

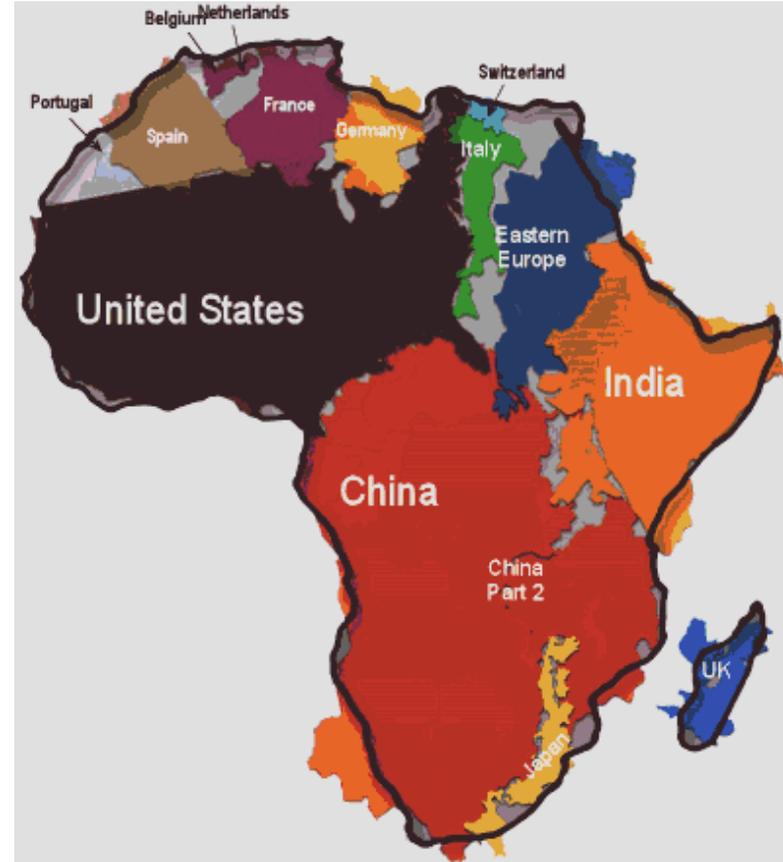
COVID in Africa

Francois Venter, PhD, FCP, DTM&H, Dip HIV Man

*Ezintsha, University of the Witwatersrand,
Johannesburg, South Africa*



A caveat: Africa is not a country





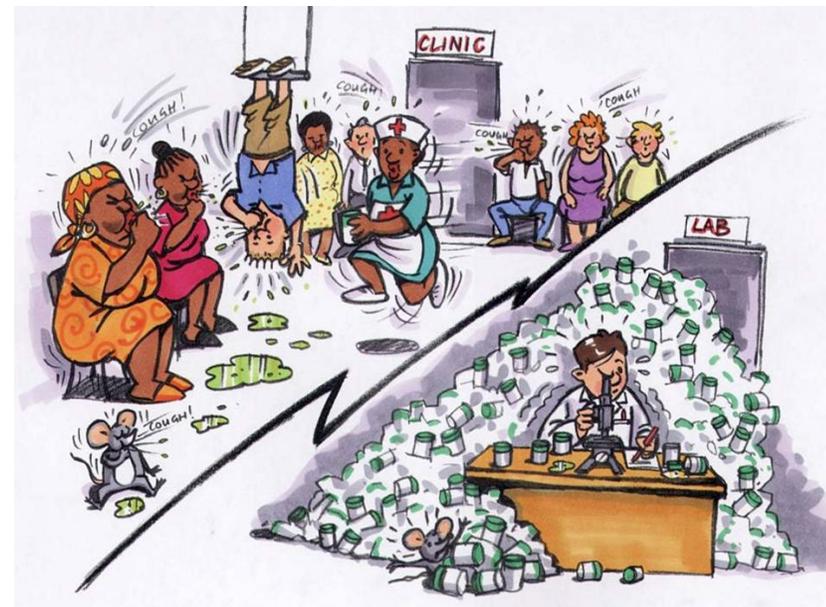


gettyimages | 25 YEARS
Cuan Hansen



What do many of these countries share?

- Severe resource limitations – especially health, PCR etc
- Often very over-crowded central cities
- Limited communication networks

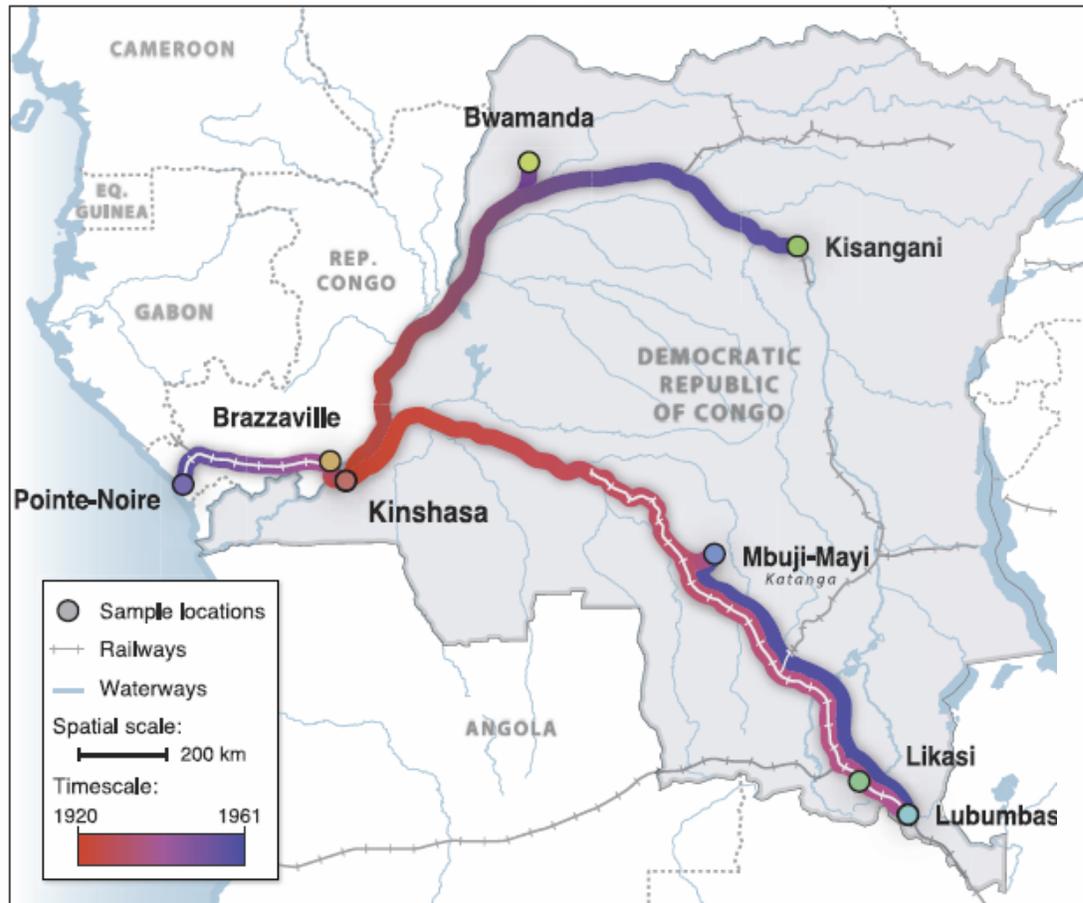


What will save Africa?

- Lack of transport networks into the continent?



Spread of the HIV virus



RESEARCH

RESEARCH ARTICLE

HIV EPIDEMIOLOGY

The early spread and epidemic ignition of HIV-1 in human populations

Nuno R. Faria,^{1,2} Andrew Rambaut,^{3,4,5} Marc A. Suchard,^{6,7} Guy Baele,² Trevor Bedford,⁸ Melissa J. Ward,³ Andrew J. Tatem,^{4,9} João D. Sousa,^{2,10} Nimalan Arinaminpathy,¹ Jacques Pépin,¹¹ David Posada,¹² Martine Peeters,¹³ Oliver G. Pybus,^{1*} Philippe Lemey^{2*†}

Thirty years after the discovery of HIV-1, the early transmission, dissemination, and



Spread of HIV 1890-1950



1890-1950



Spread of HIV to Europe 1950-1980



1950-1980

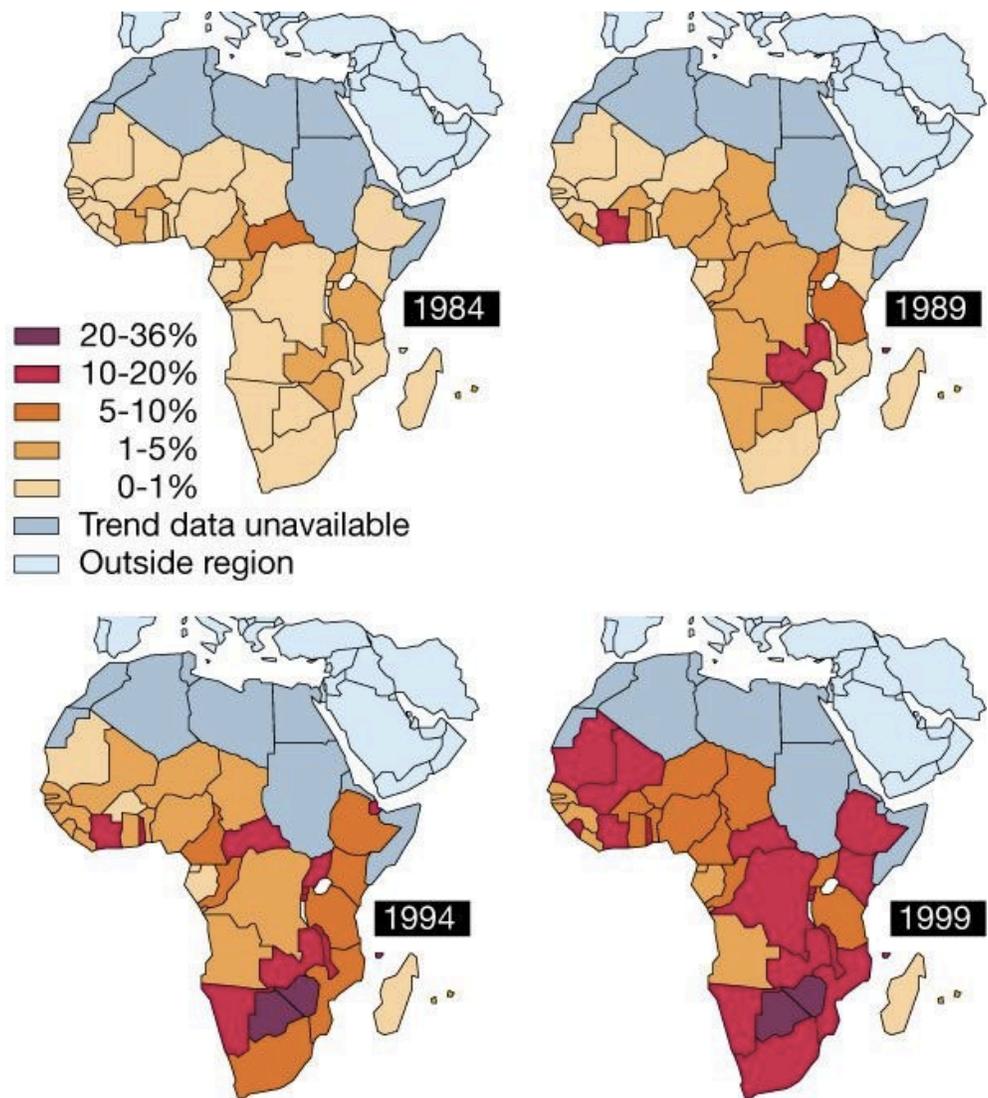


Spread of HIV to Southern Africa



1980-now





The HIV epidemic started in central Africa and has spread over the last 30 years to most parts of the world



- Less air travel than most of the rest of the world
- Public transport also more constrained
- ?protected Africa



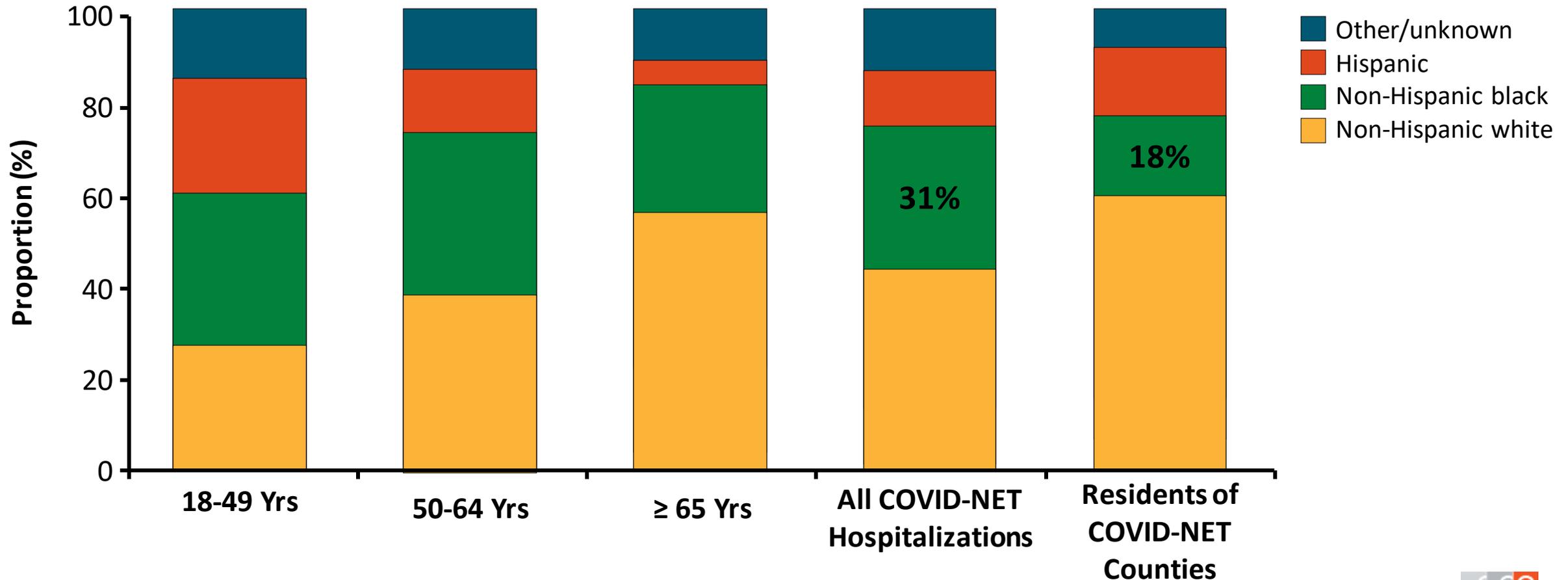
What will save Africa?

- Lack of transport networks into the continent?
- Race?



COVID-NET: Lab-Confirmed COVID-19–Associated Hospitalization Disproportionately Affects Blacks in US

Hospitalization Among Patients With Race/Ethnicity Data, March 1–April 18, 2020 (N = 2803)



What will save Africa?

- Lack of transport networks into the continent?
- Race?
- Tenofovir?

Western Cape public sector patients with & without COVID-19

	No diagnosed COVID-19	COVID-19 not deceased	COVID-19 deceased
n	3443296	12552	435
Median age (IQR)	38 (29; 51)	37 (30; 48)	63; (54; 71)
Male	42%	30%	45%
Diabetes	8%	13%	61%
Hypertension	16%	19%	57%
Chronic kidney disease	2%	2%	19%
COPD	6%	7%	14%
Previous TB	8%	8%	13%
Current TB	1%	1%	3%
HIV	16%	18%	18%
Suppressed	55%	69%	66%
Previous ART; not suppressed	28%	18%	14%
Never ART	17%	13%	20%

WHO 2019 guidelines

Population	First-line regimens	Second-line regimens	Third-line regimens
Adults and adolescents (incl. women of childbearing potential and pregnant women)	Two NRTIs + DTG	Two NRTIs + (ATV/r or LPV/r)	DRV/r + DTG + 1–2 NRTIs (if possible, consider optimisation using genotyping)
	Two NRTIs + EFV	Two NRTIs + DTG	
Children (0–10 years)	Two NRTIs + DTG	Two NRTIs + (ATV/r or LPV/r)	
	Two NRTIs + LPV/r	Two NRTIs + DTG	
	Two NRTIs + NNRTI	Two NRTIs + DTG	

- Guidelines include recommendations on the selection of ARV drugs in response to high levels of DR¹
 - Recommend countries consider changing their first-line ART regimens away from NNRTIs if levels of NNRTI DR reach 10%

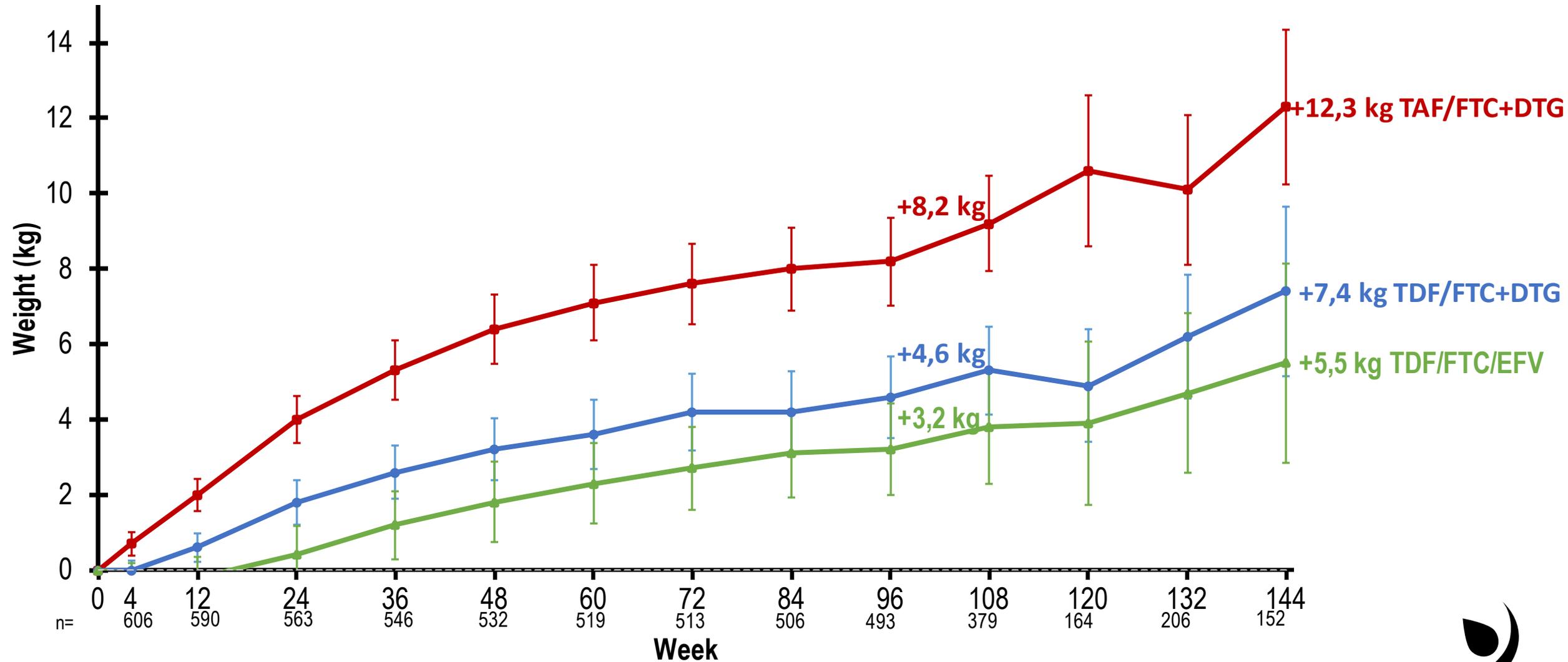
1. <http://www.who.int/hiv/pub/arv/arv-2016/en/> World Health Organization. HIV treatment interim guidance. Accessed August 2018



<https://sahivsoc.org/>



Mean change in weight (kg) to Week 96: women



What will save Africa?

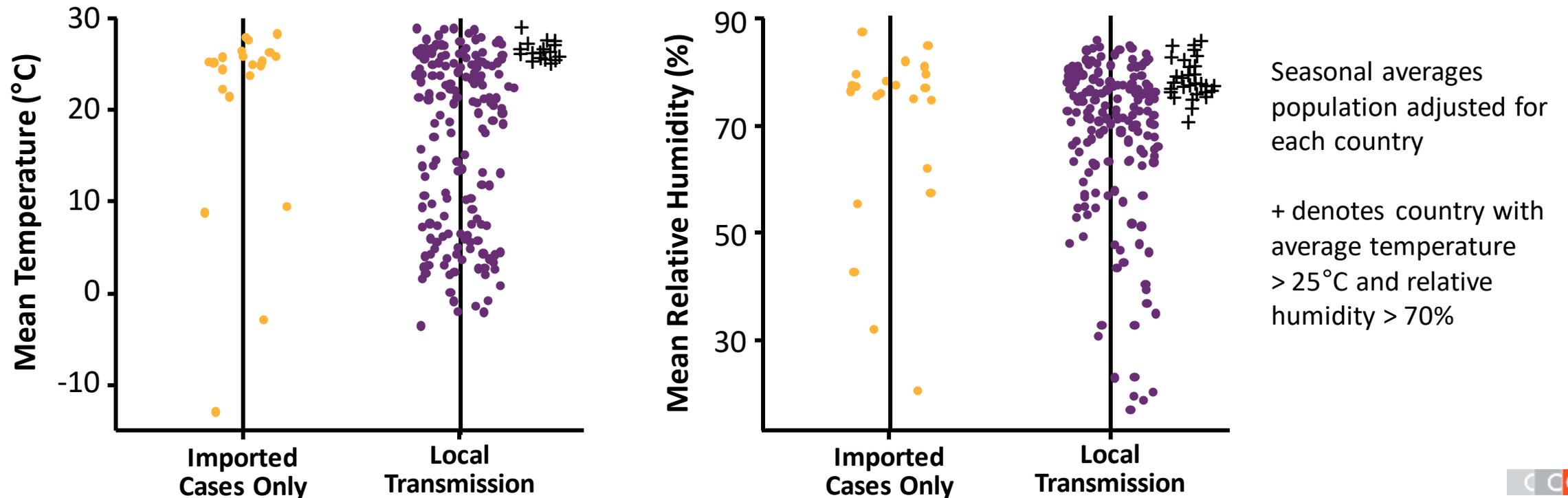
- Lack of transport networks into the continent?
- Race?
- Tenofovir?
- **Climate?**



Considering Climate in COVID-19 Mitigation Strategies

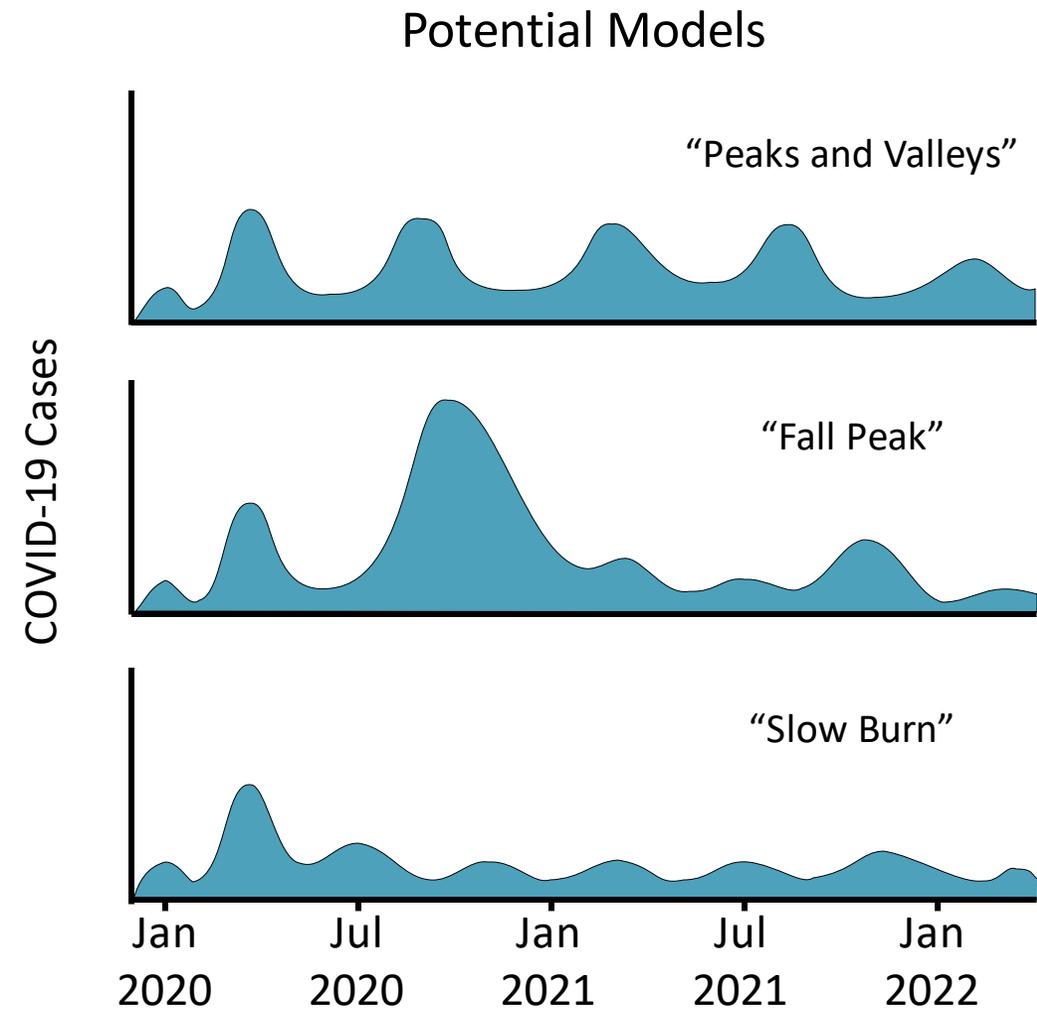
- “No evidence has suggested that warmer conditions will reduce the effectiveness of SARS-CoV-2 transmission to an extent that few additional interventions are needed to curb its spread... At present, policy makers must focus on reducing physical contact within communities”

WHO Transmission Status (as of Apr 8, 2020) vs Temperature and Humidity (Jan 1 - Mar 31, 2020)



Projecting Postpandemic SARS-CoV-2 Transmission

- Recurrent outbreaks likely after initial, most severe pandemic period
 - Interval and height of coming waves will depend on multiple factors, including control measures
 - Prepare for ≥ 18 -24 mos of significant COVID-19 activity with periodic hot spots across diverse geographies



What will save Africa?

- Lack of transport networks into the continent?
 - Race?
 - Tenofovir?
 - Climate?
 - Demographics and burden of non-communicable diseases?
-

Age?

- Most African countries are young relative to Europe and America and Asia (but not all – South Africa)

Table 4.5: The ten leading underlying natural causes of death, 2014–2016*

Causes of death (based on ICD-10)	2014			2015			2016		
	Rank	Number	%	Rank	Number	%	Rank	Number	%
Tuberculosis (A15-A19)	1	39 695	8,3	1	34 042	7,2	1	29 513	6,5
Diabetes mellitus (E10-E14)	3	24 092	5,1	2	25 774	5,4	2	25 255	5,5
Other forms of heart disease (I30-I52)	4	23 009	4,8	4	23 299	4,9	3	23 515	5,1
Cerebrovascular diseases (I60-I69)	2	24 258	5,1	3	23 505	5,0	4	23 137	5,1
Human immunodeficiency virus [HIV] disease (B20-B24)	6	22 866	4,8	5	22 557	4,8	5	21 830	4,8
Hypertensive diseases (I10-I15)	7	18 416	3,9	7	19 845	4,2	6	19 960	4,4
Influenza and pneumonia (J09-J18)	5	22 878	4,8	6	21 001	4,4	7	19 638	4,3
Other viral diseases (B25-B34)	9	14 574	3,1	8	16 475	3,5	8	16 577	3,6
Ischaemic heart diseases (I20-I25)	...	...	...	10	12 714	2,7	9	12 883	2,8
Chronic lower respiratory diseases (J40-J47)	10	12 793	2,7	9	13 006	2,7	10	12 659	2,8
Intestinal infectious diseases (A00-A09)	8	14 834	3,1	...	...	...	...	...	...
Other natural causes		208 537	43,7		207 820	43,9		200 403	43,9
Non-natural causes		50 939	10,7		53 228	11,2		51 242	11,2
All causes		476 891	100,0		473 266	100,0		456 612	100,0

** Including deaths due to *MDR-TB* and *XDR-TB*.

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 No Spreads

 Odd Spreads

 Even Spreads

Document Properties

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Initial African responses

- Severe travel restriction almost across the board – focused on flights -
?slowed spread into continent
- Many countries – stringent lockdowns, with border restrictions
- Very limited PCR testing
- Human rights issues and crackpot Trump-like cures

South Africa

- Middle income with good PCR coverage
- Excellent pandemic experience
- This week: #10 in number of cases globally
- Early March – lockdown – almost total cessation of economic activity
- Huge impact on primary care
- Western Cape hit hard, E Cape with collapse of some services – now Gauteng, immediate health care challenges
- High profile politicians infected



COVID-19 STATISTICS IN SA

				
2 000 569	238 339	113 061	3 720	13 674
TESTS CONDUCTED	POSITIVE CASES IDENTIFIED	TOTAL RECOVERIES	TOTAL DEATHS	NEW CASES

THURSDAY
09
JULY
2020



Learn more to Be READY for #COVID19:
www.sacoronavirus.co.za

NICD Hotline: 0800 029 999
WhatsApp 'Hi' to 0600 123 456



EASTERN CAPE	
NEW CASES:	2075
NEW RECOVERIES:	0
NEW DEATHS:	28
TOTAL CASES:	44432
ACTIVE CASES:	19518
POPULATION: 6 Million	

FREE STATE	
NEW CASES:	465
NEW RECOVERIES:	101
NEW DEATHS:	0
TOTAL CASES:	3724
ACTIVE CASES:	3076
POPULATION: 2 Million	

GAUTENG	
NEW CASES:	6531
NEW RECOVERIES:	4025
NEW DEATHS:	37
TOTAL CASES:	81546
ACTIVE CASES:	57227 🔥
POPULATION: 15 Million	

SOUTH AFRICA	
NEW CASES:	13674
NEW RECOVERIES:	6219
NEW DEATHS:	129
TOTAL CASES:	238339
TOTAL RECOVERIES:	113061
TOTAL DEATHS:	3720

9
JULY
2020

KWAZULU NATAL	
NEW CASES:	1668
NEW RECOVERIES:	198
NEW DEATHS:	26
TOTAL CASES:	19630
ACTIVE CASES:	13876
POPULATION: 11 Million	



LIMPOPO	
NEW CASES:	250
NEW RECOVERIES:	0
NEW DEATHS:	0
TOTAL CASES:	2381
ACTIVE CASES:	1683
POPULATION: 5 Million	

NEW TESTS	56 170
TOTAL TESTS	2000569

MPUMALANGA	
NEW CASES:	374
NEW RECOVERIES:	111
NEW DEATHS:	0
TOTAL CASES:	2902
ACTIVE CASES:	2101
POPULATION: 4 Million	

NORTH WEST	
NEW CASES:	723
NEW RECOVERIES:	118
NEW DEATHS:	0
TOTAL CASES:	7870
ACTIVE CASES:	6260
POPULATION: 4 Million	

NORTHERN CAPE	
NEW CASES:	65
NEW RECOVERIES:	13
NEW DEATHS:	1
TOTAL CASES:	1039
ACTIVE CASES:	765
POPULATION: 1 Million	

WESTERN CAPE	
NEW CASES:	1523
NEW RECOVERIES:	1653
NEW DEATHS:	37
TOTAL CASES:	74815
ACTIVE CASES:	17052
POPULATION: 6 Million	

TWITTER
@CYBEROSSK

Population figures from Stats SA



Reported Deaths and Recoveries

Regrettably, we report a further 192 COVID-19 related deaths- 15 from Limpopo, 22 from KwaZulu Natal, 36 from Eastern Cape, 44 from Western Cape and 75 from Gauteng.

This brings the total deaths to 3 502.

We convey our condolences to the loved ones of the departed and thank the health care workers who treated the deceased

The number of recoveries is 102 299, which translates to a recovery rate of 47,4%

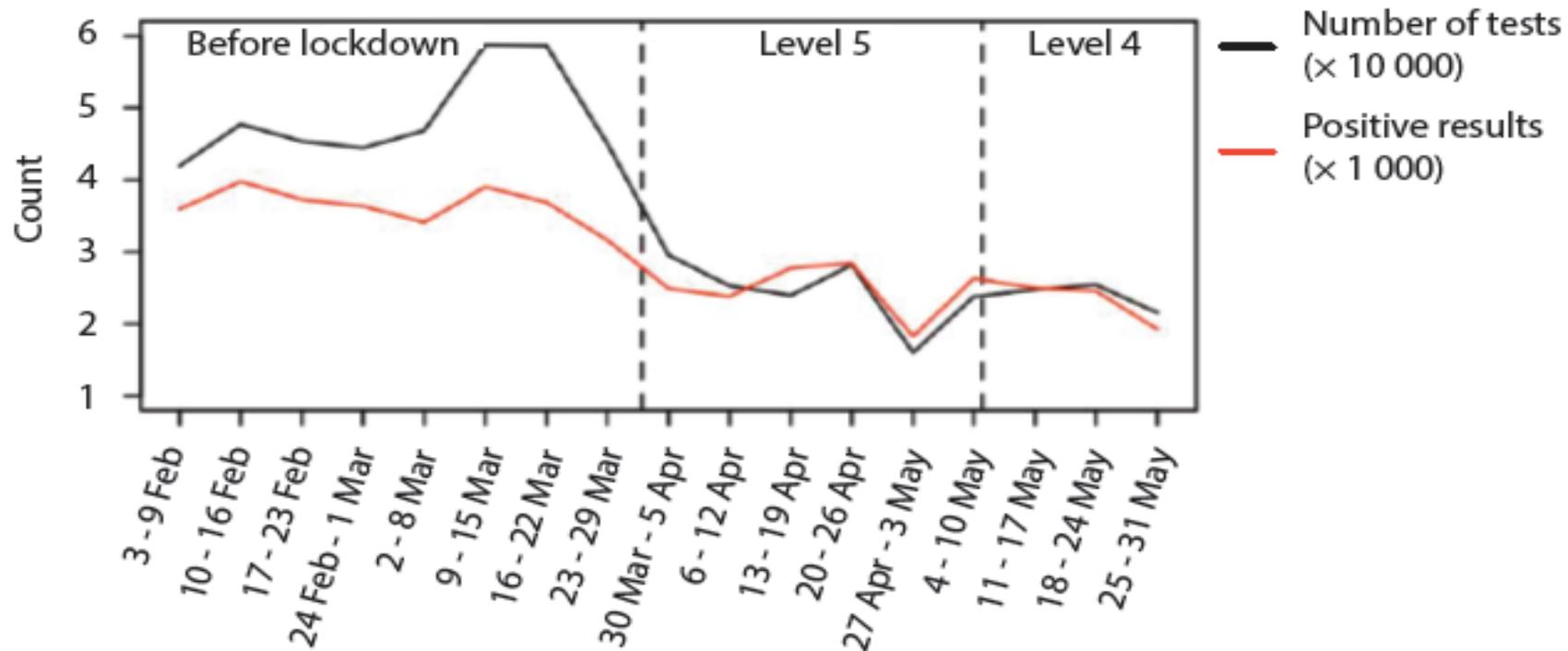
The provincial breakdown is as follows:

Province	Deaths	Recoveries
Eastern Cape	564	22022
Free State	19	528
Gauteng	478	19779
KwaZulu Natal	205	4890
Limpopo	42	665
Mpumalanga	7	668
North West	36	1335
Northern Cape	6	237
Western Cape	2145	52175
Total	3502	102299





COVID-19 lockdowns in low- and middle-income countries: Success against COVID-19 at the price of greater costs



So now what?

- Unclear if SA=rest of continent – limited data
- No reassurance we are protected – other than age
- Are we going to be spared or has it been delayed?
- In a globe that is looking at selfish nationalism – will Africa lose out?



