



London

Cite this as: *BMJ* 2021;372:n623<http://dx.doi.org/10.1136/bmj.n623>

Published: 4 March 2021

## Covid-19: Highest death rates seen in countries with most overweight populations

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Covid-19 death rates are 10 times higher in countries where more than half of the adult population is classified as overweight, a comprehensive report from the World Obesity Federation has found.

The report analysed mortality data from Johns Hopkins University and the WHO Global Health Observatory data on obesity.<sup>1</sup> Of the 2.5 million covid-19 deaths reported by the end of February 2021, 2.2 million were in countries where over half the population is classified as overweight—defined as a body mass index above 25.

Taking data from over 160 countries, the report found linear correlations between a country's covid-19 mortality and the proportion of adults that are overweight. There is not a single example of a country with less than 40% of the population overweight that has high death rates (over 10 per 100 000), the report said. Similarly, no country with a death rate over 100 per 100 000 had less than 50% of their population overweight.

Vietnam, for example, had the lowest death rate from covid-19 in the world (0.04 per 100 000) and the second lowest levels of population overweight at 18.3%. The UK has the third highest death rate globally (184 deaths per 100 000) and the fourth highest prevalence of overweight at 63.7%. The United States has the next highest death rate at 152.49 deaths per 100 000 and has 67.9% of the population overweight.

A small number of countries seem to run against the trend including New Zealand, Australia, and several Gulf states, where prevalence of overweight among adults is high, but reported deaths from covid-19 are low. The report said that this was likely to be due to national responses to the pandemic, including border controls.

The authors acknowledged that the age structure of a country, as well as its relative wealth and reporting capacity, has an impact on covid-19 cases, hospital admissions, and deaths, but said that their findings seem to be independent of these contributory factors.

Overweight populations are more susceptible to respiratory diseases generally. During the MERS and H1N1 influenza epidemics, for example, worse outcomes were linked to excess body weight. The World Obesity Foundation said that governments must invest in obesity prevention to prepare for future pandemics and called for people with obesity to be among priority groups for covid-19 vaccines and testing.

Tim Lobstein, the report's author, said: "We now know that an overweight population is the next pandemic waiting to happen. Look at countries like Japan and South Korea where they have very low levels of covid-19 deaths as well as very low levels of adult obesity. They have prioritised public health across a range of measures, including population weight, and it has paid off in the pandemic."

Tedros Adhanom, director general of WHO, said, "The report must act as a wake-up call to governments globally. The correlation between obesity and mortality rates from covid-19 is clear and compelling. Investment in public health and co-ordinated, international action to tackle the root causes of obesity is one of the best ways for countries to build resilience in health systems post-pandemic: we urge all countries to seize this moment."

**Correction:** We amended this article on 15 March 2021, as it incorrectly referred to the World Obesity Foundation, rather than the World Obesity Federation.

<sup>1</sup> World Obesity Federation. Covid-19 and obesity: the 2021 atlas. March 2021. <https://www.worldobesity.org/>