COVID-19: a need for real-time monitoring of weekly excess deaths

The first-line epidemiological response to coronavirus disease 2019 (COVID-19) requires estimation of key parameters, including case fatality risk, and reproduction number, to monitor and predict the probable course of the pandemic. The challenge for public health scientists is that these data are partly a function of testing coverage. The number of deaths attributed to COVID-19 is problematic because the criteria for defining a death almost certainly depends on whether the death occurs in somebody who tested positive for severe acute respiratory syndrome coronavirus 2. Furthermore, an unknown fraction of the cases classified as COVID-19 deaths had underlying health conditions and were probably already at an increased risk of death. Although some countries tend to attribute to COVID-19 most deaths of people who had the virus, others might tend to register other causes of death in the presence of major chronic diseases, even if the deceased person had COVID-19.

As the pandemic progresses, consistent measurement of its scale, across time and space, should be a priority. Objective and comparable data are crucial to determine the effectiveness of different national strategies used to mitigate and suppress, and thus to better prepare for the probable continuation of, the epidemic over the next year or more. For the reasons outlined above, the metrics on incidence and fatality have shortcomings that make such comparisons problematic.

Weekly excess deaths could provide the most objective and comparable way of assessing the scale of the pandemic and formulating lessons to be learned. This measure can be constructed by comparing the observed weekly deaths throughout 2020 to values expected from the experience of previous non-pandemic years. This approach allows for the assessment of the total mortality effects of the pandemic in different places. Crucially, the counts would be of deaths by all causes combined, thus side-stepping issues of what is or is not a death attributable to COVID-19. Unfortunately, most countries do not publish such statistics, and those countries that do typically do, do so with considerable delay.

We therefore urge all national authorities who can collate counts of weekly deaths to expedite the publication of these data and place them in the public domain. The dissemination of this information should be done within 3–4 weeks of the period of observation. At a minimum, tabulations by sex and 5-year age groups are essential. Where not already in the public domain, countries should also release the equivalent weekly data for every calendar year from 2010, for calculation of excess deaths in 2020.

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*David A Leon, Vladimir M Shkolnikov, Liam Smeeth, Per Magnus, Markéta Pechholdová, Christopher I Jarvis
david.leon@lshtm.ac.uk

London School of Hygiene & Tropical Medicine, London WC1E 7HT, UK (DAL, LS, CIJ); Max Planck Institute for Demographic Research, Rostock, Germany (VMS); Centre for Fertility and Health, Norwegian Institute of Public Health, Oslo, Norway (PM); and University of Economics, Prague, Czech Republic (MP)

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