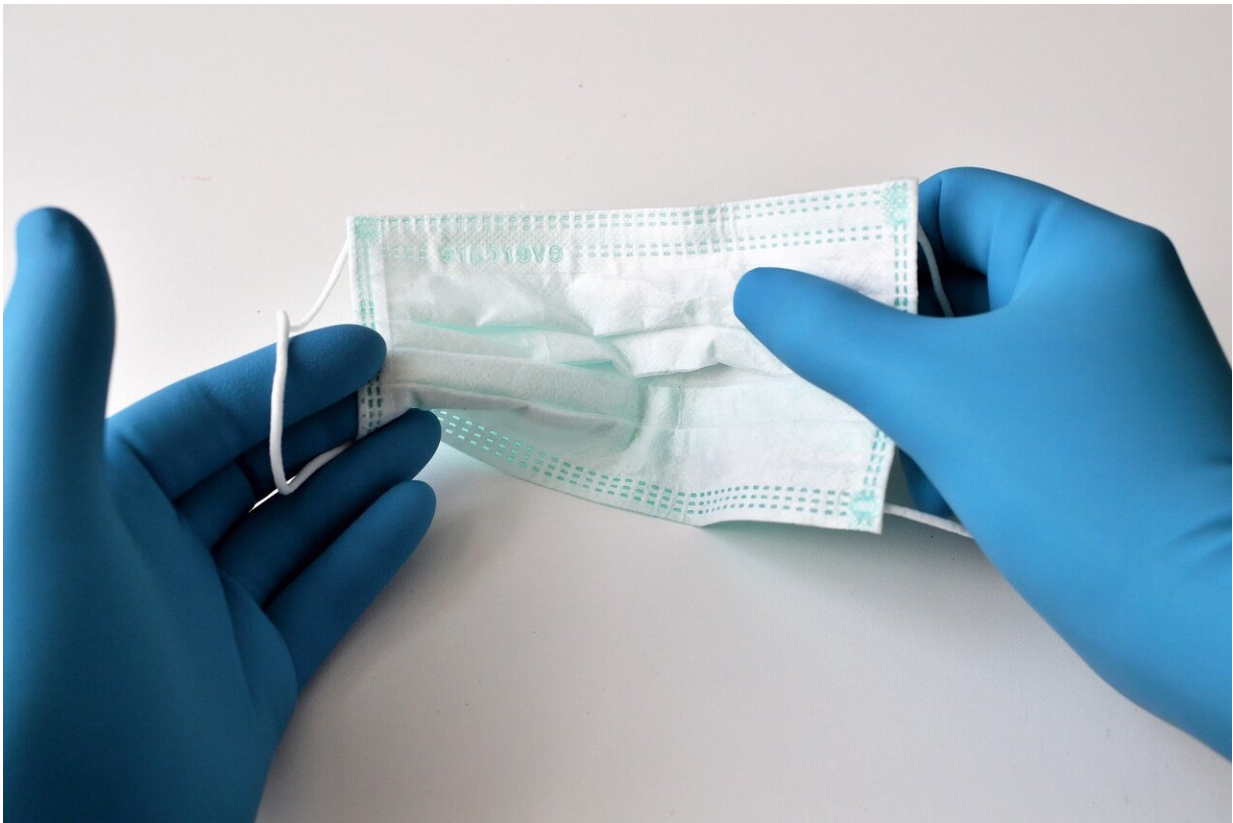


Higher COVID-19 death rates in the southern U.S. due to behavior differences

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During the pre-Omicron phases of the COVID-19 pandemic, regions of the U.S. had markedly different mortality rates, primarily due to differences in mask use, school attendance, social distancing, and other

behaviors. Had the entire country reacted to the pandemic as the Northeast region, more than 316,000 deaths might have been avoided, 62% of those avoidable deaths being in the South.

The study, by Georgetown University's School of Nursing & Health Studies researchers, appeared April 28, 2022, in *PLOS ONE*.

Excess mortality, which helps account for [avoidable deaths](#) from a new disease or situation, is defined by the difference between total current deaths and deaths expected based on earlier time period, usually the previous decade or so. The U.S. Centers for Disease Control and Prevention (CDC) calculates these numbers weekly. For this study, the CDC excess mortality data were analyzed for the period between January 3, 2020, to September 26, 2021. For regional comparison purposes, areas of the country were broken down into the Northeast, Midwest, South and West.

"Our goal was to carefully examine [regional differences](#) in COVID-19 [death](#) rates based on reliable statistical data," says Michael Stoto, Ph.D., professor of Health Systems Administration and Population Health at the School of Nursing & Health Studies and corresponding author of the study. "Our study is the first to quantify avoidable deaths and confirm that both COVID-19 deaths and avoidable deaths disproportionately occurred in the South."

The investigators found that regional differences in COVID-19 mortality rates have persisted throughout the pandemic. The southern part of the United States has had higher mortality rates than the rest of the U.S. since the start of summer in 2020. Since October 2020, 48% of COVID-19 deaths were in the South, which makes up 38% of the population, pointing to disproportionate outcomes regionally.

The researchers also determined that between January 2020 and

September 2021 there were 895,693 excess deaths associated with COVID-19, which is 26% more than reported by other experts who track disease. Although the official total neared one million deaths in the U.S due to COVID-19 by late April 2022, based on this undercount the scientists believe that threshold was actually passed at the beginning of 2022.

These estimates of undercounts are important because most studies have looked at excess mortality at the state and county level in the U.S., but because of small population sizes, the studies have not examined patterns over time. Some earlier studies explored the relationship between COVID-19 [mortality](#) and age, education, and other factors as well as vaccine uptake, party affiliation, and other factors. But most studies have used reported COVID-19 deaths rather than excess deaths, as compared to what Dr. Stoto and collaborators have done, and may not be as statistically reliable.

"This is one of a series of planned studies to look carefully at the response to COVID-19 in the U.S. and other countries and to learn from the experience in order to strengthen preparedness for future potential outbreaks," says Stoto. "Our team has also looked at testing and surveillance, and other COVID-19 metrics to understand how communities have come together to effectively deal with the pandemic."

More information: COVID-19 mortality in the United States: It's been two Americas from the start., *PLoS ONE* (2022).

Provided by Georgetown University Medical Center

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