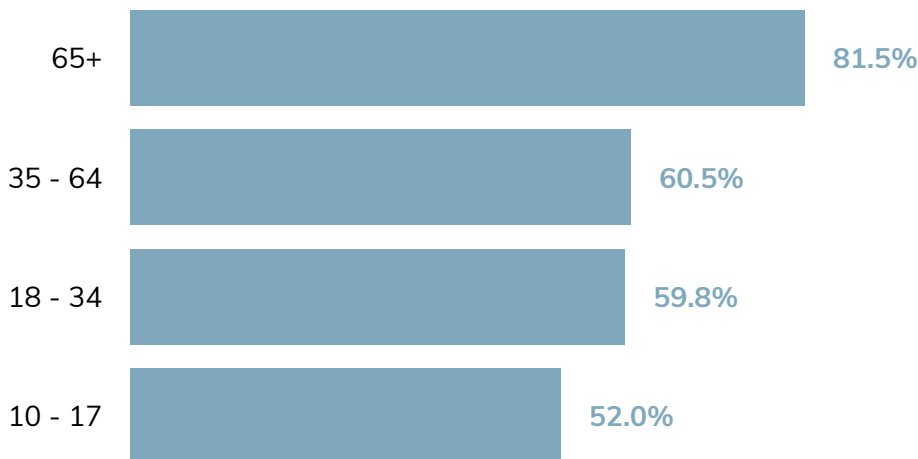


Source: SC DHEC Vital Statistics.

Note: Age-adjusted; population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

FIGURE 10.25

Percent of Suicides by
Firearm, by Age Group



Source: SC DHEC Vital Statistics, 2017-2021.

Note: Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Elder Abuse

Each year, hundreds of thousands of adults over the age of 60 are abused, neglected, or financially exploited.³¹ Elder abuse can happen in many places, including in their home, a family member’s house, an assisted living facility, or a nursing home.³¹ The mistreatment of older adults can be by family members, strangers, health care providers, caregivers, or friends.³¹ Abuse, including neglect and exploitation, is experienced by about 1 in 10 people aged 60 and older who live at home.²⁹

Data on elder abuse is often underestimated because the number of nonfatal injuries is limited to older

adults who are treated in the ED.²⁹ Many cases are not reported because older adults are afraid or unable to tell others about the violence.²⁹ Elder abuse can have physical and emotional effects on older adults. Victims can become fearful or anxious and have problems trusting others, while some suffer physical injuries that can be serious and cause lasting disabilities.²⁹

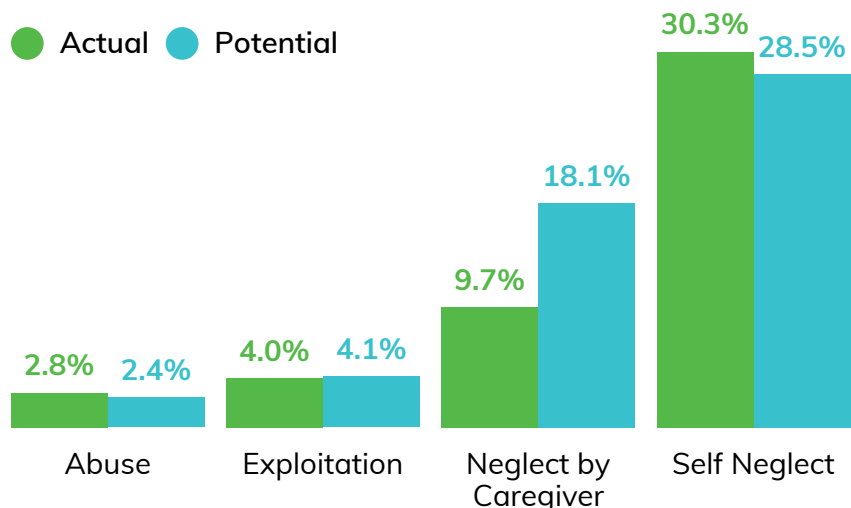
Elder abuse is a serious problem for older adults, and it is often underreported.

Data Interpretations: Elder abuse in SC is reported as either actual or potential in the categories of abuse, exploitation, neglect by caregiver, or self-neglect. Adult Protective Services (APS) must investigate when the alleged victim is a vulnerable adult and if there is an allegation that abuse, neglect, self-neglect or exploitation has occurred or has the potential to occur. If there is evidence to support the allegations, then the investigation is considered substantiated. From 2019-2021, 30.3% of substantiated APS investigation cases among adults 65 and over were actual self-neglect and 28.5% were potential self-neglect, which were the majority of the cases (Figure 10.26). Following self-neglect was actual neglect by a caregiver (9.7%) and potential neglect by a caregiver (18.1%) (Figure 10.26). Exploitation (about 4% for both actual and potential) and abuse (about 2% for actual and potential) were not reported as frequently (Figure 10.26).

APS investigations were seen more in females aged -65 and older than males from 2018-2020 (Figure 10.27). The rate of investigations has decreased since 2018 (Figure 10.27). In 2018, there was a rate of 163.7 investigations per 100,000 males 65 and older and 194.9 investigations per 100,000 females 65 and older involved in APS investigations (Figure 10.27). In 2020, those rates decreased and there were 127.9 investigations per 100,000 males and 140.7 per 100,000 females investigated by APS (Figure 10.27).

FIGURE 10.26

Adult Protective Services Investigations Among Adults 65+, by Type
Percent

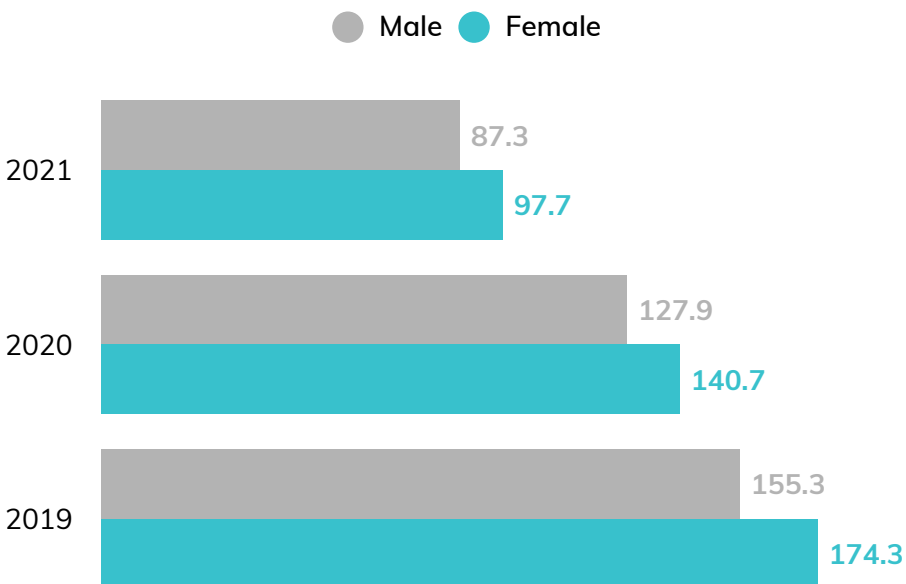


Source: SC Department of Social Services (DSS) Adult Protective Services (APS), 2019-2021.

Notes: Includes actual and potential substantiated events, counts by type are of the non-unique investigation service.

FIGURE 10.27

Adult Protective Services Investigations Among Adults 65+, by Sex rate per 100,000 population



Source: SC Department of Social Services (DSS) Adult Protective Services (APS), 2019-2021.

Notes: Includes actual and potential events, counts by type are of the non-unique investigation service. Population for year 2021 based on single-race estimates and for years prior based on bridge-race estimates.

Caregiver and Caregiver Health

Due to various chronic illnesses, disabilities, and injuries, many people rely on a caregiver to help with daily tasks such as bathing, eating, taking medication, arranging medical care, and assisting with financial decisions.³² Current estimates show that over one in five Americans have provided care for a loved one in the past 12 months.³³ Although caregiving can be rewarding and fulfilling, it can also be stressful and overwhelming.³² The stress associated with caregiving can cause emotional and physical strains on the caregiver including feeling overwhelmed, irregular sleep patterns, weight issues, becoming easily irritated or angered, and engaging in unhealthy behaviors like smoking or drinking too much alcohol.³² Long-term stress from caregiving can lead to serious problems such as depression, a weakened immune system, obesity, various chronic diseases, and problems with short-term memory.³² As the population of older adults

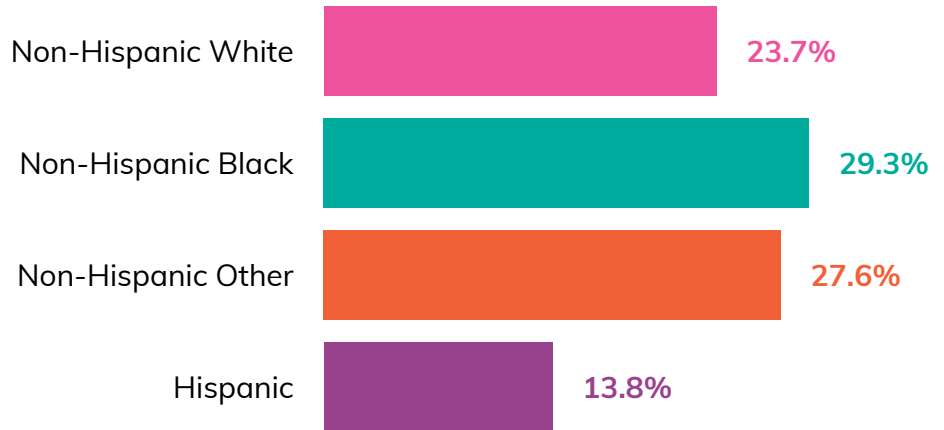
and those with a disability increases so does the importance of understanding the impacts caregiving has on the caregiver's life. The CDC estimates that 17.9% of non-caregivers 45 and older in SC expect to be caregivers within the next two years.³⁴ With this substantial increase in the amount of caregivers, it is important that the health and well-being of both the caregivers and their recipients are prioritized and promoted.³⁴

1 in 4 adults provide regular care to family or friends with a health problem or disability, many of whom have been providing care for years.

Data Interpretations: In 2021, 24.8% of SC adults ages 18 and older reported providing regular care in the past 30 days to a friend or family member with a health problem or disability. Non-Hispanic Blacks reported providing care or assistance to a friend or family member with a health problem or a disability more than their non-Hispanic White, non-Hispanic Other, and Hispanic counterparts (**Figure 10.28**). Nearly 30.0% of adults aged 45-54 provided regular care to a family member or friend, double that seen among those aged 18-24. Among adults who provide regular care to a friend or family member who has a health problem or disability, 51.4% reported that the care they provide includes managing personal care, such as medications, feeding, dressing, or bathing, and 82.0% reported that the care they provide includes household tasks such as cleaning, managing money, and preparing meals (**Figure 10.29**). Of those who reported providing care, 13.5% reported that the person they care for has Alzheimer’s disease, dementia, or another cognitive impairment disorder. Among those who reported providing regular care to a friend or family member, 51.0% have been doing this for over two years. Over 16.0% of adults 18 and older expect to provide care or assistance to a friend or family member within the next two years.

FIGURE 10.28

Adults Providing Regular Care to a Friend or Family Member Who has a Health Problem or Disability, by Race/Ethnicity
Percent



Source: SC BRFSS, 2021.

Note: Adults 18+. Providing regular care in the past 30 days. Non-Hispanic Other includes multi-racial.

FIGURE 10.29

Type of Care Provided by Adults who Provide Regular Care to a Friend or Family Member
Percent



Source: SC BRFSS, 2021.

Note: Adults 18+. Providing regular care in the past 30 days.

Social Interactions & Connectedness

Social interactions and relationships are important in fulfilling fundamental human needs throughout life.³⁵ These interactions are especially important for promoting health among older adults and elderly populations.³⁶ Older adults are at an increased risk for experiencing social isolation due to a variety of factors, including living alone, disability, retirement, death of a spouse, lack of friends and/or family, low income, and language barriers.³⁷ Social isolation or lack of meaningful social connections has been associated with a reduced quality of life, unhealthy behaviors such as smoking, physical inactivity, and poor diet, and an increase in poor health outcomes (i.e., heart disease, hypertension, dementia, suicide).³⁶ Additionally, the older adult and elderly populations

who suffer from social isolation are more likely to need long-term nursing care as they are more inclined to suffer from forgetfulness, manage medications poorly, and forget medical appointments.³⁷ One recent study found that nearly 20% of adults aged 62-91 suffered from frequent loneliness, with those having low income seeing the highest rates.³⁸ Having available resources for older adults and seniors could help decrease social isolation rates while increasing one's quality of life.³⁸

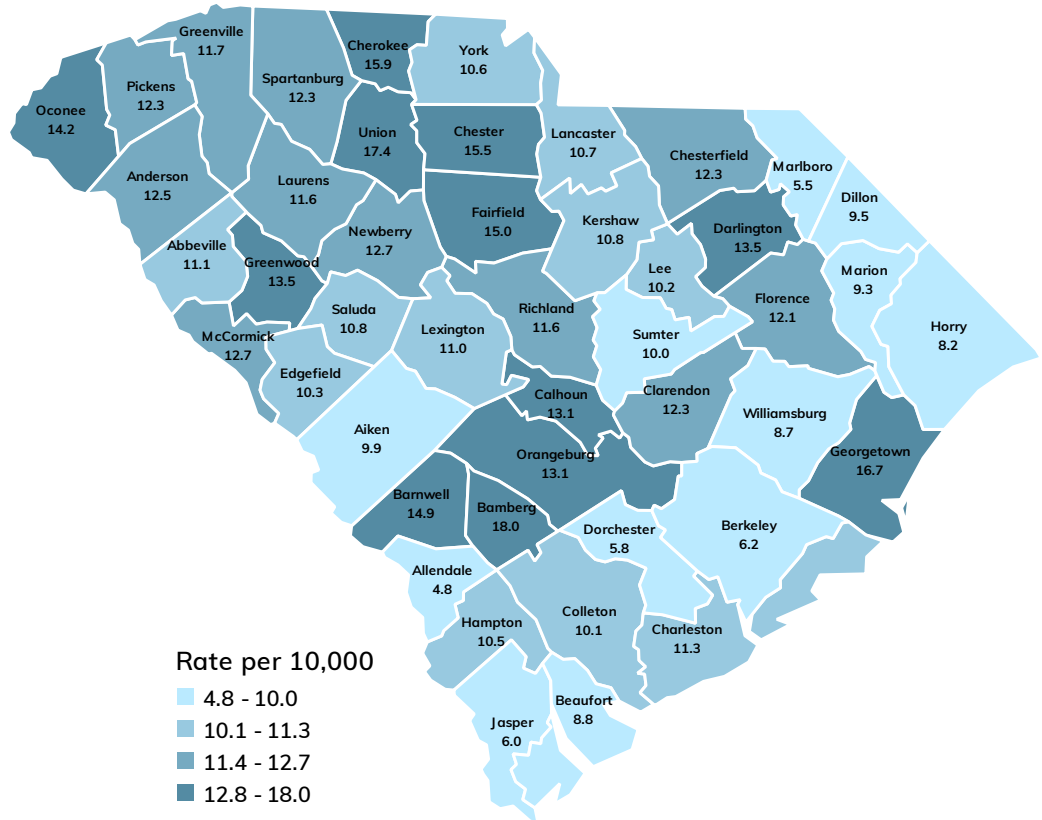


SC sees a higher rate of membership organizations compared to the national average.

Data Interpretations: The number of membership organizations varies across the state. As of 2020, SC had 5,855 membership organizations. Membership organizations include civic organizations, bowling centers, golf clubs, fitness centers, sports organizations, religious organizations, political organizations, labor organizations, business organizations, and professional organizations that can offer support at the local level. The state sees a high of 18.0 membership organizations per 10,000 population in Bamberg County and a low of 4.8 membership organizations per 10,000 population in Allendale County (**Figure 10.30**). There are clusters of low rates of membership organizations in the Pee Dee and Lowcountry regions of the state (**Figure 10.30**). SC sees a rate of 11.2 membership organizations per 10,000, 23.1% higher than the national average of 9.1 membership organizations per 10,000 (**Figure 10.31**).

FIGURE 10.30

Social Associations in South Carolina
Rate per 10,000 population



Source: County Health Rankings, 2023.

Notes: Membership associations.

FIGURE 10.31

Social Associations
Rate per 10,000 population



Source: County Health Rankings, 2023.

Notes: Membership associations.

Immunizations

Immunizations are important for people of all ages, but they are especially important for older adults. As people get older, the immune system weakens, increasing the risk for certain diseases.³⁹ Older adults are also at higher risk for serious complications from these diseases.⁴⁰ Nationally, an estimated 45,000 adults die each year from complications due to vaccine-preventable diseases.⁴¹ It is important to be up to date with vaccines as some protection can wear off over time, thus needing a secondary dose.⁴⁰ Receiving recommended vaccines not only protects you but also others who could have a weakened immune system.⁴⁰ Two of the recommended vaccines for older adults are the Influenza (flu) and Pneumococcal (pneumonia) vaccines.⁴² The flu is a virus that can cause fever, chills, sore throat, and muscle aches.⁴² The flu can be very serious for older adults as they are at higher risk for developing serious complications.⁴² Adults 65 and older receive a higher-dose flu vaccine that helps create a stronger immune response, increasing

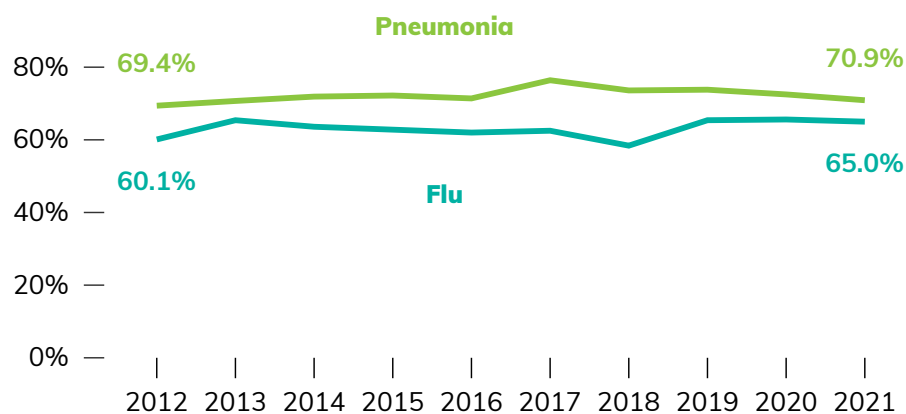
the protection from the flu.⁴² Pneumonia causes significant illness in seniors and is responsible for 60,000 deaths each year.⁴¹ Pneumococcal disease is a serious infection that spreads from person to person through the air and can cause pneumonia in the lungs.⁴² Receiving the pneumonia vaccine protects older individuals from getting a serious infection.⁴² People 65 and older should talk with their doctor or health care provider to discuss which vaccines are recommended for them.

Non-Hispanic Black adults 65 and older see lower rates of being immunized for flu and pneumonia illnesses when compared to their non-Hispanic White counterparts.

Data Interpretations: There has been an increase in the percentage of adults 65 and older receiving both pneumonia and flu vaccines in the past 10 years (**Figure 10.32**). In 2021, over 7 in 10 adults 65 and older have received the pneumonia vaccine, more than those who have received the flu vaccine (65.0%). The percentage of adults receiving the flu vaccine has seen an 8.2% increase from a low of 60.1% in 2012 to a high of 65.0% in 2021. Non-Hispanic White adults 65 and older see higher rates of receiving both the flu and pneumonia vaccines (**Figure 10.33**). Only ½ of non-Hispanic Black adults 65 and older have received the flu vaccine, 22.0% lower than their non-Hispanic White counterparts. A higher percentage of adult males 65 and older were immunized from flu than their female counterparts (**Figure 10.34**). However, this association is different for the pneumonia vaccine where females 65 and older saw higher rates of being immunized compared to their male counterparts.

FIGURE 10.32

Adults 65+ Receiving Recommended Vaccines
Percent



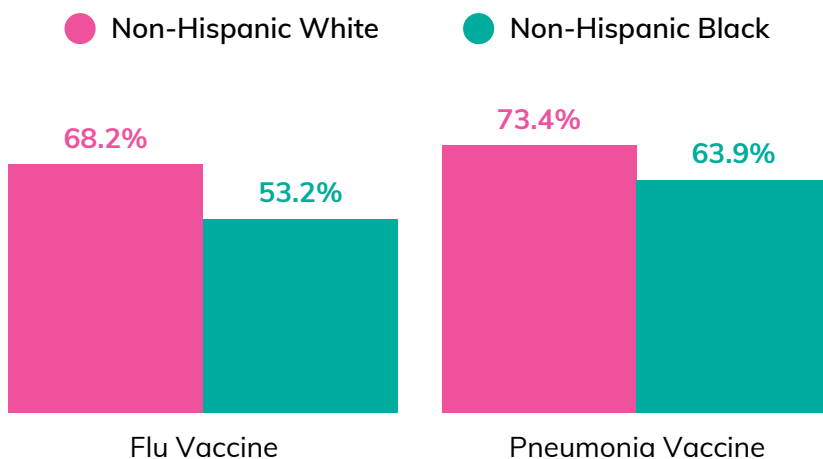
Source: SC BRFSS.

Note: Adults 65+.

FIGURE 10.33

Adults 65+ Receiving Recommended Vaccines, by Race/Ethnicity

Percent



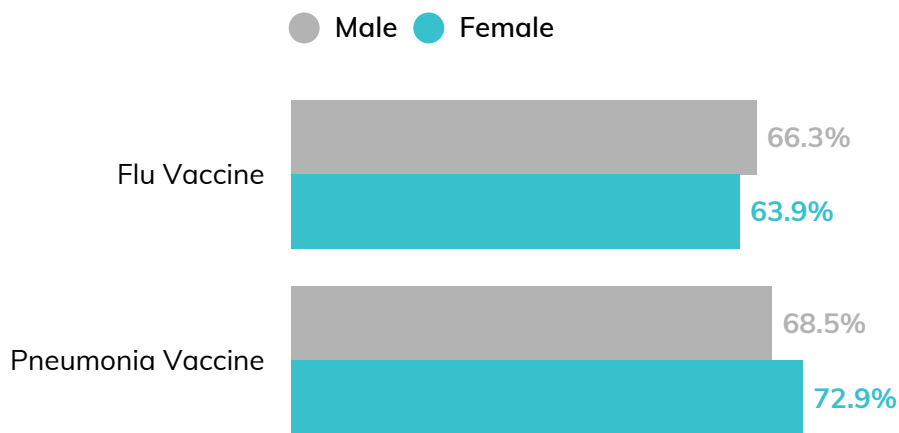
Source: SC BRFSS, 2021.

Notes: Adults 65+.

FIGURE 10.34

Adults 65+ Receiving Recommended Vaccines, by Sex

Vaccine Type



Source: SC BRFSS, 2021.

Notes: Adults 65+.

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Capacity to Address Health Issues



Introduction

In public health, capacity is the ability to adequately assess, mitigate, and evaluate needs. To effectively do this, we must work systemically at three levels to build and continually assess capacity: individual, organization, and community. South Carolina (SC) is building and enhancing public health capacity through meaningful and innovative community engagement and sustainable partnerships. In broad terms, capacity building activities encompass anything that enables public health systems to improve on their mission work. Whether capacity improvement leads to greater opportunities, outreach, or increased efficiency, it optimizes the ability of individuals, organizations, communities, and systems to achieve a positive impact on those they serve. For health systems, capacity-building represents a long-term effort to promote and support healthy, sustainable behaviors and environments.¹ The COVID-19 pandemic exposed many complex social and health problems, inequities and disparities and challenged all public health systems to build back better and prepare for the next public health challenge. It challenged public health systems to re-evaluate their capacity and total infrastructure. In a Stanford Social Innovation Review brief, Maxwell and Misra (2016) noted that the first step to solving social problems is to understand the system that the problem lives in. They also defined three keys to unlocking systems-level change:

- developing a systems mindset,
- identifying the best tool or intervention,
- and realizing the current human dynamics.²

Understanding this concept will help communities identify upstream, or root causes and move from theory to action. Public health systems cannot do this work alone, they will need to involve the affected populations and rely on the power of partnerships. In other words, it is an investment in our success and sustainability to impact the health of the public.

The World Health Organization (WHO) defines capacity building as the development of knowledge, skills, commitment, structures, systems, and leadership to enable effective health promotion. SC is a growing state and is home to more than 5.1 million people.³ The 2020 Census shows that the state's population has increased by 12.0% since the 2010 Census, so one agency, organization, or entity cannot do this

work without adequate funding, workforce, intentional and sustainable partnerships, and resources (U.S. Census Reports, 2021). Public health professionals in SC serve a diverse population (62.4% non-Hispanic White, 24.9% non-Hispanic Black, 0.4% non-Hispanic Other, 1.6% non-Hispanic Asian, 0.2% non-Hispanic American Indian and Alaskan Native, <0.1% non-Hispanic Native Hawaiian and Pacific Islander, 6.4% Hispanic, and 3.8% two or more races), so capacity is needed to provide diverse programs and intentional services through a health equity lens (US Census Bureau ACS, 2021).

The SC State Health Assessment (SHA) enhances capacity to guide efforts towards a healthier state. In addition to capturing both quantitative and qualitative data points, the SHA provides a great foundation for sharing knowledge and resources and for building and enhancing equitable and sustainable capacity throughout all public health systems in the state. In addition to the statewide assessment, the DHEC Community Engagement Teams work with community partners and coalitions to conduct local community health assessments that also inform the SHA for a more comprehensive and cohesive approach to assess the state's overall health status. The recent COVID-19 public health emergency highlighted and exposed many underlying health inequities and the need for more robust programs and services to prepare for the next public health emergency. The SHA is a great tool to inform and prepare public health professionals and educate the public.

Many health inequities are associated with a specific social determinant of health (SDOH). SDOHs are the nonmedical factors that influence health outcomes⁴ and they are the conditions in which people are born, grow, work, live, age, and the wider set of forces and systems shaping the conditions of daily life. Examples of these forces and systems are economic and social policies, social and structural development agendas, social norms, racism, climate change, and political systems. In a 2017 white paper by Karen DeSalvo, former Acting Assistant Secretary of Health at the US Department of Health and Human Services, public health systems were charged with developing a more innovative model of public health that integrates SDOHs with public health informatics and one that

engages multiple sectors of society and community partners for a collective impact.⁵

Each agency, organization, and partner of Live Healthy South Carolina (LHSC) invests in their members by providing comprehensive and timely training, mentorship opportunities and resources. By focusing

on the areas of health disparities, health equity, funding, workforce, access to care, partnerships, and other community engagement efforts, this chapter will describe and demonstrate the state's current capacity to meet its public health needs at the organizational and community levels.

Public Health Capacity to address Health Disparities and Health Equity

SDOHs cause disparities that impact individual and community health outcomes. Health equity is achieved when everyone can attain their highest level of health. Addressing health disparities and health equity requires strong partnerships and strategic approaches. Our state's capacity to address health disparities and

health equity is dependent on collaboration among multiple agencies, organizations, and individuals to ensure that every South Carolinian has the same opportunity for quality health care and access to resources.

Assets in South Carolina to address Health Equity:

A diverse variety of agencies and organizations work across the state to ensure access to conditions that improve health (see Appendix F for Asset Inventory). To address health disparities and health equity, the agencies and organizations should view public health through a health equity lens to reach the communities with the greatest need. Below are a few examples of ways SC is building capacity to address health disparities and health equity:

Alliance for a Healthier SC: The Alliance has identified equity-based gaps in health access and health outcomes as some of the greatest health challenges that South Carolinians face. To address these gaps, the Alliance has established a Health Equity Action Team (HEAT). The team has developed health and racial equity strategies to build leadership capacity, to promote health and racial equity as core systemic values and to take collective action at the policy and programmatic levels to eliminate equity-based gaps in health outcomes. HEAT's Core Strategic Goals identified are (1) build awareness, education, and training; (2) provide equity-stratified data for decision-making; (3) support policy and system changes; and (4) build multi-sector collaborations. The goals are built on a set of six health and racial equity guiding principles. The Alliance has a Health Equity page on its website, which houses a link for individuals and organizations to take a Health Equity Champion Pledge. The Alliance also hosts an annual Health Equity Summit. www.healthiersc.org

Able South Carolina: Able SC is a disability-led organization seeking transformational changes in systems, communities, and individuals. The organization's vision is a SC that is a national model of equity and inclusion for all people with disabilities. They focus on equity, disability justice and representation, and true inclusion through consumer-driven independence and disability pride. www.able-sc.org

Center for Community Health Alignment (CCHA): CCHA's mission is to use evidence-based models and meaningful engagement strategies to co-create solutions with community leaders that address health inequities. CCHA has three major initiatives: (1) The Community Health Worker (CHW) Institute supports CHWs, their employers, and their communities through training and technical assistance; (2) PASOs provides education, advocacy, and leadership development in Latino communities across SC (see below for additional information); and (3) Equity through Meaningful Community Engagement, an approach which centers community members to create solutions for health equity. <https://communityhealthalignment.org>

The Center for Rural and Primary Health care (CRPH): With the unique challenges rural communities face, the CRPH collaborates with multi-sectoral partners to improve health and health care outcomes in rural and underserved populations and to advance health equity, and CRPH is home to over 60 programs working around the state. Their work focuses on improving access to care for rural patients, supporting a strategic and diverse rural clinical workforce, and informing policy and programs through relevant research and evaluation. Through their keystone iCARE program, they have expanded access to specialty care by working with health systems to reduce the transportation burden for rural patients. By utilizing equitable recruitment strategies, they work to attract diverse talent to rural areas and create a sustainable pipeline of students entering the health care workforce. With their Connecting Communities program, they engage community partners to build more equitable and resilient community health systems that serve rural and underserved groups. <https://www.scruralhealth.org>

Family Connection of SC: Family Connection of SC is a statewide support network whose mission is to strengthen and encourage families of children with special health care needs through parent support. Since 1990, Family Connection has been serving families of children with disabilities and chronic health conditions. It has served more than 100,000 families and today the need is greater than ever. It has been the Parent Training and Information Center for SC since 2015. Its staff are highly trained professionals who are parents themselves, and will provide information, support, education, and referrals to meet the individualized needs of the family. Its staff is ready to help parents navigate the stages of their child's journey and help them chart a true course for success. <https://www.familyconnectionsc.org/>

PASOs: PASOs, which means "steps" in Spanish, uses the Community Health Worker/Promotores model statewide to serve individuals and families and strengthen leadership within Latino communities to advance health education and awareness, advocacy, resource navigation, resource connection and leadership development. Their vision is healthy Latino communities contributing to a stronger SC. They build stronger Latino communities through education, advocacy, and leadership development. <https://www.scpasos.org>

SmokeFreeSC: Smokefree SC, a statewide coalition dedicated to supporting and amplifying the work of tobacco prevention and control stakeholders in SC, is committed to eliminating premature death, disease, and other harms caused by tobacco products. This standard will reduce youth smoking, increase cessation, and decrease tobacco-related health disparities. www.smokefreesc.org

South Carolina Alliance for Health, Physical Education, Recreation and Dance (SCAHPERD): SCAHPERD's mission is to promote health, physical activity, and wellness among the state's citizens through effective professional development, leadership, education and advocacy. SCAHPERD has four associations to support its mission. The SC Association for the Advancement of Health Education (SCAAHE) supports health education

that meets the needs for all. The SC Association for Physical Education and Sport (SCAPES) supports physical education and activity for all and adaptive PE for those with disabilities. They partner with Able SC to provide equitable PE to students. The SC Dance Association (SCDA) works to promote dance education statewide. The SC Association for Future Professionals (SCAFP) provides opportunities for growth and development of students, who are the future public health workforce.

<https://scahperd.org>

South Carolina Commission for Minority Affairs:

The SC Commission for Minority Affairs's Community-Based Programs division assists faith and community-based groups in implementing programs to alleviate socioeconomic deprivation in minority and poor communities. This includes providing technical assistance and training for capacity building.

The Commission addresses the needs of diverse populations in the state, including African Americans, Asian-Americans, and Pacific Islanders, Hispanic/Latino, and Native Americans. <https://cmasc.org>

South Carolina Department of Health and Environmental Control (DHEC):

DHEC is South Carolina's lead public health agency, with the vision of "Healthy People Living in Healthy Communities." DHEC is uniting with our many partners and community members across the state to overcome health disparities and realize the goal of every person having the opportunity to achieve their full health potential. DHEC is committed to working with community partners to address social determinants of health, such as access to quality health care, education, social connectedness, healthy food, housing, wealth, and employment – all of which play a key role in health inequities within our communities. DHEC will continue to work to address the SDOHs and advance health equity in partnership with community leaders and organizations across the state. This includes: (1) increasing awareness of disparities and the SDOHs, (2) improving access to actionable, community-level public health data, (3) working with community members and organizations to provide resources and information to develop sustainable solutions that work for their community, (4) engaging communities in a way that allows them

to express their needs and learn about the issues that matter to them, (5) ensuring efforts to include a focus on expecting parents, infants, and children to support healthier head starts early in life, and (6) educating and providing information about policies through a health equity lens. <https://scdhec.gov>

South Carolina Hospital Association (SCHA):

SCHA represents that state's hospitals and health systems and is committed to advancing health equity among the patients and communities they serve. The SCHA Board has selected key health measures from the SHIP to address health equity gaps and provides hospitals with reports detailing inpatient discharges by disparity to better understand inequities. SCHA also leads learning collaboratives, develops and shares educational content and provides technical assistance to community-based initiatives such as AccessHealth SC and Healthy People, Healthy Carolinas along with their hospital members to promote health equity and establish a more just health care environment in SC. www.scha.org

South Carolina First Steps (SCFS):

SCFS was established in 1999 by the SC General Assembly to close the gap on students' preparedness for success in school. Since the beginning, they have taken a holistic approach to accomplishing their mission, offering services that improve children's health, strengthen families, expand access to quality early care and education, and help transition rising kindergartners into school. They also mobilize partners in building a more effective and efficient early childhood state system. In the role as the connector and convener of all early childhood serving agencies, SCFS operates the Early Childhood Advisory Council (ECAC). Their trustees serve concurrently as ECAC members and their staff coordinates their collaborative efforts to support families and help young children thrive. www.scfirststeps.org

South Carolina Office of Rural Health (SCORH):

SCORH is a non-profit organization with a mission to close the gap in health status and life expectancy between rural and urban communities in the Palmetto State. SCORH has been promoting investment, opportunity, and health within rural communities since 1991. Like its peer organizations in each state, SCORH is the sole organization in South Carolina that is federally designated to address the health needs in rural communities. SCORH works with local, state and national partners to: (1) increase access to quality health care, (2) improve the social determinants that contribute to a community's overall health, and (3) connect available resources across the state with local needs in rural communities. To accomplish these goals, SCORH: (1) provides technical and financial assistance to health care providers, (2) advocates to local and state leaders to encourage rural-friendly policy, and (3) invests in educational activities and health programs at the local level. With 27% of our state's residents living in rural areas, SCORH believes in preserving the unique character of rural communities without compromising their opportunities and access to critical services. In 2022, SCORH and DHEC joined a national effort to address health disparities and advance health equity in rural and underserved communities. This focus on equity has touched every aspect of the work they do, from supporting rural clinics and hospitals, to addressing the social determinants of health and bolstering the work of community coalitions. They have also accelerated the response to the opioid crisis in rural communities and are building stronger networks of behavioral health services across the state. They are working collaboratively and collectively with other partner organizations that are focused on improving the health of rural communities, addressing persistent health disparities, and increasing health equity for rural communities, particularly African Americans. www.scorh.net

South Carolina Public Health Association

(SCPHA): SCPHA is the state's American Public Health Association affiliate and is committed to advancing health equity in the state. As part of the 2023 Annual Conference, SCPHA featured a preconference on Health Equity. www.scpha.com

For the American Public Health Association

(APHA), creating health equity is one of its guiding priorities and core values. On the APHA Health Equity page, the website has a YouTube video on Health Equity, a series of health equity fact sheets and a webinar series.

<https://www.apha.org>

Wholespire: Diversity, equity and inclusion are among Wholespire's core values and integrating them into the fabric of their organization is part of their current three-year strategic plan. They are also integrating race equity into its operations. Wholespire strives to integrate diversity, equity, and inclusion, with a focus on racial equity, throughout the entire organization and within local Wholespire chapters. The Wholespire diversity equity, inclusion (DEI) framework is outlined in four areas: culture, hiring, pay equity, and vendor diversity. Their website contains free resources, social media groups, and college courses all centered on diversity, equity, and inclusion. <https://wholespire.org>

State Programs

In SC, there are several state agencies that share the goal of providing qualified residents with access to health resources and services. These state agencies have programs intended to improve the health and well-being of SC residents and their communities.

SC Department on Aging

The SC Department on Aging enhances quality of life for seniors in the state by connecting them with services that help them live independently. The agency's mission is to meet the present and future needs of seniors and to enhance the quality of life for older South Carolinians through advocating, planning, and developing resources in partnership with federal, state and local governments, non-profits, the private sector and individuals. Its vision is to provide leadership, advocacy, and collaboration to assure a full spectrum of services, so that SC seniors and/or adults with disabilities can enjoy an enhanced quality of life, contribute to their communities, have economic security, and receive the support necessary to age with choice and dignity.

SC Department of Children's Advocacy

The SC Department of Children's Advocacy is an independent state agency that examines, on a system-wide basis, the care and services other state agencies provide children. Its mission is to champion advocacy, accountability, and service to improve outcomes for children served by state agencies in South Carolina. Its vision is to grow a community where children thrive.

SC Commission for the Blind (SCCB)

SCCB helps residents of our state who are blind or have a visual impairment gain independence and take advantage of opportunities for financial advancement. New legislation, such as the Workforce Innovation and Opportunity Act, has streamlined and strengthened the services offered through Vocational Rehabilitation, making it easier to assist individuals in gaining economic and social independence. In addition to vocational rehabilitation, SCCB also provides the following unique services:

- The Business Enterprise Program provides an opportunity for qualified individuals to operate their own business. Under the Randolph-Sheppard Act, SCCB is the State Licensing Agency for individuals who are blind or visually impaired who operate vending facilities.
- Children's Services provides assistance to children ages 3 to 12 who are visually impaired, ensuring they have assistive technology and resources available at home, not just in school.
- Older Blind Services, for individuals at age 55 and older with severe visual impairments, focuses on assistance that helps individuals remain independent and in their own homes.
- Prevention Services provides sight-saving services such as cataract surgeries and eyeglasses for individuals who do not have insurance.

SC Department of Disabilities and Special Needs (DDSN)

DDSN is the state agency that plans, develops, coordinates and funds services for South Carolinians with severe, lifelong disabilities. The populations served by DDSN include individuals with Intellectual Disabilities, Related Disabilities, Autism Spectrum Disorder, Traumatic Brain Injury, Traumatic Spinal Cord Injury, and Similar Disabilities (disabilities affecting the brain or spinal cord which are not associated with the process of

a progressive degenerative illness or disease, dementia, or a neurological disorder related to aging). Its vision is to provide the very best services to assist all persons with disabilities and their families in SC. Its mission is to assist people with disabilities and their families through choices in meeting needs, pursuing possibilities, and achieving life goals; and minimize the occurrence and reduce the severity of disabilities through prevention.

SC Department of Education (SCDE)

SCDE is the state education agency of SC. Its vision is that students graduate prepared for success in college, careers, and citizenship. Its mission is to provide leadership and support so that all public education students graduate prepared for success.

SC Department of Health and Human Services (DHHS)

DHHS plays a significant role in administering programs that aid SC residents with low to moderate income. The primary purpose of DHHS is to administer South Carolina's Medicaid program, Healthy Connections.⁶ This program allows federal and state governments to share the cost of providing medical care for people with low incomes.⁷ As of October 2022, there were 1,244,839 people enrolled in Medicaid in SC.⁸ Additionally, DHHS offers Healthy Connections Prime, which combines the benefits of Medicare and Healthy Connections Medicaid under a single Medicare-Medicaid plan. This makes it easier for members to access essential services.⁹ As of December 2020, more than 80% of the state's 25,866 eligible Medicare-Medicaid beneficiaries were enrolled in Healthy Connections Prime across 42 of the 46 counties in SC.¹⁰

SC Department of Social Services (DSS)

DSS's mission is to serve SC by promoting the safety, permanency, and well-being of children and vulnerable adults, helping people achieve stability, and strengthening families.¹¹ One way the agency does this is by helping families in our state obtain access to resources to address challenges such as food insecurity. To address food insecurity, DSS helps South Carolinians apply for Supplemental Nutrition Assistance Program, known as SNAP. This program provides low-income households with nutrition assistance by increasing their food purchasing power.

Additionally, DSS administers the Temporary Assistance for Needy Families (TANF) program. This is SC's welfare program that provides temporary financial assistance to qualifying families with dependent children.¹² As of November 2022, there were 17,228 recipients receiving the TANF benefit in SC.¹³

SC Vocational Rehabilitation Department

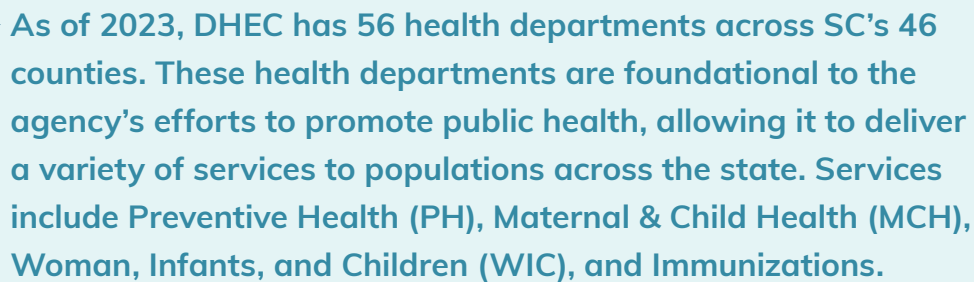
The SC Vocational Rehabilitation Department is tasked with helping individuals with barriers achieve employment success and helping businesses find and keep talented employees. They offer services which help individuals acquire the skills, training, and credentials they need to meet the workforce requirements of employers throughout the state. In turn, employers gain access to qualified, dedicated candidates for employment in areas such as construction, manufacturing, transportation, information technology, health care, hospitality, and the service industry. Vocational rehabilitation consumers become taxpayers instead of tax consumers when they become employed, reducing their reliance on government disability benefits. Many receive health insurance coverage through their new jobs and no longer rely on Medicaid. Competitively employed consumers pay about \$4.08 in taxes for every \$1 spent on their rehabilitation.

Employed consumers repay the cost of their vocational rehabilitation in an average of four years. That's a 25%

annual rate of return on taxpayer investment.

DHEC Direct Service Provision

DHEC provides multiple programs and services to ensure that South Carolinians have access to the resources that they need and deserve.



As of 2023, DHEC has 56 health departments across SC's 46 counties. These health departments are foundational to the agency's efforts to promote public health, allowing it to deliver a variety of services to populations across the state. Services include Preventive Health (PH), Maternal & Child Health (MCH), Woman, Infants, and Children (WIC), and Immunizations.

Preventive Health Services (PH)

These services are meant to prevent disease and disability in clients while optimizing their health outcomes. In 2022, the DHEC health departments had a total of 57,737 PH kept appointments.

These appointments were for the following services:

- Birth Control (Family Planning): confidential reproductive health services that include a health exam and lab tests, as well as information and counseling on birth control methods.
- Pregnancy Testing: pregnancy tests and evaluation of pregnancy health risks as well as referrals to prenatal doctor and other medical services. In 2022, the DHEC health departments conducted almost 5,000 pregnancy tests.
- Sexually Transmitted Infections (STIs) Treatment: blood tests, medicines, and help finding medical services.
- Fast Track (15 Minute) STI Test: 15-minute tests for HIV, syphilis, gonorrhea, and/or chlamydia. In 2022, the DHEC health departments conducted almost 9,000 STI tests.
- Teen Clinics: birth control, STI tests, pregnancy tests, and exams for teenagers.

Maternal and Child Health (MCH) Services

These services are designed to ensure that new mothers recover from childbirth and that their children have positive health outcomes. In 2022, the DHEC health departments kept 2,963 appointments.

These appointments were for the following services:

- Lead Testing: authorized and funded under the EPA's Water Infrastructure Improvements for the Nation (WIIN) Act, SC's Lead Testing in Schools and Child Care Programs grant provides free water lead testing to schools and childcare programs across the state.
- Newborn Home Visits: With a doctor's recommendation, Medicaid-eligible new mothers can have a nurse make up to two home visits. During these visits, the nurse will check the baby to make sure they are growing well and hasn't developed any problems since leaving the hospital. The nurse will also make sure the mother is doing well after having the baby. In 2022, the DHEC health departments completed

2,762 home visits.

- Services for Children/Teens with Special Health Care Needs: helping children with chronic illnesses, disabling conditions, and/or development delays access the special health care services they need.

Women, Infants and Children (WIC) Services

WIC offers food products (including infant formula), health screenings, and health information for low-income women, infants, and children 5 years of age or younger. Every health department offers WIC services. There are also eight off-site locations and mobile WIC units.

Immunizations

The health departments offer immunizations for children and adults, including shots for Flu, Pneumonia, and Tetanus/whooping cough (pertussis). This plays a vital role in preventing the spread of disease in the state and safeguarding the health of communities. In 2022, DHEC health departments administered 29,851 shots, 14,755 of which were pediatric.

Additional Services

- Tuberculosis (TB) Treatment: medicines to help treat TB and assistance connecting clients with other medical services.
- Vital Records: access to birth and death certificates.

Most of the services DHEC offers are delivered on-site in the health departments. The COVID-19 pandemic complicated their ability to continue normal operations. The pandemic challenged health departments to think differently about the way they deliver services and reach out to the community. They began offering some services virtually, hired community health workers, and increased their community outreach efforts. This has made the health departments stronger and better able to accomplish the agency's mission.

DHEC Public Health Workforce

DHEC has more than 3,700 employees with specialties in environmental affairs, health care quality, and public health. DHEC operates a centralized health system where the local health departments are not stand-alone county agencies but local offices of DHEC, in facilities provided by the counties. The diversity in the organization and the strong collaboration with external partners afford DHEC the opportunity to build upon the strengths and expertise of staff to ignite change and promote the health of the state. However, as has been seen nationwide, there are many issues currently facing public health systems that impact the quantity and quality of services provided, and ultimately the health of their constituents.

While DHEC strives to use its staff and resources for the fulfillment of its vision, the COVID-19 pandemic exposed and created many obstacles to providing health services to all communities equitably. Prior to the pandemic, salary rates and inadequate staffing for critical front-line positions such as nurses and nurse practitioners challenged the provision of public health services in SC. Retaining adequate staff once they are hired is also challenging when issues such as pay equity, lack of resources and burnout lead to turnover and take a toll on the workforce. Limited financial resources hamper efforts related to staffing and the function and maintenance of operations and physical infrastructures as well. Addressing newly emerging data needs can be discordant with existing data systems and cause challenges and disruptions to data collection, analysis and sharing.

DHEC saw an increase of just over 4% in turnover from fiscal year 2021 to fiscal year 2022. For 2021, the overall staff turnover rate for Public Health was 23%, which is higher than the agency turnover rate of 17.48%.¹⁴

DHEC particularly struggles to retain employees who have been at the agency for less than 10 years, with that group having a turnover rate of 25%. Those employees at DHEC less than 10 years make up over half of DHEC's full-time workforce. Furthermore, DHEC's average salaries are not competitive when compared to average salaries for comparable positions in the private sector. For example, the agency's Registered Nurse average salary is \$55,461 versus \$81,536 in the private sector. The disparity is not only

apparent in our nursing classifications, but others as well. This highlights a key opportunity for DHEC and other state agencies to continue improving retention creatively and strategically.

A gap analysis further highlights the impact of reduced staffing on our communities, which can be seen in the provision of family planning and sexually transmitted disease (STD) services.

Over the past 10 years, family planning and STD services in the health departments have been reduced due to DHEC's inability to recruit and retain qualified staff. Clients are unable to receive timely appointments for family planning, STD and immunization services. The impact is most strongly felt by clients in rural counties where there are few alternative service providers.

As the agency focuses on promoting health equity and addressing the SDOH, there is a vital need for resources to address the current staffing shortage. The current volume of DHEC staff is insufficient to achieve health equity and address the SDOH in every county of our state, with many staff assigned to serve in multiple roles and some public services reduced. The 46 counties in SC have differing needs, available resources, and levels of community engagement. With the current personnel shortages, staff do not have the necessary time to build trust and foster relationships in each county, preventing the needs of communities from being fully met. This is particularly apparent in counties with the most vulnerable populations.

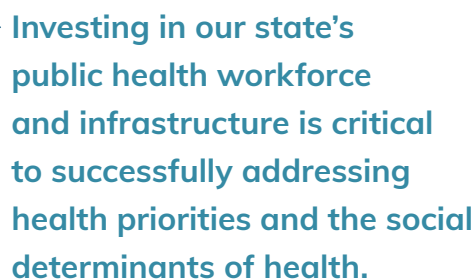
While the emergent crisis of the COVID-19 pandemic led to scenarios in which the agency was unable to meet community expectations, there were also instances of successful collaborations and unique partnerships that began during this time. One such example is with The Edward Via College of Osteopathic Medicine (VCOM) - Carolinas Campus. DHEC's severe staffing shortage limited the provision of COVID-19 immunizations in an underserved community in Spartanburg, SC, until the agency, through a unique partnership with VCOM, used medical students to vaccinate people in large COVID-19 clinics. This new partnership then transitioned to providing mobile immunization clinics – and now mobile STD clinics – with VCOM students.

Additional staffing capacity is needed within the agency to continue collaborations with VCOM and other entities across the state.

Through DHEC's bridge strategic plan (2022-2024), agency workforce and infrastructure are key components that are being addressed through investment and provision of quality services:

- Invest in the development of our current and future workforce and infrastructure to ensure our teams have the resources they need to continue to provide mission-critical services for all South Carolinians.

- Advance DHEC's organizational capacity to provide quality internal and external services by focusing on workforce recruitment, retention, and engagement; agency funding and investments; and internal process improvements



Investing in our state's public health workforce and infrastructure is critical to successfully addressing health priorities and the social determinants of health.

Primary Care and Oral Health Care in SC¹⁵

To understand the health needs of South Carolinians and guide future activities and investments, the SC Office of Primary Care engaged the SC Office of Healthcare Workforce (SCOHW) within the SC Area Health Education Consortium (AHEC) to assist in developing statewide primary care, oral health, and mental health needs assessments.

This work included:

1. Analyzing unmet needs, care and access disparities, and health workforce issues affecting the availability of primary care physicians and dental care.
2. Engaging multiple stakeholder organizations in SC to get feedback on needs assessment methods and measures, and help identifying infrastructure challenges and assets affecting access to care in the state.

3. Assisting the Office of Primary Care in sharing the methodology and results of the needs assessment with the federal Health Resources and Services Administration and with partners and stakeholders across SC.

The SCOHW convened advisory committees that included representation from the SC Office of Primary Care, SC Office of Rural Health, SC Primary Health Care Association, SC Area Health Education Consortium, the SC Revenue and Fiscal Affairs Office, SC Medicaid, SC Division of Oral Health, and the MUSC College of Dental Medicine. Members of the committees served as subject matter experts and data sources throughout the development of the primary care and oral health needs assessment reports.

Key Findings for Primary Care Needs Assessment

- Only 61.5% of the need for services was met in the state's Primary Care Health Professional Shortage Areas (HPSAs) in 2019 (by dividing the number of physicians available to serve the population by the number of physicians necessary to eliminate the primary care HPSA) (Kaiser Family Foundation, 2019).
- In 2018, SC ranked 38th in availability of primary care physicians, with 80.1 primary care physicians per 100,000 population compared to 92.5 in the US (AAMC, 2019).
- There were 5,092 primary care physicians actively practicing in SC in 2019. All counties had at least one primary care physician with a primary practice location. Statewide, there are 1,011 people per active primary care physician (1011:1) (SCOHW, 2021).
- The number of primary care physicians in the state's non-metropolitan counties is declining, while the number of physician assistants is increasing modestly, and the number of nurse practitioners is growing sharply. (SCOHW, 2021)
- Current HPSA methodology does not account for nurse practitioners or physician assistants; in turn, HPSAs are not an accurate indicator of unmet need and may not effectively prioritize funding and programs to areas of greatest need.

Key Findings for Oral Health Needs Assessment

- All but two counties in SC are whole or partial Dental HPSAs.
- Only 41% of the need for oral health services was met in the state's dental HPSAs in 2019 (by dividing the number of dentists available to serve the population by the number of dentists necessary to eliminate the dental HPSA) (Kaiser Family Foundation, 2019).
- SC ranks 44th in availability of dentists, with 47.8 dentists per 100,000 population (America's Health Rankings, 2019).
- There were 2,463 dentists actively practicing in SC in 2019. All counties had at least one dentist with a primary practice location. Statewide, there are 2,090 people per active dentist (2090:1) (SCOHW, 2021).
- The majority (91.2%) of dentists practice in a metropolitan county, compared to 6.3% in micropolitan counties and 2.4% in non-metropolitan counties. (SCOHW, 2021)

SC has rich partnerships, many mechanisms in place to grow and support rural primary care providers, and a history of obtaining funding to support dental training

and community oral health initiatives. Yet, we still have disparities in access to health care and in health outcomes and have trouble recruiting and retaining physicians in rural areas. The state has not elected to expand Medicaid. Continued work is needed to sustain state, public and private partnerships; train, recruit and retain medical and dental providers for rural and underserved practice; and support payment and policy to improve overall physical and oral health outcomes.

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Marketplace

SC also has a health insurance marketplace platform where you can shop and sign up for affordable health insurance plans. The Marketplace sells insurance policies that may be subsidized by the federal government, depending on income and family size.¹⁶ There are currently five health carriers that

offer coverage in the SC marketplace. This includes AmBetter/Absolute Total Care, Blue Cross Blue Shield of SC, Cigna, Molina Health care, and Select Health of SC.¹⁷ In 2022, there were 300,392 people enrolled through SC's health insurance exchange, which is a 30% increase from 2021.¹⁸

Behavioral Health Capacity in SC

In 2021, AHEC's SCOHW assisted in development of the statewide mental health needs assessment at the request of DHEC's Office of Primary Care (OPC). The assessment captured feedback from multiple stakeholders on the methods and measures used during the needs assessment, barriers related to access to care, and the distribution of results with both state and federal partners. The SCOHW assessment also analyzed unmet needs, disparities in care and access, as well as health care workforce issues that affect access and availability of mental health services across SC.

Below are the key findings from this report:

- According to Mental Health America (2021), SC is ranked 45th in the nation on access to mental health care resources across the state, based on indicators such as adults with a mental illness that were uninsured or did not receive treatment, youth with major depression who did not receive mental health services and mental health workforce availability.
- In 2019, there were 694 total psychiatrists, and they were unevenly distributed across the state.
 - There were no active psychiatrists reporting a primary practice location in 16 counties and half of those were non-metropolitan.
 - Three-quarters (74%) of active psychiatrists were in three metropolitan counties (Charleston, Richland, and Greenville) where one-quarter (26%) of the state's population lives.
- There were 87 child and adolescent psychiatrists for 1,247,839 children aged 0-19. This translates to a statewide ratio of 0.7 child psychiatrists per 10,000 children, or 14,343 children per child psychiatrist. Except for two psychiatrists, most had primary practice locations in metropolitan counties.¹⁹

Published in the 2021 SC Health Professions Data Book, the SCOHW found that 13.7% of adults in SC do not have medical insurance, 2.8% are unemployed, 37.7% of households have an income less than \$25,000, 43.3% of SC adults possess a high school education or less, and 1,065,536 South Carolinians had full Medicaid benefits (including CHIP recipients).²⁰

The 2022 America's Health Rankings showed multiple negative behavioral health impacts towards South Carolinians regarding exercise, including those having a dedicated health care provider and/or a primary care provider, public health funding, the availability of mental health providers, insufficient sleep, physical inactivity, smoking, non-medical drug use within the past year, teen births, violent crime, experiencing frequent physical and mental distress, being food insecure, having multiple chronic conditions, occupational fatalities, adverse childhood experiences, the high school graduation rate, high-risk HIV behaviors, and premature deaths. Of them all, premature deaths have the most negative impacts. These impacts played a large part in ranking SC as 32nd in Adverse Childhood Experiences and 41st in overall behavioral health including being ranked as

35th in drug deaths, 19th in excessive drinking 40th in frequent mental health distress (having 14 or more poor mental health days in a 30-day period), 39th in past year non-medical drug use, and 27th in suicide.²¹

Data released in the 2023 State of Mental Health in America ranked SC as 44th in Access to Care (i.e., access to insurance, access to treatment, quality and cost of insurance, access to special education, and mental health workforce availability) and 41st in Mental Health Workforce Availability with one mental health provider (i.e., psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists and advanced practice nurses specializing in mental health care) for every 520 individuals. This is considerably higher than the U.S. average of one mental health provider for every 350 individuals.²²

There are some things available in SC to aid in providing more accessible behavioral health services for South Carolinians.

The SC Department of Mental Health (DMH) has received funding for multiple counties to create the “Highway to Hope” mobile clinics, which offers integrated mental and primary health care to adults and children ages 3 and older. They will accept anyone regardless of insurance status and are a multidisciplinary team including both an adult and child mental health professional, a registered nurse, a nurse practitioner, and will have telehealth access to a psychiatric specialist.²³

An online anonymous mental health screening tool that South Carolinians can use has also been developed between DMH and the SC Department of Alcohol and Other Drug Abuse Services (DAODAS) that will allow someone to dialogue with a professional counselor at their convenience, receive additional information and support about mental health and substance abuse, as well as connect to services if interested.²⁴

The DMH’s Office of Suicide Prevention has also implemented the SC’s Communities of Care program where people struggling with self-harm and suicidal thoughts can reach out to friends, family, neighbors, local business owners, etc., that have been trained in trauma-informed suicide prevention strategies and can help connect that person to mental health resources before it is too late. ²⁵

Initially funded by the Rural Communities Opioid

Response Program (RCORP), local coalitions in Georgetown County, along with multiple state agencies including, but not limited to, SCORH, DHEC, DMH, and DAODAS, are working towards reducing the stigma and shame surrounding mental health, substance use, and recovery with their #OpenADoor campaign. Key stakeholders have been trained in facilitating community conversations to change community perceptions on behavioral health so that those who are suffering feel more open to seeking assistance with problems they may be facing. Ultimately, they hope to have businesses and community members trained to help facilitate individuals seeking additional. ²⁶

BOBC2 (Bringing Our Best Care Consortium), serving Bamberg, Orangeburg, Barnwell, and Calhoun counties, was created to build cooperation, trust, and action among behavioral health providers to improve the lives of residents in these four counties. The consortium strives to strengthen partnerships, increase resource sharing, and bridge gaps to address the behavioral health needs in those four counties. The consortium is taking pieces from SCORH’s existing behavioral health consortium in Orangeburg County and leveraging the Regional Medical Center’s (RMC) commitment to community partnerships. The core committee consists of representatives from SCORH, the Tri-County Commission on Alcohol and Drug Abuse (TCCADA), RMC, and Orangeburg County.²⁷

While access to mental health care appears to be a complex issue, SC does have rich partnerships and multiple stakeholders examining ways to increase access to mental and behavioral health services in the state. However, our biggest barrier continues to be our workforce availability statewide.

According to the 2021 SC Mental Health Needs Assessment, “continued work is needed to sustain state, public and private partnerships; train, recruit and retain psychiatrists and other mental health

providers for rural and underserved practice; and support payment and policy to improve overall mental and physical health outcomes.”²⁸

Public Health Capacity Through Engagement and Partnerships

Capacity through State-level Engagement and Partnerships

Many of the partners mentioned throughout this assessment collaborate statewide to impact the health of South Carolinians. These partnerships enhance the capacity of the state to attract funding and evaluate initiatives and their impact on community health. They also allow the state to assess challenging social and health issues using the collective impact model whereby diverse partners collaborate to maximize their resources towards shared goals and objectives. Partnerships are crucial in public health as many issues are multifaceted and require a variety of knowledge, skills, and expertise. Multi-sector and statewide collaboration is essential to implement evidence-based health policies, environmental interventions,

and systems approaches that address social determinants of health for major chronic diseases. For instance, tobacco cessation programs alone are insufficient to tackle the issues of cancer, heart, or lung disease; it requires simultaneous efforts in several areas such as the promotion of healthy eating and active living strategies and policy, systems, and environmental changes to have a sustainable impact. Partnerships and engagement between state-level and local agencies can build trust and empower local communities to secure funding and resources to build long-term, sustainable policies, programs, and initiatives.


Capacity through Local Level Engagement and Partnerships

Partnerships and engagement on a local level are similar to those on a state level but occur on a more granular scale and concentrate on community opportunities, priorities, and initiatives. Many of these partnerships function as coalitions that assess and focus on specific health priorities, such as chronic disease, HIV, STIs, maternal and child health issues, and tobacco and substance misuse. These coalitions include health care systems, schools, Federally Qualified Health Centers, hospitals, behavioral health agencies, DHEC county offices, city and county planning and development offices, colleges and universities, faith communities, community advocates and leaders, and many more. Additionally, efforts on this level often bring nontraditional partners, like law

enforcement, businesses, and members of the affected populations, to the table to assist in addressing the health of their communities. Many of these communities across South Carolina have participated in a local community health assessment (CHA) and community health improvement plan (CHIP) similar to SHA and SHIP. This comprehensive assessment and priority process allows communities to identify their health priorities and more effectively target their efforts. Priorities defined in the local CHA and CHIP are also captured in the state-level SHA and SHIP to assure that local community voices are heard and considered in state-level planning and promotion.

The COVID-19 pandemic exposed many complex

challenges to public health systems. The engagement and partnerships that occur on the state and local level facilitate implementation of the collective impact model to thoroughly address these challenges and improve the lives of South Carolinians. In public health, change is slow, and results are slower, which is why it is crucial that engagement efforts are sustainable, and partners are committed long-term.



These efforts and partners will enhance public health systems to address issues timely, identify upstream causes, and provide lasting solutions that support healthy, sustainable behaviors and environments.

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24. (2023) Retrieved from Hope Connects You Self Check Questionnaire: <https://hope.connectsyou.org/welcome.cfm>
25. (2020). Retrieved from SCDMH - Communities of Care: <http://osp.scdmh.org/communities-of-care/>
26. Retrieved from RCORP-TA - South Carolina Office of Rural Health: <https://www.rcorp-ta.org/grantees/implementation-i-south-carolina-office-rural-health>
27. Retrieved from South Carolina Office of Rural Health - BOBC2: <https://scorh.net/bobc2/>
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Appendices



Appendix A: Alliance Member Directory

Able South Carolina

<https://www.able-sc.org/>

AccessHealth SC

<https://scha.org/initiatives/healthier-communities/accesshealth/>

AnMed Health

<https://anmed.org/>

AstraZeneca

<https://www.astrazeneca.com/>

Atrium Health

<https://atriumhealth.org/>

Benefits Data Trust

<https://bdtrust.org/sc-benefits-center/>

BlueCross BlueShield of SC Foundation

<https://www.bcbsscfoundation.org/>

BlueCross BlueShield South Carolina

<https://www.southcarolinablues.com/web/public/brands/sc/>

Bon Secours St. Francis Health System, Inc

<https://www.bonsecours.com/locations/hospitals-medical-centers/greenville>

Centene of South Carolina

<https://www.centene.com/products-and-services/browse-by-state/south-carolina.html>

Center for Applied Research and Evaluation

https://www.sc.edu/study/colleges_schools/public_health/research/research_centers/care/index.php

Center for Community Health Alignment

<https://communityhealthalignment.org/>

Children's Trust of South Carolina

<https://scchildren.org/>

Clemson Rural Health

<https://www.clemson.edu/cbshs/about/building-communities/index.html>

Drs. Bruce & Lee Foundation Fact Forward

<https://www.factforward.org/>

Family Connections of South Carolina

<https://www.familyconnectionsc.org/>

Furman University Institute for the Advancement of Community Health

<https://www.furman.edu/institute-advancement-community-health/>

Health Sciences South Carolina

<https://www.healthsciencessc.org/>

Humana Healthy Horizons™ in South Carolina

<https://www.humana.com/medicaid/south-carolina>

Lexington Medical Center

<https://www.lexmed.com/>

March of Dimes

<https://www.marchforbabies.org/>

McLeod Health

<https://www.mcleodhealth.org/>

Medical University of South Carolina

<https://web.musc.edu/>

Molina Health care of South Carolina

<https://www.molinahealthcare.com/>

New Morning Foundation

<https://newmorning.org/>

Palmetto Care Connections

<https://www.palmettocareconnections.org/>

PASOs Programs

<https://www.scpasos.org/>

Prisma Health

<https://www.prismahealth.org/home>

Roper St. Francis Health care

<https://www.rsfc.com/>

SC Areas Health Education Consortium (SC AHEC)

<https://www.scahec.net/>

SC Association of Council on Aging Directors

<https://scaging.wordpress.com/>

SC Association of Health Underwriters

<https://scahu.org/>

SC Center for Rural and Primary Health care
https://sc.edu/study/colleges_schools/medicine/centers_and_institutes_new/center_for_rural_and_primary_healthcare/index.php

SC Community Health Worker Association
<https://scchwa.org/>

SC Department of Disabilities and Special Needs
<https://ddsn.sc.gov/>

SC Department of Health and Environmental Control
<https://scdhec.gov/>

SC Department of Health and Human Services
<https://www.scdhhs.gov/>

SC Department of Mental Health
<https://scdmh.net/>

SC Department on Aging
<https://aging.sc.gov/>

SC Free Clinic Association
<https://www.scfreeclinics.org/>

SC Hospital Association
<https://scha.org/>

SC Institute of Medicine and Public Health
<https://imph.org/>

SC Medical Association
<https://www.scmedical.org/>

SC Nurses Association
<https://www.scnurses.org/>

SC Office of Rural Health
<https://scorh.net/>

SC Primary Health Care Association
<https://www.scphca.org/>

SC Telehealth Alliance
<https://sctelehealth.org/>

SC Thrive
<https://scthrive.org/>

Select Health of South Carolina Inc
<https://www.selecthealthofsc.com/>

Self Regional Health care
<https://www.selfregional.org/>

Spartanburg Regional Health care System
<https://www.spartanburgregional.com/>

Special Olympics South Carolina
<https://so-sc.org/>

The Carolinas Center for Hospice and End of Life Care
<http://cchospice.org>

The Carolinas Center for Medical Excellence
<https://www.thecarolinascenter.org/>

The Duke Endowment
<https://www.dukeendowment.org/>

Tidelands Health
<https://www.tidelandshealth.org/>

Unite Us
<https://uniteus.com>

United Way Association of South Carolina
<https://www.uwasc.org/>

UnitedHealth Care
<https://www.uhc.com/>

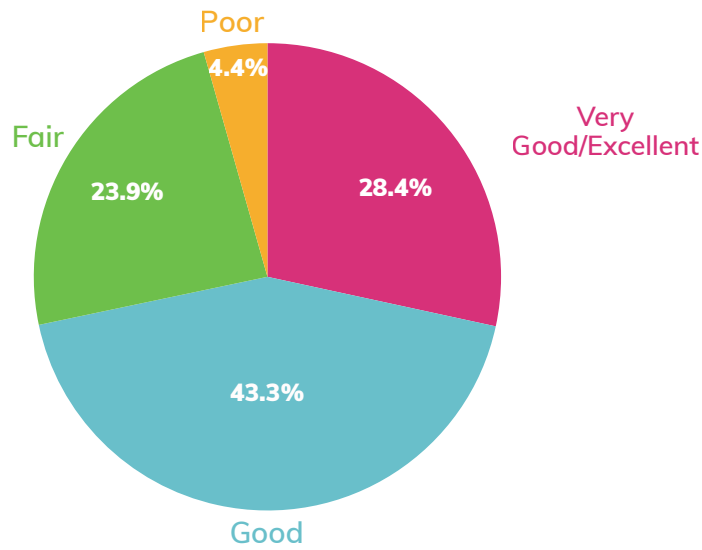
University of South Carolina College of Pharmacy
https://sc.edu/study/colleges_schools/pharmacy/index.php

VCOM-Carolinas
<https://www.vcom.edu/>

FIGURE 2

How Healthy is Your Community?

Percent



Source: SC Community Health Needs Assessment, 2023.

Notes: Data collection as of August 24, 2023.

Among Individuals

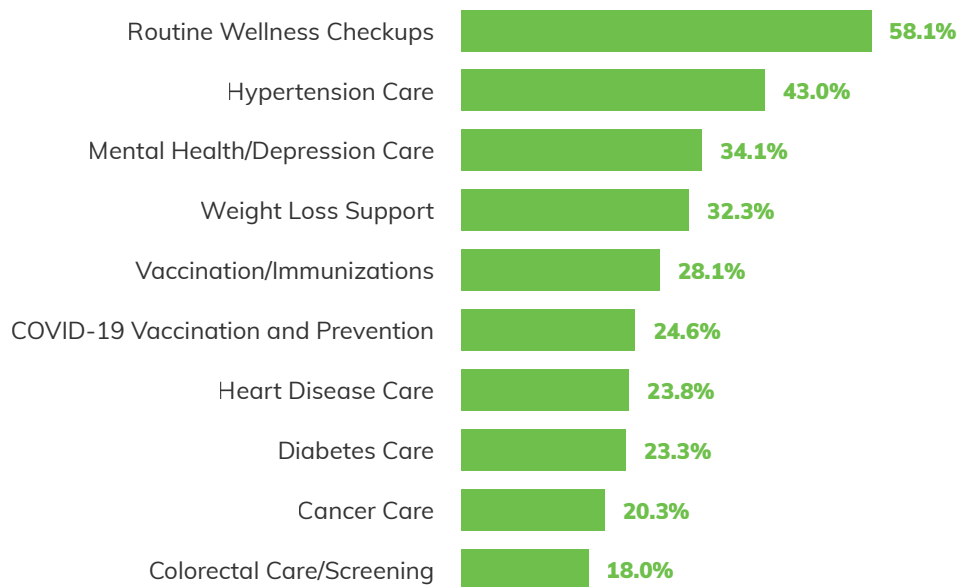
Survey respondents were asked to identify the health services that were most important to keeping you healthy. The leading response, with nearly 60% of survey respondents listing it in the top four, was attending routine wellness checkups (Figure 3). Other

common responses included hypertension care (43.0%), mental health/depression care (34.1%), and weight loss support (32.3%). It is important that individuals are able to be linked to care or aware of services that are provided in the state.

FIGURE 3

Top Four Health Services Most Important to Keeping You Healthy

Percent



Source: SC Community Health Needs Assessment, 2023.

Notes: Data collection as of August 24, 2023.

Over two in five survey respondents listed having access to care as the leading health factor for a healthy community (**Figure 4**). Clinical preventive services, mental health care, obesity, nutrition, and physical activity services, and maternal, infant, and child health care services rounded out the top five health factors

for a healthy community. Other health factors needed for a healthy community included oral health services, tobacco use cessation, injury and violence prevention, sexual health services, and substance misuse services.

FIGURE 4

Leading Health Factors for a Healthy Community

Access to Care



Obesity, Nutrition, & Physical Activity




Mental Health Services



Clinical Preventive Services



Appendix B: South Carolina Community Health Needs Assessment Survey

	<h3>SC Community Health Needs Assessment</h3>
<p>The purpose of this survey is to hear about your healthcare needs so we can create and deliver healthcare services that matter most to you and your family. It will take about 10 minutes to complete this survey and responses will remain anonymous. If you do not feel comfortable answering a question, please feel free to skip to the next question.</p>	

DEMOGRAPHICS	
1. County:	
2. Zip Code:	
3. Age:	
4. Gender Identity:	<input type="checkbox"/> Female <input type="checkbox"/> Male <input type="checkbox"/> Non-Binary <input type="checkbox"/> Transgender <input type="checkbox"/> Other: _____
5. Race <i>(check all that apply)</i>	<input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Asian <input type="checkbox"/> Black or African American <input type="checkbox"/> Native Hawaiian or Pacific Islander <input type="checkbox"/> White or Caucasian <input type="checkbox"/> Other: _____
6. Ethnicity	<input type="checkbox"/> I am of Hispanic, Latino or Spanish origin <input type="checkbox"/> I am not of Hispanic, Latino or Spanish origin
7. Do you identify as a member of the LGBT+ community?	<input type="checkbox"/> Yes <input type="checkbox"/> No
8. Are you a veteran?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Currently Enlisted
9. What is the highest degree or level of school you have completed?	<input type="checkbox"/> Some high school, but no diploma <input type="checkbox"/> High school diploma (or GED) <input type="checkbox"/> Some college credit but no degree <input type="checkbox"/> Associate's degree <input type="checkbox"/> Bachelor's degree <input type="checkbox"/> Master's degree <input type="checkbox"/> Terminal graduate degree (PhD, MD, DO, etc.) <input type="checkbox"/> Other: _____

<p>10. What is your current employment status? (choose all that apply)</p>	<p><input type="checkbox"/> Employed, working full-time <input type="checkbox"/> Employed, working part-time <input type="checkbox"/> Homemaker <input type="checkbox"/> Military <input type="checkbox"/> Self-employed <input type="checkbox"/> Student <input type="checkbox"/> Retired <input type="checkbox"/> Out of work, and looking for work <input type="checkbox"/> Out of work, and not currently looking for work <input type="checkbox"/> Unable to work, disabled <input type="checkbox"/> Other: _____</p>
<p>11. What was your total household income last year before taxes?</p>	<p><input type="checkbox"/> Less than \$10,000 <input type="checkbox"/> \$10,000-\$24,999 <input type="checkbox"/> \$25,000-\$49,999 <input type="checkbox"/> \$50,000-\$99,999 <input type="checkbox"/> \$100,000-\$199,999 <input type="checkbox"/> \$200,000 or over</p>
<p>12. How many people live in your house (including you)?</p>	

ABOUT YOUR HEALTH

<p>13. I have the following types of health insurance: (choose all the apply)</p>	<p><input type="checkbox"/> Commercial Insurance, individual <input type="checkbox"/> Commercial Insurance, supported by employer or school <input type="checkbox"/> Medicaid <input type="checkbox"/> Medicare <input type="checkbox"/> Tricare, active military and veterans <input type="checkbox"/> No health insurance <input type="checkbox"/> Other: _____</p>
<p>14. My insurance plan includes: (choose all that apply)</p>	<p><input type="checkbox"/> Dental <input type="checkbox"/> Vision <input type="checkbox"/> I do not have health insurance</p>
<p>15. I have a primary care provider:</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>16. In general, I would rate my overall health as:</p>	<p><input type="checkbox"/> Excellent <input type="checkbox"/> Very Good <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor</p>

<p>17. What types of health services are most important to keep YOU healthy? <i>Check your four top services.</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Hypertension/Blood pressure care <input type="checkbox"/> Cancer care <input type="checkbox"/> Fall prevention for elderly <input type="checkbox"/> Colorectal care/screening <input type="checkbox"/> HIV/AIDS/STD <input type="checkbox"/> Heart disease care <input type="checkbox"/> Diabetes care <input type="checkbox"/> Quitting smoking/tobacco products <input type="checkbox"/> Drug and alcohol misuse <input type="checkbox"/> Suicide prevention <input type="checkbox"/> Alzheimer’s/Dementia care <input type="checkbox"/> COVID vaccination or other prevention resources <input type="checkbox"/> Emergency preparedness <input type="checkbox"/> Mental health/depression care <input type="checkbox"/> Routine wellness checkups (Mammogram/Cholesterol/Immunization) <input type="checkbox"/> Weight loss support <input type="checkbox"/> Nutrition for prenatal care <input type="checkbox"/> Vaccination/Immunization <input type="checkbox"/> Other: _____
<p>18. I get most of my health information and education from: <i>(check your top three)</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Church <input type="checkbox"/> Doctor or healthcare provider <input type="checkbox"/> Family, friends <input type="checkbox"/> Health department <input type="checkbox"/> Hospital <input type="checkbox"/> Internet (WebMD, Healthline, etc.) <input type="checkbox"/> Newspaper, magazines <input type="checkbox"/> Radio, television <input type="checkbox"/> School, college <input type="checkbox"/> Social media (Facebook, TikTok, etc.) <input type="checkbox"/> Work <input type="checkbox"/> Other: _____
<p>19. I typically get routine health care services (non-emergencies) from:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Emergency Room <input type="checkbox"/> Health Department <input type="checkbox"/> Physician’s Office <input type="checkbox"/> Urgent Care <input type="checkbox"/> Grocery or Drug Store Clinic <input type="checkbox"/> I do not receive routine health care services <input type="checkbox"/> Other: _____

20. Please rank the health issues listed from most concerning (10) to least concerning (1) for you and your family:

- Access to care
- Clinical preventive services
- Oral health
- Sexual health
- Substance misuse
- Tobacco use
- Injury and violence
- Maternal, infant, and child health
- Mental health
- Obesity, nutrition, and physical activity

SOCIAL DETERMINANTS OF HEALTH					
Social determinants of health are the conditions in which we live, work, learn, and play that affect a wide range of health and wellness outcomes. The questions in this section will ask about your core social determinants of health.					
21.	Always	Usually	Sometimes	Hardly Ever	Never
I am worried or concerned that I may not have stable housing within the next two months.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Within the past 12 months, the food I bought just didn't last and I did not have the money to get more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I put off or avoid going to the doctor because of distance or transportation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In the past 12 months, my electric, gas, or water company has threatened to shut services in my home.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have enough money to pay my bills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am physically active for at least 30 minutes every day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have access to a smart device (cellphone, tablet, computer) that I know how to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. My main form of transportation is:	<input type="checkbox"/> Family, friends <input type="checkbox"/> Personal vehicle <input type="checkbox"/> Public transportation (i.e. bus) <input type="checkbox"/> Taxi, rideshare company (i.e. Uber, Lyft) <input type="checkbox"/> Walk or bicycle <input type="checkbox"/> Other: _____
23. I would be OK talking face-to-face with my doctor using the internet (video visits, online chat, etc.)	<input type="checkbox"/> Strongly Agree <input type="checkbox"/> Agree <input type="checkbox"/> Neutral <input type="checkbox"/> Disagree <input type="checkbox"/> Strongly Disagree
24. My community is a safe place to live.	<input type="checkbox"/> Strongly Agree <input type="checkbox"/> Agree <input type="checkbox"/> Neutral <input type="checkbox"/> Disagree <input type="checkbox"/> Strongly Disagree
25. My community is a safe place to live because:	<input type="checkbox"/> There is safe housing. <input type="checkbox"/> There are safe places to play. <input type="checkbox"/> There are safe places to work. <input type="checkbox"/> There are safe schools. <input type="checkbox"/> There is good street lighting. <input type="checkbox"/> There are safe roads and sidewalks. <input type="checkbox"/> There are safe ways to get to where I need to go (transportation). <input type="checkbox"/> There are good fire/safety/emergency services. <input type="checkbox"/> There is a strong faith-based community.

ABOUT YOUR COMMUNITY

26. I would rate the overall health of my community as:	<input type="checkbox"/> Excellent <input type="checkbox"/> Very Good <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
27. The main reason that prevents people in my community from receiving preventative screenings and care:	<input type="checkbox"/> Access to health facilities <input type="checkbox"/> Cost <input type="checkbox"/> Fear <input type="checkbox"/> Lack of knowledge <input type="checkbox"/> Other: _____ _____

<p>28. The main reason the prevents my community from eating healthy foods is:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Don't cook at home <input type="checkbox"/> No grocery store nearby <input type="checkbox"/> Eat fast food regularly <input type="checkbox"/> May not know how to eat healthy <input type="checkbox"/> No community gardens <input type="checkbox"/> Stores don't accept SNAP/EBT/WIC <input type="checkbox"/> Too expensive <input type="checkbox"/> Stores don't have quality fruits and vegetables <input type="checkbox"/> Too tired after work <input type="checkbox"/> No farmers market <input type="checkbox"/> Other: _____
<p>29. The main reason that prevents people in my community from being physically active is:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Not enough sidewalks or bike lanes <input type="checkbox"/> Personal choice <input type="checkbox"/> Safety <input type="checkbox"/> Weather <input type="checkbox"/> No community events <input type="checkbox"/> Other: _____
<p>30. I believe mental and behavioral health issues can be treated effectively with: <i>(choose all that apply)</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Medication <input type="checkbox"/> Therapy <input type="checkbox"/> Support groups <input type="checkbox"/> I do not believe mental or behavioral health issues can be treated. <input type="checkbox"/> Other: _____
<p>31. The main reason that prevents people in my community from treating their mental or behavioral health issues is:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Stigma <input type="checkbox"/> Shame/Embarrassment <input type="checkbox"/> Lack of Awareness <input type="checkbox"/> No Community Resources <input type="checkbox"/> Too Expensive <input type="checkbox"/> Other: _____

<p>CHILD'S HEALTH</p>	
<p>32. I am a parent or guardian of a child (or children) under the age of 18.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Yes <input type="checkbox"/> No

<p>33. The main reason that prevents children in my community from eating health foods:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Parent(s) do not cook at home <input type="checkbox"/> No grocery store nearby <input type="checkbox"/> Family eats fast food regularly <input type="checkbox"/> May not know how eat healthy <input type="checkbox"/> No community gardens <input type="checkbox"/> Stores don't accept SNAP/EBT/WIC <input type="checkbox"/> Too expensive for parent/guardian <input type="checkbox"/> Stores don't have quality fruits or vegetables <input type="checkbox"/> Parents are too tired after work <input type="checkbox"/> No farmers market <input type="checkbox"/> Other: _____
<p>34. The main reason that prevents children in my community from being physically active:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Not enough sidewalks or bike lanes <input type="checkbox"/> Parent schedule <input type="checkbox"/> Safety <input type="checkbox"/> School schedule <input type="checkbox"/> Weather <input type="checkbox"/> No community events <input type="checkbox"/> Other: _____

<p>ABOUT YOUR PROFESSION</p>	
<p>35. Are you a physician, medical professional, social services, or community resource provider?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>THIS SECTION IS FOR MEDICAL SERVICE PROFESSIONALS ONLY</p>	
<p>36. Which county does your organization or practice primarily serve?</p>	
<p>37. What is the age group of your primary population? <i>(choose all that apply)</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> 0-5 years old <input type="checkbox"/> 6-17 years old <input type="checkbox"/> 18-24 years old <input type="checkbox"/> 25-34 years old <input type="checkbox"/> 35-44 years old <input type="checkbox"/> 45-54 years old <input type="checkbox"/> 55-64 years old <input type="checkbox"/> 65 years old and older

38. Please rate the health issues that concern your primary population from 1 (least concerning) to 5 (most concerning).					
	1	2	3	4	5
Access to care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clinical preventive services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sexual health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Substance misuse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tobacco use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Injury and violence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maternal, infant, and child health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mental health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Obesity, nutrition, and physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. What is the primary barrier to accessing HEALTHCARE SERVICES for the population you serve?	<input type="checkbox"/> Affordability <input type="checkbox"/> Being uninsured <input type="checkbox"/> Cultural issues <input type="checkbox"/> Lack of knowledge about resources <input type="checkbox"/> Lack of transportation <input type="checkbox"/> Lack of trust of provider <input type="checkbox"/> Other: _____				
40. What is the primary barrier to accessing SOCIAL SUPPORT SERVICES for the population you serve?	<input type="checkbox"/> Affordability <input type="checkbox"/> Being uninsured <input type="checkbox"/> Cultural issues <input type="checkbox"/> Lack of knowledge about resources <input type="checkbox"/> Lack of transportation <input type="checkbox"/> Lack of trust of provider <input type="checkbox"/> Other: _____				

Appendix C: Healthy People 2030

Healthy Communities

NWS-01: Reduce household food insecurity and hunger

PA-01: Reduce the proportion of adults who do no physical activity in their free time

PA-05: Increase the proportion of adults who do enough aerobic and muscle-strengthening activity

HAI-02: Reduce MRSA bloodstream infections that people get in the hospital

HAI-01: Reduce C. diff infections that people get in the hospital

Healthy Mothers and Infants

MICH-07: Reduce preterm births

MICH-08: Increase the proportion of women who get screened for postpartum depression

MICH-13: Increase the proportion of women who had a healthy weight before pregnancy

MICH-14: Increase the proportion of infants who are put to sleep on their backs

Healthy Children and Adolescents

IVP-11: Reduce physical fighting among adolescents

MHMD-02: Reduce suicide attempts by adolescents

NWS-04: Reduce the proportion of children and adolescents with obesity

PA-06: Increase the proportion of adolescents who do enough aerobic physical activity

Healthy Adults

C-01: Reduce the overall cancer death rate

C-02: Reduce the lung cancer death

C-04: Reduce the female breast cancer death rate

C-04: Reduce the female breast cancer death rate

C-06: Reduce the colorectal cancer death rate

C-08: Reduce the prostate cancer death rate

C-0: Increase the proportion of females who get screened for cervical cancer

HDS-02: Reduce coronary heart disease deaths

HDS-04: Reduce the proportion of adults with high blood pressure

IID-12: Reduce the rate of acute hepatitis C

IVP-01: Reduce fatal injuries

IVP-06: Reduce deaths from motor vehicle crashes

IVP-07: Reduce the proportion of deaths of car passengers who weren't buckled in

IVP-09: Reduce homicides

IVP-13: Reduce firearm-related deaths

IVP-20: Reduce overdose deaths involving opioids

IVP-21: Reduce overdose deaths involving natural and semisynthetic opioids

IVP-22: Reduce overdose deaths involving synthetic opioids other than methadone

IVP-23: Reduce overdose deaths involving heroin

IVP-24: Reduce overdose deaths involving methadone

MHMD-01: Reduce the suicide rate

NWS-03: Reduce the proportion of adults with obesity

SU-02: Reduce the cirrhosis deaths

SU-03: Reduce drug overdose death

SU-10: Reduce the proportion of people aged 21 years and over who engaged in binge drinking in the past month

TU-02: Reduce current cigarette smoking in adults

Healthy Aging

DIA-03: Increase the proportion of adults with subjective cognitive decline who have discussed their symptoms with a provider

HDS-03: Reduce stroke deaths

IVP-05: Reduce fatal traumatic brain injuries

IVP-06: Reduce deaths from motor vehicle crashes

IVP-08: Reduce fall-related deaths among older adults

IVP-09: Reduce homicides

MHMD-01: Reduce the suicide rate

Appendix D: SHA Project Teams

DHEC Executive Advisory Team

Role	Member
DHEC Director	Edward Simmer
Chief of Staff	Karla Buru
Public Health Director	Brannon Traxler
State Health Improvement Director	Kobra Eghtedary
Public Health Senior Deputy Director	Nick Davidson
Chief Communications Officer	Cristi Moore
Chief Strategy and Engagement Officer	Cassandra Harris
Environmental Affairs Director	Myra Reece
State Health Improvement Strategist	Farren Allen
Director of Community Engagement	Suzanne Sanders

LHSC Project Management Team

Role	Member
State Health Improvement Director, DHEC	Kobra Eghtedary
Public Health Senior Deputy Director, DHEC	Nick Davidson
State Health Improvement Strategist, DHEC	Farren Allen
Director, Alliance for a Healthier SC	Monty Robertson
Community Engagement Director, DHEC	Suzanne Sanders
Health Improvement Consultant, Alliance for a Healthier SC	Barbara Grice
Program Manager, Alliance for a Healthier SC	Amanda Cohen

DHEC Planning Committee

Role	Member
State Health Improvement Director	Kobra Eghtedary
State Health Improvement Strategist	Farren Allen
Epidemiology, Analysis & Data Visualization Director	Katherine O'Shields
Chronic Disease and Injury Prevention Epidemiologist	Betsy Barton
Maternal and Child Health Epidemiologist	Carlos Avalos
Health Equity Epidemiologist Lead	Linda Kelemen
Director of Community Engagement	Suzanne Sanders
Population Health Surveillance Director	Josh Sellner
Biostatistics Director	Jun Tang
Medical Consultant	Jonathan Knoche
Administrative Coordinator	Karen Gambrell

LHSC Advisory Committee

Organization	Member
SC Office of Rural Health	Graham Adams
SC Department of Health and Environmental Control	Farren Allen
SC Primary Health Care Association	Chandra Beasley
United Way Association of South Carolina	John-Mark Bell
SC Department of Health and Environmental Control	Karla Buru
Revenue and Fiscal Affairs Office	Sarah Crawford
AnMed Health	Michael Cunningham
Department of Disability and Special Needs	Harley Davis
SC Department of Health and Environmental Control	Kobra Eghtedary
AstraZeneca	Morgan Evans
Furman University	Melissa Fair
AARP	Charmaine Fuller-Cooper
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Appendix E: Data Sources

2022 SCICH State of Homelessness Report

- Owner: SC Interagency Council on Homelessness
- Type: Secondary
- Overview: This report was prepared by the South Carolina Interagency Council on Homelessness (SCICH), its partner agencies and the state's four US Dept of HUD Continuums of Care (CoC). This report takes a broad look at homelessness across our state, but also provides a closer look at varying data sets, when in comparison, offer a holistic view of the state of homelessness in South Carolina. Many of these data sets include key trends and indicators that provide our communities with the data needed to prepare for the months and years ahead, as we work together to make homelessness brief, rare and non-recurring.
- Strength(s): The data sources used in this report include South Carolina HMIS data, Point in Time Count data, data from the US Department of Veterans Affairs, McKinney-Vento data (data on children experiencing homelessness in SC schools); PATH data (Projects for Assistance in Transition from Homelessness), data from the SC Department of Corrections, and United Way's 211 system.
- Limitation(s): COVID-19 had impacted the collection of the primary sources (i.e.) of this secondary source. When working with secondary data, one of the challenges is the potential difficulty in identifying the suitable variables that align with our specific objectives.
- Access: <https://www.schomeless.org/>

American Community Survey (ACS)

- Owner: US Census Bureau
- Type: Secondary
- Overview: The American Community Survey is conducted by the US Census and provides a way for analyzing social, economic, and geographic data. It provides socioeconomic information about individuals at the national, state, county, and zip code level.
- Strength(s): It provides local and national leaders with the information they need for programs,

economic development, emergency management, and understanding local issues and conditions.

- Limitation(s): Assessment done every two years, doesn't test every area of water.
- Access: <https://www.census.gov/en.html>

Annual Impact 2022

- Owner: SC Office of Rural Health
- Type: Secondary
- Overview: This document summarizes the various programs SC ORH in SC and its impact.
- Strength(s): The Annual Impact Report 2022 from the South Carolina Office of Rural Health (SCORH) provides valuable insights into their efforts to promote health equity and strengthen rural communities in South Carolina.
- Limitation(s): The report relies on available data, which may have limitations such as incomplete records or delays in reporting. The report primarily focuses on past achievements. It may not provide detailed projections for future impact.
- Access: <https://scorh.net/>

Annual State Public Water System Annual Reports

- Owner: SC DHEC, Bureau of Water
- Type: Primary
- Overview: The data is based on reported Public Water System inventory information, the incidence of Maximum Contaminant Level, Maximum Residual Disinfectant Level, monitoring and reporting of treatment technique violations, and information on enforcement activity related to these violations in South Carolina.
- Strength(s): Updated annually for all public water systems in the state
- Limitation(s): Does not highlight private water systems or provide demographic information of those living in the Public Water Systems.
- Access: <https://scdhec.gov/environment/your-home/drinking-water-protection-program-overview/drinking-water-quality>

Behavioral Risk Factor Surveillance System (BRFSS)

- Owner: SC DHEC, CDC
- Type: Primary
- Overview: BRFSS is the world's largest random telephone survey of noninstitutionalized population 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.
- Strength(s): 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.
- Limitation(s): 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.
- Access: <https://scdhec.gov/healthdata/behavioral-risk-factor-surveys>

Birth Defects Program

- Owner: SC DHEC
- Type: Primary
- Overview: In 2004, South Carolina government officials created a way to track birth defects through a law called "The South Carolina Birth Defects Act." The South Carolina Birth Defects Program (SCBDP) was created through this law. The SCBDP is required to monitor birth defects and refer families impacted by birth defects to services.
- Strength(s): From 2008-2017, the SCBDP identified over 12,000 cases of birth defects in South Carolina from patients admitted to inpatient facilities. These cases are found through the program's partnerships with hospitals.

- Limitation(s): Unfortunately, not all birth defects are found by the SCBDP due to patients with birth defects like those from families who may travel to other states for delivery or care.
- Access: <https://scdhec.gov/sites/default/files/Library/CR-012491.pdf>

America's Health Rankings (AHR)

- Owner: United Health Foundation
- Type: Secondary
- Overview: Concentrated advantage is a measure of 5 components: Percentage of households (with children) that are located in census tracts for which the averaged z-score of the following factors is above the 75th percentile for: 1) family households below the poverty line, 2) individuals receiving public assistance, 3) female-headed households, 4) unemployment ages 16 and older and 5) population younger than 18 .N.B. Major sources of this data is U.S. Census Bureau, American Community survey 2017 - 2020
- Strength(s): The data highlight areas of social and economic challenge. By focusing on neighborhoods with high poverty rates, unemployment, and other risk factors, it provides valuable insights for policymakers and researchers.
- Limitation(s): The data may not fully represent all disadvantaged areas, as it focuses on specific census tracts. Another limitation is that it is the data is aggregated at the census tract level, which may not capture local variations. In addition to this, some factors rely on self-reported information, which can introduce biases. Finally, it doesn't account for other contextual factors affecting disadvantage. Therefore we need to remember these limitations when interpreting the data.
- Access: https://www.americashealthrankings.org/explore/measures/concentrated_disadvantage_c/SC

County Health Rankings

- Owner: University of Wisconsin Population Health Institute
- Type: Secondary
- Overview: County Health Rankings provides

data, evidence, guidance, and examples to build awareness of multiple factors that influence health and support leaders in growing community power to improve health equity.

- Strength(s): Data are compiled annually from numerous data sources at the county level. Demographic stratifications are available for some of the indicators along with trend data. Allows for county comparisons.
- Limitation(s): Does not breakdown data at a sub-county level. Demographic breakouts are limited. Data updates can be several years old.
- Access: <https://www.countyhealthrankings.org/>

Crime in South Carolina Book

- Owner: SC SLED
- Type: Secondary
- Overview: The data utilized in the book is collected by South Carolina's Uniform Crime Reporting program for the purpose of law enforcement administration, operation, and management. All data is based on the incident and arrest reports submitted monthly by state and local law enforcement agencies to SLED. All law enforcement agencies are mandated under South Carolina's Code of Laws to report all criminal related data to SLED.
- Strength(s): All data are legislatively mandated to be reported. Routine quality checks and assurance steps are performed to ensure data accuracy.
- Limitation(s): Data for reports are only as complete and accurate as the information submitted to SLED. Unreported crimes are not included in the data book.
- Access: <https://www.sled.sc.gov/crimestatistics>

Decennial Census 2010

- Owner: U.S. Census Bureau
- Type: Secondary
- Overview: Population totals for the nation, states, counties, and Puerto Rico Population for the 2010 census.
- Strength(s): The census was able to reach all

households in the U.S. and Island Areas, providing a complete picture of the population. It captures essential information such as age, sex, race, ethnicity, and relationship status.

- Limitation(s): In Census tracts some individuals may not be counted due to factors like language barriers, homelessness, or fear of government. In addition to this, there can be sampling errors in data collection and reporting despite efforts of completeness. The data can also be outdated over time as demographics evolve rapidly. Also, not all households respond, leading to potential of non-response bias in the results.
- Access: <https://www.census.gov/data/developers/data-sets/decennial-census.html>

DHEC Brownfields Voluntary Cleanup Program

- Owner: SC DHEC, Bureau of Land and Waste Management
- Type: Secondary
- Overview: This data is maintained by the Bureau of Land and Waste Management and tracks execution, progress, and completion of progress of projects that support the return of land to beneficial use. The area restored is defined in the plans along with grants and loans associated with the cleanup projects.
- Strength(s): Timely data looking at cleanup programs in the state.
- Limitation(s): Rely on accurate reporting and data being submitted to SC DHEC.
- Access: <https://scdhec.gov/environment/pollution-types-advisories-monitoring/clean-projects-progress/brownfieldsvoluntary>

DHEC School Vaccine 45-Day Report

- Owner: SC DHEC
- Type: Primary
- Overview: South Carolina Code Section 44-29-180 (A) requires schools to maintain records of vaccinations or immunizations. Annually, South Carolina Department of Health and Environmental Control (DHEC) requires public and private schools to complete the School Summary of Student

Immunization Status to obtain the number of students enrolled in South Carolina schools that are adequately protected against certain vaccine-preventable diseases (DHEC Regulation 61-8).

- Strength(s): Principals/school administrators submit this report, which includes the number of students admitted to school with exemptions, within forty-five (45) calendar days after the beginning of each school year. This process also ensures that schools identify students who are not adequately protected and can either refer them to a health care provider for vaccination or have an available list in the case of a disease outbreak. In the case of an outbreak, students who are not vaccinated against the disease will be recommended to be excluded from school until the outbreak has been declared over.
- Limitation(s): The data represents a specific point in time and may not capture real-time changes or individual student vaccination status.
- Access: <https://scdhec.gov/health/vaccinations/childcare-school-vaccine-requirements/school-vaccination-coverage-data>

Disability & Health U.S. State Profile Data for South Carolina (Adults 18+ years of age)

- Owner: CDC
- Type: Secondary
- Overview: Provides some statistics based on BRFSS data.
- Strength(s): Fast facts.
- Limitation(s): Provides limited information/statistics.
- Access: <https://www.cdc.gov/ncbddd/disabilityandhealth/impacts/south-carolina.html>

Disability and Health Data System (DHDS) Data

- Owner: CDC
- Type: Secondary
- Overview: Provides counts and percentages of people in SC with various indicators using the BRFSS data. Includes disability estimates, demographics, mental health, general health conditions and health care access. Can stratify by age group, race/ethnicity and sex.
- Strength(s): Easy to use interface.

- Limitation(s): The data is based on surveys and may not fully represent all individuals with disabilities. This Data relies on self-reported information, which can be subject to recall bias or misclassification. Another limitation of this data system is absence of finer granularity (e.g., county or city-level) as it solely represent solely state level data.
- Access: <https://dhds.cdc.gov>

Division of Acute Disease Epidemiology

- Owner: SC DHEC
- Type: Primary
- Overview: This division publishes reports annually on numbers and rates of infectious diseases. This division is also responsible for collecting and monitoring reportable conditions. They house all COVID-19 and Hospital Associated Infection Data.
- Strength(s): 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.
- Limitation(s): Due to confidentiality issues, data for specific locations broken down by demographics is limited. Sub-county level is also limited due to small sample sizes.

Division of Tobacco Prevention and Control

- Owner: SC DHEC
- Type: Primary
- Overview: The Division monitors and tracks local smoke-free ordinances as they are adopted by cities, towns, and/or counties.
- Strength(s): The map is a visual representation of where the ordinances are located with an alphabetical listing of the municipalities with ordinances and the adoption date. The percentage of the population protected by the local ordinances is also calculated for cities and towns, and counties.
- Limitation(s): Updates for ordinances passed are received through a variety of sources including media posts and articles, regional staff, community partners and others. There may be a delay in receiving ordinance updates.

- Access: https://scdhec.gov/sites/default/files/media/document/CR-012574_Jan%202023_update%20FINAL.pdf

Economic Research Service Food Access Research Atlas

- Owner: US Department of Agriculture
- Type: Secondary
- Overview: Data highlights census tracts that qualify as a food desert, meaning they meet low-income and low-access thresholds.
- Strength(s): Data available at the census tract, allowing users to see small geographic levels of detail.
- Limitation(s): Unable to look at racial, ethnic, and other demographic disparities. Data updates do not occur annually.
- Access: <https://www.ers.usda.gov/amber-waves/2011/december/data-feature-mapping-food-deserts-in-the-us/>

Edisto Indian Free Clinic

- Owner: Edisto Indian Free Clinic
- Type: Primary
- Overview: Data are a snapshot from 64 American Indian patients seen at the Edisto Indian Free Clinic in 2021, mostly from rural Dorchester County. Edisto Indian Free Clinic has been serving the Lowcountry for over 12 years. They are a non-profit clinic that relies on grant funding and donations. The clinic provides quality care for uninsured, under-insured, and Medicaid patients. We serve Dorchester, Berkeley, Charleston, and Colleton counties. Everyone is seen by a Family Medicine Board Certified Nurse Practitioner, Physician Assistant, or Medical Doctor.
- Strength(s): Information is derived directly from a medical clinic and is objective and free from many of the biases associated with surveys (recall, volunteer biases, for example). Data complement the BRFSS state-wide data. Relatively speaking, sample of 64 for a hard-to-reach population is pretty good. Patients also represent rural residence. Represents one medical clinic.

- Limitation(s): Represents one medical clinic.
- Access: <https://edistoindianfreeclinic.com/index.html>

Enhanced HIV/AIDS Reporting Surveillance System

- Owner: SC DHEC
- Type: Primary
- Overview: Publishes reports annually on numbers and rates of STD and HIV.
- Strength(s): This is population-based data system that houses mandatory reportable HIV/AIDS data. State level data is available by several demographic breakdowns, and overall data is available by county. The eHARS does not contain STI data.
- Limitation(s): Data for specific locations broken down by demographics is limited.
- Access: <https://scdhec.gov/hiv-aids-std-data-reports>

Fatality Analysis Reporting System (FARS ARF)

- Owner: National Highway Traffic Safety Administration (NHTSA)
- Type: Secondary
- Overview: The Fatality Analysis Reporting System (FARS), which became operational in 1975, contains data on a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a traffic way customarily open to the public, and must result in the death of a vehicle occupant or a nonoccupant within 30 days of the crash.
- Strength(s): NHTSA has a cooperative agreement with an agency in each State's government to provide information on all qualifying fatal crashes in the State. These agreements are managed by the National Center for Statistics and Analysis (NCSA) State Data System, Office of Data Acquisition. Trained State employees, called FARS analysts, are responsible for gathering, translating, and transmitting their State's data to NCSA's standard format.
- Limitation(s): FARS data relies on the accuracy and completion of state's reports and files.

- Access: <https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars>

Health Resources and Services Administration (HRSA)

- Owner: Health Resources and Services Administration (HRSA)
- Type: Secondary
- Overview: HRSA provides data on various professional shortage areas, including looking at it by area, population, or facility.
- Strength(s): The Health Resources and Services Administration (HRSA) offers robust data on professional shortage areas. It includes information about underserved regions where there's a scarcity of healthcare providers. This data helps identify gaps in medical services, informs recruitment strategies, and guides resource allocation. HRSA's insights empower targeted interventions to address healthcare disparities.
- Limitation(s): Updates to the data may not be real-time, leading to potential discrepancies. Additionally, the accuracy and comprehensiveness of data can vary. Healthcare needs and provider availability can shift over time. The data also might not fully account for cultural, economic, or social factors affecting healthcare access.
- Access: <https://data.hrsa.gov/tools/shortage-area/hpsa-find>

Map the Meal Gap

- Owner: Feeding America
- Type: Secondary
- Overview: Map the Meal Gap is a study that provides overall and childhood food insecurity for every county and congressional district in the United States as well as local food insecurity estimates for several racial and ethnic groups.
- Strength(s): Data are regularly updated and allows the user to look at various demographic and geographic groups.
- Limitation(s): Data does not include zip code or other smaller geographic areas. Various demographic groups are unavailable.

- Access: <https://www.feedingamerica.org/research/map-the-meal-gap/by-county>

National Center for Veterans Analysis and Statistics

- Owner: Department of Veterans Affairs
- Type: Secondary
- Overview: Data are from the National Center for Veterans Analysis and Statistics and provide counts of veterans by state for different wars served, and by demographics.
- Strength(s): Very comprehensive.
- Limitation(s): Most recent data are from 2020.
- Access: <https://www.va.gov/vetdata/VeteranPopulation.asp>

National Immunization Survey (NIS)

- Owner: CDC
- Type: Secondary
- Overview: 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.
- Strength(s): 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.
- Limitation(s): 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.

- Access: <https://www.cdc.gov/vaccines/imz-managers/nis/index.htm>

National Survey of Children's Health (NSCH)

- Owner: HRSA
- Type: Secondary
- Overview: The National Survey of Children's Health (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.
- Strength(s): The 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.
- Limitation(s): This is self-reported data by a parent or guardian and the level of detail of results is limited by sample size which limits availability of cross-stratified estimates.
- Access: <https://www.childhealthdata.org/learn-about-the-nsch/NSCH>

National Survey on Drug Use and Health

- Owner: Substance Abuse and Mental Health Services Administration (SAMHSA)
- Type: Secondary
- Overview: SAMSHA is the agency that leads public health efforts to advance the behavioral health of the nation.
- Strength(s): SAMSHA has prioritized data, outcomes and quality. SAMSHA has data by state, sex, age group, and payment source.
- Limitation(s): This is self-reported data, and does not report data on individuals who are homeless, active duty personnel, and persons housed in jails or hospitals.
- Access: www.datafiles.samhsa.gov/study-series/national-survey-drug-use-and-health-nsduh-nid13517

National Vital Statistics System (NVSS)

- Owner: CDC, NCHS
- Type: Primary
- Overview: The National Vital Statistics System (NVSS) provides the most complete data on births and deaths in the United States.
- Strength(s): The National Vital Statistics System is the oldest and most successful example of inter-governmental data sharing in Public Health and the shared relationships, standards, and procedures form the mechanism by which NCHS collects and disseminates the Nation's official vital statistics.
- Limitation(s): The NVSS relies on the accuracy and completeness of the information provided by states and territories. As a result, there may be some inconsistencies in the data due to differences in reporting standards and practices across jurisdictions. The NVSS also does not collect information on certain demographic factors such as sexual orientation or gender identity.
- Access: <https://www.cdc.gov/nchs/nvss/index.htm>

Pine Hill Health Network

- Owner: Pine Hill Health Network
- Type: Primary
- Overview: Pine Hill Indian Tribe, The First People of Fort Jackson (Pine Hill in northwestern Orangeburg County) created Pine Hill Indian Community Development Initiative. The Initiative operates Pine Hill Health Network and that Health facility is in North, SC, also in northwestern Orangeburg County. PHHN provides Indigenous-based health services to tribal communities of SC for up to 15,000 members and target several chronic disease risk factors in culturally meaningful ways. Pine Hill Health Network operates the South Carolina Native American Health Board.
- Strength(s): Information is derived directly from community leaders. PHHN represents one of the largest tribal communities in SC.
- Limitation(s): Although membership is state-wide, does not represent all tribal communities.
- Access: <https://www.phhn.org/>

Population with Percent in Poverty by County 2011-2021

- Owner: SC Revenue and Fiscal Affairs Office
- Type: Secondary
- Overview: Provides counts and percentages for percent of people in poverty in SC and by County over 10 years. The data is updated annually and is based on estimates from the U.S Census Bureau. The dataset can also be used to track changes in poverty rates over time and evaluate the effectiveness of anti-poverty programs.
- Strength(s): The Population with Percent in Poverty by County 2011-2021 dataset is a reliable source of information for poverty rates in South Carolina. The data is sourced from the U.S Census Bureau's Small Area and Income and Poverty Estimates program. The dataset is useful for researchers, policymakers, and social workers who are interested in understanding the poverty rates in South Carolina. It can be used to identify areas that require more attention and resources to reduce poverty levels.
- Limitation(s): The dataset is based on estimates and may not be completely accurate. Additionally, the dataset does not provide information on the causes of poverty or the effectiveness of anti-poverty programs.
- Access: <https://rfa.sc.gov/data-research/population-demographics/census-state-data-center/socioeconomic-data/Population-with-percent-in-poverty-by-county-2011-2020>

Pregnancy Risk Assessment Monitoring System (PRAMS)

- Owner: SC DHEC, CDC
- Type: Primary
- Overview: 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.
- Strength(s): 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.

- Limitation(s): No clinical or lab data is available.
- Access: <https://scdhec.gov/health/sc-public-health-statistics-maps/pregnancy-risk-assessment-monitoring-system>

Small Area Health Insurance Estimates

- Owner: US Census Bureau
- Type: Secondary
- Overview: This 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.
- Strength(s): Small Area Health Insurance Estimates have used consistent estimates over time, allowing for changes to over time and geographies to be compared. Demographic breakouts are provided.
- Limitation(s): Unable to look at smaller geographic areas, such as zip codes. Does not provide information on type of insurance or those that are under insured.
- Access: <https://www.census.gov/programs-surveys/sahie.html>

Social Vulnerability Index

- Owner: CDC, ATSDR
- Type: Secondary
- Overview: The CDC/ATSDR Social Vulnerability Index (CDC/ATSDR SVI) uses 16 U.S. census variables to help local officials identify communities that may need support before, during, or after disasters.
- Strength(s): Provides information on Socioeconomic Status (Below 150% Poverty, Unemployed, Housing Cost Burden, No High School Diploma, No Health Insurance), Household Characteristics (Aged 65 & Older, Aged 17 & Younger, Civilian with a Disability, Single-Parent Households, English Language Proficiency), Racial & Ethnic Minority Status (Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other

Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino), Housing Type & Transportation (Multi-Unit Structures, Mobile Homes, Crowding, No Vehicle, Group Quarters). Data are downloadable by geographical region and by counties or census tracts.

- Limitation(s): Last update is for the year 2020.
- Access: https://www.atsdr.cdc.gov/placeandhealth/svi/interactive_map.html

Solid Waste Management Annual Report

- Owner: SC DHEC, Division of Mining and Solid Waste Management
- Type: Secondary
- Overview: Solid waste facilities, county governments, and state agencies are required to submit annual reports related to their roles in the disposition of waste and the amount and type of material recycled.
- Strength(s): Updated annually for a variety of jurisdictions.
- Limitation(s): Unable to look at local levels as data is aggregated up.
- Access: <https://scdhec.gov/sites/default/files/media/document/S.C.%20Solid%20Waste%20Management%20Annual%20Report%20for%20FY22%20-%20OR-2405.pdf>

South Carolina Adult Tobacco Survey (ATS)

- Owner: SC DHEC, CDC
- Type: Primary
- Overview: 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.
- Strength(s): 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.

- Limitation(s): Self-reported data where the cell phone area codes do not always match up with the state residence.

South Carolina Central Cancer Registry (SC CCR)

- Owner: SC DHEC, NPCS, and SEER Incidence
- Type: Primary
- Overview: 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.
- Strength(s): Demographic information as well as diagnosis information and treatment type are included.
- Limitation(s): 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 in the registry.
- Access: <https://scdhec.gov/CancerRegistry>

South Carolina Community Health Needs Assessment Survey

- Owner: SC DHEC, CDC
- Type: Secondary
- Overview: This survey analyzes community health perceptions among South Carolina residents. It provides insights on community issues, leading health indicators, and barriers for accessing health care.
- Strength(s): Provides unique data that are not collected elsewhere. Able to stratify data by various sociodemographic groupings.
- Limitation(s): Unable to stratify data at the county level due to smaller sample size. Data are self-report. Responses are not entirely representative of state population.

South Carolina Department of Education

- Owner: SC Department of Education
- Type: Secondary
- Overview: The South Carolina Department of Education generates a wealth of data on the performance of schools and districts throughout South Carolina. The data, augmented by analysis and background information, inform the public on the status of educational reform at all levels.
- Strength(s): The South Carolina Department of Education generates a wealth of data on the performance of schools and districts throughout South Carolina. The data, augmented by analysis and background information, inform the public on the status of educational reform at all levels.
- Limitation(s): As secondary data source the content may not be specific to our needs, and we have no control over the quality of the data.
- Access: <https://ed.sc.gov/data/>

South Carolina Department of Employment and Workforce (SCDEW)

- Owner: SCDEW
- Type: Secondary
- Overview: The South Carolina Department of Employment and Workforce gathers and collects information on current employment statistics across the state.
- Strength(s): SC Department of Employment and Workforce is mandated to collect and disseminate state and federal employment statistics. Data are regularly updated.
- Limitation(s): Employment data does not always include demographic data and zip code level data is rarely reported out due to small numbers.
- Access: <https://dew.sc.gov/>

South Carolina Department of Social Services (DSS) Adult Protective Services (APS)

- Owner: SC Department of Social Services (DSS) Adult Protective Services (APS)
- Type: Secondary
- Overview: The DSS APS is responsible for

investigating reports of maltreatment and provide protective services to vulnerable adults who are 18 or older, reside within the community setting, and are experiencing abuse, neglect, or exploitation. The elder abuse data from DSS APS represents cases of reported abuse, neglect, or exploitation of adults 65+ that were in Investigation Services.

- Strength(s): Reported cases of elder abuse in SC that were investigated by DSS APS. This data also provides insight on the type of case, including whether it was abuse, neglect, self-neglect, or exploitation. Provides demographic data.
- Limitation(s): It is limited to elder abuse cases investigated by DSS APS, therefore, the number of elder abuse cases that are not reported is unknown.

South Carolina DHEC Childhood Lead Program

- Owner: SC DHEC
- Type: Primary
- Overview: Testing children for lead exposure may occur for several reasons, such as Medicaid requirements and suspected exposure from a parent's occupation. But no matter the cause of exposure, SC law requires all blood testing results to be reported to DHEC, which allows for documentation of childhood lead exposure throughout the state.
- Strength(s): By law, blood lead records are reportable to DHEC.
- Limitation(s): Missing information such as demographics, addresses and inaccurate test values can prevent inclusion of data in further research and analysis.
- Access: <https://scdhec.gov/environment/your-home/lead>

South Carolina FitnessGram

- Owner: SC DHEC and USC Children's Physical Activity Research Group
- Type: Primary
- Overview: The South Carolina FitnessGram project is a state-wide observational study to evaluate and ultimately improve health related physical fitness among public school students in South Carolina.

Its primary purpose is to describe health-related fitness in students attending public schools across the state.

- Strength(s): Findings from the project will be used to support planning and implementation of evidence-based programs and policies to improve health-related physical fitness.
- Limitation(s): Because FitnessGram is typically administered by physical education teachers during regularly scheduled in-person classes, participation in FitnessGram in 2019-2020 and 2020-2021 was reduced from the levels seen in the pre-COVID years.
- Access: <https://scdhec.gov/fitnessgram>

South Carolina Infectious Disease and Outbreak Network (SCION)

- Owner: SC DHEC
- Type: Primary
- Overview: Surveillance system that captures information on infectious diseases in SC.
- Strength(s): Contains information on mandatory reportable conditions. The platform is easily customizable and offers role-based access. It provides a decentralized data entry system that allows for a quicker reporting process. Each program area maintains their own customizable model.
- Limitation(s): Due to confidentiality issues, data for specific locations broken down by demographics is limited. Decentralized data entry can sometimes create data quality concerns and that makes de-duplication cumbersome. System functionality concerns that cannot be addressed locally are addressed by the system vendor.
- Access: <https://scdhec.gov/hiv-aids-std-data-reports>

South Carolina Office of Healthcare Workforce

- Owner: SC AHEC
- Type: Secondary
- Overview: This publication provides information about the number of healthcare professionals practicing across the state.

- Strength(s): Data is acquired from licensing which is mandated in the state. Breaks down the type of medical provider and looks at primary county of work.
- Limitation(s): Data can include individuals who are licensed but do not actively engage in direct patient care, such as educators. This also does not breakdown the demographics of the licensed medical professions. Medical Professionals could work in multiple counties, but are assigned the county they primarily work in.
- Access: <https://www.scahec.net/scohw/reports>

South Carolina Oral Health Needs Assessment

- Owner: SC DHEC
- Type: Primary
- Overview: The SC Statewide Oral Health Needs Assessment is done every five years to help provide a snapshot of the state's needs and successes in the area of oral health. It will help the Division of Oral Health plan future oral health programs and evaluate the effectiveness of existing programs.
- Strength(s): It helps the Division of Oral Health plan future oral health programs and evaluate the effectiveness of existing programs.
- Limitation(s): The assessment only covers a small subset of the population, namely kindergarten and third grade students from selected schools across the state. Therefore, it may not be representative of the entire population's oral health needs. Additionally, the assessment is conducted every five years, which means that it may not capture changes in oral health needs or successes that occur between screenings.
- Access: <https://scdhec.gov/health/oral-health/child-and-teen-oral-health/sc-oral-health-statewide-screening>

South Carolina Prescription Drug Monitoring Program

- Owner: SC DHEC
- Type: Primary
- Overview: The South Carolina Prescription Monitoring Program (SC PMP) became fully

operational on February 1, 2008. The purpose of the PMP is to improve the state's ability to identify and stop diversion of prescription drugs in an efficient and cost-effective manner that will not impede the appropriate medical utilization of licit controlled substances.

- Strength(s): All licensed SC dispensers submit daily dispensation data on Schedule II - IV controlled substances to the PMP. Thus, the PMP is a robust data source of all dispensations in SC.
- Limitation(s): The dispensation data may be entered or submitted via manual data entry, thus it is subject to human error.
- Access: <https://scdhec.gov/healthcare-quality/drug-control-register-verify/prescription-monitoring>

South Carolina Revenue and Fiscal Affairs Office (RFA)

- Owner: RFA
- Type: Primary
- Overview: 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.
- Strength(s): This dataset also contains diagnoses, length of stay, charges, payer source, and other useful information for health surveillance.
- Limitation(s): RFA data is not population-based and does not include information on individuals at the VA hospitals.
- Access: <https://rfa.sc.gov/data-research>

South Carolina Violent Death Reporting System (SC VDRS)

- Owner: SC DHEC, CDC
- Type: Primary
- Overview: The South Carolina Violent Death Reporting System (SCVDRS) was established in 2002 through a cooperative agreement with the Centers for Disease Control and Prevention (CDC). Data collection began in 2003 and captures homicides, suicides, unintentional firearm injury deaths, and injury deaths of undetermined intent. SCVDRS data includes decedents who were fatally injured within South Carolina whether they were

South Carolina residents or not.

- Strength(s): The strength of this data is that it is collected from a variety of sources, including death certificates, medical examiner reports, law enforcement reports, toxicology and ballistics reports, and provides contextual information on violent deaths. The collected data is used to define the problem of violent deaths in South Carolina, identify risk and protective factors, test prevention strategies, and assure widespread adoption of successful approaches.
- Limitation(s): One limitation is that contextual information is subject to the knowledge of family members, friends, and others who report to coroners and law enforcement during investigations. Additionally, the data may be subject to reporting biases or errors that could affect its accuracy.
- Access: <https://scdhec.gov/south-carolina-violent-death-reporting-system>

South Carolina Vital Statistics

- Owner: SC DHEC, National Center for Health Statistics
- Type: Primary
- Overview: 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.
- Strength(s): 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 reported by law. A fundamental source of demographic, geographic, and cause-of-death information.
- Limitation(s): Does not include clinical data such as lab tests. Additionally, no information on health status leading up to death.
- Access: <https://scdhec.gov/vital-records>

South Carolina Youth Tobacco Survey (YTS)

- Owner: SC DHEC, CDC
- Type: Primary
- Overview: The South Carolina Youth Tobacco Survey (SCYTS) is a comprehensive survey designed to evaluate prevalence of tobacco use, age of initiation and access to tobacco products. SCYTS monitors key behaviors and attitudes toward tobacco among SC teens and helps SC Department of Health and Environmental Control (DHEC) Division of Tobacco Prevention and Control.
- Strength(s): This survey provides data on tobacco use of both middle and high school students from across the state. It also includes data on school curriculum, knowledge and attitudes, mass media influences and exposure to secondhand smoke.
- Limitation(s): The survey relies on self-reported data from students, which may be subject to bias or inaccuracies. Additionally, the survey only captures data from students who are currently enrolled in school and may not be representative of all youth in the state.
- Access: <https://scdhec.gov/health/under-18-tobacco-use/south-carolina-youth-tobacco-survey>

State of South Carolina Integrated Reports Part II

- Owner: SC DHEC, Bureau of Water
- Type: Primary
- Overview: Part 305(b) of the Clean Water Act requires an assessment of the State's waters every two years. Analysis of five years of data collected from a fixed network of ambient locations supplemented statistical survey sampling allows statistically valid statements about water quality to be made about large areas based on relatively small subsample.
- Strength(s): Legislatively mandated, unique data source able to look at public water systems.
- Limitation(s): Assessment done every two years, doesn't test every area of water.
- Access: <https://scdhec.gov/sites/default/files/media/document/Surface%20Water%20Quality.pdf>

Statistical Profile FY 21-22. Economic and Employment Trends.

- Owner: SC Commission for Minority Affairs
- Type: Secondary
- Overview: The report provides research on topics related to SC's minority populations of demographic shifts, economic and employment trends, educational attainment and occupational selection, housing and homeownership, poverty/public assistance/health insurance coverage, and linguistic diversity/ethnic identities/citizenship in SC's minority communities.
- Strength(s): The research team at CMA reports statistics from data sources and also performs their own analyses on the data, adding additional insight into trends.
- Limitation(s): Unknown limitations.
- Access: <https://drive.google.com/file/d/1kID7BsZfLsMLdAVmqhidEb9umZ4Ymh4U/view>

The South Carolina Maternal Morbidity and Mortality Review (MMMR) Committee

- Owner: SC DHEC
- Type: Primary
- Overview: The South Carolina Maternal Morbidity and Mortality Review Committee (SCMMMRC), established by state law in 2016, investigates maternal deaths associated with pregnancy. Data are reported through vital records, voluntary reporting, and CDC notification. A pregnancy-related (PR) death occurs when a person dies while pregnant or within one year of pregnancy from a pregnancy complication, a chain of events initiated by the pregnancy, or a condition made worse by the pregnancy.
- Strength(s): SCMMMRC reviews all maternal deaths that occur during pregnancy and up to 365 days following the end of the pregnancy regardless of the cause of death. Each death is reviewed using a standardized approach that includes investigating underlying causes of death, pregnancy-relatedness, preventability, circumstances and contributing factors surrounding the death.
- Limitation(s): The major limitation in examining maternal mortality is that there is no single national

system in the U.S. for collecting maternal mortality data.

- Access: <https://scdhec.gov/sc-morbidity-mortality-review-committee-legislative-reports>

US EPA National Emissions Inventory

- Owner: EPA
- Type: Secondary
- Overview: The National Emissions Inventory (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 air agencies for sources in their jurisdictions and supplemented by data developed by the US EPA. The NEI is built using the Emissions Inventory System (EIS) first to collect the data from State, Local, and Tribal air agencies and then to blend that data with other data sources.
- Strength(s): Multiple rounds of data quality checks to ensure accuracy. Looks at state, local, and tribal air agencies.
- Limitation(s): Released every three years.
- Access: <https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>

Where You Live Matters: Maternity Care Deserts and the Crisis of Access and Equity in South Carolina.

- Owner: March of Dimes
- Type: Secondary
- Overview: This report presents data on several important factors: levels of maternity care access and maternity care deserts by county; distance to birthing hospitals; availability of family planning services; community level factors associated with prenatal care usage as well as the burden and consequences of chronic health conditions across the state. While not an exhaustive list, each of these topics contribute to the complexity of maternity care access in each state.
- Strength(s): Working to improve access to maternity care by bringing awareness to maternity care

deserts and other factors that limit access is one way in which March of Dimes strives to reduce preventable maternal mortality and morbidity for all pregnant people.

- Limitation(s): The data presented is not an exhaustive list, but each topic contributes to the complexity of maternity care access in the state.
- Access: <https://www.marchofdimes.org/where-you-live-matters-maternity-care-deserts-and-crisis-access-and-equity>

Women, Infant, and Children (WIC)

- Owner: SCDHEC, USDA
- Type: Primary
- Overview: WIC is a nutrition program that provides health education, healthy foods, breastfeeding support, and other services at no cost to South Carolina families who qualify.
- Strength(s): The WIC program is a reliable source of information for nutrition assistance for low-income pregnant women, breastfeeding mothers, infants, and children up to age 5 who are at nutritional risk in the United States of America.
- Limitation(s): The limitation of this dataset is that it may not be suitable for all research purposes.
- Access: <https://scdhec.gov/health/women-infants-children-wic-nutrition-program>

Youth Risk Behavior Surveillance System (YRBSS)

- Owner: SC Department of Education, CDC
- Type: Secondary
- Overview: YRBSS is a national school-based survey conducted by the CDC, gauging health and behavioral indicators from the youth nationwide.
- Strength(s): 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.
- Limitation(s): 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.

- Access: <https://www.cdc.gov/healthyyouth/data/yrbs/index.htm>

Appendix F: Asset Inventory

Equity

Alliance for a Healthier South Carolina: This is a coalition of over 50 state and community leaders and organizations working together to improve the health and well-being of all South Carolinians, with a focus on health equity-based goals.

Reach: Statewide

Contact: <https://healthiersc.org>

SC Office of Rural Health: The South Carolina Office of Rural Health is a non-profit organization with a mission to close the gap in health status between rural and urban communities.

Reach: Statewide

Contact: www.scorh.net

South Carolina Institute of Medicine & Public Health: The South Carolina Institute of Medicine & Public Health (IMPH) is a nonpartisan, nonprofit organization working to collectively inform policy to improve health and health care in South Carolina. In conducting its work, IMPH takes a comprehensive approach to advancing health issues through data analysis and translation and collaborative engagement.

Reach: Statewide

Contact: <https://imph.org/>

SC Dept of Health and Human Services: This office works with low-income South Carolinians to help them secure medical care through Medicaid.

Reach: Statewide

Contact: <https://www.scdhhs.gov>

Sisters of Charity Foundation of South Carolina: The Sisters of Charity Foundation of South Carolina is a ministry of the Sisters of Charity Health System. In response to God's call and the spirit of the Sisters of Charity of St. Augustine, the Foundation strategically uses resources to reduce poverty through action, advocacy and leadership.

Reach: Statewide

Contact: <https://sistersofcharitysc.com/>

Center for Community Health Alignment: The Center for Community Health Alignment (CCHA) is a community focused organization within the UofSC Arnold School of Public Health. Our network of partners work alongside community leaders to align efforts addressing health inequities in South Carolina by bringing together three major initiatives: PASOs, the Community Health Worker Institute (CHWI), and Equity through Meaningful Community Engagement (EMCE).

Reach: Statewide

Contact: <https://communityhealthalignment.org/>

SC Developmental Disabilities Council: The mission of the South Carolina Developmental Disabilities Council is to provide leadership in planning, funding, and implementing initiatives that lead to improved quality of life for people with developmental disabilities and their families through advocacy, capacity building, and systemic change. The Council engages in community services, individualized support, and other forms of assistance that promote self-determination for individuals with developmental disabilities and their families.

Reach: Statewide

Contact: <https://scddc.sc.gov/>

South Carolina Food Policy Council: The mission of the South Carolina Food Policy Council is to build an equitable, accessible, and economically diverse, local food system in South Carolina by promoting multi-sectoral collaboration, community-based programming, and policy change.

Reach: Statewide

Contact: <https://www.scfoodpolicy.org/>

South Carolina Department of Disabilities and Special Needs: SCDDSN is the state agency that plans, develops, oversees and funds services for South Carolinians with severe, lifelong disabilities of intellectual disability, autism, traumatic brain injury, and spinal cord injury and conditions related to each of these four disabilities. SC DDSN offers both at-home services that enable individuals to remain in their own home and residential services.

Reach: Statewide

Contact: <https://ddsn.sc.gov/>

Able South Carolina: Able SC is an organization of people with disabilities leading the charge to equip people with disabilities with tools to foster pride and to direct their own lives; educate the community to challenge stereotypes and eliminate barriers; and advocate for access, equity, and inclusion at the individual, local, state, and national level.

Reach: Statewide

Contact: www.able-sc.org

SC Vocational Rehabilitation Department: Provides rehabilitation services for people with disabilities. Serves eligible school-aged individuals in an effort to support their transition into the competitive work environment. Provides services to identify barriers to employment and develop behavior and compensatory strategies to improve their work-related performance.

Reach: Statewide

Contact: <https://scvrd.net/>

SC Thrive: SC Thrive connects people to crucial benefits — from food security and health care resources to financial wellness and more. We meet you where you are to provide easy access to the resources you need to have a better quality of life.

Reach: Statewide

Contact: <https://scthrive.org>

South Carolina Hospital Association: The South Carolina Hospital Association is committed to making South Carolina one of the nation's healthiest states by helping our hospitals and health systems provide the best care possible. We advocate for sound health care policies and legislation, facilitate collaboration to tackle problems that none of us could solve alone, find and share innovations and best practices, and provide data, education and business solutions to help our members better serve their patients and communities.

Reach: Statewide

Contact: <https://scha.org/>

Communities

SC Department Environmental Health (SC DHEC):

The S.C. Department of Health and Environmental Control (DHEC) is the state government agency charged with protecting public health, coastal

resources, and the state's land, air and water quality as authorized under multiple state and federal laws. DHEC touches the life of every South Carolinian every day.

Reach: Statewide

Contact: <https://scdhec.gov/>

BlueCross BlueShield of South Carolina

Foundation: The mission of the BlueCross BlueShield of South Carolina Foundation is to promote and support healthier South Carolinians, particularly the economically vulnerable, by supporting solutions to address gaps in health care and serving as an agent of change to support innovation and value-added public-private partnerships.

Reach: Statewide

Contact: <https://www.bcbsscfoundation.org/>

Department of Social Services: The Department's mission is to serve South Carolina by promoting the safety, permanency, and well-being of children and vulnerable adults, helping individuals achieve stability and strengthening families.

Reach: Statewide

Contact: <https://dss.sc.gov/>

SC Chamber of Commerce: A statewide organization that promotes pro-job and pro-business policies at the state and federal level. We bring together businesses from across the state – both big and small – through coordinated strategies, training opportunities, and networking events. With a unified voice, we will make the biggest impact.

Reach: Statewide

Contact: <https://www.scchamber.net/>

South Carolina Department of Alcohol and Other Drug Abuse Services (DAODAS):

DAODAS 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: Statewide

Contact: <https://www.daodas.sc.gov/>

FoodShare South Carolina: Increase access to, knowledge of and consumption of vegetables and fruit through community-led projects

Reach: Statewide

Contact: <https://foodsharesc.org/>

Wholespire: Wholespire provides communities with proven and sustainable approaches that lead to increased access to healthy choices for ALL people. We want informed influencers and empowered communities who work together to ensure an equitable South Carolina, where everyone has access to healthy choices.

Reach: Statewide

Contact: <https://wholespire.org/>

Maternal Infant Health

South Carolina Birth Outcomes Initiative (BOI):

The South Carolina Birth Outcomes Initiative was established in 2011. It is a collaborative of the South Carolina Department of Health and Human Services (SCDHHS), the South Carolina Department of Health and Environmental Control (DHEC), South Carolina Hospital Association, March of Dimes, BlueCross BlueShield of South Carolina (BCBSSC) and more than 100 stakeholders. SCBOI's overall goals are to improve health outcomes in both moms and babies throughout SC. SCBOI leverages the collective impact model to identify a common agenda and provide for continuous communication.

Reach: Statewide

Contact: <https://vip.scdhhs.gov/boi/>

South Carolina First Steps: South Carolina First Steps is the state's only dedicated, comprehensive early childhood initiative focused on getting children ready for school and life success. We partner with families, early educators, and communities statewide to support the success of children from birth through age five.

Reach: Statewide

Contact: <https://www.scfirststeps.org/>

South Carolina Postpartum Support International:

The mission of South Carolina Chapter of Postpartum Support is to increase awareness, education, prevention, and treatment of perinatal mental health

issues affecting individuals, their families, and support systems in all areas of South Carolina.

Reach: Statewide

Contact: <https://psichapters.com/sc/>

SC Perinatal Association: The South Carolina Perinatal Association (SCPA) is a multidisciplinary organization designed to improve the health of Women and Children in South Carolina. We are able to accomplish this goal through advocacy to policy makers and education for health care professionals.

Reach: Statewide

Contact: <https://scperinatal.org/>

Child Adolescent

NAMI (National Alliance on Mental Illness) South

Carolina: NAMI's mission is 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: Statewide

Contact: <https://namisc.org/>

South Carolina Department of Justice: DJJ is a state cabinet agency committed to serving SC's youth offenders. DJJ is responsible for providing custodial care and rehabilitation for the state's children who are incarcerated, on probation or parole, or in community placement for a criminal or status offense. DJJ also provides a variety of prevention and intervention programs for at-risk youth.

Reach: Statewide

Contact: <https://djj.sc.gov/>

Children's Trust of South Carolina: Children's Trust of South Carolina is the statewide organization focused on the prevention of child abuse and neglect. We provide funding, resources and training to help local program partners build strong families and positive childhoods.

Reach: Statewide

Contact: <https://scchildren.org/>

South Carolina Department of Education: The mission of the South Carolina Department of Education

is to provide leadership and support so that all public education students graduate prepared for success.

Reach: Statewide

Contact: <https://ed.sc.gov/>

Kinship South Carolina: Kinship SC serves kinship care families across South Carolina by providing information and resources and services for caregivers and the children they are raising.

Reach: Statewide

Contact: <https://www.kinshipsc.org/>

Family Connection of South Carolina: Collaborate with parents of on how to prepare for special education meetings, such as an Individualized Education Plan (IEP), 504, and Individualized Family Service Plan (IFSP). Match parents seeking information and support with mentor parents. Assist parents in navigating the systems of medical care and insurance coverage for their children with disabilities or special health care needs.

Reach: Statewide

Contact: www.FamilyConnectionSC.org

Adults

Smokefree SC: Smokefree SC partners with local communities and coalitions, state governmental agencies, and other area non-profit organizations to provide education and resources related to smoke-free protections, tobacco point-of-sale strategies that reduce exposure to tobacco industry advertising, and other population-based policy approaches that can effectively reduce the burden of commercial tobacco use in South Carolina.

Reach: Statewide

Contact: <https://www.smokefreesc.org/>

South Carolina Cancer Alliance (SCCA/Alliance):

The SCCA leads men's health initiatives to increase colorectal, prostate, and lung cancer screenings among men, especially among underserved populations including rural areas. The Alliance worked with SC lobbyist to secure \$500,000 from the SC General Assembly to implement recommendations outlined in the Data Brief - Cancer in African American Men (released in June 2021).

Reach: Statewide

Contact: <https://www.sccancer.org/>

In It Together SC: In It Together is about helping each other stay informed and in control of our health. By seeking support and having confidence in ourselves, we can reduce the rate of diabetes and prediabetes in South Carolina.

Reach: Statewide

Contact: <https://www.inittogethersc.org/>

SC Department of Mental Health: SCDMH's mission is to support the recovery of people with mental illnesses. Through a statewide network of community mental health centers, clinics, hospitals, and nursing homes, the Department's clinical staff provide a complete array of medical and support services for children, adults, and families throughout South Carolina.

Reach: Statewide

Contact: scdmh.net

SC Behavioral Health Coalition: The coalition is an alliance of public and private agencies, organizations and health care providers working together to improve the mental health and well-being of all South Carolinians, with substance use disorder prevention and treatment as a specific strategic priority area.

Reach: Statewide

Contact: <https://www.scbhc.org/>

Aging

SC Department on Aging: The South Carolina Department on Aging (SCDOA) enhances the quality of life for seniors in South Carolina. The SCDOA works with a network of regional and local organizations to develop and manage services that help seniors remain independent in their homes and in their communities.

Reach: Statewide

Contact: <https://aging.sc.gov/>

South Carolina Respite Coalition: This coalition is committed to addressing the needs for respite across the lifespan for all persons caring for a child or adult who has special needs.

Reach: Statewide

Contact: <https://www.screstitecoalition.org/>

Social Carolina Department of Veterans Affairs:

The South Carolina Department of Veterans' Affairs leads and enables a state-wide coalition of partners to create and sustain an environment in which Veterans and their families can thrive as valued and contributing members of the South Carolina community and the Nation.

Reach: Statewide

Contact: <https://scdva.sc.gov/>

South Carolina Chapter AARP: AARP is a nonprofit, nonpartisan organization that empowers people to choose how they live as they age.

Reach: Statewide

Contact: <https://states.aarp.org/south-carolina/>

South Carolina Chapter Alzheimer's Association:

The SC Alzheimer's Association provides services to communities across South Carolina, advocate for the needs and rights of those facing Alzheimer's and accelerates research.

Reach: Statewide

Contact: <https://www.alz.org/sc>

The list of assets is not exhaustive, and a full list can found be online at livehealthy.sc.gov.

Appendix G: Forces of Change Survey

The Forces of Change assessment is used in the State Health Assessment process to help identify issues the review of data did not uncover. It identifies forces that affect the health and quality of life of the state now and 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.

- Trends are patterns over time, such as migrations in and out of a community or a growing disillusionment with government.
- Factors are discrete elements, such as a community's large ethnic population, an urban setting, or a jurisdiction's proximity to a major waterway.
- 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 to be considered in the 2023 state health assessment process and share your thoughts via this 4 question survey. We thank you in advance for your time!

1. Name of organization completing this survey: _____

2. What forces are affecting South Carolina? (can list more than one in each box)

- Trends: _____
- Factors: _____
- Events: _____

3. What forces might hinder us from creating a healthier state? (can list more than one in each box)

- Trends: _____
- Factors: _____
- Events: _____

4. What are the top three actions South Carolina could take in response to those forces that could lead to health improvement?

- Trends: _____
- Factors: _____
- Events: _____

Appendix H: Community Listening Sessions

Name of Coalition: _____

Date: _____

Number of People Present: _____

County: _____

1. What do you all believe are some of your counties leading health priorities?

Answer choices:

- Access to care
- Clinical preventive services
- Oral health
- Sexual health
- Substance misuse
- Tobacco use
- Injury and violence
- Maternal, infant and child health
- Mental health
- Obesity, nutrition and physical activity

2. What do you think are the biggest challenges to improving the overall health of the county?

3. What strengths or resources can be mobilized to improve the overall health of the county?

Appendix I: Key Stakeholder Interview Questions

Interviewee's Name:

Title: _____

Name of Organization: _____

Description of Services Offered: _____

Description of Target Population: _____

Size of Organization: _____

Type of Organization: _____

Other pertinent information about the organization: _____

1. How has the health of the community changed in the last 3-5 years?

2. What do you think are the 3 MOST important health issues in your community? (Choose only three.)

- Access to care
- Tobacco use
- Mental Health
- Clinical preventive services
- Injury and violence
- Obesity, nutrition, and physical activity
- Oral health
- Maternal, infant, and child health
- Substance misuse
- Sexual health

3. What are the perceived underlying causes of these health issues you chose?

4. How do you view your organization's role in working to improve these needs/issues?

5. How is your organization working to improve the causes of these health issues?

6. What are the biggest challenges you and/or your organization encountered while trying to improve the health of the county's residents?

7. In the next 5-10 years, how do you envision your organization working to improve these needs? And their underlying causes?

8. What strengths or resources can be mobilized to improve the health of the county?

9. What additional comments do you have regarding health in your county?

Appendix J: Acronyms

A

AAMSM: African American Men who have Sex with Men

AAWSM: African American Women who have Sex with Women

ABD: Medicaid Aged, Blind, and Disabled Program

ACEs: Adverse childhood exposures

ACS: American Community Survey

AHEAD: America's HIV Epidemic Analysis Dashboard

AI-AN: American Indian or Alaska Native

AIDS: Acquired Immune Deficiency Syndrome

Alliance: Alliance for a Healthier South Carolina

AME: African Methodist Episcopal

APHA: American Public Health Association

APS: Adult Protective Services

ART: Antiretroviral Therapy

ASTDR: Agency for Toxic Substances and Disease Registry

B

BOBC2: Bringing Our Best Care Consortium

BRFSS: Behavioral Risk Factor Surveillance System

C

C. diff: Clostridioides difficile

CAA: Clean Air Act

CBO: Community Based Organization

CCHA: Center for Community Health Alignment

CCVI: Community Vulnerability Index

CDC: Centers for Disease Control and Prevention

CDI: Clostridioides difficile infections

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

CHA: Community Health Assessment

CHIP: Community Health Improvement Plan

CHIP: Children's Health Insurance Program

CHNA: Community Health Needs Assessment

CHWs: Community Health Workers

CLRD: Chronic Lower Respiratory Disease

CLTC: Community Long-Term Care

CMA: Commission for Minority Affairs

COPD: Chronic Obstructive Pulmonary Disease

COVID-19: Coronavirus disease

CRPH: Center for Rural and Primary Health care

CVD: Cardiovascular disease

D

DAODAS: Department of Alcohol and other Drug Abuse Services

DEI: Diversity, Equity, Inclusion

DHEC: Department of Health and Environmental Control

DOC: Department of Corrections

DSS: Department of Social Services

E

ECAC: Early Childhood Advisory Council

ED: Emergency Department

EHE: Ending the Epidemic

EJ: Environmental Justice

ENDS: Electronic Nicotine Delivery System

EPA: Environmental Protection Agency

EPHS: Essential Public Health Services

G

GDM: Gestational Diabetes

H**HIV:** Human immunodeficiency virus**HOPWA:** Housing Opportunity for People Living with AIDS**HP 2030:** Healthy People 2030**HPC:** HIV Planning Council**HPSA:** Health Professional Shortage Area**HRSA:** Health Resources and Service Administration**I****ICH:** Interagency Council on Homelessness**IUGR:** Intrauterine Growth Restriction**K****KRA:** Kindergarten Readiness Assessment**L****LGBTQIA+:** Lesbian, gay, bisexual, transgender, questioning or queer, intersexual, asexual and other non-heterosexual**LHSC:** Live Healthy South Carolina**M****MAPP:** Mobilizing Action through Planning and Partnerships**MCC:** Multiple Chronic Conditions**MCH:** Maternal and Child Health**MCL:** Maximum Containment Levels**MDE:** Major Depressive Episode**MH SVI:** Minority Health Social Vulnerability Index**MIAP:** Medically Indigent Assistance Program**MMWR:** Morbidity and Mortality Weekly Report**MRDL:** Maximum Residual Disinfectant Level**MRSA:** Methicillin-resistant Staphylococcus aureus**MSW:** Municipal Solid Waste**MUSC:** Medical University of South Carolina**MVC:** Motor Vehicle Crashes**N****NAACP:** National Association for the Advancement of Colored People**NAAQS:** National Ambient Air Quality Standards**NACCHO:** National Association of City and County Health Officials**NCHS:** National Centers for Health Statistics**NEI:** National Emissions Inventory**NH-PI:** Native Hawaiian or Other Pacific Islander**NIS:** National Immunization Survey**NPCR:** National Program of Cancer Registries**NRP:** Non-Responsible Parties**O****OMB:** Office of Management and Budgets**ORH:** Office of Rural Health**P****P & S Syphilis:** Primary and Secondary Syphilis**FACT:** Promise to Address Comprehensive Toxics**PAs:** Physician Associates**PEP:** Post-exposure Prophylaxis**PHS:** Preventive Health Services**PHAB:** Public Health Accreditation Board**PRAMS:** South Carolina Pregnancy Risk Assessment Monitoring Systems**PrEP:** Pre-exposure Prophylaxis**PSE:** Policy, System, and Environmental**PTSD:** Post-traumatic stress disorder**PWH:** Persons Living with HIV**PWID:** Persons who Inject Drugs**PWS:** Public Water Systems**R****RBA:** Results Based Accountability**RCORP:** Rural Communities Opioid Response Program**RFA:** Revenue and Fiscal Affairs

RMC: Regional Medical Center

RP: Responsible Parties

RUCA: Rural-Urban Commuting Area

S

SC: South Carolina

SC AHEC: South Carolina Area Health Education Consortium

SC DHHS: South Carolina Department of Health and Human Services

SC DMH: South Carolina Department of Mental Health

SC DSS: South Carolina Department of Social Services

SC OPC: South Carolina Office of Primary Care

SCAAHE: South Carolina Association for the Advancement of Health Education

SCAFP: South Carolina Association for Future Professionals

SCAHPERD: South Carolina Alliance for Health, Physical Education, Recreation and Dance

SCAPES: South Carolina Association for Physical Education and Sport

SCDA: South Carolina Dance Association

SCDE: South Carolina Department of Education

SCFS: South Carolina First Steps

SCHA: South Carolina Hospital Association

SCMMRC: South Carolina Maternal Morbidity & Mortality Review Committee

SCOHW: South Carolina Office of Health care Workforce

SCORH: South Carolina Office of Rural Health

SCPHA: South Carolina Public Health Association

SCVDRS: South Carolina Violent Death Reporting System

SDOH: Social Determinants of Health

SDWIS/FED: Safe Drinking Water Information System

SEER: Surveillance, Epidemiology, and End Results

SES: Socio-economic status

SHA: State Health Assessment

SHIP: State Health Improvement Plan

SIDS: Sudden Infant Death Syndrome

SIRs: Standardized Infection Ratios

SNAP: Supplemental Nutrition Assistance Program

SSI: Supplemental Security Income

STD: Sexually Transmitted Disease

STI: Sexually Transmitted Infections

SUD: Substance use disorder

SVI: Social Vulnerability Index

SVR: Sustained virological response

T

TANF: Temporary Assistance for Needy Families

TB: Tuberculosis

TBI: Traumatic Brain Injury

TCCADA: Tri-County Commission on Alcohol and Drug Abuse

TMDL: Total Maximum Daily Load

TT: Treatment Techniques

U

U=U: Undetectable equals Untransmittable

US: United States

USDA: United States Department of Agriculture

V

VCOM: Edward Via College of Osteopathic Medicine

VDRS: Violent Death Reporting System

VPD: Vaccine-Preventable Disease

W

WHO: World Health Organization

WIC: Women, Infants, and Children

WIIN: Water Infrastructure Improvements for the Nation Act

WMSM: White Men who have Sex with Men

Y

YPLL: Years of potential life lost

YRBS: Youth Risk Behavior Survey

YRBSS: Youth Risk Behavior Surveillance System

