



South Carolina Institute of
Medicine & Public Health



AUGUST 2022

Lessons Learned from COVID-19: Contagious Disease Outbreak Planning and Response in South Carolina



South Carolina Institute of
Medicine & Public Health

About the South Carolina Institute of Medicine and Public Health

The South Carolina Institute of Medicine & Public Health (IMPH) is an independent entity serving as an informed nonpartisan convener around the important health issues in our state, providing evidence-based information to inform health policy decisions.

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Letter from the Co-Chairs

The Carolinas Pandemic Preparedness Taskforce reports are dedicated to the over 43,000 North and South Carolinians who have died from COVID-19 since 2020. We also dedicate these reports to the first responders and essential workers who risked and sometimes lost their lives on the frontlines, navigating PPE and other supply chain challenges and working tirelessly to provide care during the worst public health disaster this generation has experienced. We were working in “real time” as the pandemic was changing, sometimes for the worse and sometimes for the better.

It is critically important that we recognize the inestimable grief experienced across the Carolinas and beyond. COVID-19 has wrought widespread devastation. Unlike the hurricanes that the Carolinas are practiced at responding to, this disaster was not relegated to certain portions of the state.

And yet . . .

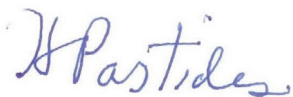
We did, and we do, respond. From neighbors checking in on each other to state leaders holding daily calls to coordinate response efforts, North and South Carolinians stepped up to the task of keeping essential state functions operating, expanding services for those in need and tracking and tracing COVID-19 data. Sometimes the challenges of the pandemic feel unending, overwhelming and all encompassing, but it is critical that we learn from this experience and consider opportunities for continued improvement.

The knowledge we are acquiring during this pandemic could be easily lost to time as today’s responders move to other industries and retire. In light of this, as co-chairs of the Carolinas Pandemic Preparedness Taskforce, we urge the documentation of the learnings acquired since 2020 to strengthen future pandemic preparedness and response efforts. What challenges have been unexpected? What goals have not been achieved and why? What partnerships and programs have worked well – how can we fund and scale? How can we prevent the illness and loss of life experienced during COVID-19 during future contagious disease outbreaks?

Together we must build cultures of resilience in North and South Carolina that do not ask more of our residents during times of crisis; rather we must create the infrastructure, preparedness and response resources that will protect us all.

We would like to thank our taskforce members, steering committee members and external contributors for their time and dedication during this process.

And finally, this report is not designed to provide a comprehensive history of the pandemic in our states; instead, it is a report that we hope will be found worthy for the time at which it was prepared.



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Preface

The thoughtful work of a taskforce flourishes when its members are afforded distance from the issue at hand. The ability to reflect on an event or circumstance after a period of rest, to set aside the urgencies of one's daily schedule to fully focus mental resources on the areas of concern, and to devote considerable time to uninterrupted issue deliberation all contribute to the ability to think with both the breadth and the depth that the complex issues we study deserve. The North Carolina Institute of Medicine (NCIOM) and the South Carolina Institute of Medicine and Public Health (IMPH) strive to provide a taskforce process and forum that allows taskforce members to have this ideal distance and space for reflection.

Due to the extensive response efforts necessary to address seasonal and variant-based surges of COVID-19, the gifts of distance were elusive in this taskforce process, and we commend our Carolinas Pandemic Preparedness Taskforce members for nonetheless achieving the level of quality research and recommendations represented in this report. Taskforce members jumped onto remote zoom sessions in between a bevy of other critical pandemic response tasks, such as attending to patient care concerns, organizing complex vaccine administration efforts, and supervising children logging into school from home.

When IMPH and NCIOM began to organize this taskforce in January 2021, we hoped to be moving towards the end of the response phase and into the recovery period of the pandemic. At that point, the charge for this group was to reflect on lessons learned from the first year of the pandemic. COVID-19, however, had other plans, and while we endeavored to place ourselves back in 2020 and mine those insights, the urgent concerns of the present - the heroic, exhausting, and demanding response efforts of 2021 - competed for our attention. To use a term oft-repeated this past year, we had to “pivot,” and embrace a focus on what we were learning and experiencing in real time to inform the recommendations in this report.

This report represents the thoughtful reflections of a group of deeply committed South Carolinians who are knee-deep in an extended pandemic response phase and simultaneously doing our level best to document priority lessons in real time - those that we believe are most important and most applicable to future public health emergencies. We do not have the benefit of hindsight in offering these recommendations for improvement, but we do offer something equally as valuable - a time capsule of our “in the thick of it” experience of the COVID-19 pandemic, and the recommended actions our taskforce members believe are most salient from that perspective. A companion report prepared by NCIOM documents the findings specific to their state. The recommendations from the North Carolina report can be found in appendix D on page 82 of this report.

Since we are all North and South Carolinians, perhaps a sports metaphor is in order here. While we had originally anticipated that this Taskforce might be more of a post-game analysis (watching the films, evaluating key plays and possessions), instead we found ourselves gathered in the locker room at half-time, in the heat of a challenging game against a relentless adversary. These recommendations represent our taskforce's best efforts to reflect on what has been working well and should continue, gaps that remain unfilled and continue to undermine our success, and solutions we ought to consider immediately and for future challenges. We humbly but confidently offer the reflections and recommendations of this committed team of Taskforce members, and the valuable snapshot of this specific - and hopefully unique - moment in time that they represent.

This initiative was a cross-state effort, affording leaders from multiple sectors and individuals with unique lived experiences as well as Institute staff teams to learn from one another. The learnings included experiences during COVID, efforts that worked well and the reasons behind the success and equally important, efforts that could have gone better and the challenges that were and were not overcome.

The IMPH and NCIOM reports contain areas of commonality across the Carolinas, but also recommendations and priorities unique to each state. We take the opportunity here to highlight seven foundational priorities that are critically important for both states. We emphasize that these are not new issues but rather are perennial concerns across the Carolinas and the United States. The COVID-19 pandemic has exacerbated the challenges our states have been battling for decades, and we must make improvements in these foundational areas to improve our response in a future pandemic, prevent illness and death, and preserve economic stability in the face of upheaval caused by a novel infectious agent.

As Carolinians, we are familiar with the ravages of powerful hurricanes. While we are deeply grateful to committed first responder teams that undertake courageous rescues of people trapped when the flood waters rise, we know that our most critical investments in hurricane preparedness are not rescue boats and helicopters. Attention to foundational concerns, solid planning and infrastructure, such as assuring that sturdy homes and buildings are constructed on suitable land, saves lives and property during the heaviest storms and has benefits outside the crisis periods. Likewise, some of the most effective strategies for pandemic preparedness, such as overall health improvement, reliable systems of care and established partnerships, will help us weather the next pandemic and improve the health and wellbeing of communities and individuals in our states. The foundational elements listed below are shared strategies to ensure North and South Carolina are better prepared to efficiently plan for and respond to future contagious disease outbreaks.

1. Although identified as a priority and framing for all the taskforce's work at the very beginning, the need to promote **health equity** was pervasive throughout our research, discussions and recommendation development. While all South Carolinians were at risk from COVID, rates of illness, death, unemployment and other forms of instability did not affect all of us equally. People that face marginalization due to race, ethnicity, income, housing precarity, gender identity, immigration status and disability faced inequitable challenges in accessing treatment, preventing infection and finding trusted sources of reliable information. The evidence clearly demonstrates that COVID-19 exacerbated existing inequalities and injustices; our taskforce members emphasized that creating systems designed to achieve health equity should be a priority for our states, and that they will require new resources, commitment and an intentional focus on equity.
2. The need for a robust, supported **workforce** underpins many of our recommendations and is a concern for implementation of any of the recommendations of the taskforce. Without an adequate high-functioning workforce prepared to respond to a crisis, the best programmatic recommendations will be limited in their effectiveness. An environment ready to respond to and endure a pandemic requires doing more to support the traditional and non-traditional public health and health care workforces across the Carolinas before, during and after an emergency.
3. Providing accurate **information** to the public about what is happening and how to stay safe during a pandemic is essential but communicating about evolving situations can be tricky and lead to mistrust if not done with extreme caution and care. We must strengthen the infrastructure for **data** collection and

- analysis, communicate to targeted populations through trusted messengers and ensure that health care providers have the data they need to make the best evidence-based recommendations for patient care.
4. The Carolinas need to improve the resiliency and flexibility of **supply chain** operations to safeguard an adequate supply and equitable distribution of personal protective equipment, food and other commodities needed during an emergency.
 5. **Health care systems** must be accessible to all and innovative in their care delivery. Traditional models must evolve to meet the needs of people in their communities and address the social determinants of health along with more clinical concerns. Systems must be flexible enough to shift to emergency operations as needed. Should the next contagious disease outbreak have equal or higher hospitalizations rates than COVID-19, the strain on health systems will be too much to bear without appropriate planning and adaptive leadership and systems.
 6. Everyone needs the ability to access a continuum of **behavioral health** services and resources. Within and beyond the current context of a strained workforce, our states need better access to services for people who are struggling with everything from serious mental illness to the anxiety and depression caused by the virus and ensuing isolation. The social isolation of the pandemic also led to a significant rise in substance use and deaths from overdose.¹ We must do more to care for people of all ages before, during and after a pandemic, especially those working on the front lines of the crisis.
 7. Our states need more adaptive **educational systems** to limit the impact of gaps in school attendance and to support the people working in early care environments, schools and universities. The impacts of not attending school go beyond educational attainment and learning; we must also adapt to meeting the social and emotional needs of students in the event a virus makes in-person instruction too risky.

We recognize these are bold and ambitious goals, with many applications to pandemic and non-pandemic times. Our reports focus on specific recommendations and action steps that can be taken in each state to address these concerns and provide context from COVID-19 that may be helpful in fighting future pandemics. Experts tell us that new contagious disease outbreaks are imminent.^{2,3} For the sake of the health of all the people of the Carolinas, we must act now to ensure a better response in the future.



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List of Recommendations

Public Health Infrastructure

PAGE	RECOMMENDATIONS
pg. 17	PH 1. Fund increased workforce development and maintenance for the South Carolina Department of Health and Environmental Control.
pg. 18	PH 2. Evaluate opportunities to expand inclusion of community-based individuals and organizations in formal contagious disease outbreak planning and response efforts.
pg. 19	PH 3. Improve and expand communications channels between state agencies and local organizations to better reach and accommodate all South Carolinians.
pg. 21	PH 4. Follow evidence-based guidance at the state leadership level for preparation and response to contagious disease outbreaks.
pg. 22	PH 5. Provide funding to expand and sustain existing mobile models of public health delivery.

Data

PAGE	RECOMMENDATIONS
pg. 25	DAT 1. Facilitate statewide participation in an interoperable Health Information Exchange to ensure frictionless portability of health information between all providers, clinical laboratories and public health officials in the state.
pg. 26	DAT 2. Utilize surveillance and projection data from validated modeling techniques designed for communicable disease transmission during contagious disease outbreaks.

Workforce

PAGE	RECOMMENDATIONS
pg. 31	WF 1. Strengthen the health care workforce to combat shortages and ensure ongoing capacity to plan for and respond to contagious disease outbreaks.
pg. 32	WF 1a. Scale health apprenticeship programs for high school students and recent high school graduates.
pg. 32	WF 1b. Create a structured process to guide nursing students to smaller programs in the state if spaces for upper division classes in larger universities are unavailable.
pg. 32	WF 1c. Increase the availability and sustainability of clinical site placements for future health science students and residents to combat workforce shortages.
pg. 34	WF 1d. Identify, develop and implement mental health support programs for health workers.
pg. 35	WF 1e. Continue to research and deploy alternative health care staffing models and explore technology solutions or partnerships to maximize or extend the capabilities of health professionals.
pg. 35	WF 2. Evaluate opportunities for community health workers to increase the capacity of the contagious disease response workforce
pg. 37	WF 3. Better support the workforce that responds to contagious disease outbreaks.
pg. 37	WF 3a. Develop a statewide definition of essential workers to be used during contagious disease outbreaks.
pg. 38	WF 3b. Develop a plan to address burnout among essential workers during public health emergencies.
pg. 40	WF 3c. Ensure sustainability of continuing education for health and human service providers through virtual platforms during communicable disease outbreaks lasting longer than three months.

Education

PAGE	RECOMMENDATIONS
pg. 42	EDU 1. Keep schools open during contagious disease outbreaks but develop the infrastructure and capacity to shift to virtual and hybrid learning as needed to prevent the interruption of education.
pg. 43	EDU 2. Evaluate and implement opportunities to improve scientific literacy in South Carolina from Pre-K through terminal degree programs.
pg. 44	EDU 3. Provide effective learning opportunities that protect medically vulnerable students and staff during contagious disease outbreaks.

Supply Chain

PAGE	RECOMMENDATIONS
pg. 47	SPC 1. Use data-informed decision-making to ensure adequate, equitable maintenance and distribution of personal protective equipment.
pg. 48	SPC 2. Ensure the availability and sustainability of programs/organizations that provide food to those in need during contagious disease outbreaks.
pg. 49	SPC 3. Lift procurement restrictions to reduce bureaucratic burdens and increase efficiency during public health emergencies.

Health Care Delivery

PAGE	RECOMMENDATIONS
pg. 52	HCD 1. Define, evaluate and implement standing orders for testing and vaccination during contagious disease outbreaks.
pg. 53	HCD 2. Refine and implement policies to protect those residing in congregate living settings during contagious disease outbreaks.
pg. 55	HCD 3. Redeploy the Virtual Grand Rounds Programs established in 2020 during future contagious disease outbreaks.

Behavioral Health

PAGE	RECOMMENDATIONS
pg. 59	BH 1. Coordinate to develop, sustain and scale policies and programs that increase access to behavioral health services in South Carolina to ensure ongoing comprehensive care that is adaptable to public health emergencies.
pg. 62	BH 2. Continue to increase access to naloxone and/or other opiate antagonists to reverse overdoses.

Telehealth & Broadband

PAGE	RECOMMENDATIONS
pg. 67	THB 1. Continue and scale efforts to provide broadband access to all South Carolinians.
pg. 68	THB 2. Enact policies that ensure that telehealth services expanded under COVID continue to be authorized to provide increased access to care and to prevent disruption of care during contagious disease outbreaks.

Introduction

In July 2021, the South Carolina Institute of Medicine and Public Health (IMPH) and the North Carolina Institute of Medicine (NCIOM) launched the Carolinas Pandemic Preparedness Taskforce. This two-state taskforce was charged with examining lessons learned during the COVID-19 pandemic and developing consensus around actionable recommendations for a resilient future. The work of the taskforce was guided by a focus on equity, a cross-sector approach to health and well-being and attention to the needs of vulnerable and historically marginalized populations, which have been disproportionately impacted by COVID-19.

As the first taskforce jointly convened by IMPH and the NCIOM, the Carolinas Pandemic Preparedness Taskforce included more than 80 experts from both states representing state and local health departments, health care associations and health systems, health care providers, academia, community representatives, philanthropy, social services, behavioral health providers, advocates for vulnerable populations and public safety and emergency preparedness organizations. Partnering agencies prioritized diversity in perspectives, expertise and experience among the taskforce membership, resulting in wide, multi-disciplinary stakeholder engagement, robust discussion throughout the taskforce process and ultimately, a taskforce report produced by each state that reflects a shared vision.

A steering committee contributed to the development of goals and refinement of the scope of work to be undertaken by the taskforce. They guided the selection of speakers and supported the formation of dissemination and communication strategies to promote the final taskforce report

produced by each state. Dr. Harris Pastides, President Emeritus of the University of South Carolina and North Carolina Secretary of Commerce Mabelle Baker Sanders chaired the taskforce. In total, IMPH and the NCIOM convened the full taskforce seven times between July 2021 and April 2022, South Carolina taskforce members also participated in 1-on-1 interviews during this time to develop consensus-based, evidence-based and actionable recommendations to strengthen pandemic preparedness, response and recovery in the Carolinas.

The scope of the taskforce's work was structured around four conceptual pillars: economic and social stability, education, equity and health. This report offers policymakers and other stakeholders a set of actionable recommendations based on a shared vision tailored to the needs of South Carolinians. Similarly, the report from the [North Carolina taskforce](#) contains a set of recommendations tailored to the needs of North Carolinians. Each report represents a time capsule of the challenges, successes and lessons learned and reflects the shared experiences of North and South Carolinians during the first two years of the COVID-19 pandemic and opportunities as both states move forward.

Taskforce Vision Statement

Our vision for pandemic preparedness, response and recovery in South Carolina is a system and culture that centers the needs of vulnerable and historically marginalized populations and elevates strategies to achieve equity, supports data-driven decision-making and emergency management, and promotes effective coordination in navigating the challenges presented by epidemics, pandemics and other contagious disease outbreaks.^{4,a}

^a According to the U.S. Department of Health and Human Services, "the term 'equity' means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, queer, and intersex (LGBTQI+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality."

Social Determinants of Health and COVID-19

Health disparities are preventable differences in health outcomes that are often the result of enduring structural and institutional factors leading to the uneven distribution of economic, social and cultural capital across races and ethnicities.⁵ Disparities occur when the inequitable distribution of capital manifests in imbalances in housing, health care, education, job opportunities, access to food and exposure to environmental risks. These factors are more commonly referred to collectively as the social determinants of health (SDoH).

In addition to the determinants listed above, internet access also emerged as a predictor of health outcomes associated with COVID-19.⁶ In a recent study focused on quantifying the relationship between SDoH and disease outcomes in the United States, researchers found that the absence of internet connectivity is associated with increased COVID-19 mortality, which the authors attribute to an individual's ability to work, learn, shop and access health care remotely.⁷ Nationally, Black and Hispanic households are less likely to have access to the internet compared to white households, further elevating risks to those communities.⁸

Historically marginalized populations are also more likely to be employed in positions that cannot be performed remotely; such as transit workers, grocery store clerks, nursing aides, construction workers and household workers.⁹ In the context of the pandemic, these factors negatively influence an individual's ability to socially distance or isolate after infection. Occupational disparities have been proven to contribute to disproportionate rates of COVID-19 infection and mortality among essential workers.

Further aggravating existing disparities, non-Hispanic Black Americans are disproportionately represented in occupations that place them at higher risk of contracting or dying from COVID-19.^{10,11} Higher

rates of incarceration among marginalized groups also negatively impact coronavirus incidence rates.¹² Black, Hispanic and Indigenous groups are disproportionately represented in correctional settings in both South Carolina and across the nation.^{13,14} Nationwide, Black Americans are incarcerated at a rate of 5.1 times greater than non-Hispanic White Americans.¹⁵ Incarceration is associated with a higher risk of contracting and dying from COVID-19, likely because of challenges regarding social distancing, obtaining personal protective equipment and accessing health care.^{16,17}

Navigating housing insecurity during the pandemic was also a challenge, and South Carolinians experienced an eviction crisis and a lack of affordable housing for years prior to the pandemic.¹⁸ The most recent data available indicates that South Carolina had the highest eviction rates in the nation between 2014 and 2016.¹⁹ Additionally, nearly 20% of the 300 towns and cities with the highest eviction rates in the United States are in South Carolina, including North Charleston, which had the highest eviction rate of all large cities in the country prior to the pandemic.²⁰

The United States Department of Housing and Urban Development estimates that nearly 65% of the 580,000 Americans experiencing homelessness at the beginning of the pandemic were non-Hispanic Black or Hispanic individuals.^{21,22} These statistics, coupled with the demonstrated racial disparities in eviction rates, are yet another social factor which manifests in disparate health outcomes associated with COVID-19 among historically marginalized minority groups.²³

The three graphs below disaggregate race and ethnicity data for COVID-19 infection, hospitalization and mortality in South Carolina from March 2020 through May 2022.

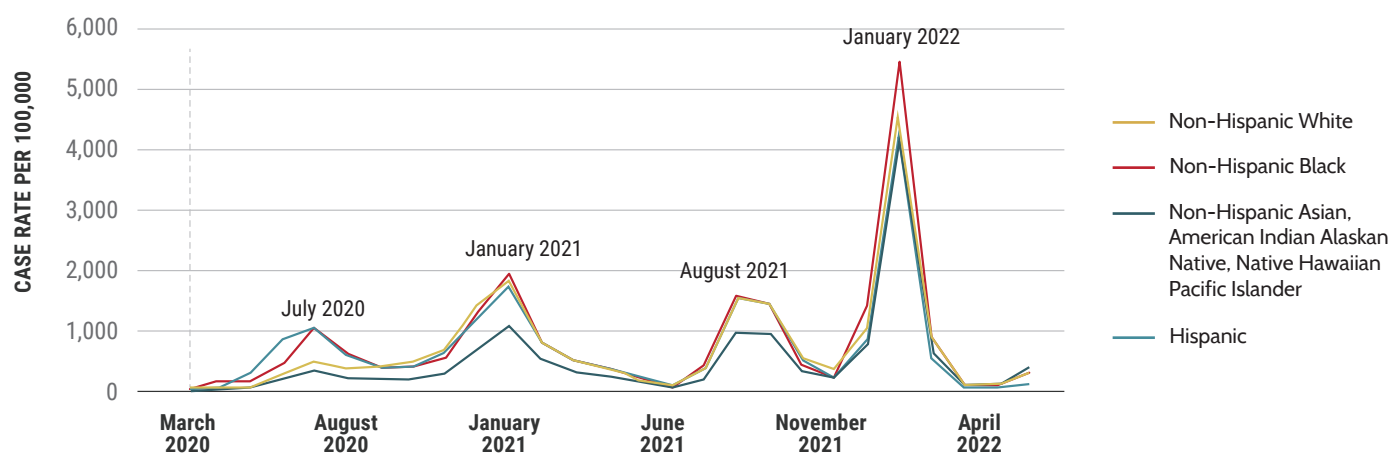
Please note that these graphs do not include data on those who fall into the categories “other,” “under investigation” or “unknown.” The number of reported

COVID-19 cases, hospitalizations and deaths counted among those categories between March 2020 and May 2022 included:

- 475,988 reported COVID-19 cases
- 3,455 COVID-19 hospitalizations
- 2,828 individuals who died from COVID-19²⁴

GRAPH 1

COVID-19 Case Rates (Per 100,000) by Race and Ethnicity March 2020 – May 2022^{25,26,b}



Source: South Carolina Department of Health and Environmental Control, 2022 and the United States Census, 2022

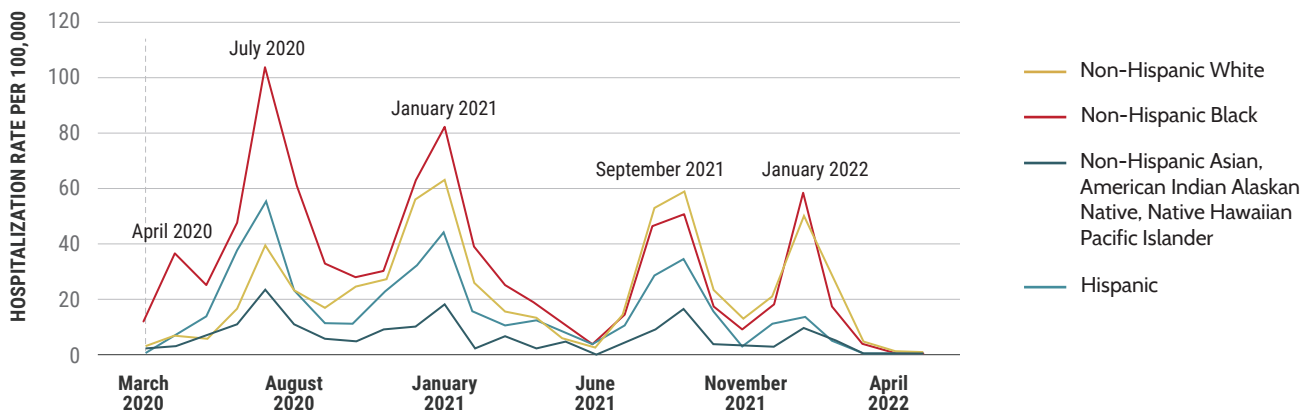
Since January 2022, at-home COVID-19 tests have become increasingly accessible in the United States. Although some at-home tests have built-in mechanisms to report cases to local health authorities, state and local health department reporting requirements vary across the country.²⁷ For example, South Carolina law requires that positive COVID-19 test results conducted in a laboratory or in settings operating under a CLIA certificate (Clinical

Laboratory Improvement Amendments of 1988) must be reported.²⁸ However, the results of at-home self-tests are not required to be reported in South Carolina.²⁹ As a result, the reported number of cases is likely significantly lower than the actual number of cases throughout the state.³⁰ Hospitalization and mortality data continue to be important for tracking the impact and prevalence of COVID-19 in South Carolina.

^b Variations in reporting between IMPH and the South Carolina Department of Health and Environmental Control (SC DHEC) are the result of differences in the estimated population used to determine the rates. IMPH uses 2020 census population estimates as the population denominator to determine incidence rates.

GRAPH 2

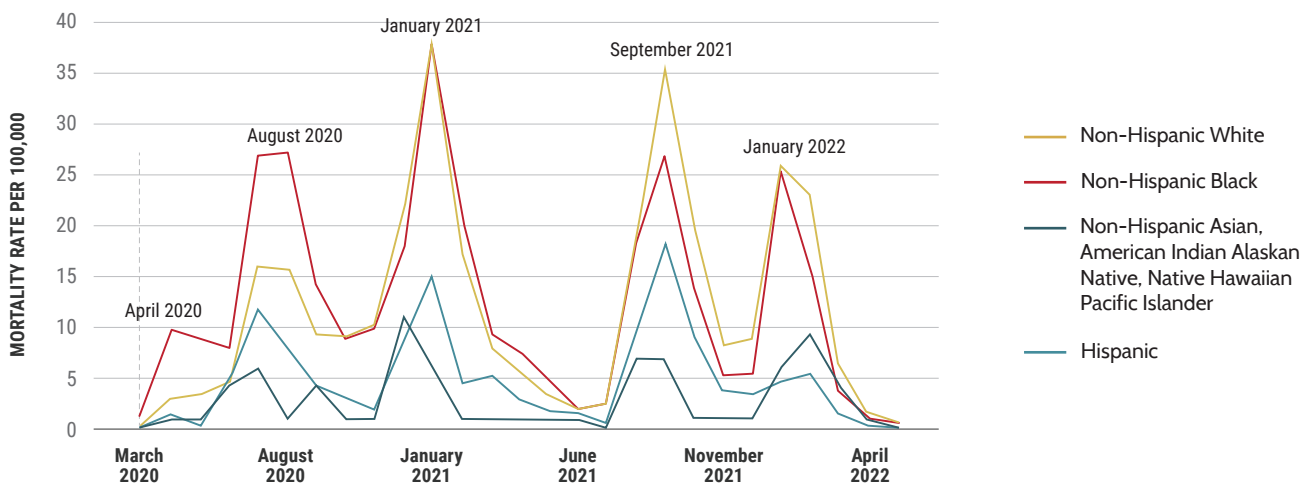
COVID-19 Hospitalization Rates (Per 100,000) by Race and Ethnicity March 2020 – May 2022^{31,32,c}



Source: South Carolina Department of Health and Environmental Control, 2022 and the United States Census, 2022

GRAPH 3

COVID-19 Mortality Rates (Per 100,000) by Race and Ethnicity March 2020 – May 2022^{33,34,c}



Source: South Carolina Department of Health and Environmental Control and the United States Census, 2022

The data suggest that, over time, racial and ethnic disparities have been significantly reduced for COVID-19. Compared to early trends in COVID-19 deaths and hospitalizations, these figures may be

indicative of the success of targeted interventions and risk mitigation measures adopted with greater compliance among some racial and ethnic groups.^{35,36,37,38}

^c Variations in reporting between IMPH and the South Carolina Department of Health and Environmental Control (SC DHEC) are the result of differences in the estimated population used to determine the rates. IMPH uses 2020 census population estimates as the population denominator to determine incidence rates.

We can cautiously attribute this shift to the development of vaccines, state-wide interventions targeting vulnerable groups, greater access to at-home tests and more widespread social acceptance towards individual risk mitigation measures such as remote work and vaccination.^{39,40,41,42}

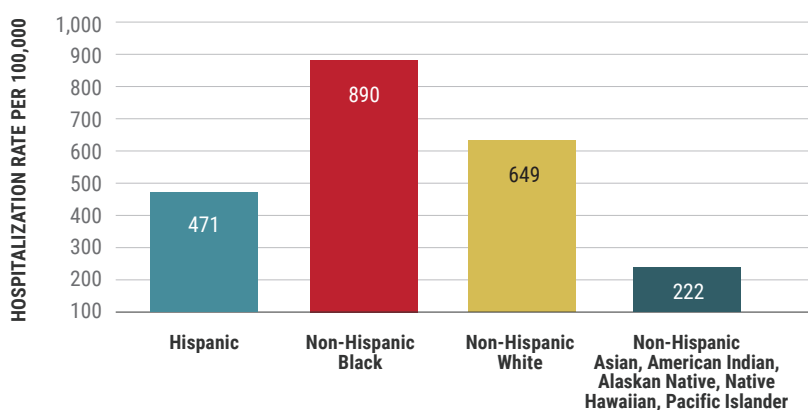
Other potential causes leading to the narrowing disparities include increased natural immunity in homogenous populations due to previously elevated incidence rates as well as mortality displacement (“the harvesting effect”).⁴³ This refers to (1) the fact that social groups which suffered higher incidence

earlier in the pandemic may experience limited levels of protection by some degree of temporary herd immunity following a surge and also that (2) pandemic events will initially affect the frail and vulnerable, potentially resulting in populations with higher levels of resistance.^{44,45,46,47} However, there is limited research on the impact of herd immunity and mortality displacement during the coronavirus pandemic in the United States.⁴⁸

Below, graphs 4 and 5 illustrate overall hospitalization and mortality rates in South Carolina by race and ethnicity.

GRAPH 4

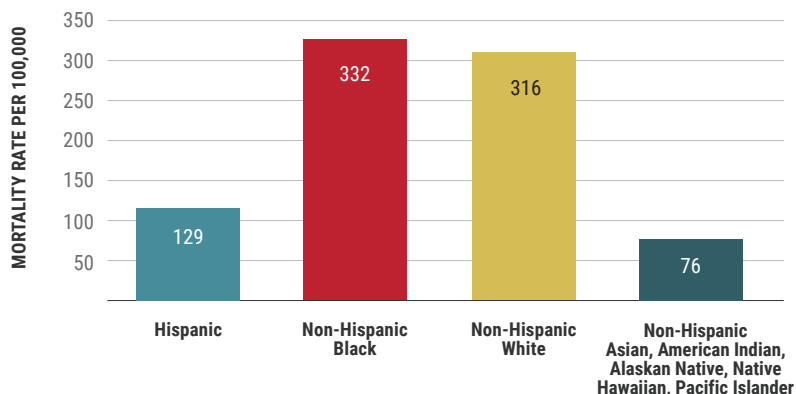
Overall Reported COVID-19 Hospitalization Rate (per 100,000) by Race and Ethnicity, South Carolina, March 2020 – May 2022^{49,50}



Source: South Carolina Department of Health and Environmental Control, 2022 and the United States Census, 2022

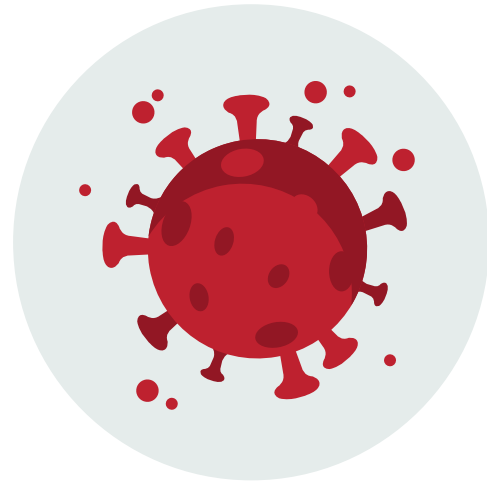
GRAPH 5

Overall Reported COVID-19 Mortality Rate (per 100,000) by Race and Ethnicity, South Carolina, March 2020 – May 2022^{51,52}



Source: South Carolina Department of Health and Environmental Control, 2022 and the United States Census, 2022

The National Center for Health Statistics provisional life expectancy estimates for the U.S. population in 2020 indicated an overall decline of 1.5 years largely due to the impact of COVID-19.⁵³ With COVID-19 contributing to 90 percent of the mortality rate, Hispanic males experienced the largest decline in life expectancy at 3.7 years.⁵⁴ Followed by non-Hispanic Black males who experienced a decline of 3.3 years, with COVID-19 contributing to 59.3 percent of the mortality rate for the Non-Hispanic Black population.⁵⁵ Non-Hispanic white males and females experienced the smallest declines in life expectancy at 1.3 and 1.1 years respectively.⁵⁶



The mortality burden of COVID-19 was also assessed in a microsimulation study measuring years of life lost (YLL) and quality-adjusted life years (QALY).^{57,d} The study indicated that the COVID-19 pandemic resulted in 9.08 million YLLs and 6.62 million QALYs lost through March 13, 2021, with Black and Hispanic populations losing two to three times as many QALYs as the white population of similar age.⁵⁸

Disparities in infection, hospitalization and mortality rates among minority groups should not be improperly attributed to biological differences.⁵⁹

To demonstrate this point, researchers have found that race alone is not independently associated with mortality among individuals hospitalized due to COVID-19.⁶⁰ Their analysis found that there was no statistically significant difference in risk of mortality between Black and white patients after adjusting for

age, sex, insurance status, comorbidities, neighborhood deprivation and site of care in a cohort of greater than 11,000 patients spread across ninety-two American hospitals.⁶¹ These findings indicate that the social determinants of health, such as insurance status, poverty and access to care, are leading drivers of the racial health disparities in patients with COVID-19.⁶²

Significant racial and ethnic disparities in infectious disease have persisted continuously in the United States and beyond.^{63,64,65} Minority populations continue to suffer from elevated rates of infectious diseases including HIV, tuberculosis and measles compared to white Americans.^{66,67,68} The factors which have led to higher mortality rates among minority groups in the past endure today, highlighting the need for historically informed analyses which “reveal, rather than obscure, the forces that are intensifying health inequalities in the present.”⁶⁹

^d Per researchers of microsimulation study “estimates of years of life lost (YLL) and quality-adjusted life years (QALY) per 10,000 persons in the population and account for the age, sex, and race/ethnicity of decedents, along with obesity, smoking behavior, lung disease, heart disease, diabetes, cancer, stroke, hypertension, dementia, and nursing home residence.”

Recommendations, Background & Context

Public Health Infrastructure

- PH 1. Fund increased workforce development and maintenance for the South Carolina Department of Health and Environmental Control.

- PH 2. Evaluate opportunities to expand inclusion of community-based individuals and organizations in formal contagious disease outbreak planning and response efforts.

- PH 3. Improve and expand communications channels between state agencies and local organizations to better reach and accommodate all South Carolinians.

- PH 4. Follow evidence-based guidance at the state leadership level for preparation and response to contagious disease outbreaks.

- PH 5. Provide funding to expand and sustain existing mobile models of public health delivery.

Background

Public health infrastructure refers to the resources, systems and partnerships that allow public health agencies, health care providers and communities to effectively promote public health and wellbeing. The United States Office of Disease Prevention and Health Promotion Healthy People 2030 guide lists strengthening public health infrastructure as

one of their primary objectives and describe it as a vital component of improving health systems and settings.⁷⁰ However, despite the research illustrating the positive return on investment, public health has been underfunded throughout the country for many years.⁷¹

TABLE 1

Foundational Public Health Services for Every Community^{72,e}

FOUNDATIONAL AREAS				
Communicable disease control	Chronic disease and injury prevention	Environmental public health	Maternal, child and family health	Access to and linkage with clinical care
FOUNDATIONAL CAPABILITIES				
Assessment and surveillance	Community partnership development	Equity		Organizational competencies
Policy development and support	Accountability and performance management	Emergency preparedness and response		Communications
EQUITY				

Source: Public Health National Center for Innovations, "Foundational Public Health Services" May 2022

^e According to the Public Health National Center for Innovations: Foundational Areas are basic public health programs that represent the minimum level of service available in all communities. Foundational Capabilities are the capacities needed to support the public health programs to ensure the health of the community and achieve equitable outcomes.

Experts recommend that the public health infrastructure in South Carolina should have the competency to:

- Assess and analyze disparities and inequities in the distribution of disease and social determinants of health that contribute to higher health risks and poorer health outcomes.
- Work with community partners to collect, report and use public health data that is relevant to communities experiencing health inequities.
- Create, convene, support and sustain strategic, non-program specific relationships with key community groups or organizations representing populations experiencing health disparities or inequities including private businesses and health care organizations, relevant federal, Tribal, state and local government agencies and elected officials and non-elected officials.
- Leverage and engage partnerships and the community in solutions for addressing/improving health equity.
- Establish and maintain trust with and authentically engage community members and populations most impacted by inequities in key public health decision-making and use community-driven approaches for communication.
- Strategically address social and structural determinants of health through policy, programs and services as a necessary pathway to achieve equity.
- Work collaboratively across agencies and the community to build support for and foster a shared understanding of the critical importance of equity to achieve community health and wellbeing.
- Create a shared understanding of what creates health including structural and systemic factors that produce and reproduce inequities.
- Create accountability structures and internal and external equity-related metrics to measure the equity impact of a department's efforts and performance.
- Develop and implement a risk communication strategy for communicating with the public during a public health crisis or emergency. This includes the ability to provide accurate and timely information and to address misconceptions and misinformation, and to assure information is accessible to and tailored for different audiences.⁷³

The following pages outline specific recommendations to improve public health infrastructure and capacity in South Carolina as we prepare for future health emergencies.^f

Recommendations

PREPAREDNESS

PH 1. Fund increased workforce development and maintenance for the South Carolina Department of Health and Environmental Control.

Taskforce members cited a need for increased workforce capacity at the South Carolina Department of Health and Environmental Control (DHEC), explaining that epidemiologists and community health workers are in the highest demand at the agency. During the pandemic all

public health departments in the country were competing for employees with the same skill set, exacerbating workforce challenges across the country. State public health roles must be filled to rebuild the workforce capacity lost during the pandemic, and to ensure that South Carolina maintains a public health workforce capable of planning for, and responding to, future contagious disease outbreaks.

^f Public Health entities as referenced in this report include many state and local formal and informal organizations.

The Council of State and Territorial Epidemiologists' (CSTE) *2021 Epidemiology Capacity Assessment Report* noted some of the challenges associated with adequately staffing the public health workforce:

The number of dedicated infectious disease, chronic disease and maternal and child health epidemiologists declined from 2017 to 2021. . . [In the United States] State Epidemiologists have been on the job for a median of 4 years, down from 5.8 years in 2017. One in 6 epidemiologists have been in their position for <1 year; only 41% have served in their current position for at least 5 years. . . Epidemiologists need to be able to skillfully navigate political challenges and manage large incoming funding.⁷⁴

Retention is vital to maintaining a productive workforce. However, epidemiologists and other public health front line responders contend with high rates of burnout due to the unprecedented demands associated with the COVID-19 pandemic.⁷⁵ These factors highlight the need to build a strong public health workforce and channel of talent in South Carolina.

TIMELINE: Ongoing

POTENTIAL CHAMPIONS:

- South Carolina Area Health Education Consortium
- South Carolina Department of Health and Environmental Control
- South Carolina State Legislature
- South Carolina Colleges and Universities

PH 2. Evaluate opportunities to expand inclusion of community-based individuals and organizations in formal contagious disease outbreak planning and response efforts.

During taskforce meetings IMPH staff heard differing perspectives on the inclusion of vulnerable and rural voices in formal contagious

disease outbreak planning and response efforts. Some taskforce members noted that not being included in these groups has led to a lack of meaningful information and continued unmet needs on the local level during COVID-19. Others cited opportunities that already exist for inclusion of people or groups not traditionally at the table during public health planning and response. For example, during the height of COVID-19, the South Carolina Emergency Management Division (SCEMD) held county calls that occurred daily or weekly depending on the severity of the outbreak, during which participants were briefed by local representatives. Each county in South Carolina was represented on these calls. Taskforce members also discussed the South Carolina Vaccine Advisory Committee, which is a SC DHEC initiative that is “made up of people who represent various sectors of [South Carolina’s] diverse population, [who] offered evidence-based approaches aimed at making sure those at most risk of getting the virus or falling very ill and dying were vaccinated first.”⁷⁶

Despite state agency representation at the local level and ongoing work aimed at supporting vulnerable groups, some taskforce members working and/or living in those communities explained that they were unaware of those resources. These members experienced firsthand the impact of inefficient communications between state-level organizations, local community-based organizations (CBOs) and community members. One taskforce member shared that in an area of the midlands it was difficult to get meals to students, citing a lack of emergency response efforts or training in the area. They also noted that the battle to receive funding began earlier in the pandemic and continues in the present due to the challenges associated with reporting requirements.

Ideas for recommendation implementation:

- Some state agencies, health care systems and cities in South Carolina have existing community advisory groups. Explore opportunities to consolidate these groups as appropriate.

- Existing routine calls with advocates for vulnerable groups could be expanded to include additional state leadership.
- Continue and/or expand the practice of providing personal protective equipment through childcare centers, group homes, foster care agencies and residential treatment facilities.
- Hold secondary calls with CBOs and non-profits to share the latest information from formal outbreak planning/response calls.
- Organizations should record the processes and best practices used to include community voices during the pandemic as a guide for future leaders facing contagious disease outbreaks.
- Local organizations should reach out to their county emergency manager as needed for assistance with information sharing issues and emergency resource gaps. Find the list here: <https://www.scemd.org/who-we-are/county-emergency-managers/>
- State and local emergency management should involve community members in large scale local practice runs of contagious disease response exercises and tabletop exercises adapted for response at the local level.⁸
- State and private organizations/associations should include school districts in contagious disease outbreak planning and response.
- All South Carolina government and non-governmental entities should document connections made and services offered during the coronavirus pandemic to inform future planning and response measures.

TIMELINE: 1-2 years

POTENTIAL CHAMPIONS:

- BlueCross BlueShield of South Carolina
- CareSouth
- Center for Community Health Alignment
- NAACP South Carolina
- SC Thrive
- South Carolina Commission for Minority Affairs
- South Carolina Department of Alcohol and other Drug Abuse Services
- South Carolina Department of Education
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Mental Health
- South Carolina Emergency Management Division
- South Carolina Hospital Association
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- Together SC
- United Way Association of South Carolina & local United Ways
- Libraries
- Local Community-Based Organizations
- Pharmacies

RESPONSE

PH 3. Improve and expand communications channels between state agencies and local organizations to better reach and accommodate all South Carolinians.

Many of the challenges associated with ensuring local communities and vulnerable groups are aware of and connected to resources offered by state-level agencies and organizations have been exacerbated by the coronavirus pandemic. As a result, the need

⁸ Any individual or organization can apply to participate in a Community Emergency Response Team (CERT).

to improve communication strategies to ensure that important information can reach all South Carolinians, including those who do not speak English, those with limited access to the internet and those who are blind or deaf surfaced during the taskforce process.

Groups with the highest need for health communications during the pandemic include those newly eligible for Supplemental Nutrition Assistance Program (SNAP) and Temporary Assistance for Needy Families (TANF), individuals in rural communities, those with little or no access to the internet, those with limited English proficiency (LEP), the blind, deaf and those who lack proficiency in reading and/or using technology.

Implementation of this recommendation may include:

Resources and Community Inclusion

- Engage community members, bilingual college students, English as a Second Language (ESL) teachers and advocates for people with disabilities in state communications planning processes and outreach in places like schools, barber shops, beauty salons and libraries to ensure cultural competency. School districts should know the location of parents with limited English based on enrollment in ESL programs.
- State and local agencies, funders and service providers should continue and expand formal partnerships with local faith institutions to reach vulnerable populations and rural areas. Refer to previously successful work like *Promotoras de Salud* models, lay health advisors and parish nursing models for examples of partnerships.^{77,h}
- Identify community access points and community brokers and create relationships that go far beyond “flyer-drop-zones.”
- Lean into trusted messengers and community health workers.

- Create an open access contact database for minority media outlets and community brokers.
- Ensure cultural competency by including individuals representing these groups in the design and decision-making process and by conducting cultural competency training.
- Recruit bilingual and bicultural interpreters and staff to ensure language access and cultural competency in health communications and programs.

Digital Accessibility

- Digital materials must be accessible. Consider individuals who are reluctant to use iPads or computers and to enter personal information in websites or applications.
- Ensure telehealth services are available in languages other than English. Include interpreters in videos and web-based content.
- The Web Accessibility Initiative should be consulted in planning disaster-response communications, as it offers basic considerations and best practices for making “user interface designs and visual designs more accessible to people with disabilities,” including blindness.⁷⁸
- Provide digital literacy support to community members as needed.

Additional ideas for recommendation implementation:

- Ensure public health and medical materials shared during contagious disease outbreaks use direct instructions in plain language and avoid jargon or complex concepts.
- South Carolina organizations should implement cultural competency trainings and develop and routinely review processes and policies to prevent communication accessibility challenges.
- The state should use comics, novellas and other accessible graphic materials to communicate with the public as soon as new information is available during contagious disease outbreaks.

^h According to the CDC, “Promotores de salud, also known as promotoras, is the Spanish term for ‘community health workers.’ The Hispanic community recognizes promotores de salud as lay health workers who work in Spanish-speaking communities.”

- The state should explore the development of consumer profiles or the use of polls to understand how recipients will receive messaging adapted for different groups.
- Employers in South Carolina should provide higher pay for bilingual skills if relevant to the job.
- Those working towards improving accessibility of health communications should establish annual calls to build connections and prepare for coordination required in future contagious disease outbreaks.
- South Carolina would benefit from increased investment in crisis communications strategies, emergency messaging and developing the tools to access hidden and otherwise “hard to reach” communities.

Concurrent to the development of many of these substantive and actionable ideas for communications improvements, some taskforce members expressed concern surrounding the feasibility of implementing these recommendations during disease outbreaks. New challenges may emerge when agency offices close and access to in-person interpreters may be limited or unavailable. Emphasizing this point, some taskforce members shared that there was no one available to provide interpretation services early-on in the pandemic. Conversely, other taskforce members noted that virtual/telephonic interpreters remained available throughout the entirety of the ongoing pandemic.

TIMELINE: 1 year-ongoing

POTENTIAL CHAMPIONS:

- Able South Carolina
- Disability Rights South Carolina
- NAACP South Carolina
- PASOs
- South Carolina Chapter of the American Academy of Pediatrics
- South Carolina Commission for Minority Affairs
- South Carolina Department of Education
- South Carolina Department of Health and Environmental Control

- South Carolina Department of Health and Human Services
- South Carolina Department of Social Services
- South Carolina Emergency Management Division
- South Carolina Medical Association
- Together SC
- United Way Association of South Carolina
- Federally Qualified Health Centers
- Community-Based Organizations
- Community Members

PH 4. Follow evidence-based guidance at the state leadership level for preparation and response to contagious disease outbreaks.

Throughout the taskforce process members discussed the need for state and local policy strategies that follow evidence-based guidelines during the pandemic and future contagious disease outbreaks. For example, a recent synthesis has determined that only seventeen states followed CDC guidelines to give equal vaccination priority to individuals battling cancer during the initial vaccine distribution phase, leading to possible disparities between states in terms of vaccination and incidence among individuals with cancer.⁷⁹

The importance of a uniform, state-wide and evidence-based response extends beyond disease mitigation. Differences among South Carolina municipalities also led to confusion among businesses during evolving quarantine and social isolation protocols.⁸⁰ Taskforce members expressed frustration with conflicting guidance between municipalities in terms of masking, isolation and social distancing requirements. To minimize those challenges, state leadership should provide clear, evidence-based guidance detailing how to respond to contagious disease outbreaks in real-time.

TIMELINE: Ongoing

POTENTIAL CHAMPIONS:

- South Carolina Chapter of the American Academy of Pediatrics
- South Carolina Department of Health and Environmental Control
- South Carolina Hospital Association
- Health Sciences South Carolina
- State Legislature
- Medical Providers
- Patient Advocacy Groups

PH 5. Provide funding to expand and sustain existing mobile models of public health delivery.

Mobile clinics have been shown to provide more affordable, higher quality care than traditional care delivery models. According to the Tulane University School of Public Health and Tropical Medicine:

For every \$1 spent on mobile health, \$12 are saved, resulting in a return on investment of 12:1. In emergencies, mobile health clinics save patients money by helping them avoid expensive emergency room visits. Estimates show that each mobile clinic results in an average of 600 fewer emergency room visits each year. This translates to an average savings of one-fifth of the cost of care. Moreover, mobile clinics provide cost-effective prevention services that reduce the amount of care an individual needs over their lifetime. On average, each mobile health clinic saves 65 quality-adjusted life years (a common metric used by healthcare professionals) every year. Mobile health clinics extend healthcare access to vulnerable populations at a fraction of the cost of running a traditional hospital or care facility.⁸¹

Taskforce members expressed widespread support for mobile/outpost care delivery models, and the state has experience implementing those models of care delivery. However, public partnerships essential

to these initiatives have presented challenges in the past. In some cases, non-governmental organizations (NGOs) have struggled with reporting required to receive sustained state funding. For example, smaller NGOs and non-profit organizations in the state cited challenges surrounding capacity and technical expertise necessary to meet the requirements to receive state or philanthropic funding.

Further, providing mobile public health services has sometimes been controversial in South Carolina. For instance, there has been pushback against state plans to provide seasonal flu vaccines in schools in some communities. These efforts have also been limited by staffing shortages, as sustainable mobile care is dependent upon an adequate workforce.

TIMELINE: 1 year-ongoing

POTENTIAL CHAMPIONS:

- Health Sciences South Carolina
- South Carolina Area Health Education Consortium
- South Carolina Commission for Minority Affairs
- South Carolina Department of Alcohol and other Drug Abuse Services
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Social Services
- South Carolina Hospital Association
- South Carolina Medical Association
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- Patient Advocacy Groups
- Payers

Data

DAT 1. Facilitate statewide participation in an interoperable Health Information Exchange to ensure frictionless portability of health information between all providers, clinical laboratories and public health officials in the state.

DAT 2. Utilize surveillance and projection data from validated modeling techniques designed for communicable disease transmission during contagious disease outbreaks.

Background

Several of the greatest challenges throughout the pandemic centered around the need to rapidly scale existing surveillance methods to meet the needs of the state. For example, many states struggled to determine disease burden in vulnerable communities in the absence of complete, accurate and representative race and ethnicity data.⁸² Such data provides information on the level of access to preventative services among racial and ethnic groups and assists in identifying communities with the highest disease burden to ensure that response activities are accurately targeted to resolve inequities.⁸³

Developing state-level data reporting standards that require providers to document race and ethnicity emerged as a component of a more effective pandemic response throughout taskforce meetings and has also been discussed at length in the media.^{84,85} Across the country, available state-level data on race and ethnicity were noticeably absent early-on in the pandemic. One example of data quality improvement efforts in other states occurred in New Jersey, where Governor Phil Murphy passed legislation (N.J. S2357) in April 2020 requiring hospitals to report demographic data of individuals who were tested for, hospitalized with or died from COVID-19.⁸⁶

The Council of State and Territorial Epidemiologists (CSTE) identified several key factors that limit the ability to obtain meaningful race and ethnicity data:

- Patient hesitance to indicate their race or ethnicity at the point of data collection.

- Reporters not providing data to public health agencies for various reasons.
- Information system limitations at both the point of data collection and the public health agency.
- Limited resources or staffing at the public health agency which exacerbates the ability to effectively address the other limitations.⁸⁷

The report also explained that legal protections that prohibit or suppress race and ethnicity data collection were not perceived as significant challenges.⁸⁸ This is likely because suppression is mostly used to protect the privacy of individuals.

Of the key factors listed, it is important to note that hesitancy to identify race and ethnicity stems from a fear of differential treatment resulting from discriminatory practices against persons of color.^{89,90} Differential treatment in health care results in undertreatment and mistreatment, thus contributing to poor health outcomes.⁹¹

In response, communities that are undertreated or mistreated become skeptical of the health care system. This ultimately manifests in medical mistrust, which is defined as the “absence of trust that health care providers and organizations genuinely care for patients’ interests, are honest, practice confidentiality, and have the competence to produce the best possible results.”^{92,93} To address these fears, it is imperative that a clear explanation is given to individuals on how the data will be used.⁹⁴

Hesitancy to identify race and ethnicity may also be due to the lack of an appropriate category for the individual to select. Individuals may be more willing to provide this information if there is a category available that accurately identifies their race and ethnicity or if they are allowed to select multiple categories, for those that identify with more than one race.^{95,96,97} In the future, South Carolina would benefit from expanding the racial and ethnic categories available in their data tracking efforts.

Currently, according to SC DHEC, when taking a COVID-19 test not administered at home, individuals in South Carolina are asked to provide their race and ethnicity according to the following categories:

Reported race categories

- Asian, American Indian, Alaskan Native, Native Hawaiian, Pacific Islander
- Black
- White
- Other
- Unknown
- Under Investigation

Reported ethnicity categories

- Hispanic or Latino
- Not Hispanic or Latino
- Unknown
- Under Investigation

The “othering” of individuals through limited categorization bars effective surveillance. Additionally, grouping heterogeneous groups obscures nuances between racial subgroups. For example, Hmong Americans suffered significantly higher death rates compared to Chinese Americans, but these figures are cloaked by not disaggregating the data.⁹⁸ Although South Carolina has smaller populations of Indigenous and Asian individuals compared to other states, North Carolina has the fourth highest population of Hmong Americans in the country.⁹⁹ Generic category designations such as “other” and “unknown” are also not useful when seeking an accurate representation of the population.^{100,101}

There are also multiple social categories, beyond race and ethnicity, that interconnect and

contribute to an individual’s degree of vulnerability during a pandemic. This fact illustrates the need to collect additional data elements such as disability, language, sexual orientation and gender identity to further address gaps in public health data.^{102,103,104,105,106,107,108} For instance, due to discrimination and adverse lived experiences, individuals who identify as lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, two-spirit or other self-identities may not seek treatment except in emergency situations.¹⁰⁹

During the coronavirus pandemic, data challenges forced organizations to adopt emergent forms of surveillance and expanded data sharing requirements. In addition to directing a critical lens towards the existing bureaucracy surrounding data sharing, the pandemic also drove South Carolina organizations to examine how their data systems are managed, created and sustained during a pandemic.¹¹⁰

During the first peak of the pandemic, the United States was performing an excess of 2 million tests per day.¹¹¹ The influx in data requests triggered by the coronavirus pandemic shed light on a variety of opportunities to refine infectious disease surveillance systems, including the need to develop data processes that can be implemented, managed and sustained during a public health emergency.

Additionally, the integrated surveillance system that South Carolina uses to report diseases was not designed to be a lab results management system or a patient encounter system. Consequently, the South Carolina Department of Health and Environmental Control (SC DHEC) was obliged to identify ways to utilize the existing surveillance system (“SCION”) to report negative lab results or the number of people seeking tests. Beyond challenges managing the data in SCION, the state faced additional struggles finding ways to accommodate providers without access to electronic entry systems who otherwise would report information manually or in another way besides the electronic entry systems.

Further, South Carolina data is bound by legal prohibitions such as SC Section 44-1-110 and SC Section 44-1-80, which restrict universal data sharing. These prohibitions were abated to some extent by the Emergency Health Powers Act, which was implemented by the Governor and allowed some expanded access to protected health information.

Many high-risk settings such as prisons, schools and long-term care facilities have not historically had the capacity or funding to utilize electronic entry systems and, instead, are forced to fax or email case reports. This leads to bottlenecks in the reporting process. In addition to these challenges, prior to the pandemic there were no requirements

in South Carolina necessitating that providers or laboratories submit negative test results, which led to added strain on labs and reporters. Other challenges include the limited number of staff available to manage SCION data, increased case load for administrators and the sheer volume of data for reporters which continues to tax the data system throughout the state.

Despite these challenges, SC DHEC has maintained a publicly accessible dashboard illustrating COVID-19 case numbers, hospitalizations and deaths in the state.¹¹² These and other figures have been indispensable in guiding response efforts and policy approaches.

Recommendations

PREPAREDNESS

DAT 1. Facilitate statewide participation in an interoperable Health Information Exchange to ensure frictionless portability of health information between all providers, clinical laboratories and public health officials in the state.

An interoperable health information exchange (HIE) would provide health care providers with the ability to securely access, share and review medical information from different health care systems. The United States Office of the National Coordinator for Health Information Technology (ONC) explains that HIEs improve the speed, quality and safety of health care while also decreasing costs and avoiding readmissions, medication errors and service duplication.¹¹³

Health Sciences South Carolina (HSSC) and the South Carolina Health Information Exchange (SCIEEx) have agreed to connect and work together to serve SC DHEC to rapidly expand health information exchange statewide. HSSC operates the Carolina eHealth Alliance (CeHA) and, together, CeHA and SCHIEEx represent the two largest regional HIEs in the state of South Carolina. Both organizations

are committed to collectively serving the states COVID needs. See appendix C on page 77 for more information about this initiative.

South Carolina Senate Finance Committee Proviso recommendation 117.74 appropriates funds to the South Carolina Department of Health and Human Services (SC DHHS) to advance the use of health information technology and HIEs to improve quality and efficiency of health care to decrease the costs of health care.¹¹⁴

To address the critical need for patient data at the point of care and to protect the public and those who risk their lives caring for the infected, the state should consider implementing the following:

1. Co-transmission of results of COVID-19 testing from health systems, laboratory providers and public health laboratories to a “statewide” HIE, accessible by all licensed health care providers in the state using the Internet to provide a single point of information on infectivity and transmission risk.

2. Timely transmission of the results of telehealth screening visits for COVID-19 from health care organizations providing those services in South Carolina to the same statewide HIE.
3. Reporting of diagnosed COVID-19 cases to public health through this HIE.ⁱ

Taskforce members also shared the importance of including software vendors, pharmacies and other providers in the design and integration of the HIE, but also cautioned against the impact of additional reporting requirements. Others questioned the feasibility of full participation when some providers have already invested in other HIEs, such as Epic's *Care Everywhere*.¹¹⁵

Taskforce members also suggested the following:

- Build on the reporting network created during COVID-19.
- Include clear, specific policies and oversight mechanisms to allow data sharing with other states including North Carolina
 - » Provide detailed information about what data can be shared across state lines.

TIMELINE: 6 months-ongoing

POTENTIAL CHAMPIONS:

- Carolina eHealth Alliance
- Health Sciences South Carolina
- South Carolina Chapter of the Healthcare Information Systems Society
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Social Services
- South Carolina Health Information Exchange
- South Carolina Hospital Association
- South Carolina Office of Rural Health
- South Carolina Primary Healthcare Association
- South Carolina State Legislature
- Health Providers
- Payers

RESPONSE

DAT 2. Utilize surveillance and projection data from validated modeling techniques designed for communicable disease transmission during contagious disease outbreaks.

Early in the pandemic there was a sense of frustration with a perceived lack of data transparency and availability of projections, cases and deaths by location, race and ethnicity. Health agencies struggled with finding a balance between providing accurate, trusted data, the inherent risks associated with disclosing data sets with few data points and meeting demands for up-to-date data and projections. It was

initially impossible to predict how COVID-19 would spread and the media focused attention on early but inaccurate models and projections, which seeded skepticism among the public and created a sense that some agencies were simply unwilling to calculate or share projections.

To add to the difficulty of data-tracking, case interviews with those who tested positive for COVID-19 were entirely voluntary, so lab reports received from providers often included limited data. Without comprehensive data, developing accurate projection models was not possible given the number of

ⁱAn electronic Health Information Exchange (HIE) allows doctors, nurses, pharmacists and other health care providers to appropriately access and securely share electronically a patient's vital medical information to improve the speed, quality, safety and cost of patient care.

assumptions included in producing a projection under those circumstances. In the present, several national groups have launched modeling techniques that can be used in South Carolina, and systems are in place (such as electronic case reporting) to capture accurate and complete information.

To maintain expanded data capabilities in South Carolina, state information technology should be evaluated and updated at least biannually with federal solutions. Enhancements such as electronic laboratory reporting and system integration would improve the timeliness and accuracy of data reporting.

Additional recommendations for implementation:

- Refer to state-level reporting environments designed to protect individual data, such as those that track tuberculosis and sexually transmitted diseases, as a guide for tracking future contagious disease outbreaks.
- Clearly communicate limitations of projection data.
- Quickly establish and share relevant data points to assist in locating hotspots during contagious disease outbreaks.
- Create parameters to regulate how data is utilized.
- Create an on-call team to assist with data reporting in areas that have limited staffing to perform such duties.

TIMELINE: 1-2 years

POTENTIAL CHAMPIONS:

- Health Sciences South Carolina
- South Carolina Association of School Nurses
- South Carolina Chapter of the Healthcare Information Systems Society
- South Carolina Commission for Minority Affairs
- South Carolina Department of Alcohol and other Drug Abuse Services
- South Carolina Department of Education
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Social Services
- South Carolina Hospital Association
- South Carolina National Guard
- South Carolina Office of Revenue and Fiscal Affairs
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- Academic Medical Institutions
- Epidemiologists
- Payers

Workforce

WF 1. Strengthen the health care workforce to combat shortages and ensure ongoing capacity to plan for and respond to contagious disease outbreaks.

WF 1a.

Scale health apprenticeship programs for high school students and recent high school graduates.

WF 1b.

Create a structured process to guide nursing students to smaller programs in the state if spaces for upper division classes in larger universities are unavailable.

WF 1c.

Increase the availability and sustainability of clinical site placements for future health science students and residents to combat workforce shortages.

WF 1d.

Identify, develop and implement mental health support programs for health workers.

WF 1e.

Continue to research and deploy alternative health care staffing models and explore technology solutions or partnerships to maximize or extend the capabilities of health professionals.

WF 2. Evaluate opportunities for community health workers to increase the capacity of the contagious disease response workforce.

WF 3. Better support the workforce that responds to contagious disease outbreaks.

WF 3a.

Develop a statewide definition of essential workers to be used during contagious disease outbreaks.

WF 3b.

Develop a plan to address burnout among essential workers during public health emergencies.

WF 3c.

Ensure sustainability of continuing education for health and human service providers through virtual platforms during communicable disease outbreaks lasting longer than three months.

Background

The coronavirus pandemic impacted workforce composition, service provision and the culture of work across the United States. Preexisting social disparities such as the gender pay gap and disparate representation among racial and ethnic minorities in the workforce that could work from home were also highlighted early-on in the pandemic.¹¹⁶ In many cases the pandemic heightened workforce disparities. Women, working mothers and Black, Hispanic and Indigenous Americans were more likely to experience displacement or job loss due to workplace closures and to face challenges associated with being employed in an essential occupation.^{117,118}

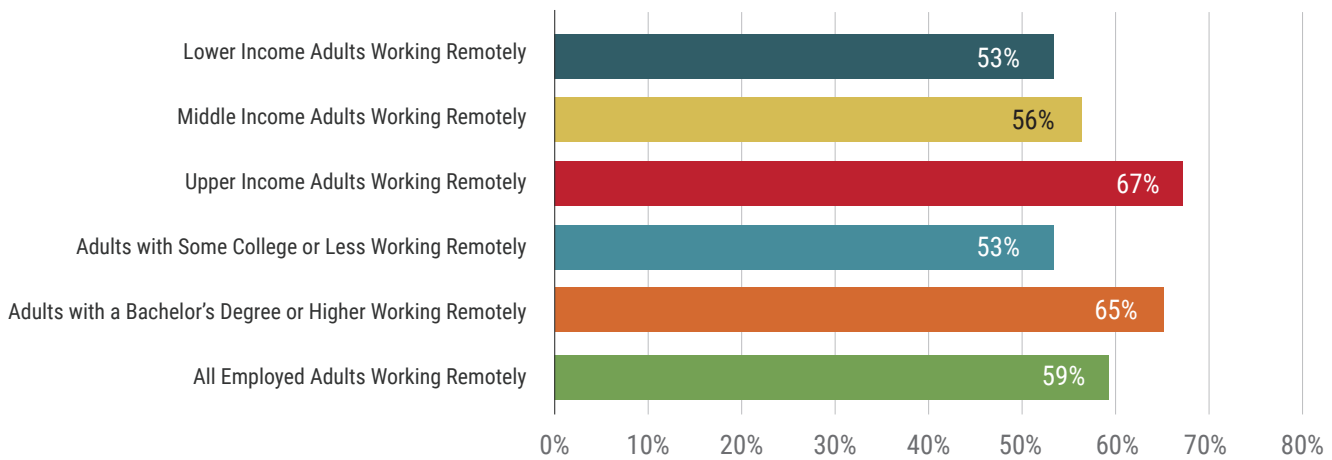
The United States Department of Labor (DOL) reports that mothers of young children experienced the sharpest decline in employment during the early months of the pandemic and that, as a whole, women experienced greater declines in the workforce than men in the United States.¹¹⁹ In June 2021, the United

States witnessed the lowest employment rate among adult women since September 1988.¹²⁰ Stratifying this data by race and ethnicity reveals that Black women experienced the greatest reduction in the workforce, followed by Hispanic women and white women.¹²¹

Women who remained in the workforce were much more likely to have graduated high school or college. The Pew Research Center found that the number of women in the labor force without a high school diploma fell 12.8% during the pandemic, which is a significant difference relative to the 4.9% reduction among men without a high school diploma.¹²² A January 2022 cross-sectional survey found that adults without a bachelor’s degree were also less likely to be employed in roles that allow them to work remotely, putting them at risk of job loss or mitigating their ability to social distance.¹²³ The following graph illustrates the percentage of adults working remotely by education status and income level.

GRAPH 6

Percentage of Adults Working Remotely by Education and Income in the U.S., 2022^{124,j}



Source: Pew Research Center, Survey of U.S. adults conducted Jan. 24-30, 2022.

^j According to the Pew Research Center, adults with “some college or less” working remotely includes those with an associate degree and those who attended college but did not obtain a degree. Family income tiers are based on adjusted 2020 earnings.

Disparities in workforce participation illustrate the importance of an intersectional approach to diversity, equity and inclusion in the workplace. Job loss, the ability to work remotely and satisfaction with safety measures put in place by employer varies by race, ethnicity, gender, educational attainment and income level.¹²⁵

The Occupational Safety and Health Act of 1970 (OSHA) dictates that employers must provide a place of employment which is free from “recognized hazards that are causing or are likely to cause death or serious physical harm.”¹²⁶ However, this and other requirements outlined in OSHA are difficult to execute during a pandemic, particularly in “essential” occupations. Front line health care workers, grocers, law enforcement officers, public transportation and maintenance workers among others were required to continue working in public-facing roles throughout the pandemic despite the increased risk of transmission.

Although both essential and non-essential workers have suffered throughout the coronavirus pandemic, essential workers experienced an increased risk of infection and heightened amounts of general distress compared to non-essential workers.^{127,128} The American Psychological Association (APA) reports that one in four essential workers surveyed were diagnosed with a mental health disorder during the

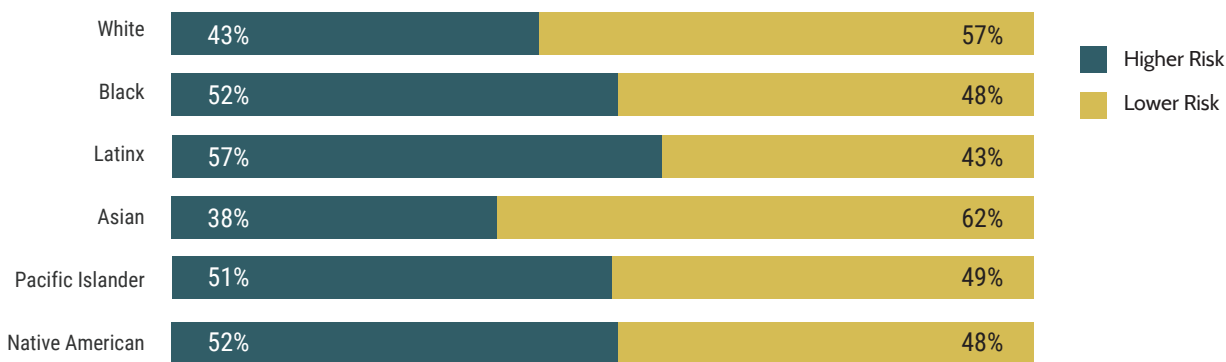
pandemic, which is a significant difference compared to the less than one in ten non-essential workers who reported being diagnosed with a mental health disorder during the same time period.¹²⁹

Further, Black and Hispanic Americans are overrepresented in essential occupations. In an amicus brief to the United States Court of Appeals, the plaintiffs explained that the overrepresentation of ethnic and racial minorities in essential occupations has exacerbated their risk of morbidity and mortality associated with COVID-19.¹³⁰ This and other reports seek to illuminate the fact that the ability to work remotely is not available to all, and that future outbreak events will necessitate a more equitable response to ensure the safety of vulnerable essential workers.¹³¹

In addition to being overrepresented in essential occupations, racial and ethnic minorities are also overrepresented in service-industry jobs and other high-risk non-essential occupations. This fact leads to a heightened risk of long-term unemployment among Black, Hispanic and Indigenous workers. The National Equity Atlas explains that “the majority of Black, Latinx, Pacific Islander and Native American workers in non-essential occupations have jobs that are deemed high risk,” which they have illustrated below in graph 7.¹³²

GRAPH 7

Risk Profile of Non-Essential Occupations by Race and Ethnicity, where Higher Risk Jobs have a Physical Proximity Score Greater than 3.25, U.S.^{133,k}



Source: PolicyLink/PERE analysis of data from the 2018 5-year American Community Survey microdata from IPUMS USA, Burning Glass Technologies, and O*NET

^kSource includes the employed civilian noninstitutionalized population age 16 or older in occupations with valid data on weekly job openings between 3/2/2020 and 4/13/2020.

The state would benefit from ongoing evaluation of the economic impact of pandemic related closures on individual and community wellbeing. The North Carolina Pandemic Preparedness Taskforce report includes strategies related to this suggestion, including:

- **The North Carolina Chamber of Commerce, local chambers of commerce, and the NC Department of Commerce, and the Economic Development Partnership of North Carolina should conduct assessments of the impact of county and state closure policies on small businesses, including short-and long-term financial stability, staffing needs, and ongoing business viability. State and local policymakers should use study results and ongoing input from business sector to inform revisions of emergency response plans.**

- **The North Carolina General Assembly, state agencies, and philanthropic organizations should support community-based organizations' continued work to identify key areas of impact of pandemic-driven closures (of public school, child care, workplaces), and subsequent relief efforts (such as subsidies, tax credits, eviction moratorium, etc.). Support and implementation strategies should prioritize the impact on vulnerable populations such as historically marginalized groups, justice-involved populations, homeless individuals, and people who use drugs. Considered impacts should include mental health, financial stability, employment, food security, and interpersonal violence.**

Recommendations

PREPAREDNESS

WF 1. Strengthen the health care workforce to combat shortages and ensure ongoing capacity to plan for and respond to contagious disease outbreaks.

Throughout the first year of the pandemic, health care workers across the world were celebrated as heroes. Physicians, nurses, respiratory therapists, direct care workers and support staff were recognized for their selflessness and courage in the face of the still largely unknown and dangerous circumstances that enveloped their occupations. Military tributes to health care workers took place throughout the Spring and Summer of 2020 in the form of aerial displays piloted by United States Airforce Thunderbirds and U.S. Navy Blue Angels.¹³⁴ Signs, banners and other acknowledgements were often visible in proximity to hospitals.

However, as the pandemic continued and immunizations became available, there was a cultural shift from adoration to aversion for some, and in some cases harassment and violence. The resulting moral injury has impacted health care workers across occupations. Even though health care workers continue to navigate the uncertainty, risks and dangers associated with COVID-19, the support that was so common in the earliest months of the pandemic has all but disappeared.

The North Carolina Pandemic Preparedness Taskforce members recommended that:

The North Carolina General Assembly should amend NCGS Chapter 166A (Emergency Management Act) and/or other relevant statutes to include an add-on criminal charge or other penalty for harassment of a health care worker and/or front-line essential worker in relation to action(s) undertaken in furtherance of implementing one or more policies related to a state of emergency declared pursuant to G.S. 166A-19.20 (1).

Recognizing similar challenges in South Carolina, it may become necessary to develop similar legislation in the Palmetto state.

The coronavirus pandemic also exacerbated already existing workforce shortages. The American Hospital Association explains that job vacancies for nurses increased by 30% between 2019 and 2020 and that we can expect a shortage exceeding 3.2 million health care workers by 2026, which includes a deficit of physicians, nursing staff, respiratory therapists and other vital health care personnel.¹³⁵ The following recommendations focus on opportunities to strengthen the existing health care workforce in the state to minimize the effects of the nationwide labor shortage.

WF 1a. Scale health apprenticeship programs for high school students and recent high school graduates.

In light of workforce shortages exacerbated by the pandemic, some state agencies have reduced minimum requirements for roles like eligibility workers and have begun to offer learning tracks for recently graduated high school students to obtain an Associate or Bachelor of Arts in subjects like early childcare education.

Similarly, successful health apprenticeship programs should be expanded across the state. The Medical University of South Carolina (MUSC) collaborates with Trident Technical College's youth apprenticeship program to offer high school students and those who recently graduated with hands-on nursing training at MUSC. Taskforce members suggested partnering with paramedics, urgent care systems, firefighters and nurses in rural and low-income areas of the state to offer additional apprenticeship programs.

TIMELINE: 3-5 years

POTENTIAL CHAMPIONS:

- South Carolina Area Health Education Consortium
- South Carolina Department of Education
- South Carolina EMS Association
- South Carolina Hospital Association
- South Carolina Medical Association
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- Health Systems
- Universities, Technical Colleges and High Schools
- Urgent Care Providers

WF 1b. Create a structured process to guide nursing students to smaller programs in the state if spaces for upper division classes in larger universities are unavailable.

Taskforce members explained that undergraduate nursing students may be discouraged from pursuing

a career in nursing if they are not accepted into upper division nursing classes at their preferred university. To encourage these students to continue to pursue nursing, taskforce members suggested creating a structured process to provide nursing students at larger universities the opportunity to apply to upper division nursing programs at smaller colleges of nursing in the state. This approach may include the development of a streamlined application transfer process.

Taskforce members also recommended that the state consider partnering with colleges and universities to launch a campaign to educate South Carolinians about nursing programs in rural areas of the state.

Other recommendations for implementation:

- Engage nursing school counselors to provide guidance regarding what programs students should pursue based on their academic achievement.
- Encourage schools to work together to identify vacancies and coordinate efforts to ensure all programs are filled.

TIMELINE: 1-2 years

POTENTIAL CHAMPIONS:

- South Carolina Area Health Education Consortium
- South Carolina Hospital Association
- South Carolina Nursing Association
- Colleges, Universities and Technical Schools

WF 1c. Increase the availability and sustainability of clinical site placements for future health science students and residents to combat workforce shortages.

Taskforce members recommended that the state commit to increasing the number of clinical site placements for students and residents, create a plan to ensure clinical hours requirements can be met during contagious disease outbreaks and develop a more consistent approach to clinical site set-up and structure to meet the increasing demands of health care professionals.

During the height of the pandemic, many students were unable to continue their clinical training due to disease transmission risks. One taskforce member explained, “Clinical site placements during a pandemic were very challenging. How do we continue to graduate qualified professionals when they are not allowed to get their clinical training hours due to exposure risks?”

Additional recommendations for implementation:

- Create a formal web-based platform for the state to connect clinical sites with students. The platform could include standardized applications and a memorandum of understanding (MoU) for educational institutions that receive state or federal funds.
- Engage a neutral third party or standardized mechanism to match students with preceptors.
- Offer training sites in rural areas, at housing developments, churches, FQHCs and in Health Professional Shortage Areas (HPSAs).
- Explore a new structure of clinical sites that include a more dedicated preceptor to better balance the additional responsibility of training for floor clinicians.

Other taskforce members voiced concerns with this recommendation, noting the lack of an incentive for the state to develop a shared platform for matching preceptors and clinical sites with students or residents. Another taskforce member shared that, “Universities and medical schools compete for sites. [One South Carolina university] alone has 5 employees to find sites for nurses. Students pay universities to find clinical site placements. The state is not in charge of this. The state doesn’t own clinical sites, so they can’t just add more.”

In terms of expanding clinical sites to underserved areas of the state, another taskforce member noted, “If we are putting folks in the community, we need to consider liability, supervision and protocols for potential exposures (needle sticks, etc.). [The site must have the] capacity to manage these requirements in addition to having the necessary supplies such as refrigeration and biohazard disposal.”

The challenges associated with matching students and residents with clinical site placements has been a workforce concern in South Carolina for years. The 2019 IMPH Workforce for Health Taskforce report also included the following recommendations for increasing clinical sites:

- Create a public/private partnership to identify and implement policies and programs that overcome the barriers to efficiently placing health and human service students in on-site training positions with qualified mentors.
- Academic and training institutions should explore new options for funding productivity and time lost at onsite training programs that commit resources to training students.
- Training sites should collaborate to develop one set of standards for student placement and a checklist to ensure mentors are qualified.
- Academic and training institutions should partner with providers to create more opportunities for students to participate in case discussions, simulation centers and other hands-on learning activities as a permanent component of training programs.¹³⁶

TIMELINE: 3 years-ongoing

POTENTIAL CHAMPIONS:

- South Carolina Academy of Family Physicians
- South Carolina Area Health Education Consortium
- South Carolina Commission on Higher Education
- South Carolina Department of Education
- South Carolina Department of Employment and Workforce
- South Carolina Department of Health and Human Services
- South Carolina Free Clinic Association
- South Carolina Health Care Association
- South Carolina Hospital Association
- South Carolina Legislature
- South Carolina Nursing Association
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- South Carolina Technical College System
- USDA Rural Services

- Community-Based Organizations
- Family Resource Centers
- Federally Qualified Health Centers
- Health Systems
- Medical Practices
- Patient Advocacy Groups
- Preceptors and their Affiliated Universities
- Public and Private Academic and Training Institutions
- Undergraduate, Graduate and Professional Schools

WF 1d. Identify, develop and implement mental health support programs for health workers.

People of all ages, backgrounds and income levels have experienced trauma during the coronavirus pandemic. However, those providing direct care to COVID-19 patients in hospitals and other clinical sites have been uniquely challenged, risking their lives on a daily basis and witnessing patient deaths at numbers exceeding any other event in modern medicine.¹ Pre-COVID mental health benefits provided to health workers were not designed to support care delivery during a multi-year pandemic.¹³⁷

Taskforce members recommended solutions like extending the state employee assistance program (EAP) to all essential workers. Employee assistance programs offer benefits like no-cost individual and group counseling sessions to members.

Additional recommendations for implementation:

- The direct care workforce should provide guidance regarding specific programs, digital applications and/or online tools they would find most valuable for support.
- Support measures should include front line peer support groups. Leaders must ensure that the groups are diverse and supportive of all cultures that may be represented.

- Negotiate new mental health support programs into health plan contracts to ensure that the services are available at no cost to the worker.
- To ensure equity and accessibility, services should be offered in as many modalities as possible, including the availability of telehealth, 24 hour assistance, next-day appointments, peer supports and home visits.
- Support programs should be culturally competent.
- Staff retention rates and satisfaction surveys can be used to evaluate the efficacy of support programs.

Along with consensus on the importance of better supporting this workforce, taskforce members expressed concern about the challenges of staffing support programs during contagious disease outbreaks and the limited time available for health workers to participate in support programs during public health emergencies.

TIMELINE: 6 months-ongoing

POTENTIAL CHAMPIONS:

- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Mental Health
- South Carolina Hospital Association
- South Carolina Medical Association
- South Carolina Nursing Association
- South Carolina Pharmacy Association
- South Carolina State Legislature
- State Allied Health Associations
- Payers

¹Trauma experienced during COVID-19 was not limited to clinical care providers. See recommendation BH 1 on page 59 for information about supporting the behavioral health of all South Carolinians.

WF 1e. Continue to research and deploy alternative health care staffing models and explore technology solutions or partnerships to maximize or extend the capabilities of health professionals.

Hospitals in our state and around the country have still largely used traditional staffing models centered around nursing. The pandemic highlighted the need to determine how to use other health professionals as part of the care team, largely due to the shortage of nurses and other providers. Going forward, hospitals nationwide are looking to explore new or alternative staffing models that are more team-based versus solely reliant on nursing.

In response to ongoing workforce challenges exacerbated by the pandemic, the South Carolina Hospital Association has convened a taskforce of health care leaders to collect tools and resources and deploy best practices that can be utilized in settings directly impacted by labor shortages. Additionally, artificial intelligence, machine learning and technology are being explored as opportunities to extend the use of health care professionals.

For example, automated check-in kiosks were used in Veteran's Administration (VA) hospitals during COVID-19 and are found in other health care delivery settings across the state. Human-computer interactions may offer the potential to decrease bias in triage and care delivery, but not all South Carolinians will be able to operate computers without assistance.^m

Taskforce members emphasized that technology used to replace human services must be ADA compliant, with assistance available to those who require interpretation or guidance of any kind to use the platforms. Assistants could include retirees, college students or community health workers.

Other recommendations for ensuring equitable access and ADA compliance include:

- Involving older adult, disability and patient advocates in the planning and design of new

staffing models.

- Considering all disability and language needs. Components that make technology accessible to some groups may not make it accessible to all.
- Offering braille and audio for the blind, pictures charts, yes/no boards and step-by-step directions for the deaf and accessibility for those in wheelchairs.
- Running accessibility assessments on new patient-facing technology/devices.

TIMELINE: 6 months-ongoing

POTENTIAL CHAMPIONS:

- Able SC
- Palmetto Care Connections
- South Carolina Primary Health Care Association
- South Carolina Hospital Association
- South Carolina Department of Consumer Affairs
- South Carolina Area Health Education Consortium
- South Carolina Telehealth Alliance
- Hospitals and Health Systems
- South Carolina Department on Aging
- Colleges, Universities and Technical Schools
- Payers

WF 2. Evaluate opportunities for community health workers to increase the capacity of the contagious disease response workforce.

CHWs offer care coordination, case management, system navigation and cultural mediation in communities across the state. However, employment estimates from the Bureau of Labor Statistics show that South Carolina employs less than one community health worker per 1,000 residents despite their ability to augment the pandemic-weakened health and human service workforce.¹³⁸ To enable CHWs to extend the planning and

^mAccording to the Merriam-Webster Dictionary, triage is defined as, "the sorting of and allocation of treatment to patients and especially battle and disaster victims according to a system of priorities designed to maximize the number of survivors [or] the sorting of patients (as in an emergency room) according to the urgency of their need for care."

response workforce during contagious disease outbreaks, taskforce members recommend:

- Training individuals to become CHWs in each South Carolina community.
- Partnering with South Carolina schools and apprenticeship programs to create talent channels of future CHWs.
- Identifying additional organizations (clinical and community-based) that are willing to serve as apprenticeship opportunities.
- Offering a CHW minor or certificate in colleges, universities and technical schools to candidates who have lived experience, community trust and the right qualities and community-based expertise for the role.
- Offering CHW training to candidates participating in AmeriCorps who have lived experience, community trust and the right qualities and community-based expertise for the role.
- Continuing to create competency tiers for CHWs with extensive experience or specialized training. An effort is already underway at the South Carolina Community Health Worker Credentialing Council.
- Supporting the South Carolina CHW Credentialing Council in formalizing a continuing education process for certified CHWs in the state.
- Offering cross training opportunities for CNAs, LPNs and paramedics who qualify to become a CHW.
- Assessing opportunities for CHW exploratory programs for middle schoolers and early high schoolers.
- Ensuring an equitable approach to training opportunities.
- Ensuring a living wage and sustainable positions for CHWs.

CHWs continue to work to ensure that culturally and/or geographically isolated community members receive necessary health and nutrition services during the pandemic. However, changes are needed to formalize and sustainably fund the role of CHWs in contagious disease outbreak response. The employment of many CHWs currently working in the state is contingent on continued grant funding. To validate the benefits of providing care through CHWs,

the Community Health Worker Institute (CHWI) initiated a Return on Investment (ROI) project that has been underway since 2019.¹³⁹

According to CHWI:

In January 2019, five organizations were chosen to participate in the pilot Return on Investment (ROI) project (2020 – 2022). The five studies are being conducted in partnership with AccessHealth Spartanburg, The Aiken Center, BirthMatters, Prisma Health Upstate, and Tandem Health. CHWI contracts with UofSC's Arnold School of Public Health Core for Advanced Research and Evaluation (CARE) for the evaluation of this work. To date, CARE has provided the Institute leadership with information to monitor and assess the progress of each site. In addition, CARE is leading the implementation, data collection and evaluation of the ROI pilot projects to determine the effectiveness and efficiency of using the CHW model in SC to address the needs of disadvantaged populations, with a particular focus on uninsured and underinsured individuals. The five organizations are collecting data related to health, social needs, and health care utilization outcomes. CHWI and CARE team members conduct bi-annual check-ins with sites to review submitted program data, and to address any programmatic technical assistance needs identified in the narrative progress reports. Results are expected in the fall of 2022.¹⁴⁰

TIMELINE: 1 year-ongoing

POTENTIAL CHAMPIONS:

- Center for Community Health Alignment
- PASOs
- South Carolina Department of Alcohol and other Drug Abuse Services
- South Carolina Department of Education
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Social Services
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- Colleges, Universities and Technical Schools
- Federally Qualified Health Centers
- Hospitals and Health Systems
- Payers

RESPONSE

WF 3. Better support the workforce that responds to contagious disease outbreaks.

Physicians, nurses, direct care workers and other members of the workforce who respond to contagious disease outbreaks have navigated prolonged and, in some instances, unsustainable levels of stress since the beginning of the coronavirus pandemic. The American Medical Association explain that states, health care systems and mental health professionals must coordinate to develop the infrastructure and resources necessary to support front line medical and auxiliary professionals.¹⁴¹ The following recommendations include opportunities to better support this workforce in the hope that the state can continuously improve retention and quality of care.

WF 3a. Develop a statewide definition of essential workers to be used during contagious disease outbreaks.

South Carolina is one of only seven states that have not adopted a statewide definition of which professions are considered “essential workers” during a disease outbreak.¹⁴² Some states have used federal guidance for defining which workers are essential and other states have developed their own guidance. While some South Carolina state agencies and committees have developed criteria for essential workers for purposes of vaccine distribution, no standard statewide definition exists.

In response to the coronavirus pandemic there has been widespread consensus that essential workers should receive new or enhanced benefits in exchange for risking disease exposure to deliver services during contagious disease outbreaks. However, without an official statewide designation, it would be difficult to ensure equitable and complete provision of benefits to this workforce.

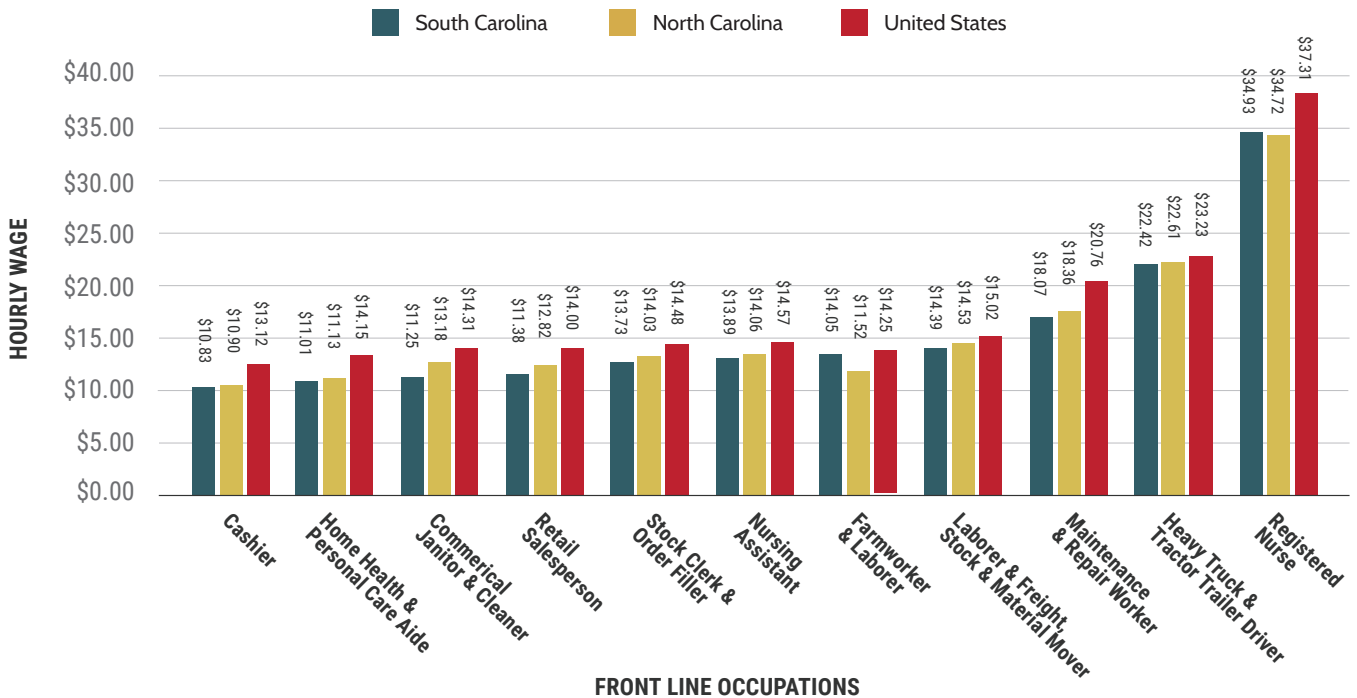
In developing this definition, taskforce members recommend referring to existing essential worker definitions developed by state and national groups which can be tailored to the needs of South Carolinians. Examples of these definitions include the Department of Homeland Security’s Cybersecurity and Infrastructure Security Agency’s (DHS-CISAs) list of Essential Critical Infrastructure workers (though some argue this list is too generous in its inclusion of disciplines) and the South Carolina Department of Health and Environmental Control Vaccine Advisory Committee’s Framework and Recommendations for COVID-19 Vaccine Allocation. Coordinators of this effort may also consider definitions developed by neighboring states.^{143,144} Developing a statewide definition in South Carolina has been attempted before, but challenges associated with determining who receives an essential worker designation has proved highly political given the number of organizations advocating to be included.

The Brookings Institute recommends that legislators designate one or more agencies to regularly update the list of essential industries with the support of labor groups, industry leaders, researchers and public health experts.¹⁴⁵ In addition to defining “essential workers” in the state, policy makers should also be prepared to define what constitutes a front line occupation as a subset of essential workers.¹⁴⁶

Although traditionally more high risk in terms of exposure to viruses, front line workers tend to earn less than the average essential worker.¹⁴⁷ The following graph illustrates the mean hourly wage of the ten largest front line occupations, based on Bureau of Labor Statistics data from 2021, in South Carolina, North Carolina and the United States.

GRAPH 8

Mean Hourly Wage in Front line Occupations, South Carolina, North Carolina and the United States, 2021^{148,149,150}



Source: United States Department of Labor, 2022

TIMELINE: 1-4 years

POTENTIAL CHAMPIONS:

- South Carolina Chamber of Commerce
- South Carolina Department of Commerce
- South Carolina Department of Employment and Workforce
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Hospital Association
- South Carolina Department of Labor
- South Carolina Department of Social Services
- South Carolina Restaurant and Lodging Association
- South Carolina State Legislature
- Community-Based Organizations

WF 3b. Develop a plan to address burnout among essential workers during public health emergencies.

Chronic exposure to job-related stressors can lead to burnout, which is defined as a “work-related stress syndrome” that consists of three dimensions including “emotional exhaustion, cynicism and depersonalization.”¹⁵¹ Although essential workers are vital to our state during contagious disease outbreaks, there is no uniform policy in South Carolina to address burnout, incentivize retention or mitigate risks for this group. Taskforce members recommended a uniform approach to providing workers with benefits to decrease burnout in the workforce such as:

- Free childcare and behavioral health services during contagious disease outbreaks.
- Contagious disease outbreak compensation models or uniform hazard pay protocols for essential workers who are required to work with the public during disease outbreaks (grocery store employees, fast food workers, direct care workers, etc.).

- Staffing schedules that allow employees to rotate out of busier shifts during emergencies.
- Onsite access to nutritious meals and exercise.

The North Carolina Pandemic Preparedness Taskforce report lists the following strategies to increase job satisfaction, reduce the risk of burnout and improve recruitment and retention:

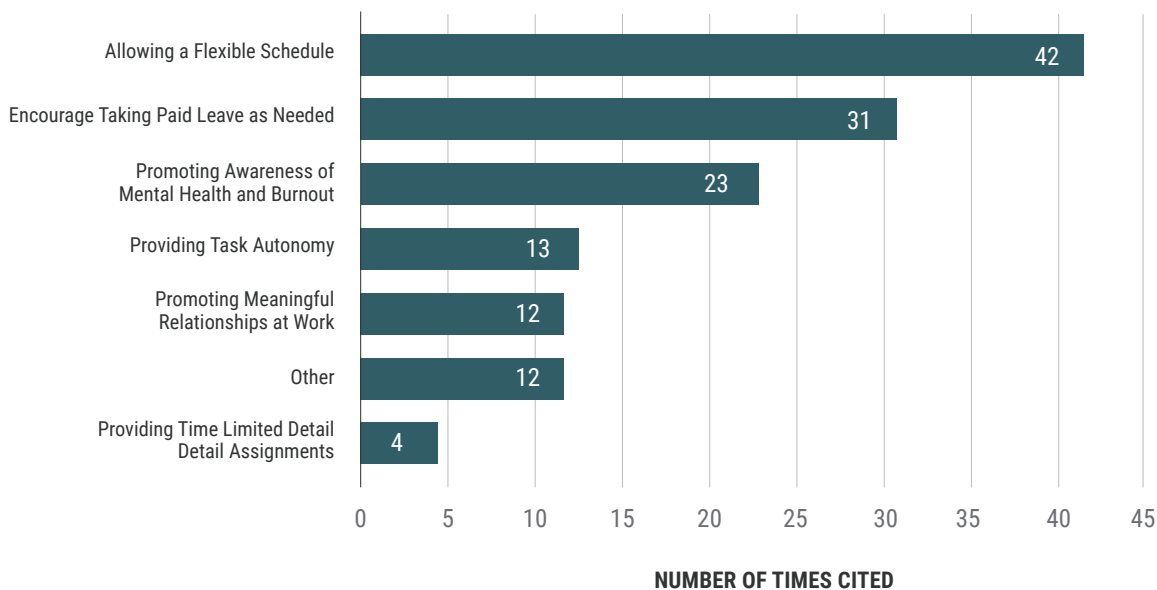
- **Compensation that is competitive with related sectors to be informed by a planned salary study by the North Carolina Alliance of Public Health Agencies.**
- **Use of emergency funds to counties to acknowledge the efforts of local governmental workforce.**
- **Longevity bonuses to incentivize retention and recognize the value and expertise of employees with dedicated service in local public health.**

- **Professional development benefit to be used for career development (e.g., tuition reimbursement, training).**
- **Workplace policies that provide employee flexibility while maintaining work quality (e.g., flexible work hours, location, family leave).**

Other benefits that may positively impact rates of burnout among essential workers include adopting policies that provide health insurance to all members of a care team, addressing unsustainable patient to provider ratios and supporting health care professionals who provide direct care for patients through moral injury.¹⁵² The Council of State and Territorial Epidemiologists' Capacity Assessment Report details the most cited strategies to minimize staff burnout, illustrated in the graph below.

GRAPH 9

Council of State and Territorial Epidemiologists' (CSTE) Most Cited Strategies to Minimize Staff Burnout¹⁵³



Source: 2021 CSTE Epidemiology Capacity Assessment Report

TIMELINE: 6 months-1 year

POTENTIAL CHAMPIONS:

- South Carolina Department of Corrections
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Mental Health
- South Carolina Department of Social Services

- South Carolina Hospital Association
- South Carolina Medical Association
- South Carolina Nursing Association
- South Carolina Office of Rural Health
- South Carolina Pharmacy Association
- South Carolina Primary Health Care Association
- Employers
- Front Line Workers

WF 3c. Ensure sustainability of continuing education for health and human service providers through virtual platforms during communicable disease outbreaks lasting longer than three months.

Maintaining continuing education (CE) credits for health and human service professionals during the pandemic has required creative partnerships and flexibility, as health care professionals did not receive a reprieve from required CE credits during COVID-19. The sudden shift to remote learning and distance requirements created barriers to providers attending CE seminars, eventually leading to the establishment of virtual CE opportunities. Moving forward, the state would benefit from continuing to develop remote learning resources for health care professionals to maintain their credentials virtually. These resources can be supported with state and/or federal emergency funding. To ensure equity, programming must meet federal accessibility standards and include diverse speakers.

This recommendation builds on existing South Carolina Area Health Education Consortium (SC AHEC) projects. SC AHEC provides continuing education for most providers and offers some national accreditations. They can increase this capacity if needed.

TIMELINE: 6 months-ongoing

POTENTIAL CHAMPIONS:

- Palmetto Care Connections
- South Carolina Area Health Education Consortium
- South Carolina Department of Education
- South Carolina Department of Insurance
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- South Carolina State Legislature
- South Carolina Telehealth Alliance
- State Broadband Office
- Internet Service Providers
- Payers

Education

EDU 1. Keep schools open during contagious disease outbreaks but develop the infrastructure and capacity to shift to virtual and hybrid learning as needed to prevent the interruption of education.

EDU 2. Evaluate and implement opportunities to improve scientific literacy in South Carolina from Pre-K through terminal degree programs.

EDU 3. Provide effective learning opportunities that protect medically vulnerable students and staff during contagious disease outbreaks.

Background

The transition from in-person learning to virtual learning brought challenges for students, educators and parents. While virtual learning modalities varied across South Carolina, there were noted concerns with less rigorous lessons and students not turning in

assignments.¹⁵⁴ Additionally, school districts were not initially prepared for a long-term transition to remote learning. As the pandemic progressed, educators and parents became increasingly stressed as the time commitment needed for teachers to prepare lessons

and for parents to monitor schoolwork amidst other obligations became taxing.^{155,156}

Parents, guardians and educators cited concerns over declines in student performance and a general lack of preparedness for upcoming grade levels as standardized test scores in English/language arts and math decreased.^{157,158} The South Carolina Education Oversight Committee (SC EOC) reviewed scores for 2019 and 2020 and reported that, of 222,000 third through eighth-grade students, 70% would not meet grade-level proficiency standards in English/language arts and math in Spring 2021.¹⁵⁹

In addition to declines in performance on statewide assessments, students also experienced a decline in grades. For instance, the number of students failing at least one class on their first-quarter report card of the 2020-2021 school year in Greenville County Schools tripled from 5,300 students in 2019 to 16,047 in 2020. Of the students who failed at least one class, 7,481 of them were full-time virtual students, and 8,566 were learning in a hybrid setting.¹⁶⁰ Students not turning in work was one of the primary contributing factors to the failing grades.¹⁶¹

While acknowledging the persistence of significant gaps between underachieving and higher achieving students, the SC EOC suggested that remote learning did not widen these gaps.¹⁶² Yet the Committee indicated that the “COVID slide is expected to be more dramatic in mathematics among elementary students and for students who are often identified as vulnerable, such as those living in high-poverty households or who do not have access to reliable internet access.”¹⁶³

This “COVID slide” represents the loss of student educational gains due to being out of the classroom during pandemic mitigation measures. According to *Returning to School in the Era of COVID-19*, “research during the pandemic shows that Black, Latinx, and Native American students have less access to electronic devices, internet connectivity, and quality virtual learning programs. Owing to these inequities, Black and Latinx students may experience an

additional 3 months of learning loss compared with other students.”¹⁶⁴

In their March 2021 report, the SC EOC indicated that there was a “lack of clearly defined instructional strategies for forward progress in remote learning.”¹⁶⁵ Additionally, it has been indicated that “while a virtual learning option may be safest with respect to COVID-19, it may be very inequitable with respect to access to education and quality of online instruction and may further strain families who depend on critical services provided through schools.”¹⁶⁶

As schools began to re-open, with some transitioning to hybrid learning platforms, parents were tasked with the difficult decision of whether to allow their students to return to school, a decision that required some calculation of risk. Student and family health, parent employment type, work productivity (students and parents/guardians) and socioeconomic status influenced parents’ decision to allow their children to return to in-person learning.¹⁶⁷ Caretakers who had less control of their schedule or whose work environment was not conducive for them to work from home had fewer options for continued remote learning without risk of economic consequences.

In a study of 730 U.S. parents, only 19% of those whose jobs were not flexible planned to potentially keep their children home.^{168,169} Since schedule control tends to be more prevalent in senior white-collar jobs, less socioeconomically advantaged families lack the opportunity to continue remote learning despite safety and health concerns.¹⁷⁰ Even if caretakers were able to work from home, they must determine whether their children can learn effectively in a remote setting and if they can effectively work from home while simultaneously keeping up with the demands of monitoring their children’s lessons and academic progress.¹⁷¹ Along with determining if their child can learn effectively remotely, students with chronic medical conditions and disabilities are at greater risk of infection.¹⁷²

In Charleston, a parent of a 7-year-old child with a neuromuscular disease removed her son from school

when in-person classes resumed in 2021, stating that “if the hospitals are full, it’s not a good time for him. He shouldn’t be going. It’s dangerous.”¹⁷³ The quality of schools also contributes to the decision for some, as parents with students in underfunded schools may be concerned about whether the school has the resources to resume in-person learning or, conversely, if the school has the resources to support educators navigating remote learning for the first time.^{174,175}

An equitable virtual learning infrastructure should include:

- Means for reaching students with no internet or technology device access
- Provisions for students with special needs and those with limited English-speaking proficiency
- Continuation of existing wrap-around services for students

- Training and resources for teachers on best practices for remote learning
- Social and emotional support services for students and staff
- The capacity to assess the extent of parental involvement in their student’s learning.¹⁷⁶

The following recommendations provide strategies to address educational disparities highlighted during the most recent health crisis. Public school students, regardless of health status, are entitled to equal access to academic courses, school technology and health services to ensure that education services meet the needs of students with disabilities as adequately as they meet the needs of non-disabled students.¹⁷⁷

Recommendations

PREPAREDNESS

EDU 1. Keep schools open during contagious disease outbreaks but develop the infrastructure and capacity to shift to virtual and hybrid learning as needed to prevent the interruption of education.

Despite the risk of disease transmission, some experts contend that attending school is safer for students than staying at home (potentially without adequate supervision, access to food, educational support and the presence of mandated reporters). However, there may be times when attending school in person is not an option for students. Given the experiences of students, teachers, families and caregivers during COVID-19, it is critical that South Carolina schools develop the infrastructure and capacity to shift to virtual and hybrid education as needed.

During COVID-19, that shift presented many challenges to students, parents, faculty, staff and administrators. Providing education virtually or through a hybrid model requires a different skill set than traditional classroom education, yet teachers were faced with making this change early in the

pandemic with limited support and training, according to taskforce members.

To address learning loss caused or exacerbated by school closures and remote learning, the North Carolina Pandemic Preparedness taskforce report suggests the following strategies, which may be applicable in the Palmetto state:

- To provide increased support for students with learning disabilities and one-on-one remediation and enrichment support for all students, the North Carolina General Assembly should provide funding to increase the amount of teaching assistants in Public School Units (PSU).
- The North Carolina General Assembly and North Carolina county commissioners should allocate funding to provide increased funding to instructional and non-instructional staff for summer enrichment.

According to taskforce members, schools lost special assistance resources for students such as access to speech specialists and assisted reading.

Some of the services lost were difficult or impossible to deliver virtually. For instance, meeting the basic requirements of individualized education programs (IEPs) was found to be challenging.

Today, additional resources are still needed for educators now required to maintain the adaptability and capacity to shift to virtual or hybrid formats of education while providing individual care to students and maintaining parent-teacher communications.

Recommendations for implementation:

- Ensure students and faculty have the tools necessary to engage in virtual education, including headphones, technical support, community hotspots, laptop computers and training specific to virtual learning.
- Provide school districts with funding for IT staff to build and maintain virtual learning platforms.
- Allow parent-teacher conferences to take place online as needed.
- Provide training opportunities for parents/guardians based on their children's curriculum, so they may offer effective support when facing challenges in the virtual classroom.
- Establish a state public/private partnership to streamline the many studies evaluating the impacts of virtual and hybrid learning on educational attainment.
- Identify and scale best practices for virtual instruction across the state.
- Consider offering alternative learning opportunities, like small-group sessions, for students who are unable to effectively engage with virtual platforms.
- Provide educators and administrators with training that addresses the social and emotional needs of students, faculty and staff.
- Sustain and expand existing social-emotional supports for students and faculty.
 - » Build on the South Carolina Department of Education's social-emotional learning website for educators, parents, nurses and support professionals.

- » Continue to engage education stakeholders through book clubs to facilitate peer to peer conversations and connection.

TIMELINE: Ongoing

POTENTIAL CHAMPIONS:

- Broadband Service Providers
- Palmetto Care Connections
- Palmetto State Teachers Association
- South Carolina Association of School Administrators
- South Carolina Association of School Nurses
- South Carolina Chapter of the American Academy of Pediatrics
- South Carolina Colleges of Education
- South Carolina Commission on Higher Education
- South Carolina Department of Education
- South Carolina Education Association
- South Carolina State Legislature
- South Carolina Telehealth Alliance
- Local School Districts
- Private Schools

EDU 2. Evaluate and implement opportunities to improve scientific literacy in South Carolina from Pre-K through terminal degree programs.

Scientific literacy among South Carolina residents could be improved by expanding basic research courses in high school and undergraduate liberal arts, biomedical, nursing and STEM programs. Scientific competency should also be integrated into curricula for health care workers, educators and other essential workers. Increasing scientific literacy presents the opportunity to develop a population with the ability to measure risk and critically assess information.

Taskforce members recommended examining effective public health campaigns, like pro-seatbelt messaging and anti-pollution and smoking cessation campaigns for examples of strategies to boost the

popularity of science among South Carolinians. Members also suggested using new media, like Tik Tok, to target specific populations and engage student leaders to share important messaging. In South Carolina, scientific literacy should be marketed as a basic educational need for everyone just as any for-profit company might market a new product. Consider public/private partnerships or state grantmaking to fund this endeavor.

TIMELINE: 1-3 years

POTENTIAL CHAMPIONS:

- Health Sciences South Carolina
- Palmetto State Teachers Association
- SCforEd
- South Carolina Area Health Education Consortium
- South Carolina Association of School Administrators

- South Carolina Commission for Minority Affairs
- South Carolina Department of Education
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Social Services
- South Carolina Education Association
- South Carolina Hospital Association
- South Carolina Medical Association
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- South Carolina Technical Schools, Colleges and Universities
- Community Members

RESPONSE

EDU 3. Provide effective learning opportunities that protect medically vulnerable students and staff during contagious disease outbreaks.

Schools across South Carolina employ and provide education to adults and children with disabilities, chronic diseases and other complex conditions. Individuals with chronic health conditions and disabilities are at an increased disadvantage during contagious disease outbreaks.

When schools halted in-person instruction early in the pandemic, many of these children and their families were impacted by the sudden loss of support. In addition to providing informal respite for working family members, schools also provide social support, structure, tailored accommodations and learning aids to students that may be limited when learning remotely, particularly for students navigating complex health conditions.¹⁷⁸ One taskforce member noted that during the height of the pandemic some schools were unable to set up classroom livestreams for individuals with disabilities.

Given the likelihood of future contagious disease outbreaks, the state of South Carolina would benefit from increased planning surrounding opportunities to support and protect students and educators with chronic diseases. According to one expert and parent: “We should use the pandemic as a catalyst to change public education for the better. This is a prime opportunity to develop better virtual school options or hybrid options that can benefit all kids, children with medical complexity included. These options might also help slow down the loss of teachers by facilitating a better work/life balance.”

Additional recommendations for implementation include:

- Identifying students with complex health conditions prior to the beginning of school, at the beginning of the school year or upon a diagnosis during the school year, to ensure they have the necessary supports to transition to remote learning in an outbreak event.

- Empowering families to make decisions about what is best for their child. Each child with medical concerns is unique. How that child is educated is a decision that should be made by the family and the child's medical team.
- Extending virtual and hybrid education for children with complex health needs at each school, so that students and parents can maintain relationships with each other and their teachers.
- Providing state and federal emergency funding to the South Carolina Department of Education to provide at-home caregivers for students with complex health needs in the event of a future pandemic.
- Ensuring virtual options are ready to launch throughout the school year. These options could include classroom streaming, virtual curricula and hybrid scenarios. Virtual curricula could be combined with 1-on-1 sessions with students and teachers. Schools may consider hiring teachers whose time would be dedicated to working with these students.
- Improving the approach to virtual learning. Parents shared that expecting children to stay engaged while participating in a virtual classroom all day is often not realistic. The amount of online classroom participation should be tailored to the age/grade of the student. Schools may consider the Connexus platform used successfully by South Carolina Connections Academy.
- Designating classrooms that could be separately accessed (i.e., at end of a hallway near a separate entrance/exit) and utilized for children at risk of severe outcomes from contagious disease outbreaks. Use pandemic precautions in those classrooms (like masks, hand hygiene, social distancing).
- State leaders must be intentional about partnering with disability rights organizations and advocates to ensure that legislation introduced during a crisis does not unintentionally discriminate against students and staff with disabilities and chronic conditions.

TIMELINE: 1-2 years

POTENTIAL CHAMPIONS:

- Able South Carolina
- Disability Rights South Carolina
- Palmetto Care Connections
- Palmetto State Teachers Association
- SCforEd
- South Carolina Association of School Administrators
- South Carolina Chapter of the American Academy of Pediatrics
- South Carolina Children's Hospitals
- South Carolina Department of Education
- South Carolina Department of Health and Environmental Control
- South Carolina Education Association
- South Carolina State Legislature
- South Carolina Telehealth Alliance

Supply Chain

-
- SPC 1.** Use data-informed decision-making to ensure adequate, equitable maintenance and distribution of personal protective equipment.
-
- SPC 2.** Ensure the availability and sustainability of programs/organizations that provide food to those in need during contagious disease outbreaks.
-
- SPC 3.** Lift procurement restrictions to reduce bureaucratic burdens and increase efficiency during public health emergencies.
-

Background

According to a U.S. Department of Health and Human Services' (HHS) Office of Inspector General (OIG) national survey conducted in March 2020, "hospitals reported that heavier use of personal protective equipment (PPE) than normal was contributing to the [PPE] shortage and that the lack of a robust supply chain was delaying or preventing them from restocking PPE needed to protect staff.¹⁷⁹ Hospitals also expressed uncertainty about the availability of PPE from Federal and State sources and noted sharp increases in prices for PPE from some vendors."¹⁸⁰

Amid the uncertainty of the medical supply chain, health care facilities were encouraged to implement preservation strategies to sustain existing inventory while pursuing alternative methods to obtain more.^{181,182,183,184,185,186,187} The CDC offered strategies to optimize PPE (N95 respirators, face masks, gowns, eye protection and gloves) based on surge capacity.¹⁸⁸ Health care facilities were encouraged to evaluate their current PPE supply and utilization rate and then implement optimization strategies sequentially until PPE availability returned to normal.¹⁸⁹

In July 2020 the Federal Emergency Management Agency (FEMA) emphasized a reduce-reuse-repurpose strategy while urging all health care facilities and first responder organizations to begin using PPE contingency strategies that included extending use times of undamaged non-visibly soiled PPE beyond single patient contact.^{190,191} For instance, extended use of N95 Respirators included wearing

the same respirator for repeated close contact encounters with several different patients.¹⁹² Health care settings were also encouraged to restrict surgical mask use to protection (utilizing facemasks to protect the nose and mouth from exposure to splashes, sprays, splatter and respiratory excretions) rather than source control (utilizing facemasks to cover the mouth and nose to prevent the spread of respiratory secretions when talking, sneezing or coughing).¹⁹³

Health care personnel who required source control but not protection were encouraged to wear cloth masks with patients, utilizing tissues and other barriers in the absence of a cloth mask.¹⁹⁴ In addition to these measures to conserve existing supplies, health care facilities purchased PPE from vendors outside of their normal contracted sources, and enlisted the support of community partners to assist in restoring inventory.^{195,196,197,198} The scarcity of PPE early-on in the COVID-19 pandemic left health care personnel vulnerable to potential exposure and increased the risk of contracting and spreading the virus.^{199,200,201}

While health care facilities faced PPE shortages, non-health care industries were encouraged to only utilize surgical facemasks if required by law or regulation to perform their duties, or if needed to mitigate employee exposure.²⁰² Yet, fear of exposure generated a demand for PPE by the general public that further contributed to the PPE shortage.²⁰³ This created a competitive environment for PPE procurement that resulted in surging prices, hoarding and purchasing and reselling supplies at exorbitant prices.^{204,205,206,207}

It has been suggested that the lack of transparency and visibility of the medical supply chain and the inability to account for the “full-spectrum” of stock contributed to the personal protective equipment shortage.^{208,209} External screens such as poor tracking (“invisible stock”), hoarding (“safety stock”), distribution barriers (“blocked stock”) and exaggerated or false claims of available stock (“ghost

stock”) hid the actual quantity of inventory that could have been utilized.²¹⁰ Therefore, going forward, PPE sourcing systems should be “flexible, traceable and transparent, persistent and responsive, globally independent and equitable” in order to recognize the supplies that are actually available and distribute them based on need rather than demand.^{211,212}

Recommendations RESPONSE

SPC 1. Use data-informed decision-making to ensure adequate, equitable maintenance and distribution of Personal Protective Equipment.

South Carolina should develop guidelines that specify how much PPE should be stockpiled in the state to ensure adequate, equitable access to supplies during a pandemic or contagious disease outbreak.

The challenges associated with obtaining and appropriately distributing PPE were not unique to South Carolina - the North Carolina Pandemic Preparedness Taskforce report includes the following recommendations to increase the number of PPE and other protective supplies:

- The North Carolina Department of Health and Human Services should develop and update a policy manual to establish guidelines for stockpiling and monitoring PPE and other health care supply levels in partnership with the North Carolina Healthcare Association.
- The North Carolina Department of Commerce, North Carolina Chamber of Commerce, and other partners should work with hospitals and health systems to ensure the development of local infrastructure for PPE and other supplies in North Carolina.
- The North Carolina Department of Administration should conduct an annual procurement planning survey to (1) identify local contracting opportunities for PPE and other needed supplies and (2) increase access to contracting opportunities for historically underutilized and other small businesses. The

results of this survey should be publicly accessible and widely disseminated to support the North Carolina Department of Commerce and other economic development partners in identifying and working to increase the manufacturing of PPE and other needed supplies locally.

Access to recurrent funding to maintain and rotate stockpiles of contagious disease PPE was cited as the most significant barrier or limitation to implementing this recommendation. Organizations managing the stockpiles require recurring funding for leasing or purchasing storage space, for workers, building maintenance, heating and cooling and the continuous procurement of PPE as equipment expires.

South Carolina must also better coordinate with the federal government. Taskforce members noted that South Carolina did not receive its fair share of COVID-19 testing equipment and PPE early in the pandemic, and that it is unreasonable to expect any singular organization or government entity to provide PPE for all South Carolinians or every industry/sector in South Carolina.

TIMELINE: 1-2 years

POTENTIAL CHAMPIONS:

- South Carolina Department of Health and Environmental Control
- South Carolina Department of Social Services
- South Carolina Emergency Management Division
- South Carolina Hospital Association
- South Carolina State Legislature

SPC 2. Ensure the availability and sustainability of programs/organizations that provide food to those in need during contagious disease outbreaks.

When Governor McMaster ordered schools to close beginning March 16, 2020, many school districts began providing free meals to students that could be picked up at the school or bus stops.²¹³ By fall 2020, all 81 South Carolina school districts were able to offer free meals to students for the remainder of the year through a United States Department of Agriculture waiver. Along with these programs, some libraries offered free after-school snacks.²¹⁴

Feeding the Carolinas saw demand at food banks in North and South Carolina increase to 50-60% above average in the first few months of the COVID-19 pandemic. The demand remained high in 2021 and remains 10-20% higher than pre-pandemic averages depending on location and viability of the local economy.ⁿ Prior to the pandemic, the average food bank in the Carolinas spent \$80 thousand per month on food. However, in the first few months of the pandemic, the same food banks were spending an average of \$1 million per month on food. According to the South Carolina report *Closing the SNAP Gap*, “During 2021 the projected rate of food insecurity in the state was 11% for households overall, and an even worse 14% for households with children.”²¹⁵

In addition to increased demand, donations also decreased during the pandemic. For example, grocery stores could not provide their typical donations to food banks because they were struggling to stock their own stores. Food banks also lost a significant number of volunteers, as many members of their workforce were older adults and could not risk disease transmission.

One factor that helped food banks provide more meals to South Carolinians were financial contributions from funders without application or reporting requirements. Taskforce members mentioned “no-strings-attached” grantmaking as a significant need during the pandemic, as many

small, local nonprofits with community connections required to reach those in need reported not possessing the capacity or expertise to meet application and reporting requirements for grants.

Taskforce members also recommended:

- Securing sustained funding for combatting food insecurity in South Carolina.
- Prohibiting the requirement of a state ID or social security number for food assistance applicants.
- Encouraging partnerships between supermarkets and restaurants to donate food to food banks and people experiencing food insecurity.
- Continuing and expanding inclusion of faith-based organizations and local decision makers in the development and implementation of food distribution programs.

In addition to equitably and comprehensively providing food to all South Carolinians in need, concerns were raised by taskforce members regarding the waste and inefficiencies that proliferated during the current pandemic. One taskforce member shared the following:

I know just from our internal work there was so much food that went to waste. The irony is that everybody was freaking out because the grocery stores were empty. But meanwhile, these food distributors have truckloads of milk that are going bad because the rigidity of our food systems and channels. And the ability to set up food sites correctly for people to access. We had people who needed food who had never gone to a food pantry, never had issues with food access that found themselves in that position. Setting up community food sites is important and trying to create tributaries and redirection. How do state agencies and food producers redeploy food that would normally go to the hospitality industry or to other places to direct-to-consumer? There was a ton of food waste that happened at a critical point when people needed food.

ⁿAs of June 2022

TIMELINE: Ongoing

POTENTIAL CHAMPIONS:

- AARP South Carolina
- BlueCross BlueShield of SC
- Feeding the Carolinas
- PASOs
- SC Thrive
- South Carolina Commission for Minority Affairs
- South Carolina Department of Agriculture
- South Carolina Department of Education
- South Carolina Department of Social Services
- South Carolina Department on Aging
- South Carolina Food Policy Council
- South Carolina National Guard
- South Carolina Office of Rural Health
- United Way Association of South Carolina

SPC 3. Lift procurement restrictions to reduce bureaucratic burdens and increase efficiency during public health emergencies.

Challenges surrounding procurement during the pandemic were cited by taskforce members as a barrier to an effective pandemic response despite state flexibilities designed to reduce bureaucratic barriers during an emergency. Procurement disruptions extended to critical medical goods including ventilators, essential drugs and personal protective equipment.²¹⁶ The South Carolina Division of Procurement Services is responsible for staffing emergency disaster recovery procurements for the South Carolina Emergency Management Division (SCEMD), which was granted limited emergency contracting authority during the pandemic to acquire and distribute essential medical goods.

Procurement professionals, policymakers and state agencies were under immense pressure in the earliest

months of the pandemic to ensure access to essential medical goods throughout the state. Recognizing the need for more rapid avenues for procurement, Governor Henry McMaster issued Executive Order 2021-17 in April 2021 to direct state agencies involved in the procurement of essential medical goods to prioritize identifying and maximizing the procurement and utilization of pharmaceutical and medical assets manufactured in South Carolina.²¹⁷ Additionally, South Carolina state procurement regulation 19-445.2110 subsection D states that:

Any governmental body may make emergency procurements when an emergency condition arises and the need cannot be met through normal procurement methods, provided that whenever practical, approval by either the head of a purchasing agency or his designee or the Chief Procurement Officer shall be obtained prior to the procurement.²¹⁸

Members suggested identifying practical ways to further streamline the procurement process during an emergency. To achieve this goal, members recommended reevaluating state finance rules, developing contracts with existing vendors who can adequately respond during an emergency and providing guidance that describes how to maintain programs introduced during a crisis once the emergency orders are lifted. For example, school-based coronavirus testing and other community-based programs would benefit from on-going procurement flexibilities beyond the duration of the official state of emergency.

Additional recommendations for implementation include:

- Creating an emergency authorizing body to provide procurement flexibilities that extend beyond executive orders during public health emergencies.
- Creating an approved list of vendors ahead of select grant opportunities and/or choosing contracts with selected, pre-screened suppliers in

the Southeast who are adequately prepared and able to provide essential medical goods in the event of an emergency.

- Continuing to encourage and develop laws that facilitate the expansion of the pharmaceutical and medical device industry in South Carolina.
- Developing legislation that allows for additional flexibilities following public health emergencies to maintain programs developed during a crisis to ensure that those initiatives can continue as needed.

At least one Midlands municipality has amended language in its procurement policy, waiving informal and formal bidding procedures when necessary so the city can acquire goods and services quickly in situations of prolonged supply chain delays.²¹⁹

TIMELINE: 1-2 years

POTENTIAL CHAMPIONS:

- South Carolina Division of Procurement Services
- South Carolina State Agencies
- South Carolina State Legislature

Health Care Delivery

HCD 1. Define, evaluate and implement standing orders for testing and vaccination during contagious disease outbreaks.

HCD 2. Refine and implement policies to protect those residing in congregate living settings during contagious disease outbreaks.

HCD 3. Redeploy the Virtual Grand Rounds Programs established in 2020 during future contagious disease outbreaks.

Background

Health care delivery in the United States relies on interconnected networks of physical and mental health providers, long-term care support staff, pharmacists, academics, social service agencies and caregivers. Over the past two and a half years, the delivery and quality of health care across the country has been impacted by the pandemic and associated mitigation measures. For example, the number of elective surgeries declined significantly throughout the initial months of the pandemic due to the national moratorium on discretionary services and state-level decisions.^{220,221} In addition to a decrease in elective surgeries, which in some cases included important quality-of-life procedures such as knee and hip replacements, the pandemic also impacted delivery of the following services:

- Routine immunizations
- Organ transplants
- Emergency care
- Clinical research and clinical trials
- Ambulatory care
- Cancer screenings
- Reproductive health services²²²

A June 2020 survey of U.S. adults demonstrated that 40.9% of participants indicated avoiding medical care at some point due to the pandemic, 12% avoided urgent or emergency care and 31.5% avoided routine care.²²³ The prevalence of avoiding any medical care was higher in females, Black Non-Hispanic and Hispanic populations, people with a disability, those with two or more underlying medical conditions and

those with an annual household income of fewer than \$25 thousand dollars.²²⁴ Postponing medical care due to fears of being exposed to COVID-19 was identified as a risk factor for both morbidity and mortality associated with a variety of other chronic or acute health conditions such as diabetes, heart disease and stroke.²²⁵

As COVID surges continued beyond 2020, hospitals across the nation struggled to meet the demand for intensive care. The United States Department of Health and Human Services Office of the Inspector General (HHS OIG) explained that one of the most commonly reported challenges hospital systems experienced early-on in the pandemic was the need to provide services to patients requiring hospitalization.²²⁶ The drastic increase in demand for intensive care required systems to expand capacity and identify creative solutions to manage the crisis.²²⁷

In some cases, hospitals facing surges of patients presenting with COVID-19 responded by delaying or

canceling elective surgeries and procedures for other patients. As patients occupied beds longer, hospitals were left with limited capacity to care for new patients. According to the HHS OIG report mentioned above, some hospitals were forced to prioritize resources and reserve testing supplies for employees and patients with severe symptoms rather than conducting widespread testing of patients and community members.

Several of the pandemic-induced changes to the health care delivery system are expected to persist. In fact, the pandemic forced innovation in terms of health care delivery and maintenance by fracturing many of the assumptions that guide the development of health programs and interventions.

The following pages outline specific strategies to improve health care delivery during a contagious disease outbreak in South Carolina, such as expanding authorization to allow auxiliary health care providers to administer vaccinations and maintaining virtual grand rounds that were enacted during the pandemic.

Crisis Standards of Care

An ethically sound framework for health care delivery during public health emergencies, including pandemics, must balance the patient-centered duty of care—the focus of clinical ethics under normal conditions—with public-focused duties to promote equality of persons and equity in distribution of risks and benefits in society—the focus of public health ethics. Because physicians, nurses and other clinicians are trained to care for individuals, the shift from patient-centered practice to patient care guided by public health considerations creates great tension, especially for clinicians unaccustomed to working under emergency conditions with scarce resources.

Community-oriented disaster triage, activated under the Incident Command System during a public health emergency, intends to provide the greatest good for the greatest number. Consistency in application of disaster triage standards based on sound scientific evidence supports the ethical principles of equity, fairness, trust and reciprocity.

Formal crisis standards of care could be instituted during future public health emergencies, when health system operations are disrupted and normal standards of care cannot be maintained. These standards could be developed through a public/private collaboration that includes relevant state agencies, private health system organizations and representatives of specific vulnerable and at-risk populations and communities. Standards would be based on established ethical principles and available clinical evidence and directly informed by ethics and clinical subject matter experts. When resources are no longer scarce, termination of Crisis Standards of Care should occur.

Recommendations

RESPONSE

HCD 1. Define, evaluate and implement standing orders for testing and vaccination during contagious disease outbreaks.

Standing orders are signed instructions that authorize nurses and other health care professionals to carry out clinical tasks, such as vaccinations, that would usually require a physician's order.²²⁸ These orders allow for patient care to be shared amongst the medical team. The guidelines can be established at national levels and then adjusted at the local level for statewide or organizational use.

Standing orders can save significant time in a clinical care setting and allow physicians to carry out more complex care. Once standing orders are established, nurses, pharmacists and other providers do not need to request and wait for orders to carry out clinical care. This cuts back on time spent away from patients and time the patient spends in the office which improves efficiency and also potentially lowers costs.^{229,230}

For example, federal guidance issued on March 10, 2020, as part of the Public Readiness and Emergency Preparedness Act declaration authorized licensed pharmacists to administer COVID tests.²³¹ Additional guidance issued on September 3, 2020 by HHS permitted licensed pharmacists to order and administer FDA approved COVID-19 vaccines, as well as state-licensed or registered pharmacy interns to administer FDA approved COVID-19 vaccines to persons three years or older.²³² Research conducted prior to the coronavirus pandemic indicates that pharmacists are often more accessible than physicians, indicating that allowing pharmacists to provide vaccinations narrows service gaps among vulnerable populations.²³³

In January 2021 the South Carolina Department of Health and Environmental Control and the South Carolina Department of Labor, Licensing and

Regulation issued a joint order expanding the number of medical professionals who could administer COVID-19 vaccines.^{234,235} The press release describes the newly eligible COVID-19 vaccine administrators:

- Personnel with current certifications by certain certifying boards
- Students at an accredited medical school with appropriate instruction and documented training
- Registered nurses and licensed practical nurses who have retired, become inactive or whose licenses have lapsed within the last five years but were in good standing.^{236,237}

Despite the successful implementation of the standing order described above, some taskforce members expressed concern that standing orders were controversial. Further highlighting the disparate views on this issue, a taskforce member also recommended that those who create standing orders should receive legislative protections "to help prevent inertia due to fear of litigation."

TIMELINE: 2-3 years

POTENTIAL CHAMPIONS:

- South Carolina Department of Alcohol and Other Drug Abuse Services
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Social Services
- South Carolina Hospital Association
- South Carolina Medical Association
- South Carolina Office of Rural Health
- South Carolina Pharmacy Association
- South Carolina Primary Health Care Association
- Payers

HCD 2. Refine and implement policies to protect those residing in congregate living settings during contagious disease outbreaks.

Individuals living in congregate settings during COVID-19 faced higher risks for mortality and infection than people living in community settings. Much of this loss of life was concentrated in long-term care (LTC) facilities such as nursing homes. As of February 2022, “more than 200,000 long-term care facility residents and staff had died due to COVID-19.”²³⁸ Further impacting residents and staff, family members were not allowed in nursing homes early-on in the pandemic and it was difficult to find staff to provide care in LTC facilities, leaving residents isolated. Some family members tried to access their loved ones by applying for jobs at their facilities while access to visitors was blocked.

Even before the pandemic, South Carolina nursing homes faced staffing challenges. It was not unusual for family members or other caregivers to supplement the capacity of the existing workforce by caring for their loved one in their congregate living setting. During the pandemic the number of staff decreased, and families could not enter facilities to provide personal care to residents. However, South Carolina Department on Aging ombudsmen were allowed access to the facilities to monitor residents and ensure they received compassionate care.

To address this challenge, the state may consider developing policies that would allow one family member or caregiver per resident to enter LTC facilities during contagious disease outbreaks to care

for and provide social-emotional support to their loved one.

In terms of physical protection from disease, the Centers for Medicare and Medicaid Services suggests the following measures to provide protection to those in nursing homes, including:

- Implementing the use of a decontamination system and developing teams specially trained and equipped to disinfect congregate care sites.
- Creating an outside personal protective equipment and bleaching mat washing station and screening and infection prevention station for all to utilize prior to entering the congregate setting.
- Using a UV machine to disinfect face shields, N95 masks, iPads, keys and other items.
- Ensuring staff shower and change at the end of shifts in designated areas at the facility before leaving the setting.
- Placing contact time (the last time the item was touched) for cleaning and disinfecting products in large numbers on the side of each bottle to keep that time more present in the mind of those using the products.²³⁹

In other congregate settings, like group homes, correctional facilities and homeless shelters, staff had limited guidance to inform their response to the pandemic. In light of this, the state should develop contagious disease outbreak guidelines specific to the settings in South Carolina where people work, live and receive care.

When COVID-19 initially spread across the state, the South Carolina Department of Corrections only had its influenza Pandemic Plan and nursing home guidelines to consider. There were no state or national correctional COVID guidelines, and none were issued until several weeks into the pandemic, according to one taskforce member. The nursing home guidelines did not translate effectively to prison and jail settings and their populations.

Further amplifying challenges, the pandemic decreased an already inadequate behavioral health workforce in correctional facilities to critical levels, a December 2021 SCDC Implementation Panel Report of Compliance found. The report states that:

Staffing deficiencies, quarantine and isolation practices and space limitations have continued to impact processes, including suicide prevention and management, transfers to and from the crisis stabilization units, reception and evaluation services, transfers to higher levels of care and services, mortality and morbidity reviews, out of cell time for structured and unstructured therapeutic activities, and medication administration and monitoring.²⁴⁰

The following recommended actions should be considered to better protect staff and incarcerated individuals:

- Policies regarding incarcerated individuals must prioritize testing, vaccination and humane isolation. Testing for both incarcerated individuals and staff was difficult to obtain in the first several months of the pandemic. At the beginning of the COVID-19 outbreak in South Carolina, incarcerated individuals did not have access to video visitation and in-person visits were suspended. SCDC worked tirelessly to procure equipment to allow video visits which came online early in the pandemic. Additionally, many facilities were in quarantine for months due to positive cases.
- A COVID-19 policy to implement during future public health emergencies: SCDC staff assisted those incarcerated with obtaining state identification upon release by taking and sending photos and ID applications to the Department of Motor Vehicles.
- All SCDC staff and inmates should be in the first wave of vaccine administration if a vaccine is developed during future disease outbreaks.
- The state should work with people with lived experience to develop communications specific to incarcerated South Carolinians. SCDC created informational posters to share facts about the pandemic with the incarcerated individuals and staff. In the future it would be beneficial for this to be included in the state's communications plan. Specific materials must be created for offenders as they do not have access to the internet for information on pandemic precautions. A video developed by the state could have been an effective tool for offenders, as they can access tablets to view the information and offenders with limited reading proficiency would not miss important guidance.

TIMELINE: 1-5 years

POTENTIAL CHAMPIONS:

- South Carolina Commission for Minority Affairs
- South Carolina Department of Alcohol and Other Drug Abuse Services
- South Carolina Department of Corrections
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina Department of Social Services
- South Carolina Department on Aging
- South Carolina Primary Health Care Association
- County Jails

HCD 3. Redeploy the Virtual Grand Rounds Programs established in 2020 during future contagious disease outbreaks.

Historically, grand rounds provide physicians with an opportunity to analyze and discuss unique or challenging real-life clinical cases. Early-on in the pandemic, several organizations collaborated to launch a virtual version of grand rounds that was made available to the public and included free continuing education credits.

Taskforce members suggested requesting recurring state funds to ensure the new pandemic-specific virtual grand rounds are accessible to all (through the use of closed captioning, for example) and available on-demand. Contingent upon funding, there is also interest in expanding topics and target audiences to include non-medical professionals. One taskforce member suggested rebranding expanded virtual grand rounds as “community conversations.”

TIMELINE: Ongoing

POTENTIAL CHAMPIONS:

- Prisma Health
- South Carolina Area Health Education Consortium
- South Carolina Department of Health and Environmental Control
- South Carolina Hospital Association
- South Carolina Medical Association
- South Carolina Nursing Association
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- Clinical Providers
- Health Care Administrators
- South Carolina Schools of Medicine
- South Carolina Nursing Schools
- South Carolina Schools of Pharmacy

Behavioral Health

BH 1. Coordinate to develop, sustain and scale policies and programs that increase access to behavioral health services in South Carolina to ensure ongoing comprehensive care that is adaptable to public health emergencies.

BH 2. Continue to increase access to naloxone and/or other opiate antagonists to reverse overdoses.

Background

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), behavioral health is defined as, “the promotion of mental health, resilience and wellbeing; the treatment of mental and substance use disorders; and the support of those who experience and/or are in recovery from these conditions, along with their families and communities.”²⁴¹ The coronavirus pandemic both further illuminated and exacerbated the need for a more expansive system of behavioral health supports in South Carolina. Various South Carolina agencies and organizations have formally recognized the

importance of expanding access to services; however, challenges persist. For example, the state has too few behavioral health professionals despite the acknowledged need to scale the number of providers to meet the needs in the state. However, demand continues to exceed supply.

South Carolina behavioral health providers are tasked with serving an estimated 5,148,714 people across the state. However, the most recent data available indicates that in 2019 there were only 524 psychologists and in 2020 there were only

564 general psychiatrists and 2,685 clinical social workers to meet the needs of a diverse and growing population. Additionally, fourteen counties across the state reported not having any psychologists or general psychiatrists - Abbeville County, Allendale County, Bamberg County, Barnwell County, Calhoun County, Clarendon County, Dillon County, Hampton County, Jasper County, Lee County, Marion County, Newberry County, Saluda County and Williamsburg County.^{242,0}

Delivering comprehensive behavioral health services requires addressing the shortage of qualified behavioral health workers by recruiting, educating and retaining a comprehensive behavioral health workforce. The workforce must allow an appropriate staff-to-patient ratio and offer diversity, inclusivity and culturally appropriate care. According to SAMHSA, “Culturally appropriate treatment accommodates clients’ beliefs and practices, preferred languages, individual and family histories, differences in symptoms, and preferred approaches to treatment.”²⁴³

Additional behavioral health considerations include access in rural areas of the state and in schools:

Rural Access

The distribution of behavioral health professionals, specifically psychiatrists and psychologists, is higher in urban areas than rural areas across South Carolina.²⁴⁴ As recently as 2019, disparities in access to behavioral health services are evident in the numbers. For example, that year, there were 548 general psychiatrists and 507 psychologists in urban areas of the state compared to only 15 general psychiatrists and 17 psychologists across rural South Carolina.²⁴⁵

SAMHSA explains that “challenges to recruiting and retaining substance use treatment staff in rural areas include: low pay compared with peers in other settings, professional isolation, difficulty for spouses to find work, few social outlets and educational opportunities and difficulties adjusting to rural life.”²⁴⁶ Although the shortage in the behavioral health workforce is seen in both rural and urban areas, challenges unique

to practicing in rural areas may continue to suppress the number of rural providers even when the workforce grows.

School Access

During their school years, children and youth may experience stress, anxiety, bullying, family problems, depression, alcohol and substance use disorder. The National Association of School Psychologists explain that when these concerns are left unaddressed, “mental health problems are linked to costly negative outcomes such as academic and behavior problems, dropping out and delinquency. Mental and behavioral health problems not only affect students’ short-term classroom engagement, but also interfere with long-term development of positive relationships and work-related skills.”²⁴⁷

School-based behavioral health services can help to address barriers to service and also offer a comfortable environment for children.²⁴⁸ In an April 2022 Institute of Education Sciences national survey of 830 elementary, middle, high school and combined-grade public

⁰ Workforce data is provided by the South Carolina Office for Healthcare Workforce, a division of the South Carolina Area Health Education Consortium, which states “time periods on which our workforce counts are based differ for each professional group. The license renewal process occurs on a biennial cycle (every two years) for some health professions, or annually for other health professions. Individuals are counted if they show an active status two months after their license expiration date. Because different professions renew their licenses at different times, it is not possible to produce a true ‘snapshot’ of the healthcare workforce in South Carolina at any single point in time. Also, because licensee information is updated on a biennial cycle for the majority of health professions, it is difficult to get a truly accurate count of the workforce since people are both entering and leaving the workforce over that two-year time period. The true supply and distribution of the health workforce will be most accurate just after each profession’s renewal period closes”.

schools, 70% of the schools reported an increase in the percentage of students who sought mental health services since the beginning of the COVID-19 pandemic.²⁴⁹ In the South, 65% of schools saw an increase.²⁵⁰

Data indicate that economically disadvantaged students make up the highest percentage of students seeking mental health services; followed by English Learner (EL) and English as a Second Language (ESL) students, students with individualized education program plans (IEPs), students experiencing homelessness and LGBTQ+ students.²⁵¹ The most frequently utilized services of those offered include individual-based interventions, case management, external referrals, group-based interventions, needs assessments and family-based interventions.²⁵²

Emergency department data indicates that youth aged 15-19 in South Carolina have the highest rates of suicidal ideation and suicide attempts in the state.^{253,254} The state has witnessed a 6%

increase in suicide deaths between 2016 and 2020, and 868 South Carolinians completed suicide in 2020. That same year, an average of sixty-six South Carolinians were treated daily in an emergency department for suicidal ideation and every seventy-seven minutes a South Carolinian was treated for a suicide attempt – equaling an average of nineteen people a day.

More recent data further describes the need for expanded behavioral health services for children and youth as we continue to navigate the pandemic. South Carolina Emergency Management Services (EMS) calls relating to self-harm were 68% higher in the first few months of 2022 compared to the same first few months of 2020. Disaggregated data indicate that South Carolina EMS calls related to self-harm in children under nine years old increased 87% between 2021 and 2022 and that EMS calls related to self-harm in children aged 10 to 14 increased 81% between 2021 and 2022.²⁵⁵

State Provisions to Address Deficiencies and Improve Behavioral Health Services

Summary of Proviso Changes for Fiscal Year 2022-2023 as Ratified by the South Carolina General Assembly:

Over the past two legislative sessions, the South Carolina General Assembly has shown that they are focused on addressing behavioral health needs by prioritizing reform measures and increasing funding to support the state's system of care to create better health outcomes for South Carolinians.

As the COVID-19 pandemic shed light on many behavioral health challenges, the funding to address them was not available in the FY20-21 budget, as the state operated under the FY19-20 budget due to declines in revenue and unknowns

of the pandemic. As proposed by the House, the FY21-22 budget was created with intentions of protecting revenues and avoiding budget cuts while cautiously expanding funding, including \$20 million for the Department of Social Services (DSS) to address child welfare efforts, \$27 million for the Department of Mental Health (DMH) as a match for two new veterans nursing homes.

Due to a strong economy, federal pandemic dollars pumped into the state and revenue from tax collections, lawmakers passed the largest state budget to date for FY22-23 at \$13.8 billion. The record-setting budget allowed for increased investments into behavioral health, headlined by a \$61.5 million statewide behavioral health reform proviso which included \$20 million for a

residential treatment facility for the South Carolina Department of Juvenile Justice and \$1.3 million to build a second suicide hotline call center. These provisos were enacted on June 29, 2022 with the budget.

The following are highlights of the proviso:

- The South Carolina Department of Health and Human Services (SC DHHS) is directed to assess the gaps in coverage and access of inpatient and outpatient behavioral health services and establish coverage and reimbursement policies to help address those gaps. Priorities include:
 - » Increasing the number of inpatient psychiatric beds.
 - » Establishing crisis stabilization beds with a goal of having services in previously unserved areas of the state, with a goal of having services within a 90-minute drive of everyone.
 - » Expanding mobile crisis stabilization services.
 - » Developing one or more regional dedicated psychiatric emergency departments.
 - » Developing effective referral and discharge strategies and engaging with existing community providers to ensure that sufficient outpatient services, case management services, and standards of care are in place.
 - Leveraging and expanding existing telehealth capacity to support and extend outpatient services.
 - Promoting in-state treatment options for specific behavioral health conditions that patients are regularly placed out-of-state for treatment due to insufficient treatment options in South Carolina.
- SC DHHS is directed to ensure access to treatment for children and adolescents requiring care in a private residential treatment facility, by either an increase in the number of beds offered by the Department of Mental Health or by contracting with other facilities.
- SC DHHS is directed to lead a comprehensive review of the access and quality of existing school-based behavioral health services. This is to include:
 - » A comprehensive review of the availability of behavioral health services and identification of barriers to access such as coverage and reimbursement rules, billing practices, other insurer policies, state agency or school district rules or procedures or provider shortages.
 - » A revisitation of existing coverage policies for medically necessary services.
 - » A requirement to rescind existing Medicaid and South Carolina Public Employee Benefit Authority policies that deny coverage to behavioral health services provided within a school or through a telehealth encounter, if those services would have otherwise been covered.
 - » SC DHHS to release new guidance reflecting its decisions on which telehealth flexibility to preserve from the public health emergency.
 - » Review of statewide and school district-level policies and practices relating to suicide risk referral protocols and behavioral health training for student-facing personnel in schools.
 - » Reports to the House Ways and Means and Senate Finance Committees about these efforts and what else might be necessary in the future.
- SC DHHS is authorized to establish programs or fund pilot projects or initiatives to develop the state's health care workforce, specifically current or future providers who demonstrate commitments to remain in the state and are willing to serve Medicaid beneficiaries. Further consideration should be given to increasing opportunities for clinical rotations.
- SC DHHS or the South Carolina Department of Mental Health is to notify the State Fiscal

Accountability Authority if any state personnel and/or procurement rules limit their ability to recruit, retain and/or contract staff to provide greater access to behavioral health treatment.

- SC DHHS is directed to work with other agencies to determine whether it's necessary or appropriate to have a statewide system for near-real time tracking of inpatient psychiatric hospital beds and crisis stabilization beds, with the intent to facilitate the quickest possible patient transfers to the most appropriate care settings. This allows SC DHHS to consider the use of the system to potentially replace the Bed Availability Report Tracking system to meet the emergency preparedness and disaster recovery requirements of the South Carolina Department of Health and Environmental Control and the South

Carolina Emergency Management Division that are currently met by the Bed Availability Report Tracking system and/or the capabilities of the South Carolina Department on Aging GetCareSC website for assisted living facilities, etc.

- SC DHHS is authorized to procure, enter into contracts and agreements, offer grants or expend funds to establish the infrastructure and investment to achieve the objectives of the proviso. Reporting should be done annually to the Senate Finance Committee and the House Ways and Means Committee on all expenditures made under the proviso. Funds appropriated for Behavioral Health Capacity may be retained by the Department of Health and Human Services and carried forward to be expended for any purpose specified in this provision.

Recommendations

PREPAREDNESS & RESPONSE

BH 1. Coordinate to develop, sustain and scale policies and programs that increase access to behavioral health services in South Carolina to ensure ongoing comprehensive care that is adaptable to public health emergencies.

The challenges associated with staffing and expanding behavioral health services in South Carolina are well-documented and many state agencies and organizations already work tirelessly to make this recommendation feasible. Many of the associated successes are documented in the IMPH [South Carolina Behavioral Health 2021 Progress Report](#).²⁵⁶ Further, South Carolina state leaders are working towards funding a more comprehensive system of care.

Yet barriers persist. In some cases these challenges have been worsened by the pandemic. The impact of an insufficient workforce and service locations on the availability of a spectrum of behavioral health services are the most often cited challenges to

providing comprehensive behavioral health care in the state. One taskforce member and behavioral health expert noted that “for some behavioral health services, South Carolina only has 50% of the provider capacity needed.” As long as the states’ behavioral health workforce is not at or near full capacity, avenues for expanding access are limited. See Section C of the IMPH report, [The Evolving Workforce: Redefining Health Care Delivery in South Carolina](#), for recommendations to expand the behavioral health workforce.

Additional recommendations for implementation include:

- Expanding the behavioral health continuum of services from prevention to chronic disease, crisis response and recovery.
- Continuing to implement policies and provide funding to expand youth mental health services particularly through schools.
- Build upon existing infrastructure to scale services in school systems, health systems, rural areas and correctional and intervention systems.

- Ensure coordination between state agencies and public and private organizations.
- Move to lift restrictions on telehealth services and urge state Medicaid directors to allow access to patient care via telephonic and virtual services, which should be used wherever and whenever possible to maintain connection and service delivery. This strategy should include licensed clinicians, licensed professional counselors, certified addictions counselors and certified peer support specialists within their scope of practice by telehealth, telephone or other secure virtual connection.
- Remove licensing and credentialing barriers for social workers, marriage and family therapists and licensed professional counselors in South Carolina. See the IMPH policy brief [Increasing Access to Behavioral Health Care Providers in South Carolina](#) for more information.
- Increase funding for and access to:
 - » Peer support services²⁵⁷
 - » Culturally competent, trauma-informed care
 - » A living wage for behavioral health workers, including peer support providers
 - » Tax breaks or loan forgiveness services for those in positions that require post-secondary education

Additionally, the need for youth behavioral health services has been exacerbated by the pandemic. Children, adolescents and young adults across the country faced significant psychological and emotional challenges throughout the first two years of the coronavirus pandemic.²⁵⁸ Data confirm this point, illustrating that youth are experiencing elevated levels of substance abuse, depression and anxiety compared to pre-pandemic rates.²⁵⁹

For example, the number of youths with a mental, emotional, developmental or behavioral health condition in South Carolina increased 36.5% (or 7.4 percentage points) between 2018 and 2020, from 20.3% in 2018 to 27.7% in 2020.²⁶⁰ As of February 2021, the South Carolina chapter of the National Alliance on Mental Illness reported that 53,000 South Carolina youth aged 12-17 had been diagnosed with depression.²⁶¹ SAMHSA notes that youth who have experienced a major depressive episode are more likely to abuse substances than their peers who have not experienced major depression.²⁶²

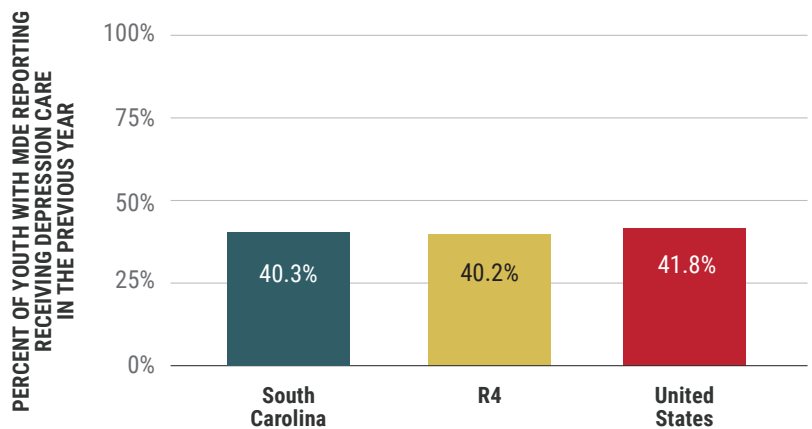
The following graphs illustrate rates of depression and major depressive episodes prior to the pandemic in the Southeast.

GRAPH 10

Past-year Depression Care Among Youth Aged 12-17 with Major Depressive Episode in South Carolina, Region 4 and the United States (Annual Average, 2016-2019)²⁶³

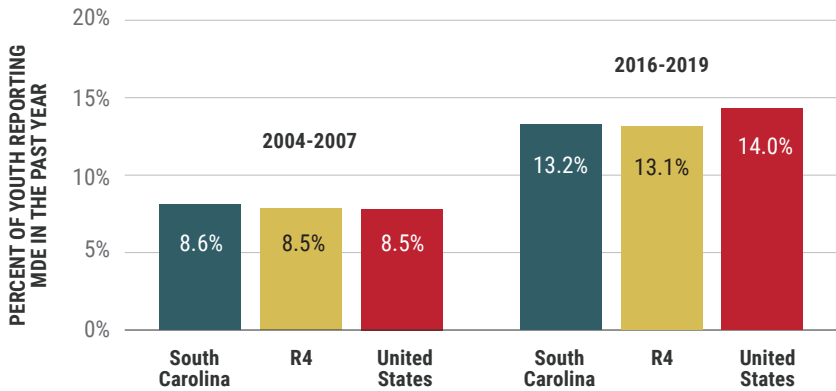
R4 = Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee)

Source: SAMHSA Behavioral Health Barometer South Carolina, Volume 6 - Indicators as measured through the 2019 National Survey on Drug Use and Health and the National Survey of Substance Abuse Treatment Services. Error bars indicate 95% confidence interval of the estimate.



GRAPH 11

Changes in Past-year Depressive Episode (MDE) Among Youth Aged 12-17 in South Carolina, Region 4 and the United States (Annual Averages, 2004-2007 and 2016-2019)



R4 = Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee)

Source: SAMHSA Behavioral Health Barometer South Carolina, Volume 6 - Indicators as measured through the 2019 National Survey on Drug Use and Health and the National Survey of Substance Abuse Treatment Services.

Error bars indicate 95% confidence interval of the estimate.

Among youth aged 12-17 in South Carolina, the annual average percentage with a major depressive episode (MDE) in the past year increased between 2004-2007 and 2016-2019.

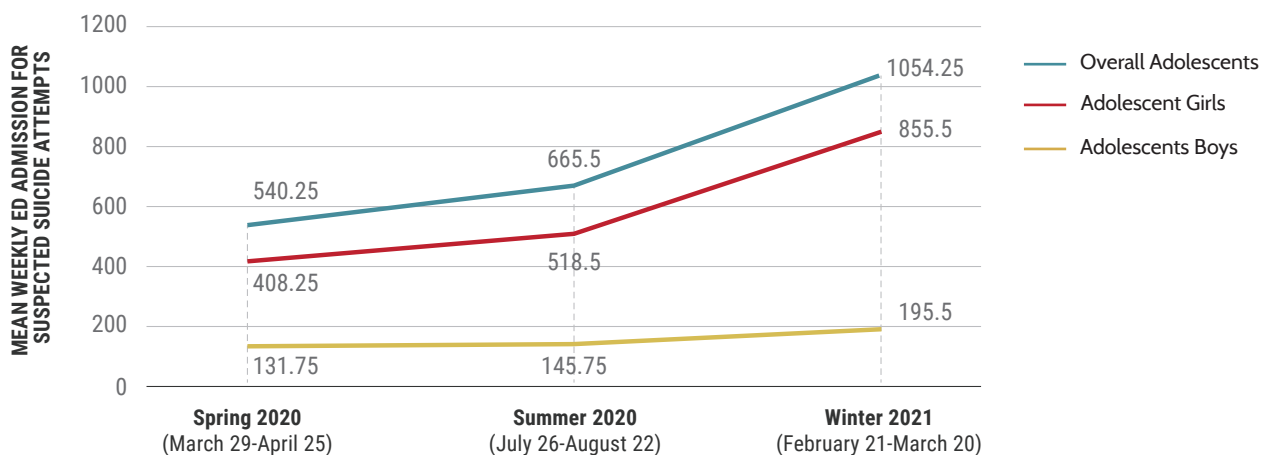
During 2016-2019, the annual average prevalence of past-year MDE in South Carolina was 13.2% (or 48,000), similar to both the regional average (13.1%) and the national average (14.0%). A total of 2,475 children in South Carolina received substance abuse treatment services in 2021, representing a 12% increase from 2020.²⁶⁴ However, the number of children receiving substance use disorder treatment services in 2020 decreased 42% compared to the prior year, likely

as a result of challenges accessing and receiving services early-on in the pandemic.²⁶⁵ The most recent SAMHSA data available indicate that at least 644,000 American youth between the ages of 12 and 17 suffered from both major depression and a substance use disorder in 2020.²⁶⁶

The number of youth suicide attempts and deaths have also risen in recent years and the number of emergency department visits for suspected suicide attempts have increased concurrently.²⁶⁷ Nationally, the average number of weekly emergency room visits for suspected suicide attempts among youth aged 12-17 increased significantly between Spring 2020 and Winter 2021, illustrated below in more detail.²⁶⁸

GRAPH 12

Mean Number of Weekly Emergency Department Visits for Suspected Suicide Attempts Among Adolescents Aged 12-17 Nationwide, Spring 2020 – Winter 2021²⁶⁹



Source: Morbidity and Mortality Weekly Report (MMWR), 2021

One qualitative inquiry into opportunities to support youth resiliency during an outbreak found that minimizing the impact of the outbreak on everyday life, increasing access to mental health services and providing learning opportunities to improve caregiver involvement in help-seeking behaviors are viable opportunities to improve behavioral health outcomes in ongoing emergency situations, such as a pandemic.²⁷⁰ This study highlighted the need for expanded behavioral health services for children and youth during a catastrophic event.

Adequate pandemic preparation undoubtedly requires a full exploration of the ways to prevent or mitigate the emotional consequences of isolation and lack of access to safe spaces and mandated reporters for South Carolina youth. Pertinent state policies enacted to support youth wellbeing include H3567, passed in 2021, which aligns child welfare practices with federal requirements in the Family First Prevention Services Act to expand the number of preventative services designed to keep children out of foster care and with their families.²⁷¹

South Carolina currently maintains and offers the Palmetto Coordinated System of Care (PCSC), which serves youth with behavioral health conditions or co-occurring conditions who are at risk of out-of-home placement. In 2021, 193 children were served by this waiver, at a cost of \$1,053,072.²⁷² PCSC is an evidence-based approach to maintain family systems and keep children out of the child welfare and juvenile justice system.²⁷³

Similarly, SC DHHS recently released a report evaluating the existing school-based mental health services in the state. Their report found that students who are referred for behavioral health services in the state are often unable to receive these services outside of school.²⁷⁴ However, students at half of the schools across the state do not have access to a mental health counselor and even fewer have access to crisis intervention services.²⁷⁵ Recognizing the existing need to expand access to mental health services to youth, SC DHHS launched a school-based mental health services initiative on July 1, 2022.²⁷⁶

TIMELINE: Ongoing

POTENTIAL CHAMPIONS:

- Behavioral Health Services Association of South Carolina
- South Carolina Area Health Education Consortium
- South Carolina Behavioral Health Coalition
- South Carolina Chapter of the American Academy of Pediatrics
- South Carolina Department of Alcohol and Other Drug Abuse Services
- South Carolina Department of Children’s Advocacy
- South Carolina Department of Corrections
- South Carolina Department of Education
- South Carolina Department of Health and Human Services
- South Carolina Department of Mental Health
- South Carolina Department of Social Services
- South Carolina First Steps
- South Carolina Governor
- South Carolina Hospital Association
- South Carolina School Superintendents Association
- South Carolina State Legislature

BH 2. Continue to increase access to naloxone and/or other opiate antagonists to reverse overdoses.

At all times, including during public health emergencies, South Carolinians should be able to obtain opiate antagonist kits from local trusted access points and access instructions on how to properly administer and dispose of them.

According to SAMHSA, opioid antagonists “bind to opioid receptors and can reverse and block the effects of other opioids, such as heroin, morphine, and oxycodone.”²⁷⁷ Naloxone, or Narcan, is one opiate antagonist used in South Carolina. By law, the state designates community distributors to provide

naloxone to prevent overdose deaths. Community distributors are organizations, public or private, which provide substance use disorder assistance such as counseling, homeless services, advocacy, harm reduction, alcohol and drug screening and treatment to individuals at risk of experiencing an opioid-related overdose.²⁷⁸

Through the Community Distribution Naloxone Program, which is administered by the South Carolina Department of Alcohol and Other Drug Abuse Services, thousands of doses of Naloxone have been distributed since the pandemic began.

According to the IMPH *South Carolina Behavioral Health 2021 Progress Report*:

As a result of the coronavirus pandemic, the South Carolina Department of Alcohol and Other Drug Abuse Services (DAODAS) arranged to provide crisis Narcan for all Opioid Treatment Programs (OTP) across the state to build their capacity to meet the needs of the growing number of patients. This program continued through September 30, 2020, and thereafter all OTPs interested in obtaining additional Narcan for their patients [are] required to submit paperwork to join the Crisis Narcan program and become designated as a community distributor. In the event of a future public health emergency or stay-at home order due to a crisis, DAODAS will again ensure that Narcan is available to OTPs to ensure the safety of patients.²⁷⁹

Increased use of opioids during a crisis due to social isolation is a risk factor for suicide, especially in populations where existing vulnerabilities are exacerbated by the pandemic. According to a 2021 research review, “Chronic opioid use can result in neurobiological changes that lead to increases in negative affective states, jointly contributing to suicide risk and continued opioid use.”²⁸⁰

In 2021, the South Carolina General Assembly passed H.571/S.571 which requires prescribers to offer a prescription for Naloxone or another approved drug for reversal of opioid depression if:

- The dosage is 50mg or more of morphine daily
- Opioid is prescribed concurrently with a prescription for benzodiazepine
- The patient presents an increased risk for overdose determined by history of overdose, substance use disorder or if they are at risk for returning to a high dose of opioid medication they cannot tolerate.^p

TIMELINE: 6 months–1 year

POTENTIAL CHAMPIONS:

- Behavioral Health Services Association of South Carolina
- South Carolina Area Health Education Consortium
- South Carolina Behavioral Health Coalition
- South Carolina Department of Alcohol and Other Drug Abuse Services
- South Carolina Department of Children’s Advocacy
- South Carolina Department of Corrections
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Mental Health
- South Carolina Governor
- South Carolina State Legislature

^p <https://www.scstatehouse.gov/billsearch.php?billnumbers=571>

Telehealth & Broadband

THB 1. Continue and scale efforts to provide broadband access to all South Carolinians.

THB 2. Enact policies that ensure telehealth services expanded under COVID to continue to be authorized to provide increased access to care and to prevent disruption of care during contagious disease outbreaks.

Background

Telehealth and broadband were repeatedly cited as valuable tools to improve access to and delivery of quality of care across the state during taskforce meetings. Telehealth is one of many care delivery methods which can be used to increase the number of clinical encounters between providers and patients. Telehealth utilization increased dramatically during the coronavirus pandemic as a means to mitigate the risk of viral transmission for patients and providers.^{281,282,283,284} As the pandemic progressed, reimbursement flexibilities were developed to allow for live video chat, remote patient monitoring, mobile health and audio-only calls.^{285,286} The benefits of building and maintaining the virtual capacity to diagnose, treat and monitor patients became increasingly clear as the state navigated the pandemic; however, barriers also emerged.

Although telehealth services provided a means to minimize disruptions in care, the transition from in-person care to telehealth was challenging for patients who did not have a telehealth capable device, access to broadband coverage and/or the digital literacy to navigate the applications.^{287,288,289} Broadband access and adoption emerged as primary barriers to using telehealth services.

Access to broadband internet varies significantly between counties across the state. According to the South Carolina Revenue and Fiscal Affairs Office (RFA), four out of every five households in South

Carolina reported having an internet subscription between 2016 and 2020.²⁹⁰ However, disparities between more and less affluent counties in the state exist. For example, more than 88% of households in Beaufort County, South Carolina reported having an internet subscription between 2016 and 2020. Conversely, Marion County (54.4%), Dillon County (58.8%) and Williamsburg County (59.8%) each reported fewer than three in five households with an internet subscription during the same timeframe.^{291,q}

There are also variations in the quality of internet available. In 2015, the Federal Communications Commission (FCC) raised the federal minimum fixed broadband speed benchmark to 25 megabits per second (Mbps) for downloading data and 3Mbps for uploading data. However, an excess of 14 million Americans lack broadband that meets this standard.²⁹² Similarly, the South Carolina Office of Regulatory Staff (ORS) reports that as of September 30, 2021, 427,237 South Carolinians did not have internet that met the 25/3mbps standards. Of those, 49,056 were South Carolina public school students.²⁹³

As a result, many South Carolinians are not able to meaningfully participate in or access resources such as telehealth, online education, remote work or community building via the internet. To address this, school systems, libraries and other community organizations distributed wireless hotspots during the pandemic to mitigate the amount of educational and occupational disruptions in the state.

^qPer the South Carolina Revenue and Fiscal Affairs Office, "An internet subscription refers to a type of service that someone pays for to access the internet such as a cellular data plan, broadband such as cable, fiber optic or DSL, or other type of service. This would normally refer to a service that someone is billed for directly for the internet alone or sometimes as part of a bundle. The category 'without' an internet subscription includes those who accessed the internet without a subscription and also those with no internet access at all."

The Congressional Research Service suggests that:

Raising the minimum speed benchmark may make it more likely that the FCC would find that broadband deployment is not occurring in a reasonable and timely fashion and increase the number of households it considers unserved. This may precipitate the need for the FCC to take further action in the form of new broadband programs or initiatives to speed deployment, or regulatory action—such as streamlining infrastructure deployment rules.

The FCC may also consider the adequacy of broadband adoption—if broadband is physically deployed to a particular area but is not affordable—under Section 706. Additionally, the affordability of devices such as smartphones, laptops, and tablets may leave some users unable to take advantage of broadband even if it is available, which the FCC may decide to address through subsidy programs.²⁹⁴

During the pandemic, ORS released reports and maps that illustrated the disparities in access, adoption and utilization of broadband services in the state. These maps are included below:

MAP 1

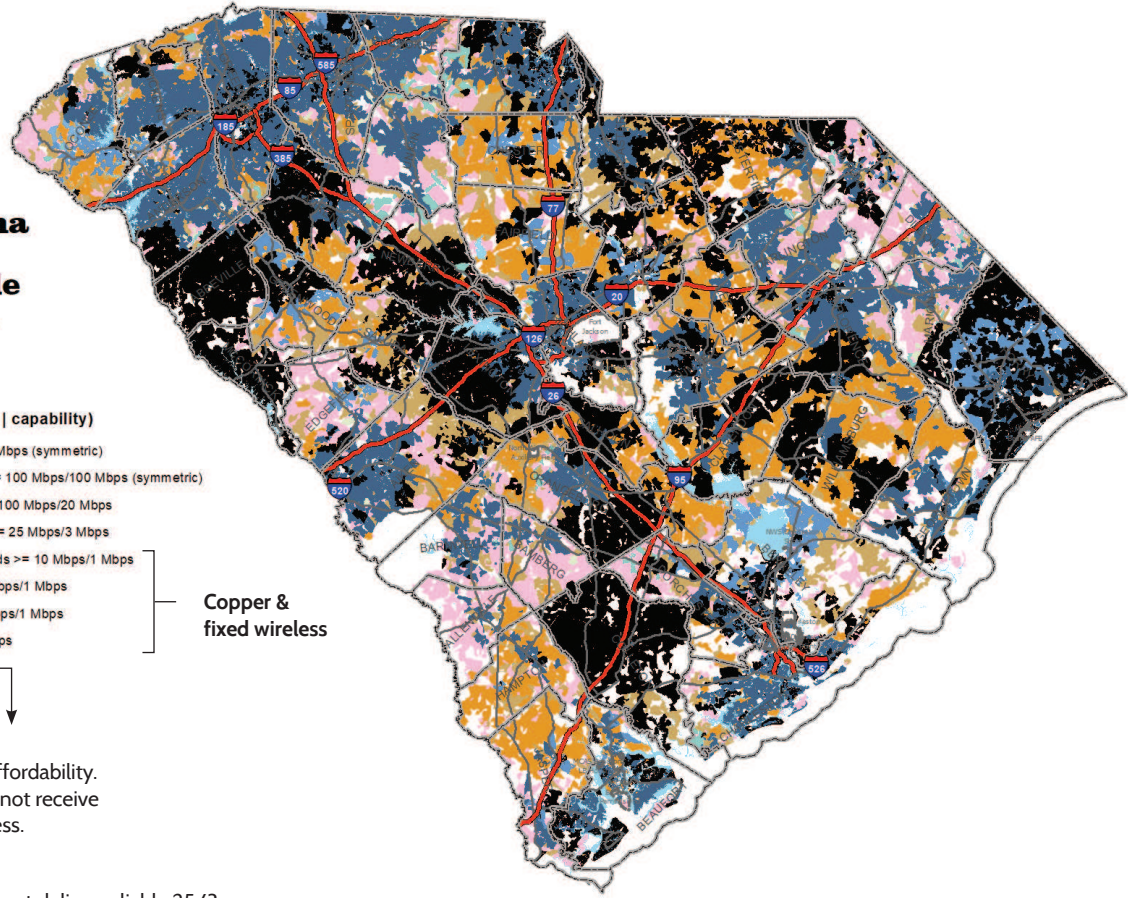
South Carolina Best Available Technology²⁹⁵

South Carolina Best Available Technology March 31, 2022

Best Available Technology (type | capability)

- Fiber | Speeds >= 100 Mbps/100 Mbps (symmetric)
- Cable (DOCSIS 3.1+) | Speeds >= 100 Mbps/100 Mbps (symmetric)
- Cable (DOCSIS 3.0) | Speeds >= 100 Mbps/20 Mbps
- Cable (DOCSIS < 2.0) | Speeds >= 25 Mbps/3 Mbps
- VDSL (Fiber-To-The-Curb) | Speeds >= 10 Mbps/1 Mbps
- ADSL2, ADSL2+ | Speeds >= 6 Mbps/1 Mbps
- Fixed Wireless | Speeds >= 10 Mbps/1 Mbps
- ADSL | Speeds >= 3 Mbps/768 kbps
- No Internet Service Available
- Zero Households

Copper & fixed wireless



No internet options exist:
This has nothing to do with affordability. Customers in these areas cannot receive service at their physical address.

Copper & fixed wireless:
Copper technology (DSL) cannot deliver reliable 25/3. End of useful life.

Fixed wireless requires optimum conditions to exceed 25/3; however it delivers Speed to Access meaning that high need areas have the potential to get coverage fast while physical connections to each house are built.

Data Sources: Based on SC Broadband Office analysis of FCC Form 477, Dec. 31, 2021 reported directly to our office by Internet Service Providers. Satellite and mobile broadband services are excluded. Demographic data based on US Census 2020 information.

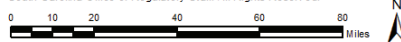
The SC Broadband Office is neither responsible nor liable for damages or injuries caused by failure of performance, error, omission, inaccuracy, inaccessibility, incompleteness or any other errors in information or formatting on this map.



Speedtest Intelligence® data from Jan. 1, 2019 through Mar. 31, 2022 combined for analysis in the region. Ookla® trademarks used under license and reprinted with permission.

Additional broadband information may be found at www.scdigitaldrive.org. Submit comments or questions to maps@ors.sc.gov

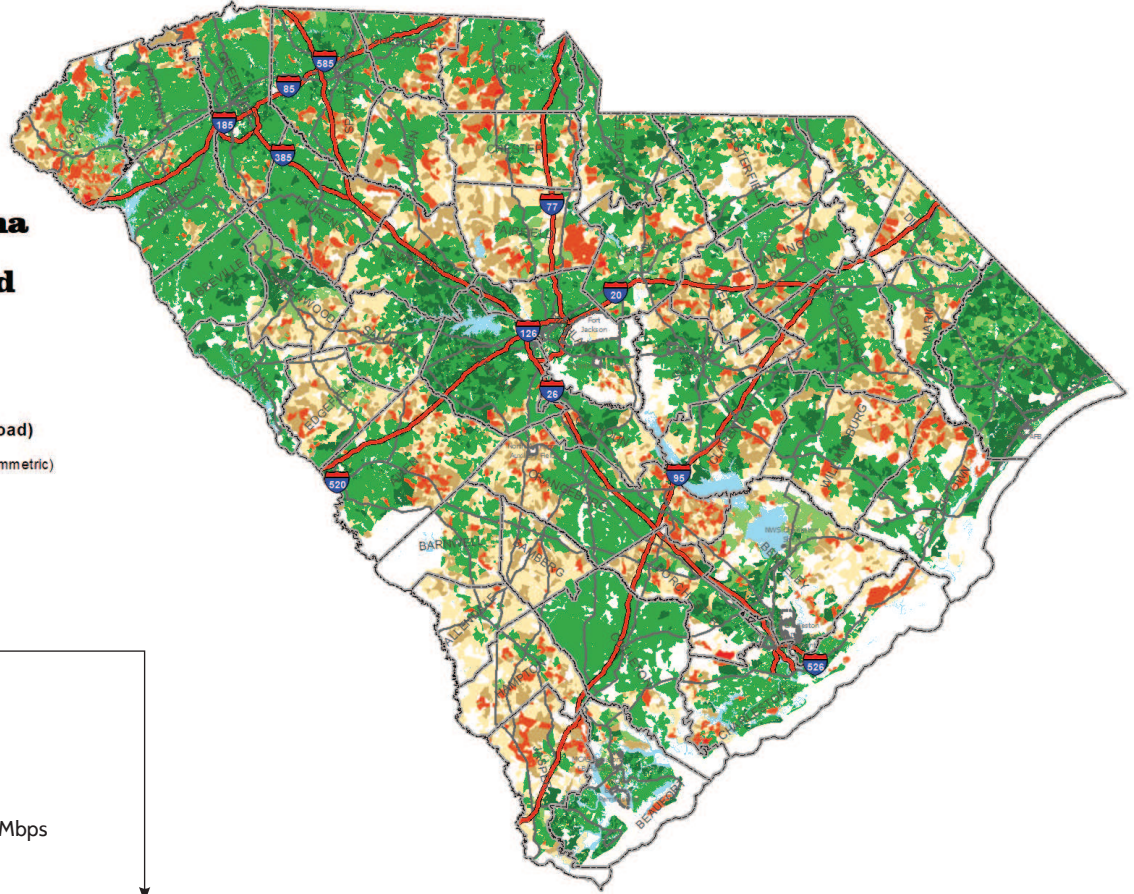
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Source: South Carolina Broadband Office, September 2021

South Carolina Areas of Need²⁹⁶

South Carolina Areas of Need March 31, 2022



Speed Tiers (download / upload)

- >= 100 Mbps / 100 Mbps (symmetric)
- >= 100 Mbps / 20 Mbps
- >= 25 Mbps / 3 Mbps

Unserved Housing Units

- 100 or more
- 26 - 99
- 11 - 25
- 1 - 10
- Zero

DON'T INVEST HERE

Green: Already served.
Meets or exceeds FCC's 25/3 Mbps
White: No one lives here

INVEST HERE

Find the "freckles" and prioritize these. These are areas of high household density and poor internet

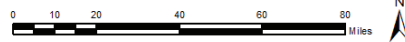
Data Sources: Based on SC Broadband Office analysis of FCC Form 477, Dec. 31, 2021 reported directly to our office by Internet Service Providers. Satellite and mobile broadband services are excluded. Demographic data based on US Census 2020 information.

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Source: South Carolina Broadband Office, September 2021



Recommendations

PREPAREDNESS

THB 1. Continue and scale efforts to provide broadband access to all South Carolinians.

In June 2020, Governor McMaster signed Act 142, authorizing broadband infrastructure expansion through federal funds dispersed to South Carolina through the Coronavirus Aid, Relief, and Economic Security Act. In January of 2021, the Joint Bond Review Committee approved the allocation of \$30 million from the South Carolina Department of Commerce to create a competitive grant program for rural expansion across the state. The state legislature allocated \$400 million from South Carolina’s American Rescue Plan Act state aid fund to the Office of Regulatory Staff (ORS) to expand broadband infrastructure to households, businesses and communities in South Carolina that are unserved

or underserved. Unserved areas are defined as households that lack access to a wireline connection capable of delivering minimum speeds of 25 Mbps download and 2Mbps upload.²⁹⁷ As of March 31, 2022, 7.6% of South Carolinians and 7.1% of public K-12 students are considered unserved with download speeds less than 25 Mbps and upload speeds less than 3 Mbps.²⁹⁸

The South Carolina Broadband Office, housed within ORS, is tasked with “coordinating with federal, state, regional, local, and private entities . . . to engage in the continued deployment of broadband in the state.”²⁹⁹ To ensure comprehensive broadband coverage in South Carolina, the work of this Office must be supported and sustained. The goals and strategies of the South Carolina Broadband Office include the following:

TABLE 2

South Carolina Broadband Office Goals and Strategies³⁰⁰

Goal	Strategy
Expand Access	Efficiently coordinate the rapid deployment of broadband infrastructure.
Model, Map, and Plan	Oversee the collection of current broadband data and develop broadband maps every six months. In addition, use advanced analytic modeling to define eligible investment areas and provide actionable intelligence to county administrators.
Support Broadband Providers	Leverage the strengths of all Internet Service Providers to expand affordable access and adoption throughout the state.
Engage Stakeholders	Convene and collaborate with inter-disciplinary stakeholders to identify and provide recommendations to streamline broadband access statewide.
Provide Community Support and Technical Assistance	Train and support South Carolina communities in their efforts to expand broadband adoption and use.
Manage Grants Efficiently	Maintain a fair and competitive process to distribute and manage ongoing funding opportunities such that financial resources are used for the maximum advantage of all South Carolinians.

Source: South Carolina State Broadband Office³⁰¹

A September 2021 report listed South Carolina as one of the 10 states with the lowest broadband adoption rates for low-income households.³⁰²

TABLE 3

10 States with Lowest Broadband Adoption Rates for Low-Income Households³⁰³

State	Overall Broadband Adoption Rate (%)	Broadband Adoption Rate for Households Earning Below 20k (%)
Mississippi	73.4	49.7
Arkansas	73.0	49.8
Louisiana	75.6	50.8
New Mexico	76.4	53.9
South Carolina	79.2	54
North Dakota	81.3	54
South Dakota	80.6	54.1
Pennsylvania	81.5	54.2
Maine	82	54.3
Kentucky	78.9	54.4

Source: Brookings Institute, 2017 American Community Survey 1-year data

TIMELINE: Ongoing

POTENTIAL CHAMPIONS:

- Palmetto Care Connections
- South Carolina Alliance of Health Plans
- South Carolina Chamber of Commerce
- South Carolina Hospital Association
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- South Carolina Telehealth Alliance
- South Carolina State Legislature
- Commercial Payers
- Community Members
- Health Plans
- Rural Health Research Centers

THB 2. Enact policies that ensure telehealth services expanded under COVID continue to be authorized to provide increased access to care and to prevent disruption of care during contagious disease outbreaks.

The South Carolina Telehealth Alliance has led advocacy efforts aimed at ensuring South Carolina Medicaid and private payers extend telehealth coverage temporarily expanded early-on in the

pandemic through 2023 for further study and future permanent recommendations. In April 2022, the South Carolina Department of Health and Human Services (SC DHHS) issued an *Update on Telehealth Flexibilities Issued During the COVID-19 Public Health Emergency*. The document addresses many of the South Carolina Telehealth Alliance’s policy recommendations (see table 4).

TABLE 4

**South Carolina Telehealth Alliance’s Policy Recommendations
Compared to April 2022 SC DHHS Bulletin Updates³⁰⁴**

South Carolina Telehealth Alliance Policy Request	SC DHHS Update, per April 2022 Bulletin
Permanently remove originating site restrictions	Will be made permanent
Cover all CMS approved mental health and registered dietician provider types as well as rehabilitation therapists	<p>Mental Health: Expanded 1 year post Public Health Emergency (PHE) for licensed independent practitioners and associate-level licensed practitioners, associate level licensed professional counselors and licensed marriage and family therapists - postdoctoral pending licensure.</p> <ul style="list-style-type: none"> Registered dietitian: Not allowable Physical therapy/speech-language therapy: allowable for 1 year post PHE for certain services (bulletins 20-008 and 20-106) Occupational therapy: Only allowable for children enrolled in Babynet program Audiology: Not allowable
Permanently allow federally qualified health centers (FQHCs) and rural health centers (RHCs) to serve as distant sites for telehealth	SCDHHS will continue to reimburse FQHCs and RHCs for one year after the current public health emergency is lifted for further evaluation
Continue coverage of virtual check-ins and audio-only telehealth services	SCDHHS will continue to provide reimbursement for audio-only check-in for one year after the public health emergency ends for further evaluation, with the exception of audio-only speech therapy and physical therapy
Cover chronic care remote patient monitoring codes currently covered by CMS	Remote monitoring by applied behavior analysis (ABA) will be extended for further evaluation for one year once the public health emergency ends. Chronic Care Remote Patient monitoring codes covered by CMS are not covered by Medicaid.
Cover interprofessional internet consultation (e-Consult) codes covered by CMS	Not included
Cover behavioral health integration codes including the Psychiatric Collaborative Care Model (CoCM) covered by CMS	<p>SCDHHS will continue to augment the state’s existing behavioral health telehealth benefit and extend flexibilities for one year for further evaluation once the public health emergency ends. Services include:</p> <ul style="list-style-type: none"> Psychiatric diagnostic evaluation Individual psychotherapy Family psychotherapy <p>Behavioral Health Integration codes, including CoCM are not covered by Medicaid.</p>

TIMELINE: Ongoing

POTENTIAL CHAMPIONS:

- Clemson Rural Health
- Health Sciences South Carolina
- Palmetto Care Connections
- South Carolina Alliance of Health Plans
- South Carolina Department of Health and Human Services

- South Carolina Hospital Association
- South Carolina Office of Rural Health
- South Carolina Primary Health Care Association
- South Carolina State Legislature
- South Carolina Telehealth Alliance
- Community Members
- Payers

Conclusion



At a time when many thought the pandemic would have ended or transitioned to an endemic disease, it remains a continuous source of death and illness, despite the tireless work and commitment of millions of people around the world. This collective trauma has hastened pandemic fatigue, leading to a diminished willingness to studiously evaluate the daily challenges and successes associated with protecting communities from the pandemic.

Despite this, the Carolinas Pandemic Preparedness Taskforce worked diligently from 2021 to 2022, collecting and sharing insights, information and recommendations enclosed in the preceding report. Along with a sustained commitment to continue funding and building a strong public health infrastructure that actively reduces inequities and disparities, it is also imperative that the cataloging of pandemic learnings continues, so the findings may be shared broadly to inform policies and practices to protect our communities today and for generations to come.

Appendices

Appendix A

South Carolina Institute of Medicine and Public Health Board of Directors

The Honorable Terry Alexander

Member, South Carolina House of Representatives

Dr. Michael Amiridis

President, University of South Carolina

Dr. David Cole

President, Medical University of South Carolina

The Honorable Ronnie Cromer

Member, South Carolina Senate

Dr. Anne Graham Masters

Former Medical Director and Owner, The Perinatal Center

Dr. Marjorie R. Jenkins

Associate Provost & Dean, University of South Carolina School of Medicine, Greenville
Chief Academic Officer, Prisma Health Upstate

Ms. Lou Kennedy

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Nephron Pharmaceuticals Corporation

Mr. Virgil Miller

President, Aflac Group Insurance Company
Executive Vice President, Chief Operating Officer, Aflac U.S.

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Associate Vice President for Health Research, Provost's Distinguished Professor, Public Health Sciences, Clemson University
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Dean Emeritus, USC Moore School of Business
President (retired), Bank of America East

Dr. Shawn Stinson

Senior Vice President, Healthcare Innovation and Improvement, BlueCross BlueShield of South Carolina

The Honorable Inez M. Tenenbaum

Attorney at Law, Inez Moore Tenenbaum, LLC
Former Chairman, U.S. Consumer Product Safety Commission
Former Superintendent of Education, State of South Carolina

Mr. Richard N. Wilkerson, Chair

Chairman and President (Retired), Michelin North America

Appendix B

Governor Henry McMaster Executive Orders Associated with the Pandemic

2020-07 March 11, 2020 - Lifting Transportation Restrictions in Response to COVID-19

The first executive order in response to the 2019 Novel Coronavirus directed state officials to convene with the Public Health Emergency Plan Committee and activated the South Carolina Emergency Operations Plan.

2020-08 March 13, 2020 - Declaring State of Emergency in Response to COVID-19

Governor McMaster declared a State of Emergency along with announcing the closure of all public schools in Kershaw and Lancaster Counties. This order directs \$45 million from the Contingency Reserve Fund to the Department of Health and Environmental Control (DHEC) to aid in coordinating the State's public health response to be allocated by the General Assembly. Effective 3/13/2020 – 3/28/2020.

2020-09 March 15, 2020 - Closing Schools, Other Provisions in Response to COVID-19

Public schools and state-supported colleges and universities in the state were forced to close for students and non-essential employees through the end of March. The order also encourages public gatherings to not exceed 100 people.

2020-10 March 17, 2020 - Directing Additional Emergency Measures Due to COVID-19

This executive order required the mandatory shutdown of all dine-in services for restaurants and bars. It also includes the delay of the state tax deadline to June 1st and decreased the public gathering recommendation to not exceed 50 people.

2020-11 March 19, 2020 - Additional Emergency Measures and Regulatory Relief Regarding COVID-19

All non-essential state employees were ordered to stay home from work or work from home. The General Assembly passed the \$45 million funding for DHEC.

2020-12 March 21, 2020 - Regulatory Flexibility to Facilitate “Social Distancing”

This order facilitates social distancing practices to mitigate significant economic impacts on small businesses and restaurants and allows the sale of closed container beer and wine to-go.

2020-13 March 23, 2020 - Authorizing Law Enforcement to Preserve Public Health

Governor McMaster instructed law enforcement to disperse public gatherings of three or more people with violations resulting in a misdemeanor.

2020-14 March 27, 2020 - Self-Quarantine for Individuals from High-Risk Areas

Individuals who enter South Carolina from areas with substantial community spread, including New York, New Jersey, Connecticut and the City of New Orleans to self-quarantine for 14 days from the time they enter the state.

2020-15 March 28, 2020 - State of Emergency Due to COVID-19 Pandemic

Public schools and publicly funded state colleges and universities are ordered to remain closed for students and non-essential employees through the month of April. Effective 3/28/2020 – 4/12/2020.

2020-16 March 30, 2020 - Emergency Access Restrictions for Public Beaches & Waters Due to COVID-19 Pandemic

This order closed all public beach access points and public boat landings on state owned lakes.

2020-17 March 31, 2020 - Closure of Non-Essential Businesses

Additional actions were taken to enforce social distancing through the closure of “non-essential” businesses, venues, facilities and close-contact service providers for 15 days.

2020-18 April 3, 2020 - Closure of Additional Non-Essential Businesses

Retail stores were deemed “non-essential” businesses and to be closed in conjunction with those of Executive Order 2020-17.

2020-19 April 3, 2020 - Lodging & Travel Restrictions for Individuals from High-Risk Areas

This order suspends short term rentals including hotels, vacation homes, condos and time shares for people traveling from CDC identified high-risk populations. (New York, New Jersey, Connecticut and the City of New Orleans).

2020-21 April 6, 2020 - Home or Work Order

Governor McMaster ordered a mandatory home or work order where South Carolinians are to remain home unless they are visiting family, exercising or obtaining essential goods or services.

2020-22 April 7, 2020 - Authorization for COVID-19 Support Payments by Employers

Governor McMaster authorized and directed the South Carolina Department of Employment and Workforce to interpret furloughed employees due to COVID-19 as unemployed; therefore, allowing them to apply for unemployment benefits.

2020-23 April 12, 2020 - Third State of Emergency Due to COVID-19 Pandemic

Governor McMaster renewed the state of emergency, which maintains previous orders for another 15 days. Effective 4/12/2020 – 4/27/2020.

2020-25 April 16, 2020 - Modification of Emergency Restrictions for Public Waters & Emergency Measures for Unemployment Claims & Benefits

This executive order is the first step in reopening our state, as public boat ramps to the lakes, rivers and the ocean can be reopened to facilitate outdoor exercise and recreational activity. Social distancing measures are still in place and groups of three or more are still subject to be broken up by law enforcement.

2020-28 April 20, 2020 - Modification of Restrictions for Public Beaches & Waters & Incremental Modification of Non-Essential Business Closures

Governor McMaster re-opened the first wave of nonessential businesses to begin the revitalization of South Carolina’s economy including department stores, craft stores, jewelry stores, sporting goods stores, florists and flea markets. These stores must operate at 20% of their listed capacity or 5 customers per 1,000 square foot of store space. This order also reopens the state’s beaches with social distancing measures still in place.

2020-29 April 27, 2020 - State of Emergency Due to COVID-19 Pandemic Response, Other Measures

Governor McMaster issued a new state of emergency order for South Carolina on April 27, 2020. The new executive order remains in effect for 15 days – until May 12. This is the third state of emergency order declared by McMaster since March 13 due to the coronavirus pandemic. The previous state of emergency was set to expire on April 27.

2020-30 May 1, 2020 - Rescinding Self-Quarantine, Lodging, & Travel Restrictions for Individuals Entering S.C. from High-Risk Areas

This executive order ends mandatory self-quarantine, lodging and travel restrictions for individuals entering South Carolina from high risk areas. See executive order 2020-19 above.

2020-31 May 3, 2020 - Modification of Home or Work Order & Authorization of Outdoor Dining Services

In an effort to reopen the state, Governor McMaster lifted the ‘home or work’ order, which allowed citizens to only partake in essential activities. Along with this, restaurants will be allowed to serve customers outdoors starting Monday, May 4th.

2020-34 May 8, 2020 - Authorization of Limited Indoor Dining Services and Rescission of Boating Restrictions

Governor McMaster issues an executive order that will allow close contact businesses to reopen on May 18. This group of businesses includes barbershops, hair salons, nail salons, tattoo parlors and massage services. Commercial gyms can also open, including yoga studios, barre classes, and others.

2020-35 May 12, 2020 - State of Emergency to Facilitate COVID-19 Pandemic Response, Testing, & Other Measures

Governor Henry McMaster extends the state of emergency for South Carolina for 15 additional days (until May 27). The first COVID-related state of emergency order for South Carolina was issued on March 13.

2020-36 May 15, 2020 - Additional Modification of Non-Essential Business Closures

This executive order authorizes the re-opening of close contact businesses, venues and facilities which were previously deemed “non-essential.” Establishments that re-open will be subject to guidelines established by the CDC, DHEC and recommendations provided by accelerateSC.

2020-37 May 21, 2020 - Additional Incremental Modification of Non-Essential Business Closures

This executive order allows the reopening of close-contact businesses that were closed due to COVID-19 including entertainment venues, facilities, services and activities effective May 22, 2020.

2020-38 May 27, 2020 - State of Emergency to Facilitate Coordinated COVID-19 Pandemic Response

Governor Henry McMaster extends the state of emergency for South Carolina another 15 days (until June 11) to ensure the state can react quickly in the fight against COVID-19. The first COVID-related state of emergency was issued on March 13 and the second on May 12.

2020-40 June 11, 2020 - State of Emergency

Amid the increasing cases of COVID-19 in South Carolina, Governor McMaster renews the state of emergency which ended on June 11. This state of emergency will run for 15 days (until June 26) to ensure quick responses to the growing COVID-19 outbreak in South Carolina.

2020-42 June 26, 2020 - State of Emergency

Amid the increasing cases of COVID-19 in South Carolina, Governor McMaster renews the state of emergency which ended on June 26. This state of emergency will run for 15 days (until July 10) to ensure quick responses to the growing COVID-19 outbreak in South Carolina.

2020-44 July 11, 2020 – State of Emergency

Governor McMaster extends the state of Emergency in South Carolina for another 15 days (until July 26th) in response to the COVID-19 pandemic.

2020-48 July 26, 2020 – State of Emergency

Governor Henry McMaster extends the state of Emergency in South Carolina for another 15 days (until August 10th) in response to the COVID-19 pandemic

2020-53 August 10, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until August 25th) in response to the COVID-19 pandemic.

2020-56 August 25, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until September 9th) in response to the COVID-19 pandemic.

2020-59 September 9, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until September 24th) in response to the COVID-19 pandemic.

2020-62 September 24, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until October 9th) in response to the COVID-19 pandemic.

2020-65 October 9, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until October 24th) in response to the COVID-19 pandemic.

2020-67 October 24, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until November 8th) in response to the COVID-19 pandemic.

2020-70 November 8, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until November 23rd) in response to the COVID-19 Pandemic.

2020-72 November 23, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until December 8th) in response to the COVID-19 Pandemic.

2020-75 December 8, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until December 23rd) in response to the COVID-19 Pandemic.

2020-77 December 23, 2020 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until January 7, 2021) in response to the COVID-19 Pandemic.

2021-03 January 7, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until January 22, 2021) in response to the COVID-19 Pandemic.

2021-07 January 22, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until February 6, 2021) in response to the COVID-19 Pandemic.

2021-08 February 6, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until February 21, 2021) in response to the COVID-19 Pandemic.

2021-10 February 21, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until March 8, 2021) in response to the COVID-19 Pandemic.

2021-11 March 1, 2021 – Emergency Order Modifications

Governor Henry McMaster has rescinded previous emergency orders, allowing for the sale and consumption of alcohol on premises of restaurants and bars. This order also lifts gathering restrictions that were previously set at 250 people.

2021-12 March 5, 2021 – Emergency Order Modifications

Governor Henry McMaster has modified existing emergency orders to allow state department agency heads to begin the process of facilitating the return of state employees to the workplace on a full-time basis. This order also rescinds mandatory mask safety measures in government offices and buildings.

2021-13 March 8, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until March 23, 2021) in response to the COVID-19 Pandemic.

2021-15 March 23, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until April 7, 2021) in response to the COVID-19 Pandemic.

2021-18 April 7, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until April 22, 2021) in response to the COVID-19 Pandemic.

2021-20 April 22, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until May 7, 2021) in response to the COVID-19 Pandemic.

2021-22 May 7, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until May 22, 2021) in response to the COVID-19 Pandemic.

2021-23 May 11, 2021 – Masks, Schools, Vaccine Passports

Governor Henry McMaster issues an executive order that prohibits any county or local government in the state from relying on prior executive orders or using the state of emergency as the basis for a local mask mandate. The governor has directed DHEC – in consultation with the South Carolina Department of Education – to develop and distribute a form that parents or legal guardians can sign that would allow their child to opt-out of mask requirements imposed by public schools. This order also bars all state agencies and local governments from requiring proof of vaccination as a condition for receiving government services or entry to public buildings.

2021-25 May 22, 2021 – State of Emergency

Governor Henry McMaster extends the state of emergency in South Carolina for another 15 days (until April 6, 2021) in response to the COVID-19 Pandemic.

Links to each executive order above can be accessed in the online version of this report.

Appendix C

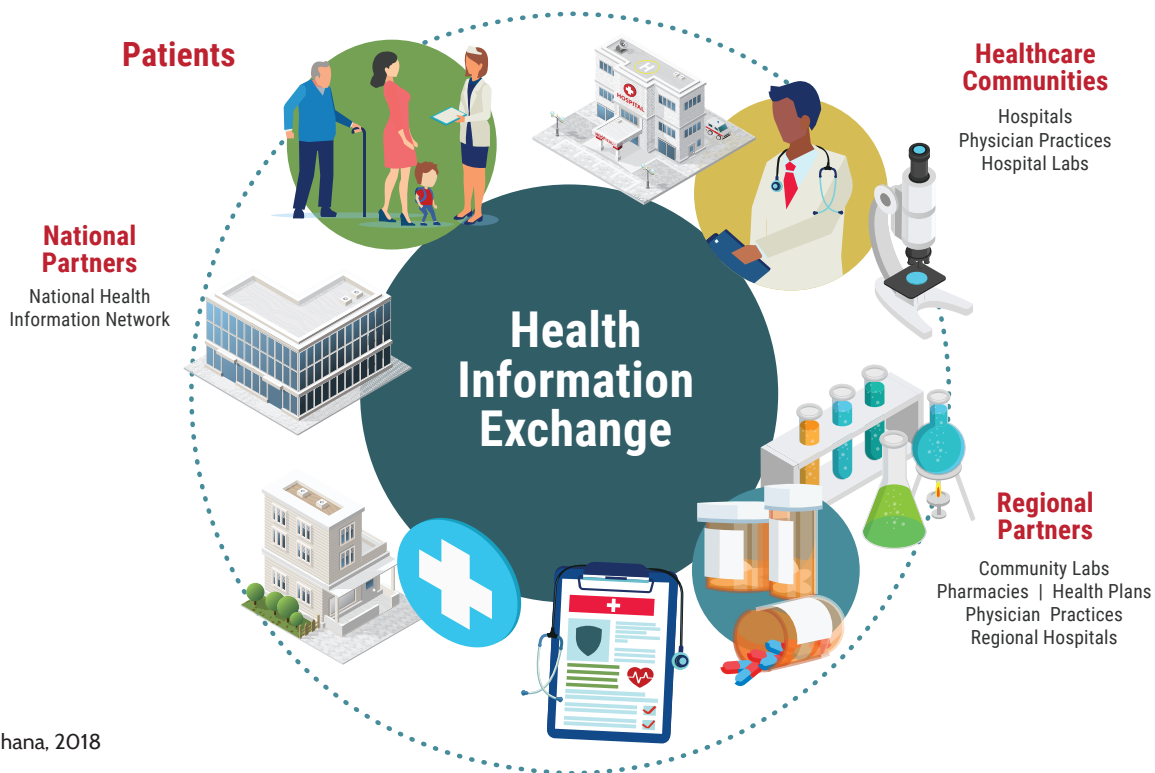
Benefits of Health Information Exchange (HIE) in Support of South Carolina's Statewide COVID-19 Efforts

Provided by Health Sciences South Carolina

What is an HIE?

Electronic Health Information Exchange (HIE) allows doctors, nurses, pharmacists, and other health care providers, to appropriately access and securely share

electronically a patient's vital medical information to improve the speed, quality, safety, and cost of patient care.



Source: Gimhana, 2018

Does South Carolina already have an HIE?

Yes! South Carolina has two key organizations, which have agreed to interconnect and work together in unison, to serve DHEC and the State more broadly, in the capacity referenced above, for rapidly expanding out health information exchange statewide: 1. Health Sciences South Carolina (“HSSC”), which operates the Carolina eHealth Alliance (“CeHA”), and 2. The South Carolina Health Information Exchange (“SCHIE”). Together, CeHA and SCHIEs represent the two largest regional HIEs in the state of South Carolina, and they are now partnering and committed to collectively serving the states COVID needs.

Is HSSC Already Supporting COVID-19 Efforts?

On April 13, 2020, the Health Information Management Systems Society (“HIMSS”) reported nationally regarding the use of existing HIEs in supporting the COVID-19 crisis that, “To date, many regional HIEs have **expressed challenges connecting** with one of their key stakeholders – the labs processing the COVID-19 test results – to ensure robust virus surveillance and coordination” (HIMSS, 2020). The great news is, we’ve already conquered this here in South Carolina. In March, as the crisis was becoming apparent, Health Sciences South Carolina began working with DHEC to support the co-transmission of

results from COVID-19 testing from health systems, laboratory providers and public health laboratories, to HSSC's HIE. In May 2020, HSSC went live and *opened access to all SC COVID-19 Lab Results*, making them *available and accessible by ALL licensed healthcare providers*, via secure exchange, to provide a single point of information supporting assessment of infectivity and transmission risk. Licensed Providers statewide could request access via www.SCCovidResults.org.

With some enhancement in capacity and expansion, seeking to connect ALL key elements of patient data beyond just lab results, South Carolina can rapidly leverage and deploy the existing HIE infrastructure to serve the health needs of all South Carolinians in many of the ways mentioned below, while maintaining a *neutral honest broker role between health providers* and serving as a conduit to state and public health agencies. In addition, HSSC can produce anonymized data sets that will help any desired and approved research efforts from the State and/or the largest research universities (Clemson, USC, and MUSC), which are members of HSSC, study the pandemic/epidemic and collaborate with public health on containment, treatment and other necessary strategies.

How can HIE Support South Carolina's COVID-19 Response?

Cohesive Care

- Provides for access to aggregated key elements of patient treatment data, including but not limited to COVID-19 Lab results, for ALL providers across the state, irrespective of treatment location,
- Supports seamless care and frictionless access, increased efficiency, therefore reducing burden on front line health care physicians and workers.

Improved Quality

- Full HIE provides immediate access to health records including COVID-19 and other very relevant test results, comorbidities, medications, imaging results and allergies, no matter what

hospital or hospital Electronic Medical Record (“EMR”) in which they are located as long as the interface is built. This electronic connectivity reduces error, wrong assumptions about diagnosis, administration of potentially harmful drugs etc.

Statewide/regional Capacity

- As certain hospitals in COVID-19 hotspot areas reach or even exceed capacity, access to immediate real time emergency department and inpatient volumes critical.
- A statewide HIE inherently becomes a “capacity management tool” in that it “knows” every patient’s location and their status (inpatient med-surg, ICU and ED).
- This HIE dashboard can very easily be leveraged into a capacity management tool used by EMD, the National Guard and DHEC with very little “upfit”.

Resource Management Reporting

Examples might include:

- Admissions to an Emergency Department for COVID and Non-COVID,
- Discharges from an Emergency Department COVID and Non-COVID,
- Admission In-Patient COVID and Non-COVID,
- Discharge from In-Patient COVID and Non-COVID,
- ICU Admission COVID and Non-COVID,
- ICU Discharge COVID and Non-COVID.

Laboratory test results reporting

- Supports organizations with internal EMRs, permitting the routing of all COVID-19 lab results to a provider’s native EMR as interested.

Efficiency

- A significant number of patients end up getting duplicate or frequent COVID-19 testing when they present to the hospital for admission. These are tests that are done at other facilities and are not available to the providers at the new facility when they are needed. Repeating these tests results in delays in care and unnecessarily exposes healthcare workers at the new facility to COVID-19, is painful, is wasteful, using precious testing supplies and PPE, and extends quarantine.

Care Delivery Improvement & Cost Reduction

- A significant number of patients end up getting duplicate or frequent COVID-19 testing when they present to the hospital for admission. These are tests that are done at other facilities and are not available to the providers at the new facility when they are needed. Repeating these tests results in delays in care and unnecessarily exposes healthcare workers at the new facility to COVID-19, is painful, is wasteful, using precious testing supplies and PPE, and extends quarantine.

Connects Rural Providers with Regional Providers

- Onboarding small critical access hospitals whose patients use specialty providers in the major metropolitan areas will enable a complete care record for consultants (both live and telemedicine).
- In the COVID-19 pandemic small hospitals are being encouraged to keep sicker patients with COVID-19 they would traditionally have transferred out to larger medical centers to preserve the more advanced ICUs for the sickest of patients in South Carolina.
- Remote tele-ICU is one of the strategies being actively explored by SCHA and the National Guard as a surge capacity strategy for COVID-19.
- Safely caring for sick patients that have test results and historical health information at other disparate facilities is very difficult without immediate access to health records.
- Health information exchange provides a comprehensive health record at the point of care to any provider that needs it, this includes things like discharge summaries outlining status of a patient's baseline health, baseline kidney function (important for medication therapies), prior CT and x-ray reports of someone with lung disease, prior therapies that may have failed in a particular patient etc.

Transfer/Evacuation

- For patients that require evacuation from coastal hospitals to inland hospital's during a hurricane, statewide health information exchange again will provide immediate access to the patient's COVID-19 status, as well as all other labs, imaging and current medications. This significantly reduces error in transfer and handoffs, unfortunately a risky time for patients and a not uncommon occurrence.

Reunification

- In the event of a major disaster where identifying the location of patients and their family members is difficult (i.e. massive earthquake, hurricane, etc.), the HIE would know the location of every hospitalized patient (inpatient or emergency department). This is even more important than normal during the pandemic when family member access to health care facilities is already constrained or restricted.

EMS Support

- Expanded HIE access to local EMS agencies would provide them information about COVID-19 positive status of a patient. COVID-19 patients are managed differently during resuscitations, intubations and inhaled therapies. EMS workers are at particularly high risk for exposure to COVID-19 because they sit in a small space with patients while they are transporting patients, although they do "assume" all patients have COVID-19 - knowledge of a COVID-19 positive status would impact some decisions they could be forced to make.
- The Office of National Coordinator for Health Information Technology ("ONC") acknowledges EMS can and should benefit from the improved and consolidated health information that HIEs provide to their participating organizations. The need for information about an individual's health during a disaster was an important driver for health IT adoption and electronic exchange of information. During major U.S. disasters and emergencies over the past decade, e.g., Hurricane Katrina, there was a higher risk of inappropriate treatment, and even

deaths resulting from limited access to needed health records. These same issues persist each time a paramedic is faced with an unconscious or non-communicative patient exhibiting potentially life-threatening symptoms.

Population Health

- If agreed to such a use case by public health officials and all participant parties, large community practices/hospitals could use an HIE enabled dashboard to identify if a disproportionate percentage of their patients are COVID-19 +, or certain demographics within their practice are exceeding COVID-19 + norms. This would allow targeted “population-appropriate” interventions at reducing COVID-19 spread to the identified groups.

Government/Public Health

- HIEs integrate clinical data from access health systems and can provide a detailed population view on the characteristics of COVID-19 in an area, including micro-geography. By integrating data across systems, they can provide a rapid assessment of the impact of high scale events or of policies, such as school reopening, on the rates of diagnosis of COVID-19 in a geographic area. As vaccines begin to be deployed, HIE data can be used to track uptake, identify gaps in care delivery and target intervention programs.

Additional benefits include:

- » Improved understanding of clinical needs for District residents and patients
- » Access to public health and population health data in a timelier manner than retrospective claims analysis
- » Support DHCF/DC Medicaid in developing and prioritizing programs to improve health of District residents

Various Other

- Advanced Surveillance Capabilities,
- Advanced Public Health Reporting,
- Advanced Outcomes Reporting,
- Case investigation and management,
- Workforce Safety and Health.

Is HIE being used to support COVID-19 responses in other states, as well?

Yes! As of May 2020, several statewide data exchanges have launched either new projects, new systems or expanded access to combat the pandemic (Drees, 2020):

1. CMS **approved** a COVID-19 emergency-funding request for \$7.9 million for Colorado’s state HIE and telemedicine services in response to the pandemic.
2. The Nebraska Health Information Initiative **partnered** with the state’s health department to deploy a COVID-19 data-monitoring platform.
3. The Indiana Health Information Exchange **launched** a new data initiative with the state government and Indiana University that shares social determinants of health data, such as housing stability and food access, with researchers and healthcare providers fighting COVID-19 and other diseases on the front lines.
4. HIE Networks in Tallahassee, Fla., **deployed** a new system that allows health systems to view patient medical records from health plans, hospitals, urgent clinics, public health departments and other providers across the state.
5. HealthLink, an HIE that covers Western New York and is part of the state’s Statewide Health Information Network, began waiving the requirement for patient consent prior to delivering COVID-19 test results to providers who have previously treated the patient, according to **The Buffalo News**.
6. Nevada’s HealthHIE began **offering** free access to its provider portal, which contains medical records from all state residents.
7. Michigan Health Information Network Shared Services **teamed up** with the Michigan Department of Health and Human Services to expand the number of patients it covers throughout the state. The HIE added Detroit Medical Center, Trinity Health System and Henry Ford Health System to its network.

Does use of HIE for COVID-19 purposes present any Privacy and Security Concerns?

Such health information exchange in general, for patient care and public health, is supported by the Federal Health Insurance Portability and Accountability Act (HIPAA) regulations and operated in accordance with data use agreements established with health care organizations, providers of care, covered entities and their business associates. More broadly, in light of the Novel Coronavirus (2019-nCoV) outbreak, the Office for Civil Rights (OCR) at the U.S. Department of Health and Human Services (HHS) in February and again in July 2020, provided additional guidance to ensure that HIPAA covered entities and their business associates are aware of the ways that patient information may be shared under the HIPAA Privacy Rule in an outbreak of infectious disease or other emergency situation, and to serve as a reminder that the protections of the Privacy Rule are not set aside during an emergency (ONC, 2020). HIE must always insure operation in accordance with such.

Last page of Health Sciences South Carolina document.

What funding is necessary to expand HIE Statewide to support COVID-19 efforts?

Assuming an expansion of up to approximately 14,000 hospital, rehab, etc. beds in South Carolina, for the requisite equivalent attendant quantity of organizations, and interfacing key elements of patient data, including potentially: a.) Admission Discharge Transfer (ADT), b.) Laboratory -General, Micro & BB Level, c.) Radiology, d.) Pathology, e.) Transcription, f.) Medication Orders (RDE) & Administration (RAS) g.) Medical Document Management (MDM) and f.) Various other Diagnostic Imaging, each based upon an organization's ability to submit such, and providing HIE access to every Licensed Provider within the state, we anticipate and estimate an initial on-time expense of approximately \$35m to \$40m for implementation, and approximately \$5m to \$7m recurring expense annually. We believe that CMS' 90/10 funding could also be obtained to support this effort with Medicaid partnership, and would welcome and opportunity to support drafting a proposal for such.

Appendix D

North Carolina Task Force Recommendations

Chapter 1 – Introduction

Chapter 2 – Background

Chapter 3 – Building a Resilient Supply Chain

Recommendation 3.1: Ensure adequate personal protective equipment (PPE) and other supplies to protect the health and safety of the health care and frontline essential workforces.

Chapter 4 – Improving Infrastructure to Promote Health, Safety, and Well-Being

Recommendation 4.1: Upgrade existing structures and construct new facilities with infection control measures in mind.

Chapter 5 – Strengthening the Health Care and Frontline Essential Workforces

Recommendation 5.1: Develop and implement an action plan to respond to urgent and long-term health care workforce needs.

Recommendation 5.2: Assess workforce shortages and other needs of frontline essential workers to support continuity of operations planning.

Recommendation 5.3: Prioritize the health, well-being, and safety of the health care and frontline essential workforces.

Recommendation 5.4: Strengthen workforce recruitment and retention.

Recommendation 5.5: Provide flexibility to health care workers to increase surge capacity during public health emergencies.

Chapter 6 – Supporting Data-Driven Decision-Making and Effective Communications to the Public

Recommendation 6.1: Advance equitable access to vaccines and therapeutics through data development.

Recommendation 6.2: Strengthen state and local communications infrastructure and capabilities.

Recommendation 6.3: Ensure the inclusion of key perspectives in the development, implementation, and evaluation of communication strategies.

Chapter 7 – Improving Access to Information and Services: Broadband Infrastructure, Telehealth, and Remote Learning

Recommendation 7.1: Strengthen broadband infrastructure and improve digital equity.

Recommendation 7.2: Support ongoing access to telehealth services and medications.

Recommendation 7.3: Improve the transition to remote learning for school systems, teachers, students, and their families during public health emergencies.



Chapter 8 – Ensuring the Availability of Health Care Services

Recommendation 8.1: Ensure access to high quality, low barrier health care before, during, and after public health emergencies.

Recommendation 8.2: Ensure comprehensive and equitable access to diagnostic testing services.

Recommendation 8.3: Ensure access to evidence-based substance use treatment and harm reduction services during public health emergencies.

Recommendation 8.4: Examine the impact of the COVID-19 pandemic on access to and utilization of health care services.

Chapter 9 – Addressing Disparities to Promote Whole-Person Health and Economic Stability

Recommendation 9.1: Assess pandemic-driven impacts on economic stability to mitigate the impact of closures intended to promote public health.

Recommendation 9.2: Ensure access to high-quality early childhood education.

Recommendation 9.3: Ensure access to social, emotional, and physical health resources in K-12 Public School Units (PSU).

Recommendation 9.4: Address student learning loss caused or exacerbated by school closures and remote learning.

Chapter 10 – Promoting Collaboration and Coordination to Support Pandemic Preparedness, Response, and Recovery

Recommendation 10.1: Strengthen emergency management infrastructure to support collaboration and coordination around emergency preparedness, response, and recovery.

Recommendation 10.2: Improve communications between local and state-level agencies to promote collaboration and coordination in the absence of a coordinated federal strategy to guide response efforts.

Recommendation 10.3: Sustain and strengthen partnerships between school districts, local public health departments, and community partners.

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South Carolina Institute of Medicine & Public Health

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