

ASLM

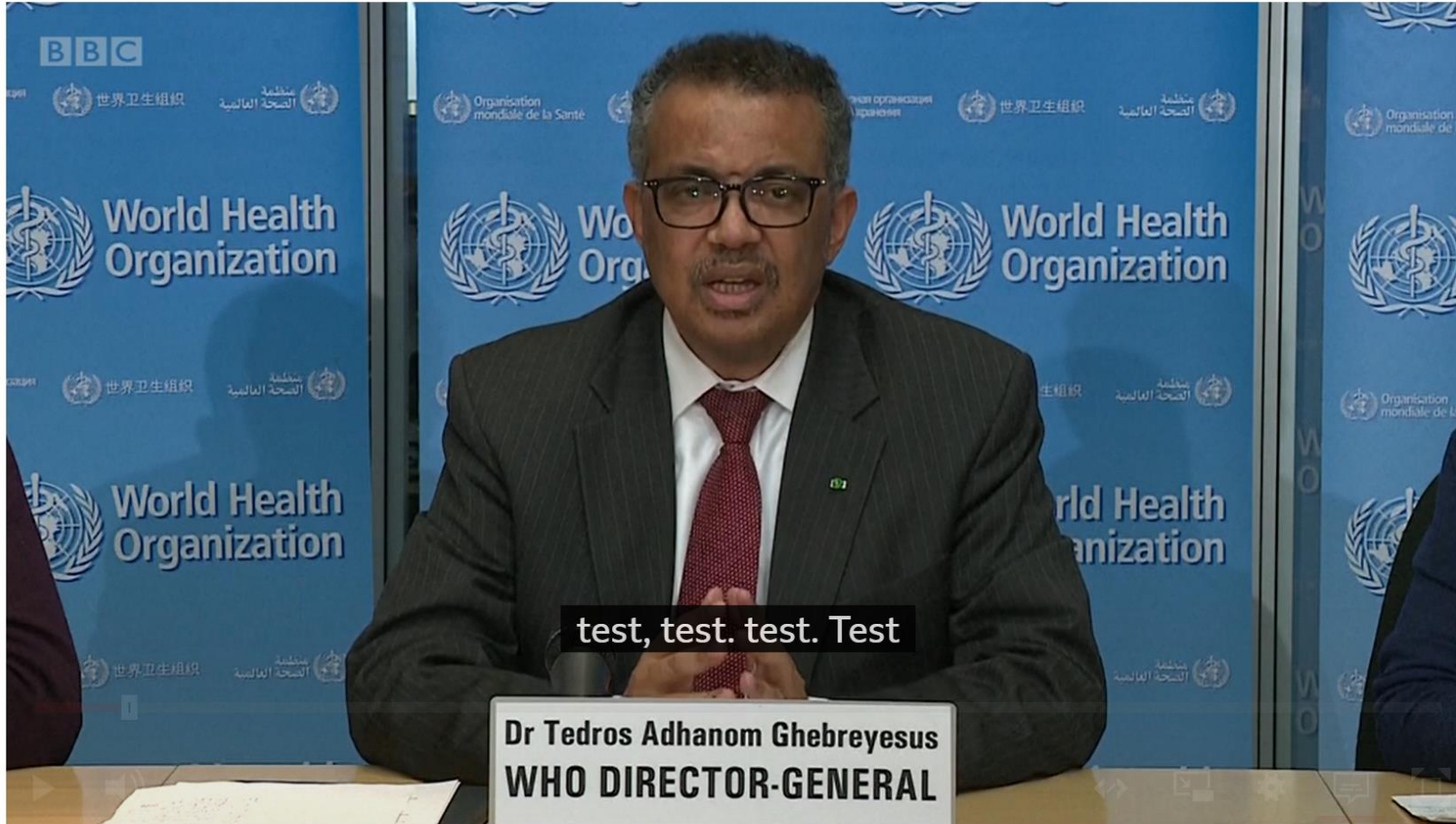
AFRICAN SOCIETY FOR LABORATORY MEDICINE

ADVANCING THE LABORATORY PROFESSION AND NETWORKS IN AFRICA

Laboratory capacity to combat COVID-19 in Africa

NDLOVU NQOBILE
Chief Executive Officer

Test, test, test



WHO head: 'Our key message is: test, test, test'

World Health Organisation head Tedros Adhanom Ghebreyesus says there has not been an urgent enough escalation in testing, isolation and contact tracing, which should be the "backbone" of the global response.

He said it is not possible to "fight a fire blindfolded", and social distancing measures and handwashing will not alone extinguish the epidemic.

🕒 16 Mar 2020

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NEWS



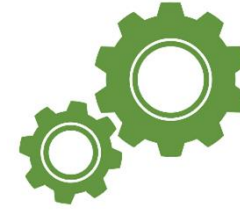
Key considerations for laboratory capacity



Country policy
& planning



Diagnostic network



Infrastructure



Personnel



Lab-clinical interface



Biosafety &
quality assurance



Supply chain



Implementation
monitoring



Open-source
digital solutions



Financing

WHO guidance recommends the use of molecular testing

Interim Guidance

“WHO recommends that all suspect cases be tested for COVID-19”

“Any persons meeting the criteria for testing should be tested...
using **available molecular tests.**”

*However, depending on the intensity of the transmission, the number of cases and the laboratory capacity, only a subset of the suspect cases may **prioritized for testing.**”*



Africa CDC testing strategy (1)

If no known community transmission:

- Anyone with fever and acute respiratory symptoms who have been in a place in the last 14 days where COVID-19 is transmitting, and who is currently in a location without local transmission.
- All symptomatic contacts of a confirmed or probable cases of COVID-19.
- All cases of SARI and selected ILI samples reported through National Influenza Sentinel Surveillance.
- Healthcare workers with symptoms consistent with COVID-19 disease regardless of exposure



Africa CDC testing strategy (2)

If known community transmission:

- All cases of SARI and ILI reported through the Influenza Sentinel Surveillance System to identify undetected transmission areas.
- Severe acute respiratory infections presenting to hospitals.
- Healthcare workers with symptoms consistent with COVID-19 disease regardless of exposure.



Laboratory: Trainings to ensure the full continent has access to diagnostic capabilities for COVID-19

Africa CDC, WAHO and WHO are ramping the continent's COVID-19 diagnostic capabilities...

■ Countries with diagnostic capacity

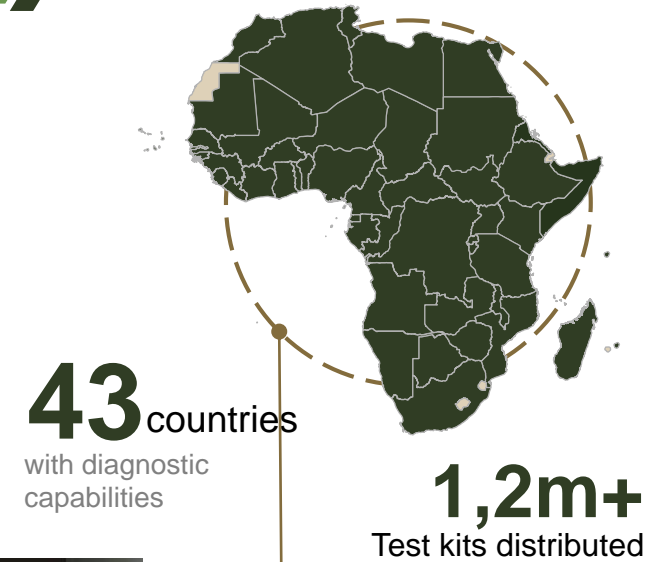
In January...



Early February...



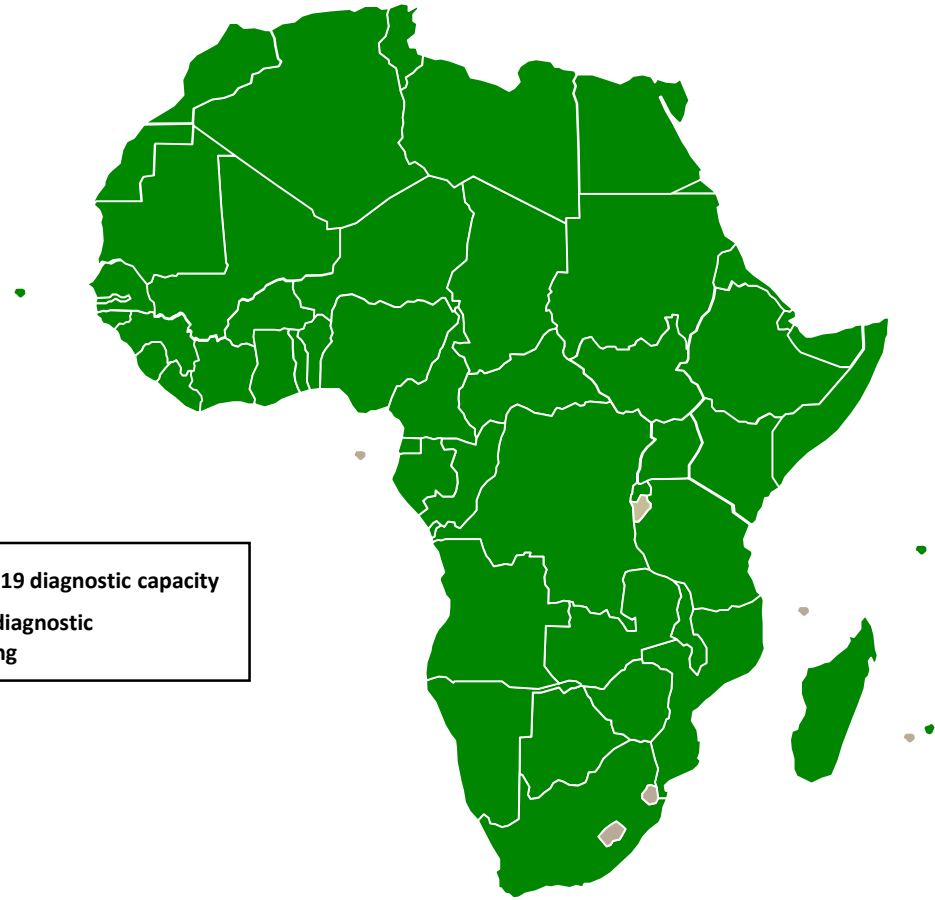
Today...



Lab referral networks
created for Member States
without diagnostic
capabilities

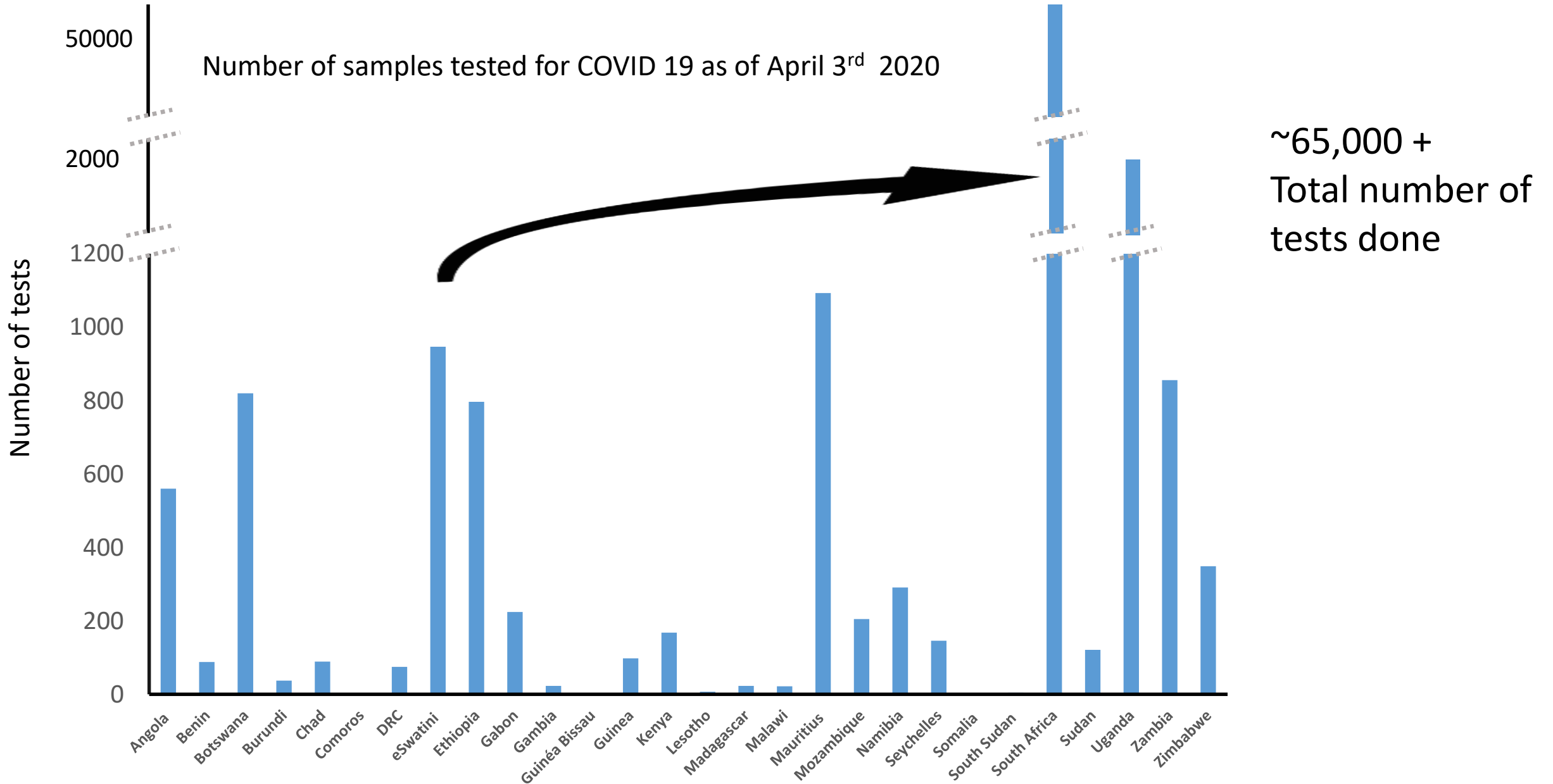
Map of African countries with diagnostic capacity for COVID-19

7 April 2020




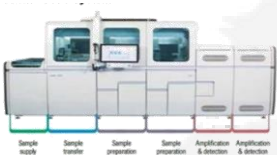



- Molecular (PCR based) testing platforms
- >50 trained lab personnel
- Remaining:
 - Lesotho, Eswatini,
 - Sao Tome and Principe and Comoros
- 1,220,000 tests distributed
(PM Abiy and Jack Ma Foundation initiative donation)

How much testing is happening?



Rapid scale up can be accomplished in Africa by using the large global footprint of nucleic acid testing instruments

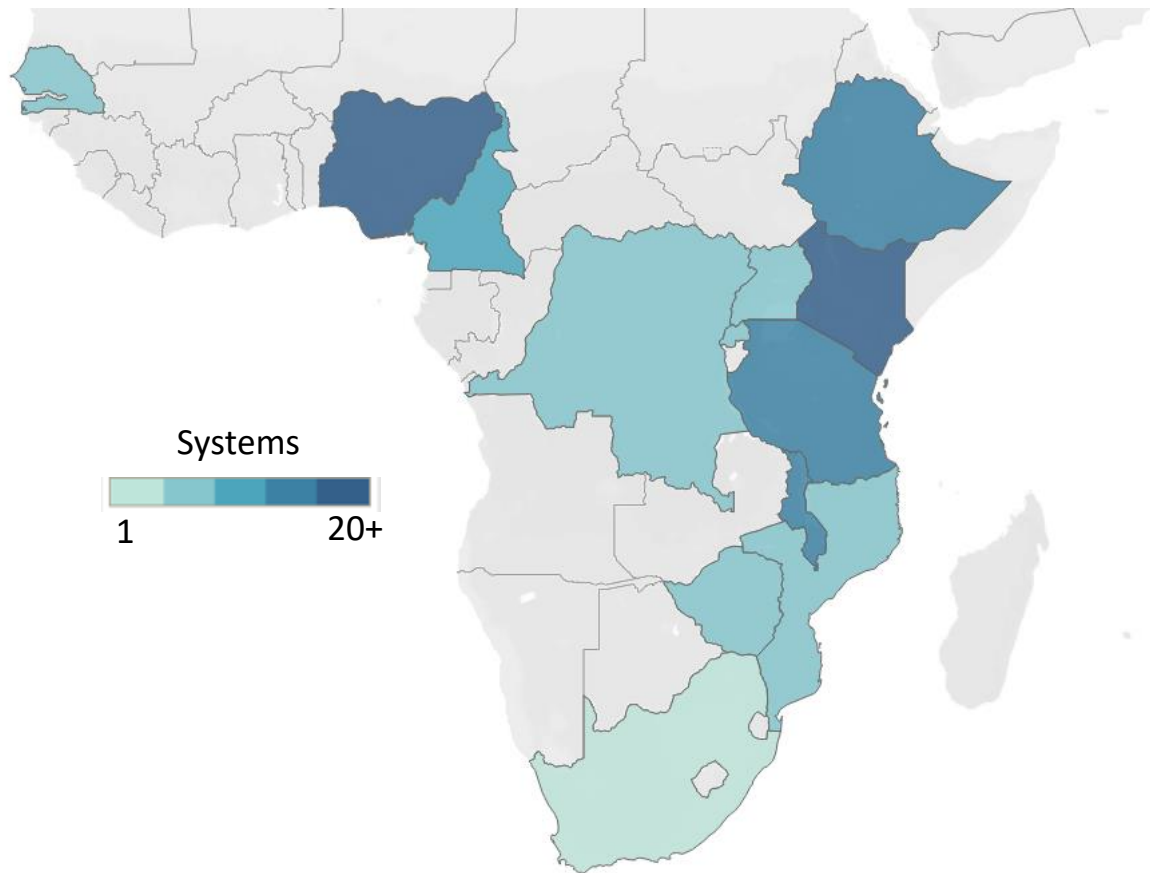
These companies provide high capacity manufacturing and logistics expertise that can be leveraged to rapidly expand testing programs simultaneously across many countries

Manufacturer	Abbott Laboratories (USA)	Roche (Switzerland)	Hologic (USA)	Cepheid (USA)	Thermo Fisher (USA)
Platform	m2000 sp/rt 	6/8800 	Panther 	GeneXpert 	AB7500/Kingfisher 
Current Price COVID-19 test	TBD	\$15.21 ex-works	\$12.00 all-inclusive	\$19.80 ex-works	\$15.00 ex-works
Devices (Sub-Saharan Africa)	~350	~50	~50	~5,000	555
Devices (Global)	~2000	~842	~2000	~10,000	>10,000
8/24 Hour Throughput	96 / 192	6800 – 384 / 1344 8800 – 960 / 3072	320 / 1220	GX4 - 40 / 120 GX16 – 160 / 512	376/752

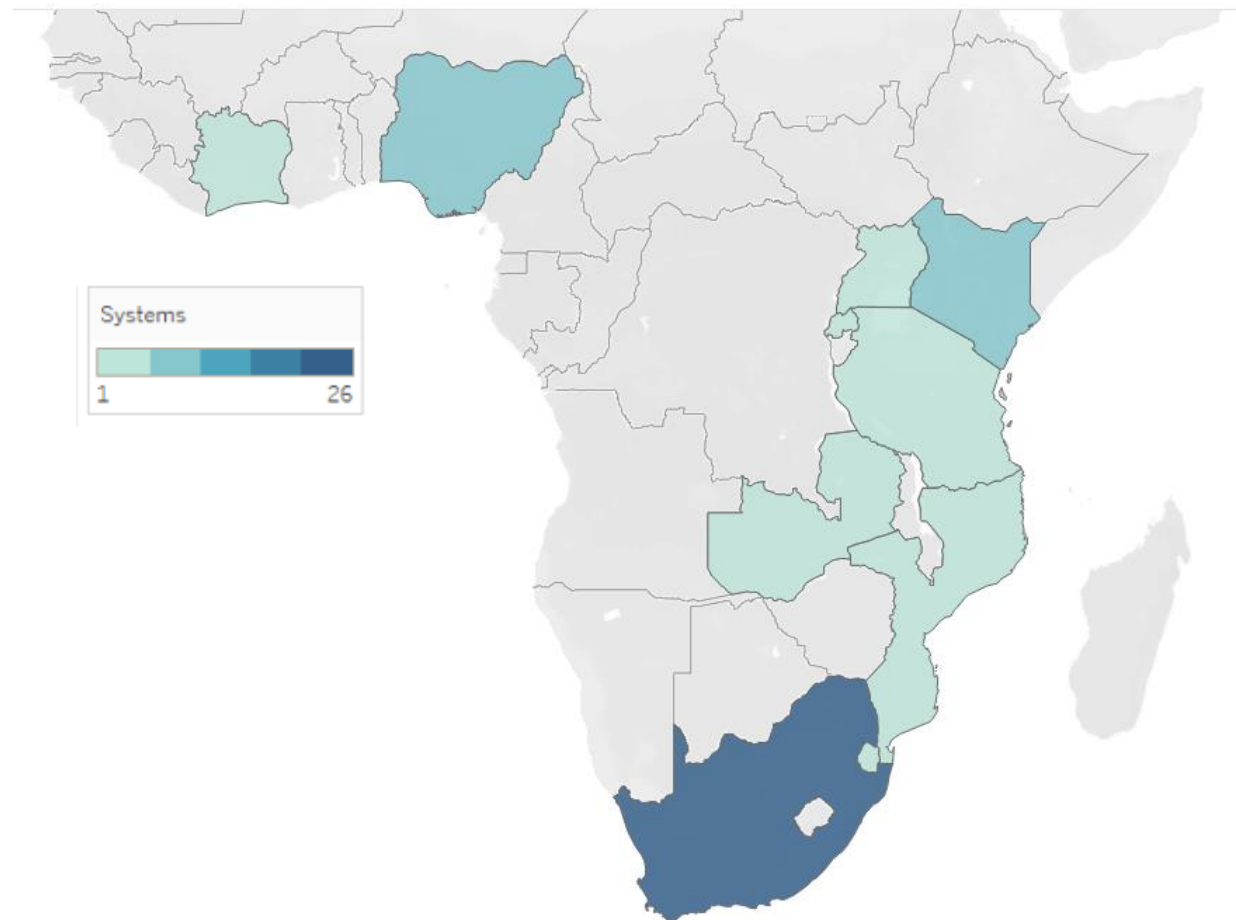
If need arise, 2-3 shifts maybe used based on existing footprint!!

Footprint of existing testing technology (1)

ABBOTT m-2000 platforms:
~350 in Sub-Saharan Africa

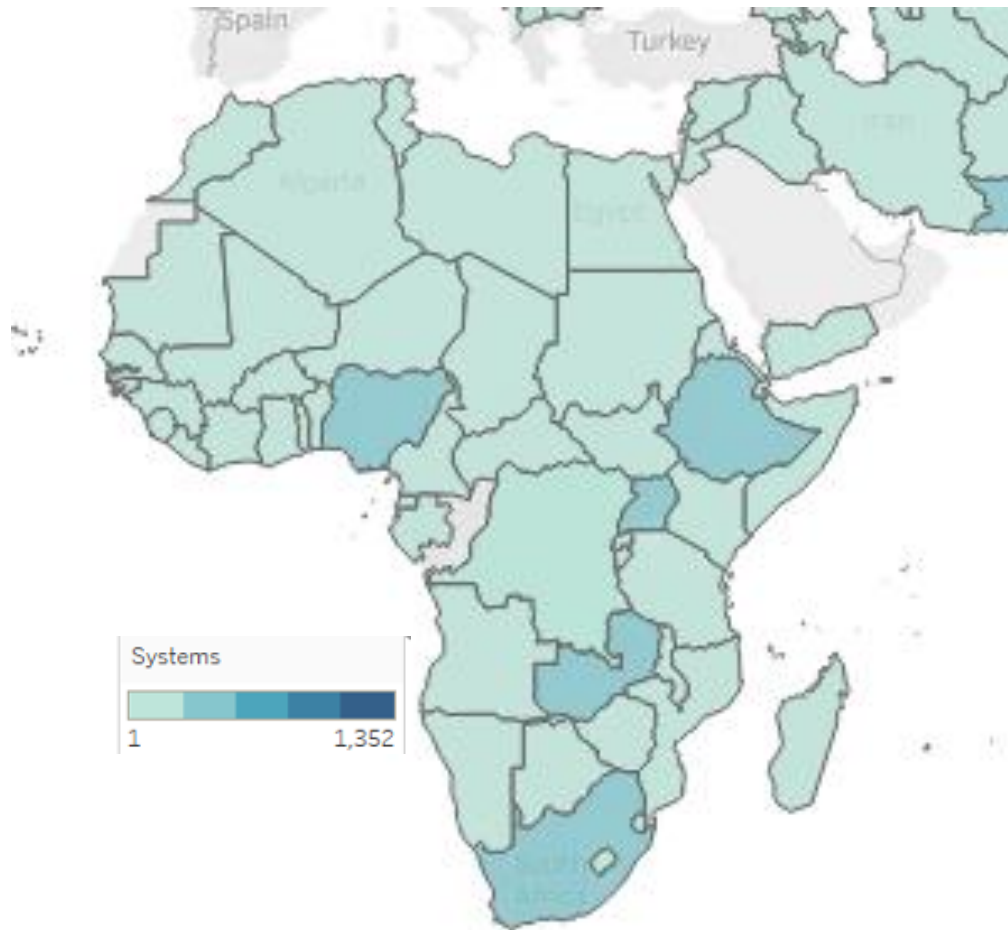


ROCHE 8800
10 countries in Africa: installed totaling 46 platforms

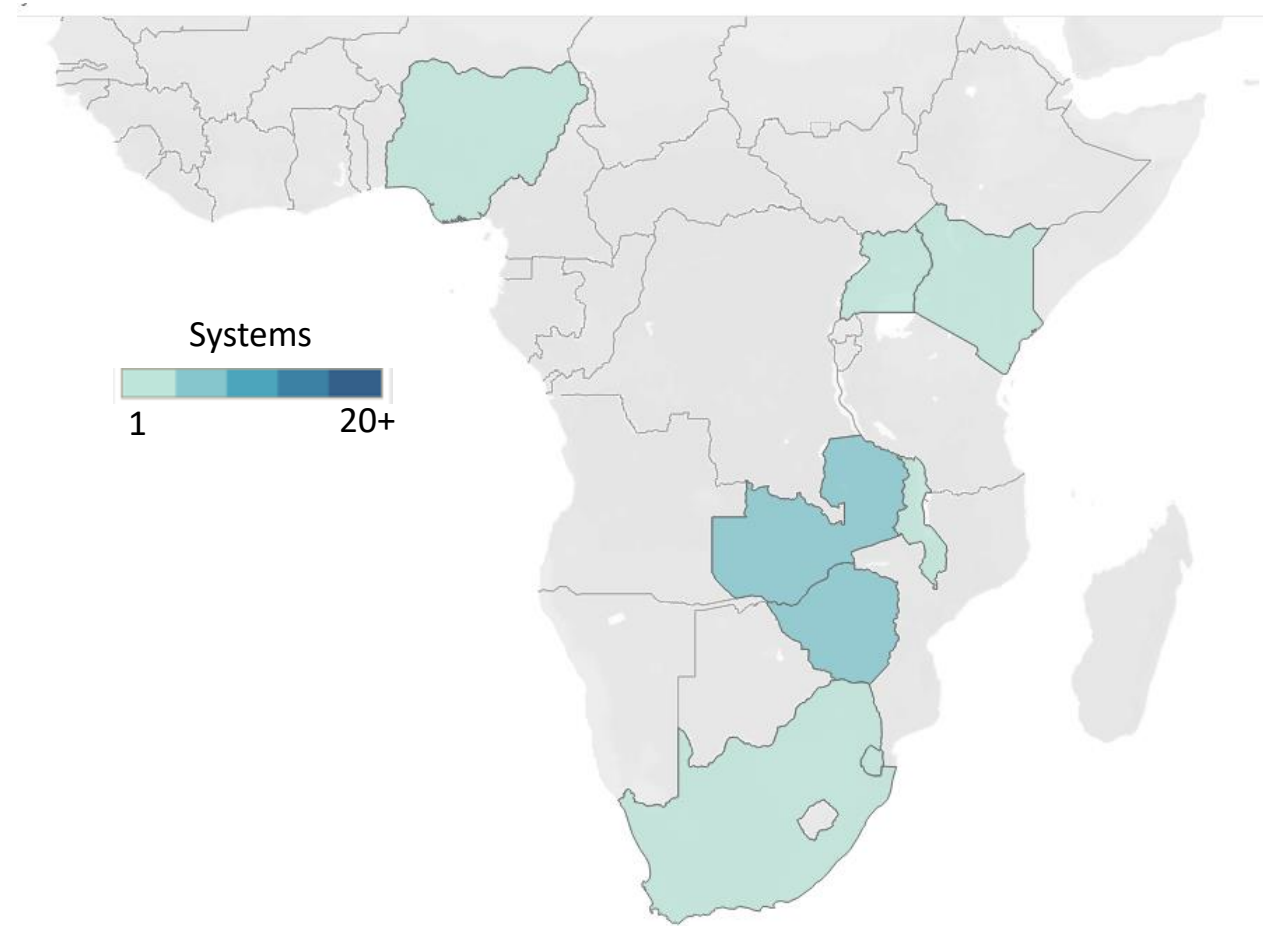


Footprint of existing testing technology (2)

CEPHEID platforms
>4000 systems deployed

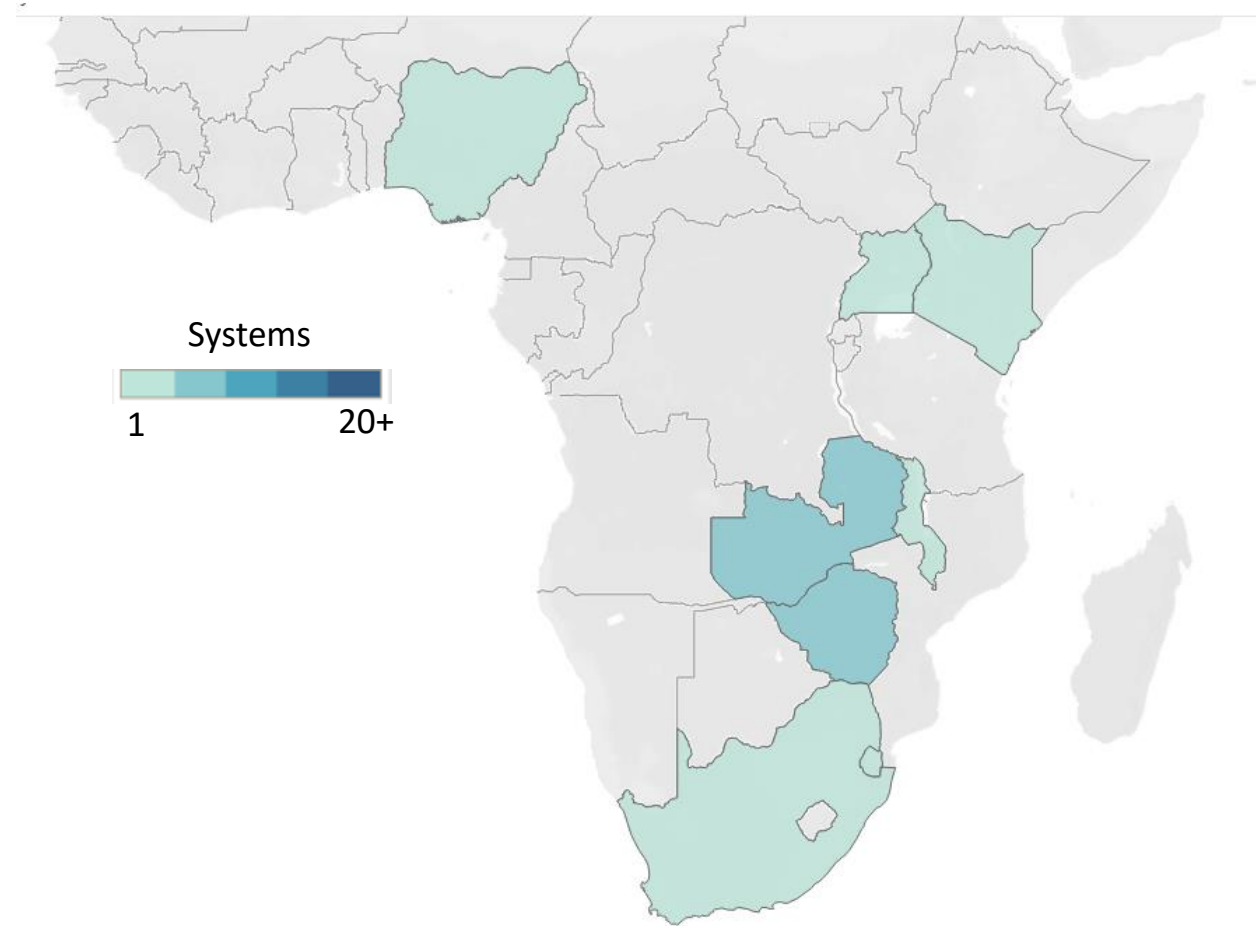


Hologic has ~50 Panthers
in Sub-Saharan Africa



Footprint of existing testing technology (3)

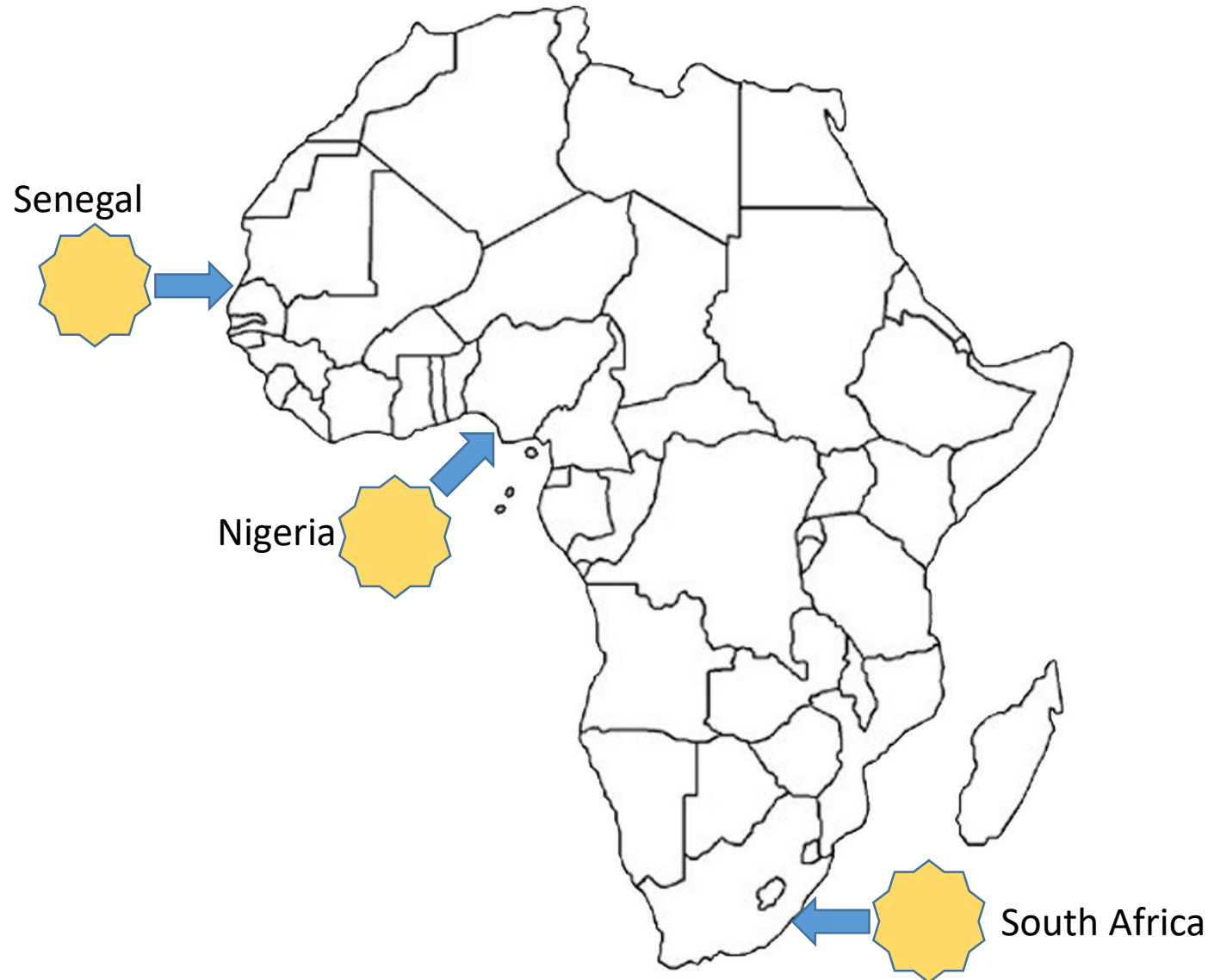
Hologic has ~50 Panthers in Sub-Saharan Africa



Centralised, decentralised and point of care testing

- Most countries have started off with centralised testing
 - Testing happening in National Reference Labs
 - A few countries still referring to other countries NRLs
 - Requires a strong specimen referral system
- Decentralised testing possible with these technology
- True's point of care (FDA approved)
 - Still in the pipeline

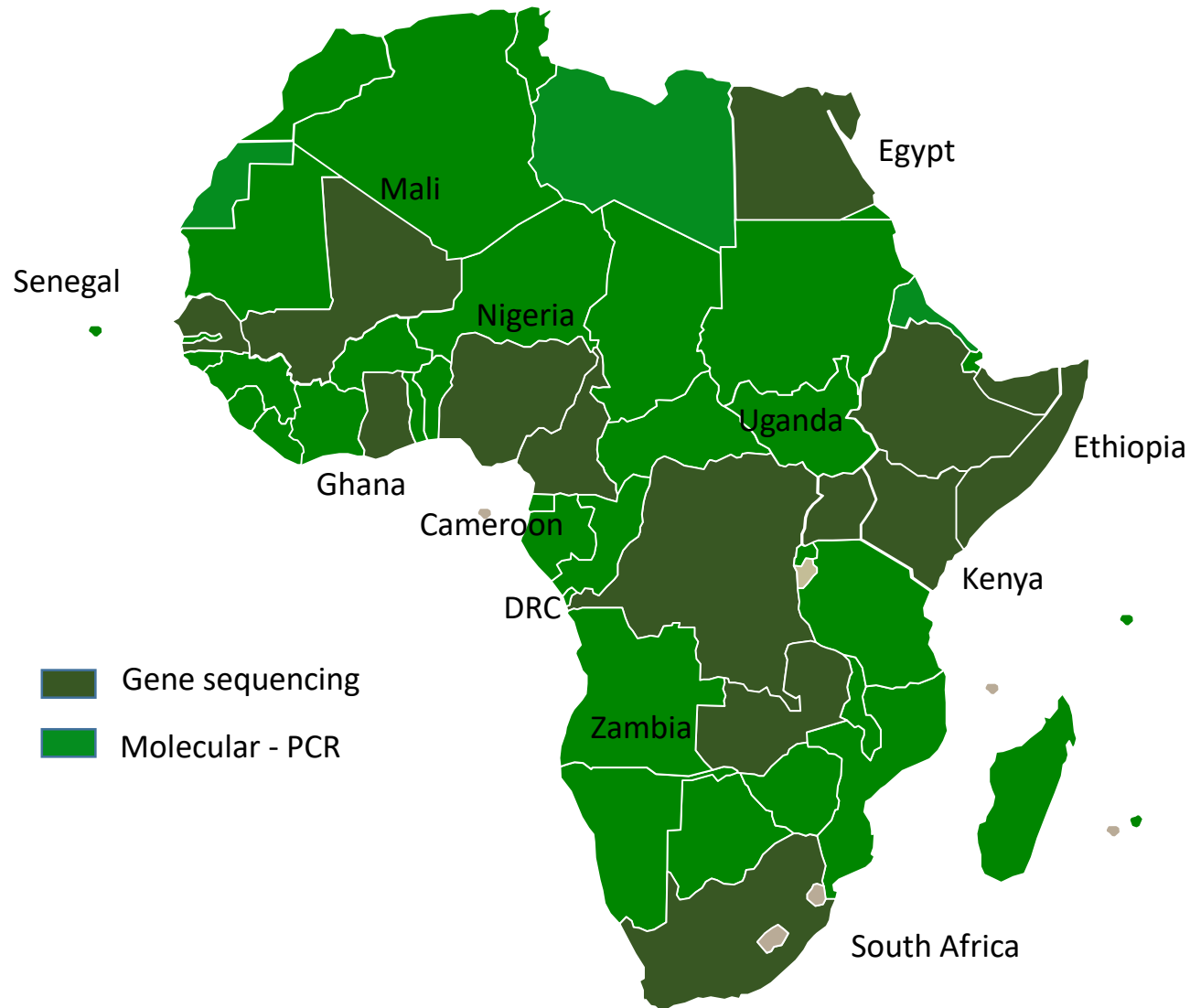
4. In-house developed COVID testing..



For example

- South Africa
- Senegal
- Nigeria

Gene sequencing capabilities for COVID-19: Africa CDC



- Establishing sequencing capabilities in 12 reference centers
 - Equipment placement,
 - online installation
 - training, reagent supply
- Sequencing data has been out for 35 cases in Africa
- Understand transmission patterns





Assuring quality of molecular SARS-CoV-2 testing: available EQA schemes

	Number of samples	Applicability	Registration deadline	Evaluation period	Fee
QCMD	8	Global	1 Apr 2020	Spring 2020	€373
INSTAND	8	Global	Not mentioned	Spring 2020	€295
WHO Health Emergencies and Global Influenza programme	5	Influenza RL	31 Mar 2020	Spring 2020	None
ECDC/EVD-LabNet/ERLI-Net	Unknown	EU influenza RL	1 Apr 2020	Spring 2020	None
Thistles	TBA	Global	-	-	€210

List not exhaustive – many other groups are beginning to offer EQA schemes. Choose providers who are experienced in delivering EQAs within your region.

COVID-19 Learning platform: ASLM webinars

> 500 online connections

SPECIAL COVID-19 ECHO Session



TROUBLESHOOTING COMMON CHALLENGES ASSOCIATED WITH SARS-CoV-2 (THE CAUSATIVE AGENT OF COVID-19) DIAGNOSTIC TEST ESTABLISHMENT

PRESENTER:
DR JINAL N. BHIMAN
Principal Medical Scientist,
Natl. Influenza Ctr. & RSV Ref. Lab,
CRDM, NICD, NHLS, South Africa

HOST:
MR ANAFI MATAKA
LabCoP Program Manager,
ASLM

JOIN OVER 40 LABS ON 25 MAR 2020 15:00 TO 16:00 EAT



COVID-19 ECHO Session



LE TECHNOLOGY TO DETECT COVID-19:
CLINICAL CARE AND SURVEILLANCE

ED:

ity level

able (molecular, serology, rapid testing)
at various level of health care services
and post analytical needs for detecting
chnologies

ance

still needs to be understood

<https://zoom.us/j/600651803>

30 MAR 2020 15:00 TO 16:00 EAT



SPECIAL COVID-19 ECHO Session



AN EXPERIENCE IN CONTROLLING COVID-19:
LESSONS FOR THE AFRICAN CONTINENT

ective measures did South Korea put in place?
How did they slow the spread of COVID-19?
Lessons were learned that might help Africa?

ESENTER:

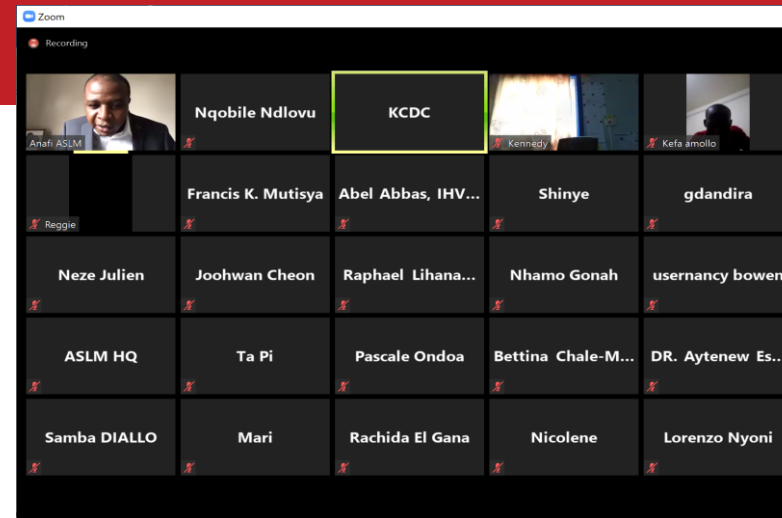
SEON KUI LEE

Chief of Risk Assessment
National Cooperation,
Korea CDC

JOIN WITH ZOOM!

<https://zoom.us/j/613384877>

JOIN US ON 8 APRIL 2020 13:00 TO 14:00 EAT



12:01

SA_Lab_Training_COVID19
Collins, Jihnal, John, Sikhulile, +211 929 157 559, ...

For me the rapid tests can be instrumental and decision making tools once your ICU hospitals capacity is sure and efficient...in Africa there are only few country that can meet this level of ICU capacity. 1:21 PM

Sikhulile Moyo
Forwarded

present for at least 3 days.

Test results	Clinical Significance
PCR +, IgM -, IgG -	Patient may be in the window period of infection.
PCR +, IgM +, IgG -	Patient may be in the early stage of infection.
PCR +, IgM +, IgG +	Patient is in the active phase of infection.
PCR -, IgM -, IgG +	Patient may be in the late or recurrent stage of infection.
PCR -, IgM +, IgG +	Patient may be in the early stage of infection. PCR result may be false-negative.
PCR -, IgM -, IgG -	Patient may have had a past infection, and has recovered.

4:38 PM

Sikhulile Moyo
+253 77 06 85 25 ~Bouh Abdi

For me the rapid tests can be instrumental and decision making tools once your ICU hospitals capacity is sure and efficient...in Africa there are...

Diagram above may be useful 4:39 PM

Considerations

- Scaling up testing on the continent



- Ensuring continuous and uninterrupted testing supplies



- Developing local capacity to manufacture these kits



- Regulatory mechanisms during emergence situations



Thank You

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