

Advances in National Laboratory Strategic Planning in Africa Improves Quality of Services: A PEPFAR Major Success Story

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APHL Annual Meeting
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A Decade of Commitment to Strengthening Laboratory Medicine in PEPFAR-Supported Countries



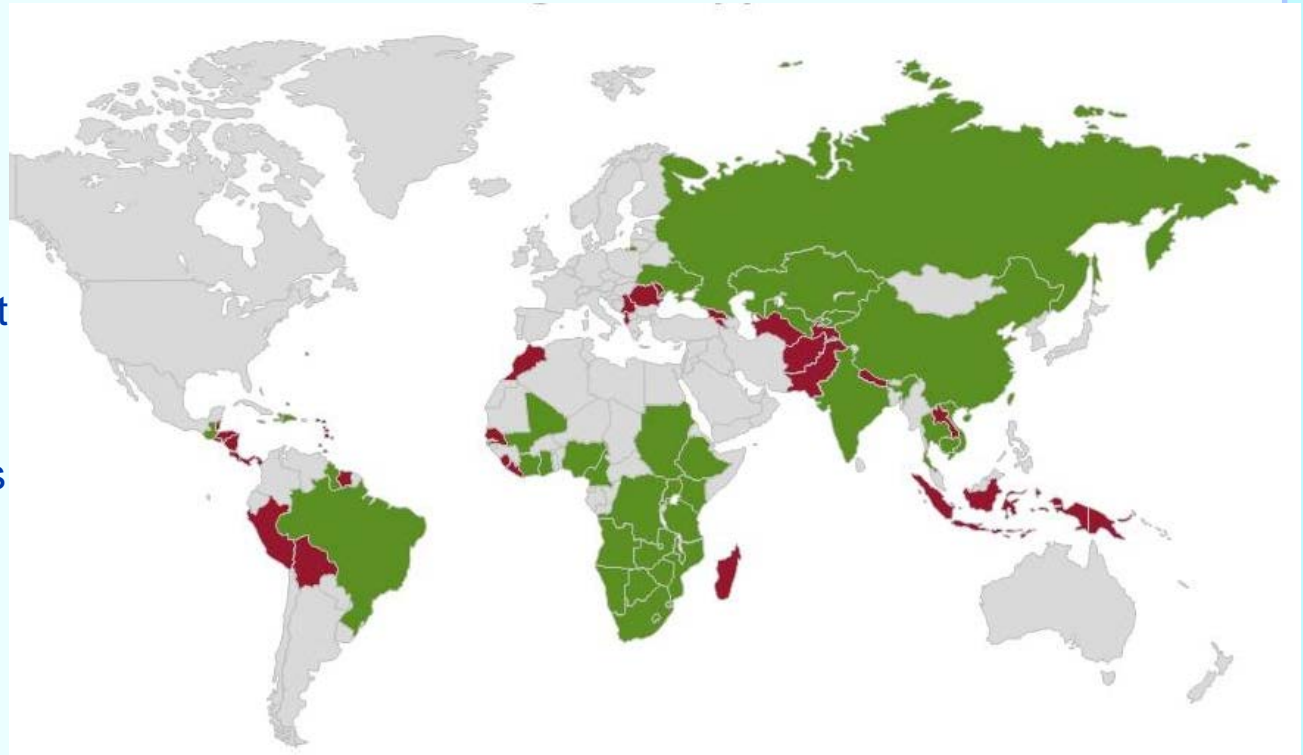
Outline

- Introduction
- Role of Laboratory Strategic Plan
- Laboratory Systems
- Need to strengthen Institutions

CDC PEPFAR-Supported Countries

PEPFAR 10 Year Goals:

- Treatment for at least 6 million people
- Prevention of 12 million new infections
- Care for 12 million, including 5 million orphans and vulnerable children
- Training of at least 140,000 new health care workers in HIV/AIDS

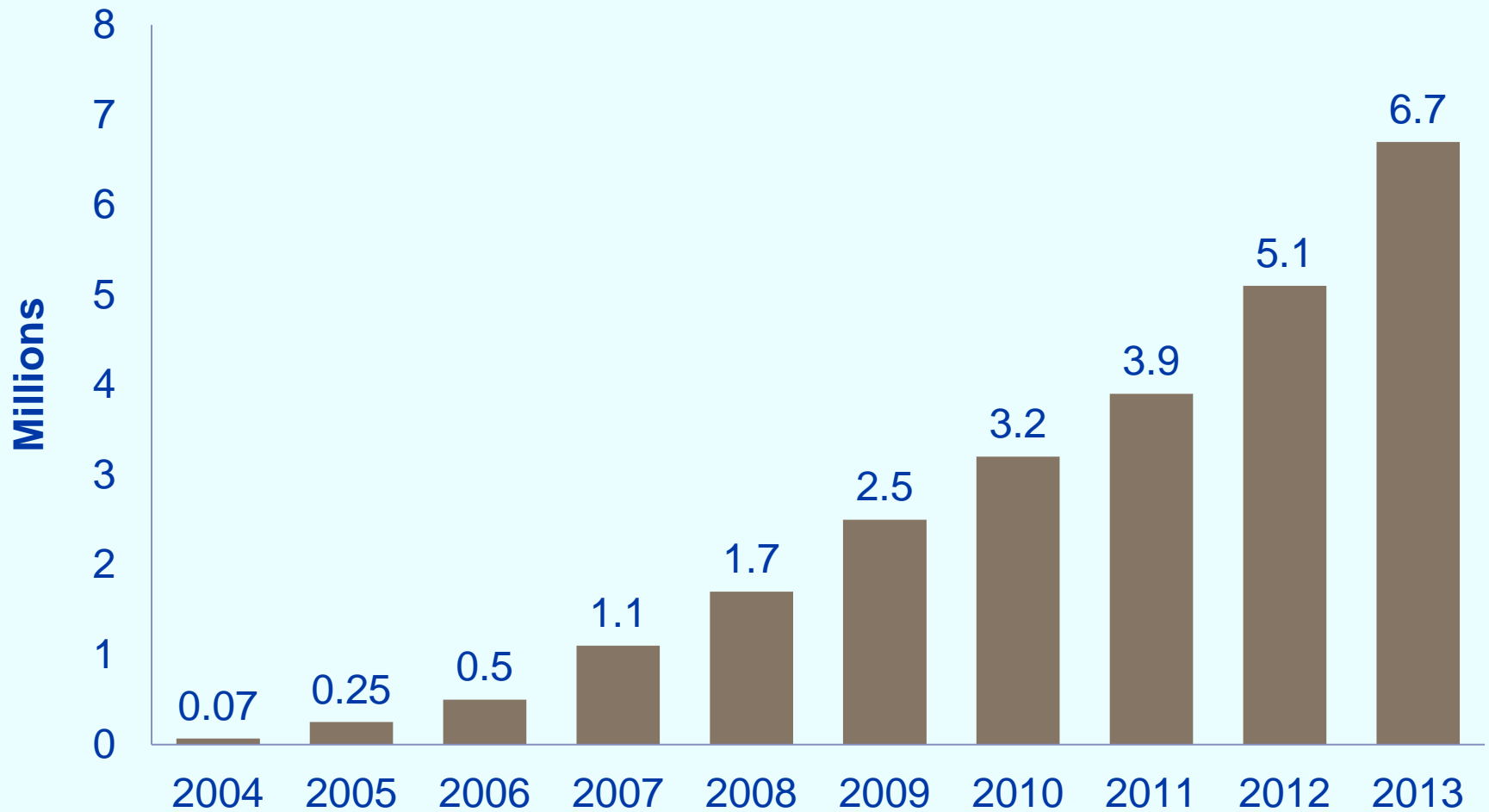


- Countries with HIV/AIDS program offices (N=41)
- Additional countries receiving HIV/AIDS support (N=37)

HIV Testing Offered In PEPFAR-Supported Countries Between 2004-2013



Number Of HIV-Infected Adults And Children Receiving Antiretroviral Therapy



The Case For Strengthening Laboratory Systems

Kigali Conference / LABORATORY SYSTEMS AND SERVICES IN GLOBAL HEALTH

Laboratory Systems and Services Are Critical in Global Health

Time to End the Neglect?

John N. Nkengasong, PhD,¹ Peter Nsubuga, MD, MPH,² Okey Nwanyanwu, PhD,³ Guy-Michel Gershy-Damet, PhD,⁴ Giorgio Roscigno, MD,⁵ Marc Bulterys, MD, MPH, Barry Schoub, MD,⁷ Kevin M. DeCock, MD, MPH,⁸ and Deborah Birx, MD¹

Key Words: National laboratory systems; Laboratory strengthening; Global health; Public health; Infectious diseases

DOI: 10.1309/AJCPMPSINQ9BRMU6

AJCP / EDITORIAL

A Shifting Paradigm in Strengthening Laboratory Health Systems for Global Health

Acting Now, Acting Collectively, but Acting Differently

John N. Nkengasong, PhD

DOI: 10.1309/AJCPYASUEYQ6XK



Neglected Lab Infrastructure

State Of Laboratories Infrastructure In 2004



Need To Renovate Laboratories To Support The Treatment And Prevention Programs



The Renovated Laboratory



The Inauguration



State Of Reference Laboratories In 2014

Chennai, India



Dar es Salaam, Tanzania

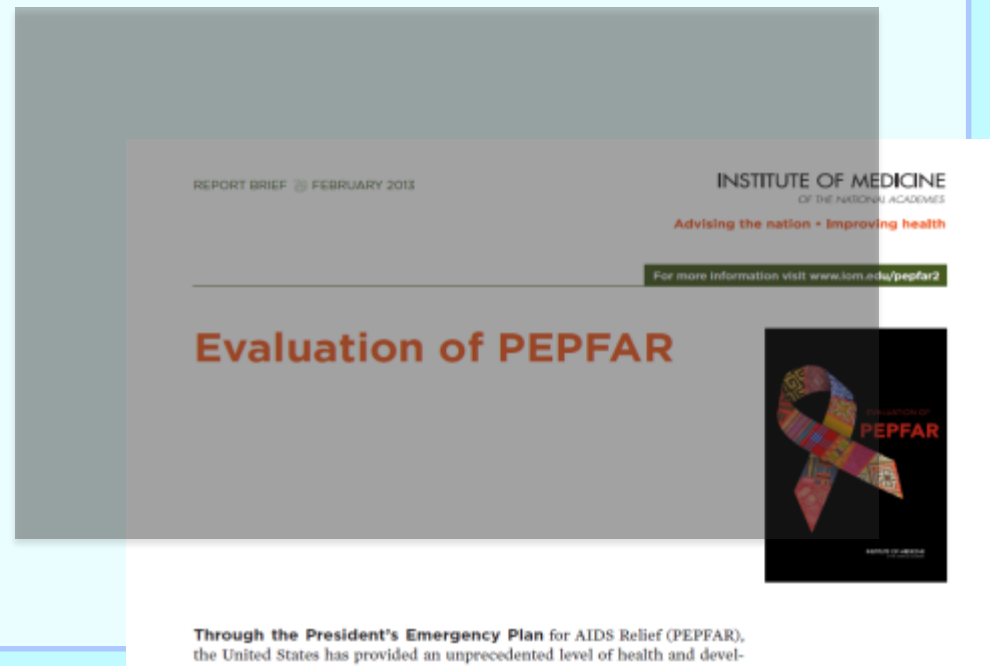


Addis Ababa, Ethiopia



IOM Report on Evaluation of PEPFAR

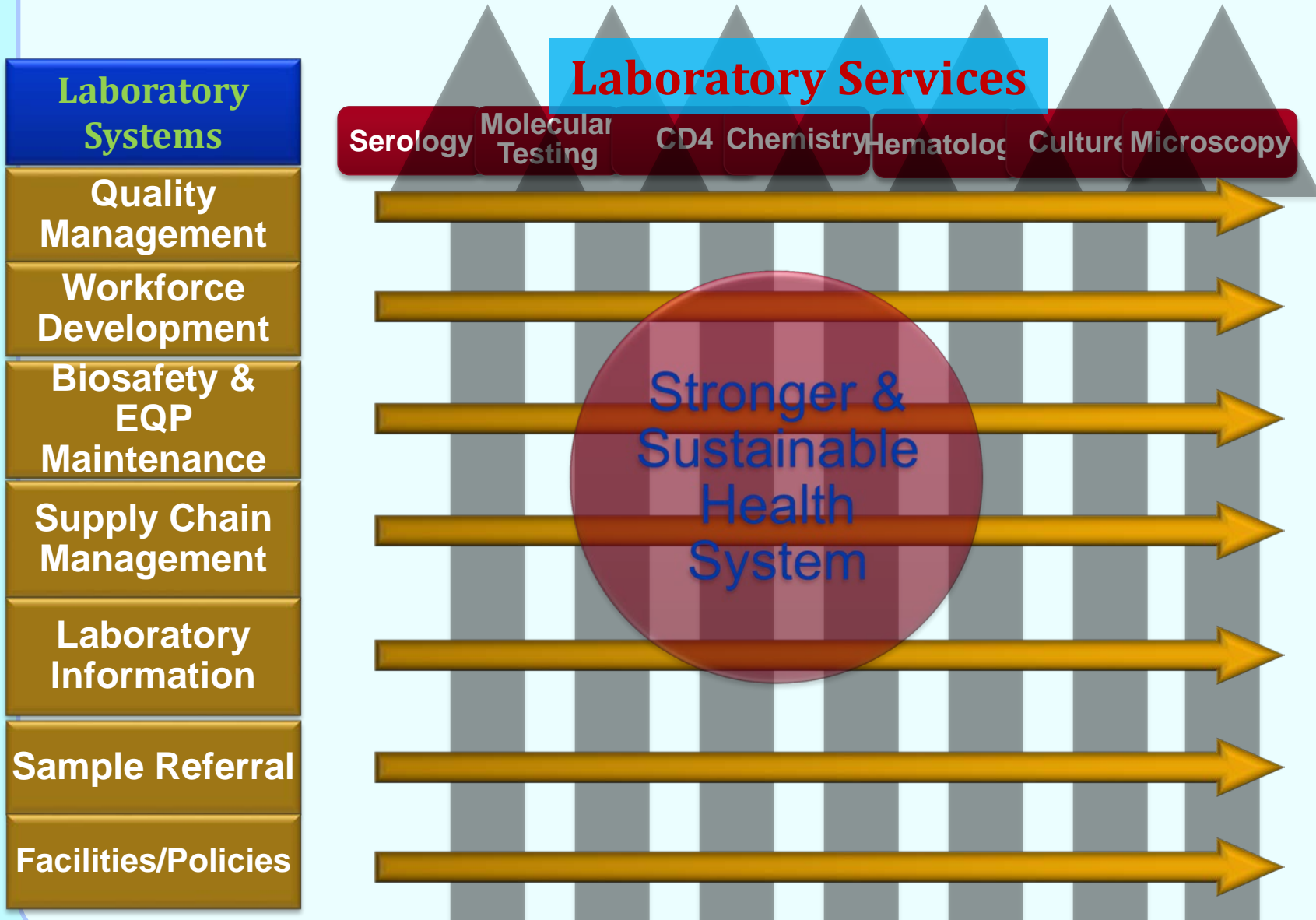
“Although challenges remain, the improvement of laboratories under PEPFAR support and guidance has been a signature achievement of the program ----During the committee’s country visits, this was a theme emphasized with near universality”

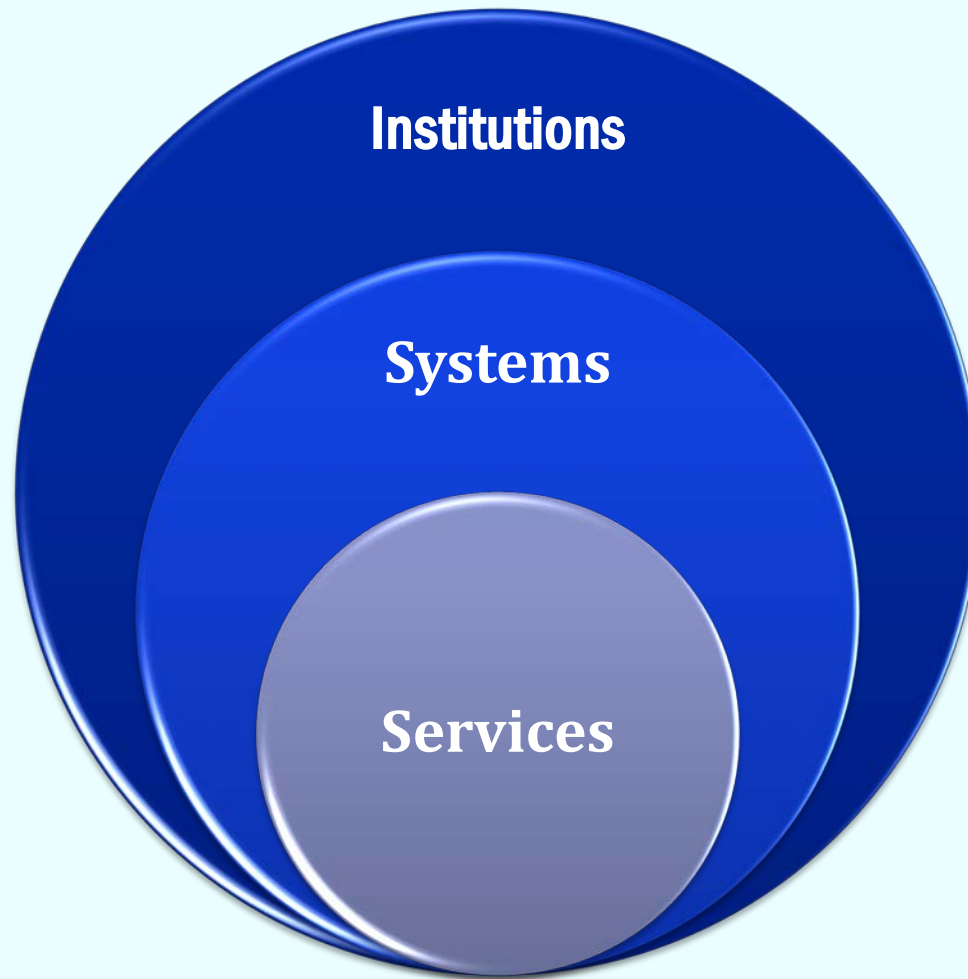


Vision and Mission Statement

To support countries to strengthen sustainable, **integrated laboratory systems** to provide diagnostics services for effective implementation of prevention, surveillance and treatment programs across disease (HIV, TB, Malaria, OI's, etc.)

PEPFAR Laboratory Framework For Multiple Diseases





Institutions

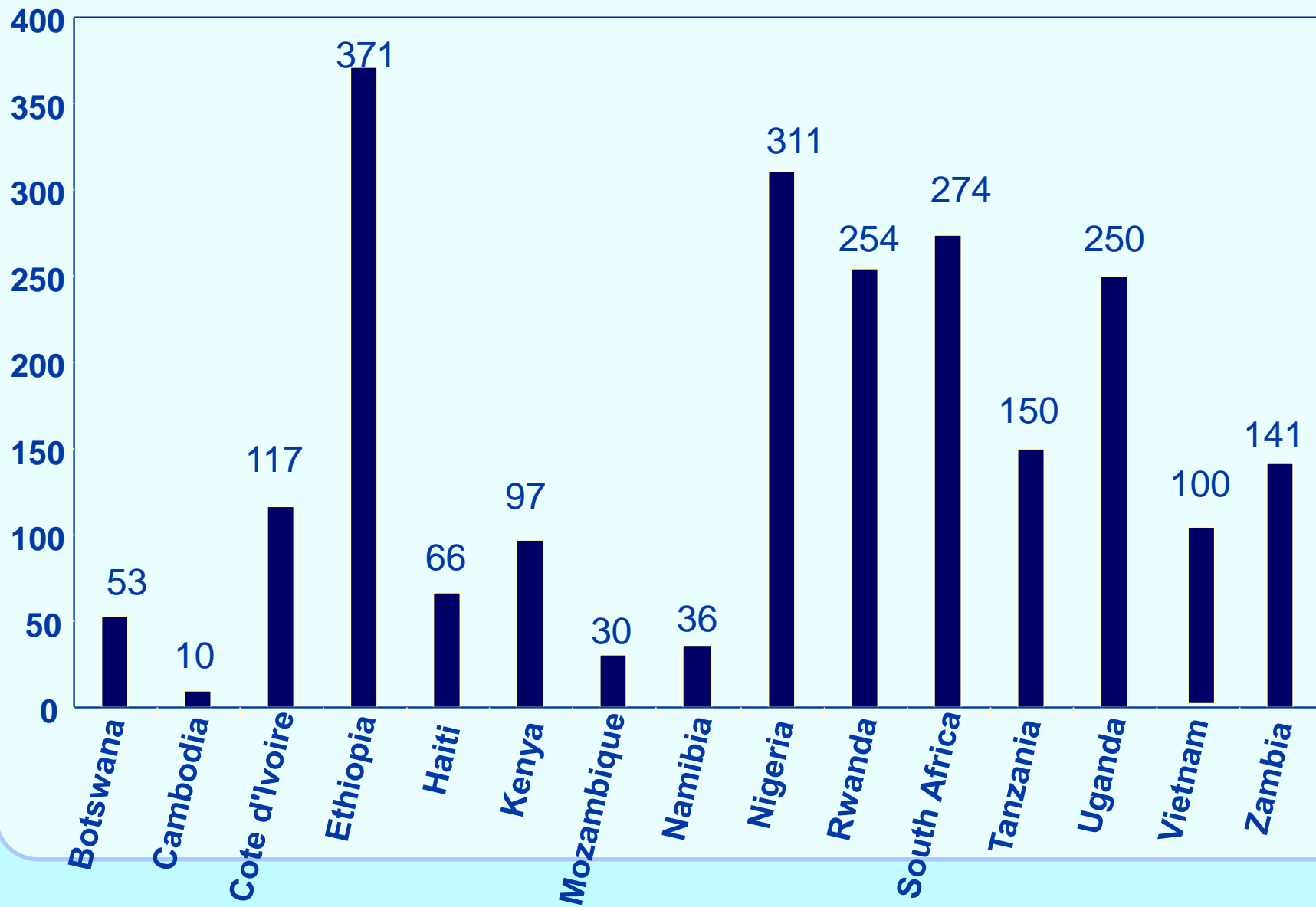
Systems

Services



Services

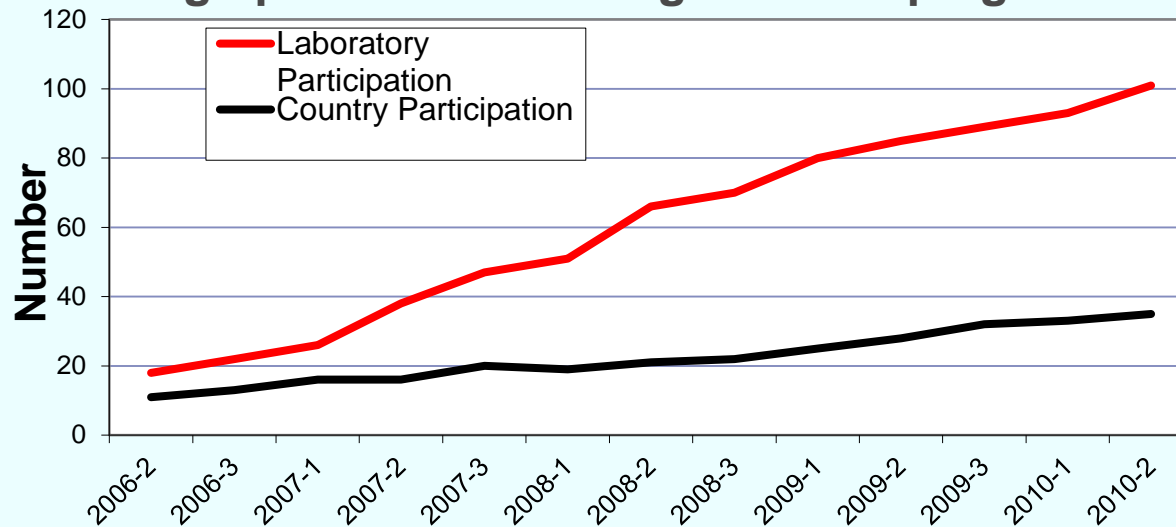
Number Of PEPFAR-Supported Laboratories In Selected Countries As Of September 2008 (N= 1,917)



Dried Blood Spot-based PCR Testing Has Helped Scale-up Early Infant Diagnosis



Scaling up DBS-PCR testing in developing countries



2 Systems



World Health
Organization

REGIONAL OFFICE FOR
Africa

The Maputo Declaration



The Maputo Declaration on Strengthening of Laboratory Systems

Recognize that in order to improve and sustain access to laboratory services, there must be an integration of laboratory support for tuberculosis, malaria and HIV disease programs. The aim of this effort should be to sustain any improvements made to a **laboratory as part of the greater health system from a public health perspective.**

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 donors and implementing partners to ensure that in supporting laboratory strengthening that proper consideration is given to **fostering national ownership.**

Call on academic institutions and research funders to accelerate efforts to **develop new diagnostic tools applicable to resourced-limited settings.**

Call on donors and development partners to **commit** to work **collaboratively with each other and with coordination from the national governments** to support strengthening of laboratory systems in order to **create one unified, integrated national laboratory network.** These laboratory strengthening efforts should seek to build **public private partnerships.**

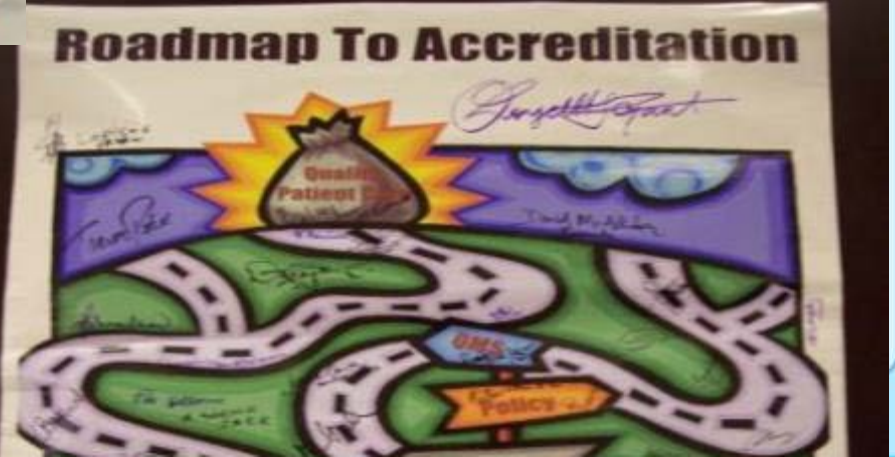
Done in Maputo, Mozambique on 24 January 2008

Development of National Strategic Laboratory Plan in PEPFAR-Supported Countries (N=25)

Country	Coordinating & Technical Committees Formed	Strategic Plan Developed	Strategic Plan Implemented	Strategic Plan Progress Reviewed & Evaluated
Barbados	Yes	Yes	No	No
Botswana	Yes	Yes	No	No
Cambodia	Yes	Yes	No	No
Cameroon	Yes	Yes	No	No
Cote d'Ivoire	Yes	Yes	No	No
Ethiopia	Yes	Yes	Yes	Yes
Ghana	Yes	Yes	No	No
Guyana	Yes	Yes	No	No
Haiti	Yes	Yes	No	No
Kenya	Yes	Yes	No	No
Lesotho	Yes	Yes	No	No
Malawi	Yes	Yes	No	No
Mozambique	Yes	Yes	No	No
Namibia	Yes	Yes	No	No
Nigeria	Yes	No	No	No
Rwanda	Yes	Yes	Yes	No
Swaziland	Yes	No	No	No
South Africa	Yes	No	No	No
Tanzania	Yes	Yes	No	No
Uganda	Yes	Yes	No	No
Vietnam	Yes	Yes	No	No

Kigali, Rwanda - 2009

1. Roadmap to accreditation and framework to measure progress
2. Training program to improve laboratory quality management



WHO-AFRO Stepwise Laboratory Quality Improvement Process Towards Accreditation

Strengthening Laboratory Management Toward Accreditation

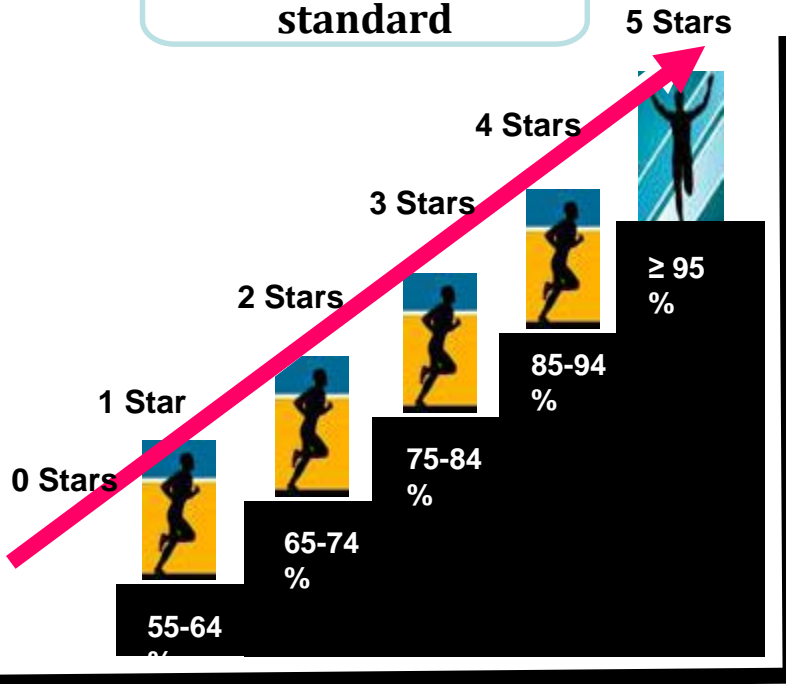
SLIPTA



SLMTA

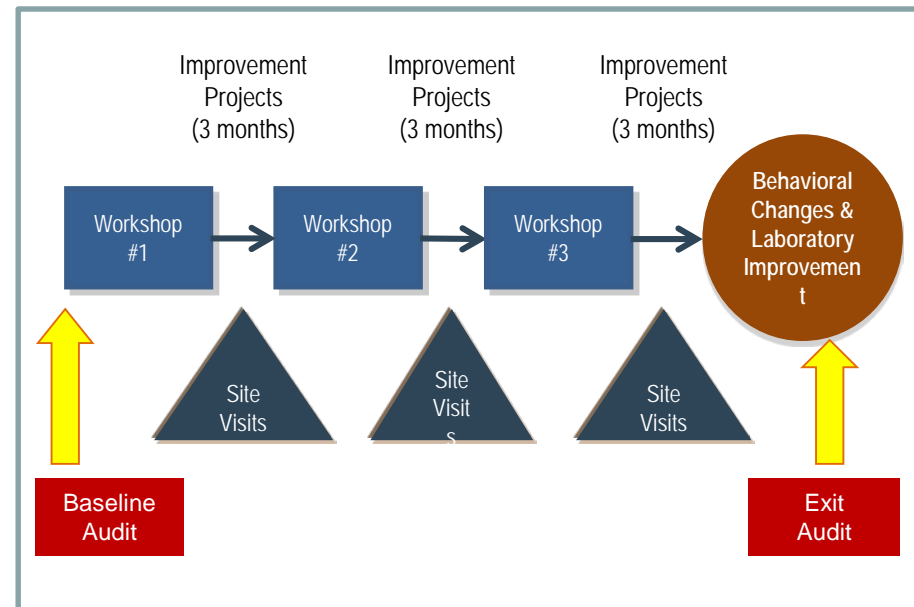
Benchmarks a laboratory's progress towards accreditation using a 0-to-5 star scale

Audit checklist based on ISO 15189 standard

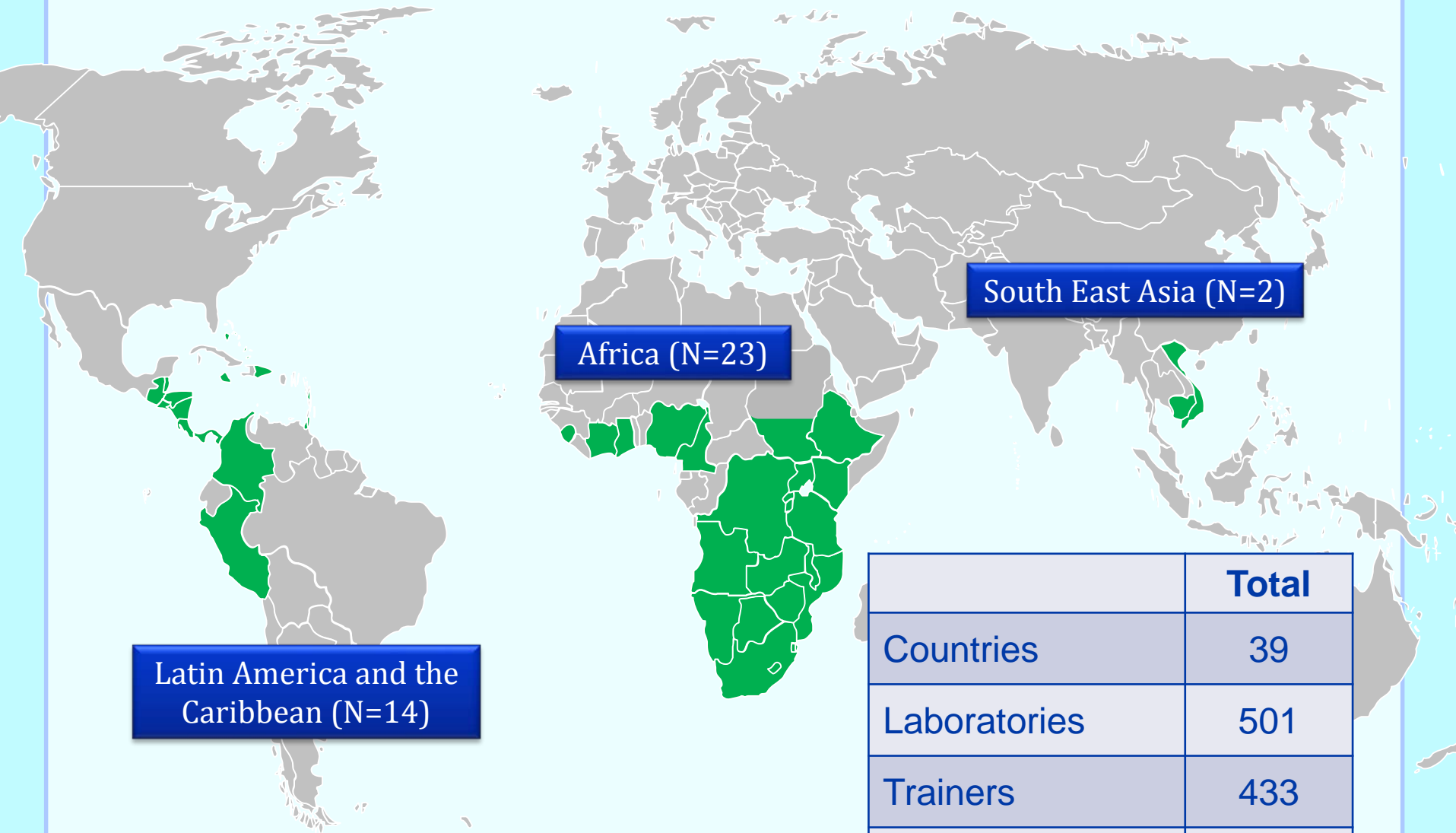


Training program to improve laboratory quality management

Workshops, Mentorship, Improvement Projects, Audits (12-18 months)



Global Reach Of The SLMTA Program



Latin America and the Caribbean (N=14)

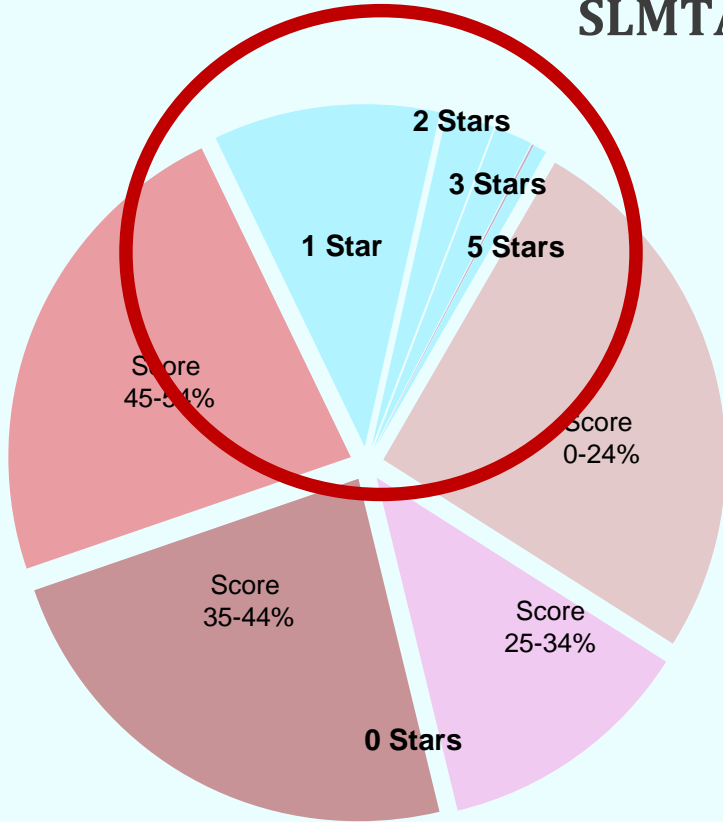
Africa (N=23)

South East Asia (N=2)

	Total
Countries	39
Laboratories	501
Trainers	433
People trained	1644

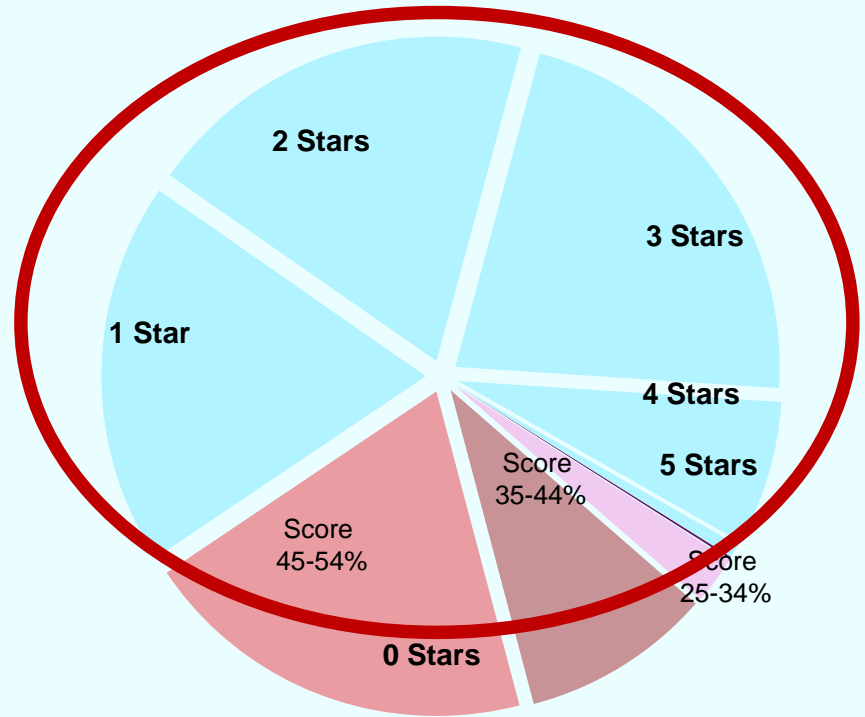
SLMTA Results

96 Million Tests Conducted Annually in 501 SLMTA Laboratories



Before SLMTA

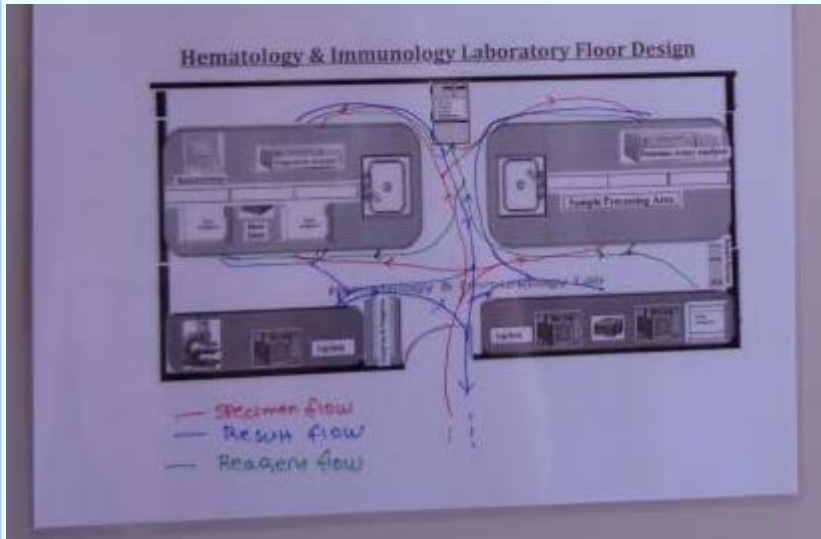
16% of tests done in laboratories with at least 1 star



After SLMTA

67% of tests done in laboratories with at least 1 star

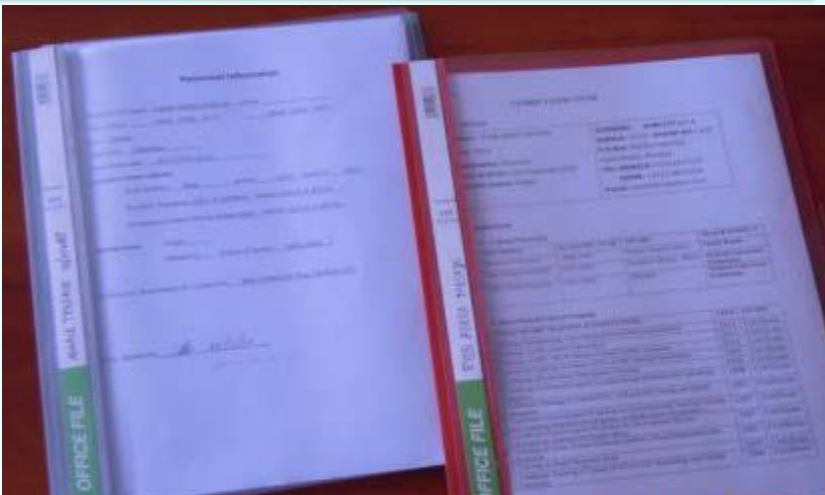
Evidence of Laboratory Improvement



Laboratory Floor Plan Redesign



Signage



Personnel Files



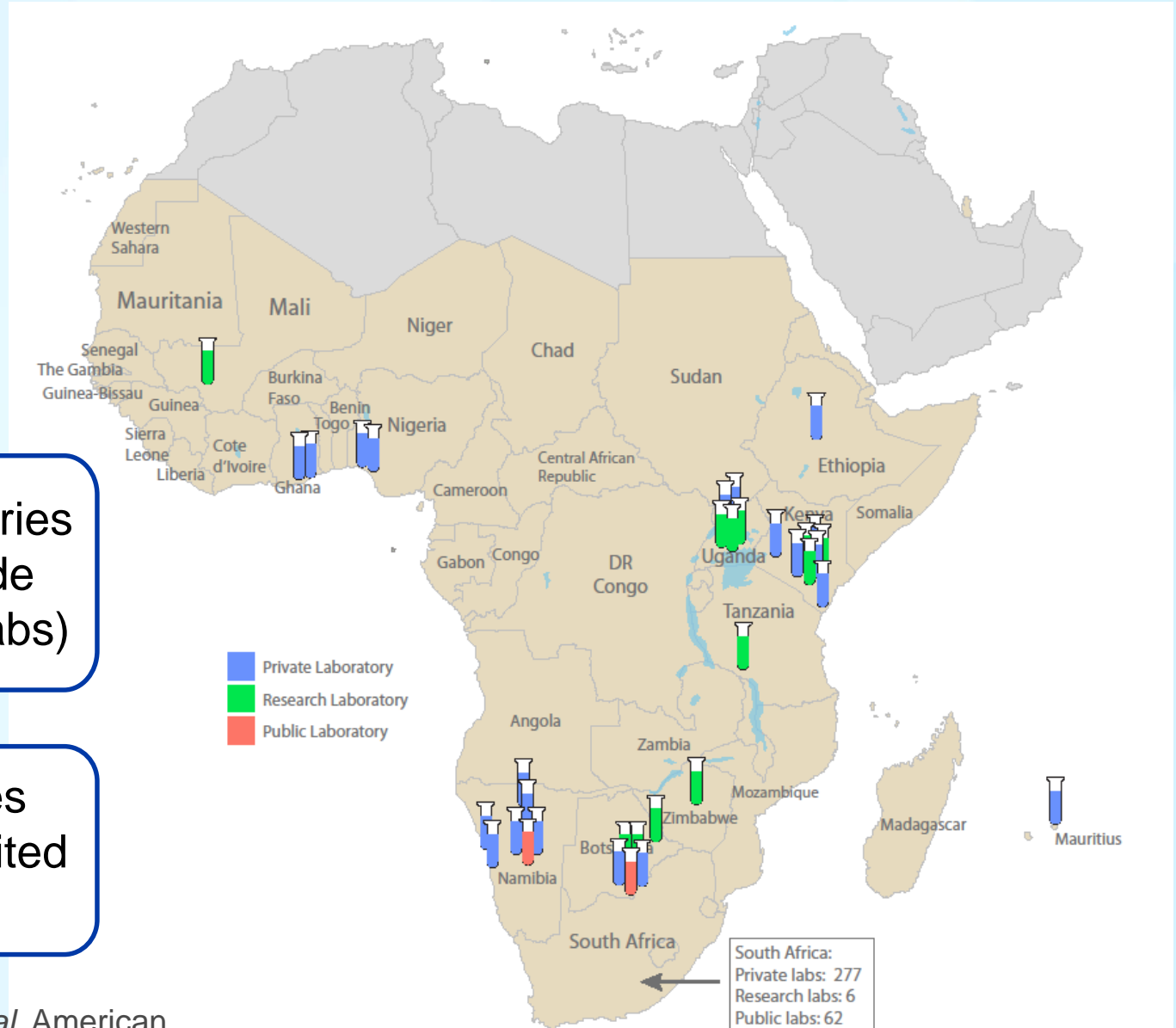
Documents & Records

Recognition!



Kenya receiving ISO15189 - 2013

Accredited Laboratories in Sub-Saharan Africa



Only 34 laboratories accredited outside of SA (2 public labs)

37 of 49 countries have NO accredited laboratories

Bugando lab

KCMC Referral Lab,
awaiting application

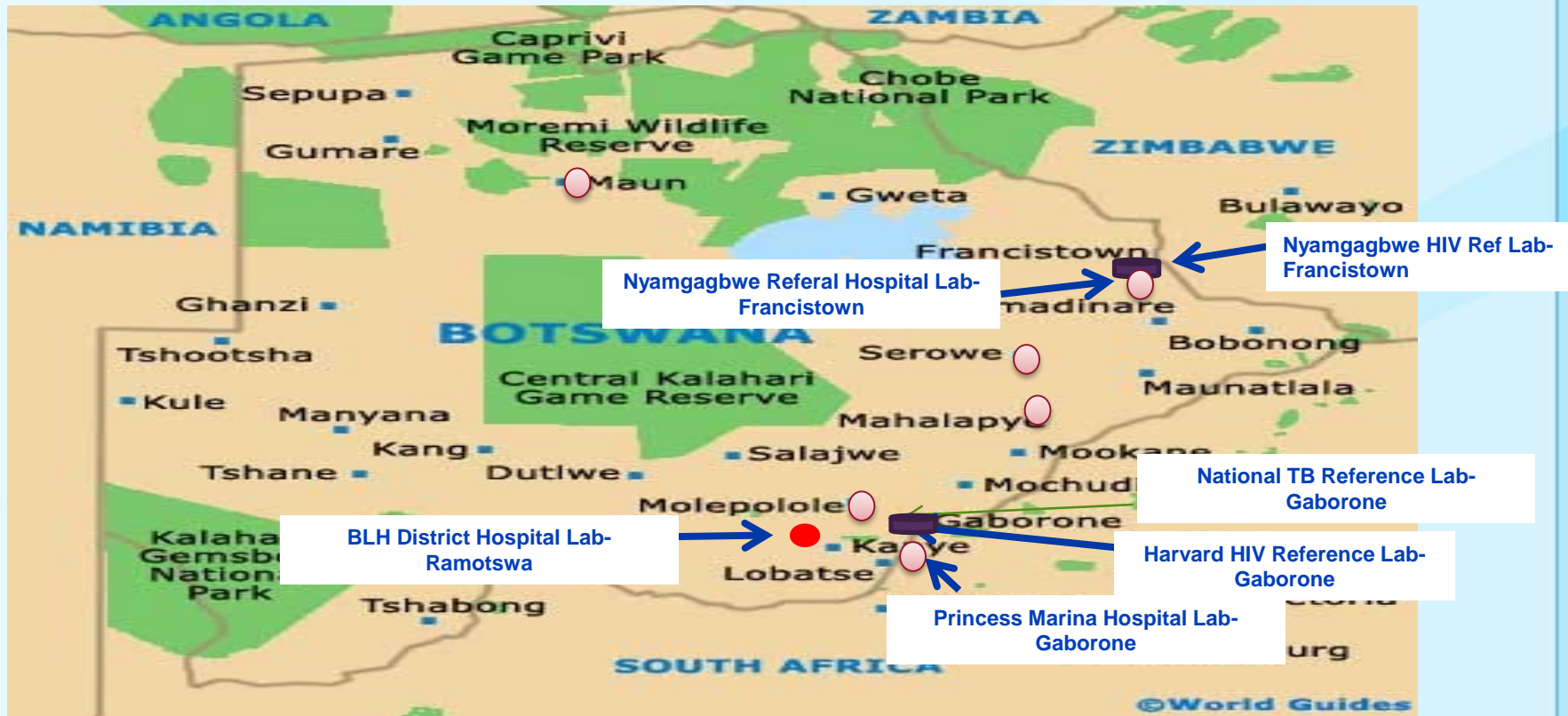
Mnazi mmoja Lab,
assessed by SADCAS

- National Health Laboratory Quality Assurance and Training Centre)
- Muhimbili National Hospital, awaiting application




Mbeya Referral Hospital



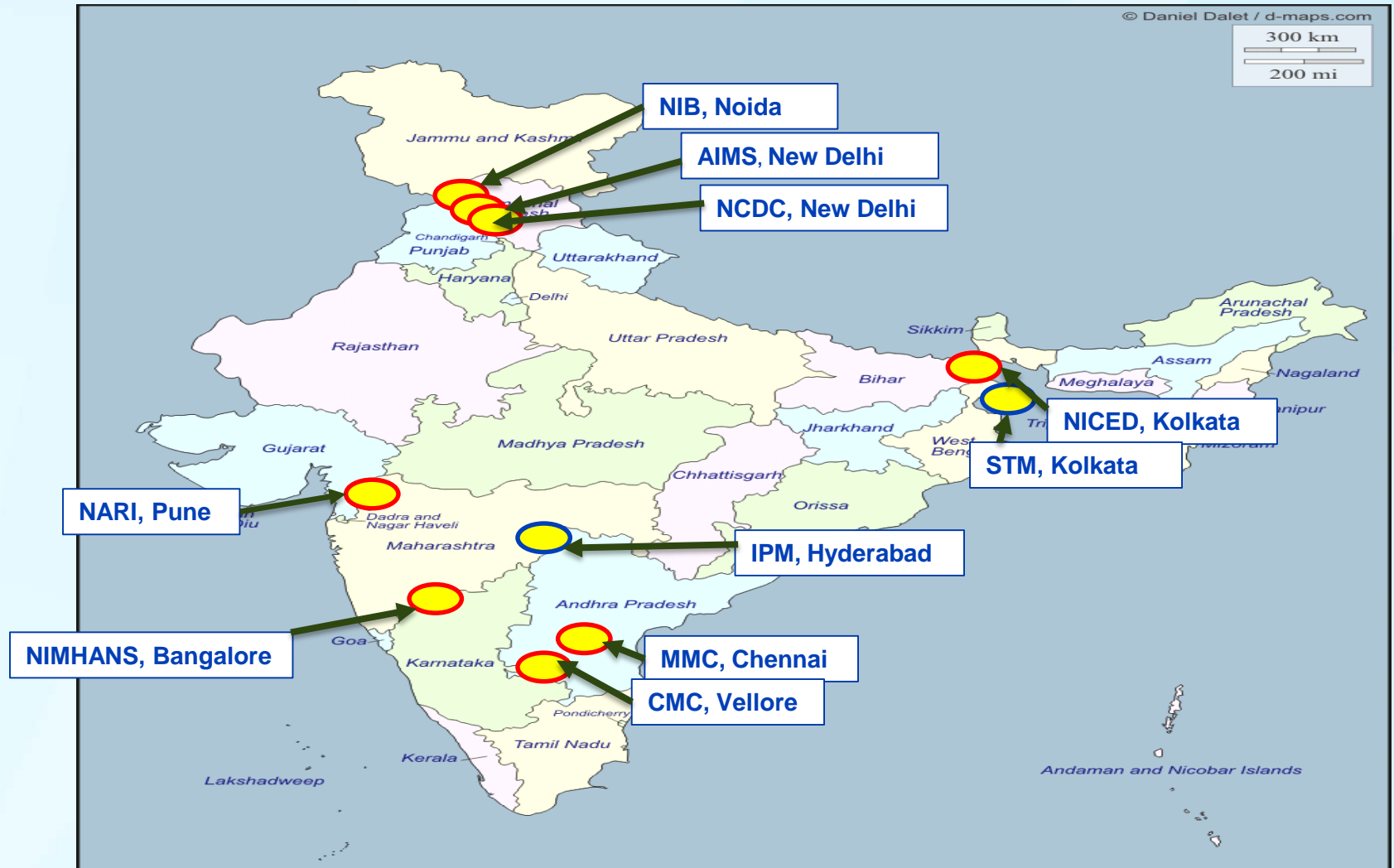
Map of Botswana Showing Accreditation Status of MOH Laboratories




LEGEND

	4	State Reference Laboratories Accredited
	1	District Hospital Laboratory Accredited
	5	MOH district /referral Laboratories under Accreditation Cycle

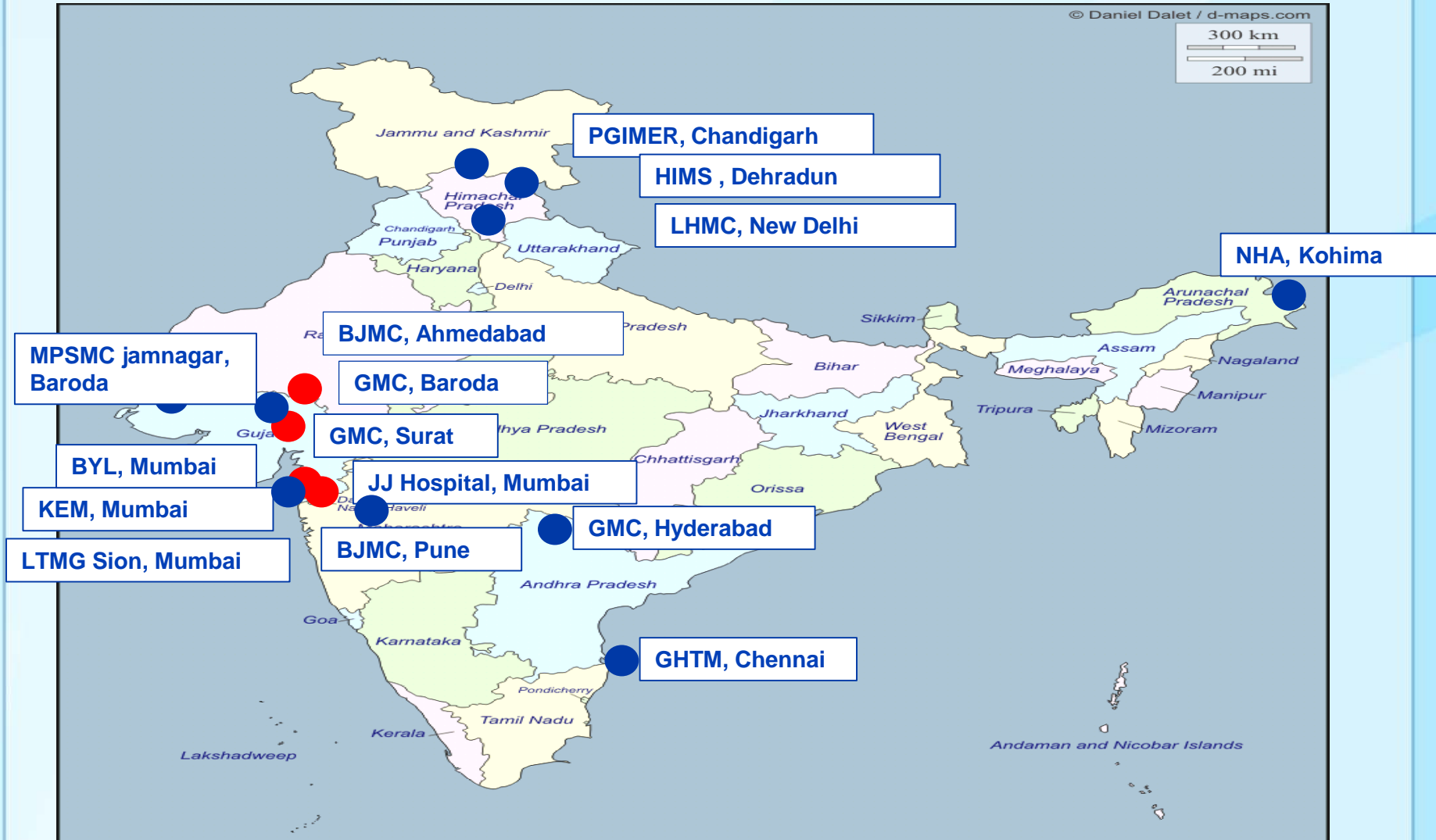
Map of India Showing Accreditation Status of National Reference Laboratories



LEGEND

	8	National Reference Laboratories Accredited
	2	National Reference Laboratories under Accreditation Cycle

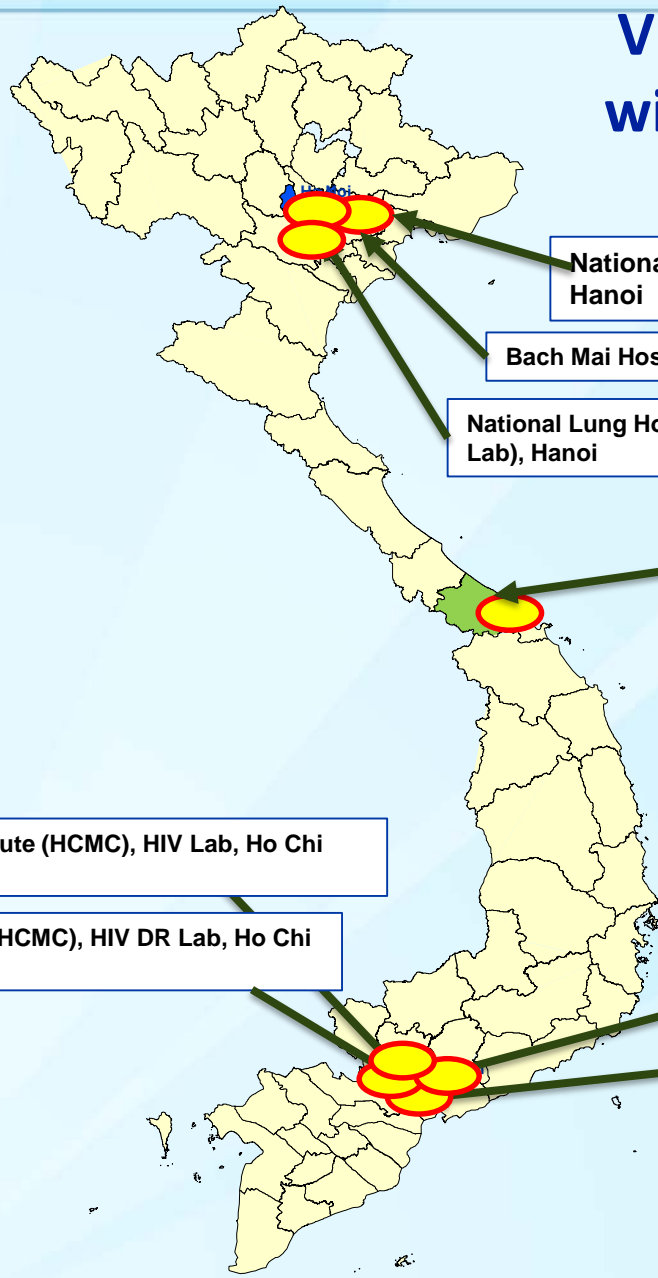
Map of India Showing Accreditation Status of State Reference Laboratories



LEGEND

	5	State Reference Laboratories Accredited
	10	State Reference Laboratories under Accreditation Cycle

Vietnam ISO15189 Accredited Labs with CDC Support (PEPFAR Funding)



National Institute of Hygiene and Epidemiology, HIV Lab, Hanoi

Bach Mai Hospital, Microbiology Lab, Hanoi

National Lung Hospital Microbiology Laboratory (Nat'l TB Reference Lab), Hanoi

Hue Central Hospital, Microbiology Lab, Hue

Pasteur Institute (HCMC), HIV Lab, Ho Chi Minh

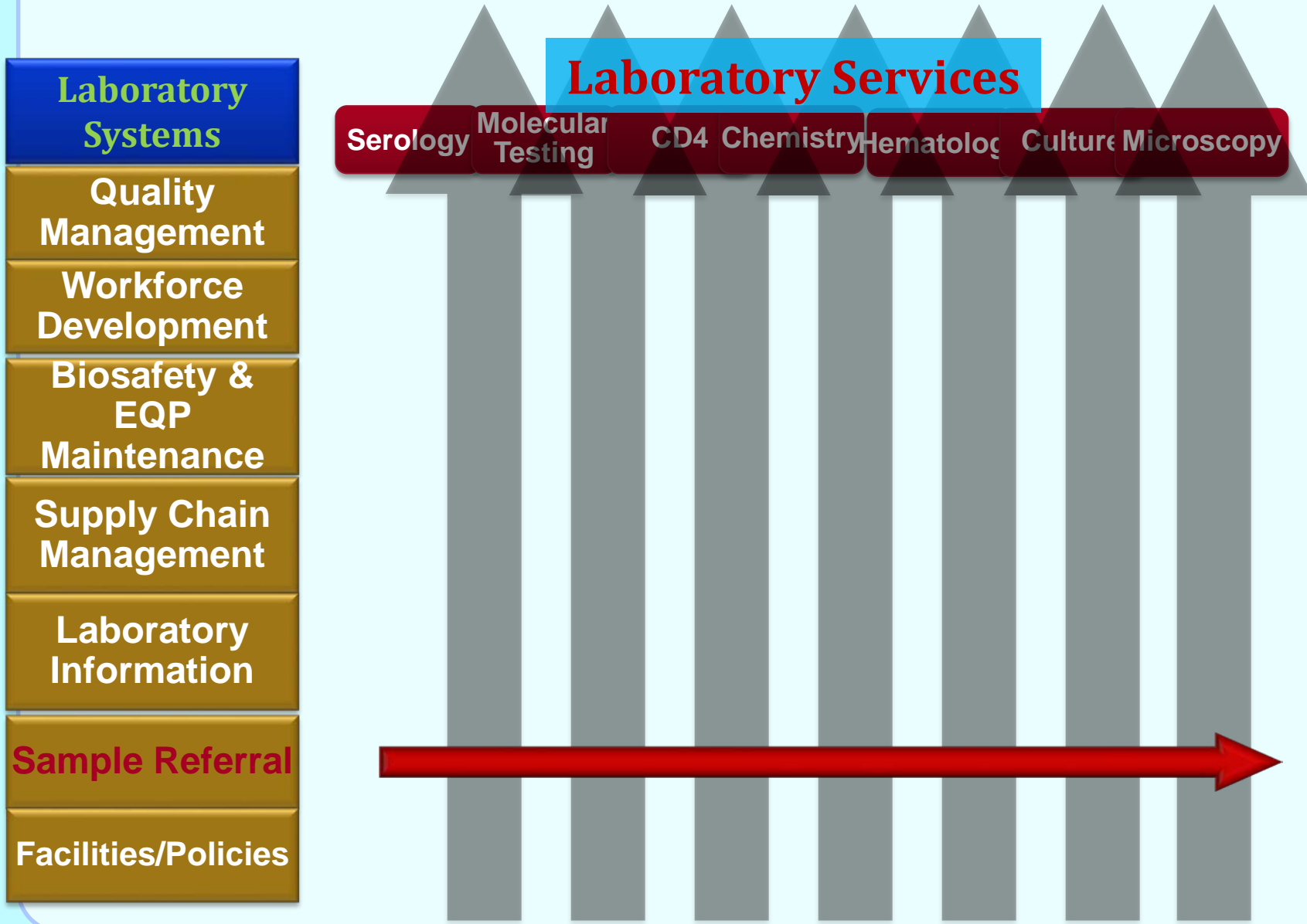
Pasteur Institute (HCMC), HIV DR Lab, Ho Chi Minh

Phan Ngoc Thach Hospital, Microbiology Lab, Ho Chi Minh

Preventive Medicine Center-HCMC, Microbiology Lab, Ho Chi Minh



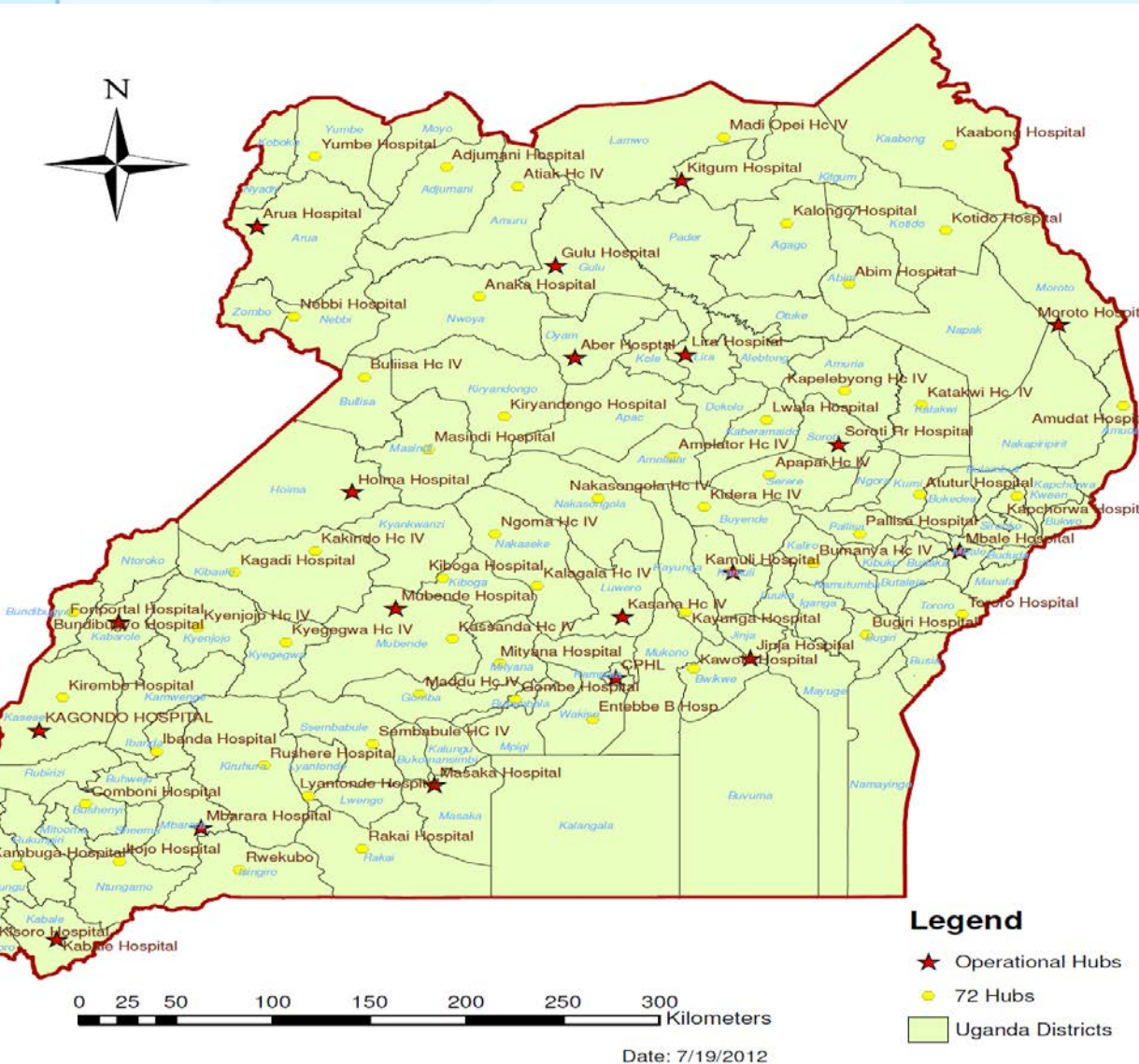
PEPFAR Laboratory Framework For Multiple Diseases



Strengthening Sample Transport Networks - Uganda

- Initial pilot of 19 hubs reached 625 health facilities.

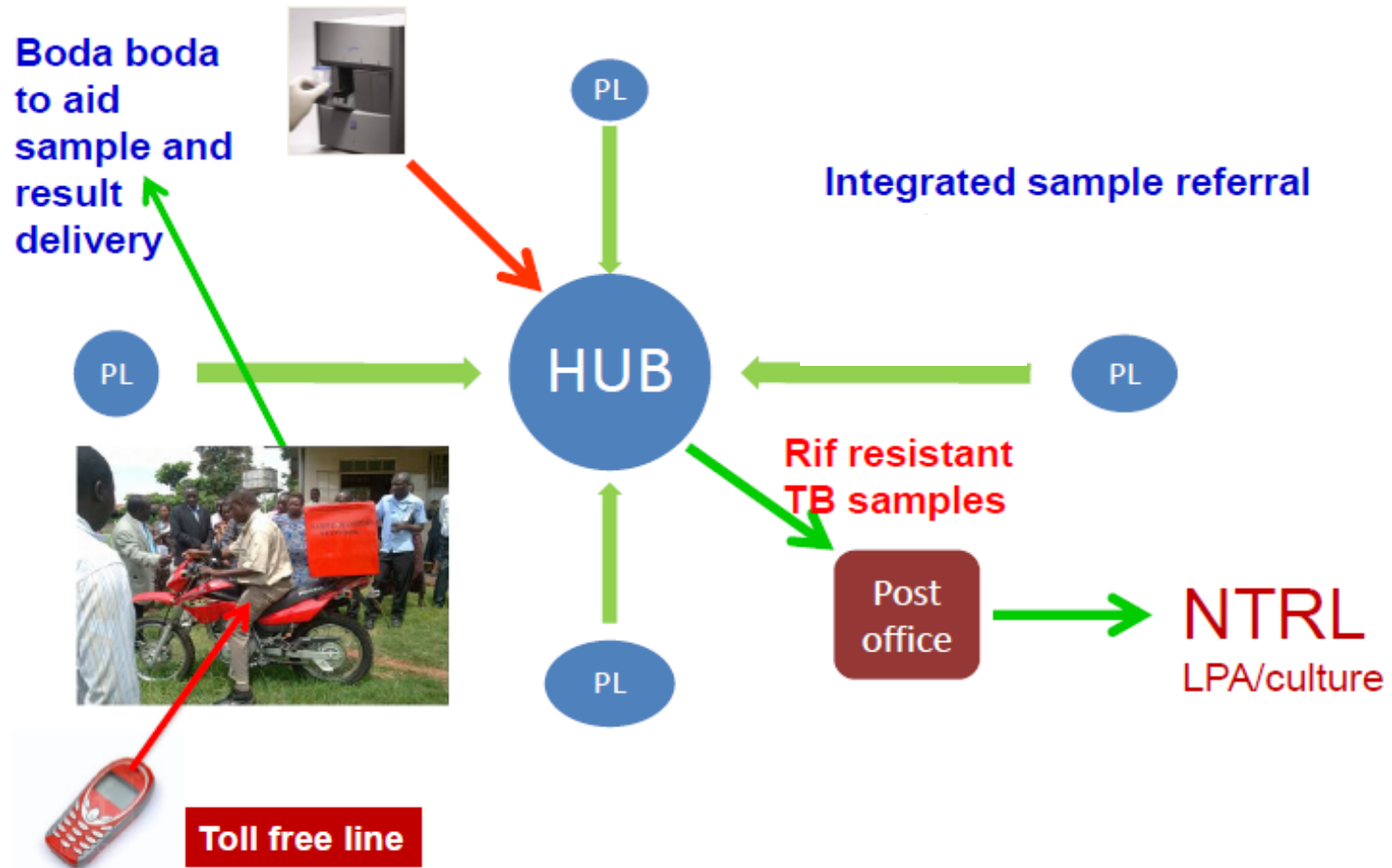
- Scaled up to 60 hubs serving 1700 health facilities launched.



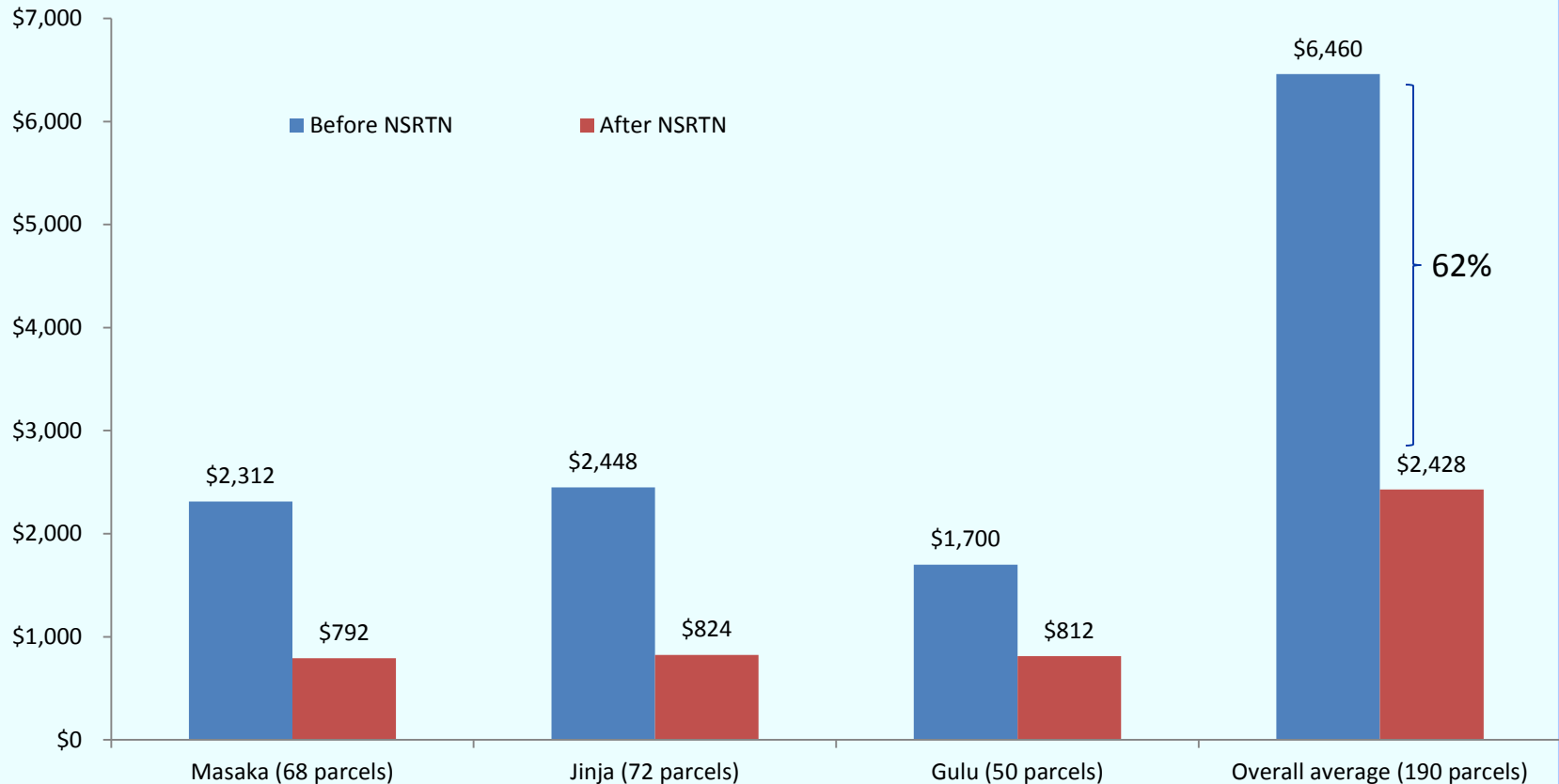
Date: 7/19/2012



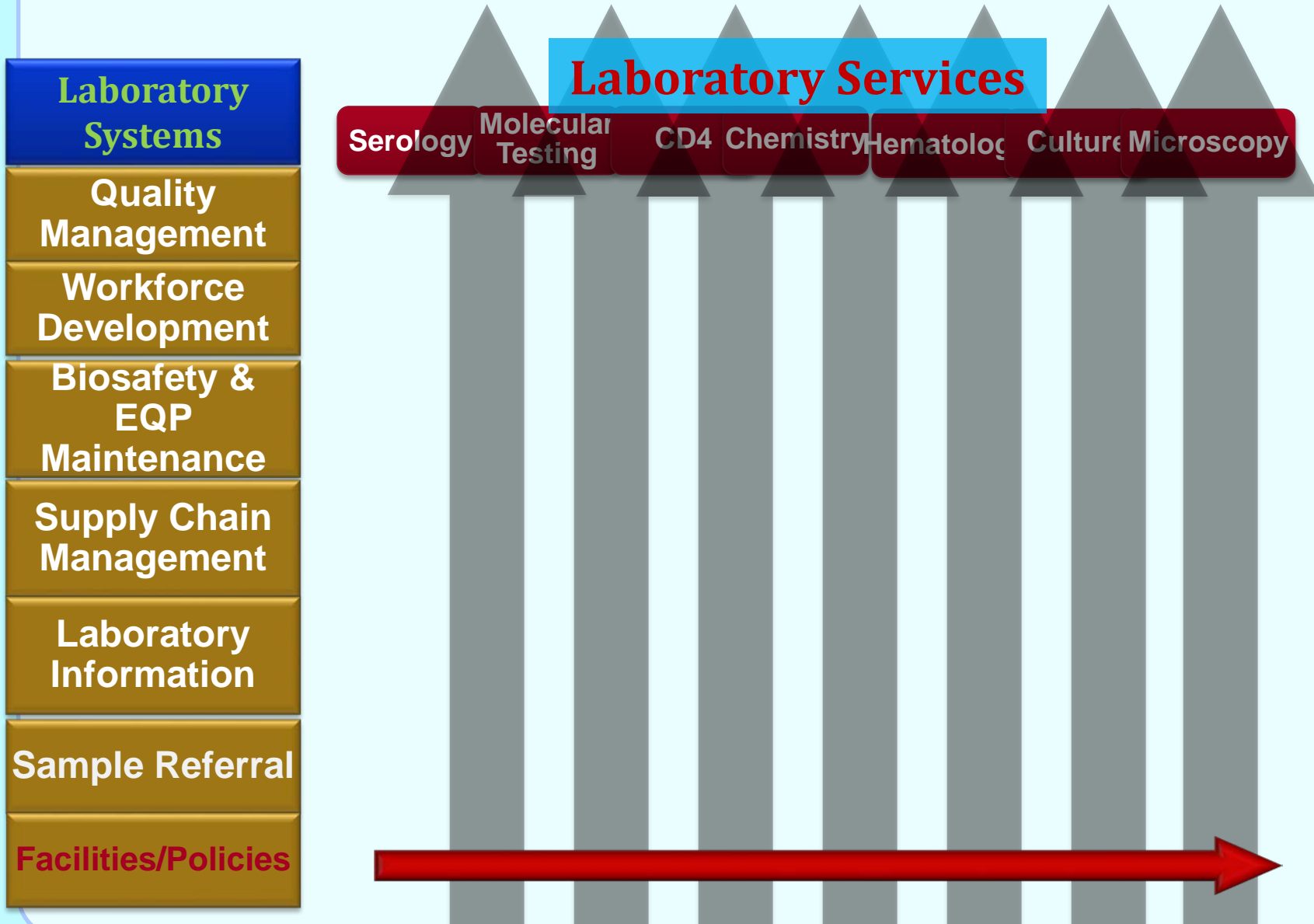
Specimen Referral and Transport: Solutions



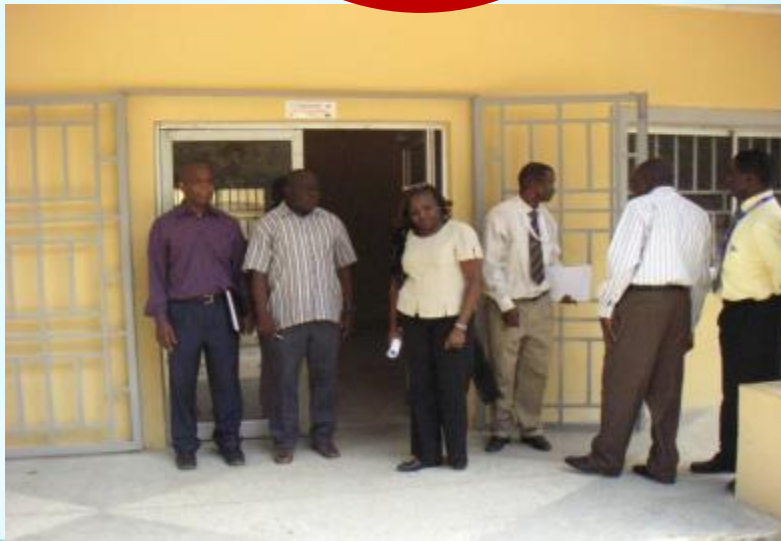
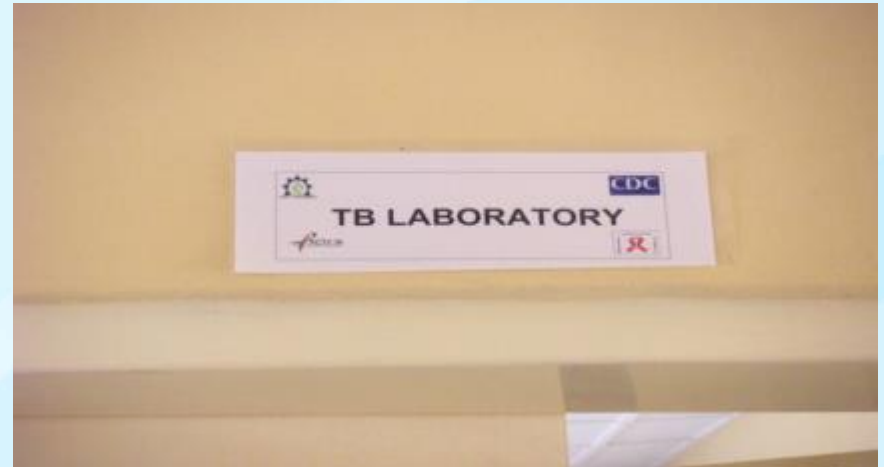
Sample Transport Costs For DBS Decreased By 62% After Setting Up The Sample Referral System



PEPFAR Laboratory Framework For Multiple Diseases



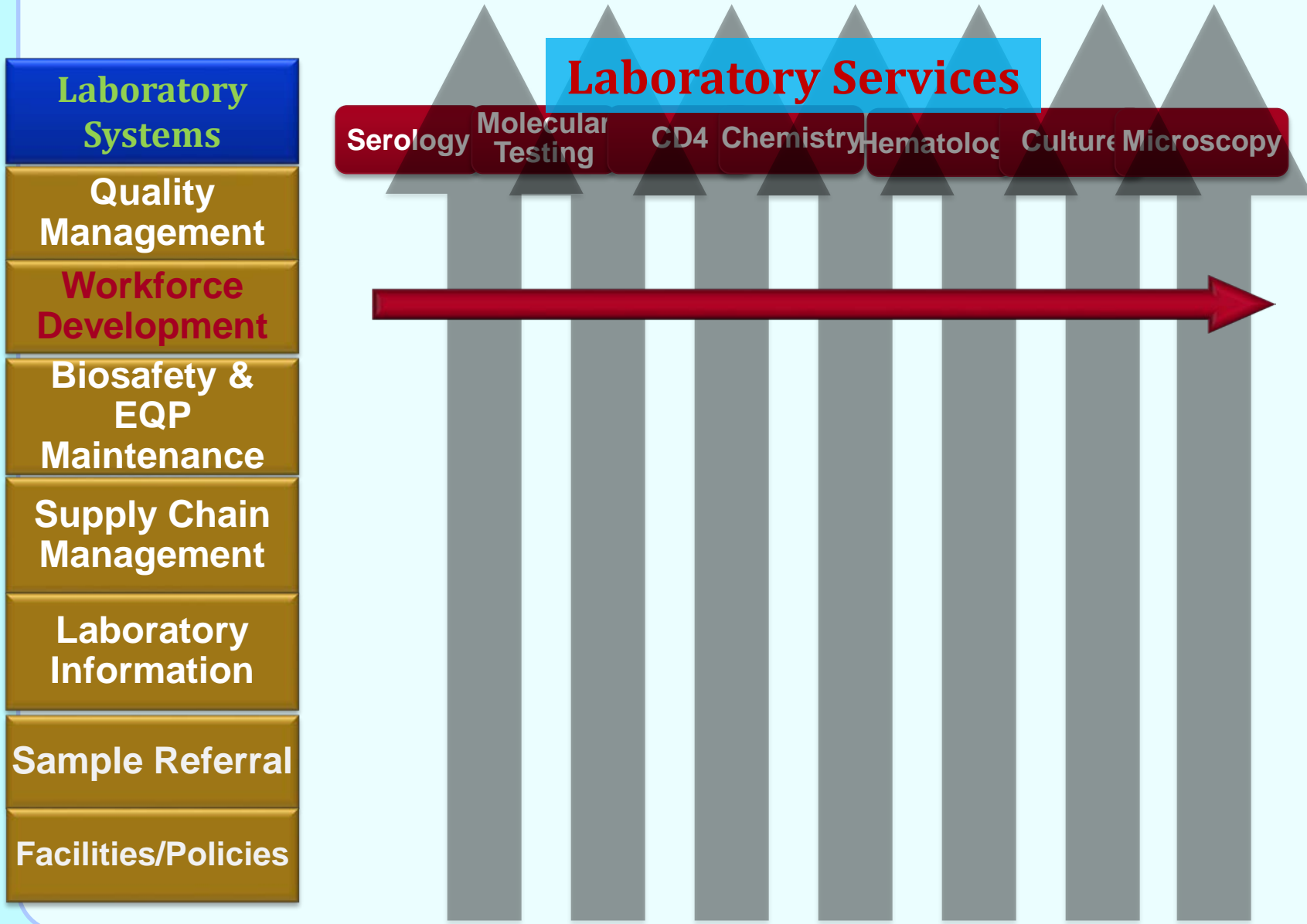
TB, HIV, Malaria - Integrated laboratories, Zaria, Nigeria



TB and HIV Labs in Chennai, India



PEPFAR Laboratory Framework For Multiple Diseases



African Centre For Integrated Laboratory Training At NHLS/NICD Johannesburg

Mission

To provide integrated hand-on training courses to expand laboratory capacity in Africa for diagnosis and monitoring of major infectious diseases including HIV, TB and Malaria

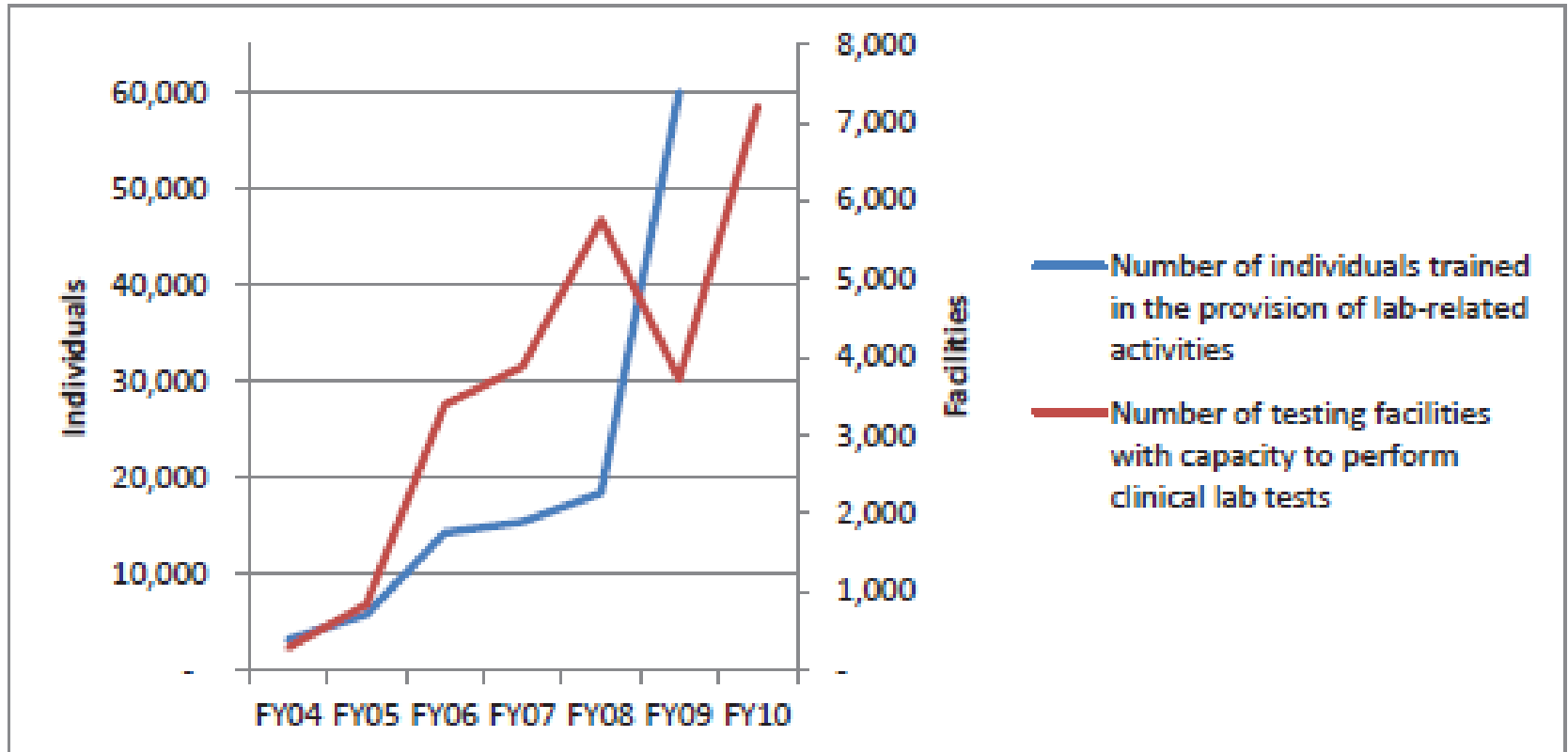
- **1,136 Trainees**
- **39 Countries**



ACILT
The African Centre for
Integrated Laboratory
Training

Building Laboratory Capacity throughout Africa

Human Resource Development for Laboratory

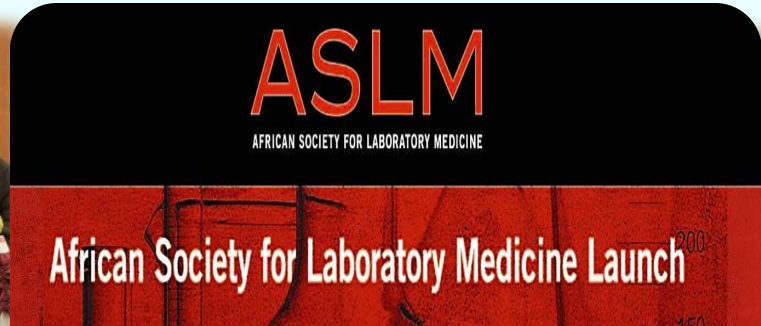


Source: IOM Report 2013



Institutions & Public Private Partnerships

Launch of the African Society for Laboratory Medicine



ASLM MISSION

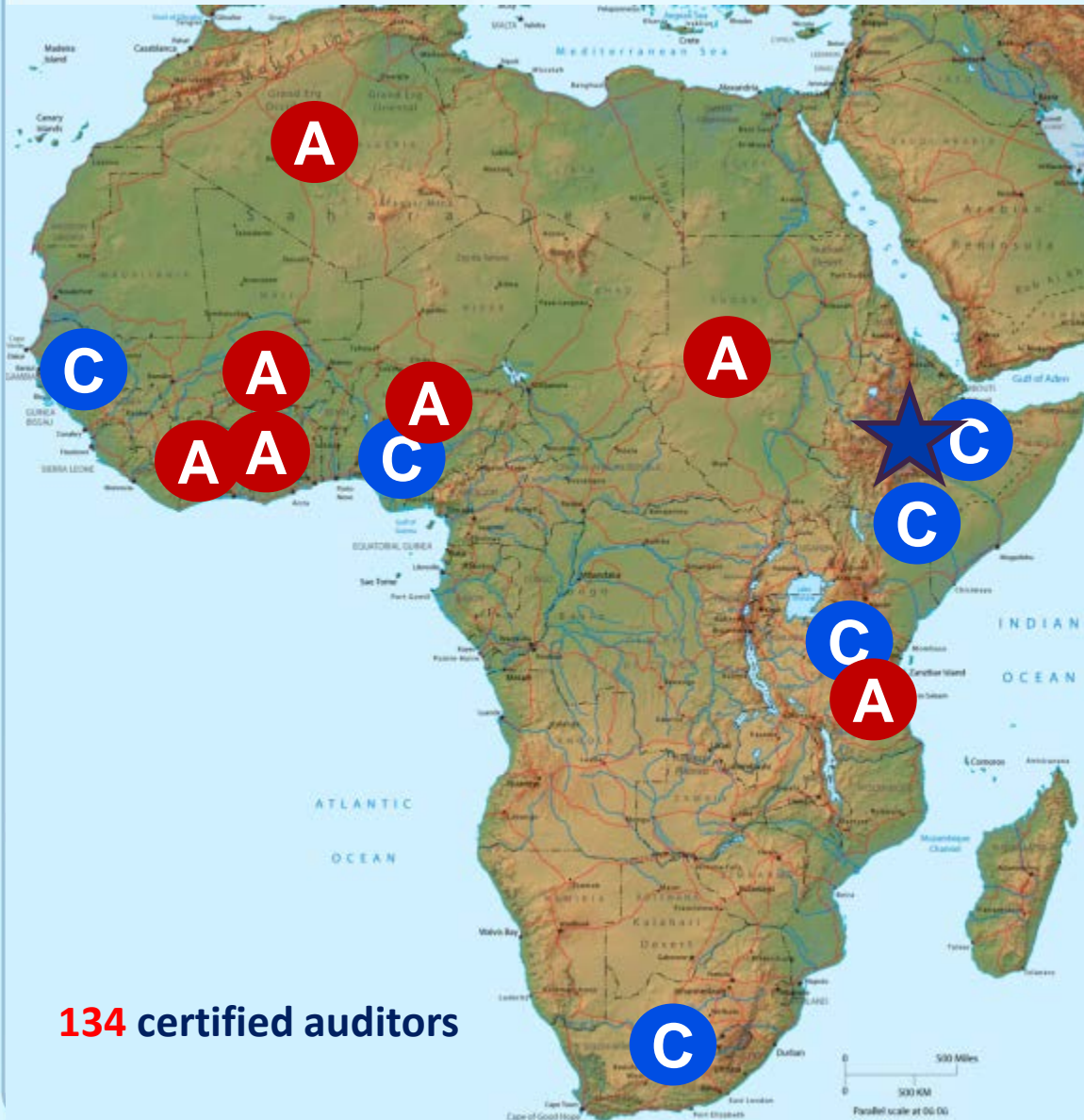
To advance professional laboratory medicine practice, science, systems and networks in Africa needed to support preventive medicine, quality care of patients and disease control through partnership with governments and relevant organizations.



Ministers of Health at Launch of ASLM



African Society for Laboratory Medicine



★ ASLM Headquarters
Addis Ababa, Ethiopia

Ⓐ ASLM Regional Ambassador Program

Dennis Agbonlahor (Nigeria)
William Ampofo (Ghana)
El-Hadj Belabbes (Algeria)
Adil Ismail (Sudan)
Mohamed Ally Mohamed (Tanzania)
Jean Sakande (Burkina Faso)
Daniel Sess (Cote d'Ivoire)

Ⓒ ASLM Collaborating Centers

Ethiopian Health and Nutrition Research Institute (Ethiopia)
Kenya Medical Research Institute (Kenya)
Institute of Human Virology (Nigeria)
West African Network Against AIDS, TB and Malaria (Senegal)
National Health Laboratory Service (South Africa)
National Health Laboratory Quality Assurance and Training Centre (Tanzania)

134 certified auditors

The Power of Partnership - Public Private Partnerships are Critical for Laboratory Strengthening Efforts

\$18 Million PEPFAR partnership with BD

U.S. President's Emergency Plan for AIDS Relief



SUPPORT *for* COUNTRIES

Activities will be implemented through three primary means:

- Country-specific laboratory strengthening programs that offer PEPFAR and

New Public-Private Partnership to Strengthen Laboratory Systems

In a pioneering public-private partnership, the U.S. President's Emergency Plan for AIDS Relief (Emergency Plan, and Company) will support the improve services in African countries severely affected by (TB).

Through this five-year, public-private partnership, the Emergency Plan and BD will work with laboratories, Ministries of Health, and other partners to provide technical support to countries to assist with

Poster 1709

Building Tanzania's laboratory capacity through public-private partnership



Christina MWANGI¹, Christy WISTAR², Kenneth LEMA³, Charles MASSAMBU⁴, Ralph TIMPERI⁵, Vincent MGAYA⁶, Jeffery MINTON⁷, Scott KREITLEIN⁸
¹CDC Tanzania ²Abbott Fund Tanzania ³Ministry of Health and Social Welfare ⁴Association of Public Health Laboratories ⁵Design 4 Others



State of many health laboratories in Tanzania



Nationwide Modernisation of 23 Regional Laboratories in Tanzania



Regional laboratory modernised by Abbott Fund in 2007



Conclusions And Key Lessons Learned

1. Leadership and Commitment from Agency
2. Strategic Partnerships and Relationships



The Beginning of Famine?

The New York Times
Expect the World®

At Front Lines, AIDS War Is Falling Apart

By DONALD G. McNEIL Jr.

Published: May 9, 2010

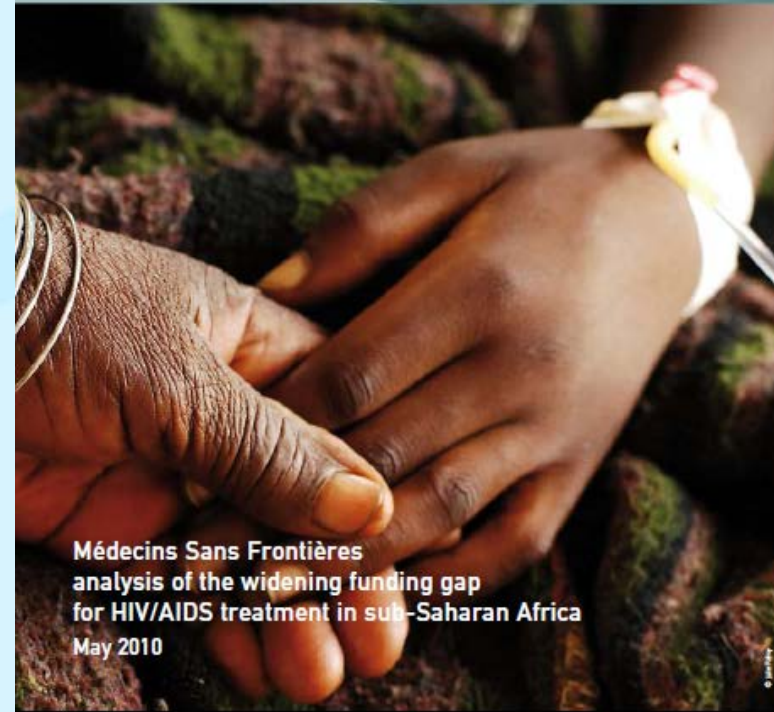
As the Need Grows, the Money for AIDS Runs Far Short

By DONALD G. McNEIL Jr.

Published: May 9, 2010



NO TIME TO QUIT :
HIV/AIDS TREATMENT
GAP WIDENING
IN AFRICA



Médecins Sans Frontières
analysis of the widening funding gap
for HIV/AIDS treatment in sub-Saharan Africa
May 2010

Is the glass half full or half empty?





Thank You

Acknowledgements

CDC

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Bob Martin
John Ridderhof
Mark Rayfield
MOH colleagues

Implementing Partners

ASM	ASLM
USAID	UNAIDS
CLSI	APHL
AFENET	ASCP
BD	CHAI
FIND	WHO

