

COVID-19 Rapid Review

Thursday, 09 April 2020
Review 2

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The purpose of this regular review is to present COVID-19 related questions in Emergency Medicine

We accept that available literature on the topics covered in these reviews may be scarce, but shared discussion of novel front line strategies may be a tool to augment our clinical practice and develop future policy

Topic:

Does BCG vaccination offer any protection against COVID-19?

Correspondence with authors

Rapid Review for the EC

Covid-19

World Statistics

Coronavirus Cases:

1,519,084

view by country

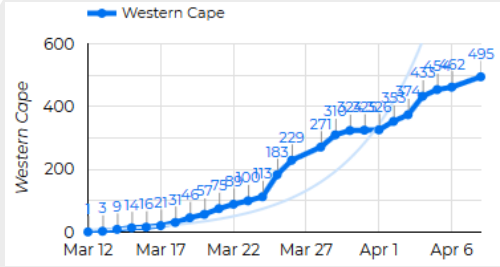
Deaths:

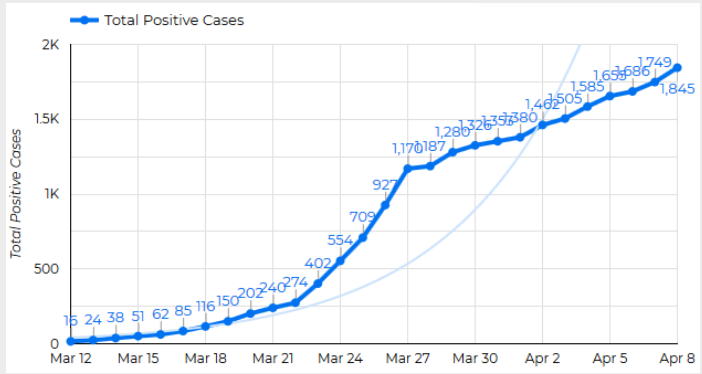
88,528

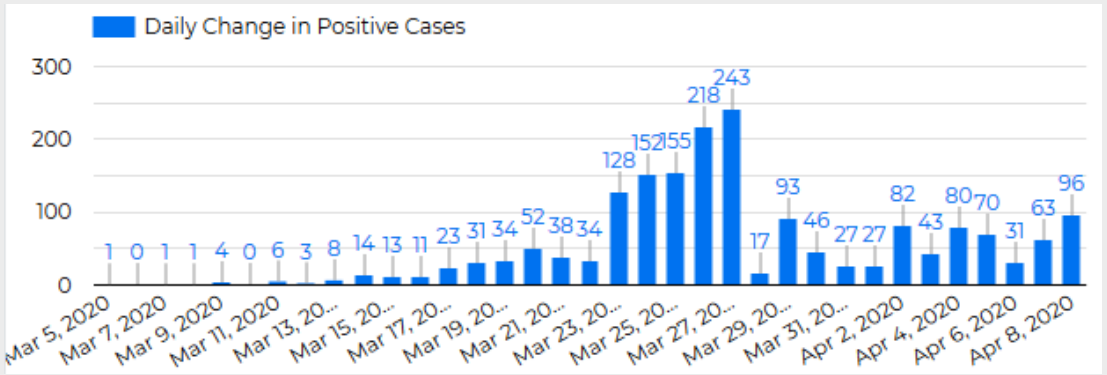
Recovered:

330,860

South Africa Statistics







COVID 19 ZA South Africa Dashboard

For official information about Corona virus from DoH go to http://sacoronavirus.co.za

Positive Cases	Recovered	Deaths	ICU	Cumulative Tests
1,845	45	18	10	63,776

Average Age	Median Age	Min Age	Max Age
41.8	40.0	2.0	85.0

Link to this dashboard https://bitly.com/covid19za-dash

Maintained by the
Data Science for Social Impact Research Group
@ University of Pretoria
[repo https://github.com/dsfsi/covid19za]

Blog post about the dashboard.

Last Updated
07/04/2020 10:00 PM

We are currently waiting for updated individual data from NICD

Data Science for Social Impact

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References & Resources via QR code

Rapid Review for the EC

Covid-19

There are significant and multiple confounders that make it difficult to compare countries, other than in retrospect for what they have done right or wrong in the pandemic thus far.

At this point, the influences on morbidity and mortality are far more likely to be as a result of individual country responses to the outbreak than BCG vaccination. From initial travel restrictions, isolation/ quarantine and physical distancing, to lock-downs, the speed and response of governments and their respective systems is likely the biggest factor.

Those countries who have seen the mistakes of others have put in place measures to "flatten the curve."

BCG Vaccination

Does BCG vaccination offer any protection against COVID-19?

CORRELATION ≠ CAUSATION

There has been significant media and social media interest in South Africa(1-2), following a non-peer reviewed paper finding a correlation between BCG vaccination and reduced country specific morbidity and mortality from COVID-19(3).

What is known:

- BCG vaccination stimulates an adaptive immune response to TB and is increasingly recognised to be associated with protective non-specific effects against non-tuberculous infections(4,5).
- Although studies have had mixed results, some of the potential mechanisms for this response include changes in epigenetic regulation, modulation of response to other immunisations and enhanced cell activation with elevated cytokine production upon heterologous stimulation(6-8).
- The different vaccine strains used worldwide may differ in their activation of innate and adaptive immunity(9,10).

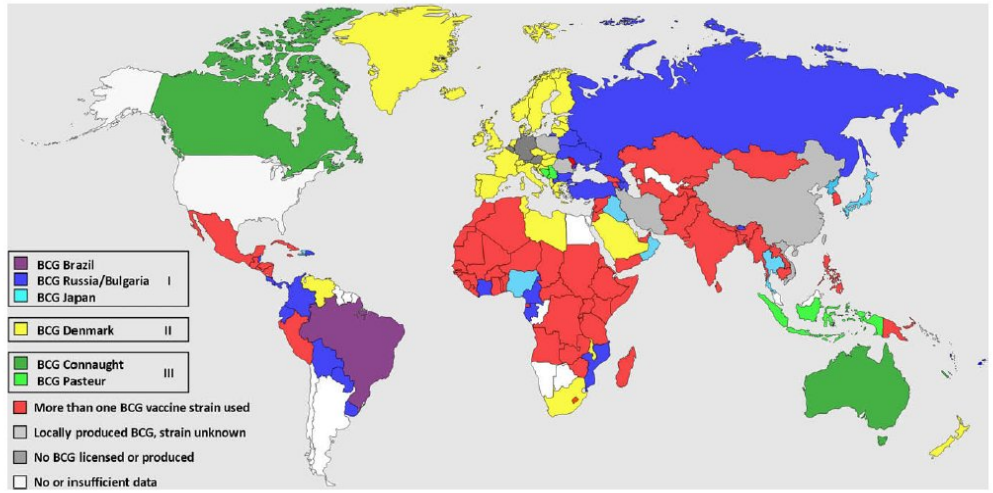


Figure 1. BCG vaccine strains used between 2003 and 2007 worldwide. Boxes surround BCG vaccines strains that are most genetically similar. Box I includes BCG vaccine strains that were obtained from the Pasteur Institute before 1926. Boxes II are III are strains obtained at later dates.

The evidence available is at best **HYPOTHESIS GENERATING**

French, Dutch & Australian researchers are trying to answer this question with randomised controlled trials - planning to enrol HCW to see whether giving the BCG vaccine confers any protection against COVID-19(11,12).

RESULTS MAY BE OUT WITHIN 3-6 MONTHS

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References & Resources via QR code



Coming up tomorrow….

COVID-19 N95 EXTENDED USE, REUSE and DECON series