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CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

The social impact of Covid-19: The good, the bad and building better!

The social impact of Covid-19: The good, the bad and the ingenious!
HELM Engage Webinar 2, 31 August 2021

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UNAIDS Special Ambassador for Adolescents and HIV

science & innovation Department: Science and Innovation REPUBLIC OF SOUTH AFRICA

CAPRISA hosts a DST-NRF Centre of Excellence in HIV Prevention

NRF National Research Foundation

UNAIDS
CAPRISA is the UNAIDS Collaborating Centre for HIV Research and Policy

saMRC
CAPRISA hosts a MRC HIV-TB Pathogenesis and Treatment Research Unit

COLUMBIA UNIVERSITY | MAILMAN SCHOOL of PUBLIC HEALTH

UNIVERSITY OF KWAZULU-NATAL INYUVESI YAKWAZULU-NATALI

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Outline

- **Covid-19 : Current status globally and nationally; lives vs livelihoods**
- **The Good : Pro-active response & Communication with public; Public engagement with science; Scientific innovations & vaccination roll-out**
- **The Bad : Reversal of gains on HIV &TB; Corruption & Greed - Vaccine nationalism; Worsening of inequalities**
- **Building back better : solidarity/*ubuntu &* bonds of reciprocity; role of tertiary institutions**

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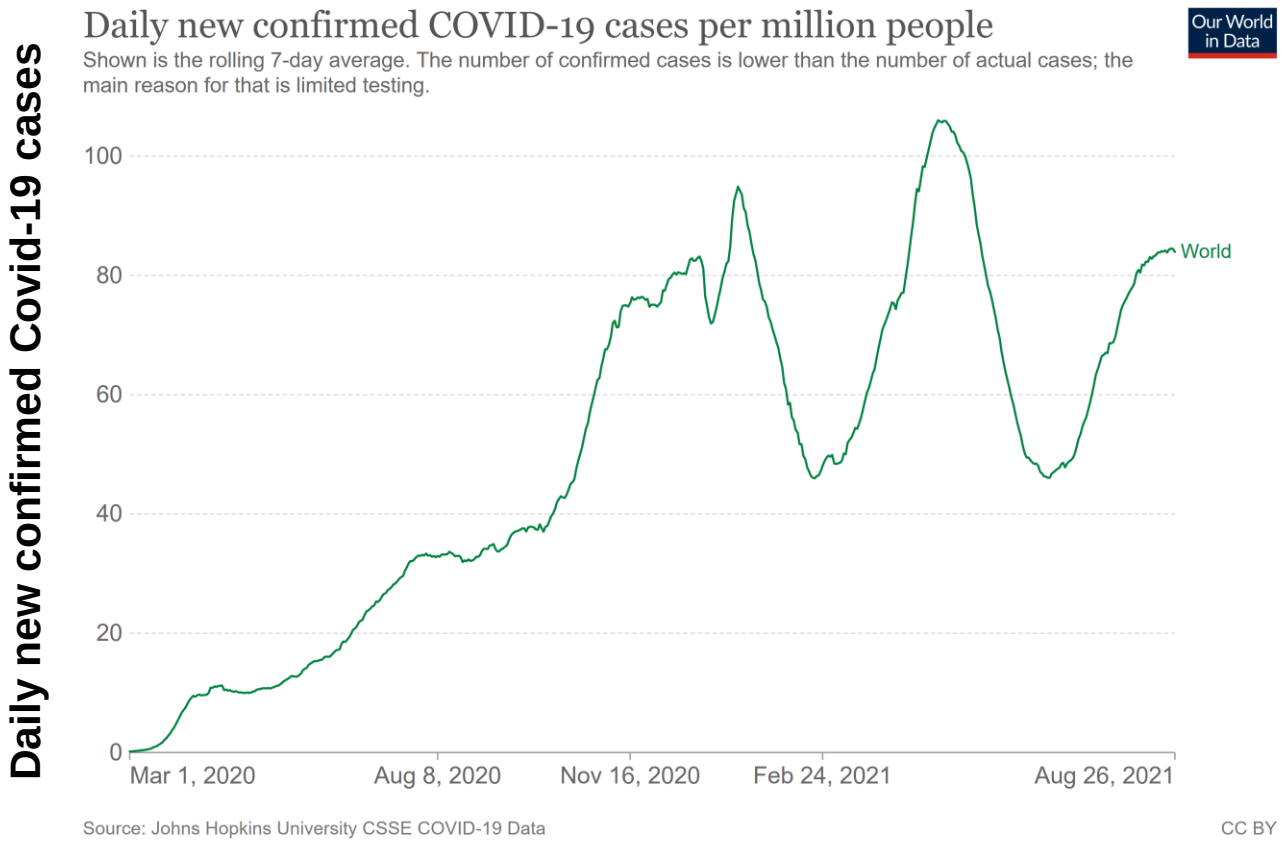
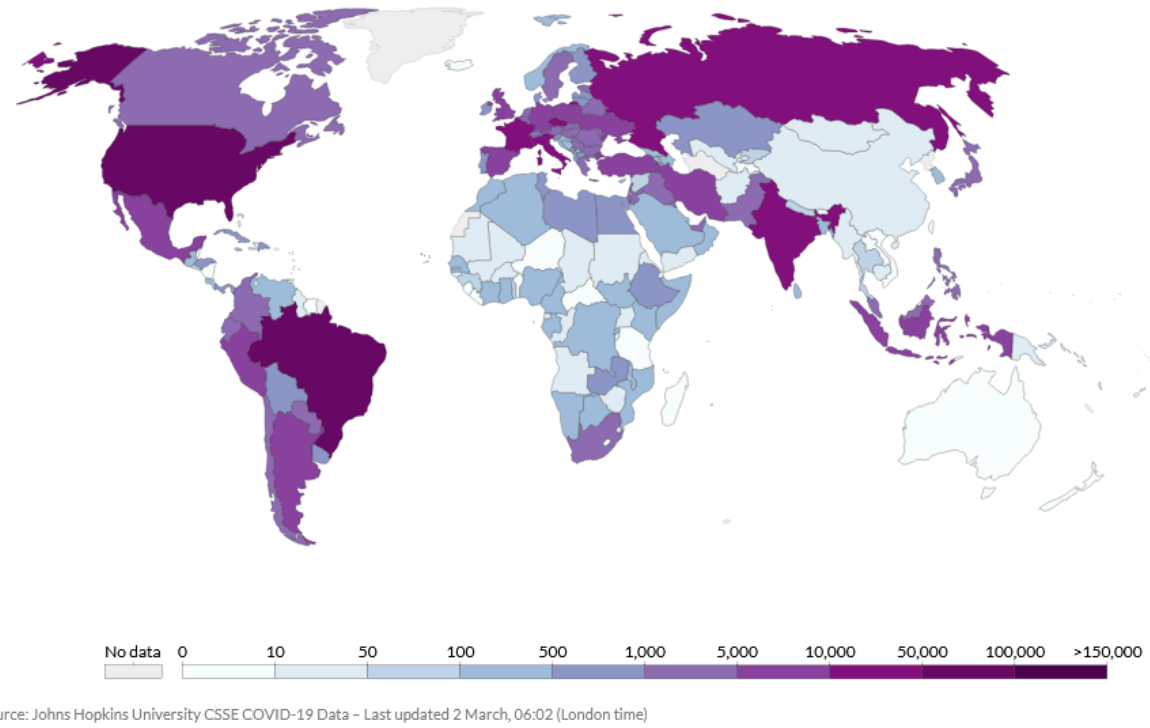
Global Covid-19 epidemic

214 million cases, **4.4 million** deaths

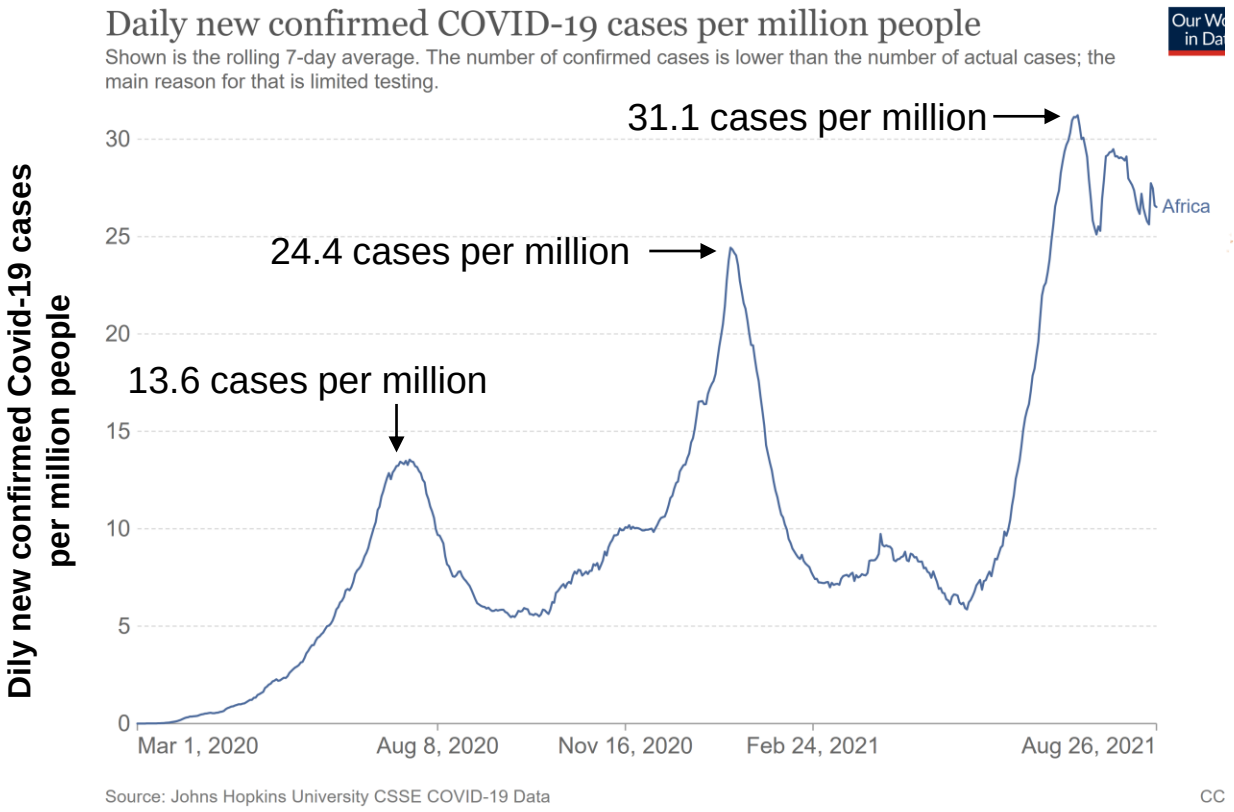


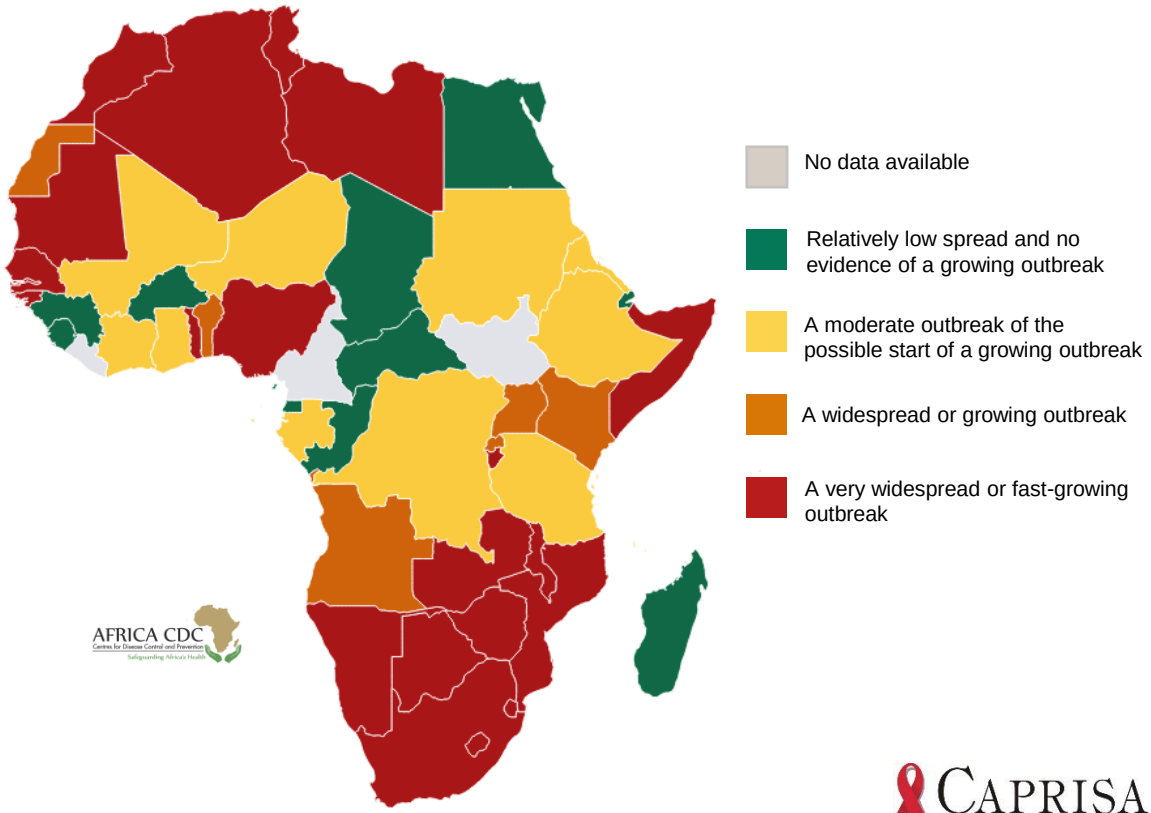


Source: *Our World in Data; data explorer, 26 Aug 2021; Johns Hopkins University [COVID-19 Dashboard]*

Covid-19 in Africa

- **7.6 million** cumulative cases (3.4% of global cases - up to 26 August 2021)
- **192,643** deaths (CFR: 2.5%; ~4.1% of global deaths in 15% of world's population)





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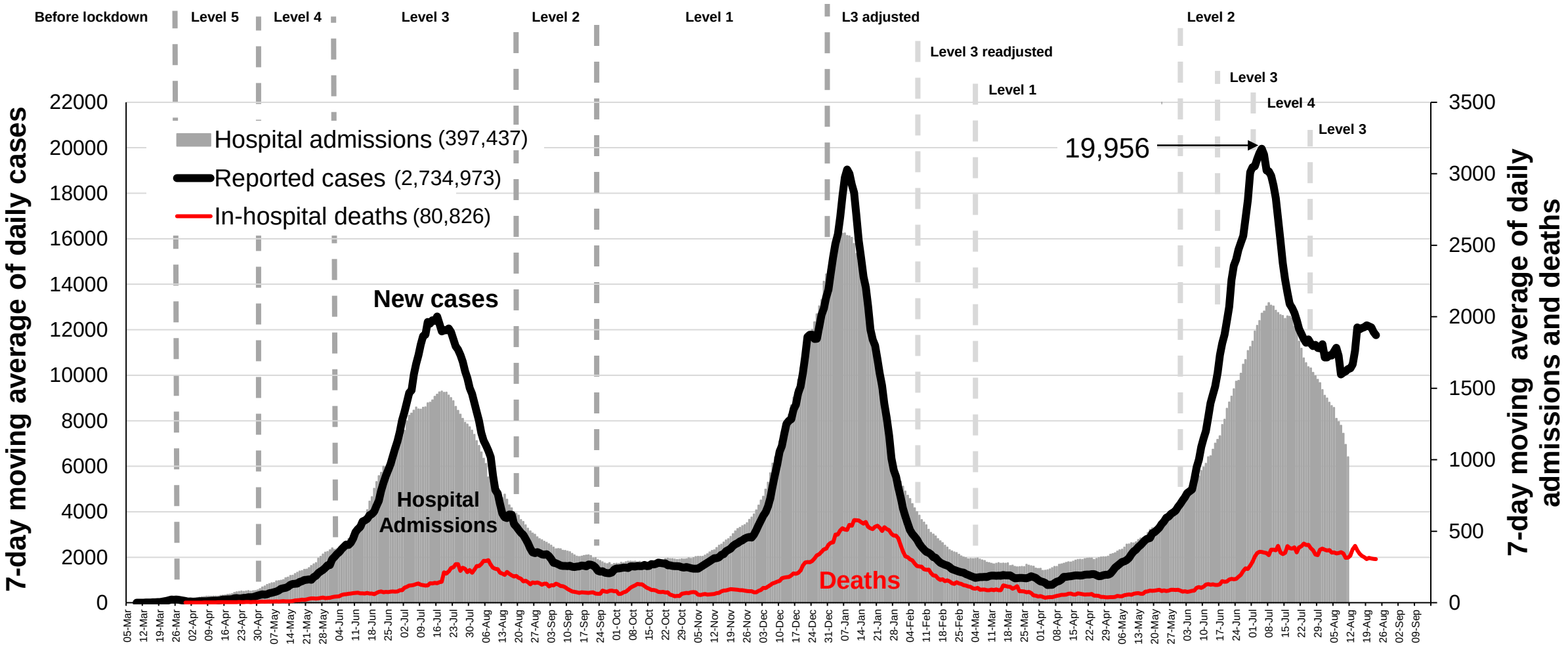
Covid-19 in South Africa

7-day moving average of new cases, hospital admissions and in-hospital Covid-19 deaths – 26 August 2021



Source of hospital admissions data: Lucille Blumberg, Richard Welch and Waasila Jassat – DATCOV, NICD

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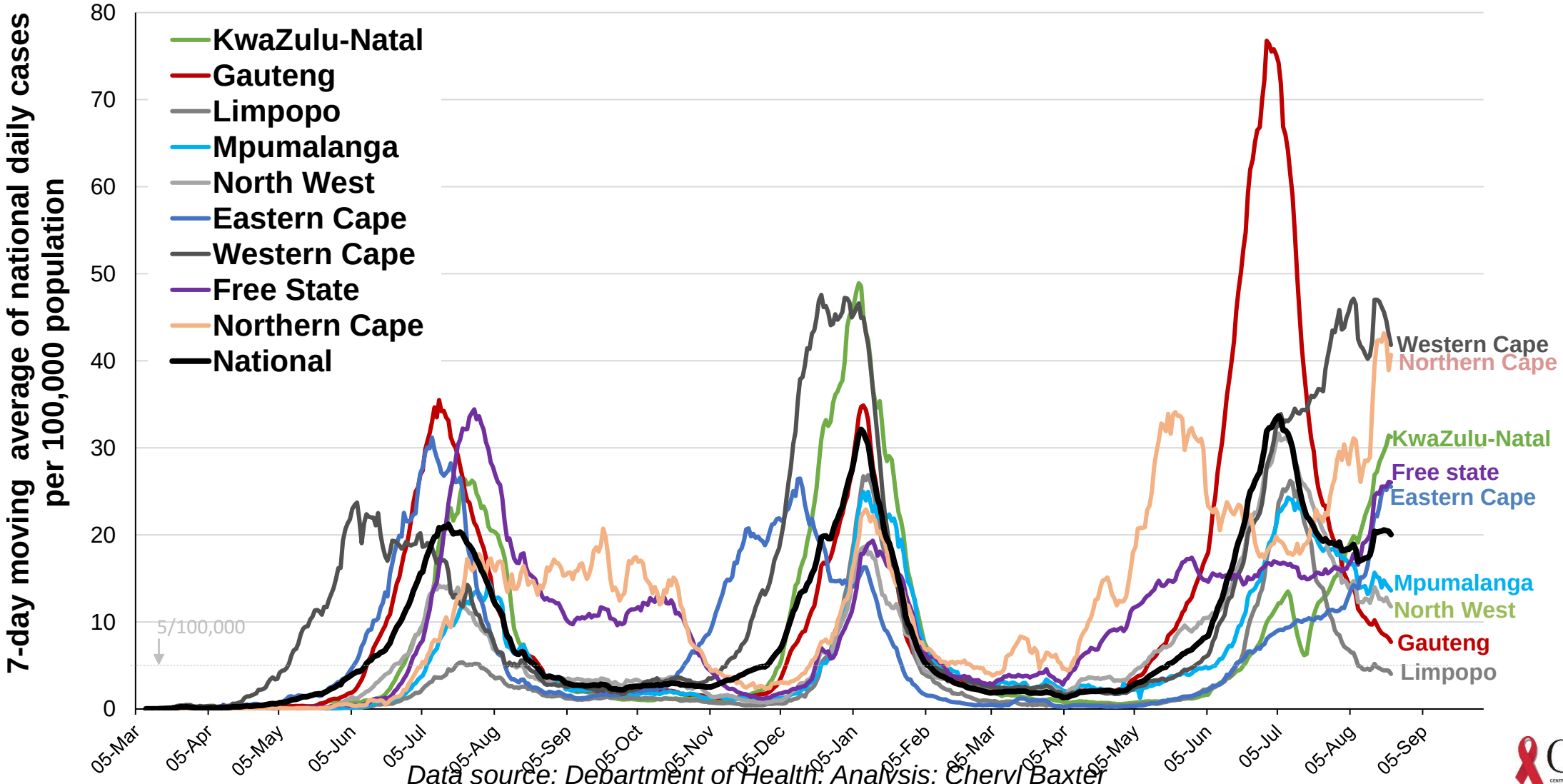
Confirmed SARS-Cov-2 cases by province

(7-day moving average cases per 100,000 population – up to 26 Aug 2021)



Data source: Department of Health, Analysis: Cheryl Baxter

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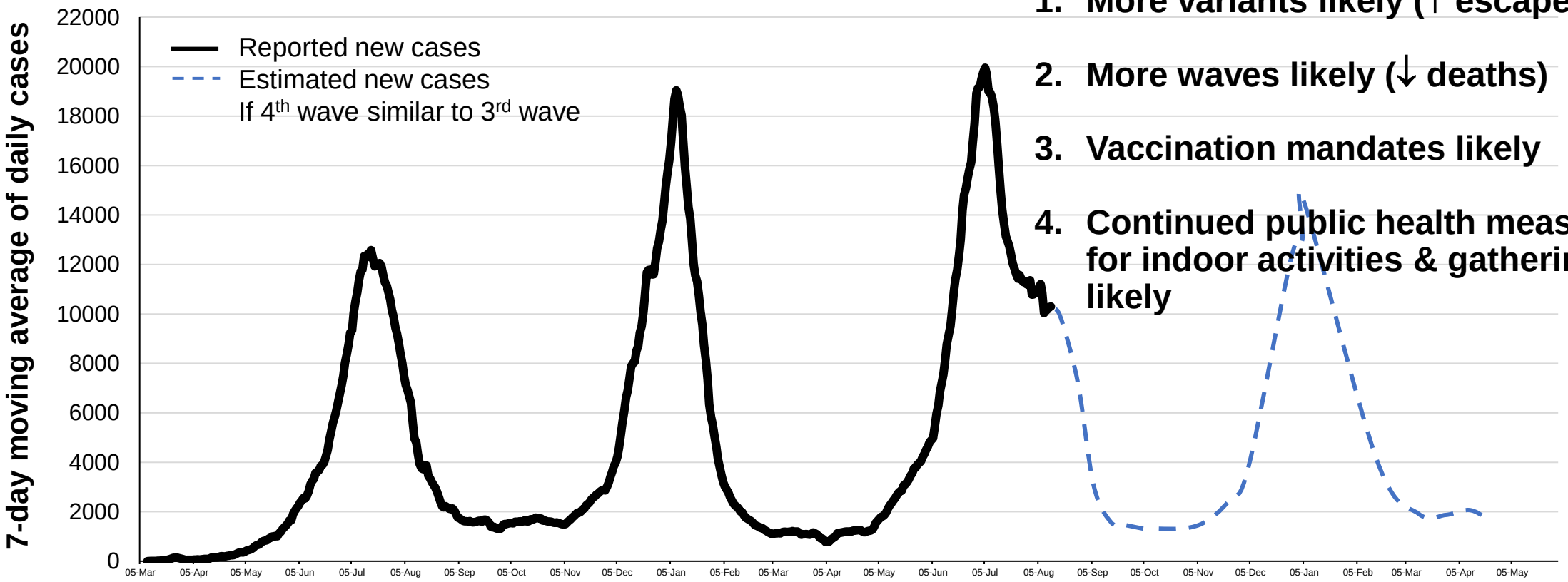
What may happen next….

(estimated case numbers assuming 4th wave has similar pattern & new variant)

1st wave 74 days | Inter-wave 94 days | 2nd wave 75 days | Inter-wave 99 days | 3rd wave ~103 days (16 May – end Aug) | Inter-wave 99 days | 4th wave ~75 days (early Dec - mid Feb)



1. **More variants likely (↑ escape)**
2. **More waves likely (↓ deaths)**
3. **Vaccination mandates likely**
4. **Continued public health measures for indoor activities & gatherings likely**

Note: New variant and other factors may change epidemic trajectory. These estimations are based on several assumptions and not on mathematical modelling

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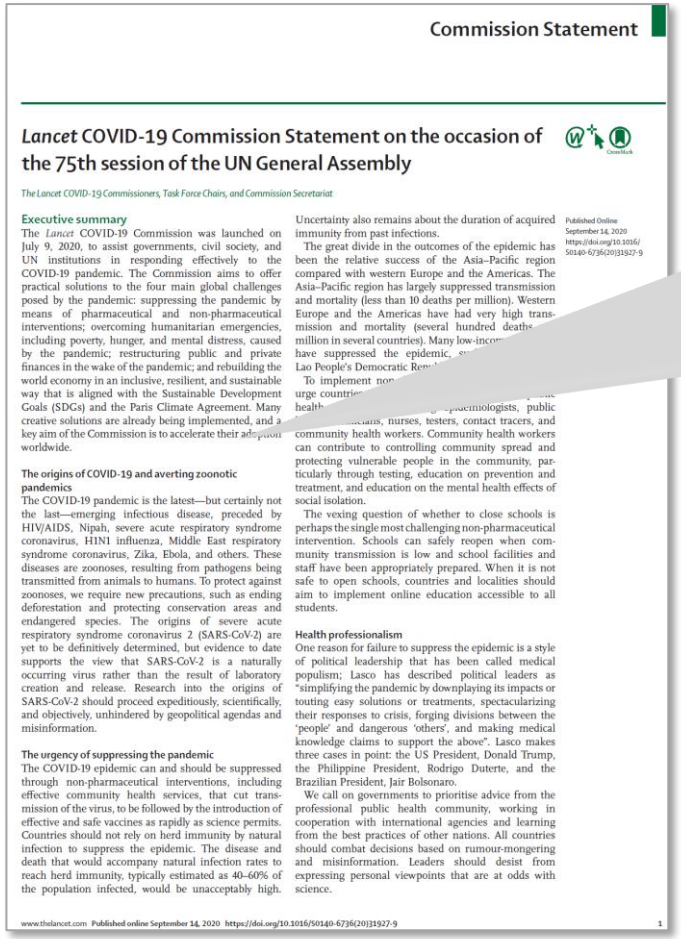
The Covid-19 dichotomy: Lives vs Livelihoods



Commission Statement

Lancet COVID-19 Commission Statement on the occasion of the 75th session of the UN General Assembly

The Lancet COVID-19 Commissioners, Task Force Chairs, and Commission Secretariat

Published Online September 14, 2020 https://doi.org/10.1016/S0140-6736(20)31927-9

Executive summary

The *Lancet* COVID-19 Commission was launched on July 9, 2020, to assist governments, civil society, and UN institutions in responding effectively to the COVID-19 pandemic. The Commission aims to offer practical solutions to the four main global challenges posed by the pandemic: suppressing the pandemic by means of pharmaceutical and non-pharmaceutical interventions; overcoming humanitarian emergencies, including poverty, hunger, and mental distress, caused by the pandemic; restructuring public and private finances in the wake of the pandemic; and rebuilding the world economy in an inclusive, resilient, and sustainable way that is aligned with the Sustainable Development Goals (SDGs) and the Paris Climate Agreement. Many creative solutions are already being implemented, and a key aim of the Commission is to accelerate their adoption worldwide.

The origins of COVID-19 and averting zoonotic pandemics

The COVID-19 pandemic is the latest—but certainly not the last—emerging infectious disease, preceded by HIV/AIDS, Nipah, severe acute respiratory syndrome coronavirus, H1N1 influenza, Middle East respiratory syndrome coronavirus, Zika, Ebola, and others. These diseases are zoonoses, resulting from pathogens being transmitted from animals to humans. To protect against zoonoses, we require new precautions, such as ending deforestation and protecting conservation areas and endangered species. The origins of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) are yet to be definitively determined, but evidence to date supports the view that SARS-CoV-2 is a naturally occurring virus rather than the result of laboratory creation and release. Research into the origins of SARS-CoV-2 should proceed expeditiously, scientifically, and objectively, unhindered by geopolitical agendas and misinformation.

The urgency of suppressing the pandemic

The COVID-19 epidemic can and should be suppressed through non-pharmaceutical interventions, including effective community health services, that cut transmission of the virus, to be followed by the introduction of effective and safe vaccines as rapidly as science permits. Countries should not rely on herd immunity by natural infection to suppress the epidemic. The disease and death that would accompany natural infection rates to reach herd immunity, typically estimated as 40–60% of the population infected, would be unacceptably high. Uncertainty also remains about the duration of acquired immunity from past infections.

The great divide in the outcomes of the epidemic has been the relative success of the Asia–Pacific region compared with western Europe and the Americas. The Asia–Pacific region has largely suppressed transmission and mortality (less than 10 deaths per million). Western Europe and the Americas have had very high transmission and mortality (several hundred deaths [illegible] million in several countries). Many low-income countries have suppressed the epidemic, such as the Lao People's Democratic Republic [illegible]

To implement non-[illegible] urge countries to [illegible] health [illegible] epidemiologists, public [illegible] health [illegible], nurses, testers, contact tracers, and community health workers. Community health workers can contribute to controlling community spread and protecting vulnerable people in the community, particularly through testing, education on prevention and treatment, and education on the mental health effects of social isolation.

The vexing question of whether to close schools is perhaps the single most challenging non-pharmaceutical intervention. Schools can safely reopen when community transmission is low and school facilities and staff have been appropriately prepared. When it is not safe to open schools, countries and localities should aim to implement online education accessible to all students.

Health professionalism

One reason for failure to suppress the epidemic is a style of political leadership that has been called medical populism; Lasco has described political leaders as "simplifying the pandemic by downplaying its impacts or touting easy solutions or treatments, spectacularizing their responses to crisis, forging divisions between the 'people' and dangerous 'others', and making medical knowledge claims to support the above". Lasco makes three cases in point: the US President, Donald Trump, the Philippine President, Rodrigo Duterte, and the Brazilian President, Jair Bolsonaro.

We call on governments to prioritise advice from the professional public health community, working in cooperation with international agencies and learning from the best practices of other nations. All countries should combat decisions based on rumour-mongering and misinformation. Leaders should desist from expressing personal viewpoints that are at odds with science.

"The economic effects of this pandemic are unprecedented. 90% of countries are in recession in 2020, possibly exceeding the economic downturn during the Great Depression in the 1930s…"

Covid-19 → 1st recession in Africa in 25 years, Growth -2.1 to -5.1% in 2020

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Impact on livelihoods, health access, & food systems

- Context of other health challenges HIV, TB, SRH, NCDs, access to health services
- 3.3 billion of global workforce at risk – most marginalized and deprived; Informal economy workers – lack of social protection (race; gender; displaced/indigenous); worker safety issues
- No income – no food; less food/ less nutritious food – few choices. Cash transfers; child allowances; food; recovery and protection programs – beyond big business
- Fragility of food systems – agriculture including harvesting/primary production; food processing; transport & retail
- Climate change and Environmental degradation

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- The Bad : Corruption & Greed - Vaccine nationalism; Reversal of gains on: HIV &TB ; Gender Equity; Worsening of inequalities
- The Opportunities : solidarity/*ubuntu* ; building back better together; bonds of reciprocity; role of tertiary institutions

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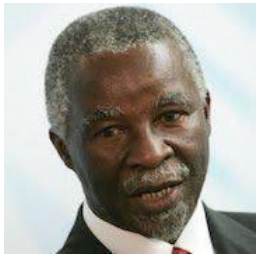
The Good: Making difficult decisions by bravely facing problems & acting decisively

Denial

Accept that the problem needs a pro-active response



"We have now declared a national state of disaster. …..we are imposing a travel ban on foreign nationals from high-risk countries….. Gatherings of more than 100 people will be prohibited…. Schools will be closed…"
- President Cyril Ramaphosa, 15 March 2020

THE WORLD UNIVERSITY RANKINGS

Neil Ferguson: Delay in lockdown UK's "biggest" pandemic mistake

"The number of coronavirus deaths in the UK would have been halved if lockdown had been introduced a week earlier" – Neil Ferguson, advisor - UK Govt

The Good: Open communication

Open communication:

- Regular media briefings on the science of SARS-CoV-2 pandemic
- Daily publication of cases, deaths, vaccines…
- Weekly updates from the Minister of Health
- Regular televised updates from the President
- Ministerial Advisory Committee advisories on SACoronavirus website

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The Good: Science accessible for those with data & internet connectivity!

- **Increased access to real time Covid-19 data worldwide (e.g., JHU dashboard & Our World in Data)**
- **Public using epidemiological concepts to analyse each day's reported tests, cases & deaths - add gender and age analysis**
- **Explosion of Covid-19 articles (62,054 in Pubmed)**
- **Rapid publication - 9,364 on pre-print servers**
- **Paywalls dropped – Covid-19 articles are mostly free - A new level of accessibility and immediacy**

PubMed.gov

COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv

9364 Articles (7371 medRxiv, 1993 bioRxiv)

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The Good: scientific innovations in diagnostics, therapeutics and vaccines

	Company (Vaccine)	Efficacy (pre-existing variants
mRNA	Pfizer BioNTech (BNT162)	92%
	Moderna (mRNA-1273)	>90%
Viral vector	J&J (Ad26.COV2-S)	64-72%
	Gamaleya (Sputnik V rAd5, rAd26)	92%
	Oxford-AstraZeneca (AZD1222)	67-76%
	CanSinoBio (Ad5-nCoV)	65%
Protein	Vector Institute (EpiVacCorona)	unknown
	Novavax (NVX-CoV2373)	89%
Inactivated	Sinopharm	78%
	Sinovac	51%-84%
	Sinopharm-Wuhan	73%
	Bharat Biotech (BBV152)	78%

4.7 billion doses administered by 15 August 2021

Laboratory-based PCR

Rapid point-of-care test

Dexamethasone in Hospitalized Patients with Covid-19 — Preliminary Report

The RECOVERY Collaborative Group*

Efficacy and safety of Tocilizumab in severe and critical COVID-19: A Systematic Review and Meta-Analysis

Soheila Rezaei, Behzad Fatemi, Zahra Karimi Majd, Hossein Minaei, Mohammad Peikanpour, Nassim Anjidani, Ali Taheri, Farzaneh Dastan & Reza Mosaed

Photo credit: Reuters

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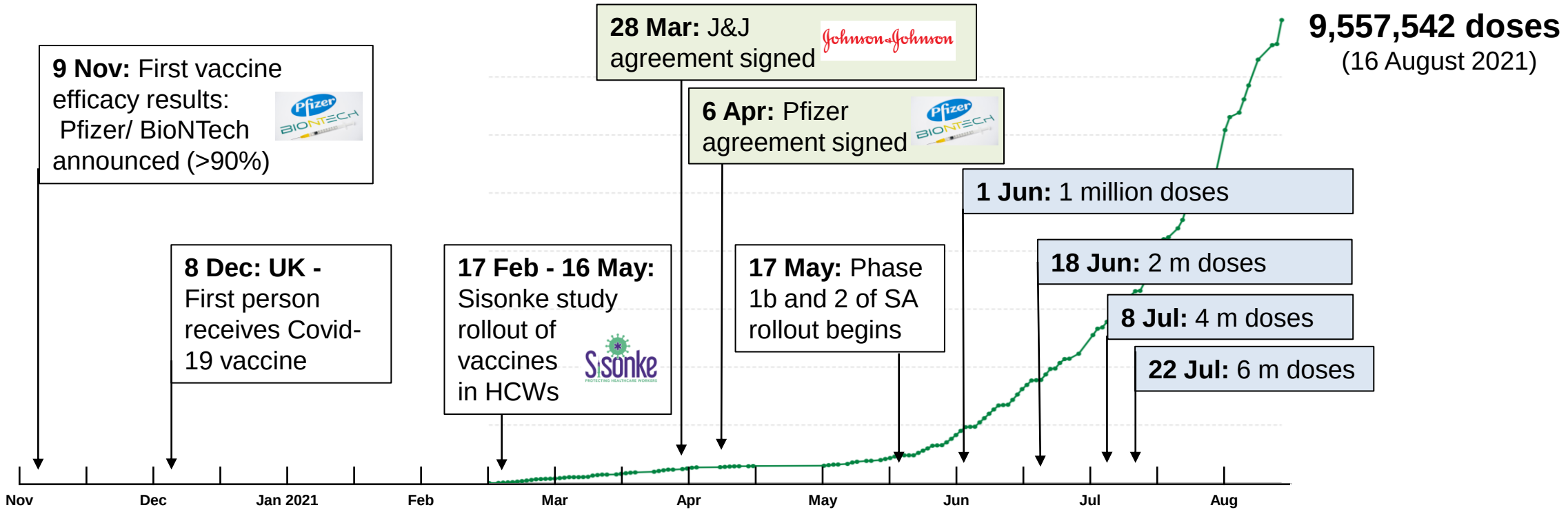
The Good: Rapidly increasing vaccination coverage in South Africa - ≥18 years

Vaccine coverage in eligible (>35 years): 34% ≥1 dose, 19% fully vaccinated
Vaccination in elderly (>60 years): 4,8 million doses (5,4 million elderly people)



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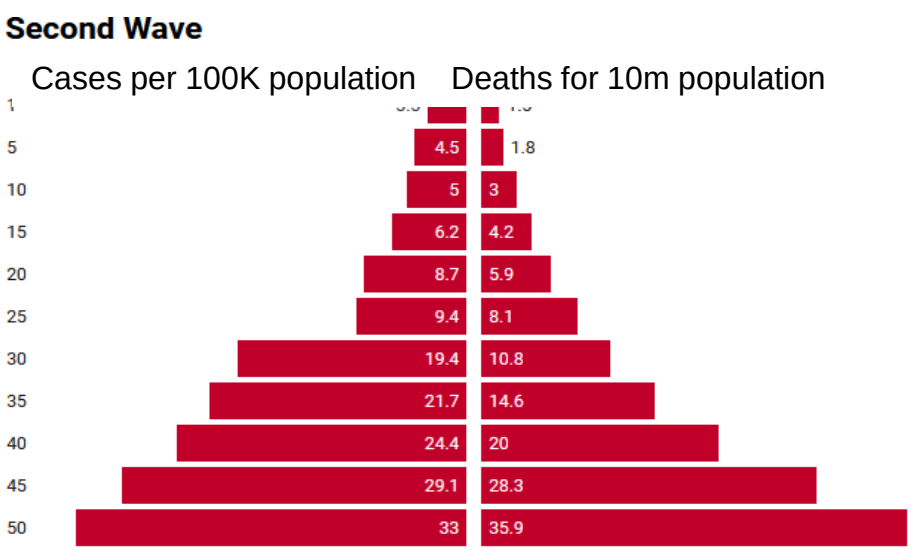
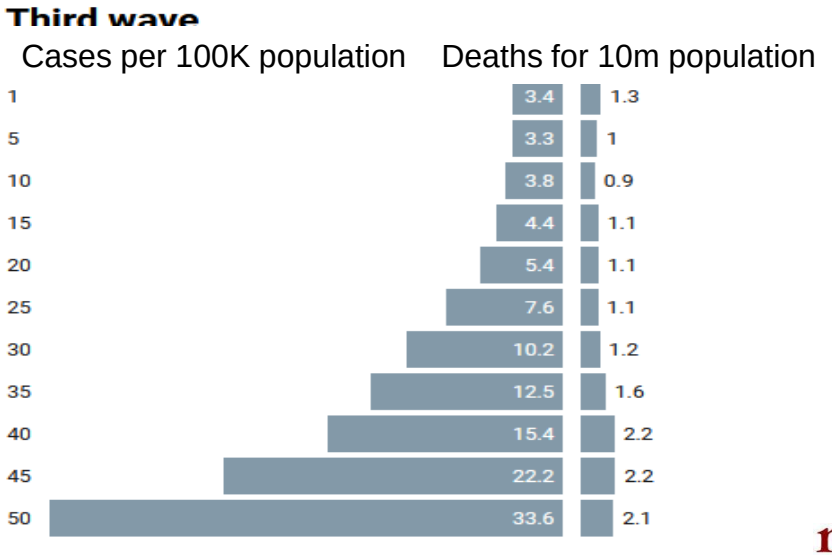
The Good: Vaccine rollout reduces deaths, transmission, & protects the unvaccinated





Cases versus deaths over days 1–50 of the UK's second and third Covid waves.
Cases have risen with Delta variant in UK, Israel, etc, deaths did not rise to same extent.
Source: *UK Government, ONS*

medRxiv
THE PREPRINT SERVER FOR HEALTH SCIENCES

Vaccination with BNT162b2 reduces transmission of SARS-CoV-2 to household contacts in Israel

: Ottavia Prunas[1,2]*, Joshua L. Warren[2,3]†, Forrest W. Crawford[2,3]†, Sivan Gazit[4], Tal Patalon[4], Daniel M. Weinberger[1,2]*, Virginia E. Pitzer[1,2]*

Transmission in 253,564 individuals in 65,624 households in Israel – in unvaccinated: 79% ↓ infection in those exposed to vaccinated vs unvaccinated infected household contacts

nature medicine

Community-level evidence for SARS-CoV-2 vaccine protection of unvaccinated individuals

Oren Milman[1,5], Idan Yelin[1,5], Noga Aharony[1], Rachel Katz[2], Esma Herzel[2], Amir Ben-Tov[2,3], Jacob Kuint[2,3], Sivan Gazit[2], Gabriel Chodick[2,3], Tal Patalon[2]✉ and Roy Kishony[1,4]✉

Each **20%** ↑ in vaccination → positive tests ↓ **50%** in unvaccinated people

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- The Ingenious : solidarity/*ubuntu* ; building back better together; bonds of reciprocity - chance favours the prepared mind;

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The Bad: Corruption and human rights abuses

BBC NEWS

Coronavirus: South Africa deploys 70,000 troops to enforce lockdown

EWN EYEWITNESS NEWS

SOLDIERS IMPLICATED IN COLLINS KHOSA'S KILLING VIOLATED HIS HUMAN RIGHTS - COURT

Collins Khoza's death last month caused public outcry with members of the community calling for action against the officers alleged to have been involved.

BBC NEWS

Coronavirus in South Africa: Misuse of Covid-19 funds 'frightening'

MEDICAL Brief
Africa's Medical Media Digest

COVID-19 corruption scandal hits R5bn and is still growing

The Guardian

Coronavirus

Fifth of UK Covid contracts 'raised red flags for possible corruption'

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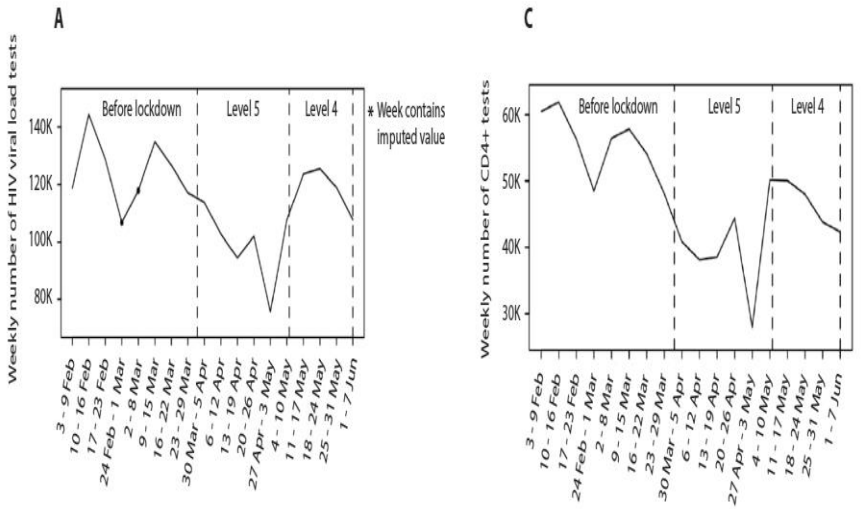
The Bad: Covid-19 impacted HIV / TB services



Source: *Madhi S et al. SAMJ 2020; 110(8): 724-726*

- During the level 5 lockdown:
  - **22%** ↓ in average weekly HIV-1 VL testing
  - **33%** ↓ in CD4+ cell count testing compared with the pre-lockdown periods

The impact of the COVID-19 lockdown on HIV care in 65 South African primary care clinics: an interrupted time series analysis

Jienchi Dorward, Thokozani Khubone, Kelly Gate, Hope Ngobese, Yukteshwar Sookrajh, Siyabonga Mkhize, Aslam Jeewa, Christian Bottomley, Lara Lewis, Kathy Baisley, Christopher C Butler, Nomakhosi Gxagxisa, Nigel Garrett

- **Lockdown reduced patient attendance at health facilities in South Africa:**
  - 57% (n=339) apprehensive to visit clinics/hospital during lockdown
- **HIV testing & ART initiations ↓ ~47% in April 20**
- **Little change in ART medicine collections**
- **↓ 48% in weekly TB Xpert tests in lockdown***

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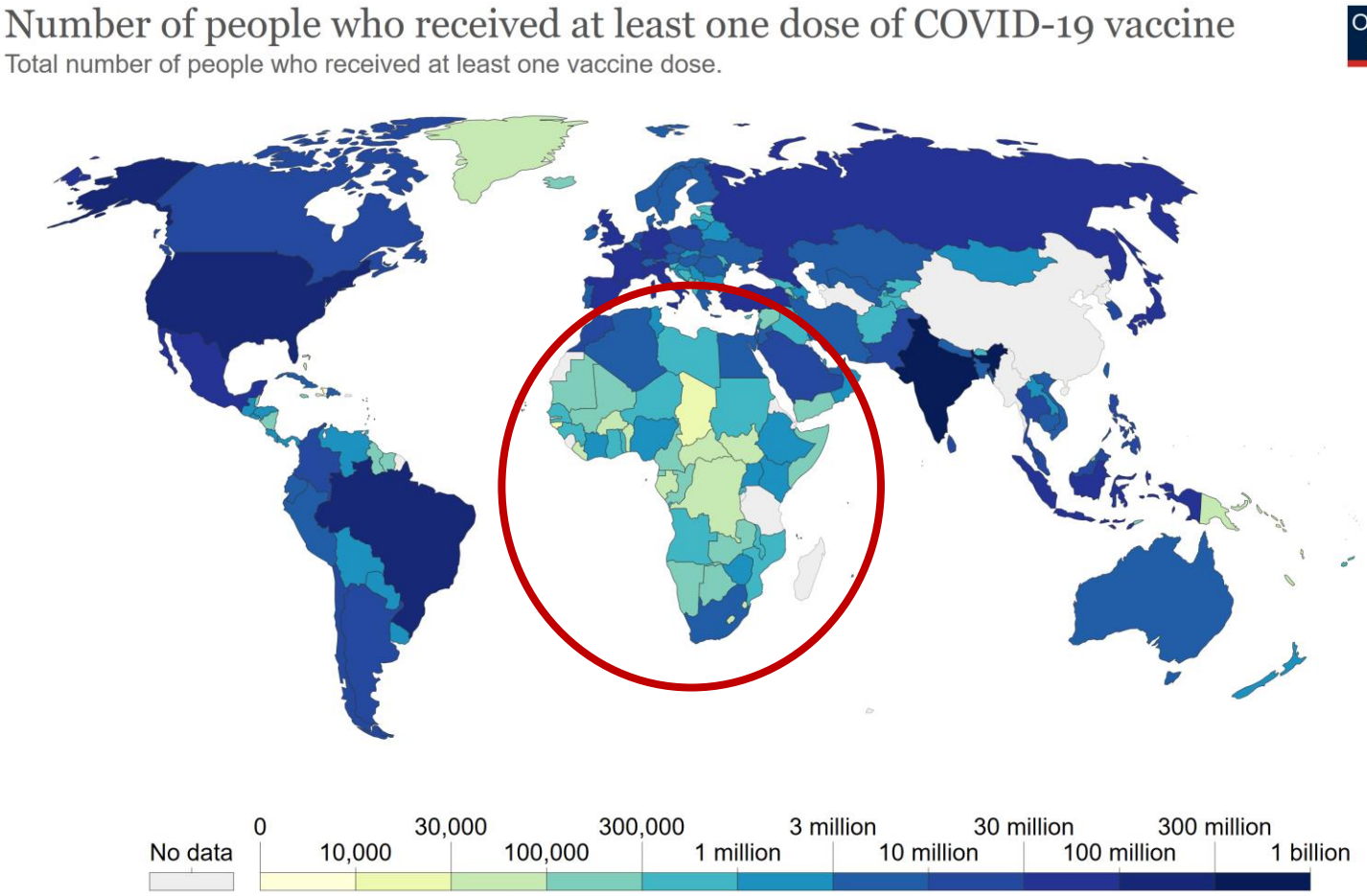
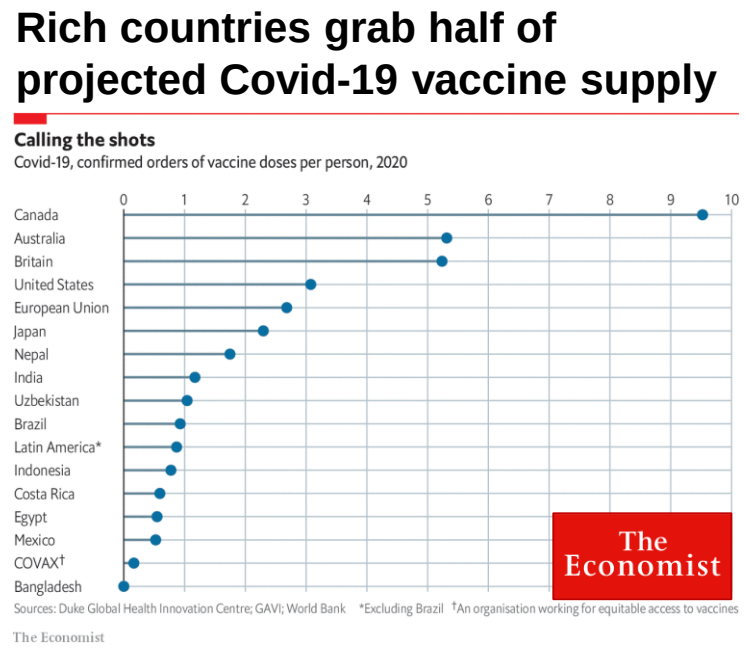
The Bad: Lack of doses in poor countries due to vaccine nationalism





Source: Official data collated by Our World in Data. This data is only available for countries which report the breakdown of doses administered by first and second doses.

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The Bad: Market forces & political influence determine who gets vaccine doses & Booster promotion

COVAX

4.7 billion doses

Covax → (Mali and other LMICs)

Bilateral purchasing agreements → (Most countries)

Secured through vaccine diplomacy → (UAE, Turkey, Egypt, Morocco, Chile)

The Economist

Vaccine diplomacy boosts Russia's and China's global standing

Purchasing Covid-19 vaccines at risk – costs and benefits of AMCs

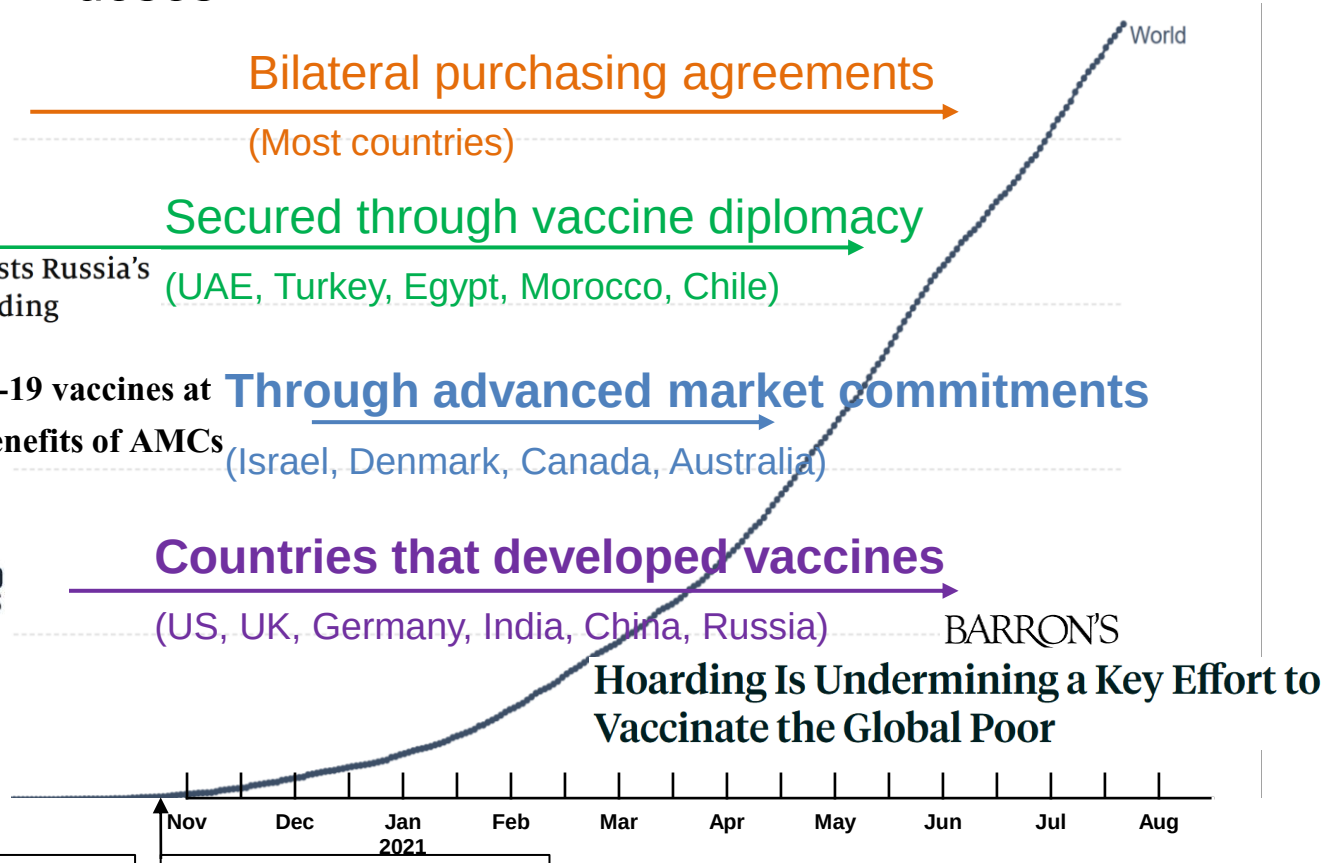
Through advanced market commitments → (Israel, Denmark, Canada, Australia)

OPERATION WARP SPEED
ACCELERATED VACCINE PROCESS

Countries that developed vaccines → (US, UK, Germany, India, China, Russia)

BARRON'S

Hoarding Is Undermining a Key Effort to Vaccinate the Global Poor



9 Nov: 1st vaccine efficacy result

8 Dec: UK – 1st person vaccinated

REUTERS®

Pfizer, Moderna seen reaping billions from COVID-19 vaccine booster market

CNN health

Pfizer says it's time for a Covid booster; FDA and CDC say not so fast

THE WALL STREET JOURNAL.

Covid-19 Immunity Wanes, but Third Shot Still Rarely Needed, BioNTech CEO Says

Governments must decide whether to give vulnerable people extra dose, head of German vaccine inventor says

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The Bad: Conspiracy theories, miracle cures & anti-vaxx misinformation

BILL GATES, DAVID ICKE, 5G: HOW COVID-19 HAS RESHAPED CONSPIRACY THEORIES

PLANDEMIC

Miracle cures, New World Order and a Bill Gates plan: The most absurd Coronavirus conspiracy theories

The New York Times

Study Finds 'Single Largest Driver' of Coronavirus Misinformation: Trump

Cornell University researchers analysed 38 million English articles found 1.1 m have misinformation, mostly conspiracies.

EWN EYEWITNESS NEWS

HPCSA RECEIVES FORMAL COMPLAINT AGAINST HEART SURGEON FOR ANTI-VAXX COMMENTS

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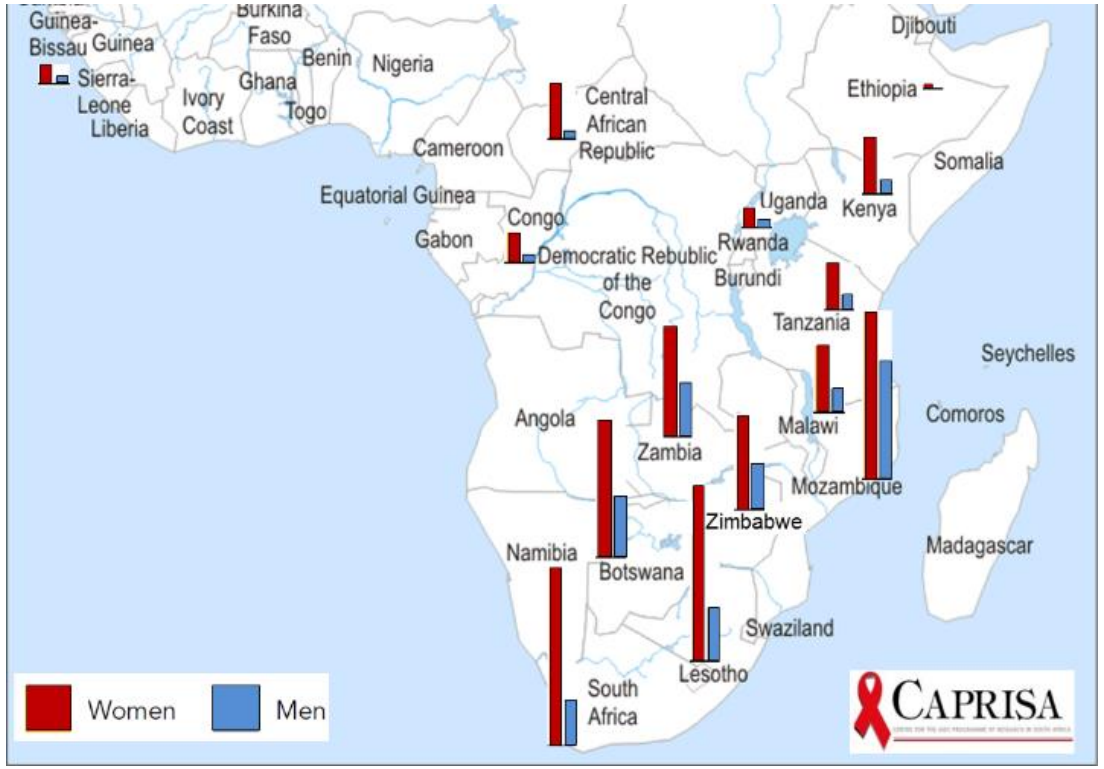
Addressing gender inequity



SUSTAINABLE DEVELOPMENT GOALS

5 GENDER EQUALITY

HR

Coronavirus putting women's careers at risk

Helen Letchfield, JUNE 22, 2020

BOSTON 25 NEWS

Women are losing more jobs than men in the coronavirus economy

THE KNOWLES GROUP

The Economic Virulence of COVID Weighs Heavily on both Women and the Young

SEPTEMBER 21, 2020

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The Shadow Pandemic: Violence Against Women & Girls & COVID-19

Globally,

243 million

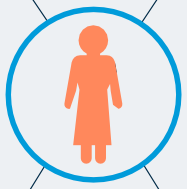
women and girls aged 15-49 have been subjected to sexual and/or physical violence perpetrated by an intimate partner in the previous12 months.

The number is likely to INCREASE as security, health, and money worries heighten tensions and strains are accentuated by cramped and confined living conditions.

Emerging data shows that since the outbreak of COVID-19, violence against women and girls (VAWG), and particularly domestic violence, has INTENSIFIED.

In **France**, reports of domestic violence have increased by **30%** since the lockdown on March 17.

In **Argentina** emergency calls for domestic violence cases have increased by **25%** since the lockdown on March 20.



In **Cyprus** and **Singapore** helplines have registered an increase in calls of **30%** and **33%**, respectively.

Increased cases of domestic violence and demand for emergency shelter have also been reported in **Canada, Germany, Spain, the United Kingdom** and **the United States**.

As stay-at-home orders expand to contain the spread of the virus, women with violent partners increasingly find themselves isolated from the people and resources that can help them.

87,000 women were intentionally killed in 2017. The majority of these killings were committed by an intimate partner or family member of the victim.

Violence against women and girls is pervasive but at the same time widely under-reported. Less than **40%** of women who experience violence report these crimes or seek help of any sort.

The global cost of violence against women had previously been estimated at approximately **US$1.5** trillion That figure can only be rising as violence increases now, and continues in the aftermath of the pandemic.

The surge in COVID-19 cases is straining even the most advanced and best- resourced health systems to the breaking point, including those at the front line in violence response.

Domestic violence shelters are reaching capacity, or unable to take new victims due to lockdown and social distancing measures. In other cases, they are being re-purposed to serve as health centers.

National responses to COVID-19 must include:

Services to address violence against women and girls, including increased resources to support shelters, hotlines and online counselling.
These essential services should be expanded and adapted to the crisis context to ensure survivors' access to support.

A strong message from law enforcement that impunity will not be tolerated. Police and Justice actors must ensure that incidents of VAWG are given high priority and care must be taken to address the manifestations of violence emerging in the context of COVID 19.

Psychosocial support for women and girls affected by the outbreak, gender-based violence survivors, frontline health workers and other frontline social support staff must be prioritized.

UN WOMEN

Source: COVID-19 and ending violence against women and girls. Rapid Response Brief by UN Women, 2020 (https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/issue-brief-covid-19-and-ending-violence-against-women-and-girls-en.pdf?la=en&vs=5006, accessed 4 June 2020).

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Outline

- **Covid-19 : Current status globally and nationally**
- **The Good : Pro-active response & Communication with public; Public engagement with science; Scientific innovations & vaccination roll-out**
- **The Bad : Corruption & Greed - Vaccine nationalism; Reversal of gains on: HIV &TB ; Gender Equity; Worsening of inequalities**
- **The Opportunities : solidarity/*ubuntu* ; building back better together; role of tertiary institutions**

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Way forward - A key lesson from HIV for Covid-19: Importance of mutual interdependence

"The AIDS movement demonstrates that with a shared vision, shared responsibility and through global solidarity and leadership of people living with HIV, affected communities and individual action, we can change the course of history."
– UNAIDS 2015

- **Global solidarity –** essential for access to life-saving medication, e.g. Global Fund, UNITAID, PEPFAR

Investing in our future
The Global Fund
To Fight AIDS, Tuberculosis and Malaria

SOUTH AFRICA AND THE UNITED STATES
WORKING IN PARTNERSHIP

UNITAID
TOGETHER TO HEAL

COVAX

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Opportunities to build back better

- The Covid-19 pandemic has provided a new lens for the nexus between science, politics and society as we pursue the path of the sustainable development goals; mutual interdependence
- Impacts still to be felt : Long Covid; orphans; PSTD/mental health issues; misinformation; food security;……
- Tertiary institutions – microcosm of society and home to an important demographic dividend for SSA viz Youth: realizing knowledge as the great equalizer?
- Architects of our own destiny: pivoting in face of uncertainty: Morning brief (Dr E Maasdorp, US); diagnostics (HIV PCR platforms), molecular surveillance – strengthened local evidence-based approaches
- Lead by example – taking stock as we implement recovery strategies – what worked and what did not

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Opportunities to build back better

- Human-Machine interface – implications for how and what we do as individuals; in our teams; departments, faculty and institutions – who got left behind and why? Lifelong learning; problem solving ; skill sets needed for resilience; Impact of basic education disruptions on future cohorts of students

- Unprecdented speed of SARS-CoV-2 knowledge generation – new bar set for addressing challenges; collaborations; multi-disciplinary approaches; Communication: interface with public and politicians – no quick fixes/silver bullets or complacency

- Vaccination – first step towards “normality” and recovery and rebuilding; new opportunity to build back stronger and better! *Ubuntu – bonds of reciprocity - no one is safe unless we are all safe!*

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“THIS IS A MOMENT TO DREAM BIG, TO RETHINK OUR PRIORITIES – WHAT WE VALUE, WHAT WE WANT, WHAT WE SEEK – AND TO COMMIT TO ACT IN OUR DAILY LIFE ON WHAT WE HAVE DREAMED OF……”

POPE FRANCIS ON OPPORTUNITIES FROM COVID-19