COVID-19 information note 21

Excess mortality estimates associated with COVID-19 in Somalia

The World Health Organization (WHO) has recently released figures on excess mortality[1] associated with the coronavirus disease 2019 (COVID-19) pandemic. These estimates show that the number of deaths associated directly or indirectly with the COVID-19 pandemic (the excess mortality) between 1 January 2020 and 31 December 2021 was about 14.9 million (range 13.3–16.6 million). WHO's figure shows that most of the excess deaths (84%) were concentrated in South-East Asia, Europe and the Americas, and 68% of excess deaths were concentrated in just 10 countries. Middle-income countries accounted for 81% of the 14.9 million excess deaths (53% in lower middle-income countries and 28% in upper middle-income countries) over the 24-month period, with high-income and low-income countries each accounting for 15% and 4% of deaths, respectively. The WHO figures for excess mortality associated with the COVID-19 pandemic are also available for all WHO Member States[2].

In Somalia, given its challenging situation and the resultant issues within its health system, it is understandable that many deaths attributed to COVID-19, either directly or indirectly, might have been missed. These issues include: the fragility of

Highlights

- In 2022, WHO released estimates showing that globally 14.9 million excess deaths were associated with COVID-19 between 2020 and 2021.
- In Somalia, 12 918 deaths in 2020 and 22 542 deaths in 2021 were estimated to have been directly and indirectly attributable to COVID-19.
- The COVID-19 pandemic has highlighted staggering data gaps in countries, including in Somalia due to its challenging situation and fragile health system.
- As part of Somalia's effort to reform its health system, developing a civil registration and vital statistics system is important.
- A workforce of female community health workers in Somalia could also be a valuable resource for collecting data that may be missed by any formal death registration and surveillance system.

the health system; weaknesses in the country's health information system and data collection capacities; variations in testing resulting from difficulties in accessing testing facilities; poor or insufficient diagnostic capacity; absence of a death registration system; absence of regulations for reporting deaths in the community; and misattribution of deaths to COVID-19.

For these reasons, it was difficult to assess the direct or indirect impact of COVID-19 in Somalia by only looking at the number of deaths that were officially reported to WHO

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[1] Excess mortality is calculated as the difference between the number of deaths that have occurred and the number that would be expected in the absence of the pandemic based on data from earlier years.

[2] WHO estimates of excess mortality associated with COVID-19 [Internet]. Geneva: World Health Organization; 2022 (https://worldhealthorg.shinyapps.io/covid19excess/). In this site, filters can be used to select the location to view for two estimates. The locations are WHO region, World Bank income group or WHO Member State.

World Health Organization
Somalia

by the Government of Somalia. Although only 1333 deaths were reported to WHO by Somalia between January 2020 to December 2021, WHO's recent estimates show that between January 2020 to December 2021, at least 35 461 excess deaths[3] (range 15 131 to 56 343) associated with the COVID-19 pandemic might have occurred in Somalia (Figure 1). The new WHO estimates show that the number of deaths directly and indirectly attributable to COVID-19 in Somalia was at least 12 918 (range –608 to 28 518) in 2020 and 22 542 (range 14 523 to 27 825) in 2021. These estimates represent 34 127 more deaths than the 1333 direct COVID-19 deaths reported for the period of January 2020–December 2021. Specifically, for the COVID-19 pandemic, WHO's estimates show that 14 175 deaths (uncertainty interval: 14 106–14 371) were expected to have been caused by COVID-19 in Somalia during the same period.

## Estimates of excess deaths by age and sex

WHO's estimates provide excess death counts by age and sex for the years 2020 and 2021 (Figure 2). The estimates show that most deaths in Somalia occurred in the age group of 50–59 years and older in both years. In 2020, the highest proportion of excess deaths occurred in the age group 60–69 years (32.2%), followed by the age group 70–79 years (26.7%), then 50–59 years (18.9%) and ≥ 80 years (15.4%). In 2021, a similar trend was observed: 28% of excess deaths that might have occurred in Somalia were in the age group 60–69 years, 23.9% were in the age group 70–79 years, 19.1% in the age group 50–59 years and 12.8% in the age group ≥ 80 years. With regard to sex, males accounted for 57% of excess deaths, and females for 43%.

Methodology of WHO estimates

It was not possible to directly measure excess mortality for all countries simply using reported deaths, as many countries do not have the all-cause mortality data required to estimate excess deaths. One hundred WHO Member States (52% of WHO Member States) have national mortality data for either all or most of the 24 months from January 2020 to December 2021. Therefore, statistical models were used to estimate the total all-cause deaths based on the level of data availability for the entire range of countries. WHO, in collaboration with the UN Department of Economic and Social Affairs and the Technical Advisory Group on COVID-19 Mortality Assessment,[4] developed the methods

Figure 1. Excess mortality associated with the COVID-19 pandemic, Somalia, 2020–2021
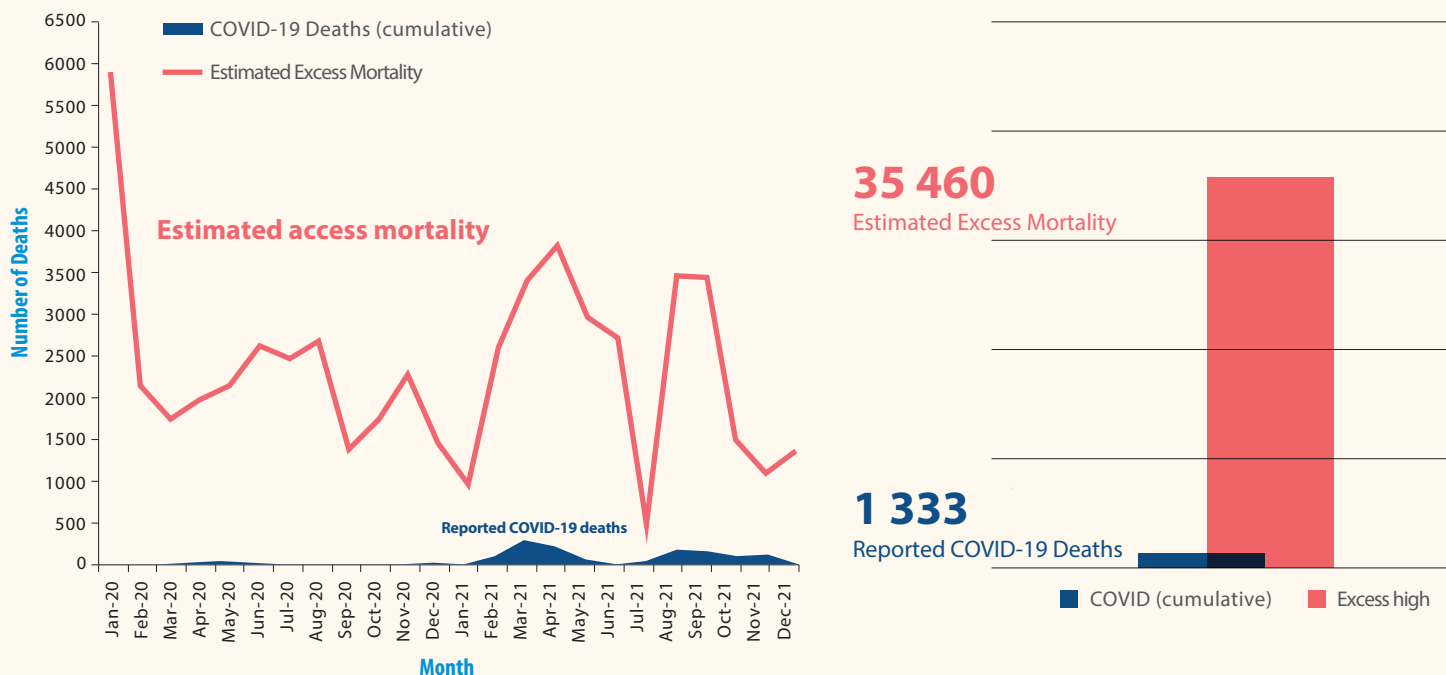
Source: WHO estimates of excess mortality associated with COVID-19 [Internet]. Geneva: World Health Organization; 2022 (https://worldhealthorg.shinyapps.io/covid19excess/).

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[3] This estimate of excess mortality associated with the COVID-19 pandemic is the difference between actual deaths from all causes (for a specific place and time since the pandemic began) and the expected deaths based on historical trends in the absence of COVID-19.

[4] Technical Advisory Group (TAG) on COVID-19 Mortality Assessment [Internet] (https://www.who.int/data/technical-advisory-group/covid-19--mortality-assessment/membership).

and facilitated the production of estimates of excess mortality at global, regional and national levels for the 24-month period from January 2020 to December 2021.

The statistical model used to generate the excess mortality estimates is called a Poisson framework[5]. Using contextually relevant country-specific variables, this model allowed excess mortality estimates to be generated in locations with good quality data to predict excess deaths in countries with limited data.

Excess mortality estimates and public health implications

Officially reported COVID-19 cases and deaths do not provide a full picture of the impact of the COVID-19 pandemic on countries, health systems and individuals. Reported numbers miss those who died without testing. In addition, they are dependent on correctly defining COVID-19 as the cause of death, and they miss the increases in other deaths that have occurred because of overwhelmed health systems or patients avoiding care. Excess mortality provides a more comprehensive and

comparable measure that accounts for both the direct and indirect impacts of the pandemic.

Excess deaths also estimate the collateral damage because of COVID-19, and they indicate that health systems were not able to adequately respond to the pandemic. If these numbers had been tracked in real time, governments could have driven interventions to the right people in the right place at the right time.

Conclusion and lessons learnt

The COVID-19 pandemic has highlighted staggering data gaps in countries including in Somalia. Developing and maintaining well functioning public health and disease surveillance systems and civil registration and vital statistics (CRVS) systems, and optimizing routine health information systems from health facilities can enable public health decision-makers to improve essential health services and better respond to emergencies.

As Somalia is reforming its health system and developing a more robust health information system, it is important that the country invests in developing a CRVS system, which

Figure 2. Excess deaths associated with the COVID-19 pandemic by age and sex, Somalia, 2020 and 2021
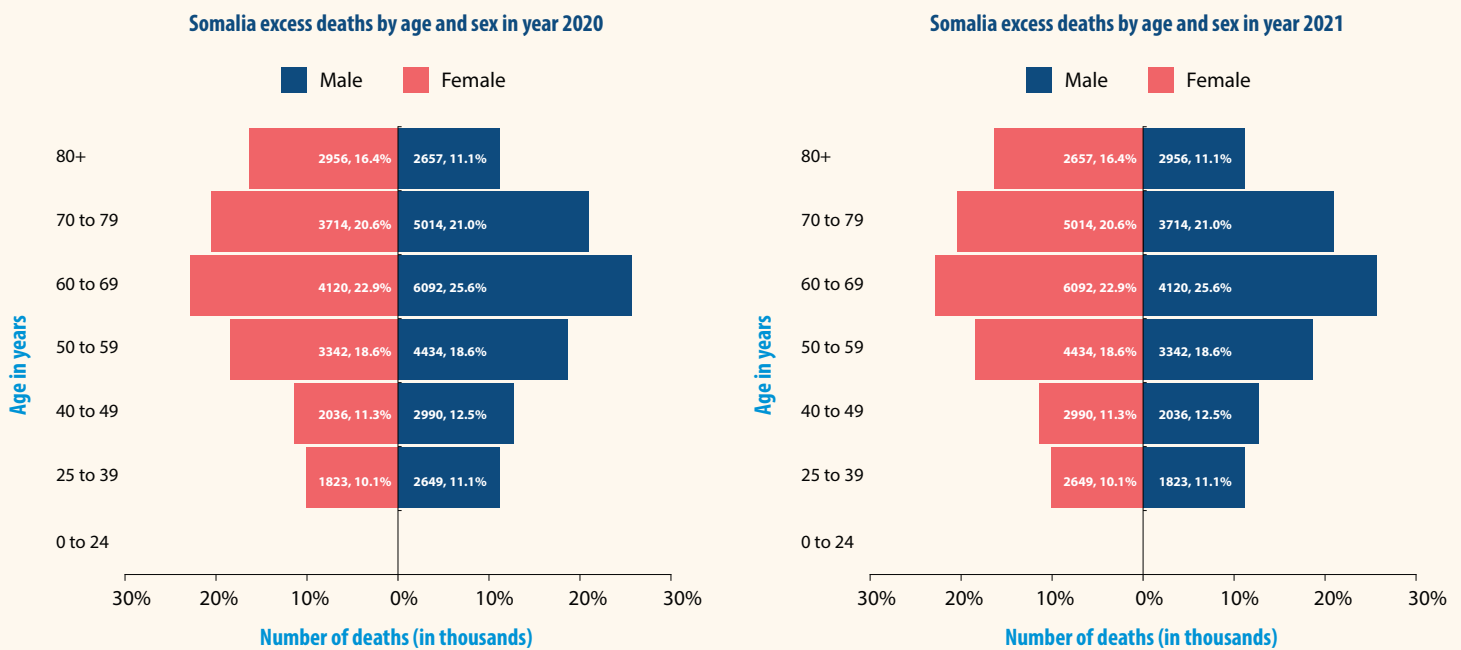
Source: WHO estimates of excess mortality associated with COVID-19 [Internet]. Geneva: World Health Organization; 2022 (https://worldhealthorg.shinyapps.io/covid19excess/).

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[5] The Poisson framework is standard method for modelling count data and parameters to account for the wide variation across countries included in this model. More details on the model are available at:
https://www.who.int/publications/m/item/methods-for-estimating-the-excess-mortality-associatedwith-the-covid-19-pandemic

does not currently exist. This system will enable the country to track all-cause and cause-specific mortality much more regularly at national and subnational levels to guide interventions. Given the context of the country, it is important to include all community deaths in the CRVS system. A workforce of female community health workers, which the country is considering building as part of its health workforce development, can be valuable for collecting data that are often missed or may be missed by any formal death registration and surveillance system. It is also important to highlight that data sharing is vital both in times of peace and during health emergencies.