



Malawi COVID-19 testing experience

13th May 2020

Overview of Malawi COVID-19 testing capacity

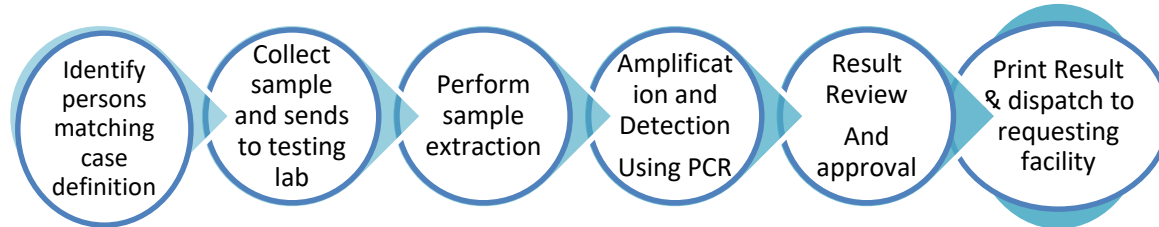
- On 20 March 2020, COVID-19 was declared a national disaster in Malawi, By this time there was no confirmed case in Malawi, Need for Laboratory diagnosis using PCR methods was critical to the accurate and timely diagnosis of the disease. Mapping was done and the National HIV Refence lab was selected as the first testing site. With technical support from CDC the first PCR training was conducted. On 2nd April 2020, Malawi confirmed its first positive COVID-19 case and ever since cases have been on the rise resulting in the need for increased testing capacity.
- 13 Molecular labs across the country have the equipment for testing for COVID-19 including the National HIV Reference laboratory (NHRL) that is proving Quality Assurance (QA) as well as testing. 7 labs are testing as of 8th May 2020. 5 MoH and two private labs.
- ITECH has 5 lab staff seconded to the NHRL lab where ITECH is proving critical TA in areas such as Assay validation, testing, Planning, implementation of the testing scale up plan as well as procurement of lab supplies.
- Molecular labs use conventional PCR machines, predominantly Abbott platforms (86%)

Abbott

18 m2000sp platform
4-9 hrs TAT depending on assay
Max batch tests of 96



Testing Process



Cumulative testing update as of 6th May 2020

- On 2nd April 2020, Malawi confirmed its first positive COVID-19 case

Cumulative testing update as of 6th May 2020

- 1030 test done
- 43 confirmed positive (4.2 %)
- 987 confirmed negative (95.8 %)

Scale up plan

- Use of GeneXpert machines
 - *Train lab techs in all 28 districts on how to use gene Expert machines*
 - Training to start after arrival of reagents in may
 - < 1hr TAT, max 16 samples throughput in an hour
 - Training and reagents to be funded by CHAI
- Step down trainings in all 10 molecular using the Abbott platforms
 - finalise training by 15 may 2020
 - *6 more labs trained as of 8th May, 4 remaining*
 - *40 lab technicians to be trained on COVID-19 RT-PCR testing (4 lab techs per lab)*
 - *Training being supported by MOH, ITECH and UMB with funding from CDC*

I-TECH specific support

- Optimization of PCR testing equipment and system for pioneer COVID-19 testing Lab
- Facilitate adaptation and development of SOPs for COVID-19 testing
- Procurement of reagents and supplies
- Technical Assistance in testing process
- Training of lab staff and activation of more molecular labs for testing expansion
- COVID-19 Lab data management and dissemination

Challenges

- More personnel needed to keep up with the rising demand
- Delayed procurement of supplies due to lockdown
- Support equipment not present in other labs (minicentrifuges & heater blocks)
- Servicing of biosafety cabinets is over due in most laboratories
- Lack of Electronic Laboratory information management systems

Way forward

- Finalize training of lab techs
- Complete servicing of biosafety cabinets
- MoH to finalize recruitment of more lab staff to be deployed in testing facilities
- Reallocated of support equipment & supplies
- Finalize Installation of the laboratory Information management Systems (LIMS)