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Underestimated COVID-19 mortality in WHO African region

Joseph Cabore and colleagues (August, 2022)¹ developed a SEIRD model (denoting susceptible, exposed, infected, recovered, and dead) to estimate the number of SARS-CoV-2 infections across 47 countries in the WHO African region between Jan 1, 2020, and Dec 31, 2021. Although the model highlighted large variation across the region, we are concerned about the number of deaths from COVID-19 that was estimated by the model for South Africa.

The model estimated 92 118 deaths from COVID-19 in South Africa, close to the 91 061 deaths reported by the end of 2021 by the National Department of Health to WHO. The authors assumed that, because South Africa's vital statistics are considered to be well developed in terms of the SCORE health data assessment,² the numbers of reported COVID-19 deaths are from these vital statistics and, hence, are the true numbers. However, this is not the case. The reported number of COVID-19 deaths in South Africa is provided by a new surveillance system, which was rapidly set up by the Ministry of Health at the start of the COVID-19 pandemic,

and not from vital statistics, which currently lag the number of deaths by over 3 years.

Based on the weekly number of registered deaths from all causes in South Africa,³ it is clear that South Africa has experienced many more deaths as a result of the COVID-19 pandemic than were reported by the National Department of Health.¹ Given the close correspondence between the timing of waves of excess deaths from natural causes and of reported deaths from COVID-19, particularly by date of death (figure), it is probable that, during 2020 and 2021, the majority of excess deaths were due to COVID-19. The true number of COVID-19 deaths is probably 2.5 to 3.0 times the reported number.³

While Cabore and colleagues¹ highlight that many countries in the African region had not reached saturation by the end of 2021, and we strongly support their call for surveillance of hospitalisations, comorbidities, and the emergence of new variants of concern, as well as scale-up of representative seroprevalence studies as core response strategies, we urge the team to review their model and reassess their conclusion that there have been fewer COVID-19 deaths in the region than in the rest of the world. Data from South Africa, which accounts for a fifth

of the estimated number of deaths across the African region, show that this finding is unlikely to be the case.

We declare no competing interests.

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- 1 Cabore JW, Karamagi HC, Kipruto HK, et al. COVID-19 in the 47 countries of the WHO African region: a modelling analysis of past trends and future patterns. *Lancet Glob Health* 2022; **10**: e1099–114.
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- 3 Bradshaw D, Dorrington R, Laubscher R, Groenewald P, Moultrie T. COVID-19 and all-cause mortality in South Africa—the hidden deaths in the first four waves. *S Afr J Sci* 2022; **118**: 1–7.
- 4 Bradshaw D, Laubscher R, Dorrington R, Groenewald P, Moultrie TA. Report on weekly deaths in South Africa June 19–25, 2022 (Week 25). June 28, 2022. <https://www.samrc.ac.za/sites/default/files/files/2022-06-29/weekly25June2022.pdf> (accessed June 28, 2022).

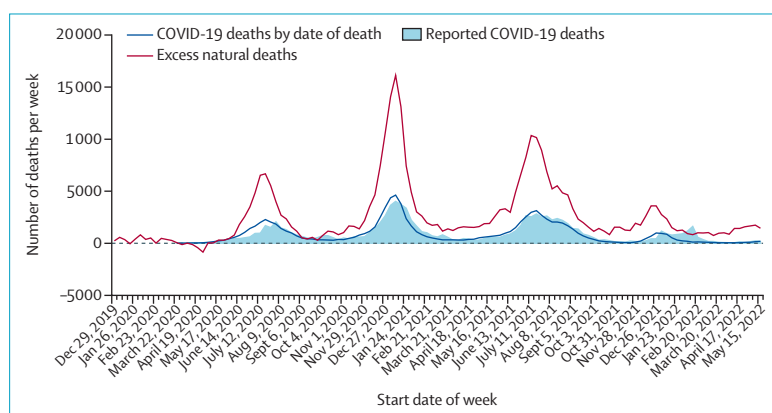


Figure: Trends in the reported number of COVID-19 deaths and excess deaths from natural causes in South Africa from Dec 29, 2019, to May 15, 2022

Data taken from Bradshaw et al⁴ and the COVID-19 Online Resource & News Portal by the South African National Department of Health.

For more on the COVID-19 Online Resource & News Portal see <https://sacoronavirus.co.za/>