Registered COVID deaths in South Africa during the first year of the SARS-CoV-2 epidemic

To the Editor: Statistics South Africa (Stats SA) recently released a report on deaths, and causes of death, in South Africa (SA) in 2020.[1] The report included tabulations of deaths attributed to SARS-CoV-2 (COVID) by month, and by 5-year age group.

The report identifies 32 757 such deaths in 2020, far fewer than the 71 000 excess deaths of people aged ≥1 year from natural causes in 2020 estimated by the SA Medical Research Council-University of Cape Town collaboration that tracked mortality during the pandemic.[2] While not all excess natural deaths are attributable to COVID, we have documented how those excess deaths emerged in synchrony with the proportions testing positive for the disease by province, and estimated that perhaps 85 - 95% of excess deaths from natural causes in the first year of the pandemic might be attributable to COVID.[3]

Of particular interest is the exceptionally close match (temporally, and by age for both sexes) between the COVID deaths reported by Stats SA for 2020 and the 33 476 deaths from COVID identified in the data on deaths in medical facilities submitted by provincial departments of health to the National Department of Health (NDoH)[4] in the same year (Fig. 1). Both sources are classified by month of death.

This close correspondence suggests that with few exceptions, only the deaths identified in medical facilities and reported to the NDoH provided sufficient information on the medical certificate of cause of death entered on a death notification form to permit the identification of deaths due to COVID using the nosological algorithms used by Stats SA.

Deaths from COVID occurring outside health facilities, or without confirmatory testing and diagnosis of infection with SARS-CoV-2 before or after death, have not been identified as being due to COVID in the vital registration data. Despite this, COVID was still the single largest attributed cause of death in 2020 (just ahead of diabetes).

However, the Stats SA report records that the proportion of all deaths attributed to unspecified natural causes (ICD-10 codes R00-R99) increased from 13.6% in 2018 to 16.5% in 2020. Some of this increase is likely attributable to COVID.

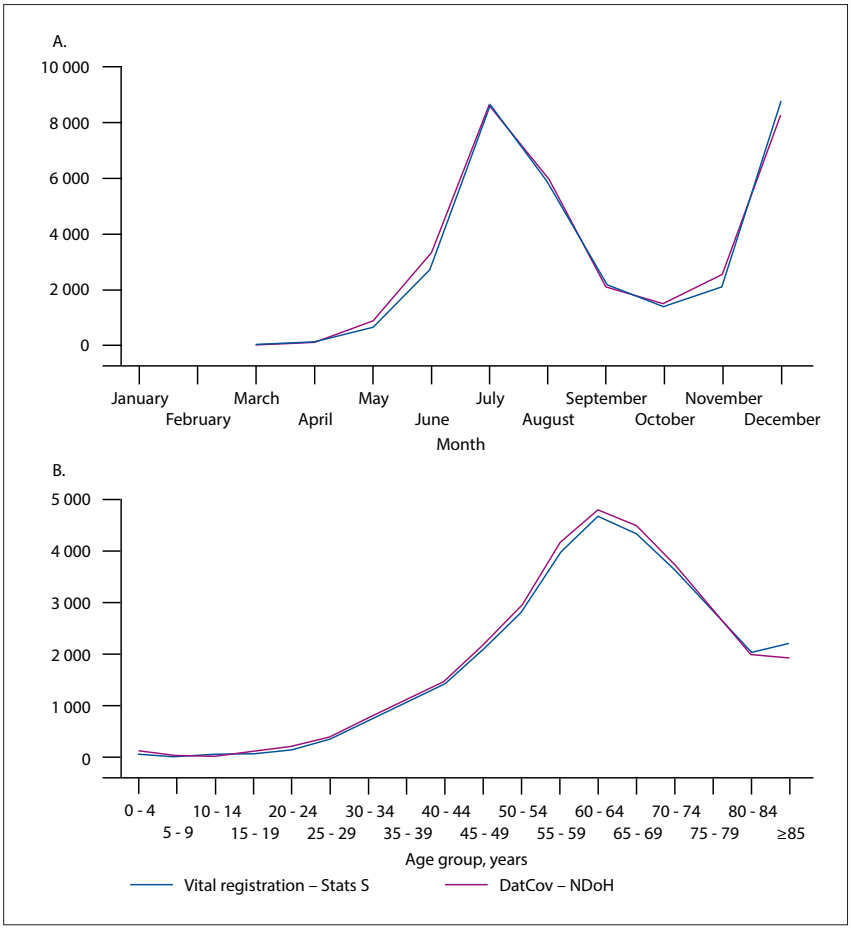

Fig. 1. Deaths identified as due to COVID in 2020, by (A) month and data source, and (B) age group and data source. (Stats SA - Statistics South Africa; DatCov = National Institute for Communicable Diseases (NICD) Daily Hospital Surveillance Report; NDoH = National Department of Health.)

Although the unit-record data, yet to be released, will permit further investigation, and perhaps the identification of a 'signal' of deaths from COVID being misattributed to other proximal causes, as was done in the early years of the HIV epidemic, this would not provide an estimate of the full impact of the COVID pandemic on mortality in the country. This is because, *inter alia*, comparisons of the deaths recorded in the report with those on the National Population Register suggest that a substantial number of deaths of those aged >50 years in 2020 had not been processed at the time of the report.

Until such time as the Stats SA data can be fully assessed, public health researchers and others interested in understanding the pattern of mortality in SA during the pandemic are advised to treat the vital registration data on cause of death with caution.

T A Moultrie
Centre for Actuarial Research, University of Cape Town, South Africa
tom.moultrie@uct.ac.za

R Dorrington
Centre for Actuarial Research, University of Cape Town, South Africa

D Bradshaw
Burden of Disease Research Unit, South African Medical Research Council, Cape Town, South Africa; School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town, South Africa

P Groenewald
Burden of Disease Research Unit, South African Medical Research Council, Cape Town, South Africa

S Afr Med J 2024;114(8):e2269. https://doi.org/10.7196/SAMJ.2024.v114i8.2269

1. Statistics South Africa. Mortality and causes of death in South Africa: Findings from death notification, 2020. Pretoria: Statistics South Africa, 2024. Report P0309.3. https://www.statssa.gov.za/?page_id=1854&PPN=P0309.3&SCH=73918 (accessed 15 May 2024).
2. Bradshaw D, Dorrington RE, Laubscher R, Moultrie TA, Groenewald P. Tracking mortality in near to real time provides essential information about the impact of the COVID-19 pandemic in South Africa in 2020. S Afr Med J 2021;111(8):732-740. https://doi.org/10.7196/SAMJ.2021.v111i8.15809
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(5/6). https://doi.org/10.17159/sajs.2022/13300
4. National Institute for Communicable Diseases. COVID-19 hospital surveillance update: Week 47. 2022. Johannesburg: NICD, 2022. https://www.nicd.ac.za/wp-content/uploads/2022/11/COVID-19-Hospital-Surveillance-Week-47.pdf (accessed 15 May 2024).