Turning the Tides on Clinical Laboratory Systems in Africa: It Counts to Count

SA HIV Clinician Society Conference
November 25 – 28th, 2012

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CDC, Atlanta, Georgia
Outline

• Laboratory Diagnostics for Excellence in Clinical Management
• Quality of Laboratory Testing: It Counts to Count
• Strengthen Systems and Institutions
Laboratory Diagnostics for Excellence in Clinical Management
As of March 2012, 4.5 million people were directly supported on treatment by PEPFAR.
Striving for Clinical Excellence with Quality Laboratory Testing

A Doctor taking close examination of a patient; no drumming, no invocation, no mystery, as in the case of the traditional healer.

Source Iruke N. Okeke

Courtesy, Ghana Information Services, Accra.
POC CD4 and Forecast to 2020 by device type

Tests (MM)

- Conventional CD4
- Device-Based POC
- Device-Free POC
- None

2009: 10.0 (13.0), 0.6 (16.8), 1.4 (20.7), 2.7 (24.4), 11.8 (26.1)
2010: 11.0 (11.0), 0.6 (16.8), 1.4 (20.7), 2.7 (24.4), 11.8 (26.1)
2011: 11.6 (13.0), 1.4 (16.8), 2.7 (20.7), 4.4 (24.4), 11.8 (26.1)
2012: 11.8 (11.6), 1.4 (11.6), 2.7 (24.4), 4.4 (26.1), 11.0 (26.1)
2013: 11.6 (11.6), 0.8 (11.6), 5.3 (24.4), 3.1 (26.1), 10.7 (26.5)
2014: 10.7 (10.7), 3.1 (10.7), 5.3 (26.5), 4.4 (26.5), 9.9 (28.3)
2015: 9.9 (9.9), 9.9 (9.9), 8.0 (28.3), 4.4 (28.3), 11.9 (29.8)
2016: 8.7 (8.7), 11.9 (11.9), 5.9 (29.8), 4.4 (29.8), 14.1 (31.0)
2017: 7.2 (7.2), 14.1 (14.1), 7.7 (31.0), 9.5 (31.0), 16.2 (32.2)
2018: 5.4 (5.4), 16.2 (32.2), 9.5 (32.2), 7.2 (32.2), 5.4 (32.2)

Source: Trevor Peter, 2012
Framework for PEPFAR Laboratory Strengthening: Integrated Approach for Multiple Diseases
Dried Blood Spot-Based PCR Testing has Helped Scale-Up Early Infant Diagnosis (EID)

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<th>Number</th>
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Scaling up DBS-PCR testing in developing countries
The Case for Strengthening Laboratory Systems

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 Gersky-Damer, PhD,4 Giorgio Roscigno, MD,5 Marc Buler, MD, MPH,6 Barry Schaub, MD,7 Kevin M. DeCock, MD, MPH,8 and Deborah Bire, MD8

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

DOI: 10.1596/1356-9261-4119

A Shifting Paradigm in Strengthening Laboratory Health Systems for Global Health

Acting Now, Acting Collectively, but Acting Differently

John N. Nkengasong, PhD

Neglected Lab Infrastructure
Staining Area

Before

After
Biosafety Cabinet Work Area:

Before

After
Integrated Laboratory Networks are beginning to be a reality: Ethiopia

Reference Laboratories

Regional Laboratories
Breaking the Cycle of Lab System Neglect?

- Poor or inadequate lab services
- Inadequate resources
- Unreliable results
- Under-utilization of lab
- Lack of trust

[Diagram showing the cycle and a cross to indicate breaking the cycle]
The Case for Lab Accreditation
Internationally Accredited Laboratories In Africa as of 2008

- Sub-Saharan Africa: 8% (30 out of 340)
- South Africa: 92% (282 out of 312)
- Public: 9.7% (30 out of 312)
- Private: 82.3% (282 out of 312)
WHO-AFRO Kigali Launch
July 27-29, 2010

Meeting Goals:

- Launch WHO Stepwise Accreditation process
- Launch Strengthening Laboratory Management Toward Accreditation (SLMTA)

120+ experts and policy makers from 12 African countries
It Counts to Count
Strengthening Laboratory Management Towards Accreditation - SLMTA

What is SLMTA?

An innovative structured task-based training and mentoring program developed to effect immediate, measurable improvement in laboratories using their existing resources.
Improving Quality Management Systems of Laboratories in Developing Countries

An Innovative Training Approach to Accelerate Laboratory Accreditation

Katy Yao, PhD, Barbara McKinney, MD, MPH, Anna Murphy, MT(ASCP), Phl Rutz, Winnie Wafula, MD, MSc, Hakim Sendagire, PhD, Scolastica Okui, MPH, and John N. Nkengasong, PhD

Key Words: Accreditation; Management; Laboratory quality management system; Laboratory management; Task-based training

DOI: 10.1388/AJCP.134.5.520
Basic SLMTA Facts – Implementation

- Baseline Assessment
- Improvement Projects
  - Workshop #1 (3 months)
  - Workshop #2 (3 months)
  - Workshop #3 (3 months)
- Site Visits
- Behavioral Changes & Laboratory Improvement
- Exit Assessment

Calculation:
Exit Score [AFTER] - Baseline Score [BEFORE] = SLMTA Impact
Strengthening Laboratory Management Towards Accreditation: The Lesotho experience

FIGURE 5: Average performance of all laboratories across the 12 sections, as measured by the World Health Organization Regional Headquarters for Africa Stepwise Laboratory Quality Improvement Toward Accreditation (WHO-AFRO-SLIPTA) checklist.
Map of Botswana Showing Accreditation Status of MOH Laboratories

**LEGEND**

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<tr>
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<tr>
<td>4</td>
<td>State Reference Laboratories Accredited</td>
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<tr>
<td>1</td>
<td>District Hospital Laboratory Accredited</td>
<td></td>
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<tr>
<td>5</td>
<td>MOH district /referral Laboratories under Accreditation Cycle</td>
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Tanzania: International Accreditation Status

- Bugando lab, assessed by SADCAS, July 2012
- KCMC Referral Lab, awaiting application
- Mnazi mmoja Lab, assessed by SADCAS

- National Health Laboratory Quality Assurance and Training Centre (Applied to SADCAS), Muhimbili National Hospital, awaiting application
- Mbeya Referral Hospital, applied to SADCAS, awaiting assessment
Update of the SLMTA Expansion: 2009-2012

- # participants trained in SLMTA
  - 2009: 0
  - 2010: 143
  - 2011: 865
  - 2012: 1038

- # labs enrolled in SLMTA
  - 2009: 0
  - 2010: 11
  - 2011: 22
  - 2012: 39

- # countries rolling out SLMTA
  - 2009: 0
  - 2010: 3
  - 2011: 19
  - 2012: 35
Breakdown of the 133 laboratories

- National (48)
- Regional/Zonal (31)
- District/Primary (40)
- Military (4)
- Private NGO (10)
- 1 star

# SLMTA Labs “Reaching for the Stars”

- # labs enrolled: 398
- # Labs w/Exit: 179
- # labs ↑at least 1 star: 133
Hi Heather-

In Botswana on TBIC evaluation- saw notebook with SLMTA written on it- a lab at Palapaye Hospital keeping track of microscopy turn around times- they have been reduced from 3-5 days to reach surrounding clinics to 24 hours- based on their records and reports from clinics- go SLMTA! The lab is also calling clinics directly when they have a smear+ specimen.

Cheers-

Courtney
MORE reasons have been adduced for Nigerian laboratories’ continued misdiagnose and under-diagnose of life threatening ailments and the country losing grants for clinical trials for Human Immuno-deficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS), tuberculosis and malaria vaccines worth hundreds of billions of naira in foreign exchange.

Dr. Oni Idigbe, told The Guardian that SLMTA was going to ensure that Nigerian laboratories get ISO accreditation and WHO certification.
The Accreditation Train is on the Move!
Vision: Improve healthcare in Africa by strengthening laboratory services

Mission: Advance professional laboratory medicine practices, science and networks in Africa

Strengthened Laboratories Improve Healthcare

**Goal 1 – African Laboratory Workforce Development**: Train and certify 30,000 laboratory professionals and clinicians

**Goal 2 – Laboratory Accreditation**: Enroll 2,500 laboratories in the WHO SLIPTA quality improvement program and enable 250 laboratories to achieve accreditation

**Goal 3 – African National and Regional Regulatory Environments**: Raise regulatory standards for diagnostic products to stringent international standards in 25 countries (50%) and promote harmonization in the 5 economic regions of Africa

**Goal 4 - African Network of National Public Health Reference Laboratories**: Develop national public health reference laboratories in 30 countries and an African Network of National Public Health Reference laboratories
Need for Laboratory Institutions
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.
Theme: Accurate Laboratory Diagnostics—A Pillar of Quality Healthcare
Cape Town International Convention Centre, South Africa • December 4-7, 2012

It is a pleasure to invite you to join us and expected 1500 participants at the First International Conference of the African Society for Laboratory Medicine (ASLM) to be held December 4-7, 2012 in Cape Town, South Africa.

What is ASLM?
The African Society for Laboratory Medicine (www.aslml.org) was launched in March 2011 with the mission to: advance professional laboratory medicine practice, science, systems, and technology in Africa; develop policy, promote access to quality care of patients and disease control; and improve the performance of laboratory systems. Specifically, the society aims to:

- Promote interest in laboratory science and the role of the laboratory in healthcare delivery
- Promote laboratory professionals in the public and private sectors
- Advance the science and technology of laboratory medicine
- Promote collaboration and mutual support among laboratories in Africa
- Promote the development of standards and guidelines for laboratory medicine within Africa

The African Society for Laboratory Medicine is a pan-African professional body, endorsed by the African Union, working with countries to advocate for the critical role and needs of laboratory medicine and networks.

What does ASLM mean to you?
The conference is open to laboratory professionals, clinicians, program managers, and interested individuals interested in addressing some of the global and regional challenges facing the laboratory medicine field.

Objective of ASLM2012
The objective of this meeting is to convene healthcare professionals and policy makers from Africa and around the world to present and discuss the latest developments and initiatives for strengthening laboratory health systems in Africa and globally. Specifically, the conference will provide a forum for:

- Discussing ways to strengthen laboratory health systems
- Presenting and sharing new models and technologies for laboratory diagnosis
- Strengthening laboratory health systems in Africa
- Sharing experiences in establishing functional laboratory networks for disease-specific needs

ASLM2012 Conference Partners
The conference will consist of plenary sessions, symposia, workshops, and satellite sessions. For more information, please contact: ismail@aslml.org.
Conclusions

• Promote accreditation as measure of lab quality
• Bridge the gap between Laboratory – Clinical interface
• Strengthen Institutions
Thank You

Thinkers Are Great But Doers
Change The World