Tallying the Toll of Excess Deaths from COVID-19

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Since the first person tested positive for COVID-19 in the United States on January 20, 2020, approximately 2.5 million individuals in the United States have subsequently been diagnosed with this novel coronavirus infection, and more than 125,000 US deaths from COVID-19 have been reported. An outbreak that was initially concentrated in metropolitan areas such as New York City, Detroit, and New Orleans has now spread throughout the country, particularly in states such as Arizona, Florida, and Texas that were largely spared during the early months of the pandemic but are now major hot spots of infection.

Two new JAMA Network studies published online today report excess US deaths during the early months of the COVID-19 pandemic.1,2 These studies analyzed provisional mortality data that were available just 3 weeks ago from the National Center for Health Statistics for 48 states. Each of the studies compared observed deaths in 2020 to model-based estimates of expected deaths derived from other recent years. The 2 studies add a national view to a recent report documenting excess deaths in New York City during the first 2 months of the pandemic.3

In a JAMA research letter, Woolf et al estimated 87,001 excess deaths between March 1 and April 25, 2020, representing 17% of all observed US deaths during these 8 weeks.1 The authors attributed 65% of these excess deaths to COVID-19. In the 5 states (New York, New Jersey, Pennsylvania, Michigan, and Massachusetts) with the largest numbers of excess deaths during this time period, substantial proportions of the deaths were attributed to causes other than COVID-19, including heart disease, cerebrovascular disease, diabetes, and Alzheimer disease.

Using similar methods in a JAMA Internal Medicine study, Weinberger and colleagues reported 122,300 excess deaths between March 1 and May 30, 2020, representing 16% of all observed US deaths during this 3-month period.2 The authors noted that 78% of these excess deaths had been officially attributed to COVID-19. They also noted that the association between diagnostic testing and excess deaths attributed to COVID-19 varied widely among states, suggesting that testing availability could explain some of the differences among states in the proportion of excess deaths attributed to COVID-19.

The excess deaths reported in the 2 studies likely occurred in 3 groups of decedents. The first group included those who were diagnosed and treated for COVID-19, representing most of the excess deaths in these studies. The second group consisted of those who died at home or in nursing homes or skilled nursing facilities from COVID-19 and related acute cardiopulmonary complications4-7 without being tested for the virus.

The third group was composed of those without COVID-19 who delayed or avoided seeking medical care for other life-threatening conditions, such as myocardial infarction or stroke, due to concerns about being exposed to COVID-19 in hospital settings.8 During mid-March through late May of this year, visits to emergency departments for these 2 cardiovascular conditions declined by 20% or more nationally relative to the preceding 10 weeks.9 Among some individuals with more severe forms of these conditions, excess deaths might have been averted with timely medical care.

The United States and other countries have been focused on understanding the mortality and morbidity that can be directly measured among individuals who have tested positive for COVID-19. However, the 2 new studies published today in JAMA and JAMA Internal Medicine suggest that up to one-third of excess deaths during the pandemic may occur in those who have not tested positive for COVID-19. Thus, these studies underscore the importance of continuing to measure excess deaths in
the months and years ahead to gain a more complete understanding of the pandemic’s overall death toll, especially by race and ethnicity, and to guide more effective strategies to limit this toll.

REFERENCES