

**COVID-19: Making decisions under
considerable uncertainty and with only early
evidence**

**GTAC Winter School, 18 August, 2021
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COVID - a new virus: a reminder

- 31/12/2019: Wuhan reports cluster of cases of pneumonia
- 01/01/2020: WHO establishes an Incident Management Team
- 10/01/2020: WHO produces technical guidance (detect, test and management)
- 14/01/2020: WHO announces limited human-to-human transmission
- 22/01/2020: WHO confirms human-to-human transmission
- 30/01/2020: WHO declares Public Health Emergency of International Concern (PHEIC) and declared the novel coronavirus outbreak (2019-nCoV)
- 03/02/2020: WHO releases its Strategic Preparedness and Response Plan
- 11/02/2020: WHO announced that the disease caused by the novel coronavirus would be called COVID-19
- 14/02/2020: First case of COVID-19 reported in Africa from Egypt
- 25 /02/2020: Japanese authorities alerts govt that two South Africans working on the Princess Diamond Cruise ship tested positive for COVID-19.
- 18/03/2021: WHO launches the Solidarity Trial, an international clinical trial to generate data from around the world to find the most effective treatments for COVID-19.

South Africa's response

- 31/01/2020: South Africa activated its Emergency Operations Center to coordinate response to COVID-19 - day after PHEIC!
- 02/03/2020: first draft of the COVID-19 Pandemic Preparedness Plan circulated
- 17/02/2020: NICD reports testing 46 individuals meeting the case definition for PUI - all SARS-CoV-2 results negative.
- 05/03/2020: First case of COVID-19 diagnosed in South Africa
- 13/03/2020: Repatriation of 128 South Africans from China
- 17/03/2020: meeting with MOH (18 key issues with instructions)
- 18/03/2020: 150 COVID-19 cases confirmed
- 23/03/20: first meeting of the modeling consortium
- 27/03/2020: 1 092 cases confirmed and 2 deaths

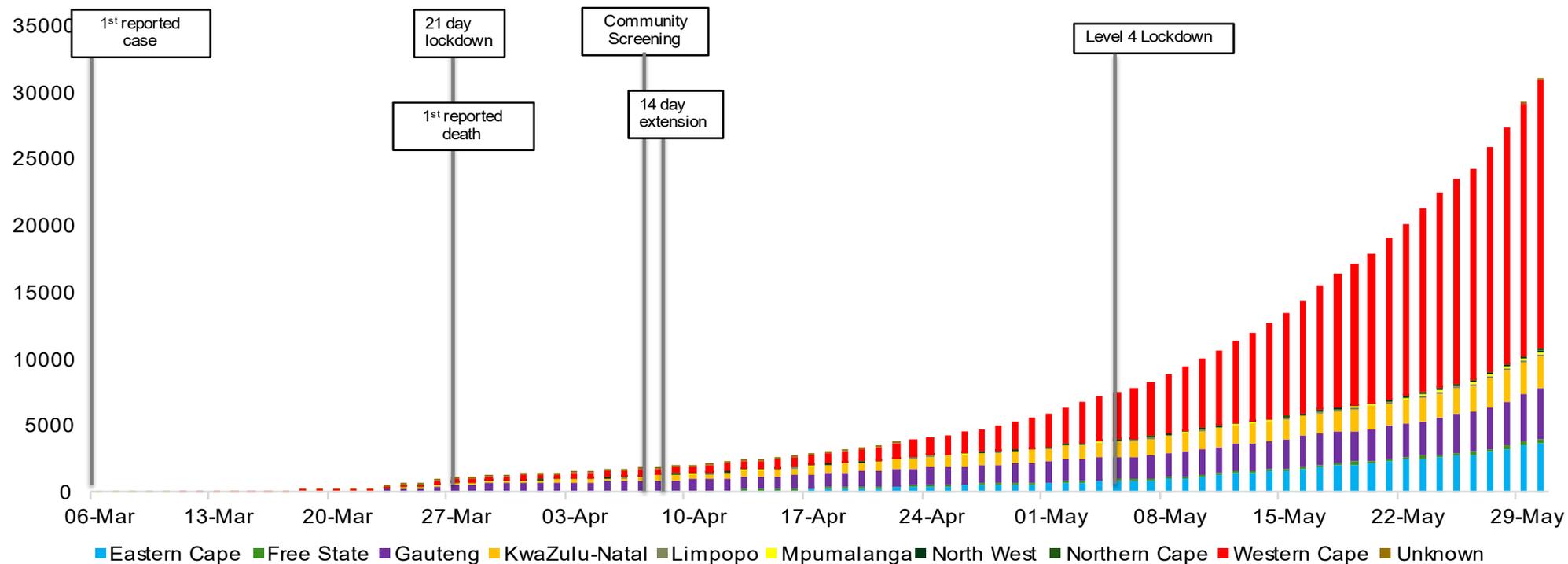
Responses continued

- 28-29/03/2020: Meetings with NHLS/NICD to stabilise routine reporting
- 30/03/2020: mobilized CHWs for community screening (5 400)
- 06/04/2020: Models presented to NT for additional funding requirements; meeting of DTI/DOH re procurement/production of PPEs, ventilators & test kits
- 14/04/2020: 2 415 cases & 27 deaths
- 27/04/2020: 4 793 cases & 88 deaths
- 01/05/2020: 5 951 cases & 116 deaths (CFR=1.9%)
- 16/05/2020: 14 355 cases & 260 deaths
- 31/05/2020: 32 683 cases & 671 deaths

COVID-19 Provincial: Cumulative Cases since 1st reported

Through and including **ases** through 30th of May

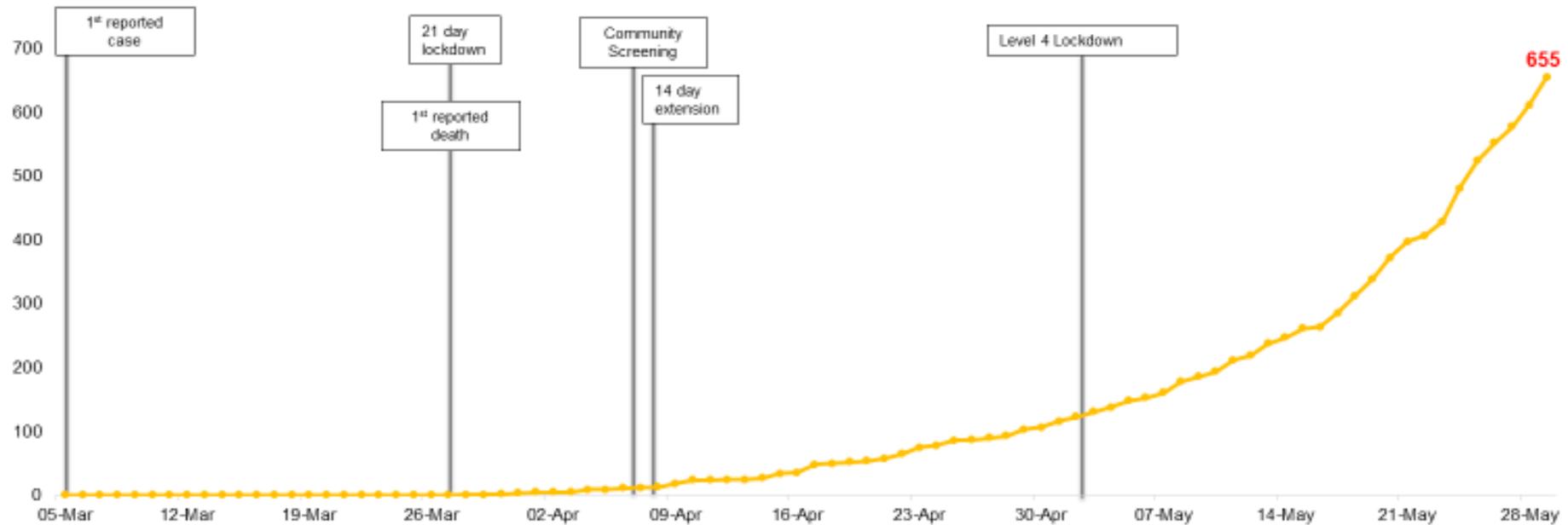
Total # of Cumulative Cases since 1st Reported Case by Province



COVID-19 National: Deaths since 1st reported Death

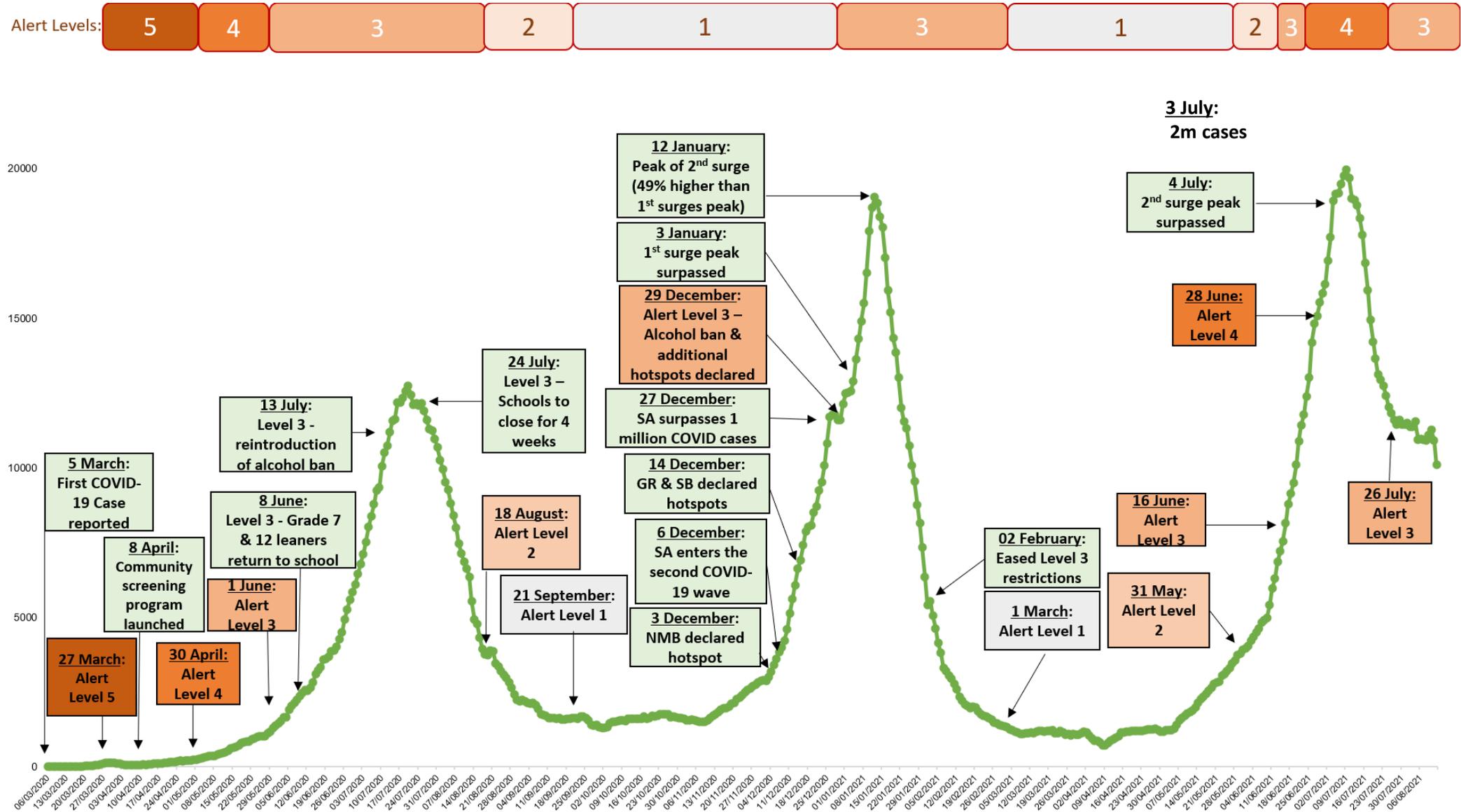
Through and including *deaths* through 29th of May

Total # of Cumulative Deaths since 1st Reported Case





Overview of Daily Cases with Events



What did we know, what didn't we know?

- Only knew 3 weeks after the first cases that the virus could be transmitted from human to human (22 Jan 2020)
- Knew it was a respiratory disease but debate about modes of transmission (air/surfaces)
- Who was highly vulnerable? Only after the first wave did we get data (Risk Factors for Coronavirus Disease 2019 death in a Population Cohort Study from the Western Cape Province, South Africa (August 2020; Risk factors for COVID-19-related in-hospital mortality in a high HIV and tuberculosis prevalence setting in South Africa: a cohort study, August 2020)
 - Males, increasing age, diabetes, hypertension, chronic kidney disease, HIV and TB

What did we know, what didn't we know?

- Debates about interventions: will virus burn itself out if many get infected; impact on health facilities
- Impact of lockdowns on transmission & the economy continue (now may shift to national vs provincial?)
- Knew that viruses mutate – but uncertain when, frequency, transmissibility & virulence
- Limited data made modeling tricky; clearly shown with rapid spread of delta variant
- Needed large volume of testing – but tests limited (global demand, suspension of air traffic); antigen tests took a while to arrive & only useful when incidence was low
- Treatment regimens were not known - trial and error (still controversies e.g. ivermectin)
- What to budget for? How to protect health workforce and mobilise additional staff; funding for oxygen, PPEs, etc
- Different times that provinces peaked in each of the three waves (WC/EC peaked first in the first wave but among the last to peak in the third wave); impact of immunity from the first to second wave; but delta intervened to make predictions ahead of the third wave difficult

Conclusions

- Unprecedented scale of the impact of the virus – difficult to prepare; weak & fragmented health system
- Much unknown about the virus and its impact
- Decisive leadership from the President praised:
 - “I thank President Cyril Ramaphosa for his leadership and all South Africa’s government and all of society Covid-19 response with citizens doing their best to adhere to the measures taken to contain the coronavirus,” (Tedros, March 2020)
 - “South Africa’s response to the Covid-19 outbreak has been a standout in the region. President Cyril Ramaphosa has been an effective communicator, speaking frankly to his constituents about challenges ahead. His government moved to close borders and restrict movement and now is gradually adjusting alert levels and policies to ease enforcements in specific cities and communities” (Center for Strategic & International Studies, May 2020).
 - “South Africa’s early interventions have delayed the Covid-19 peak. Its response is being implemented in the face of constrained resources and other challenges. The national commitment to responding to the epidemic provides hope that the country won’t experience the devastation seen elsewhere. As South Africa braces for an expected surge of cases over the coming weeks”. (Abdool-Karim, May 2020).
- Some limitations to the early responses (Naicker, June 2020): MAC dominated by medical professionals; differences amongst advisors in lockdown strategy; absence of engagement with civil society.

“I describe the national Covid-19 response as “sailing a ship while building it” (Abdool Karim, May 2020).

I thank you!