Lab Services in Uganda
Past, Present and Future

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Position of Lab in MoH structure

- Labs are integrated
- No published organogram

MOH

- NDC
  - A/C NDC
    - CPHL
    - UVRI
    - NTLP/NTRL
  - Curative
    - Local Govt
    - Health care labs
- Allied Medical Services
- Private labs
Ideally Labs should follow the Health Tier system

- Surveillance
- Reference methods
- Network supervision

Resolution testing (screening-test negative drug resistance)

- Screening
- Passive case finding
- Detect and treat

- Clinical screening
- Primary care

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Number of laboratories

• These have been on the increase more so in the private sector

• Uganda has sufficient number of labs for its population
  • E.g. has 1007 public TB diagnostic labs yet it requires about 700 labs for a population of 34 million

• As technology becomes easier, there will be more labs coming up in the future to improve access

• The problem with these labs is quality that mainly depends on human resource
Human Resource

- There is a crisis of human resource in laboratories in both numbers and qualifications:
  - About 60% of all labs are run by microscopists
  - Despite having Degree, Masters and Doctoral graduates, the highest recognized lab personnel in MoH is a diploma
    - This limits management and test menu that can be utilised in public sector

- There is a limit in skill mix in the lab.
  - Other than having cleaners, there are not IT, Procurement officers, administrators etc dedicated to the labs

- In future there is hope that the human resource situation will change
  - There are more lab training schools (Degrees, Masters and PHDs)
  - There is need to incorporate these cadres in public sector
Test menus and technology

- Although there has been an improvement of test menus in the country over the past 10 years, these have only began to be decentralized
  - Using TB as an example
TB Diagnosis

**Previous (< 2006)**

- Light microscopy
- **Solid culture** (LJ and Middlebrook)
- Semi automated Liquid culture Bactec 460 in JCRC

**Current**

- Florescent Microscope
- Automated Liquid culture system (MGIT)
- Portable Liquid culture system (Manual MGIT)
- Direct phenotypic DST methods
- HAIN Test for MDR detection
- HAIN Test for speciation
- PCR for Identification
- Capillia for Identification
- Genexpert
- RFLP, Spoligotyping, RD analysis and MIRU for epidemiology
Positioning in tiered health system

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- Reference methods
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Reference Labs

Regional Labs

District Level

SubDistrict Level

Microscopy Level

Community Level

VHI

VHT

LC / DST 15d/ 30d

LPA  Rif / INH 2d

In house DST (MODS, NRA, CRI)

Special settings and conditions
Decentralization of technology

- ~100 more to be installed
- Very much liked by techs
Current GeneXpert Implementation in Uganda
Other diagnostic menus

• There has been automated technologies for:
  – Culture
  – Identification
  – Drug Susceptibility Testing
  – Molecular – PCR based
  – Hematology
  – Chemistry
  – Malaria RDT

• There is a move to disseminate these such as
  • Viral load
  • Hematology
  • Chemistry

• Further dissemination is limited by:
  • Lack of capable human resource
  • Lack of equipment maintenance
  • Poor logistic systems
Biosafety issues

• Due to limited resources this has received the least attention
The Maputo Declaration on Strengthening of Laboratory Systems:

• Call on national governments to support laboratory systems as a priority by developing a national laboratory policy within the national health development plan that will guide the implementation of a national strategic laboratory plan.

• Governments should establish a department of laboratory systems within the Ministry of Health.

• Call on national governments with support of their donors and partners in resource-limited settings to develop national strategic laboratory plans that integrate laboratory support for the major diseases of public health importance including HIV, tuberculosis, and malaria.
Administration and Lab policy

✓ Uganda has written a national lab policy

✓ A draft strategic plan is written

X Governments should establish a department of laboratory systems within the Ministry of Health
Lab coordination

• In pre colonial era there was one Chief lab technician

• Later in the 70`s there were two Chief technicians at Mulago
  – One overall
  – One in charge of the periphery network

• Later, this structure was lost

• There has been an effort of establishing CPHL under UNRO, NDC
  • This efforts are hampered by lack of clear lab structure in the copuntry
  • Unfortunately this has not been resolved by the policy
Position of Lab in MoH structure

- Labs are integrated
- No published organogram
War forward

• Establish a clear structure for the lab in the country

• Change the old establishment to allow:
  • Other competent human resource to be recruited
  • To allow skill mix in the lab
Thank you!!