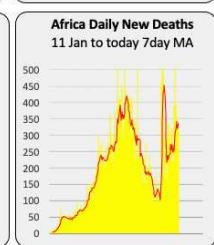
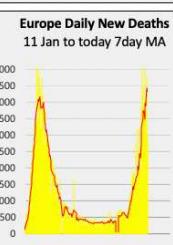
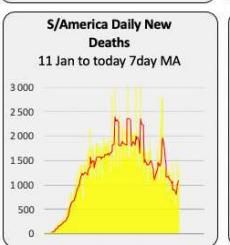
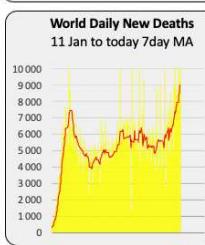
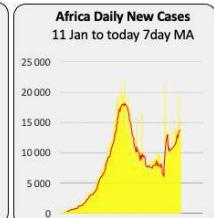
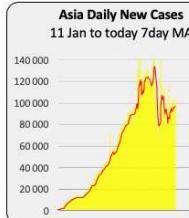
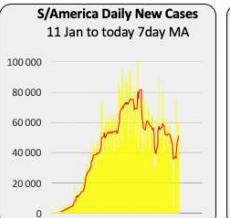
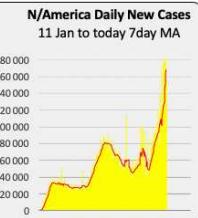
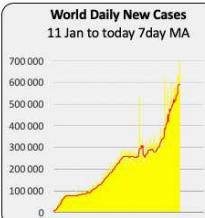
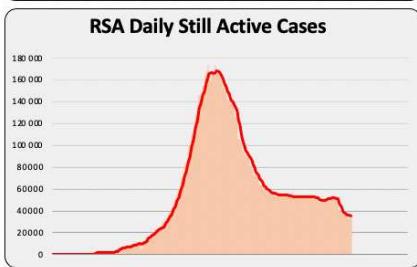
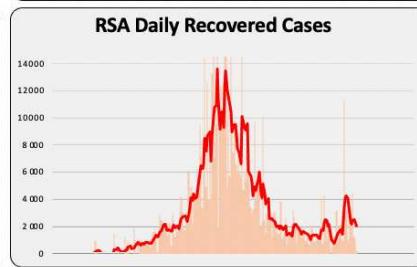
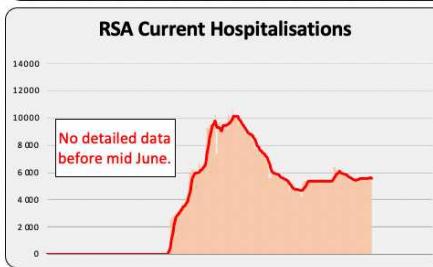
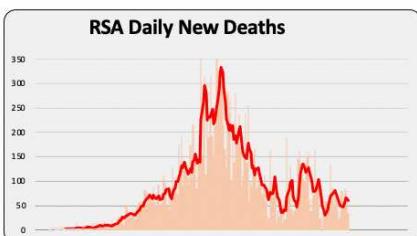
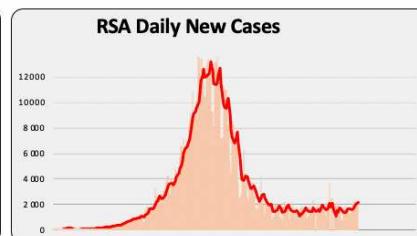
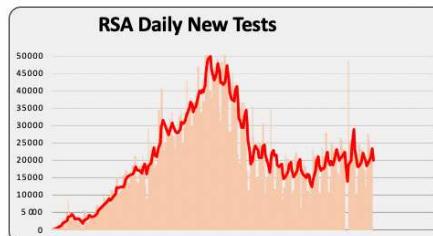
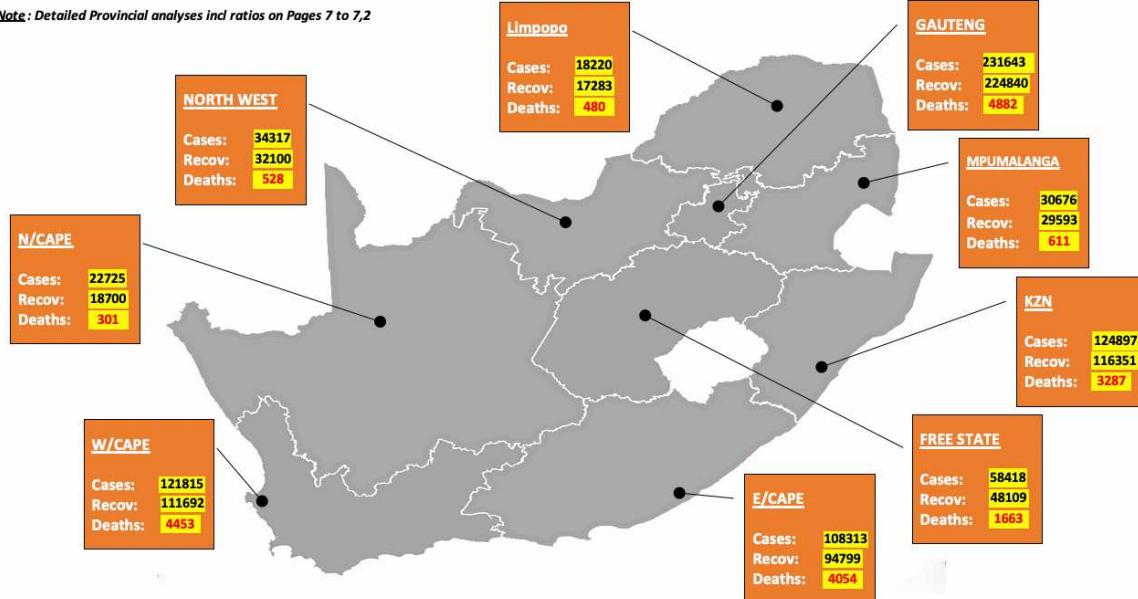
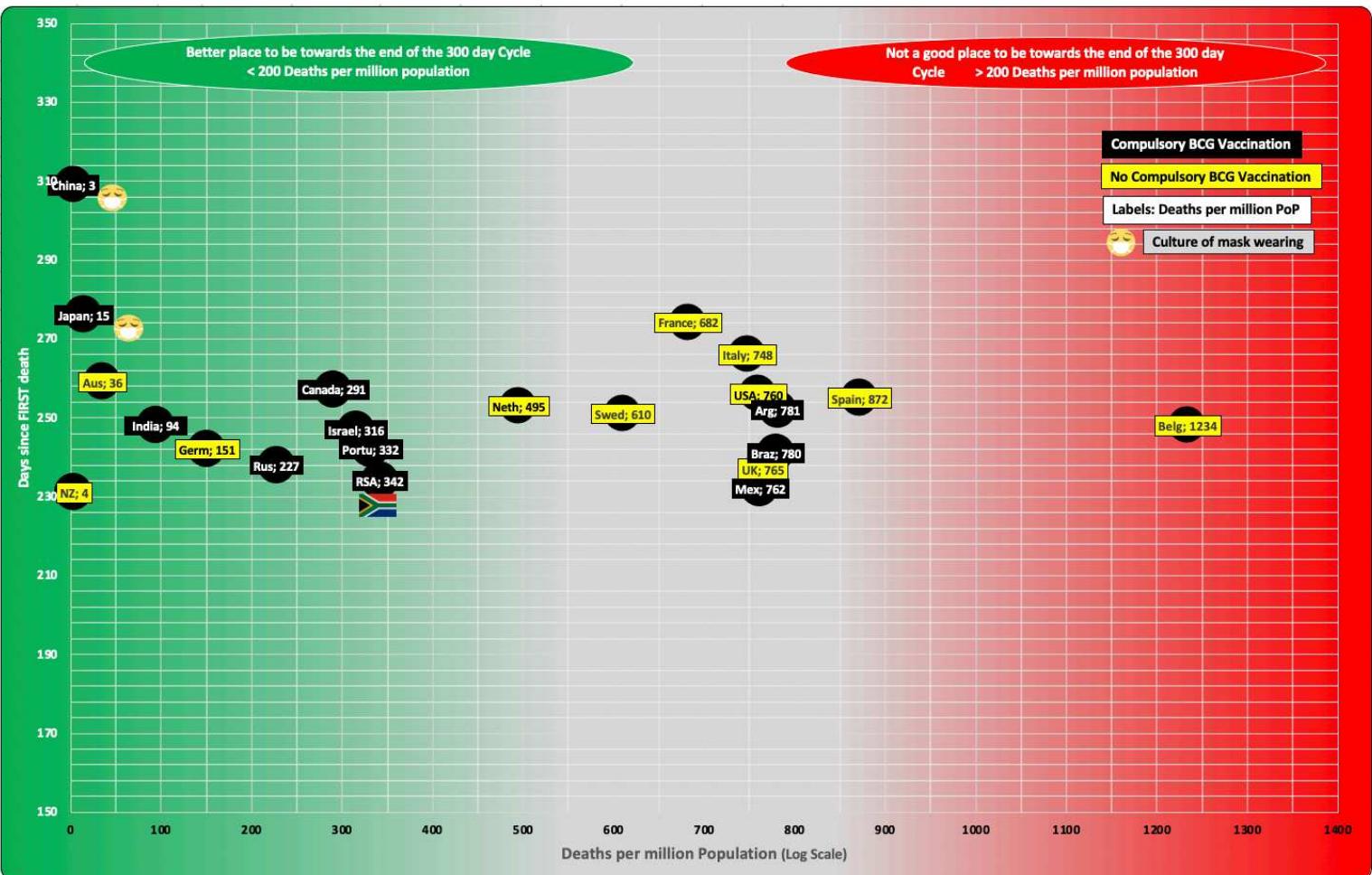


Note : Detailed Provincial analyses incl ratios on Pages 7 to 7,2



Covid Reported Deaths per million Population & Days since 1st Covid Death

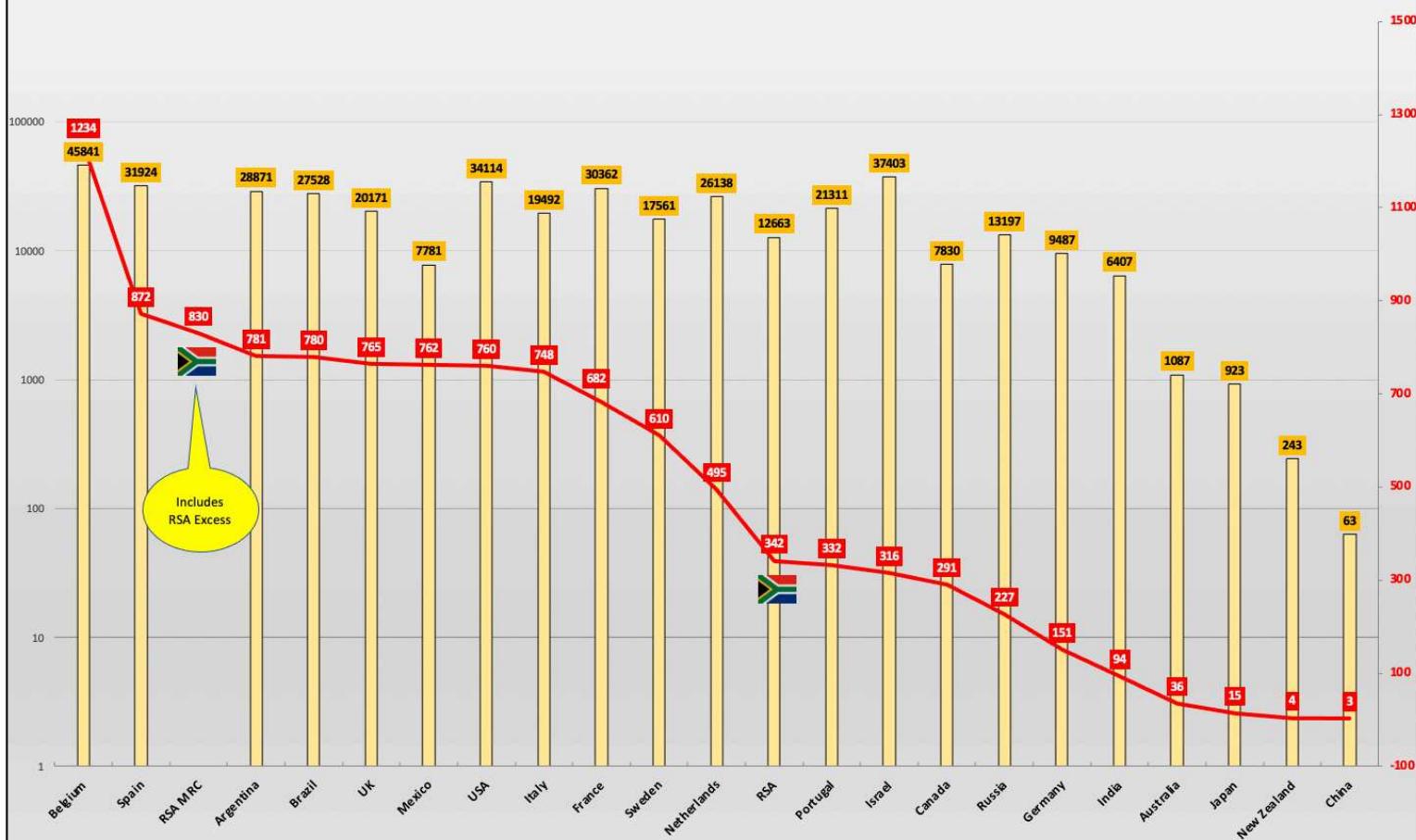
Page 2



Current Cum Cases & Cum Deaths per million PoP

(Two axes primary Y Log 2nd Y Linear)

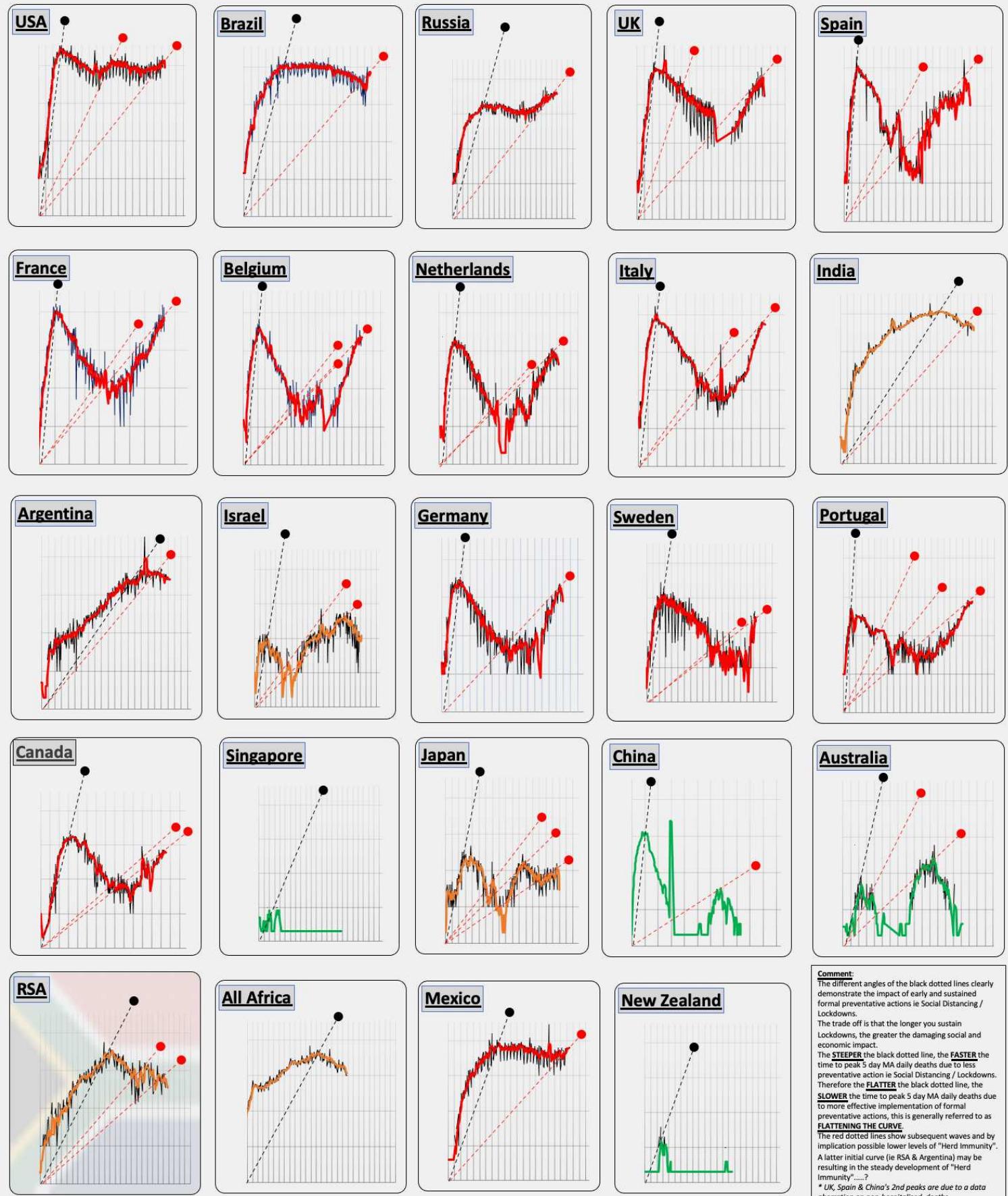
■ Cases per million PoP — Deaths per million PoP



Daily Deaths Curves & Rate of Onset and next Wave "Inclinometers"

5 day MA Trendline from date of 1st death (all on Log Scale)

- Peaked but spiking again
- Passed peak but could rebound OR 2nd wave
- Well past peak, unlikely to rebound
- Onset/1st wave
- 2nd & 3rd waves



Comment:
The different angles of the black dotted lines clearly demonstrate the impact of early and sustained formal preventative actions ie Social Distancing / Lockdowns.
The trade off is that the longer you sustain Lockdowns, the greater the damaging social and economic impact.
The STEEPER the black dotted line, the FASTER the time to peak 5 day MA daily deaths due to less preventative action ie Social Distancing / Lockdowns. Therefore the FLATTER the black dotted line, the SLOWER the time to peak 5 day MA daily deaths due to more effective implementation of formal preventative actions, this is generally referred to as FLATTENING THE CURVE.
The red dotted lines show subsequent waves and by implication possible lower levels of "Herd Immunity". A latter initial curve (ie RSA & Argentina) may be resulting in the steady development of "Herd Immunity".....?
* UK, Spain & China's 2nd peaks are due to a data aberration on non-hospitalised deaths.

800 000

World Regions: 10 Day MA of Daily Cases (Linear Scale)

700 000

600 000

500 000

400 000

300 000

200 000

100 000

0

0

100 000

200 000

300 000

400 000

500 000

600 000

700 000

800 000

900 000

10 000

9 000

8 000

7 000

6 000

5 000

4 000

3 000

2 000

1 000

0

World Regions: 10 Day MA of Daily Deaths (Linear Scale)

0

1 000

2 000

3 000

4 000

5 000

6 000

7 000

8 000

9 000

10 000

World Regions & RSA: 10 Day MA Recovery %'s

10 per. Mov. Avg. (World)

10 per. Mov. Avg. (N/America)

10 per. Mov. Avg. (S/America)

10 per. Mov. Avg. (Africa)

10 per. Mov. Avg. (Asia)

10 per. Mov. Avg. (Europe)

10 per. Mov. Avg. (RSA)

RSA RR

92,3%

30%

40%

50%

60%

70%

80%

90%

100%

11-MAY-

21-MAY-

31-MAY-

10-JUN-

20-JUN-

30-JUN-

10-JUL-

20-JUL-

30-JUL-

09-AUG-

19-AUG-

29-AUG-

08-SEP-

18-SEP-

28-SEP-

08-OCT-

18-OCT-

28-OCT-

07-NOV-

17-NOV-

27-NOV-

07-DEC-

17-DEC-

27-DEC-

World Regions & RSA: CFR %'s

World

N/America

S/America

Africa

Asia

Europe

RSA

RSA CFR

2,70%

1%

2%

3%

4%

5%

6%

7%

8%

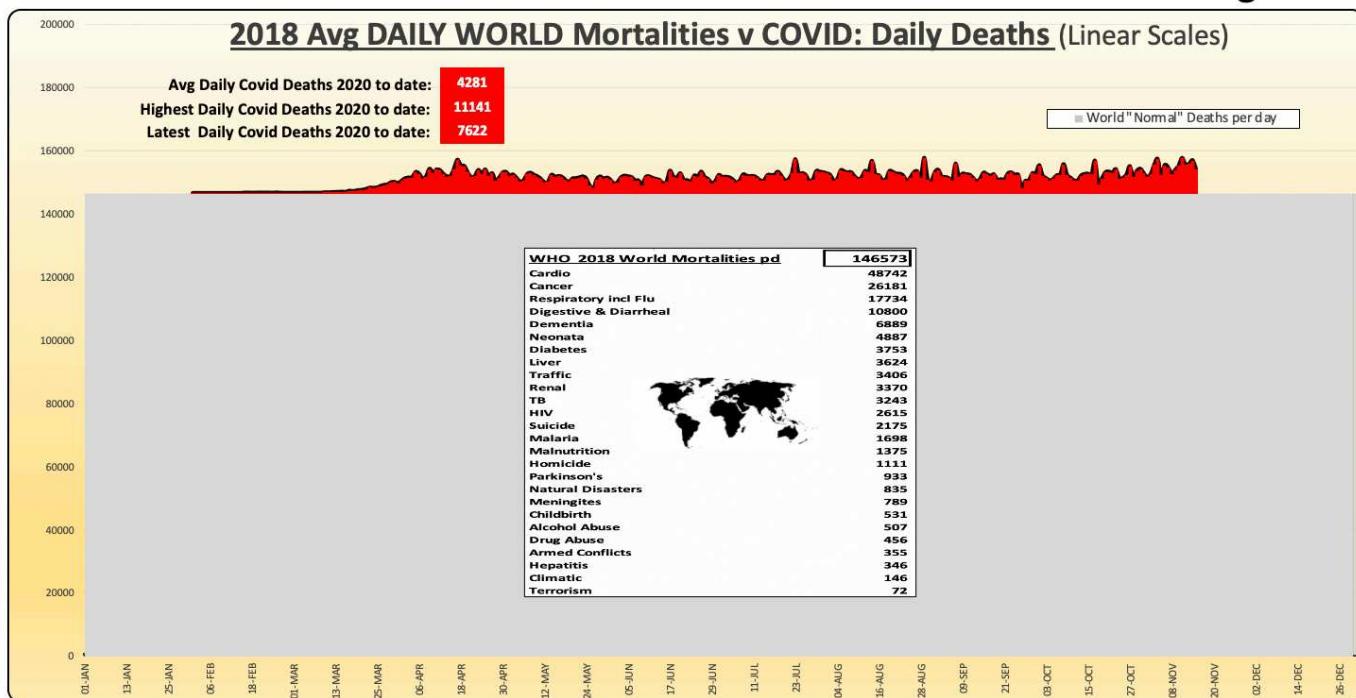
9%

10%

Data as at: 15 November 2020

Unless otherwise indicated

hdg 15 November 2020

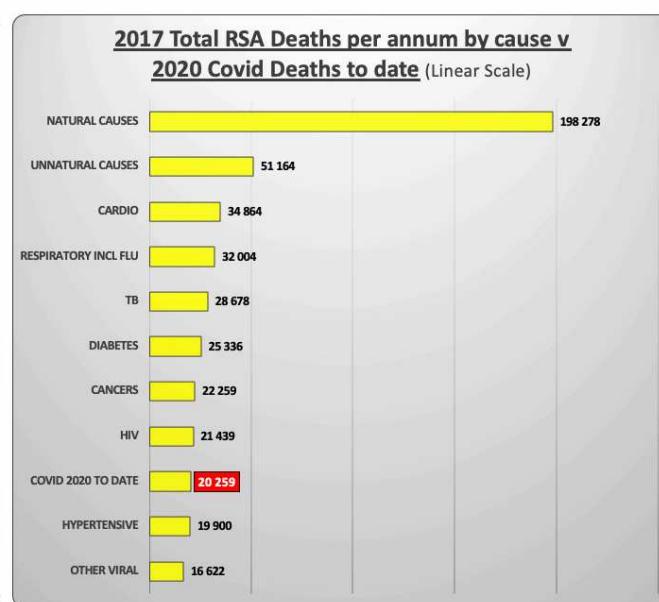
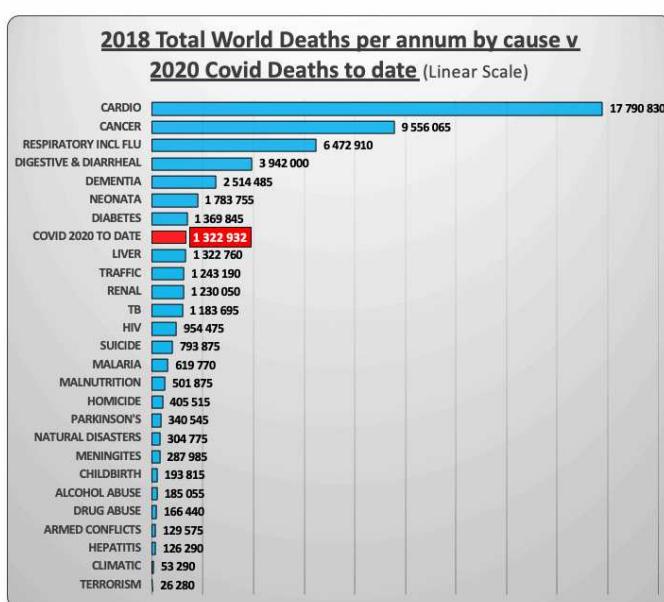
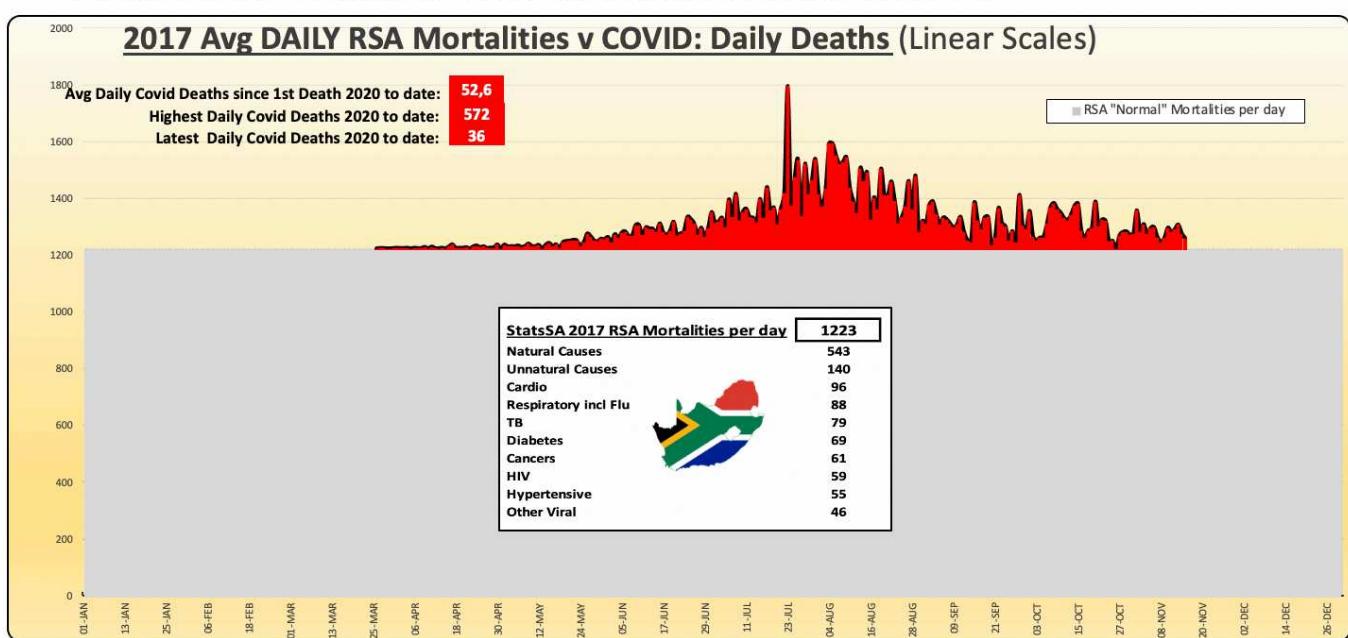


The two graphs WORLD (above) and RSA (below) attempt to put the number of Covid Deaths into some sort of perspective graphically.

The big GREY blocks are TOTAL Daily Avg Deaths from ALL causes over a full calendar year.

The RED area/lines on top of the Grey blocks are the INCREMENTAL Actual Daily Deaths due to Covid.

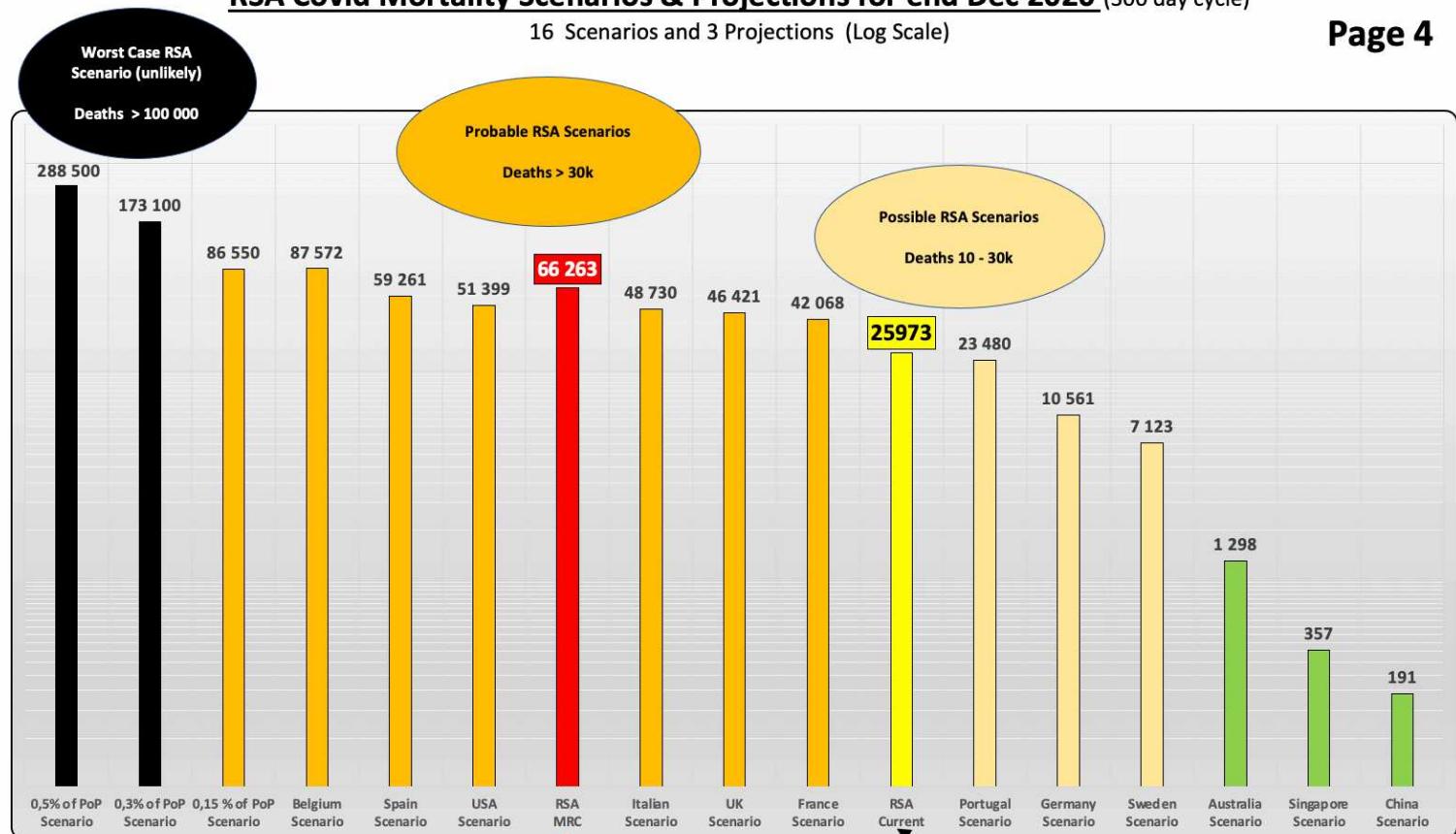
Obviously some of the Covid Deaths will "overlap" with the "normal" Deaths due to comorbidities.



RSA Covid Mortality Scenarios & Projections for end Dec 2020 (300 day cycle)

16 Scenarios and 3 Projections (Log Scale)

Page 4



Key:

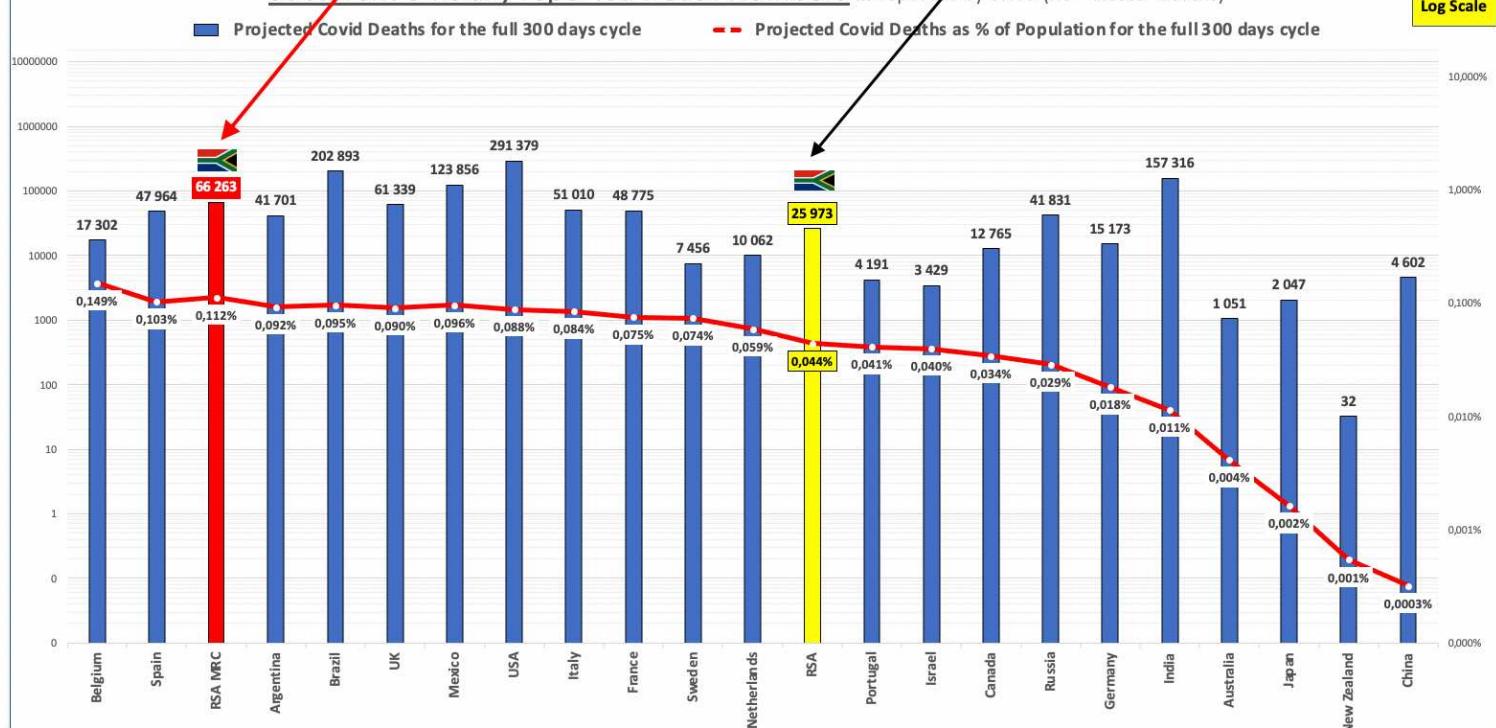
All Scenarios duly adjusted for population size and for the different timelines into the deemed 300 day pandemic cycle.

This projection uses the SA Medical Research Council data on "Excess Deaths". The assumption is that 90% of their reported Excess Deaths are probably due to Covid. The ratios are updated bi-weekly by the MRC but I apply these ratios to the official stats on a daily basis for this projection.

This number is simply the avg daily Deaths as reported to date x 300 (deemed cycle).

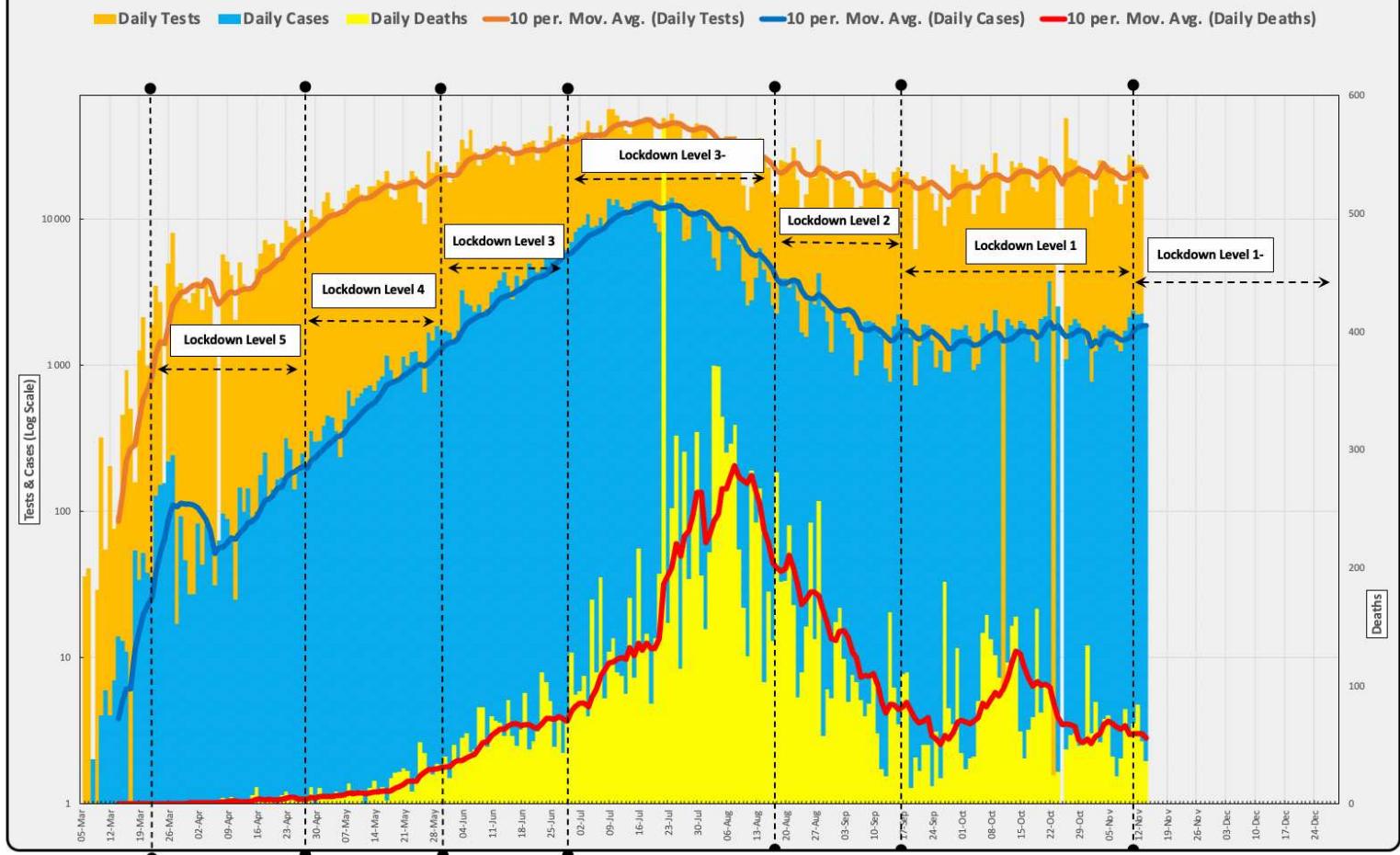
Projected Deaths by end Dec 2020 per country and % Deaths per Country Populations

at current officially reported Death Numbers as reported by WHO (no "Excess" deaths)

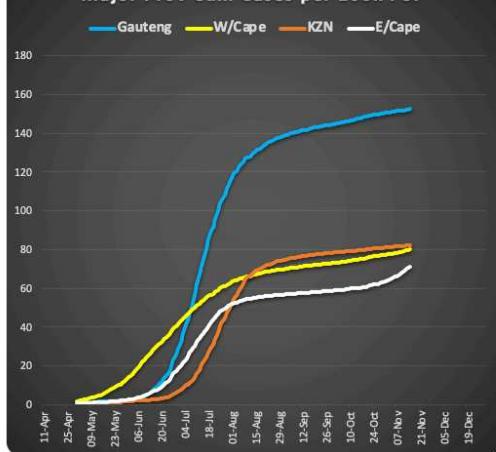


Note: Above Mortality %'s are overall projected mortality of the populations (PMR), NOT deaths of only those infected (CFR).

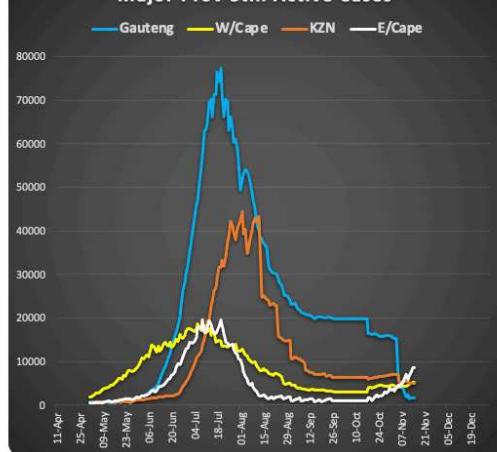
RSA Daily Testing v Daily Cases (Log Scale y-axis) v Daily Deaths (Non Log 2nd Y-axis)



Major Prov Cum Cases per 100k PoP



Major Prov Still Active Cases



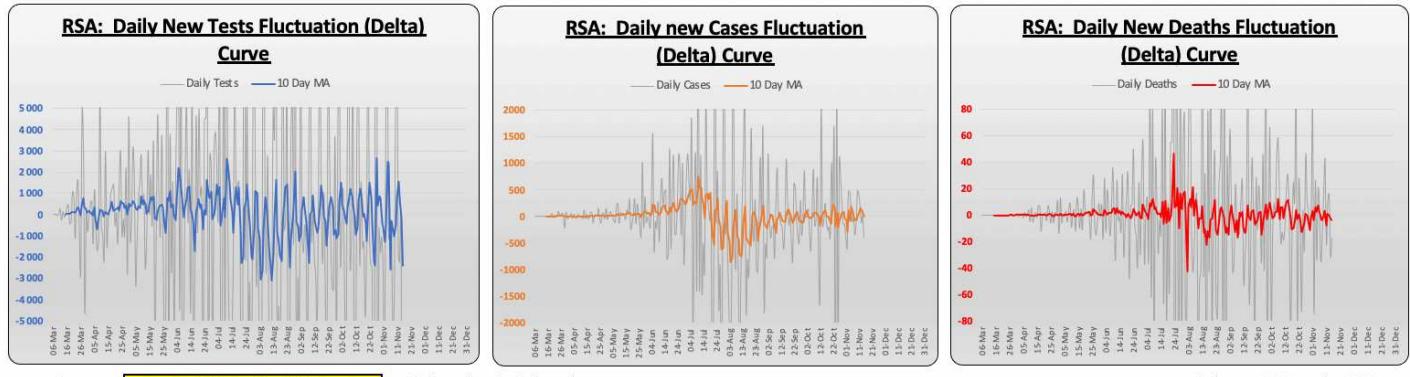
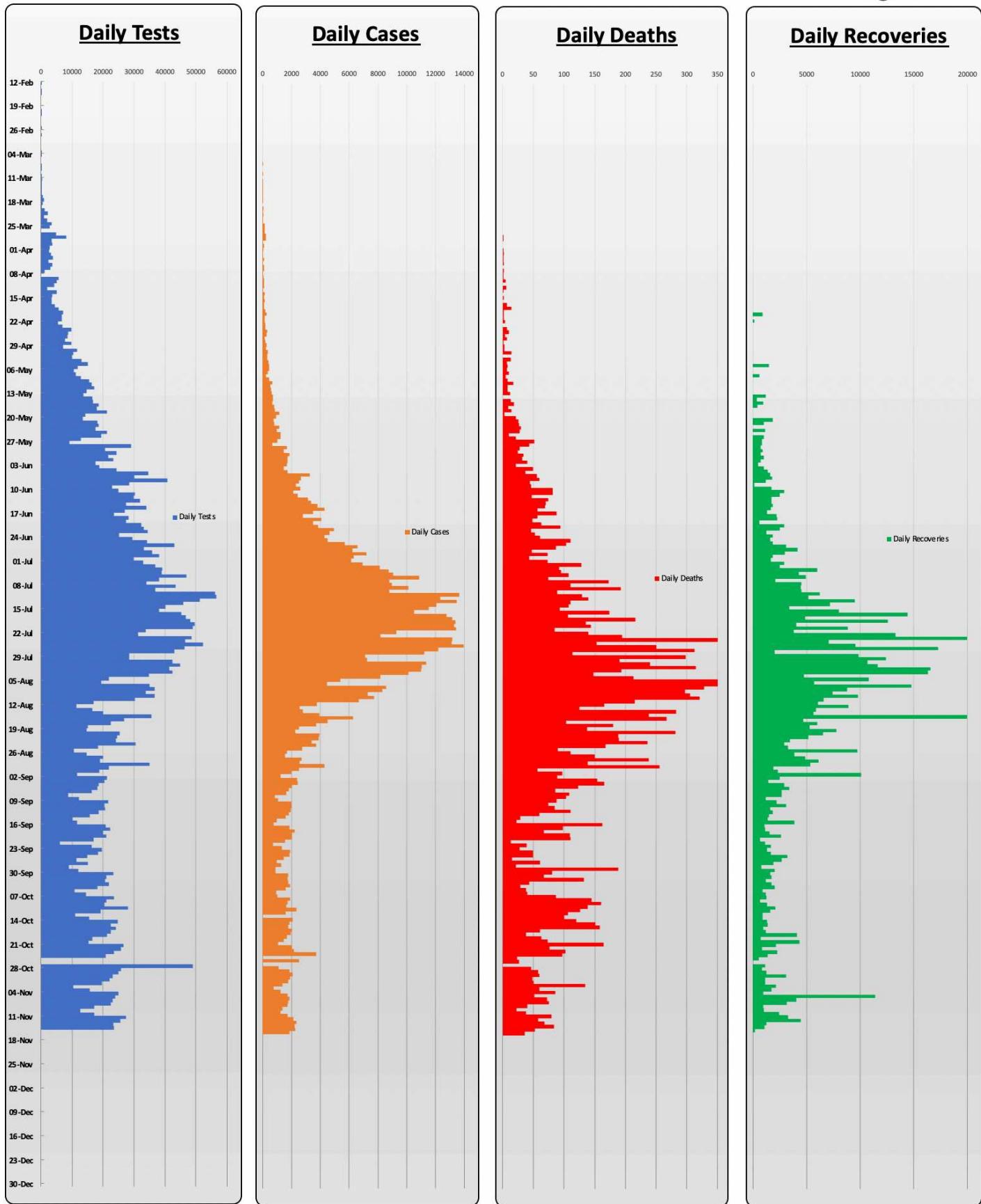
Major Prov Cum Deaths per 100k PoP



Data as at: 15 November 2020

Unless otherwise indicated

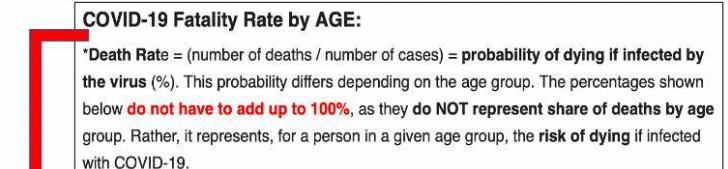
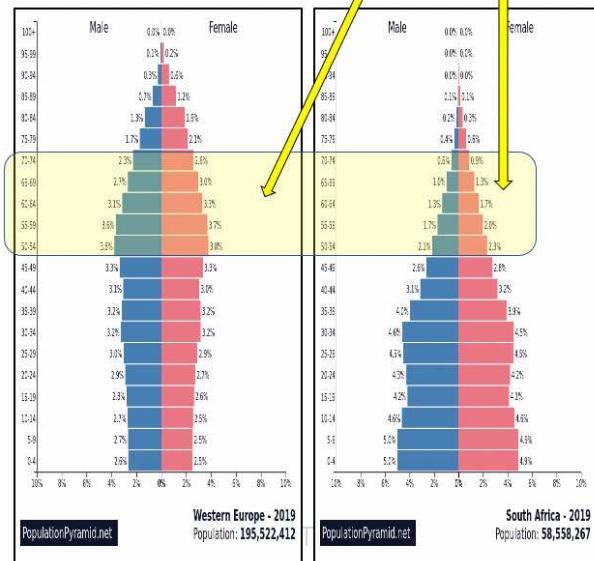
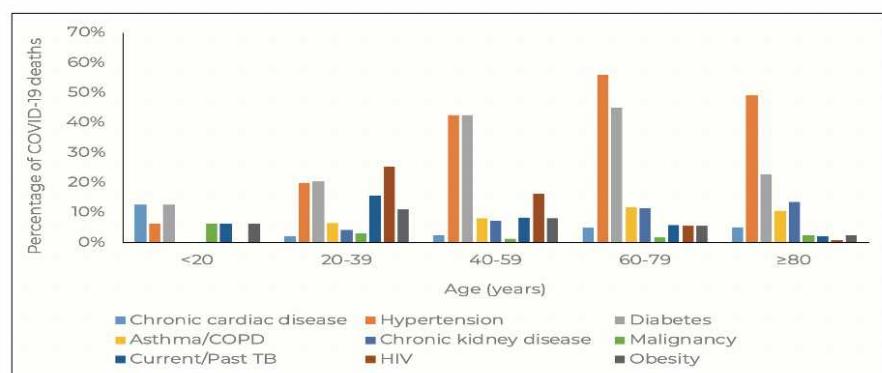
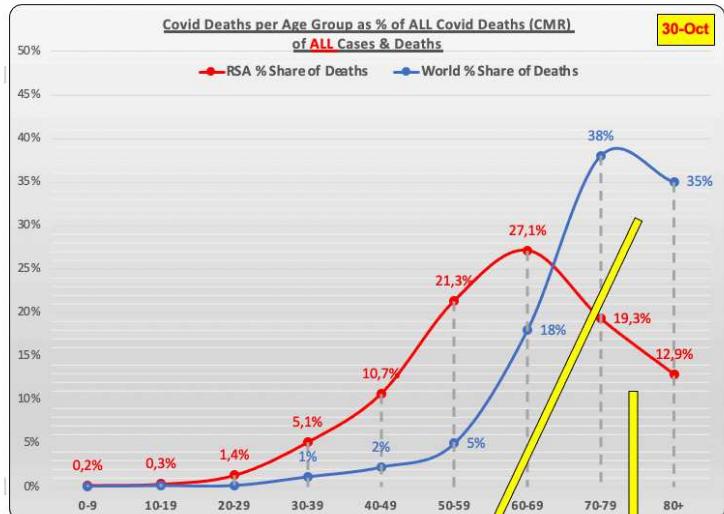
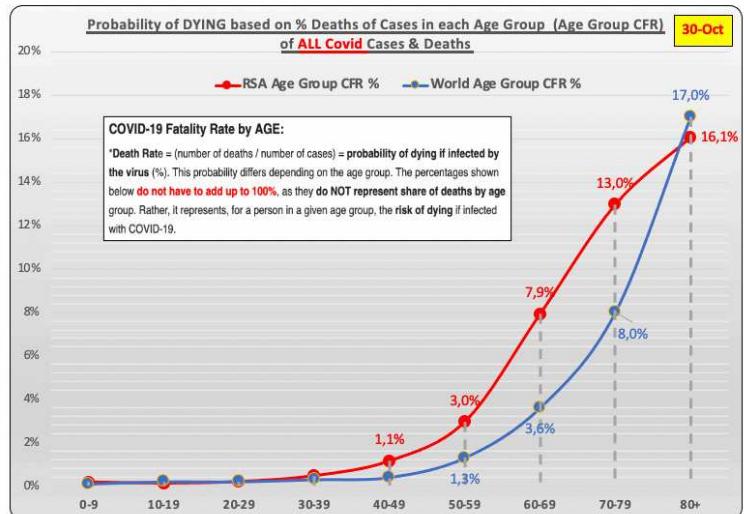
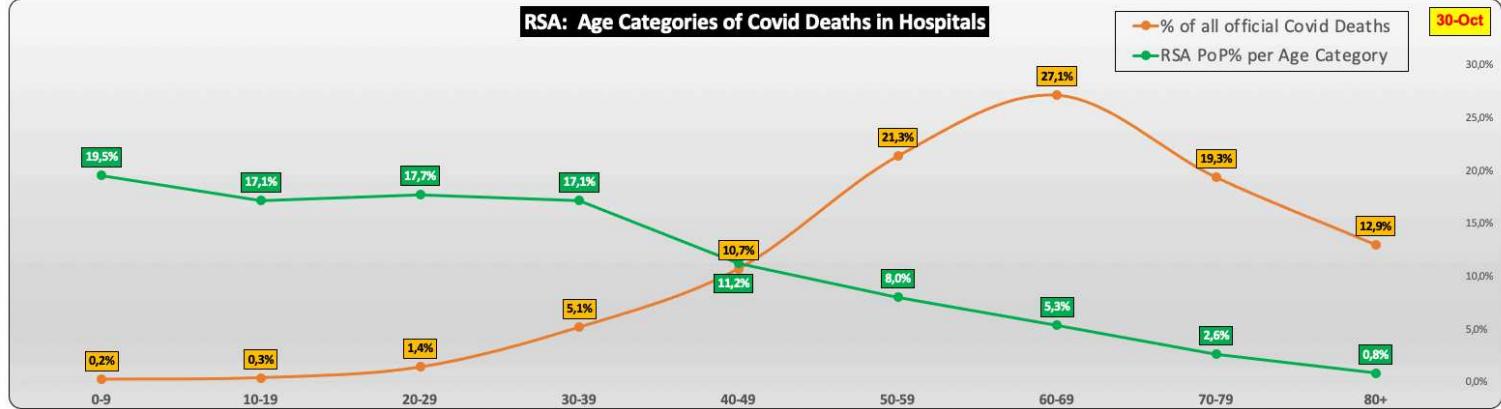
hdg 15 November 2020



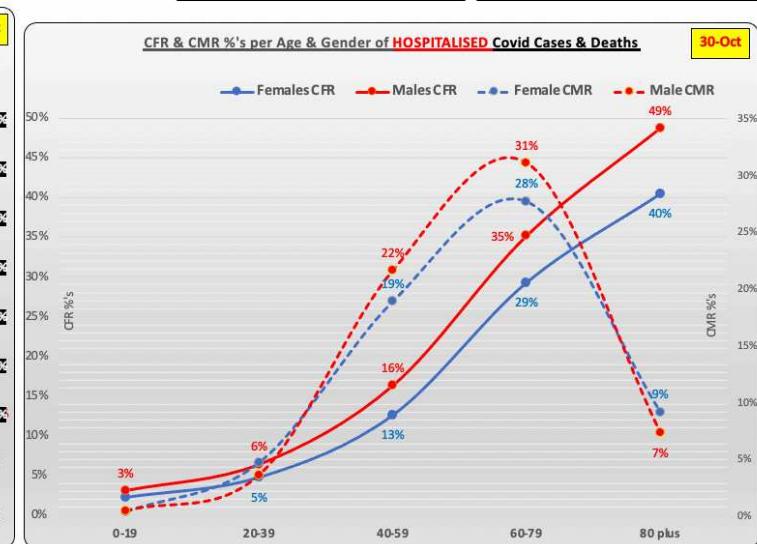
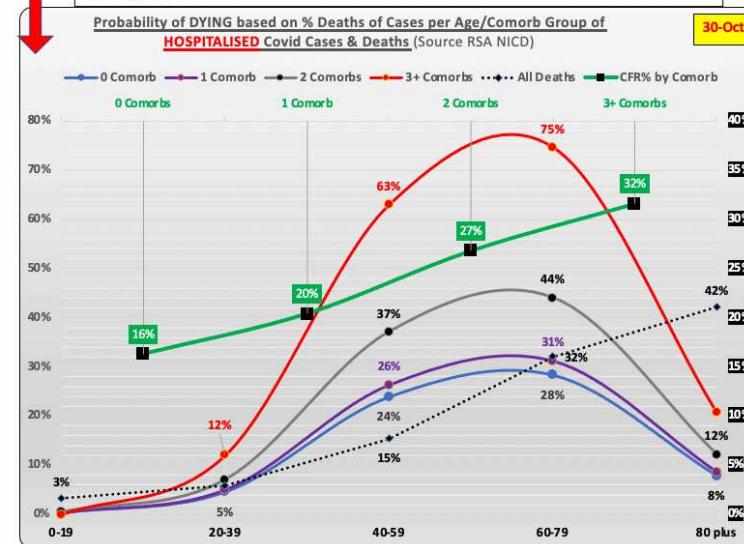
RSA Age & Gender Stats

Page 5.2

RSA: Age Categories of Covid Deaths in Hospitals



*Death Rate = (number of deaths / number of cases) = probability of dying if infected by the virus (%). This probability differs depending on the age group. The percentages shown below do not have to add up to 100%, as they do NOT represent share of deaths by age group. Rather, it represents, for a person in a given age group, the risk of dying if infected with COVID-19.

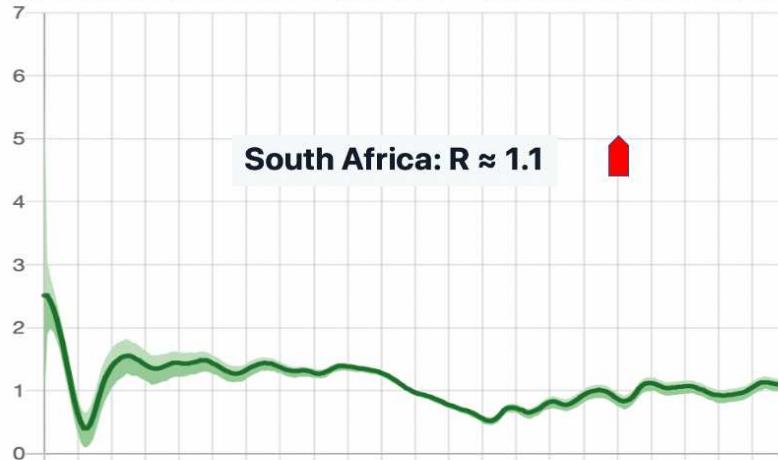


Covid REPRODUCTIVE NUMBER (Rt) in RSA & Provinces

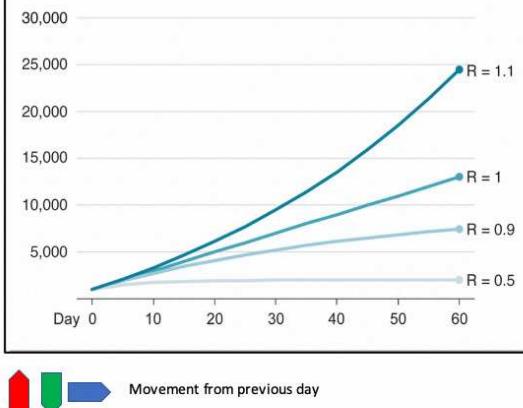
Data as at: 14 November 2020

Page 5.3

The Reproduction Number, R, derived from Currently Infectious estimates, see below



How 1,000 cases would increase under different infection rates



Movement from previous day

EASTERN CAPE

8186
Infectious Now

1.42
Current R

WESTERN CAPE

2610
Infectious Now

1.3
Current R

KWAZULU-NATAL

767
Infectious Now

0.94
Current R

MPUMALANGA

406
Infectious Now

0.94
Current R

GAUTENG

1158
Infectious Now

0.83
Current R

LIMPOPO

223
Infectious Now

0.72
Current R

NORTH WEST

297
Infectious Now

0.62
Current R

NORTHERN CAPE

267
Infectious Now

0.62
Current R

FREE STATE

420
Infectious Now

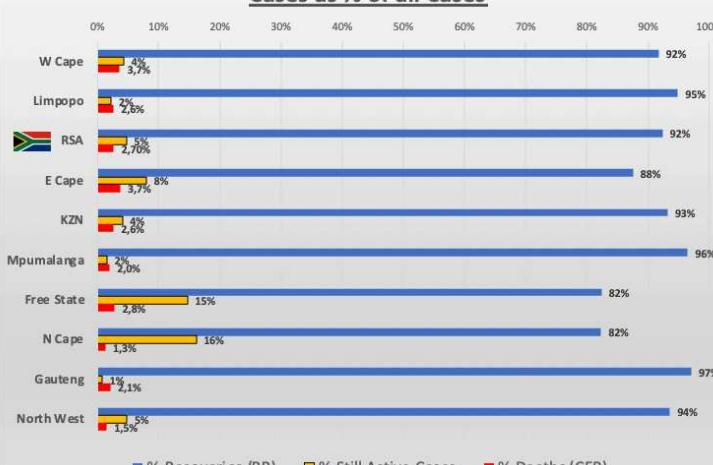
0.45
Current R

Rt graphs from:

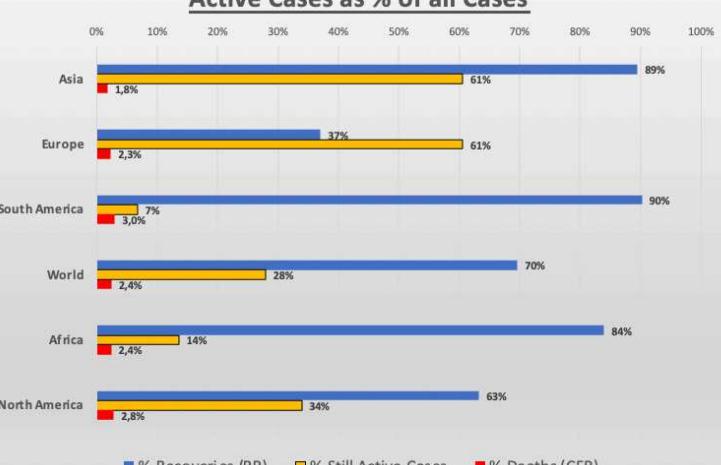


<https://reproduction.live/world/ZA>

RSA Deaths (CFR), Recoveries (RR) and still-Active Cases as % of all Cases



World Deaths (CFR), Recoveries (RR) and still-Active Cases as % of all Cases

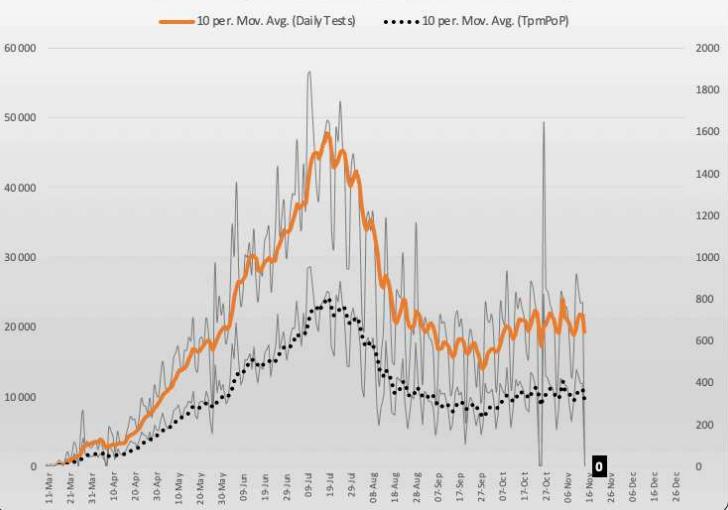


Data as at: 15 November 2020

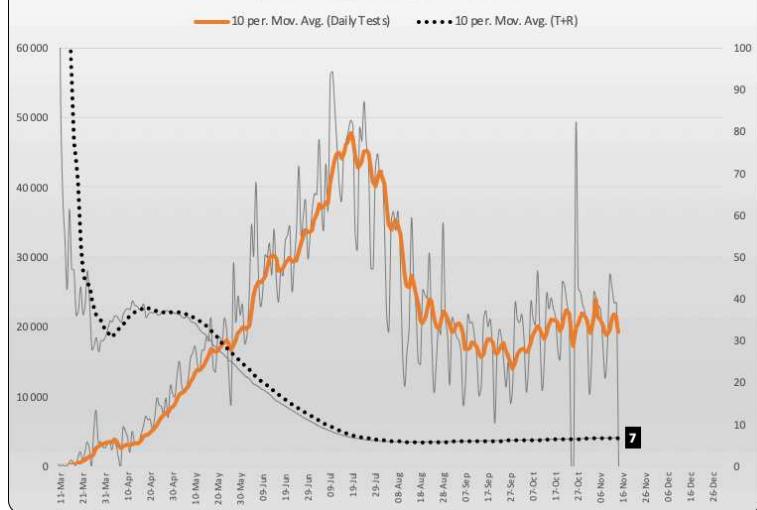
Unless otherwise indicated

hdg 15 November 2020

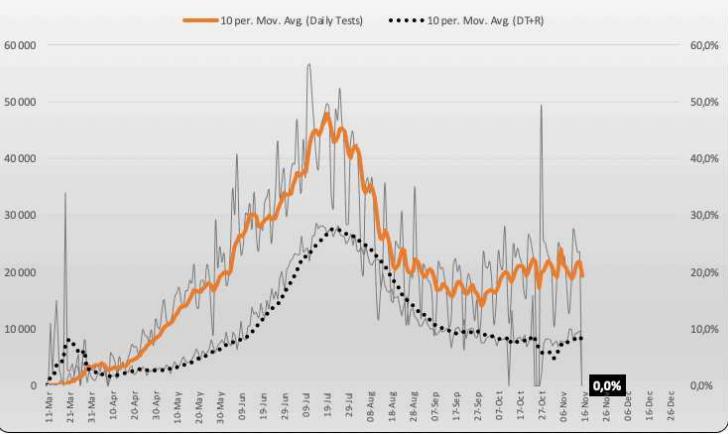
RSA: Daily Tests conducted per million PoP



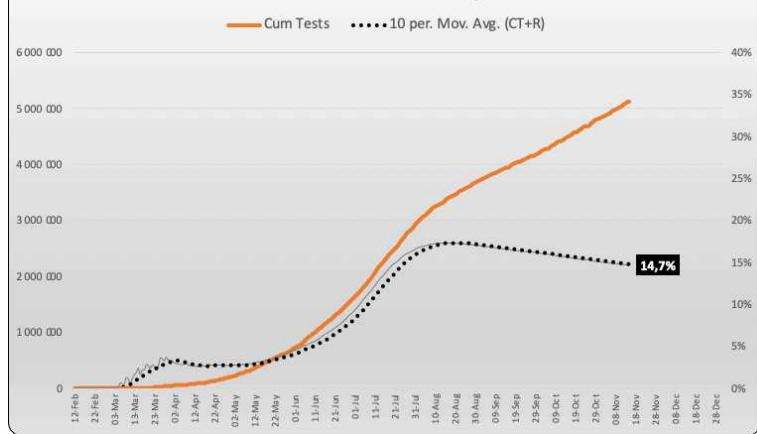
RSA: Daily Tests per +Case



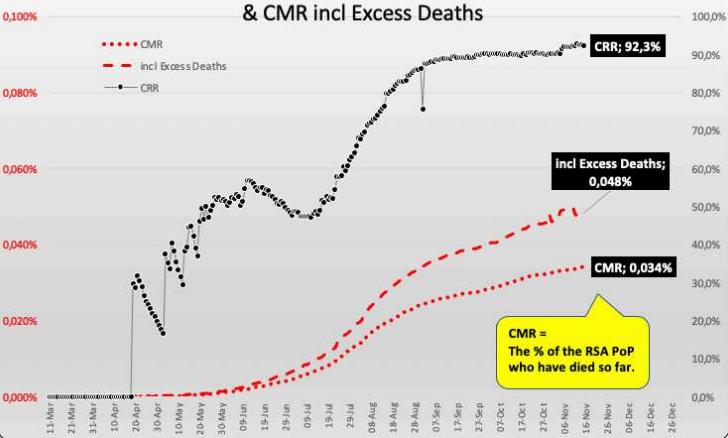
RSA: Daily Tests Positivity %



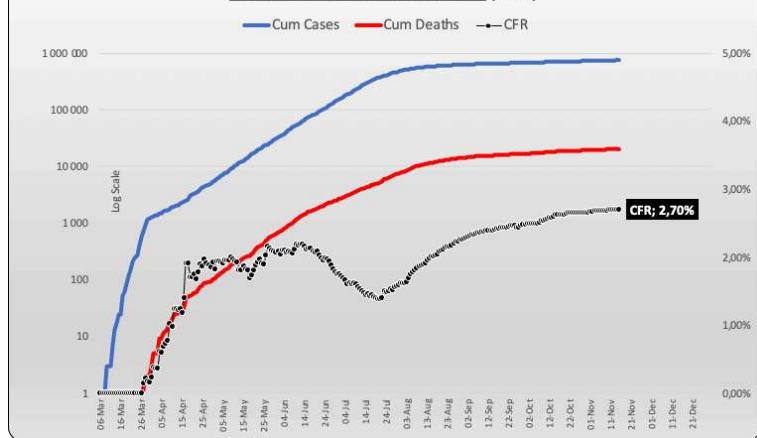
RSA: Cum Tests Positivity Rate



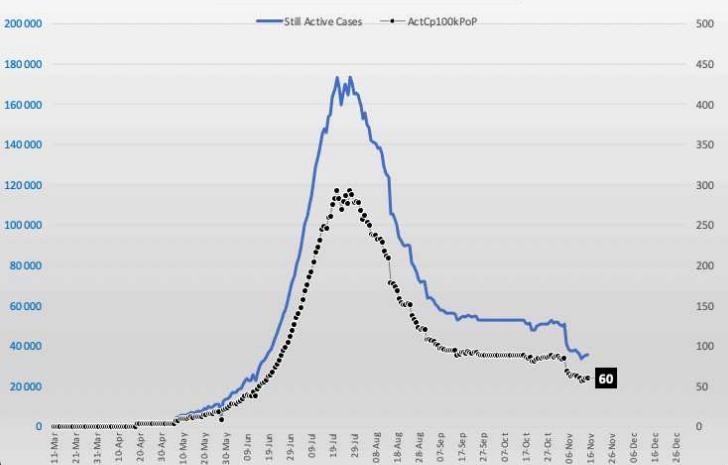
RSA: Case Recovery Rate (CRR) & Case Mortality Rate (CMR)



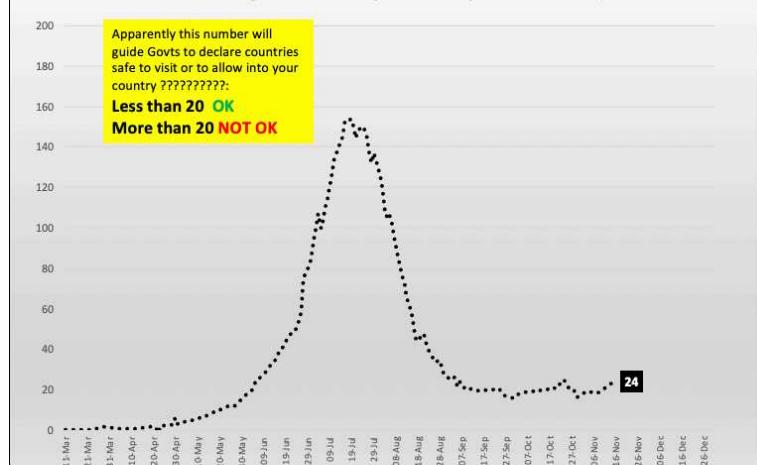
RSA: Deaths as % of Cases (CFR)



RSA: Active Cases per 100k PoP



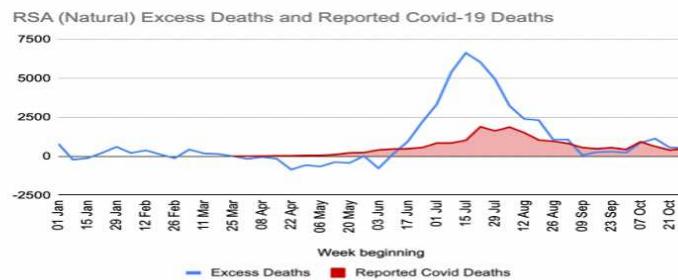
RSA: Avg New Cases per week per 100k PoP



RSA Covid Stats: National & Provincial Analysis

Page 6





Provinces

