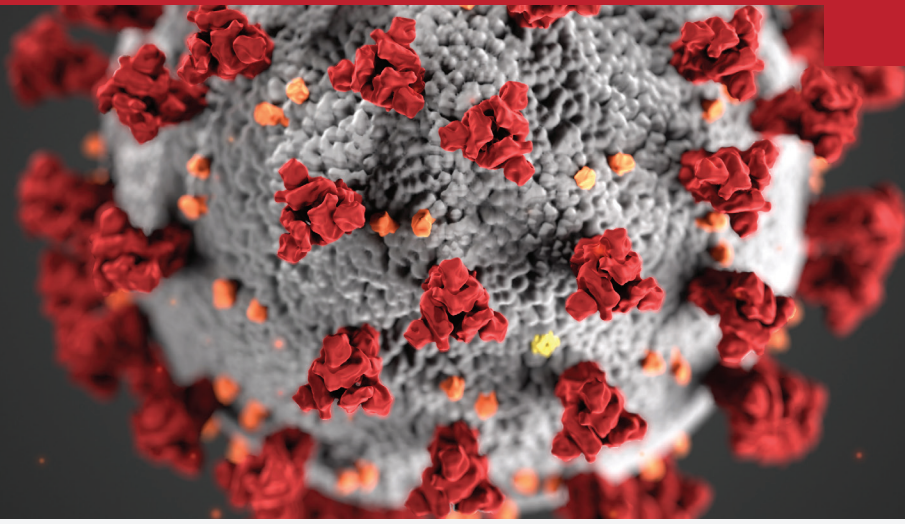


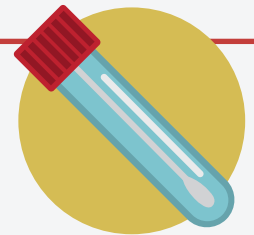


JANUARY 2021



As of January 10, 2021, more than 22 million Americans have been infected with SARS-CoV-2 and nearly 370,000 Americans have died as a result.<sup>1</sup> As of the same date, **one in every 1,000 South Carolinians have died from the virus.**<sup>2</sup> Beyond mortality, many physicians also caution about the long-lasting physical consequences such as respiratory, cardiovascular and neurological impairment due to damage to vital tissue.<sup>3</sup> In the following pages, we review the available data on the coronavirus pandemic over the course of 2020 and its impact throughout South Carolina and across the country.

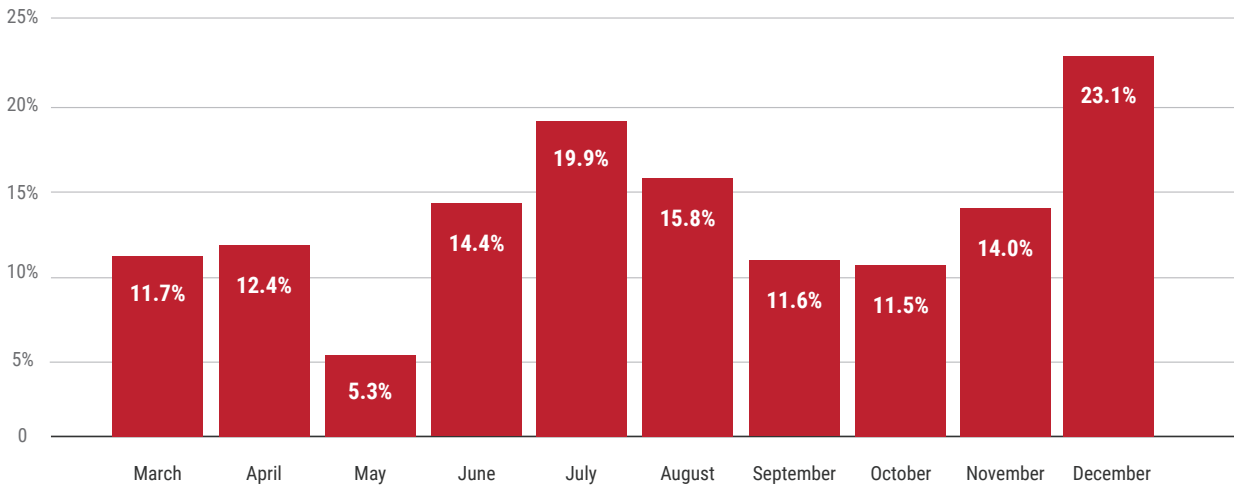
## Testing



Between March 4, 2020 and January 3, 2021, **4,116,563 SARS-CoV-2 tests were conducted** in South Carolina. The seven-day moving average positivity rate throughout the year oscillated between a low of 4.3% on May 15th to a 29.9% positivity rate at year-end.<sup>4</sup> The COVID-19 positivity rate, or the percent positive, is the percentage of tests performed on a population that positively detects SARS-CoV-2. The World Health Organization currently recommends that the percent positive rate remain below 5% for two weeks before easing coronavirus restrictions.<sup>5</sup> The most effective way to lower the positivity rate is to increase testing or to decrease transmission – which often go hand in hand. Graph 1 illustrates the positivity rate by month between March and December 2020.

GRAPH 1

### COVID-19 Test Positivity Rate in South Carolina by Month, March 1, 2020 – December 31, 2020<sup>6</sup>



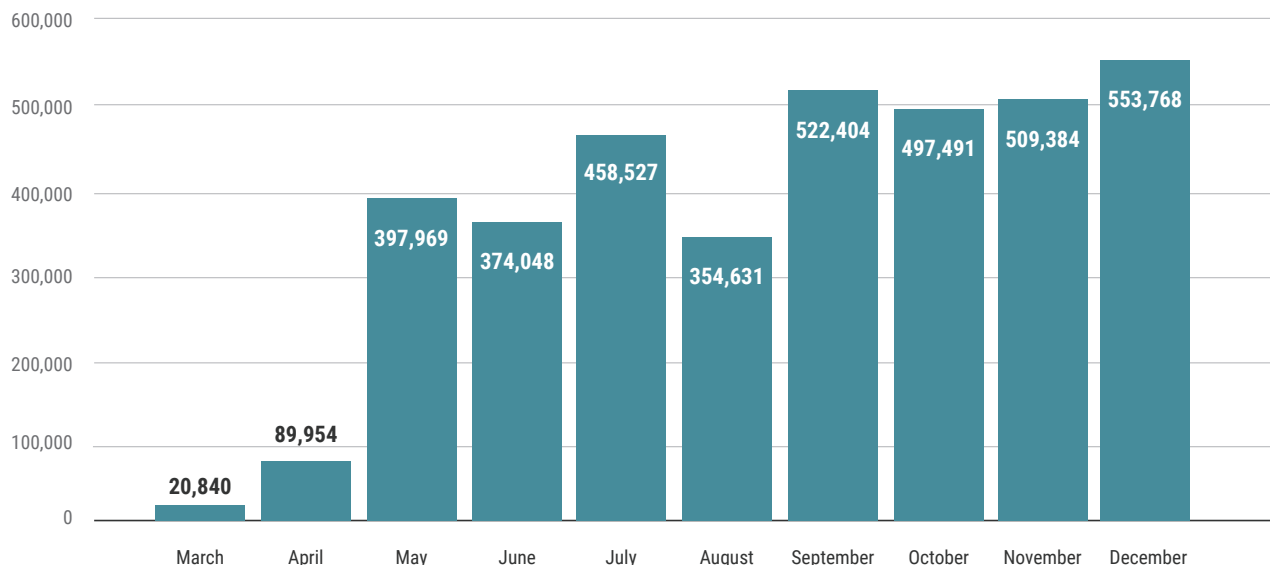
Source: South Carolina Department of Health and Environmental Control, 2020

## Testing Availability

The South Carolina Department of Health and Environmental Control (DHEC) lists a total of 383 individual testing sites throughout the state.<sup>7</sup> Although each site will conduct a fluctuating number of tests each day, data shows that the highest number of tests conducted in 2020 was in December. Graph 2 illustrates the number of tests conducted monthly between March and December 2020.

GRAPH 2

### Number of Tests Conducted in South Carolina by Month, March 1, 2020 – December 31, 2020<sup>8</sup>



Source: South Carolina Department of Health and Environmental Control, 2020

## Cases

Between March 4, 2020 and December 31, 2020, **283,424 South Carolinians were diagnosed with a confirmed case of COVID-19.**<sup>9</sup> This number reflects a **period prevalence of 55 out of every 1,000 people.**<sup>a,10</sup> Within the state, Pickens, Dillon and Florence counties had the highest prevalence of COVID-19 cases overall during 2020.



**PICKENS COUNTY**

84.86 per  
1,000 population



**DILLON COUNTY**

81.76 per  
1,000 population



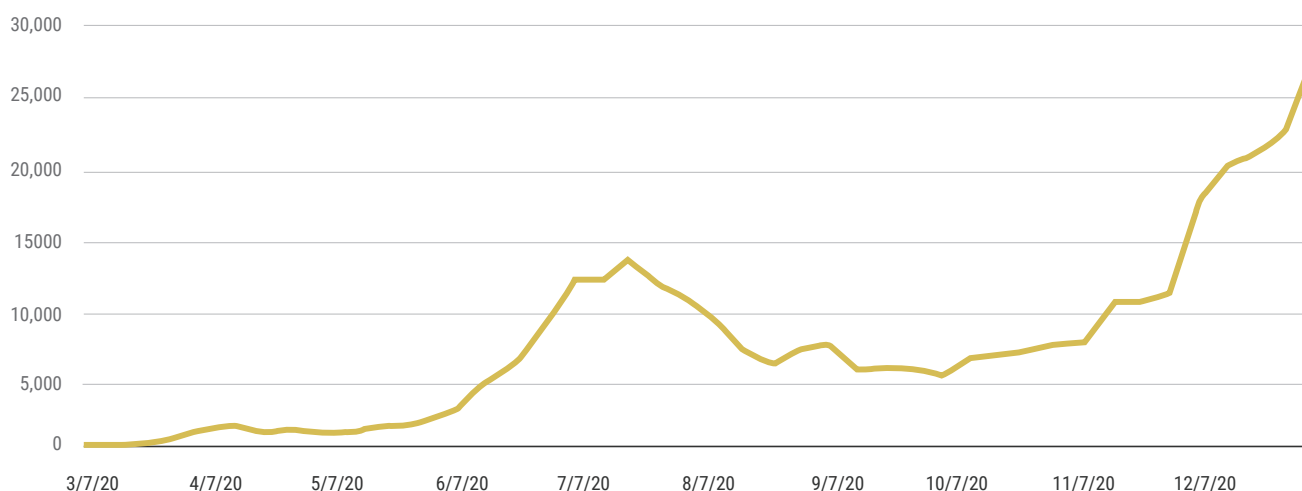
**FLORENCE COUNTY**

79.30 per  
1,000 population<sup>11</sup>

Graph 3 illustrates the number of new COVID-19 cases reported each week across the state between March 1, 2020 and January 2, 2021.

**GRAPH 3**

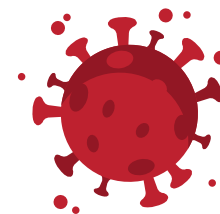
### Number of New Reported COVID-19 Cases, Week of March 4, 2020 – Week of January 2, 2021<sup>12</sup>



Source: South Carolina Department of Health and Environmental Control, 2020

The most recent data estimates that **one in five cases are asymptomatic.** Because symptoms and severity vary between individuals, investigators have faced difficulties in developing a consistent definition of persistently asymptomatic COVID-19.<sup>13,14</sup> Despite this, data has demonstrated that both asymptomatic and pre-symptomatic individuals can spread the virus.<sup>15,16,17</sup> In fact, between 24% and 59% of all transmissions are believed to stem from people who are asymptomatic, depending on the definition.<sup>18</sup>

In one prospective study, investigators found that there is not a significant difference in the incidence of new cases among close contacts of symptomatic and asymptomatic individuals.<sup>19</sup> In another, the researchers found that asymptomatic individuals transmit at almost the same rate as symptomatic individuals.<sup>20</sup>



<sup>a</sup> Based on the United States Census 2019 Population Estimates for South Carolina

## Racial and Ethnic Disparities in Cases

Based on the most recent demographic estimates, South Carolina is 68.6% white, 27% Black, 6% Hispanic, 1.8% Asian American and 0.6% indigenous.<sup>21</sup> Using data from cases where race and ethnicity is known, the COVID Tracking Project reports that 58% of infections in South Carolina were among white people, 28% were among Black people and 10% were among Hispanic people.<sup>22</sup> The difference in infection rates among Hispanic populations illustrates the most significant disparity by race/ethnicity.

## Hospitalizations

Hospital systems are designed to handle predictable levels of disease in a population, not pandemics. Challenging hospital capacity can have grim consequences in health outcomes; as health care workers are pushed to their limits and resources are overwhelmed, rationing decisions may be made and quality of care may be affected.<sup>23,24,25,26</sup>

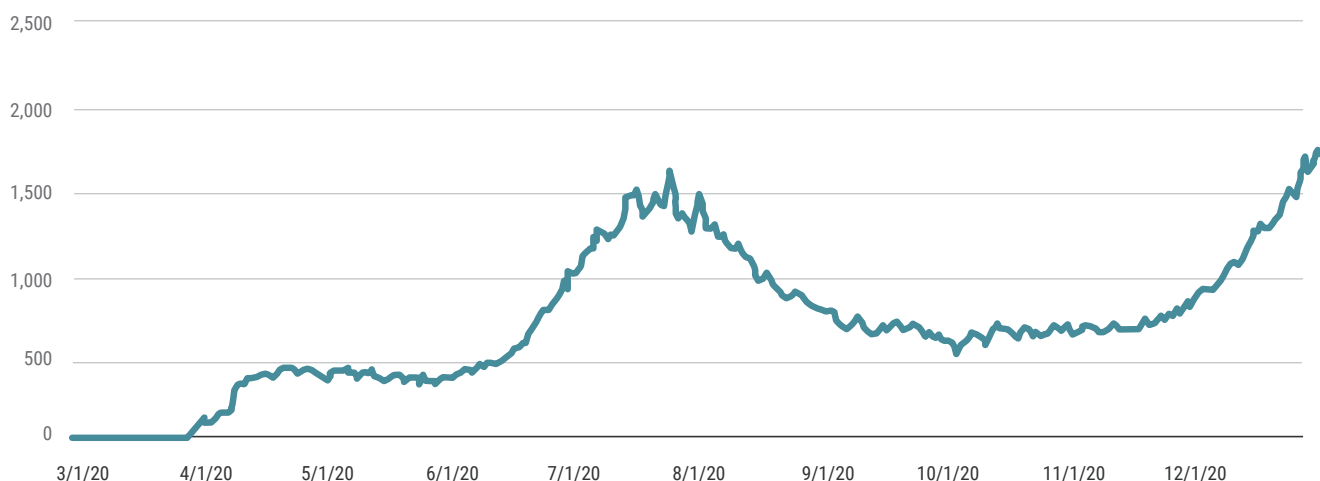
As hospitalizations increase, it is also possible to see staffing shortages due to provider burnout, illness and caseload. On December 31, 2020, a total of 19 South Carolina hospitals reported a critical staffing shortage. Over the past year, the number of South Carolina hospitals reporting a critical staffing shortage has ranged from 0 to a high of 42 out of 60 general hospitals in the state.<sup>27</sup>

During that same period, the number of patients hospitalized with suspected or confirmed COVID-19 across the state steadily increased, ultimately culminating at a high of 2,036 patients at year's end. On December 31, 2020, a total of 81.8% of inpatient beds in South Carolina were occupied.<sup>28</sup> Graph 4 illustrates the hospitalization trends between March 1, 2020 and December 31, 2020.



GRAPH 4

### Patients reported to be hospitalized in an inpatient bed who have suspected or confirmed COVID-19 in South Carolina, March 1st, 2020 – December 31st, 2020<sup>29</sup>



Source: United States Department of Health and Human Services, 2020

## Deaths

5,484 South Carolinians died from COVID-19 between March 4, 2020 and January 2, 2021. 68.8% of deaths were among people aged 71 and above, and the remaining deaths occurred in people aged 21 – 70.<sup>30</sup> Greenville, Spartanburg and Richland counties had the highest number of COVID-19 deaths within the state.



GREENVILLE  
COUNTY

524



SPARTANBURG  
COUNTY

406



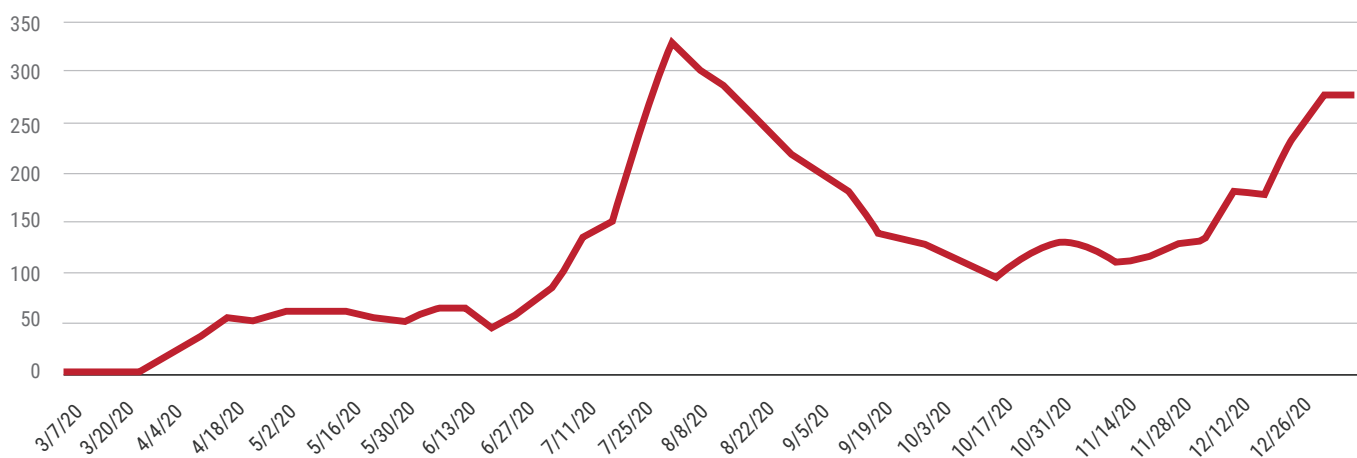
RICHLAND  
COUNTY

343<sup>31</sup>

Graph 5 illustrates the number of COVID-19 deaths reported each week across the state between March 1, 2020 and January 2, 2021.

GRAPH 5

### Number of New Reported COVID-19 Deaths by Week, Week of March 4, 2020 – Week of January 2, 2021<sup>32</sup>



Source: South Carolina Department of Health and Environmental Control, 2020

Among the deceased, 78% had a comorbid condition such as existing cardiovascular disease, chronic obstructive pulmonary disease (COPD), emphysema, asthma, congestive heart failure, a history of kidney disease, chronic renal failure, diabetes, chronic liver disease, lupus or were current or former smokers.<sup>33</sup> The presence of underlying cardiovascular disease in patients with COVID-19 is associated with high mortality<sup>34</sup>, and in South Carolina **60.7% of COVID-19 deaths with available data reported a comorbid cardiovascular condition.**<sup>35</sup> COVID-19 is believed to have the ability to cause cardiovascular disorders, further increasing risk of mortality and long-term morbidity.<sup>36</sup>

## Racial and Ethnic Disparities in Deaths

As mentioned earlier, South Carolina is 68.6% white, 27% Black, 6% Hispanic, 1.8% Asian American and 0.6% indigenous.<sup>37</sup> Using data from cases where race and ethnicity is known, the COVID Tracking Project reports that 61% of deaths in South Carolina have been among white people, 35% of deaths have been among Black people and 4% of deaths have been among Hispanic people.<sup>38</sup> This data illustrates a racial disparity in deaths among Black South Carolinians.

# Morbidity and Mortality in Selected Populations

Health care workers and people in a congregate living setting such as nursing homes, shelters, jails, prisons and behavioral health facilities are more susceptible to infection due to their greater odds of being exposed to the virus.<sup>39</sup> Their increased risk merits a closer look, and this section will focus on morbidity and mortality in the following selected populations.



## Health Care Workers

Providers and supporting health care personnel have the highest odds of contracting coronavirus.<sup>40</sup> As of December 23, 2020, a total of **2,921 health care workers across the country have died** after contracting the virus, and more than half of those were under sixty years old. Nurses account for nearly one in three deaths, and two out of three deaths occurred among providers of color, illustrating a significant racial disparity in mortality.<sup>41</sup> In South Carolina there has been a total of 43 health care worker deaths attributable to COVID-19 since March 2020.<sup>42</sup>



## Nursing Home and Assisted Living Facilities

Although only 6% of all coronavirus cases have occurred in long-term care facilities, these cases have produced 38% of coronavirus deaths in the U.S.<sup>43</sup> **By June 2020, at least 54,000 nursing home and assisted living facility residents and workers had died from the coronavirus across the country, and by Thanksgiving the death toll had surpassed 100,000.**<sup>44</sup> The Centers for Medicare and Medicaid Services (CMS) reports that, between January 1 and December 20, 2020, a total of 471,953 nursing home and assisted living facility residents had tested positive for the virus. During that same period, there was a total of 402,956 confirmed cases among staff.<sup>45</sup>

In South Carolina, a total of 9,044 cases among residents and 5,357 cases among staff occurred between April 3, 2020 and January 3, 2021, resulting in a total of **1,651 deaths among residents and 28 deaths among staff in the state.**<sup>46</sup>



## Incarcerated Populations

An increased burden of cardiovascular disease, close confinement and difficulty surrounding access to personal protective equipment in some states has been shown to exacerbate the risk of COVID-19 among prisoners.<sup>47</sup> Recognizing the increased risk, the U.S. Attorney General instructed the Bureau of Prisons to release certain nonviolent prisoners to home confinement.<sup>48</sup> Between March 26, 2020, and January 5, 2021, 19,815 prisoners across the country have been released to home confinement in an attempt to decrease the spread of COVID-19.<sup>49</sup>

Despite this initiative, there have been a total of 325,862 cases among people incarcerated in state, federal and immigration and customs facilities as of January 5, 2021. These cases have resulted in 1,916 premature deaths. Similarly, there have been 74,532 cases and 111 deaths among staff working in prisons.<sup>50</sup>

Between December 24, 2020, and January 3, 2021, South Carolina jails, prisons, and detention centers combined reported a 424.3% increase of new cases among prisoners. This was in the same time period that the state of South Carolina saw a surge in positive cases. The state prison system has shown that between March 1, 2020, and January 5, 2021, **2,647 prisoners in South Carolina tested positive for coronavirus.** As of January 5, 2021, 34 South Carolina prisoners and 2 South Carolina prison staff have lost their lives to COVID-19.<sup>51</sup>



# Conclusion

The COVID-19 pandemic continues to infect South Carolinians and others across the country. At print, two new, more contagious coronavirus variants have been identified. Viral variants are the result of small changes in the genetic code as the virus replicates, and although not all changes will affect virulence, the recently identified variants have demonstrated increased transmissibility. In a recent study, investigators estimate that variant B.1.1.7 may be upwards of 56% more infectious.<sup>52</sup> However, with the introduction of two new FDA-approved vaccines, COVID-19 cases and mortality rates are expected to decline over the coming months.

The significant impact the coronavirus pandemic has had on our community expands beyond mortality and morbidity. For more information on the relationship between the coronavirus pandemic and financial security, behavioral health and equity, please see our “COVID-19 and the Carolinas” reports and the recently published “Understanding Health Disparities Highlighted by the Coronavirus Pandemic in South Carolina.”



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