EDITORIAL

Deaths From COVID-19

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In any year, keeping track of new health trends can be difficult. But this year, the dynamic nature of coronavirus disease 2019 (COVID-19) has made clarity almost impossible. Declines in mortality, after daily COVID-19–related deaths peaked last spring, initially fueled hope that the worst was over. But following a summer increase in deaths, trends have accelerated even faster. This fall, a million new cases of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, which previously had increased monthly, began appearing weekly; as of December 13, cumulative infections totaled more than 16 million in the United States.[1] Meanwhile, the media regularly report a flood of statistics that can be difficult to contextualize.

Viewpoint

In this issue of *JAMA*, the simple, yet powerful, analysis by Woolf et al[2] puts these numbers into perspective. Ranking the once unfamiliar threat of COVID-19 against more familiar illnesses, they compare US mortality from COVID-19 (March-October 2020) to leading causes of death 2 years prior to the pandemic (March-October 2018). The analysis,[2] combined with their prior research on death and life expectancy trends,[2-4] suggest 4 major conclusions.

First, COVID-19 ranks as a leading cause of death; at certain times, it is *the* leading cause of death. Compared with leading causes of death from the same period in 2018, novel COVID-19 was the third leading cause of death for children and adults (697.5 deaths/million), ranking only behind heart disease (1287.7 deaths/million) and cancer (1219.8 deaths/million).[2] No age group has been spared, although COVID-19 was not the leading cause of death for the younger age groups. These figures probably underestimate true excess mortality by at least 20%, due, in part, to the indirect effects of the pandemic on non-COVID-19 deaths[2] including the death risk that lethal communicable diseases pose to others.

Woolf et al note that the rapidly rising death rates this fall will exceed spring death rates when COVID-19 was the leading cause of death. Between November 1, 2020, and December 8, 2020, the 7-day average for daily COVID-19 deaths nearly tripled—826 to 2226 deaths per day.[2] Daily deaths in the first 13 days of December averaged 2381 per day,[1] already well exceeding the 1900 average daily deaths during the initial peak from April 15 to May 15.[1] On December 9, 2020, deaths reached a record high of 3411,[1] more than 2 per minute and roughly 400 more than the September 11, 2001, attack.[2] Such numbers elevate COVID-19 as a cause of death higher than heart disease and cancer, which, for decades, accounted for 1700 and 1600 deaths per day, respectively.[2]

Cumulative COVID-19 deaths in the United States just surpassed 300 000 on December 14.[1] The United States, which constitutes 4% of the globe's population, ranks first in the world in total pandemic deaths (19% of the global total), with the 12th worst (as of December 14) COVID-19 cumulative mortality rates of all countries.[5] The rising deaths have come despite heroic efforts by frontline health care professionals, advances in hospital-based COVID-19 care, and therapeutic agents newly authorized by the US Food and Drug Administration such as monoclonal antibody treatments, remdesivir, and dexamethasone. Notably, mortality statistics fail to capture the full devastation of COVID-19–related morbidity, involving not only physical health but also the emotional, social, and spiritual dimensions of well-being.

The fall surge in COVID-19 mortality reflects previously unseen omnipresent disease. Although the spring surge generated deaths largely in New York, parts of New England, Louisiana, and Georgia, the fall surge is widespread nationally, with hot spots in rural states and on both coasts. Notably, people of color have about twice the death rate as White people; 1 in 875 Black persons and 1 in 925 Indigenous persons have died compared with 1 in 1625 White persons.[6] Other at-risk groups include essential workers, prisoners, and prison staff.

Second, risk of COVID-19 death is highest among the oldest and lowest among the youngest populations. Age makes a major difference in mortality risk. Compared with those aged 18 through 29 years, people between the ages of 75 and 84 years and those 85 years or older have 200 times and 630 times greater average death rates, respectively.[7] Nursing home and long-term care facility residents and staff are at high risk, representing only 5% of the population but 38% of deaths,[8] with people in about 28 000 long-term care facilities accounting for more than 106 000 deaths.[8] In 14 states, at least half of deaths have been linked to nursing homes; in 6 states, the percentage is more than 60%; in 3, 70% or more.[8]

In contrast, for people younger than 35 years, Woolf et al found that deaths from drug overdoses, transport accidents (eg, motor vehicle fatalities), and suicide exceeded deaths from COVID-19.[2] Recent 2020 data show record overdose deaths with more than 40 states reporting increased mortality.[9] Suicide rates, particularly among youth, continue rising.[9]

For children and youth, the relative risk of COVID-19 death is lower still. A joint report from the American Academy of Pediatrics and the Children's Hospital Association notes that as of December 3, 154 children, of more than 1.4 million diagnosed with COVID-19, have died.[10] Although children can serve as a vector for illness, school transmission rates have not been as high as initially feared in communities with low background rates. All these emerging data have recently prompted

the Centers for Disease Control and Prevention (CDC) to recommend that schools should be the last to close and first to reopen during these times.

Third, COVID-19 will further prolong stagnant US life expectancy trends. In earlier research, Woolf et al documented that while US life expectancy increased rapidly in the 1970s, it advanced more slowly starting in the 1980s, peaked in 2014, and then declined annually for the 3 years after that.[4] Their current study results[2] suggest that COVID-19 will only further deter chances of reversing this trend, especially because excess 2020 US mortality has resulted not only from infection but also from conditions (such as heart disease and Alzheimer disease) that possibly went undetected or untreated during the pandemic, as documented in another prior study by Woolf et al.[3]

Fourth, many, if not most, COVID-19–related deaths could have been prevented, showing that critical public health strategies must remain a major societal focus for the present and future. A national plan for a pandemic response must include robust federal coordination of testing capacity so that supply can meet ever-growing demand, better contact tracing, more robust supplies of personal protective equipment, and heightened emphasis on social distancing that includes travel precautions for the ongoing holiday season. With only 37 states currently having statewide facial covering mandates, President-elect Biden has announced his intention to ask all US residents to wear a mask for his first 100 days in office.

So far, one vaccine candidate has received FDA Emergency Use Authorization with more likely in the coming days. The CDC Advisory Committee on Immunization Practices has just recommended prioritizing frontline health care workers and residents in nursing homes and long-term care facilities. Because widespread vaccine availability may not be possible for months, the next phase could include prioritizing older individuals with chronic conditions and essential workers. This should be combined with dedicated outreach to regain the trust required to reach communities of color, which have historically had lower vaccination rates. Meanwhile, broad public health precautions cannot be relaxed.

Ultimately, containing the pandemic will require national coordination of federal, state, and local leaders; dedicated resources for overwhelmed health care workers and hospitals; renewed support for underresourced state and local public health officials; and a coronavirus stimulus package that aids struggling schools and businesses, as well as the millions of people on the brink of eviction.

The year 2020 ends with COVID-19 massively surging, as it was in the spring, to be *the* leading cause of death. The accelerating numbers of deaths fall far short of fully capturing each devastating human story: every death represents untold loss for countless families. Ending this crisis will require not only further advances in treatment but also unprecedented commitment to all aspects of prevention, vaccination, and public health. Only by doing so can future years see this illness revert back to the unfamiliar and unknown condition it once was.

ARTICLE INFORMATION

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