Laboratory Systems

Global Fund Geneva

LFA Training 2019/2020

Session Objective

- Get to know each other
- Learn about your challenges and suggestions
- Share an understanding of the Global Fund's approach to Laboratory Systems
- Apply systems thinking to the LFA's scope of work for Lab Systems
- Provide brief overview of Forecasting and quantification for Lab Commodities
- Provide a brief overview of Connectivity/LIS

Presentation outline

- Overview
- Health Systems
- Global Fund Lab System Strategy
- Laboratory Systems Forecasting & Quantification
- Connectivity /LIS
- Lab Network Optimization
- Waste management

Ending AIDS, TB and Malaria as Epidemics

The Global Fund

The Global Fund / Karin Schermbrucker

Core Principles

Partnership

All those involved in the response to the diseases are involved in decision-making: Governments, civil society, communities affected by the diseases, technical partners, the private sector, faith-based organizations, and other funders.

Country Ownership

People implementing programs on the ground know best how to respond to HIV, TB and malaria in their local contexts. Each country tailors its response to the political, cultural and epidemiological context.

Performance-based Financing

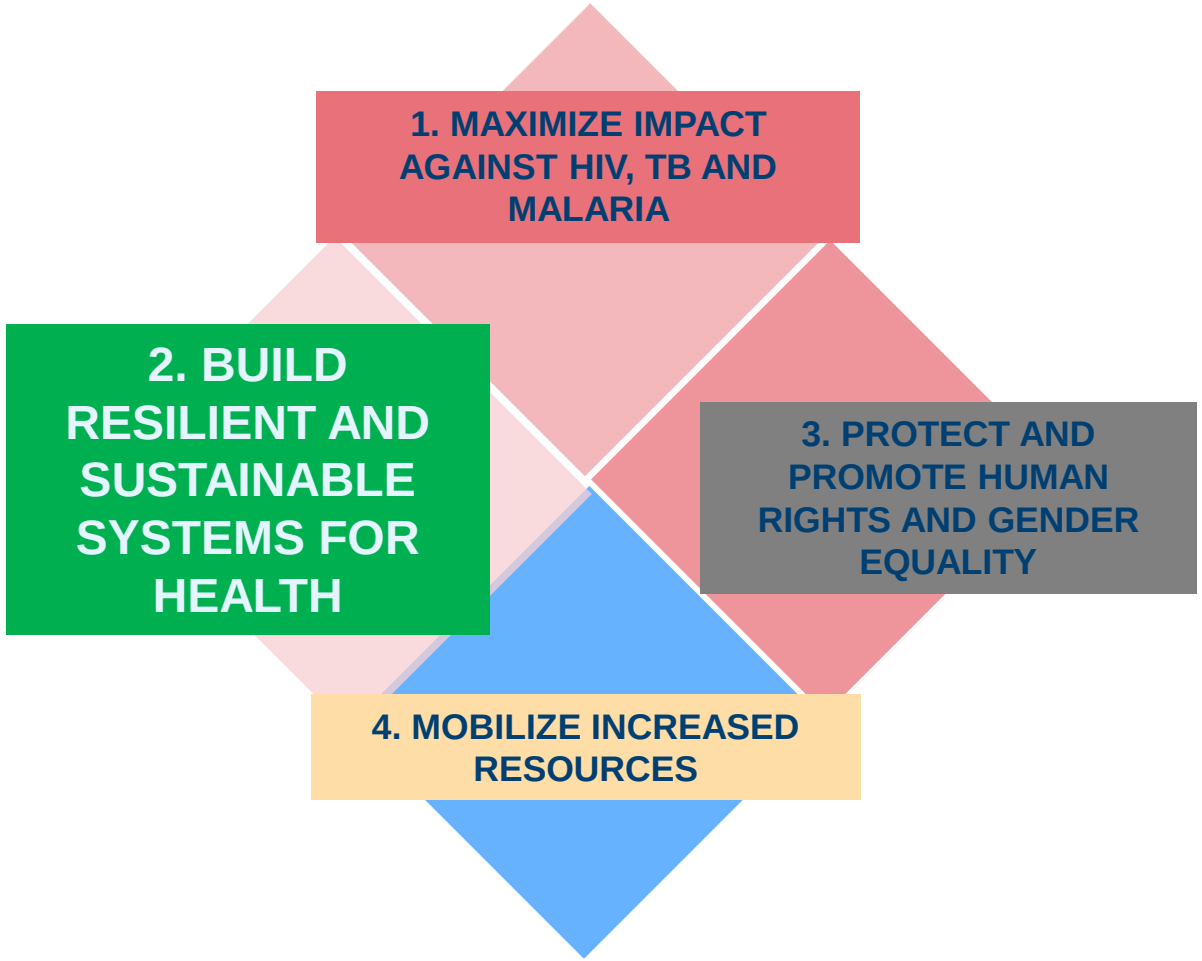
Ongoing financing depends upon performance and proven results.

Transparency

The Global Fund operates with a high degree of transparency in all of its work.

The Global Fund 2017-2022 Strategy: “Investing to End Epidemics”

RSSH is one of four strategic objectives



Vision

A world free of the burden of HIV, TB and malaria with better health for all.

Mission

To attract, leverage and invest additional resources to end the epidemics of HIV, tuberculosis and malaria and to support the attainment of the SDGs.

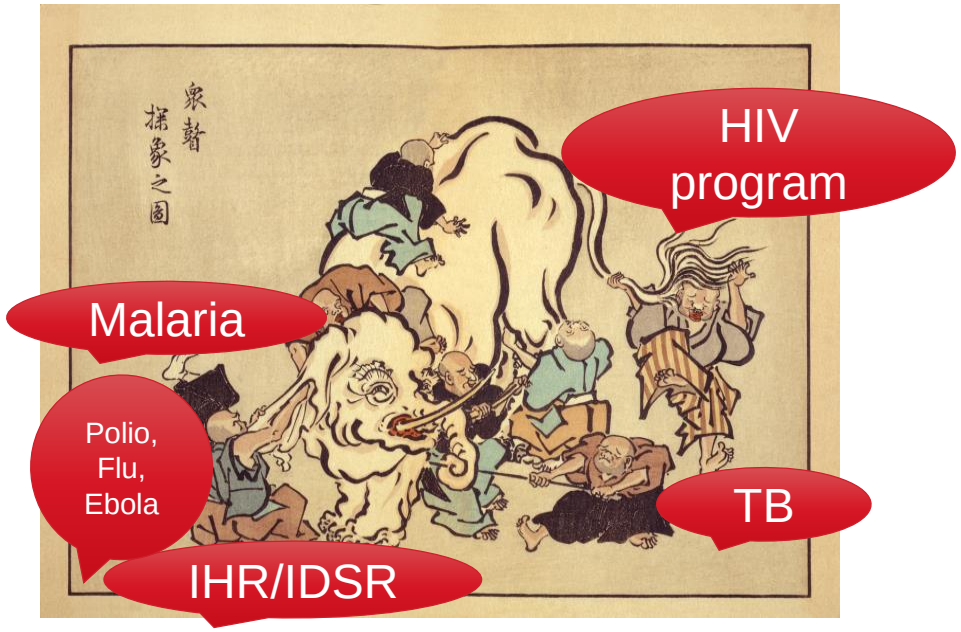
STRATEGIC ENABLERS: Innovate and differentiate along the development continuum **+** Support mutually accountable partnerships

What are the **objectives of RSSH investments**?

A. Improve the availability of medicines, equipment, human resources, data, laboratory services, and funding	B. Improve the government's ability to sustainably deliver high quality HIV, TB, and malaria services
C. Improve the coverage and quality of HIV, TB, and malaria services at an affordable cost	D. Efficiently improve the coverage and quality of HIV, TB, malaria, and Primary Health Care services.

The elephant

Every program wants a piece of this elephant and wants its services



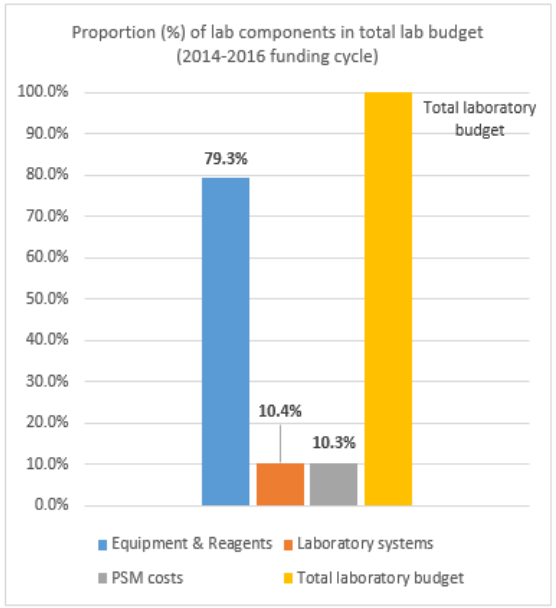
Laboratory service is essential
WHY?

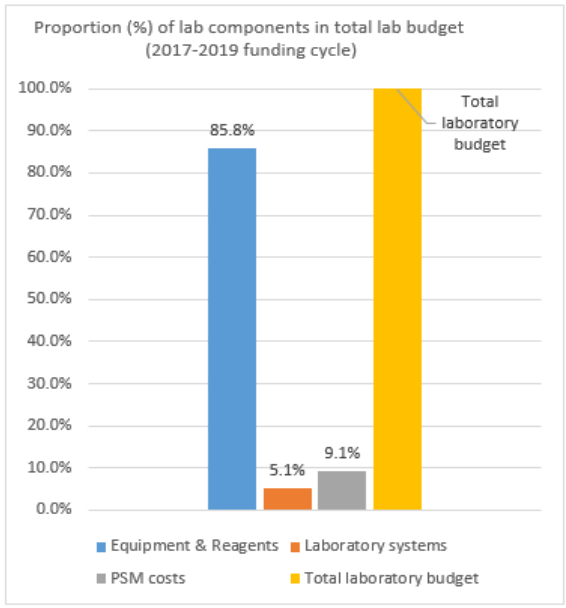
No labs
No diagnosis
No treatment

Will there be any program impact without lab support?

70% of clinical medicine decision making relies on laboratory test results

Substantial Investment in laboratory components across two funding cycles.





	2014-2016 funding cycle	2017-2019 funding cycle
Laboratory component	**Budget amount**	**Budget allocation**
Equipment & reagents	$852,959,201.49	$710,695,828.09
Equipment & Reagents as % of total laboratory budget	**79.3%**	**85.8%**
Laboratory systems	$111,710,296.09	$42,360,270.46
Laboratory systems as % of total laboratory budget	**10.4%**	**5.1%**
PSM costs	$110,413,194.28	$74,874,378.75
PSM costs as % of total laboratory budget	**10.3%**	**9,1%**
Total laboratory budget	**$1,075,082,691.86**	**$827,930,477.30**
Total grant budgets	**$11,688,364,323.04**	**$7,183,174,852.99**
Laboratory budget as % of total grant budgets	**9,2%**	**11.5%**

Table 1. Comparison of Laboratory budgets across 2 funding cycles.

Note : 2017-2019 data partial as at Dec 20th 2017

Source: Detailed budgets extracted from GOS.

Technical Brief

Strategic Support for Integrated Laboratory Services

30 November 2016
Geneva, Switzerland

PURPOSE: This briefing note aims to clarify the Global Fund's approach to laboratory systems investments by outlining:

1. The general principles, which underpin Global Fund's investments;
2. The different types of investments that may be supported; and
3. How the support offered by the Global Fund may vary according to the country context

The purpose of this note is to guide countries preparing funding applications to the Global Fund. It should be used as a basis for discussion and negotiation with stakeholders when developing funding applications. The disease specific and health systems strengthening information notes should also be reviewed in parallel with this document.

. https://www.theglobalfund.org/en/funding-model/applying/resources/

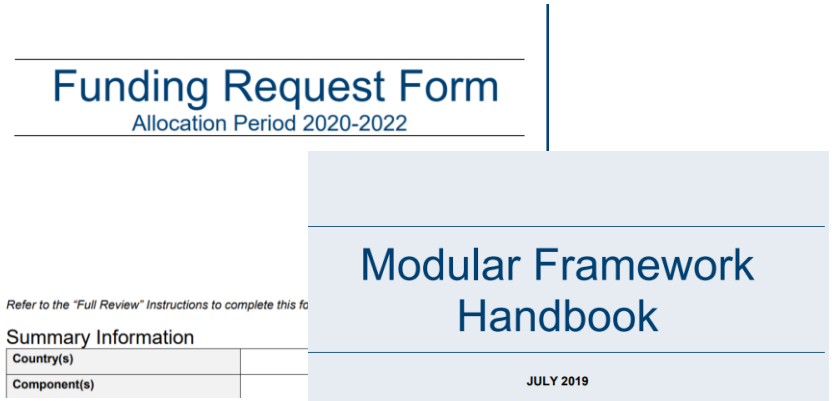
Guiding Principles for Investing in Heath Laboratory Systems

- **Country Ownership**
- **Integration of Laboratory Services and Systems**
- **Partnership**

Systems Thinking approach

1. Unifying Practical Approaches to Continuous Quality management systems
2. Leadership and Governance
3. Using polyvalent testing platforms
4. Human resources
5. Management Systems/Biosafety
6. Unifying laboratory information systems
7. Strengthening Specimen Referral Systems
8. Coordinating Efforts Through National Laboratory Strategic Plans to develop Laboratory Networks

Revised application material and guidance


Funding Request Form
Allocation Period 2020-2022

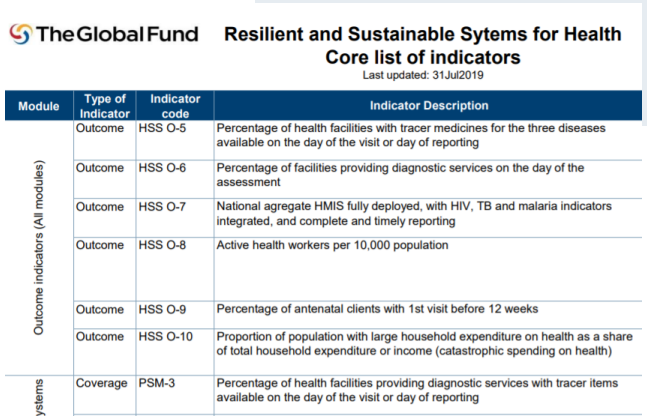
Refer to the "Full Review" Instructions to complete this fo

Summary Information

Country(s)	
Component(s)	

Modular Framework Handbook

JULY 2019


The Global Fund — Resilient and Sustainable Sytems for Health
Core list of indicators
Last updated: 31Jul2019

Module	Type of Indicator	Indicator code	Indicator Description
Outcome indicators (All modules)	Outcome	HSS O-5	Percentage of health facilities with tracer medicines for the three diseases available on the day of the visit or day of reporting
	Outcome	HSS O-6	Percentage of facilities providing diagnostic services on the day of the assessment
	Outcome	HSS O-7	National agregate HMIS fully deployed, with HIV, TB and malaria indicators integrated, and complete and timely reporting
	Outcome	HSS O-8	Active health workers per 10,000 population
	Outcome	HSS O-9	Percentage of antenatal clients with 1st visit before 12 weeks
	Outcome	HSS O-10	Proportion of population with large household expenditure on health as a share of total household expenditure or income (catastrophic spending on health)
ystems	Coverage	PSM-3	Percentage of health facilities providing diagnostic services with tracer items available on the day of the visit or day of reporting

- Added directional language in funding request, modular framework and information notes to encourage more cross-programmatic RSSH investment and linkages to the broader health system
- Additional and revised RSSH indicators and workplan tracking measures
- Updated RSSH Information Note and technical briefs

Forecasting and Quantification Laboratory

Lab quantification pre requisites

- Lab policy and strategic plan
- Standardization policy
- Defining – Test menus by level
- Testing Protocol by test by level
- Instrumentation/equipment by level

Types of forecasting data/methodologies

Consumption/Usage data (Logistics data): Data on quantities of products used/issued over time, losses and adjustments to inventory, and the stock on hand at the various levels of the in-country supply chain. Can use data direct from instruments if connected.

Demographic/Morbidity data: Data on disease prevalence and population characteristics.

Service Statistics data: Data on the number of service delivery sites, the volume of services or number of patients per site, and the type of service received

Quantification: data for decision-making

Data Points

- Inventory of instruments
- Demand (quantification)
- Instrument utilization, diagnostic contribution and capacity
- Instrument down time
- Impact of maintenance agreements and vendor performance
- Data direct from instruments

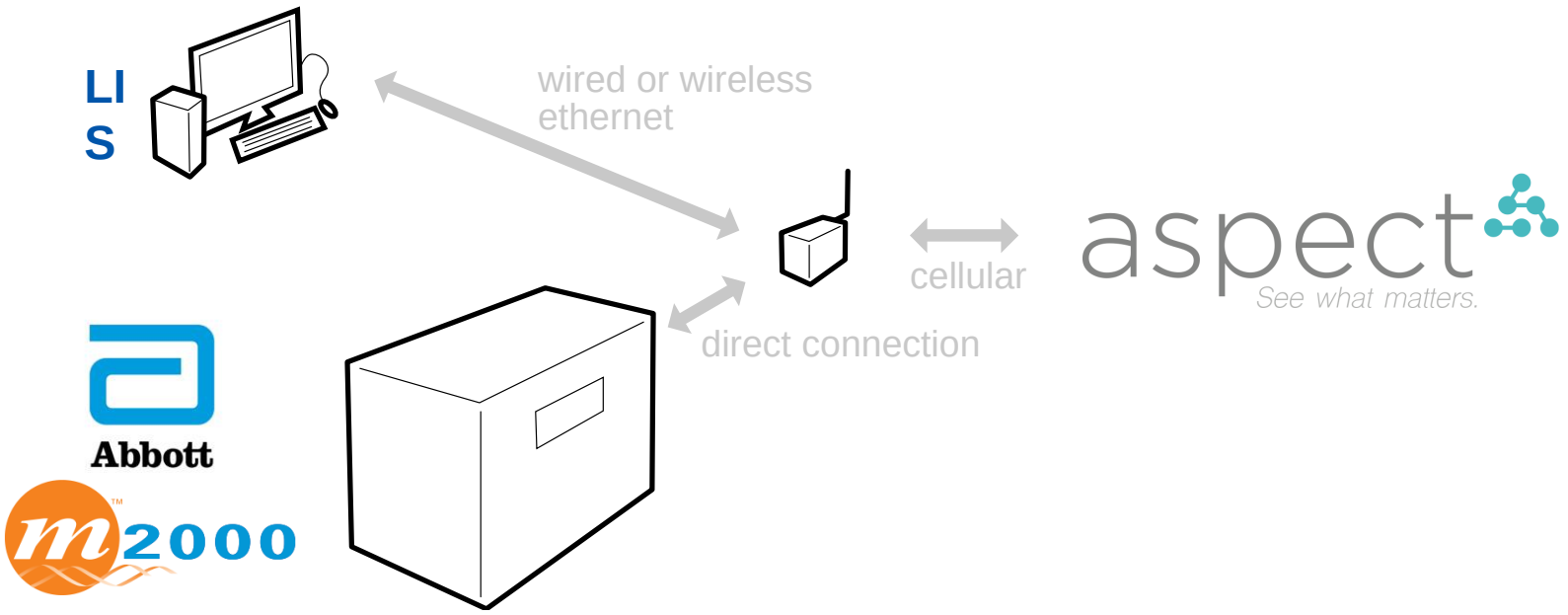
Tools available

- Quantimed
- ProQ
- PipeLine
- Microsoft® Excel
- CHAI/DELIVER/SCMS Demographic/Morbidity Lab Quantification Excel-based Tool
- ForLabs CHAI/SCMS tool
- Reagent calculators
- FIND TB tool.

Connectivity Platform for GeneXpert Devices and other Lab instruments

As result data becomes available, connectivity solutions can direct information to key personnel via SMS, Email and APIs to other information systems used by the health services provider.

Aspect – Use Case: Aspect Reporter



Interfaces with LIS developed in country and Abbott m2000 at each reference laboratory

Once a sample resulted and was approved by lab controls, the data was sent over a secure connection to Aspect

Replaces motorcycle delivery of results from lab to clinic

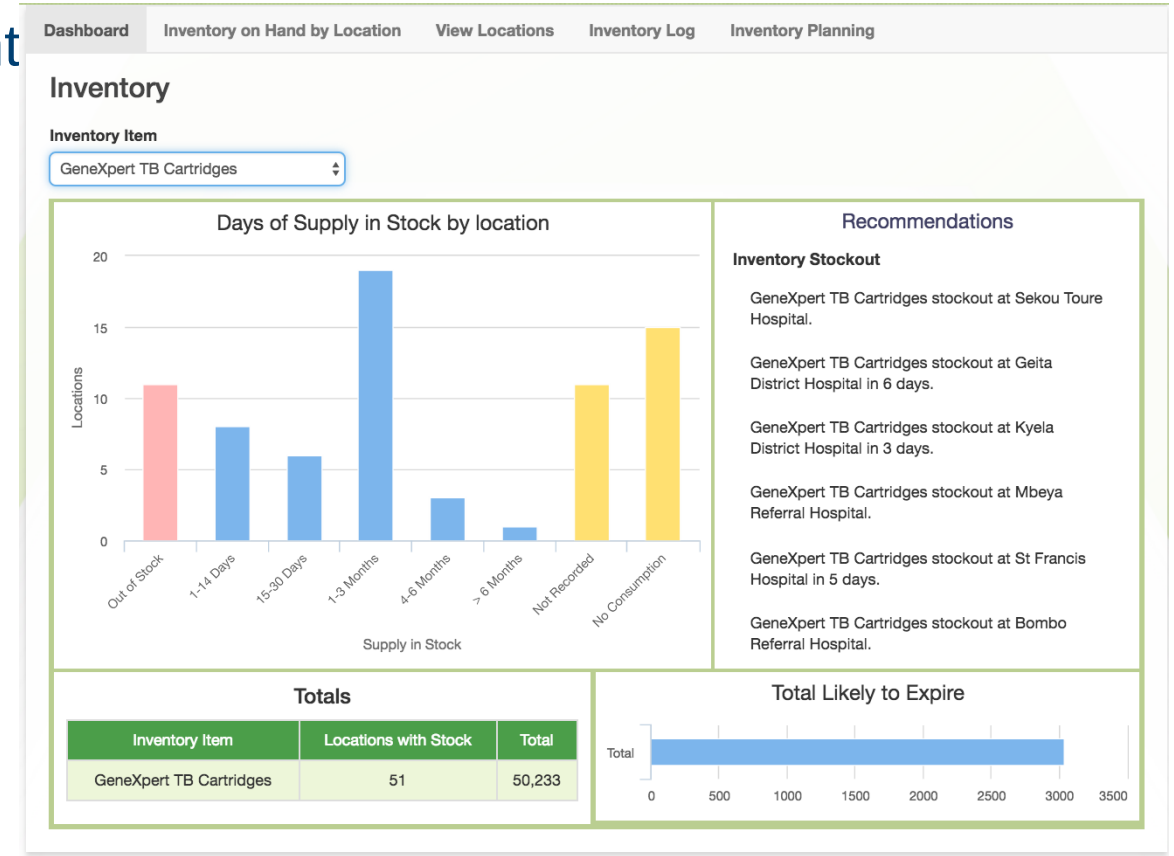
Connectivity Solutions for GeneXpert Devices

Additional features include:

Device monitoring and management

Inventory management

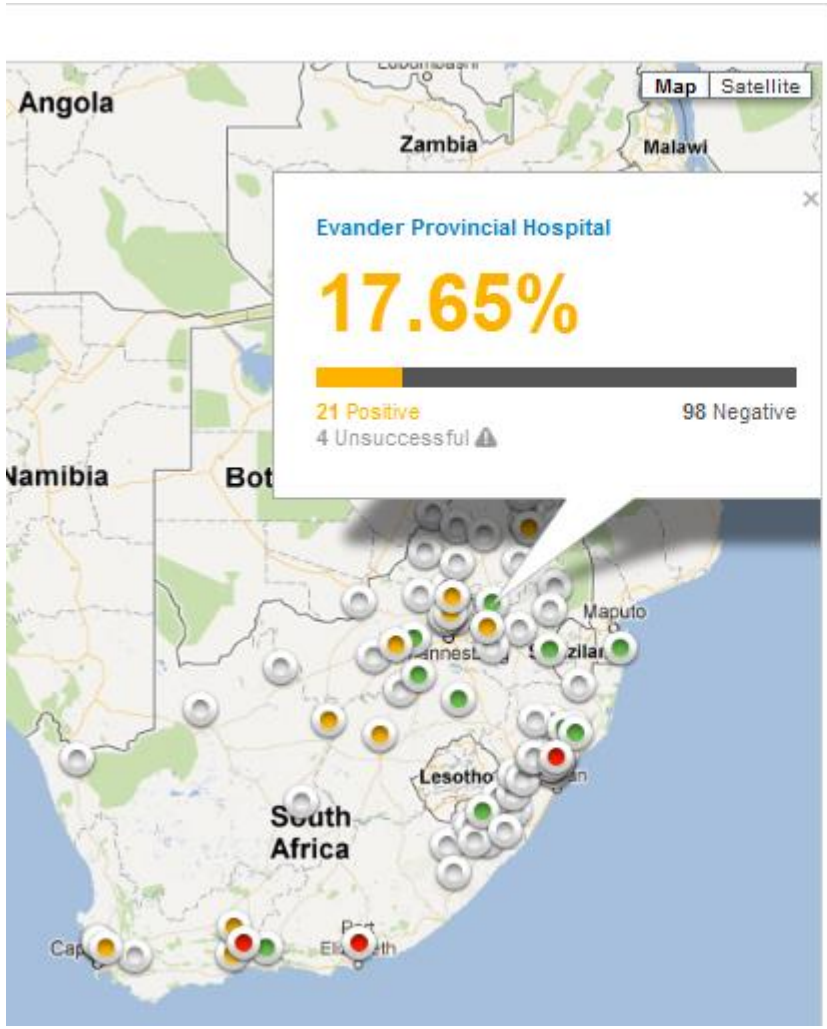
Customised reporting

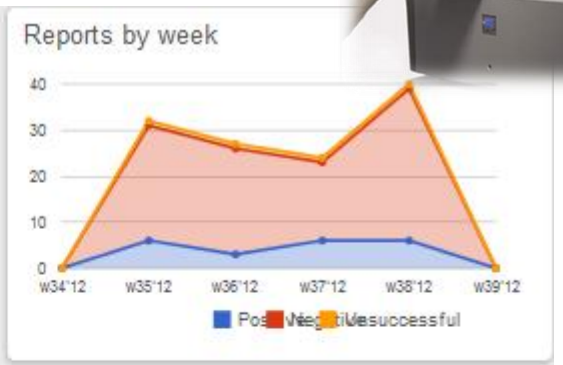


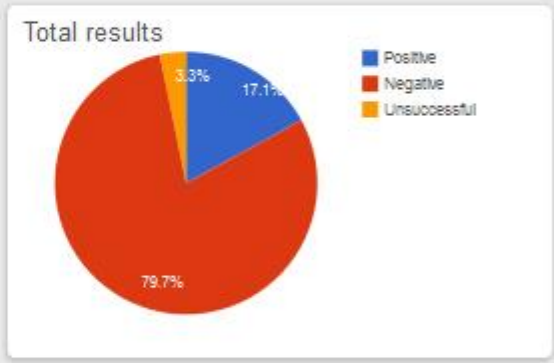
Cepheid/NHLS Remote Monitoring

Operational dashboard for real-time monitoring of results, errors, resistance and positivity rates

Pre-configured on all newly installed GeneXperts







Error code		Rate
Error 5011		1.8508%
		0.5625%
Error 5007		1.2711%
Error 5006		0.3331%
Error 2127		0.253%
		0.0016%

User Workshop held 5-9th November to improve usability and facilitate design changes, Johannesburg

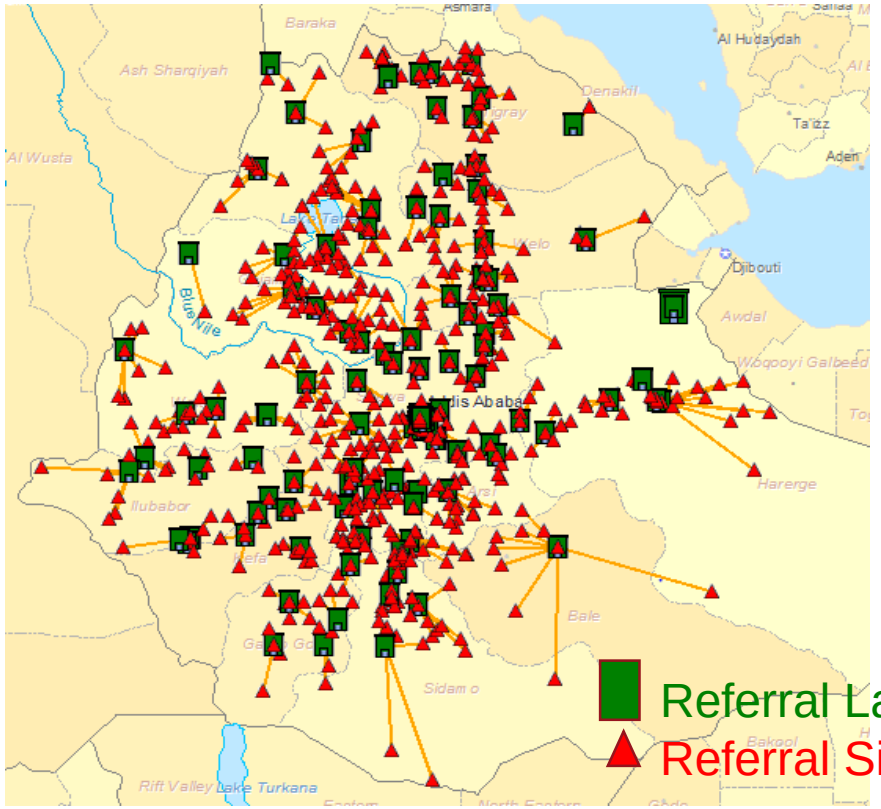
Laboratory Network Optimization

Situation with GeneXperts

- Overall Instrument Unitization is low. Few countries need more instruments or modules to test at current notifications.
- Scaling-up requires more testing, rather than more instruments
- Countries are not procuring enough cartridges to reach testing targets or utilise instrument
- Maintenance is a big issue
- Key elements demanding attention are adherence to algorithms and specimen referral mechanisms.
- COST of expanding network is a huge consideration
- Countries must fully evaluate their networks to ensure sustainability, reliability and accuracy of testing and **focus on optimising networks by addressing operational, technical, and systemic challenges.**

Source: “MSF Data”

Optimized Scenario: Lab Referral Network



Average sample transport distance (one way) : 32 KM
Reduced result TATs, improved CD4 service and patient care

Total Transport Cost:
$ 677,000

- Vehicle/Fuel Cost[1]: $585,000
- Lab Tech Opportunity Cost[2]: $92,000

Savings from re-assignments: **~60%**

[1]Vehicle cost includes: Postal costs for current postal lanes, an assumed cost of .025 per shipment per KM, and the return leg on transport for non-postal service
[2]Lab tech cost based on daily wage of $10.71 and time spent traveling. Does not include travel per diems

Waste Management

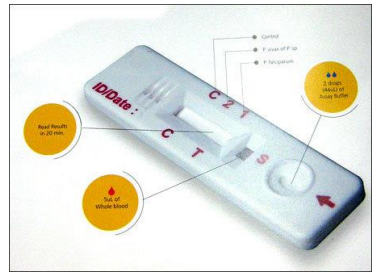
The Challenge

Health products are critical in the fight against AIDS, TB and malaria.

In 2017, the Global Fund spent about US$2 billion on health products.

Acknowledgement that in many low resource settings waste management infrastructure, capacities and systems are weak.

KEY MESSAGE; We need to be aware and take waste management seriously in reviews.




The Earth
does not
belong to us:
we belong to
the Earth.
Go Green...

Thank you very much for your attention and participation.

Discussion