

## Estimating Excess Mortality due to the Covid-19 Pandemic

A study published in The Lancet <sup>(1)</sup> estimates that globally over 2020-21, 18.2 million excess deaths occurred. 191 countries and territories were included.

Japan's relatively good experience is shown below.

**Fig.1 Estimated Excess Deaths over 2020-21**

	<b>Reported Covid-19 deaths</b>	<b>A) Reported mortality rate per 100,000</b>	<b>Estimated excess deaths</b>	<b>B) Estimated excess mortality rate per 100,000</b>	<b>Ratio B/A</b>
Global	5,940,000	39.2	18,200,000	120.3	3.07
High Income	1,840,000	87.9	2,640,000	125.8	1.43
Western Europe	796,000	94.7	1,180,000	140.0	1.48
Denmark	3,270	29.6	10,400	94.1	3.18
France	122,000	97.4	155,000	124.2	1.28
Germany	112,000	66.4	203,000	120.5	1.82
Italy	137,000	120.6	259,000	227.4	1.89
Spain	98,900	114.1	162,000	186.7	1.64
Sweden	15,300	77.2	18,100	91.2	1.18
United Kingdom	173,000	130.1	169,000	126.8	0.97
USA	824,000	130.6	1,130,000	179.3	1.37
Canada	30,300	41.9	43,700	60.5	1.44
Japan	18,400	7.3	111,000	44.1	6.02
Brazil	619,000	146.0	792,000	186.9	1.28
India	489,000	18.3	4,070,000	152.5	8.33

Note: Global covers 191 countries and territories. High Income countries is defined in the paper.  
Source: The Lancet, <sup>(1)</sup> Conceptasia, March 2022

Excess mortality due to the Covid-19 pandemic is defined as the net difference between the number of deaths during the pandemic (measured by observed or estimated all-cause mortality) and the number of deaths that would be expected based on past trends in all-cause mortality. The study adjusted for late registration and anomalies such as heat waves and used six models to estimate expected mortality.

In addition to estimation issues, the difference between excess mortality and reported Covid-19 deaths might be a function of underdiagnosis due to insufficient testing, reporting challenges, or higher than expected mortality from other diseases due to pandemic-related changes in behaviors or reduced access to health care or other essential services. <sup>(1)</sup>

Whilst the global excess mortality over 2020-21 estimation of around 18 million people is broadly the same as the estimates made by *The Economist* model (not peer-reviewed), there are some marked variations by country.

Japan, for example, is estimated by *The Economist* model to have excess mortality around 15,000, Fig.2 vertical scale.

**Fig.2 Comparison to *The Economist* excess mortality estimates**



Note: from the appendices to *The Lancet* paper, appendix page 50

Source; *The Lancet*, <sup>(1)</sup> Conceptasia, March 2022

**References:**

- 1) *Estimating excess mortality due to the COVID-19 pandemic: a systematic analysis of COVID-19-related mortality, 2020-21*, by Dr Haidong Wang, University of Washington, published in *The Lancet*, March 2022