

Trends in all-cause mortality

The evolution in all-cause mortality measures whether, and if so to what extent, the total number of deaths from all causes is over and above what could normally be expected for a given period. Here, the numbers of deaths reported in 2022 are compared to the average of the five years prior to the onset of the COVID-19 pandemic (2015 to 2019). The rationale is to create an annual indicator of how all-cause mortality is evolving across countries in relation to mortality before the COVID-19 pandemic, to see any direct or indirect effects on mortality rates, as well as whether any other factors are keeping mortality high in OECD countries. While the evolution in all-cause mortality, and excess mortality, proved particularly useful in providing a better understanding of the impact of COVID-19 across countries (Morgan et al., 2020^[1]), it continues to be an insightful indicator for post-COVID-19 measurement of overall mortality trends.

Between 2020 and 2022, OECD countries saw an additional 6 million deaths compared to the years before the pandemic, with more people dying in 2022 than the average of the previous five years in all but nine OECD member countries.

The use of all-cause mortality figures adjusted for national population growth considers the fact that many countries have undergone major changes in population size and structure – as a result of population ageing and migration – that can have a significant bearing on overall mortality. Nearly all OECD countries have gone through these rapid demographic changes, with the size of the population aged 65 and over increasing on average by 19% between 2015 and 2022 (Morgan, forthcoming^[2]). Therefore, when unadjusted mortality rates are used, the rates in all countries for which comparable all-cause mortality data are available are significantly overestimated. The OECD average change in total number of deaths in 2022 compared to 2015-19 was an increase of 2.9% when considering the number of deaths adjusted for national population growth, while the increase was 13.2% when using unadjusted mortality rates (Figure 3.3).

The change in the total number of deaths adjusted for national population growth in 2022 was highest in Greece, where an increase above 12.2% in overall mortality was recorded compared to the average for 2015-19. This was driven by high COVID-19 reported deaths in the first part of the year, but also, given a peak during the summer, possibly due to the summer heatwave. By contrast, there were fewer deaths adjusted for national population growth compared to the five-year average in Luxembourg, Sweden, Hungary, Ireland, the Slovak Republic, Belgium, Romania, Israel, Slovenia and the Czech Republic.

Disaggregating the total number of deaths by age provides insights into the extent to which deaths among people of different age groups were higher than in previous years. Since most deaths naturally occur in the older age groups, countries such as Greece and Germany, with increased mortality in the 65+ age group combined with a large share of the population aged over 65, saw the highest overall evolution in all-cause mortality. The 65+ age group had the highest increase in average mortality rates adjusted for national population growth among OECD countries in 2022, at 3.4% more than 2015-19. Mortality

in the 0-44 age group grew by 1%, but an increase of 20% or more was seen for this age group in countries such as the United States and Canada, perhaps due to a mix of COVID-19 and deaths from substance abuse. This contrasted with a decrease of almost 20% in Lithuania, which continued a strong declining trend beginning before the pandemic for this age group. In contrast, the 45-64 age group exhibited a decrease of 0.6% in 2022 – reversing a growing trend in the first two years of the COVID-19 pandemic. This drop can be attributed to a reduction in mortality of 10% or more when adjusted for population change in this age group in countries such as Hungary and Denmark (Figure 3.4).

Definition and comparability

The evolution in all-cause mortality is defined here as the total number of deaths from all causes in 2022, compared to the average annual number of deaths in the five years before the onset of the COVID-19 pandemic (2015-19). Figures are adjusted for population growth in age groups over time. This adjusted baseline could still be considered a somewhat conservative estimate of the expected number of deaths, since an ageing population would also be expected to push up the number of deaths observed each year. The evolution in all-cause mortality is reported as a percentage increase or decrease. When disaggregated by age group (0-44; 45-64; 65+), the change in total number of deaths is calculated using mortality rates that are adjusted for population growth.

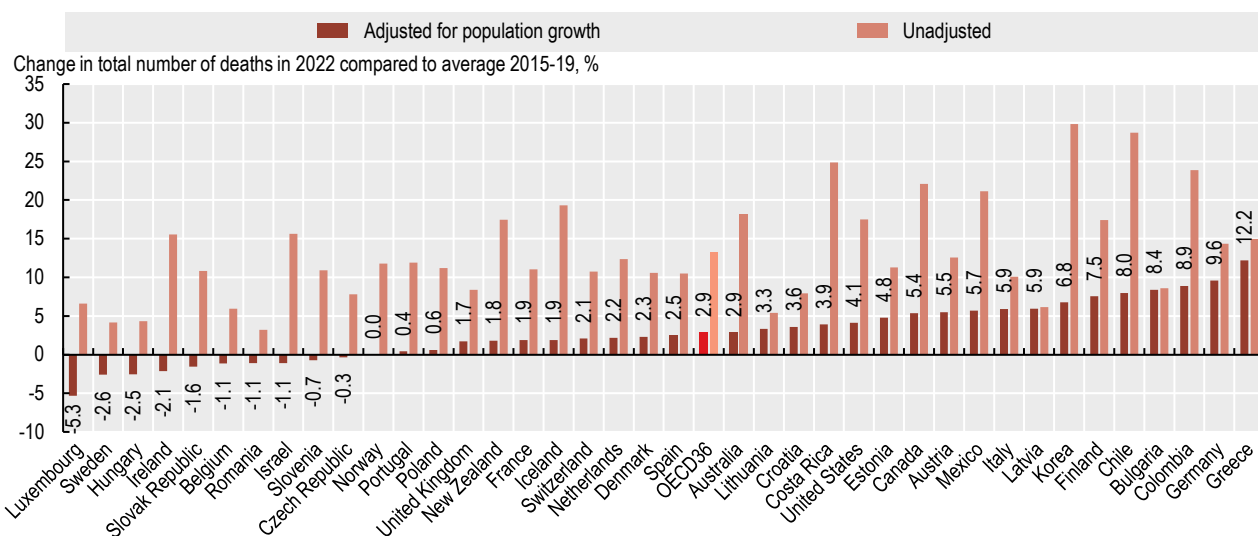
National variations in underlying death rates related to various events mean that caution is needed when comparing all-cause mortality at a given point in time. For example, significant country-specific events such as severe flu seasons, heatwaves and natural disasters during the previous five years may have had a large influence on the number of deaths, affecting the underlying average. However, choosing a five-year comparator period (2015-19) helps to mitigate such variations.

For a more detailed explanation on the methodology and sources used for all-cause mortality in OECD Health Statistics, please see the weblink to metadata in the “Reader’s Guide”.

References

- Morgan, D. (forthcoming), *Excess mortality – Examining recent trends*, OECD, Paris. [2]
- Morgan, D. et al. (2020), “Excess mortality: Measuring the direct and indirect impact of COVID-19”, *OECD Health Working Papers*, No. 122, OECD Publishing, Paris, <https://doi.org/10.1787/c5dc0c50-en>. [1]

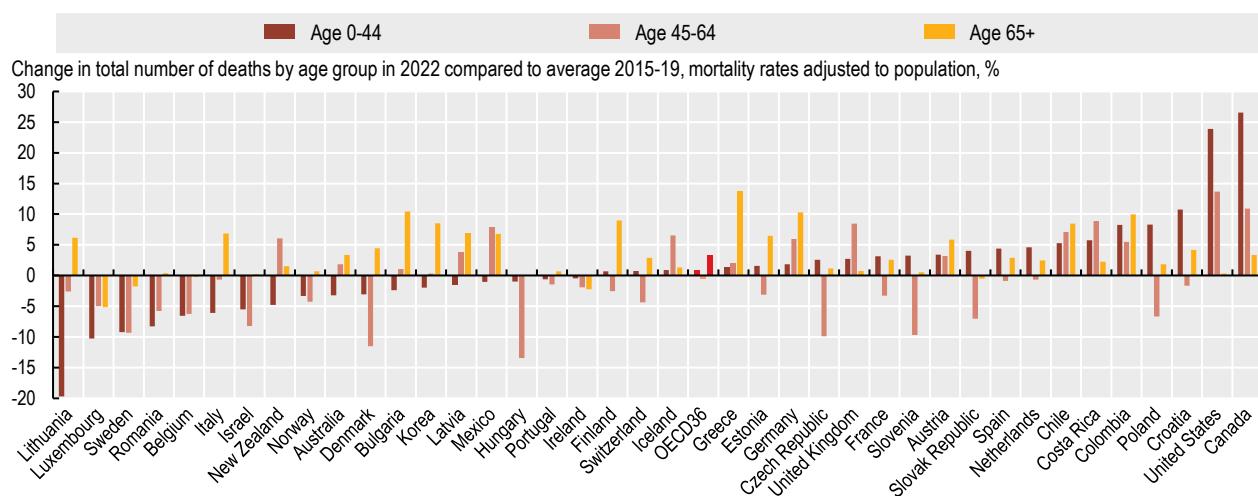
Figure 3.3. Evolution in all-cause mortality, 2022



Source: OECD Health Statistics 2023.

StatLink <https://stat.link/rsxo5n>

Figure 3.4. Evolution in all-cause mortality, by age group, 2022



Source: OECD Health Statistics 2023.

StatLink <https://stat.link/foze8a>



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