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Covid-19: At least two thirds of 225 000 excess deaths in US were due to virus

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The US had more than 225 000 excess deaths between March and July this year, and about two thirds of them were due to covid-19, reports a study published online in *JAMA* by authors from Virginia Commonwealth University School of Medicine and Yale School of Public Health.¹

When compared with 18 other countries the US had high covid-19 mortality and high excess mortality, said researchers from Harvard and the University of Pennsylvania.² If the US had the same death rate as Australia, 187 661 Americans would still be alive, they estimated. If the US had the same death rate as Canada 117 622 Americans would still be alive. It was not clear whether this pattern would continue through the autumn, the authors said.

Deaths in the US and other countries show a regular pattern, increasing in winter and decreasing in summer. When there is an abrupt event such as a pandemic the “excess mortality can be a revealing indicator of the death toll from that event,” said Harvey Fineberg in an editorial in *JAMA*.³ He is former president of the Institute of Medicine (now the National Academy of Medicine) and current president of the Gordon and Betty Moore foundation in Palo Alto, California

From March to the end of July there were 1 336 561 deaths in the US, a 20% increase over the 1 111 031 expected deaths. Covid-19 was documented as the cause in 67% of the deaths, but the other deaths may also be related to the virus. A study of excess mortality during the early epidemic in March and April showed that 65% of excess deaths were due to covid-19 and other excess deaths were due to Alzheimer’s disease, diabetes, and heart disease in the five states with the most deaths.⁴

Later excess deaths—from March to the end of July—that were attributed to causes other than covid-19 could reflect deaths from unrecognised or undocumented covid-19 infections or deaths from disruptions caused by the pandemic. Many people did not seek medical attention for apparently serious conditions such as myocardial infarction and strokes because they feared being infected with the covid-19 virus in hospitals.

The increase in deaths relative to expected values ranged from 22% in Rhode Island and Michigan to 65% in New York. The three northeastern states with the highest death rates, New York, New Jersey, and Massachusetts, accounted for 30% of US excess deaths but had the shortest epidemics, the authors wrote.

An international comparison showed that the US had more deaths from covid-19 than any other country and one of the highest cumulative per capita death

rates. The US was compared with 17 other countries that were grouped as having low (less than five deaths per 100 000 population), moderate (5-25 deaths per 100 000), or high mortality (more than 25 deaths per 100 000).

The high mortality countries were the Netherlands, France, Sweden, Italy, the UK, Spain, Belgium, and the US. The US mortality rate since the start of the epidemic was 60.3 per 100 000, and the UK mortality rate was 62.6 per 100 000. The low mortality countries, South Korea, Japan, and Australia, had rates of 0.7, 1.2, and 3.3 per 100 000.

The high covid-19 mortality and excess all cause mortality in the US may have been due to a “weak public health infrastructure and a decentralized, inconsistent US response to the pandemic,” the researchers said. Also, the US population is younger than in many comparison countries but has more comorbidities.²

1 Woolf SH, Chapman DA, Sabo RT, Weinberger DM, Hill L. Excess deaths from covid-19 and other causes, March-July 2020. *JAMA* 2020;324:510-3. doi: 10.1001/jama.2020.11787. pmid: 32609307

2 Bilinski A, Emanuel EJ. Covid-19 and excess all-cause mortality in the US and 18 comparison countries. *JAMA* 2020;(Oct). doi: 10.1001/jama.2020.20717.

3 Fineberg HV. The toll of covid-19. *JAMA* 2020;(Oct). doi: 10.1001/jama.2020.20019. pmid: 32525535

4 Woolf SH, Chapman DA, Sabo RT, Weinberger DM, Hill L. Excess deaths from covid-19 and other causes, March-April 2020. *JAMA* 2020;324:510-3. doi: 10.1001/jama.2020.11787. pmid: 32609307

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