

# 2015 APHL<sup>TM</sup> ANNUAL MEETING

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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

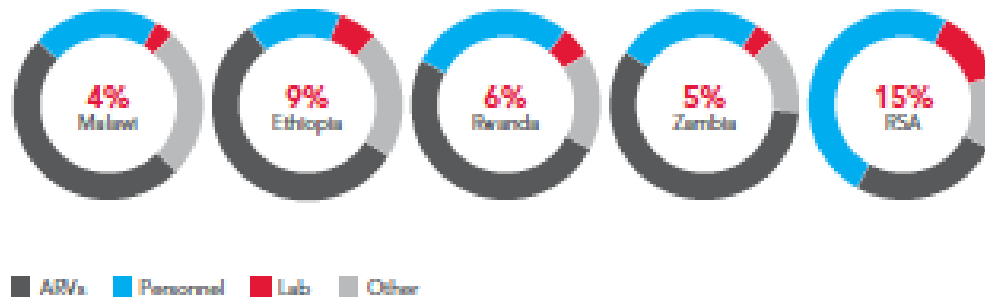
- For decades laboratories have not had adequate facilities, staffing, equipment and supplies.
- Policy makers and health leaders often note public health laboratories are in dire need of strengthening to respond to the high and growing health threats.

# Situational Analysis

## Africa

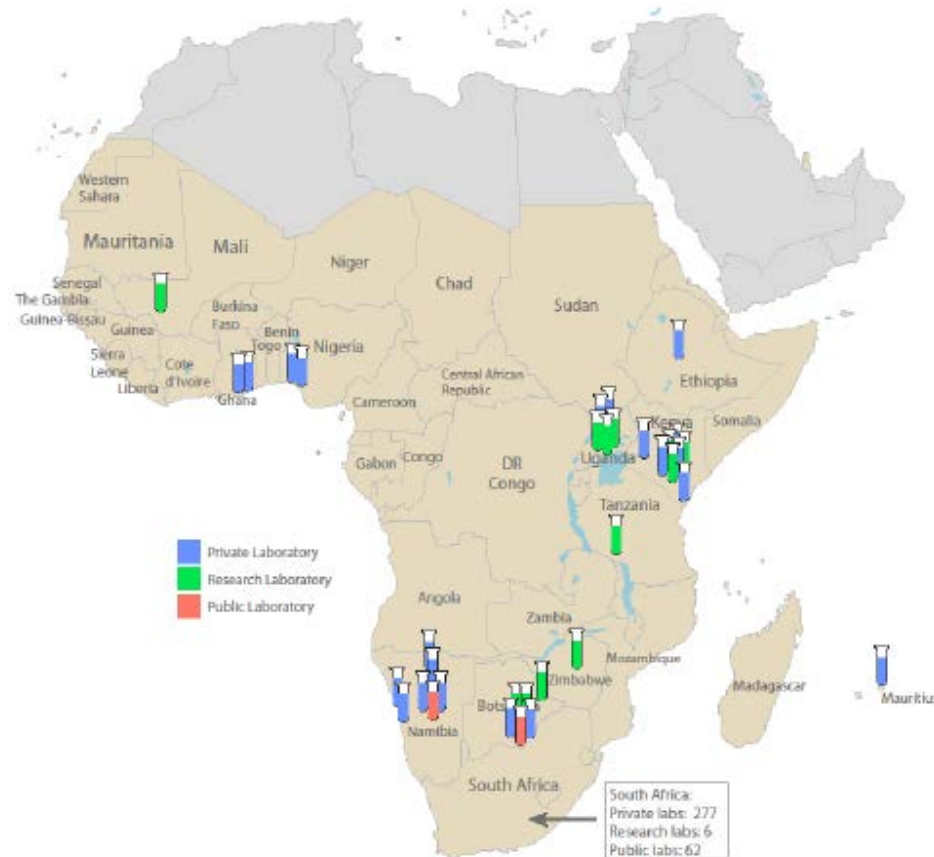
- 14% of the global population
- 25% of the global health burden
- 1.3% of the world's healthcare workers
- Less than 30% of medical decisions are based on accurate diagnostics (compared to 70% in the US)
- Limited investment in diagnostics

THE SHARE OF LAB PORTFOLIO WITHIN HIV TREATMENT BUDGET VARIES BY COUNTRY



# 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

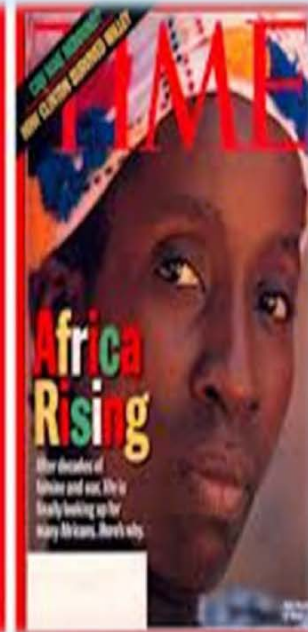
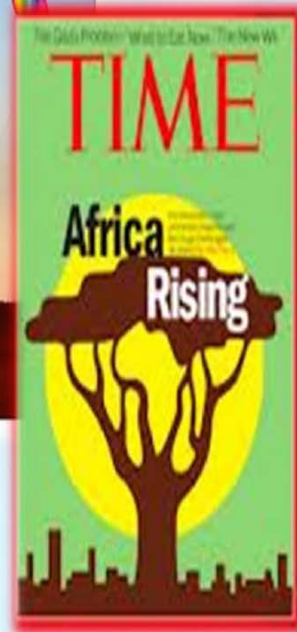
# Situational Analysis

- 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

# African Lab Networks

## 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

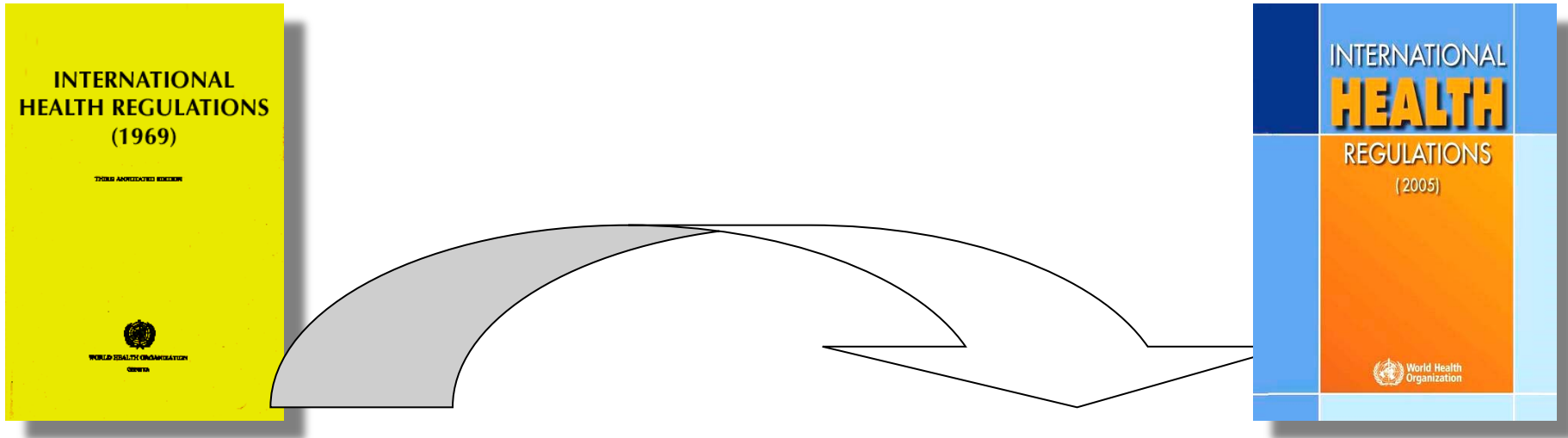
European & Developing  
Countries Clinical Trials  
Partnerships (EDCTP)  
Centers of excellences

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# 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

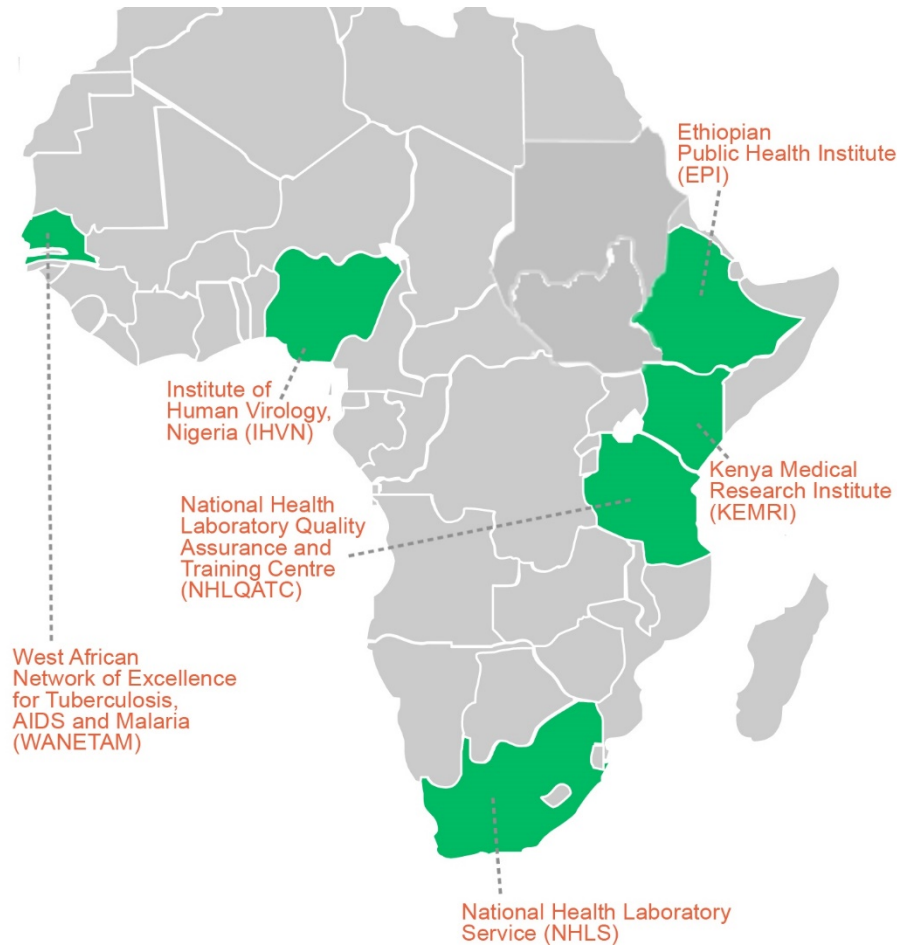
To promote collaboration and coordination to address health care priorities in Africa.

## 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



# ASLM Collaborating Centers



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# 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?

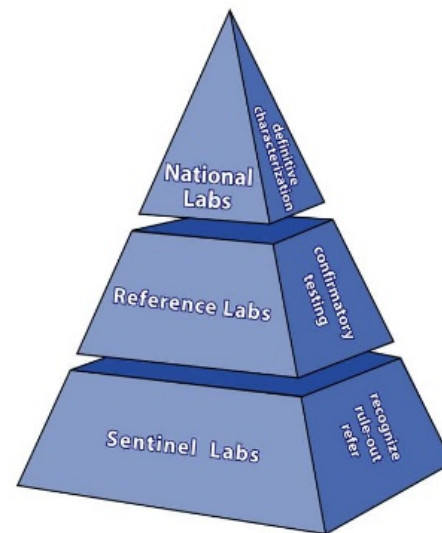
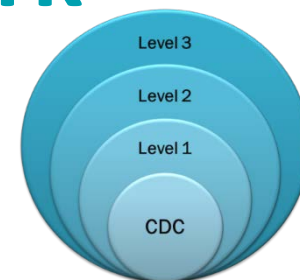
## The Laboratory Response Network

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.

# How will we get there?

## Laboratory Response Network

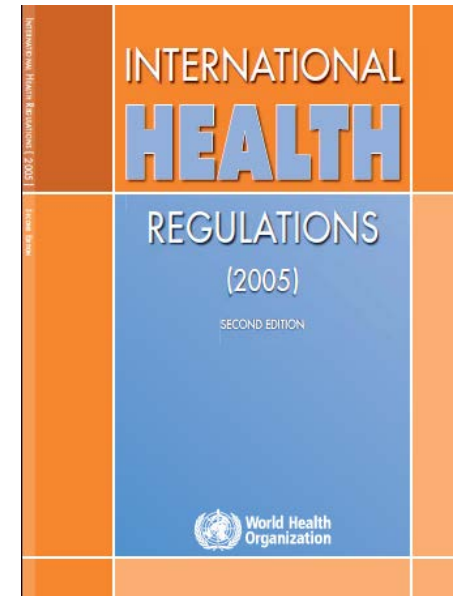
- Established in 1999 by the CDC, FBI, DoD and APHL
- Includes the following types of laboratories:
  - Federal, State and Local Public Health, Military, Food Testing, Environmental, Veterinary, International
- APHL Role:
  - Convening partners & member laboratories
  - Gatekeeping/LRN Operations
  - 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

## Acknowledgments

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