2015 APHL™ Annual Meeting
and ninth government environmental laboratory conference

Performance Driven — Racing to Results
Disease Surveillance and Response Systems in Africa

Building an Effective and Sustainable Public Health Laboratory Network

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Outline

• Situational Analysis
• Lessons from Ebola
• Laboratory Networks in Africa
• African Public Health Laboratory Network (APHLN)
• Explore how APHLN/LRN model can support the Global Health Security Agenda (GHSA)
Situational Analysis

• For decades laboratories have not had adequate facilities, staffing, equipment and supplies.

• Policy makers and health leaders often note public health laboratories are in dire need of strengthening to respond to the high and growing health threats.
Situational Analysis

Africa

- 14% of the global population
- 25% of the global health burden
- 1.3% of the world’s healthcare workers
- Less than 30% of medical decisions are based on accurate diagnostics (compared to 70% in the US)
- Limited investment in diagnostics
Situational Analysis

Accredited laboratories in Sub Saharan Africa

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

37 of 49 countries have NO accredited laboratories

Source: Schroeder LF et al, American Journal of Clinical Pathology
Situational Analysis

• Only occasional reports described the value of and connection of laboratory services to disease treatment, outbreak intervention and disease prevention.
Lessons from Ebola

- Lack of formal laboratory network structure between and within countries
- Lack of basic contact information for national laboratories and their leadership
- Laboratory capacity and capability mapping lacking
- Lack of standardized protocols
- Lack of standardized reporting
- Challenging specimen transport between countries
- Supply chain challenges
Africa Rising
Africa Healthcare in 2035?

Consequences of Emerging Economies in Africa

- Growing demand for improved healthcare
- Increased consumer-oriented public
- Affordability of quality-assured health care
- Demand for evidence-based medicine and diagnostics with increased accountability
- Regional and international collaboration to control global health threats
Emergence of Laboratory Networks and Partnerships

Resolab and Foundation Merieux Partnership

SADC Laboratory Network and African Development Bank Partnership

East Africa Public Health Laboratory, Network and World Bank Partnership

European & Developing Countries Clinical Trials Partnerships (EDCTP) Centers of excellences
International Health Regulations 2005
A Paradigm shift

From control of borders to containment at source
From diseases list to all public health threats
From preset measures to adaptive responses
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.
African Public Health Laboratory Network

ASLM has established a network of public health laboratories across Africa

The network currently covers 25 countries and is expanding

Mission
To promote collaboration and coordination to address health care priorities in Africa.

Objectives
- Coordination and information sharing for strengthened national and regional health security
- Laboratory systems strengthening (workforce, quality, biosafety, sample referral etc)
- Standardization of protocols and policies
- South-South collaboration and capacity building
- Evaluation of new technologies and regulation
Functions of APHLN

• Improved surveillance, rapid communication, coordination and information sharing to enable quick response to emerging disease threats
• Access to specialized testing capacity made available across the network
• Coordinated action on new global and regional policy priorities
• Sharing of data and collaboration in research
• Cross-training and assessment to raise all laboratories to standardized levels of capacity and readiness
• New opportunities for resources and cooperation
How will we get there?

• GHSA
  – Partnership with ASLM to convene stakeholders to plan the operational rules of APHLN, support APHLN members strengthen accreditation and set goals for National Public Health Labs.
  – Partnership with APHL to provide technical and management advice and assistance in the design, development and implementation of APHLN. Leverage lessons from existing models e.g. LRN
How will we get there?

The Laboratory Response Network

The LRN is a national security asset that, with its partners, will develop, maintain and strengthen an integrated domestic and international network of laboratories to respond quickly to biological, chemical and radiological threats and other high priority public health emergencies needs through training, rapid testing, timely notification and secure messaging of laboratory results.
Established in 1999 by the CDC, FBI, DoD and APHL

Includes the following types of laboratories:
- Federal, State and Local Public Health, Military, Food Testing, Environmental, Veterinary, International

APHL Role:
- Convening partners & member laboratories
- Gatekeeping/LRN Operations
- Technical Assistance
- Shape Legislative/Regulatory Policies
- Guidance for Clinical Labs
- Governance
How will we get there?

LRN Model: GHSA

- **Prevent**
  - Biosafety and Biosecurity
  - Laboratory Twinning/Mentorship
  - Partnerships (e.g. ASLM)

- **Detect**
  - Real-time surveillance networks
  - Sample transport/sample sharing
  - Standardized electronic data messaging
  - Deploy novel assays
  - Training: Workforce

- **Respond**
  - Emergency Operation Centers
  - Incident Command System
How will we get there?

• WHO/AFRO buy in
• Advocacy by ASLM with Ministers of Health to engage and educate national political leaders
“And in the 21st century, we cannot build moats around our countries. There are no drawbridges to be pulled up. We shouldn’t try. What we should do is instead make sure everybody has basic health systems -- from hospitals to disease detectives to better laboratory networks.”

President Barack Obama
Thank you

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