

REPORT ON WEEKLY DEATHS IN SOUTH AFRICA

1 JANUARY - 15 MARCH 2020

Debbie Bradshaw, Ria Laubscher,
Rob Dorrington, Pam Groenewald, Tom Moultrie

Burden of Disease Research Unit
South African Medical Research Council
30 March 2020



UCT Centre
for Actuarial
Research

Background

The Rapid Mortality Surveillance (RMS) was established to track the age and sex pattern in the number of deaths to assess the impact of the emerging HIV/AIDS epidemic on mortality. Since then a consolidated database has been setup which is used together with other data sources to prepare the annual RMS report providing high level mortality indicators. Basic information for all deaths registered on the National Population Register are provided to the SAMRC monthly.

Can the RMS be used to monitor COVID-19?

Data received by the end of February 2020 were examined to assess the scope of using the data on deaths from the National Population Register to monitor any impact of COVID-19 in 'real-time'.

The analysis reveals that:

- Currently, deaths are recorded on the NPR within 2 weeks of occurrence. This means that the data source is robust for monitoring with a lag of 2 weeks.
- The data show a strong seasonal pattern implying that the time of the year needs to be considered to assess whether any observed change in the number of registered deaths is usual.
- The data can be considered at provincial level. However, numbers of death registered at a specific office provide geographic information, but the weekly numbers for most of the offices are relatively small making it difficult to monitor at this level for small changes. Further investigation of the data is needed to consider how they might be used to identify emerging hotspots of increased mortality.

Trend in weekly deaths

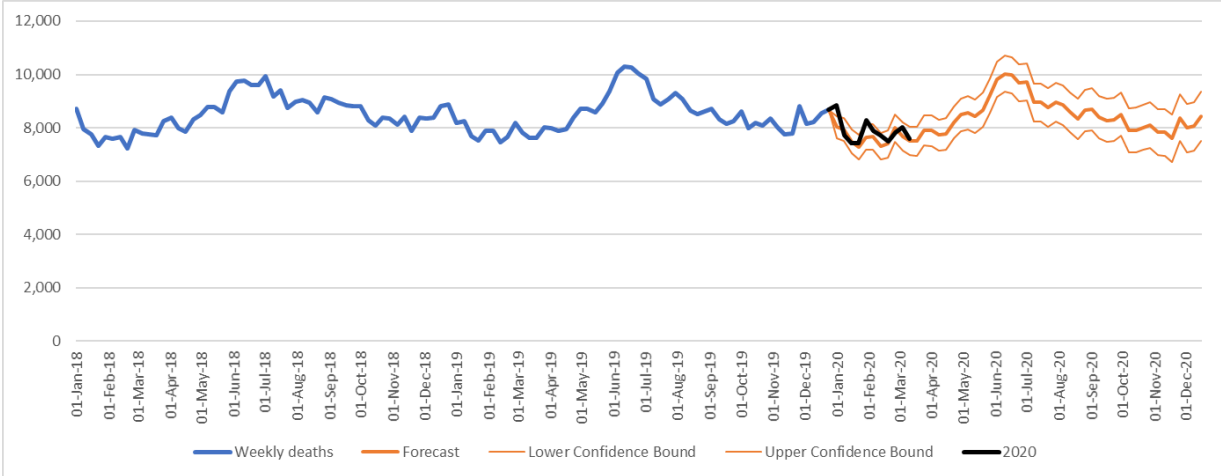
The scoping analysis indicated that the data can be used to monitor the weekly number of deaths by age, sex and province with a lag of 2 weeks. The SAMRC has arranged with the Department of Home Affairs to obtain the data on a weekly basis to keep the data-base as up to date as possible.

Data from 2018 and 2019 have been used to predict the number of deaths that could be expected. The excel forecast function has been used to predict values for each week of 2020 based on a linear trend allowing for a seasonal effect over the year. In addition, 95% confidence intervals have been estimated for the predicted weekly number of deaths for 2020 to give a basis to assess fluctuations. Graphs have been prepared of the weekly number of deaths up till 15 March 2020 from the data received up till 28 March 2020.

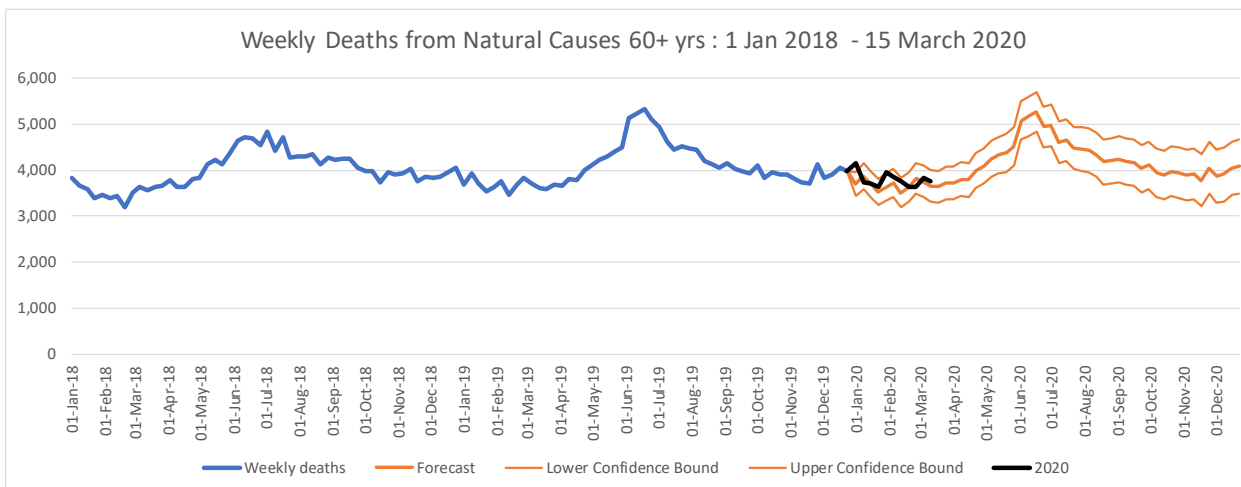
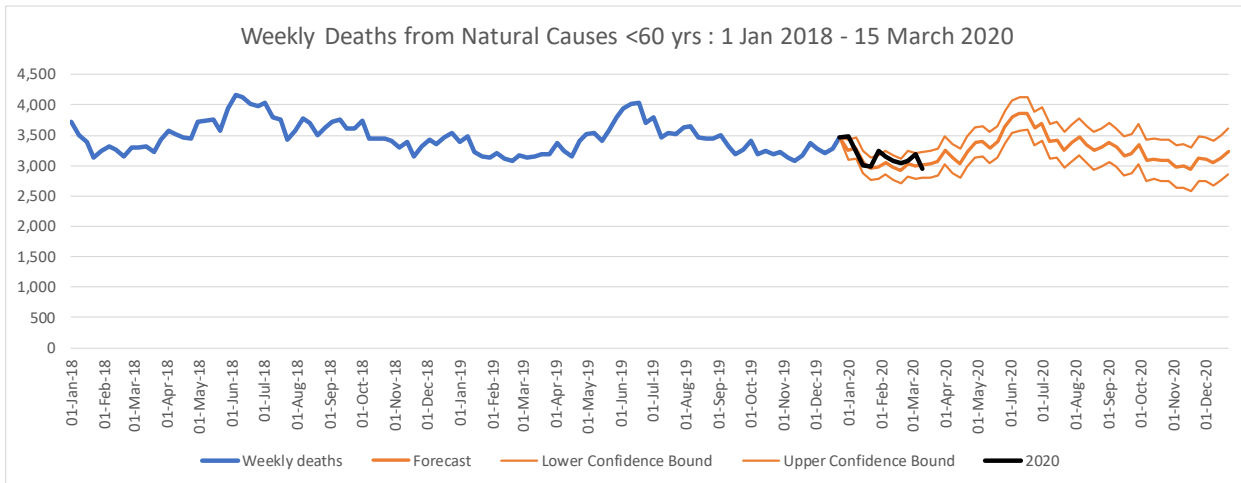
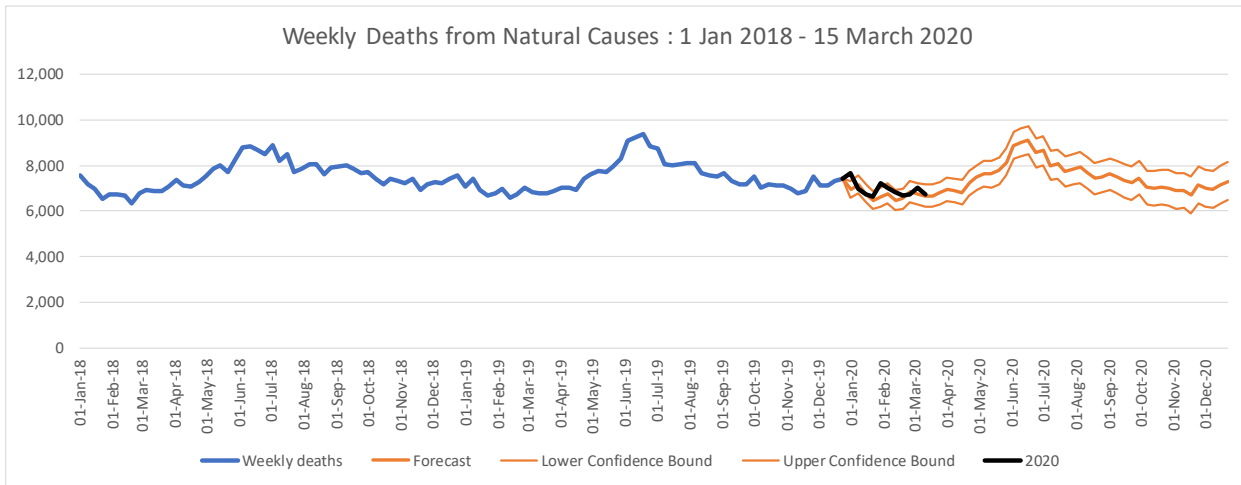
Interpretation

- It must be noted that the National Population Register has only the deaths of persons with a national ID number and there are some registered deaths that are not reflected in the data.
- The trend in deaths of children need to be interpreted cautiously because a lower proportion of the child deaths are included on the National Population Register than for older ages. In addition, the trend in the number of deaths does not take into the changes in the population size or the age distribution.
- The weekly number of deaths up till **15 March 2020** are generally within the bounds of expectation based on the historical data.

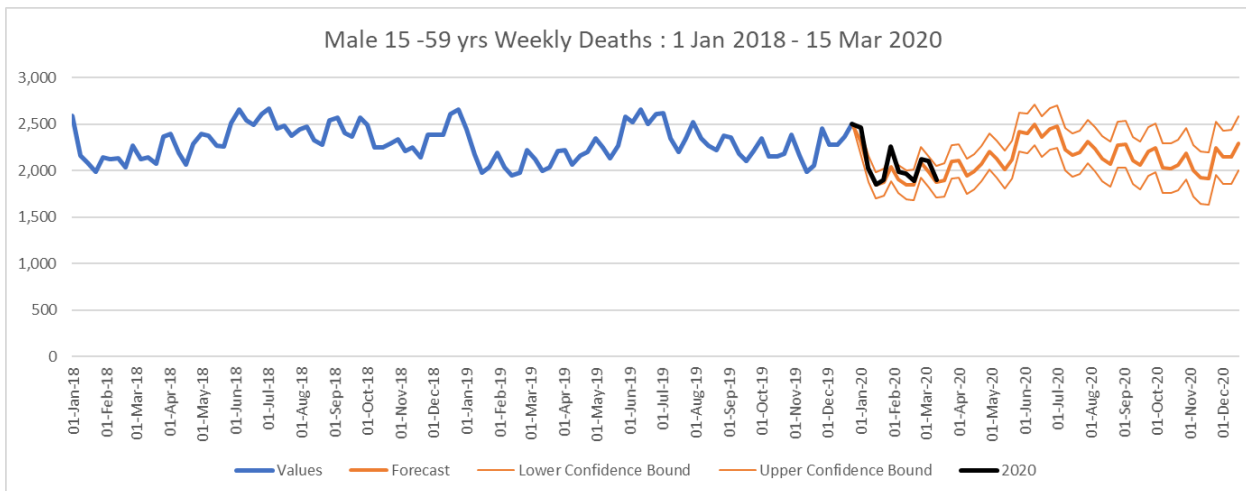
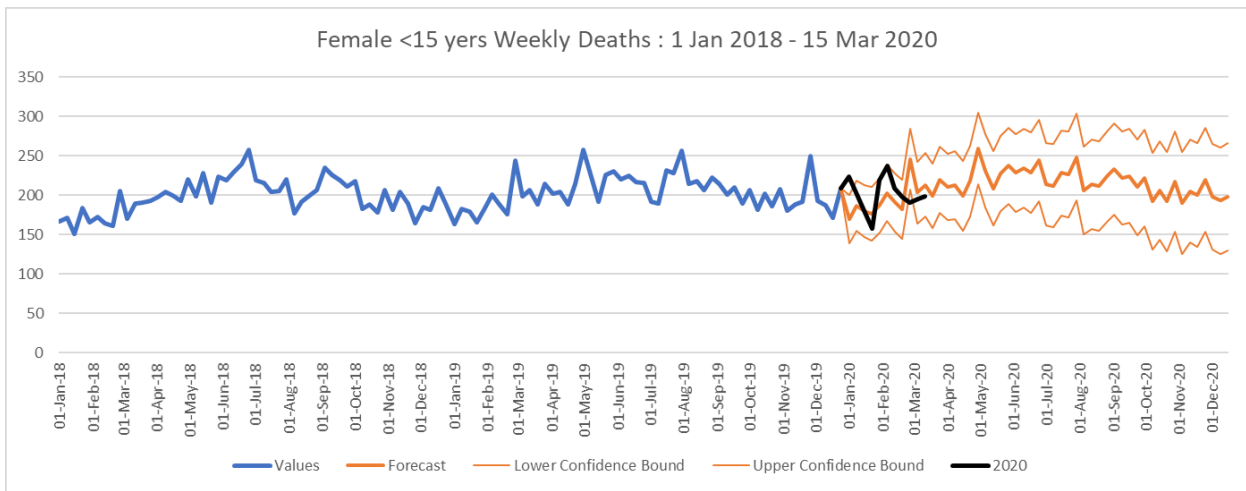
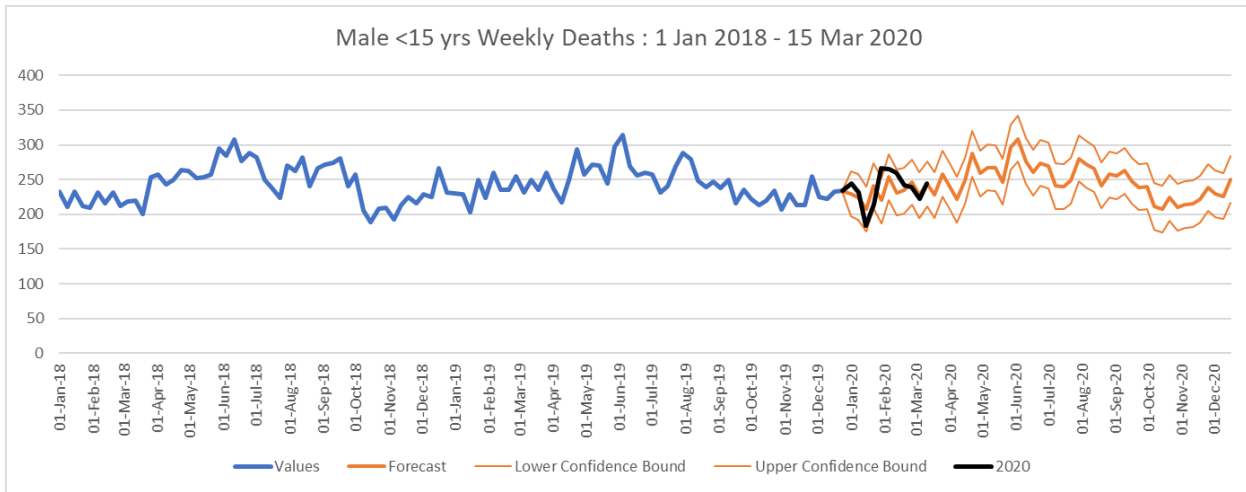
Weekly deaths in South Africa (All Causes): 1 Jan 2018 – 15 March 2020

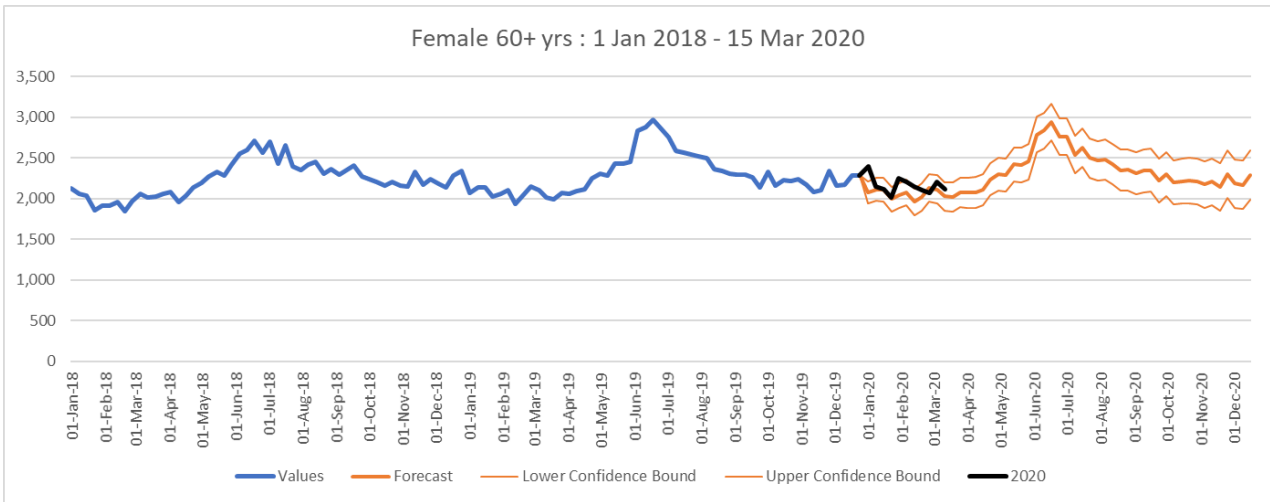
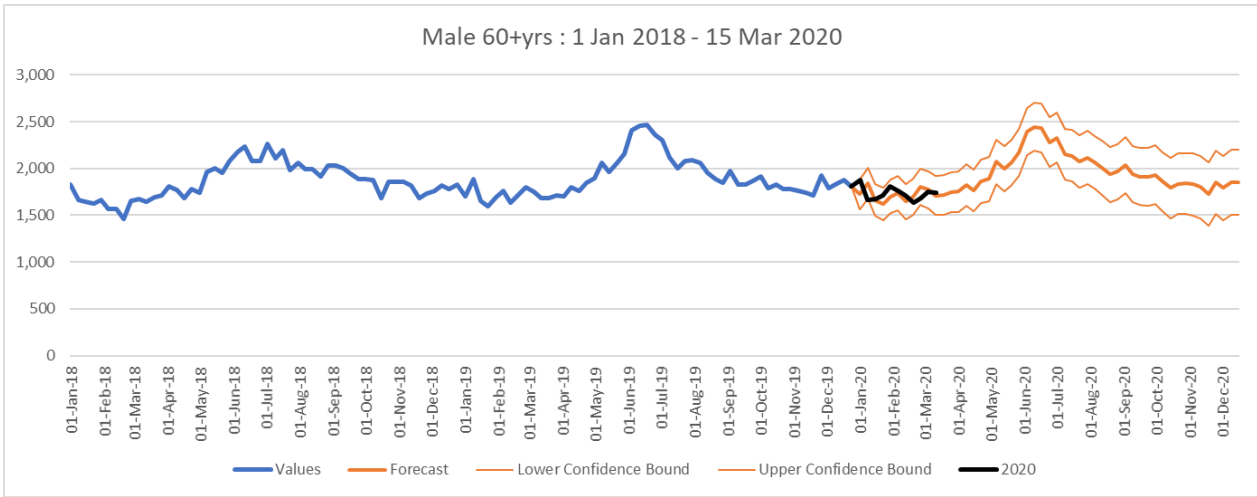
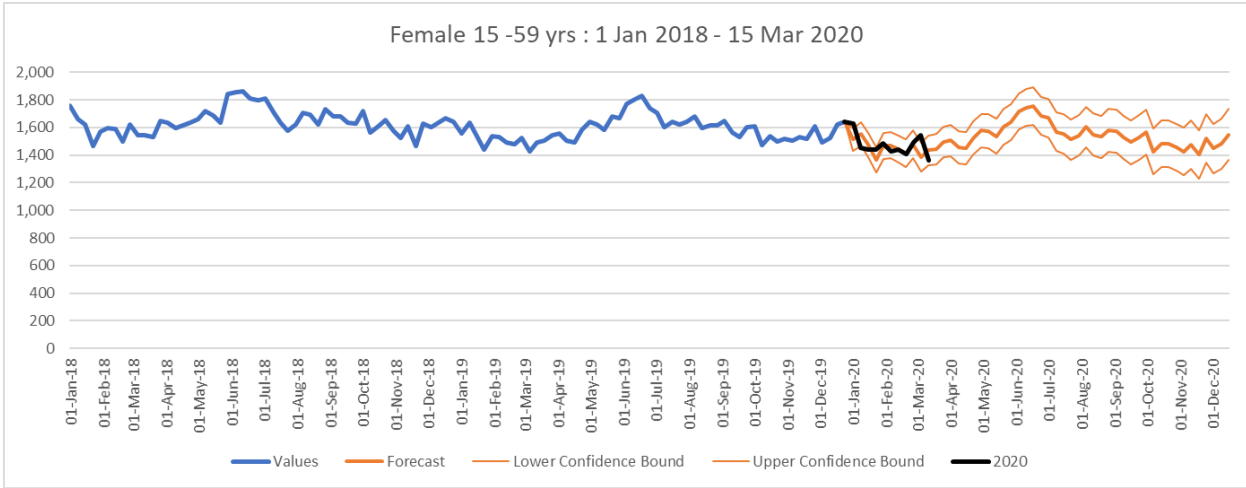


Weekly deaths in South Africa (Natural Causes): 1 Jan 2018 – 15 March 2020



Weekly trend in deaths (All Causes) by broad age group and sex, 1 Jan 2018 – 15 March 2020





Weekly trend in deaths by province (All Causes), 1 Jan 2018 – 15 March 2020

