

Report on Weekly Deaths

Week 29

1 January – 21 July 2020

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

Terminology

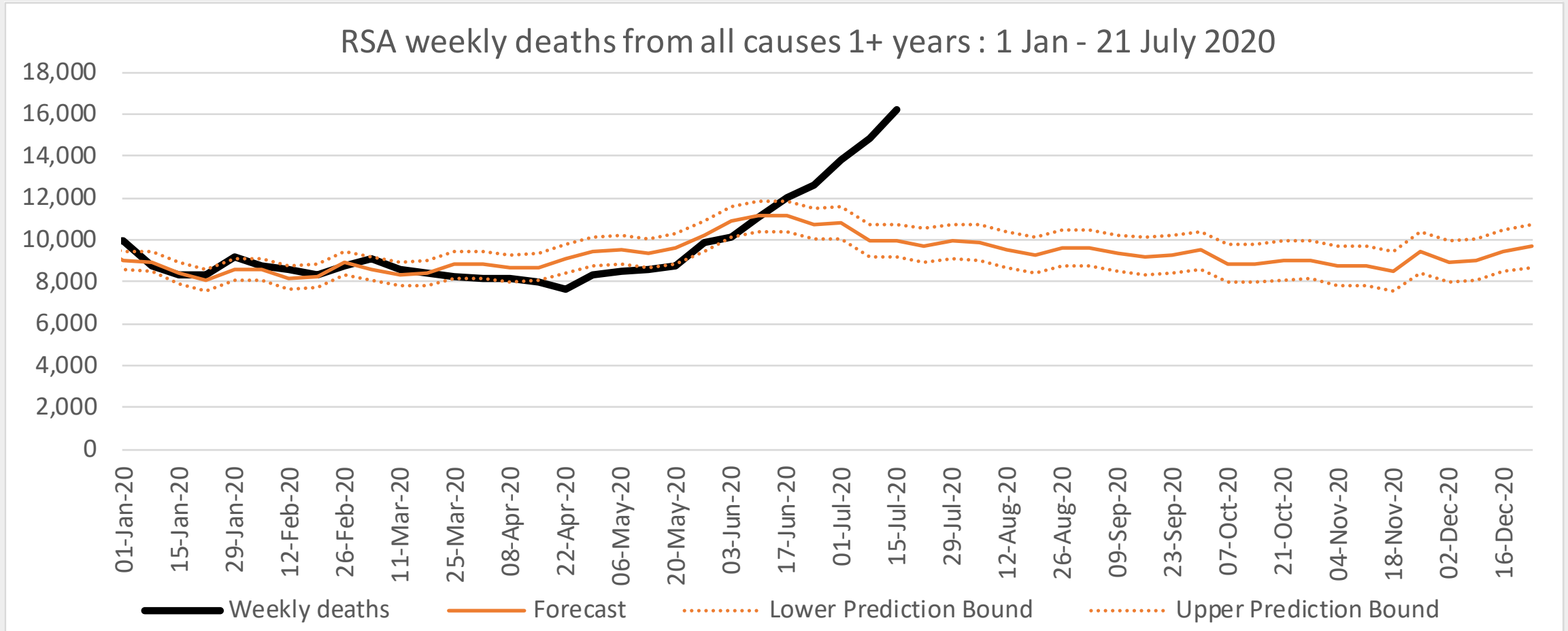
- **Natural causes** of death includes deaths due to diseases and ageing
- **Unnatural causes** of death includes deaths due to road traffic injuries, homicides, suicides etc
- **All causes** of death includes both natural and unnatural
- **Excess deaths** are the number of observed deaths higher than what would be expected – a public health measure of the impact of a crisis

Data source

- Data on deaths on the National Population Register are obtained from the Department of Home Affairs on a weekly basis.
- Number of deaths are weighted upward to account for incomplete registration of deaths and those that do not have a South African ID number.
- Estimated number is compared with forecast numbers based on historical data from 2018 and 2019 to allow for the trend in the numbers and seasonal variations.
- Babies under 1-years are excluded from analysis.

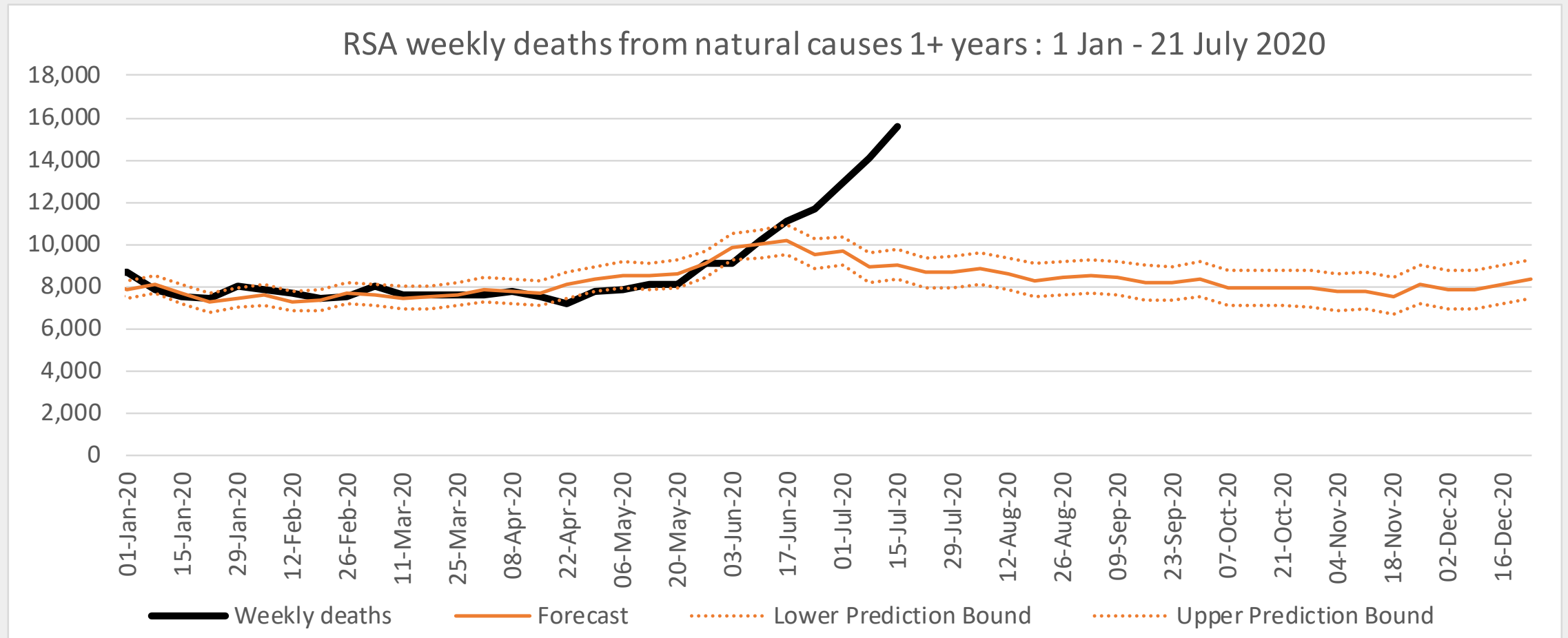
During June 2020 the deaths exceeded the upper prediction bound and continued upward

- Black line shows the weekly number of deaths in 2020
- Orange line shows the number predicted from historical data with bounds of uncertainty – a lower bound and upper bound



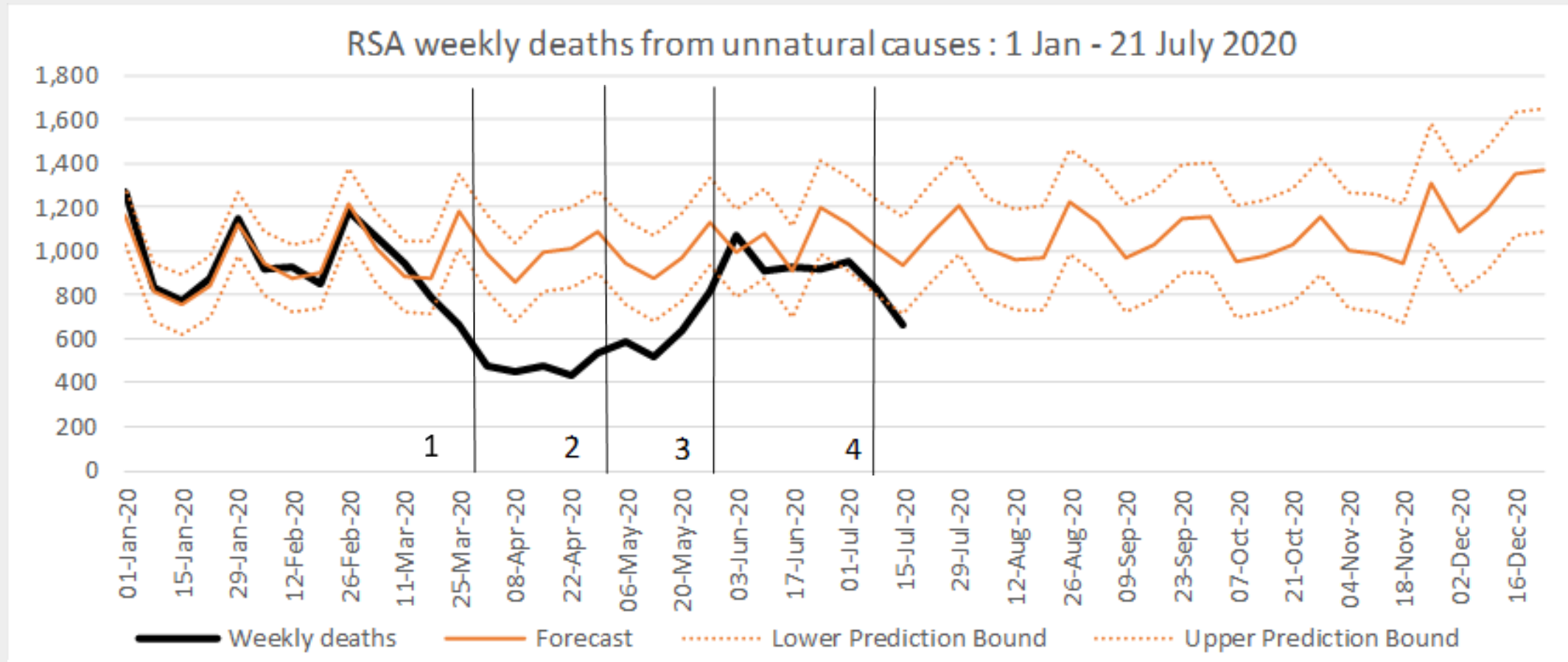
Deaths from natural causes tracked lower than predicted during lockdown

- Black line shows the weekly number of deaths
- Orange line shows the number predicted from historical data with bounds of uncertainty – a lower bound and upper bound



Deaths from unnatural causes dropped with lockdown level 5

- Historical data shows that weekly numbers of death from unnatural causes vary considerably depending on the time of month



Vertical time lines:

1. Week lockdown level 5 introduced
2. Week lockdown changed to level 4 with curfew
3. Week lockdown changed to level 3 including unbanning sale of alcohol
4. Week sale of alcohol re-banned and curfew re-introduced

Excess mortality

Used in epidemiology and public health to measure the mortality impact of a crisis when not all causes of death are known.

The World Health Organization defines 'excess mortality' as:

“Mortality above what would be expected based on the non-crisis mortality rate in the population of interest. Excess mortality is thus mortality that is attributable to the crisis conditions. It can be expressed as a rate (the difference between observed and non-crisis mortality rates), or as a total number of excess deaths.”

Measure of Excess Deaths	Purpose of measure
Excess All Cause Deaths	This provides an overall measure of the difference between the number of death that have occurred in the period compared with earlier years – but is a combination of several competing effects that cancel each other.
Excess Naturals vs adjusted base	This measure aims to identify the excess number of natural deaths that might have resulted from the direct and indirect effects of COVID-19, by taking into account that lockdown had reduced the number of deaths from natural causes.

What does this week's report show?

- Numbers of death have been increasing across the board (even in the more rural provinces) with the exception of Western Cape, particularly Cape Town, which has started to come down slowly.
- Excess natural deaths increased to 22,272 (vs confirmed COVID-19 deaths of 5,368) suggests that there are some COVID-19 deaths that occur in the community and that there may be collateral impact of the COVID-19 epidemic.

WEEK 29 ENDING 21 JULY 2020

Region	Excess natural deaths vs adjusted base	Confirmed COVID-19 deaths
South Africa	22,279	5,368
Province		
Eastern Cape	6,411	945
Free State	752	56
Gauteng	6,620	1,041
KwaZulu-Natal	2,632	415
Limpopo	527	33
Mpumalanga	627	52
Northern Cape	164	18
North West	566	36
Western Cape	4,133	2,717
Metropolitan Municipality		
Buffalo City	847	
City of Cape Town	3,271	
Ekhuruleni	2,033	
Ethikweni	673	
Johannesburg	2,462	
Mangaung	-	
Nelson Mandela Bay	1,316	
City of Tshwane	865	

Factors that may contribute to observed excess deaths include:

1. People dying from COVID-19 before they get to the health care facility. This may be due to lack of transport, delays in transport and/or hospitals being unable to receive them.
2. People dying from COVID-19 but the death not being reported as such. This may be due to test results not being available at the time of death and/or challenges in the provincial COVID-19 reporting systems.
3. People dying from non COVID-19 conditions because the health services have been re-orientated to COVID-19. Examples include people who have not been diagnosed with TB and others with current TB who have defaulted on treatment for fear of attending the health services.

What can be done to investigate the causes of death in recent weeks?

- Statistics South Africa and the Department of Home Affairs are encouraged to fast-track processing the death notification forms completed by doctors.
- National Department of Health and the National Institute for Communicable Diseases to work with the South African Medical Research Council to consolidate supplementary information using
 - Data linkage to consolidate health information about the deaths,
 - Conducting verbal autopsy interviews with next of kin.