Health and Humanitarian Logistics

2018 Conference

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GLOBAL STRATEGIES: PLANNING & RESPONDING TO PUBLIC HEALTH EMERGENCIES

Panel 1

11:15 – 12:30

Global Strategies: Planning & Responding to Public Health Emergencies

- **Jagan Chapagain**, International Federation of Red Cross and Red Crescent Societies (IFRC)

- **Chibuzo Eneh,** National Center for Disease Control Nigeria

- **Nathalie Imbault**, CEPI – Coalition for Epidemic Preparedness Innovations, London

- **Dr. Georges Ki-Zerbo,** World Health Organization (WHO) African Region

- **Dr. Julie Swann,** NC State University, ***Moderator***

Global Strategies: Planning and Responding to Public Health Emergencies- *Experiences from Nigeria*

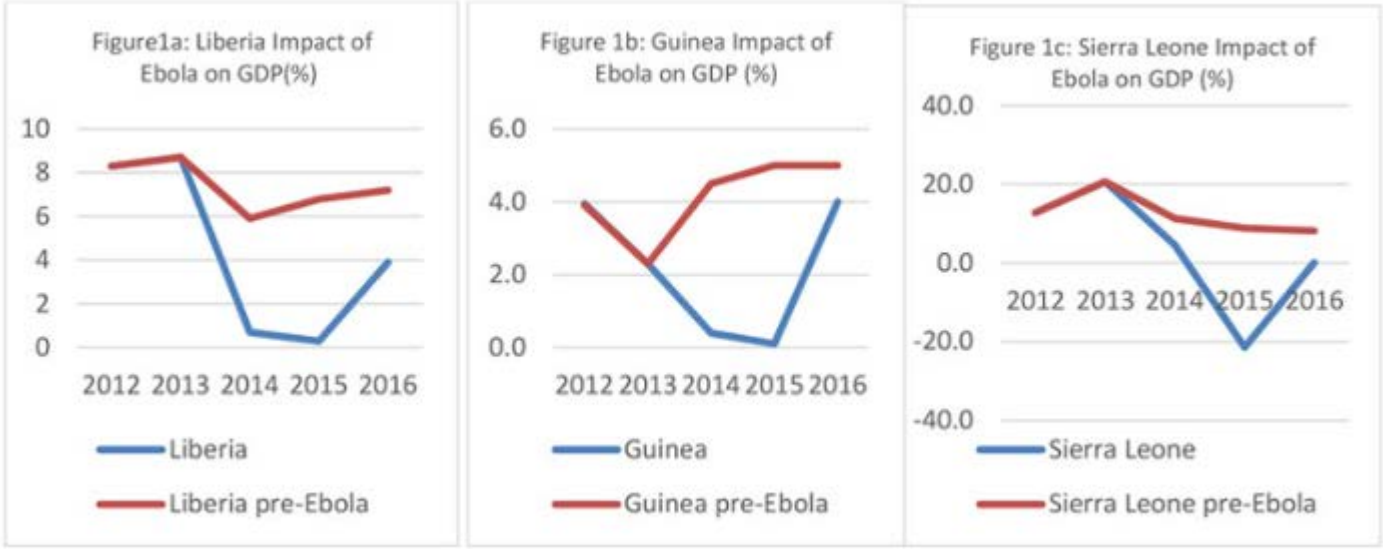
Pharm Chibuzo Eneh

Health Emergency Preparedness and Response

Nigeria Centre for Disease Control

Pandemics: A threat to health and prosperity

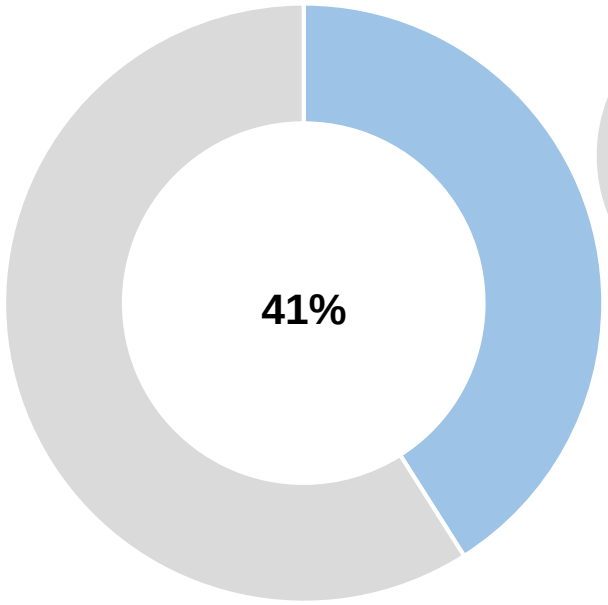
- **Nigeria CDC activated for multiple outbreaks in 2017-18: Lassa Fever, Yellow Fever, Monkey Pox, Cerebrospinal Meningitis**
- **SARS (2009) resulted in 900 deaths and cost an estimated $54 billion USD**
- **Ebola (2014) resulted in 11,310 deaths and cost an estimated $2.8 billion USD**



http://www.worldbank.org/en/topic/macroeconomics/publication/2014-2015-west-africa-ebola-crisis-impact-update

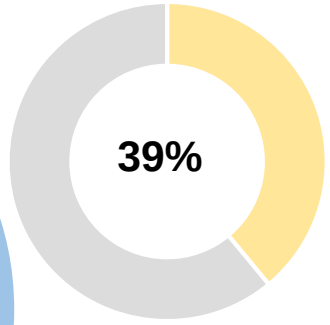
JEE Assessment Scores

- **Lower Middle Income**
- Population size ~ 186 million
- Annual population growth rate of 2.6%
- Low total expenditure on health as a percentage of GDP

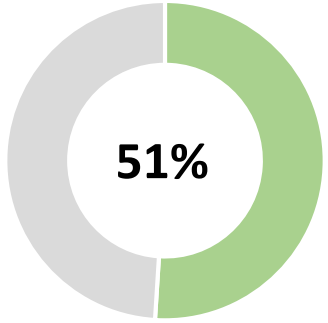


Total Score

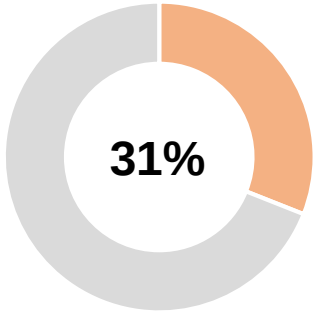
Prevent



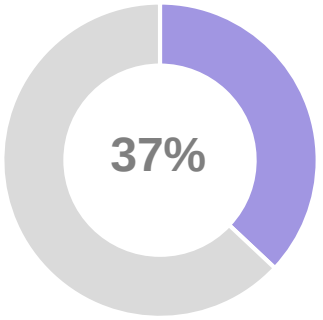
Detect



Respond



Other Hazards



The Nigeria Centre for Disease Control

Nigeria's National Public Health Agency

Mandate

- Prevent, detect, and control diseases of public health importance.
- Coordinate surveillance systems to collect, analyse and interpret data on diseases of public health importance to guide action
- Support States in responding to small outbreaks, and lead the response to large disease outbreaks
- Develop and maintain a network of reference and specialised laboratories
- Conduct, collate, synthesise and disseminate public health research to inform policy
- Coordinate the compliance with international health regulations

The NCDC vision

NCDC Vision

> A healthier and safer Nigeria through the prevention and control of diseases of public health importance

NCDC Mission

> To protect the health of Nigerians through evidence based prevention, integrated disease surveillance and response activities, using a one health approach, guided by research and led by a skilled workforce

five key goals

A: Accurately measure the burden of infectious diseases in Nigeria

B: Meet international obligations as a member of the World Health Assembly

C: Develop a PH laboratory service network to support the detection, prevention and response to critical infectious diseases

D: Reduce the adverse impact of predictable and unpredicted public health events

E: Clear focus of disease prevention, risk communication and programmes coordination

Innovation: Emergency Operations Centres- NCDC Incident Coordination Centre

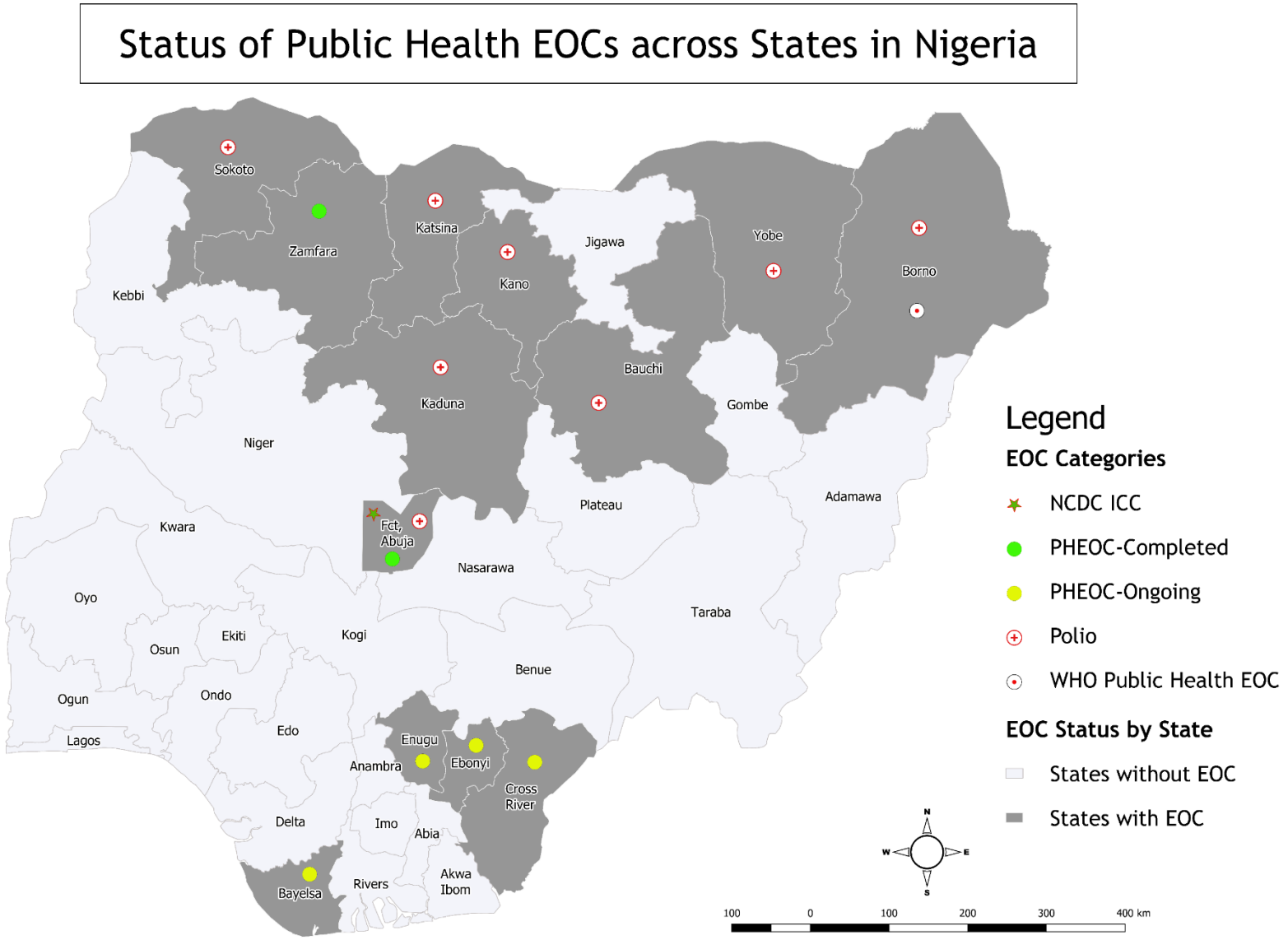
1. ***Streamlined coordination***
2. ***Efficient Resource Utilisation***

The Incident Coordination Centre (ICC)

*Serve as the physical space within NCDC where **ALL** incidents are routinely managed: I.e. logged, assigned, monitored and response decisions determined*

3. ***Incidence response status tracking***
4. ***Manageable Span of Control***
5. ***Automated Operations***

Status of EOC roll out in Nigeria



Innovation: We are developing a Medical Countermeasures supply chain plan

National MCM Supply Chain Plan

A framework for managing MCM logistics and supply chain operations in response to infectious disease outbreaks including MoUs with partners

Applies to events that require distribution of Medical assets from NCDC strategic national stockpile, MDAs to States & LGAs and other partners

Addresses supply chain operations for disease outbreak response requiring levels 2 and 3 response operation that have requirements exceeding the usual threshold and re-emerging and non endemic diseases in Nigeria

Thank you

Nigeria Centre for Disease Control

A healthier and safer Nigeria through the prevention and control of diseases of public health importance

CEPI | New vaccines for a safer world

Coalition for Epidemic Preparedness and Innovations: A Global Partnership

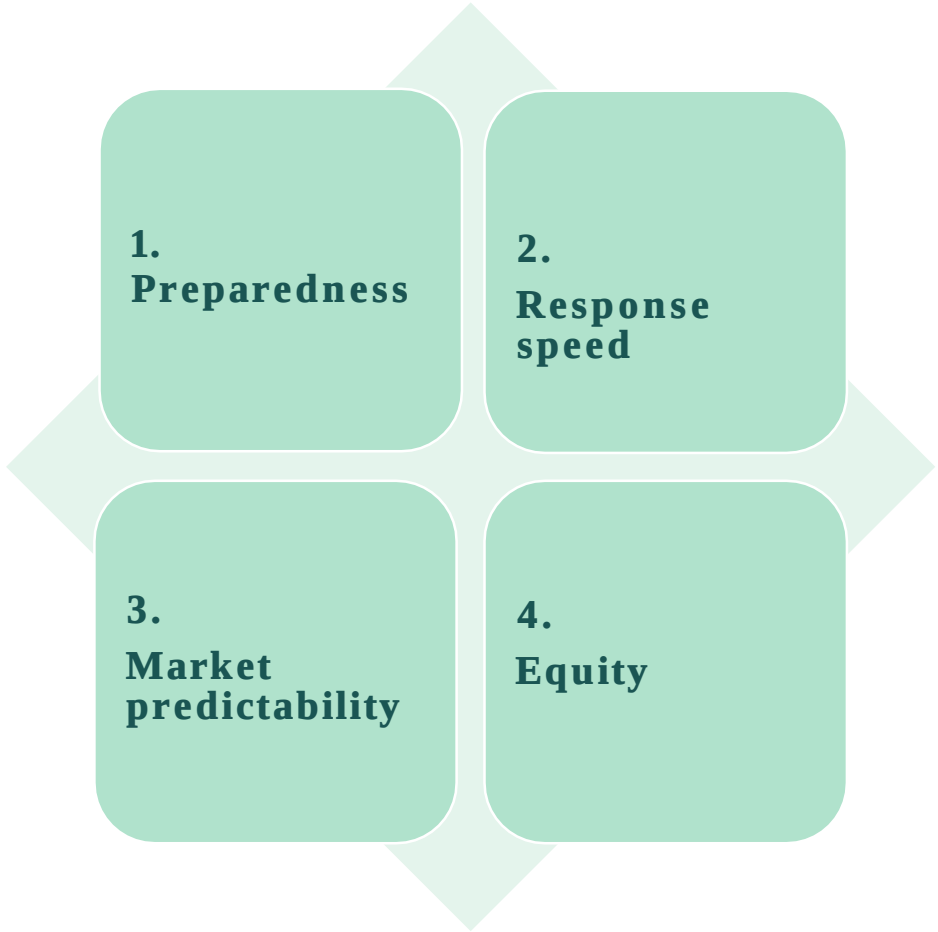
About CEPI

What is the Coalition for Epidemic Preparedness Innovations (CEPI)?

CEPI | New vaccines for a safer world

www cepi.net | @CEPIvaccines

Strategic objectives



CEPI

CEPI is both facilitator and funder in a complex ecosystem

CEPI as facilitator

Phase	1. Discovery	2. Development/ Licensure	3. Manufacturing	4. Delivery/ Stockpiling	5. "Last Mile"
Current Stakeholders	▪ Academia ▪ Governments ▪ WT/NIH ▪ EC/IMI ▪ GLOPID-R ▪ Industry ▪ Regulators ▪ Biotech	▪ Industry ▪ Governments ▪ Regulators ▪ WT/NIH ▪ EC/IMI ▪ Bill and Melinda Gates Foundation ▪ BARDA/DTRA etc. ▪ WHO ▪ Biotech ▪ PDPs	▪ Industry ▪ BARDA ▪ CMOs ▪ Regulators ▪ Governments ▪ WHO ▪ GHIF	▪ GAVI ▪ UNICEF ▪ PAHO ▪ Governments ▪ WHO ▪ Industry ▪ Pandemic Emergency Facility (World Bank) ▪ WHO Contingency Fund	▪ Countries ▪ WHO ▪ UNICEF ▪ Responding Organizations (e.g. MSF)

Significant focus by others ← CEPI as funder → Significant focus by others

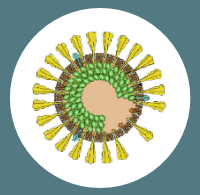
CEPI's initial targets derived from WHO R&D Blueprint

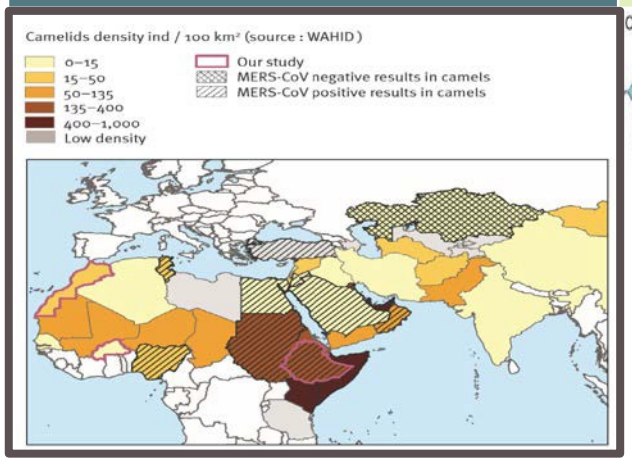
CEPI's Scientific Advisory Committee chose three initial diseases based on expected

Public health impact | Risk of an outbreak occurring | Feasibility of vaccine development

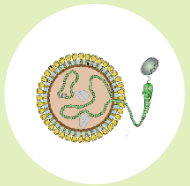
Just in Case Vaccines:

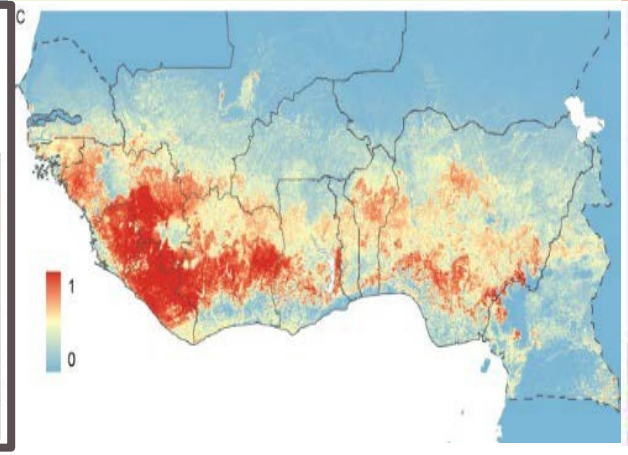
MERS-CoV





Lassa





Nipah

Four partnership agreements signed

THEMIS

- Novel proprietary platform to develop vaccines against Lassa Fever and MERS-CoV
- Up to $37.5million
- Lassa vaccine could enter phase 1 clinical trials by late 2018/early 2019.

inovio PHARMACEUTICALS

- Using Inovio's ASPIRE platform to develop DNA vaccines against Lassa Fever and MERS-CoV
- Up to $56.0m
- Consortium includes, Laval University, NIH, USAMRIID, VGXI/GeneOne Life Science

iavi International AIDS Vaccine Initiative

- Partnership to support development of IAVI's replicating viral vector-based Lassa vaccine candidate,
- Up to $10.4 million to support the first phase of the project, with options to invest up to a total of US$54.9 million over five years (including stockpile).

PROFECTUS BIOSCIENCES emergent biosolutions PATH

- Partnership to advance development and manufacture of a vaccine against the Nipah virus
- Up to $25 million
- Profectus to receive development funding for advance its Nipah virus vaccine; Emergent to provide technical and manufacturing support for the CEPI-funded program.
- PATH to work on clinical development.

Just in Time Vaccines: Platform Technologies

- CEPI will support the development of vaccine platform technologies that can be rapidly deployed against known and newly emerging pathogens, to limit or prevent future outbreaks of known or new diseases
- Projects must demonstrate
  - Safety and immunogenicity
  - Validation of the platform using 3 pathogens:
    - 2 with known correlates of protection & validated animal model
    - 1 from the WHO priority pathogen list
- Manufacturing performance characteristics
  - 16 weeks for development of vaccine for a new pathogen (up to phase I)
  - 6 weeks to clinical benefit after 1st dose
  - 8 weeks to produce 100,000 doses after go-decision

CEPI in epidemic response: learning to accelerate vaccine development: Lassa, 2018

- First focus remains on priority pathogens
- Even when vaccine candidates are not ready for clinical trials, CEPI must ensure that critical information is collected, with the goal of accelerating vaccine development
  - Epidemiology, good diagnostic tests, correlates of protection are all critical to vaccine development and trial design
- CEPI will contribute to strengthening in-country research capacity to conduct vaccine trials, between and/or during epidemics
- CEPI-WHO collaboration leverages work of WHO's R&D Blueprint and new response structure to accelerate vaccine development

CEPI

Thank you

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World Health Organization

REGIONAL OFFICE FOR Africa

Planning and Responding to Public Health Emergencies

17-19 July 2018

Dubai

Georges Alfred Ki-Zerbo - WHO

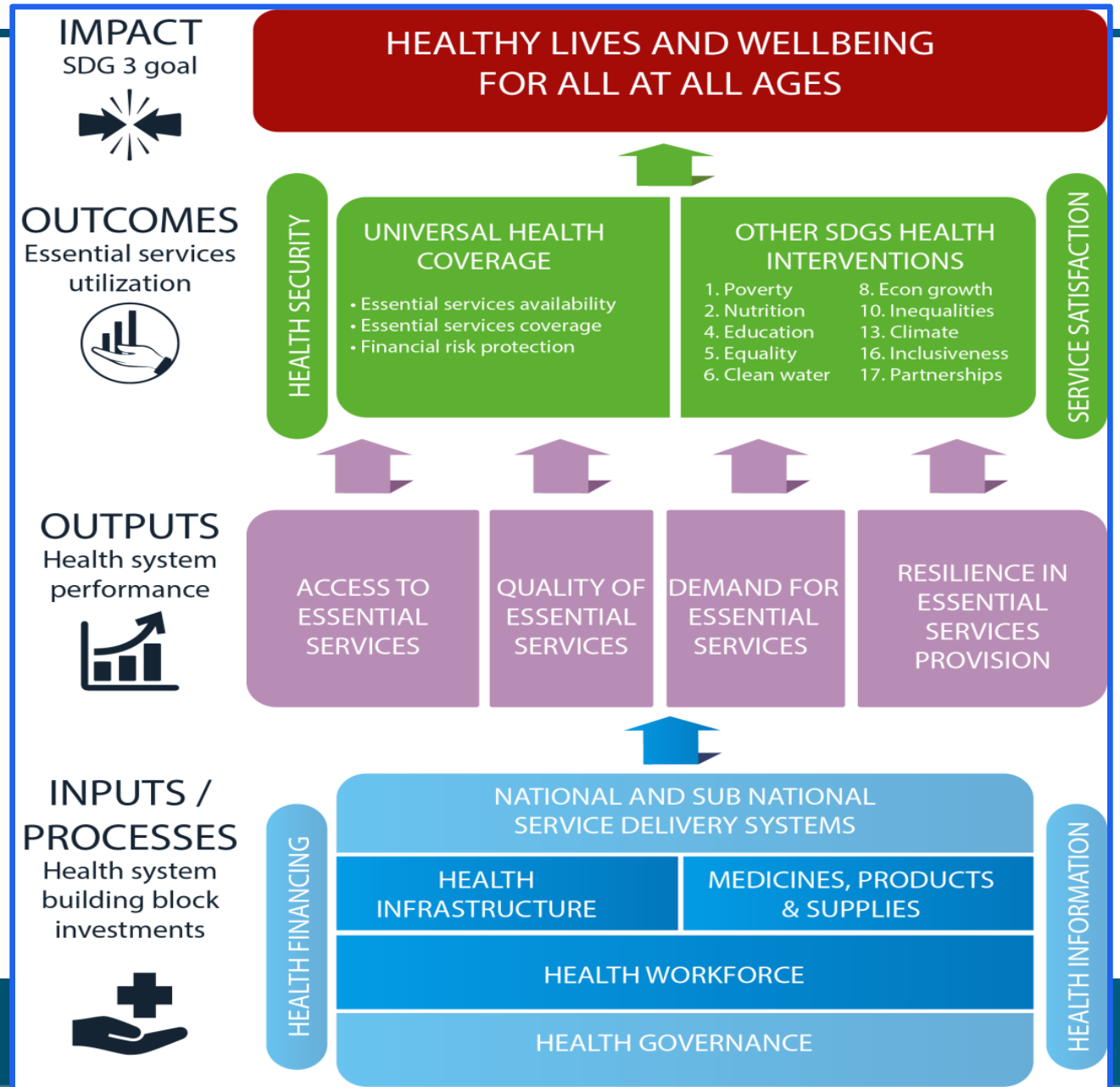
Outline

- Frameworks
  - UHC/SDGs
  - WHO ERF and SoPs
  - WHO and UNISDR DRR
- Country Experience
  - From West Africa EVD to Likati 2017
- Way forward
  - EVD Vaccines for Guinea & for the World/WHO Blueprint
  - Robust One Health and DRR Platforms
  - Implement post IHR/JEE National Health Security Plans

4 Big Lessons from Ebola

- Pathogens pose unique threat to global security
- A little preparedness can have a huge impact
- Humanitarian/emergency system essential for effective outbreak response
- WHO crucial role in leading health emergencies
- Resolution EBSS3.R1 (2015), DG Independent Advisory group, SG High level panel : **urgent need for reform**

Health Emergencies Panel



World Health Organization

SIXTY-NINTH WORLD HEALTH ASSEMBLY
Provisional agenda item 14.9

A69/30
5 May 2016

Reform of WHO's work in health emergency management

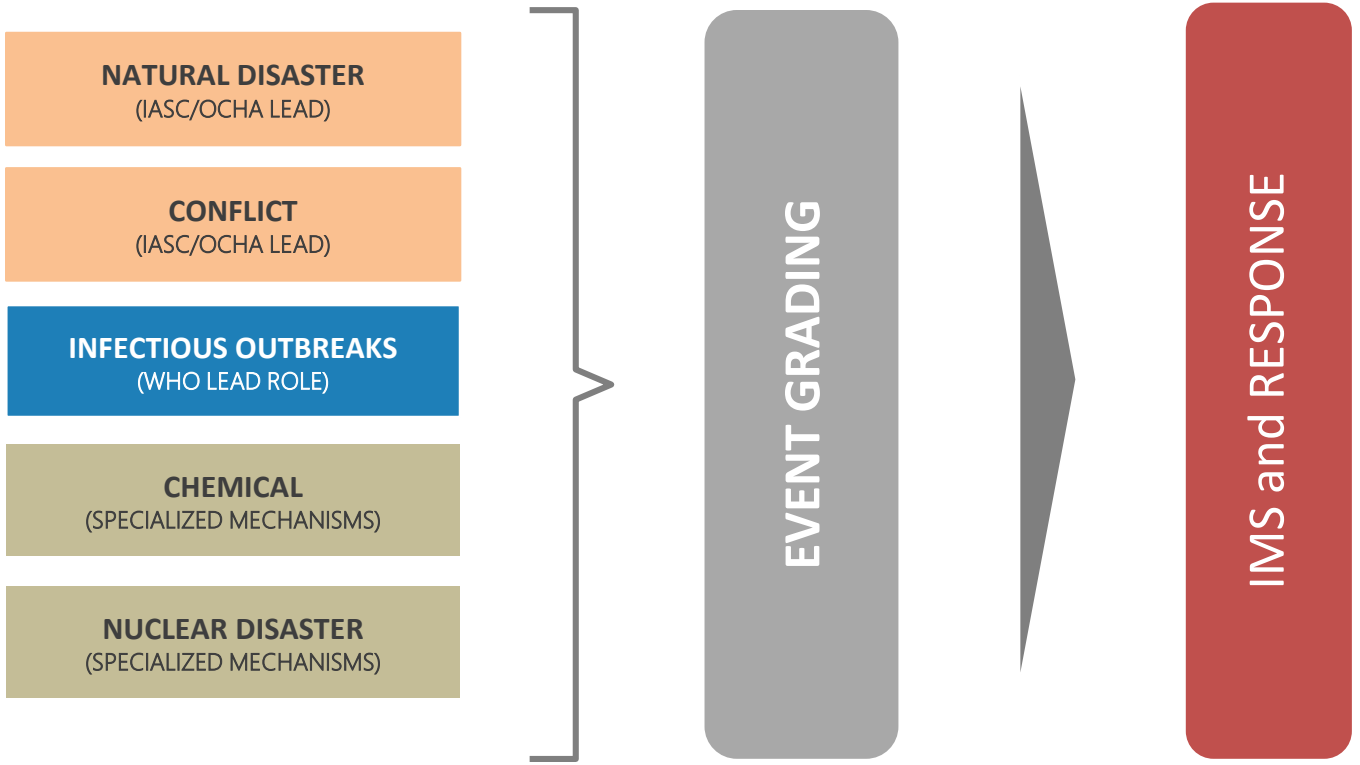
WHO Health Emergencies Programme

Report by the Director-General

1. In resolution EBSS3.R1 (2015), the Executive Board at its Special Session on the Ebola Emergency made a number of requests of the Director-General. These involved wide-ranging reforms to be undertaken in WHO's work in outbreaks, humanitarian emergencies and crises. In keeping with decisions of WHO's governing bodies,[1] these reforms have been guided by an Ebola Interim Assessment Panel,[2] a Director-General's Advisory Group on Reform of WHO's Work in Outbreaks and Emergencies with Health and Humanitarian Consequences,[3] and a Review Committee on the Role of the International Health Regulations (2005) in the Ebola Outbreak and Response. The reform of WHO's work in emergencies is also aligned with the report of the United Nations Secretary-General's High-level Panel on the Global Response to Health Crises.[4] The present report provides an overview of the design, oversight, implementation plan and financing requirements for the new Programme.[5]

WHO's role in emergencies

All-Hazards: Preparedness/IHR, risk assessment and response

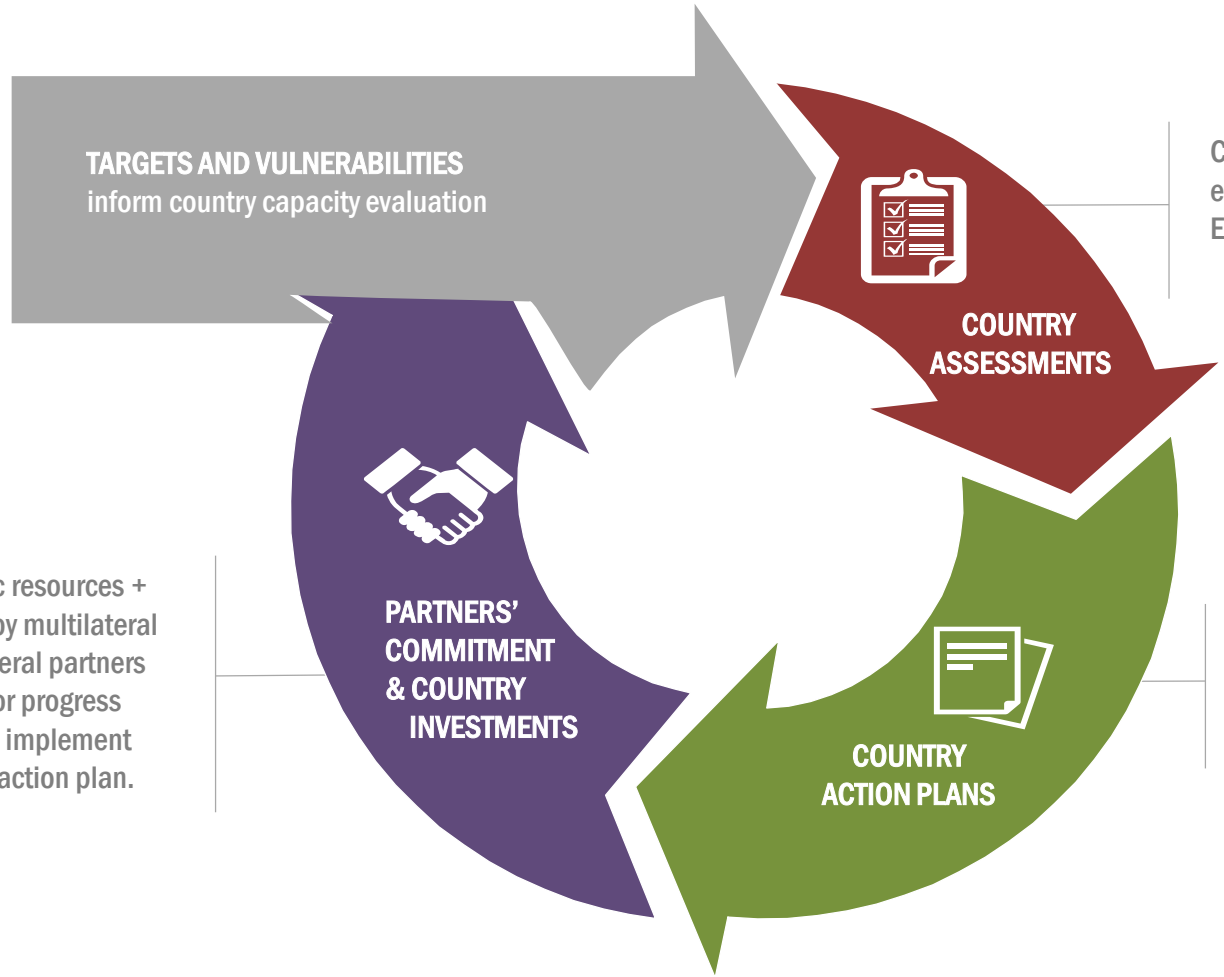


How is WHO meeting the challenge?

Key functions and expected results

E1	**Infectious Hazards Management -** All Countries are equipped to mitigate risks from high-threat infectious hazards
E2	**Country Health Emergency Preparedness & IHR -** All countries assess and address critical gaps, including in IHR core capacities, to be prepared for health emergencies
E3	**Health Emergency Information & Risk Assessment -** Health events are detected, and risks are assessed and communicated for appropriate action
E4	**Emergency Operations -** Populations affected by health emergencies have access to essential life-saving health services and public health interventions
E5	**Core services -** National emergency programmes are supported by a well-resourced and efficient WHO Health Emergencies Programme

Support National Action Plans to address gaps



Performance management

IMMEDIATE AFTER-ACTION REVIEW

Immediate capture of strengths, areas for improvement, and needs through key stakeholder interviews

OPERATIONS REVIEW

Systematic assessment of action against operational plan

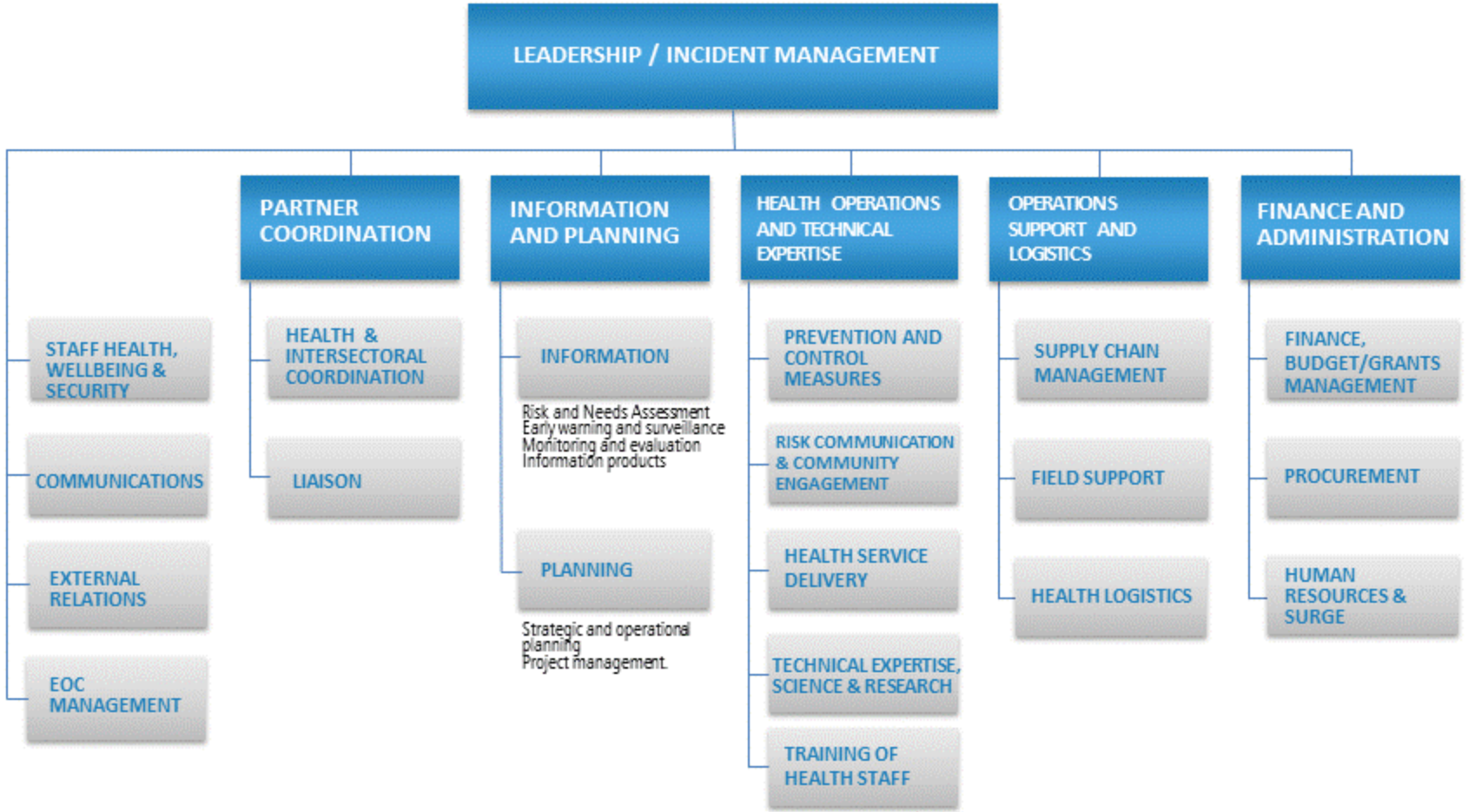
EVALUATION AND LESSONS LEARNED REVIEW

Formal reviews to asses performance standards with internal and external interviews

PROGRAMME PERFORMANCE ASSESSMENT

Annual programme assessment against 'Results Framework Indicators'

WHO's Incident Management System organizational structure: critical functions and sub functions



World Health Organization

HEALTH EMERGENCIES programme

World Health Organization REGIONAL OFFICE FOR Africa

Summary – HWO role in Emergencies

- Programme established, strong progress being made, continued refinements needed
- HWO/WR role is key to success:
  - to support countries prepare, mitigate risk, respond & recover
  - to sustain support from national, regional & international donors
- Major focus now:
  - demonstrate leadership & concrete results at country level
  - implement country business model
  - strengthen local partnerships through regular engagement and joint problem solving

Strategic priorities

- Ensure high profile disease-specific strategies and are in place and applied in countries (yellow fever, cholera …)
- Measure number, quality and comprehensiveness of national prevention and preparedness action plans (through joint external evaluation)
- Undertake robust and timely risk assessment and response to every significant new acute event (all-hazards)
- Strengthen partnerships for coordinated and predictable collective action
- Implement the new “country business model” in G3 / high-risk countries that result in delivery on the response plan

WHO R&D Blueprint for Action to prevent Epidemics: an overview

3 Approaches

A Improving coordination

- Steps to create a Global Coordination Mechanism for R&D
- Options for financing R&D

B Accelerating R&D

- Revised list of prioritized pathogens
- MERS-CoV roadmaps (Lassa, Nipah, CCHF, Zika) in process
- TPPs for Zika, MERS-CoV, Ebola, Lassa, Nipah
- EUAL procedure
- Zika R&D response
- Identification of potential platform technologies

C Developing new norms & standards

- ICMJE guidelines for sharing results
- Steps to inform discussions on trial designs
- Developing MTA capacity building tool
- Options for liabilities

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Global Ebola Vaccine Implementation Team

Partners

Guinea Liberia Sierra Leone

World Health Organization

unicef

CDC Centers for Disease Control and Prevention

Gavi The Vaccine Alliance

Bill & Melinda Gates foundation

USAID From the American People

Effort scope and objectives

Support development and dissemination of

- Tools and guidelines
- Synthesis of evidence to inform strategies and policies
- Community engagement strategy and communications

for future Ebola vaccine use

Provide capacity and work with Ministries of Health and partners to

- Develop and implement their country plans
- Enable and facilitate in-country planning, management, and coordination mechanisms including Emergency Operations Centers

for future Ebola vaccine use

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Ebola vaccine efficacy trial in Guinea

Efficacy and effectiveness of an rVSV-vectored vaccine in preventing Ebola virus disease: final results from the Guinea ring vaccination, open-label, cluster-randomised trial (Ebola Ça Suffit!)

Ana Maria Henao-Restrepo, Anton Camacho, Ira M Longini, Conall H Watson, W John Edmunds, Matthias Egger, Miles W Carroll, Natalie E Dean, Ibrahima Diatta, Moussa Doumbia, Bertrand Draguez, Sophie Duraffour, Godwin Enwere, Rebecca Grais, Stephan Gunther, Pierre-Stéphane Gsell, Stefanie Hossmann, Sara Viksmoen Watle, Mandy Kader Kondé, Sakoba Kéïta, Souleymane Kone, Eewa Kuisma, Myron M Levine, Sema Mandal, Thomas Mauget, Gunnstein Norheim, Ximena Riveros, Aboubacar Soumah, Sven Trelle, Andrea S Vicari, John-Arne Røttingen, Marie-Paule Kieny**

Summary

Background rVSV-ZEBOV is a recombinant, replication competent vesicular stomatitis virus-based candidate vaccine expressing a surface glycoprotein of Zaire Ebolavirus. We tested the effect of rVSV-ZEBOV in preventing Ebola virus disease in contacts and contacts of contacts of recently confirmed cases in Guinea, west Africa.

Methods We did an open-label, cluster-randomised ring vaccination trial (Ebola ça Suffit!) in the communities of Conakry and eight surrounding prefectures in the Basse-Guinée region of Guinea, and in Tomkolili and Bombali in Sierra Leone. We assessed the efficacy of a single intramuscular dose of rVSV-ZEBOV (2×10^7 plaque-forming units administered in the deltoid muscle) in the prevention of laboratory confirmed Ebola virus disease. After confirmation of a case of Ebola virus disease, we definitively enumerated on a list a ring (cluster) of all their contacts and contacts of contacts including named contacts and contacts of contacts who were absent at the time of the trial team visit. The list was archived, then we randomly assigned clusters (1:1) to either immediate vaccination or delayed vaccination (21 days later) of all eligible individuals (eg, those aged ≥18 years and not pregnant, breastfeeding, or severely ill). An independent statistician generated the assignment sequence using block randomisation with randomly varying blocks, stratified by location (urban *vs* rural) and size of rings (≤20 individuals *vs* >20 individuals). Ebola response

Lancet 2017; 389: 505–18

Published Online December 22, 2016 http://dx.doi.org/10.1016/S0140-6736(16)32621-6

This online publication has been corrected. The first corrected version appeared at thelancet.com on December 23, 2016. The second corrected version appeared on February 2, 2017

See Comment page 479

*Contributed equally

WHO, Geneva, Switzerland (A M Henao-Restrepo MD, M Doumbia MD,

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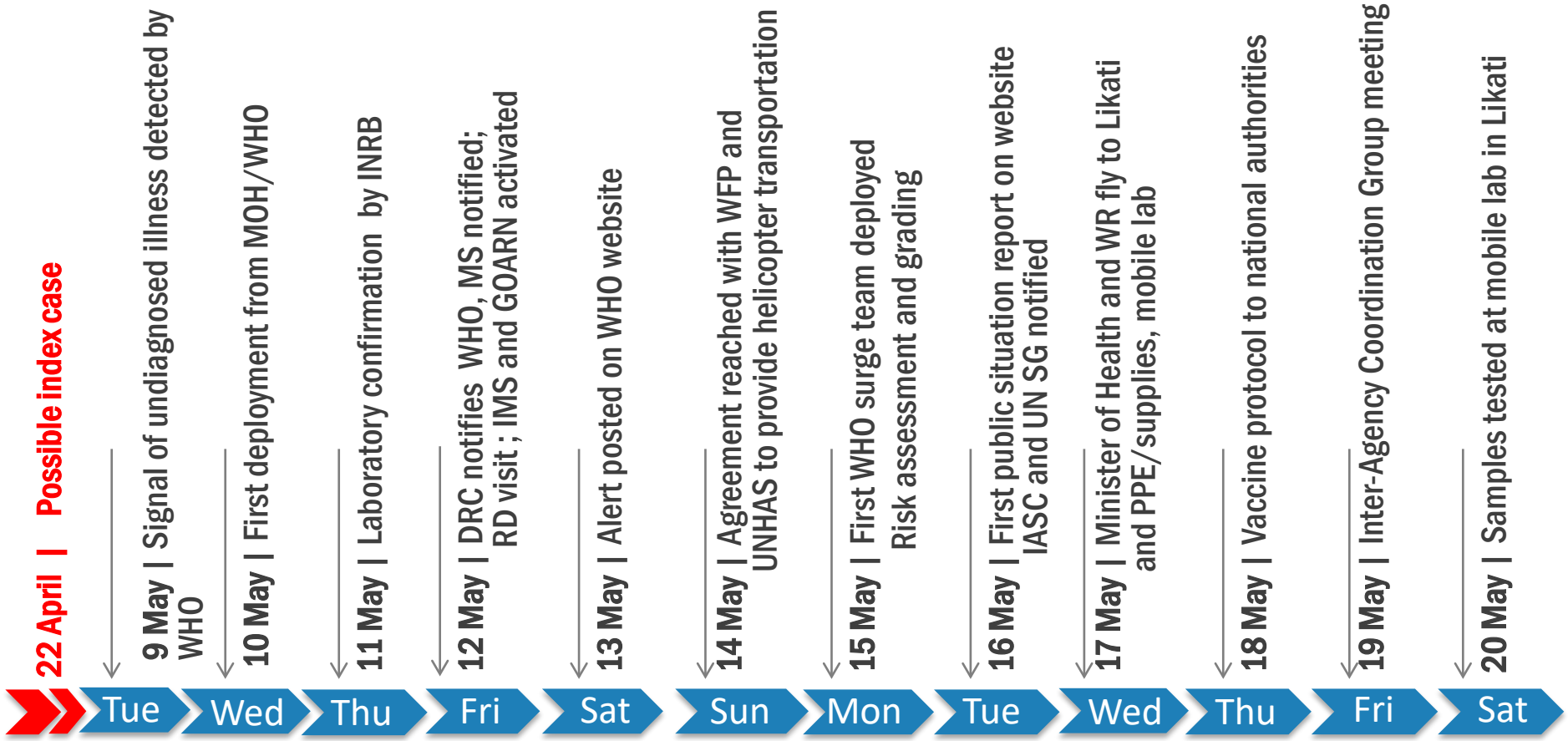
Response to Ebola in DRC—2017

- Strong MoH leadership matched by WHO “reforms in action” to provide immediate technical support: Minister visit to Likati, RD mission to Kinshasa. WHO staff deployed from WCO, AFRO and HQ; IMS rapidly set up in Kinshasa, Brazzaville and Geneva.
- Initial alert received from NGO (ALIMA), rapid laboratory confirmation at INRB, immediate risk assessment , information sharing through IHR with MS, GOARN partners and stakeholders.
- WHO technical and operational coordination of multi-disciplinary, multi-agency outbreak response team deployed in Likati to support MoH/local health authorities; addressing major logistical and infrastructure challenges, including security and staff health.
- Deployment of first field lab from INRB for EVD response; key role of Red Cross volunteers at community level; strong partner coordination and communication on response planning and implementation of major “EVD pillars” – MSF/ALIMA, UNICEF, Red Cross, and technical advisory role for GOARN partners.
- 12 tons of response materiel deployed, including PPE, isolation facilities, field labs, field coordination office and equipment, communications equipment, and field support for 30 staff including transport.

Response to Ebola in DRC--faster timeline



http://www.who.int/news-room/commentaries/detail/all-roads-lead-to-universal-health-coverage

Universal health coverage and health emergencies are cousins—two sides of the same coin. Strengthening health systems is the best way to safeguard against health crises.

Dr Tedros Adhanom Gebreyesus

WHO DG

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http://www.who.int/news-room/feature-stories/detail/ebola-vaccines-for-guinea-and-the-world-photos

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