

## VIEWPOINT

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## COVID-19 as the Leading Cause of Death in the United States

The current exponential increase in coronavirus disease 2019 (COVID-19) is reaching a calamitous scale in the United States, potentially overwhelming the health care system and causing substantial loss of life. The news media dutifully report each day's increase in new cases and deaths, but putting these numbers in perspective may be difficult. The daily US mortality rate for COVID-19 deaths is equivalent to the September 11, 2001, attacks,

from the Centers for Disease Control and Prevention, the Table shows mortality rates for these conditions during the period of March through October 2018<sup>4</sup> (the most recent year for which detailed cause-of-death data are available) with COVID-19 mortality rates during March through October 2020.<sup>5</sup>

The Table shows that by October 2020 COVID-19 had become the third leading cause of death for persons aged 45 through 84 years and the second leading cause of death for those aged 85 years or older. Adults 45 years or older were more likely to die from COVID-19 during those months than from chronic lower respiratory disease, transport accidents (eg, motor vehicle fatalities), drug overdoses, suicide, or homicide. In contrast, for individuals younger than age 45 years, other causes of death, such as drug overdoses, suicide, transport accidents, cancer, and homicide exceeded those from COVID-19.

Especially for older adults, the threat from COVID-19 may be even greater, for 3 reasons. First, the Table presents the aggregate 8-month mortality rate for COVID-19, not the current mortality rate, which has been increasing rapidly. Between November 1, 2020, and December 13, 2020, the 7-day moving average for daily

### With COVID-19 mortality rates now exceeding these thresholds, this infectious disease has become deadlier than heart disease and cancer...

which claimed 2988 lives,<sup>1</sup> occurring every 1.5 days, or 15 Airbus 320 jetliners,<sup>2</sup> each carrying 150 passengers, crashing every day.

A helpful approach to put the effects of the pandemic in context is to compare COVID-19-related mortality rates with the leading causes of death that, under ordinary circumstances, would pose the greatest threat to different age groups.<sup>3</sup> The conditions listed in the Table include the 3 leading causes of death in each of the 10 age groups from infancy to old age. Using data



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**Table. Age-Specific Mortality Rates (per Million) for COVID-19 (March-October 2020) and Other Leading Causes of Death (March-October 2018)<sup>a</sup>**

Age, y	Causes of death <sup>b</sup>										
	COVID-19	Heart disease	Malignant neoplasms	Chronic lower respiratory disease	Unintentional injuries	Accidental drug overdoses	Intentional injuries	Leading causes of infant deaths			
					Transport accidents		Suicide	Homicide	Birth defects	Short gestation	SUID
<1	7.4	51.6	8.6	2.9	15.5	1.6	0.0	46.7	773.7	682.2	603.4
1-4	1.0	4.8	13.1	2.0	17.5	0.3	0.0	15.6	15.9		
5-14	1.0	2.7	13.5	2.0	14.6	0.4	9.4	4.7	6.4		
15-24	9.9	13.8	20.9	2.8	108.3	66.1	97.0	72.1	5.5		
25-34	38.6	52.1	53.7	4.2	113.2	220.7	120.9	78.8	6.4		
35-44	109.9	169.1	172.0	10.1	93.8	234.0	128.1	54.7	7.2		
45-54	294.8	509.7	597.5	56.1	100.7	208.2	140.3	33.9	11.2		
55-64	683.3	1239.8	1802.4	285.8	105.0	161.2	139.8	23.7	17.8		
65-74	1574.6	2516.9	3702.0	809.9	99.2	50.8	114.1	15.7	13.4		
75-84	3832.4	6478.5	6845.7	2117.3	129.9	16.0	129.6	13.2	14.9		
≥85	10 699.7	24 530.2	10 442.4	4278.4	139.1	14.7	133.4	13.3	31.2		
Total	698.8	1287.7	1219.8	307.5	89.2	122.3	102.3	39.0	19.4		

Abbreviations: COVID-19, coronavirus disease 2019; SUID, sudden unexpected infant death (including sudden infant death syndrome).

<sup>a</sup> Table presents 8-month aggregate COVID-19 mortality rates during the period of March through October 2020<sup>5</sup> and mortality rates for other causes during the period of March through October 2018,<sup>4</sup> the most recent year for which detailed cause-of-death data are available.

<sup>b</sup> Causes of death are defined by *International Statistical Classification of Diseases and Related Health Problems* codes for heart disease (I00-I09, I11, I13, I20-I51), malignant neoplasms (C00-C9), chronic lower respiratory disease (J40-J47), transport accidents (injuries) (V01-V99, Y85), accidental drug overdoses (X40-X44), suicide (\*U03, X60-X84, Y87.0), homicide (\*U01-\*U02, X85-Y09, Y87.1), birth defects (Q00-Q99), short gestation (P05-P08), and sudden unexpected infant death (R95, R99, W75).

COVID-19 deaths tripled, from 826 to 2430 deaths per day, and if this trend is unabated will soon surpass the daily rate observed at the height of the spring surge (2856 deaths per day on April 21, 2020).<sup>6</sup> As occurred in the spring, COVID-19 has become the leading cause of death in the United States (daily mortality rates for heart disease and cancer, which for decades have been the 2 leading causes of death, are approximately 1700 and 1600 deaths per day, respectively<sup>4</sup>). With COVID-19 mortality rates now exceeding these thresholds, this infectious disease has become deadlier than heart disease and cancer, and its lethality may increase further as transmission increases with holiday travel and gatherings and with the intensified indoor exposure that winter brings.

Second, the reported number of COVID-19 deaths underestimates the excess deaths produced by the pandemic. Due to reporting delays and miscoding of COVID-19 deaths and an increase in non-COVID-19 deaths caused by disruptions produced by the pan-

demic, excess deaths are estimated to be 50% higher than publicly reported COVID-19 death counts.<sup>7</sup> Third, COVID-19 is unlike other causes of death in the Table because it is communicable; individuals who die from homicide or cancer do not transmit the risk of morbidity or mortality to those nearby. Every COVID-19 death signals the possibility of more deaths among close contacts.

The failure of the public and its leaders to take adequate steps to prevent viral transmission has made the nation more vulnerable, allowing COVID-19 to become the leading cause of death in the United States, particularly among those aged 35 years or older. Much of this escalation was preventable, as is true for many deaths to come. The prospect of a vaccine offers hope for 2021, but that solution will not come soon enough to avoid catastrophic increases in COVID-19–related hospitalizations and deaths. The need for the entire population to take the disease seriously—notably to wear masks and maintain social distance—could not be more urgent.

#### ARTICLE INFORMATION

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**Correction:** This article was corrected online December 28, 2020, to change the percentage of excess deaths to 50%.

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