

Ebola Diagnostic Training in Ghana & Regional Collaboration to Address Emerging Infectious Diseases

John Amuasi

Senior Research fellow, KCCR

Kumasi, Ghana



Kumasi Centre for Collaborative Research
in Tropical Medicine

www.kccr-ghana.org



**WEST AFRICAN TASK
FORCE FOR EMERGING &
Re-EMERGING INFECTIOUS
DISEASE OUTBREAK**



Kumasi Centre
for Collaborative Research in
Tropical Medicine
www.kccr-ghana.org



- Established in October 1997
Governments of Ghana and Germany
- Active institutions:
 - Ghana: KNUST and SMS, Kumasi
 - Germany: BNITM, Hamburg



Seven research groups :

- Medicine in the Tropics
- Onchocerciasis & Lymphatic filariasis
- Buruli Ulcer
- Virology
- Haematology
- Paediatric fevers
- Coronaviral Zoonoses



- BSL-3 lab: cell culture
- Molecular biology lab
- Immunology lab
- Parasitology lab
- Bacteriology lab
- Insectary
- Data management room
- Cold storage room
(expanding)







Ebola Diagnostic Training

- Part of an initiative from Germany & other EU countries
- European Mobile Laboratory Consortium (EmLab): since March 2014
 - Containment of the Western Africa Ebola Outbreak
 - Led by German Army and the Bernhard Nocht Institute for Tropical Medicine (BNITM)
- Ebola Diagnostic Training started in December 2014
 - BNITM in collaboration with KCCR
 - Contribute to preventing the spread of the current Ebola epidemic to other Western African countries
 - Ghana MoH approval & full scale since February 2015

Bilingual training Programme (English and French)

- eLearning modules
- Sample workflow Ebola virus
Diagnostic at KCCR
- Development of SOPs and
ESOPs
- Training sessions
- Lab set-up
- Accreditation for Ebola virus
Diagnostic at KCCR



EBOLearn: Interactive eLearning modules on the BNITM platform

1. Infectious Pathogens - General Virus Biology
2. Diagnostics - DNA/RNA
3. Diagnostics - PCR/RT-PCR
4. Biosafety I
5. Biosafety II - Donning and Doffing

BNITM English (en) - Oumou Maiga Ascofaré

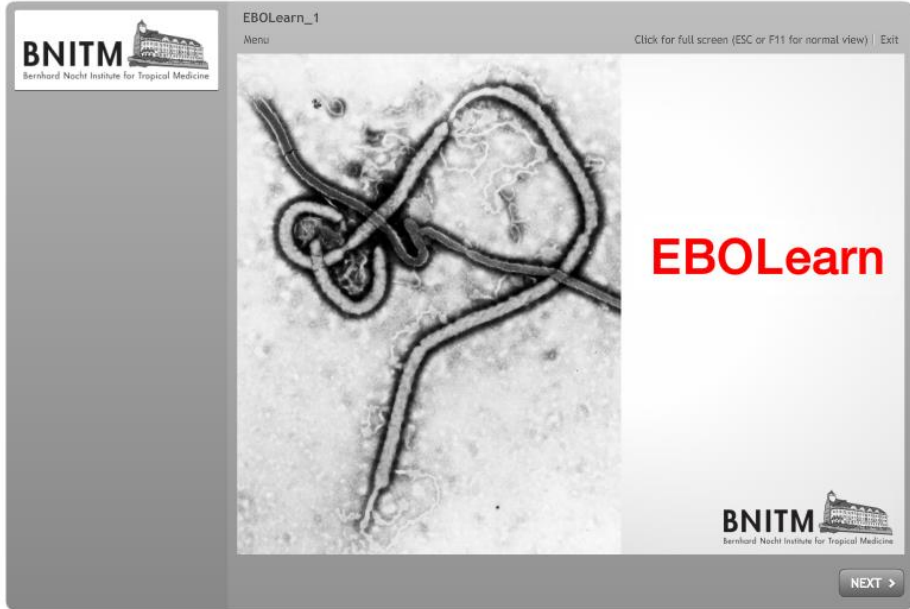
NAVIGATION

- Home
 - My home
 - Site pages
 - My profile
- Current course
 - EBOLearn
 - Participants
 - Badges
 - General
 - Infectious Pathogens - General Virus Biology (Engl...
 - General Virus Biology**
 - Biologie général des virus et d'Ebola
 - Diagnostics - DNA/RNA (English and French Modules)
 - Diagnostics - PCR/RT-PCR (English and French Modules)
 - Diagnostics - Biosafety (English and French Modules)
 - Diagnostics - Biosafety - Donning and Doffing (Eng...
 - Topic 6
 - Topic 7
 - Topic 8
 - Topic 9
 - Topic 10
- My courses

General Virus Biology

EBOLearn_1

EBOLearn_Modult



The EBOLearn_1 module interface features a BNITM logo in the top left corner. The main content area is split: the left side shows a grayscale electron micrograph of a long, thin, filamentous virus particle with a distinct outer envelope and internal structure. The right side is a white background with the text 'EBOLearn' in large red font. At the bottom right, there is a smaller BNITM logo and a 'NEXT >' button. The interface also includes a 'Menu' label and a 'Click for full screen (ESC or F11 for normal view) | Exit' link.

Training session: 2 weeks, Theoretical and Practical

- Good Microbiology Technique
- Biosafety - Biosecurity
- Sample reception
- Assessing the risk – triple packaging
- PPE: Donning and Doffing
- Sample reception
- Inactivation using the GloveBox
 - BSL 3 miniature
- Ebolavirus Detection by real time RT-PCR



Training: 4 sessions in 2015

- 6 countries, 28 participants
 - Ghana: 5
 - Benin: 5
 - Togo: 5
 - Burkina Faso: 5
 - Guinea: 6
 - Mauritania: 2



Lab set-up in the trained country

- Donation of equipment and consumables with capacity to train up to 50 local agents
- 1 week visit of three facilitators to install the equipment and set-up the diagnostic lab
- three-day visit for Quality Control of the lab





WATER

WEST AFRICAN TASK FORCE FOR THE
CONTROL OF EMERGING & Re-EMERGING
INFECTIOUS DISEASES

WATER

- Multidisciplinary group of experts that will promote and engage in activities aimed at addressing emerging and re-emerging infectious disease control in West Africa.
- The main focus is to provide a West African voice and leadership on the prevention and control of emerging and re-emerging infectious diseases.
- The result of West African scientists and other opinion leaders convened by OSIWA in Dakar on 21st and 22nd November 2014.

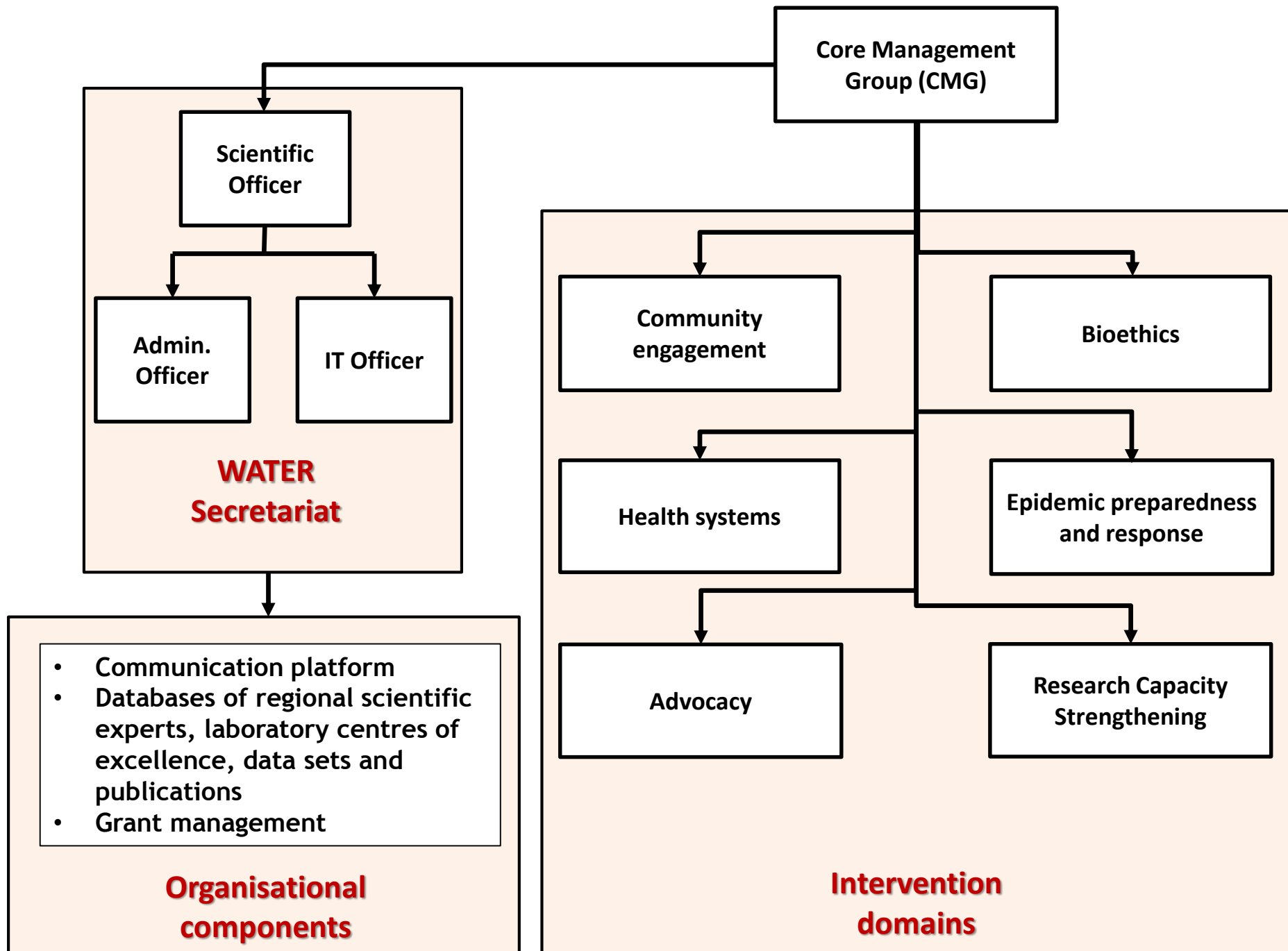


Objectives

1. To support the effective use of available health system resources.
2. To improve West African countries' capabilities in terms of outbreak preparedness and response.
3. To establish sustainable community engagement in outbreak preparedness and response.

Objectives (cont.)

4. To improve the West African legal and regulatory framework for health research in the-decision making process on such complex emergencies.
5. To meaningfully engage key decision makers at local, national, regional and international levels in relevant initiatives.
6. To develop a research capacity strengthening and knowledge management strategy in the prevention and control of emerging and re-emerging infectious diseases.



Composition

- Core Management Group
 - **Prof. Souleymane Mboup (President)**
 - **Dr. Sanie Sesay (Coordinator)**
 - **Dr. John Amuasi (ID Lead)**
 - **Dr. Stephen Kennedy (ID Lead)**
 - **Dr. David Houeto (ID Lead)**
 - **Prof. Mireille Prince David (ID Lead)**
 - **OSIWA**
- Secretariat
- Multidisciplinary experts



WEST AFRICAN TASK
FORCE FOR EMERGING &
Re-EMERGING INFECTIOUS
DISEASE OUTBREAK

The GET-WATER collaboration

Activities

- Organized 1st African Voices and Leadership EBOLA meeting in January 2015 in Dakar
- Led to the ***DAKAR DECLARATION and Resolutions:***
 - Declaration outlined severe lack of infrastructure and technical capacity for an indigenous response mechanism to effectively contain a biological threat from a highly infectious pathogen.

<http://www.wadr.org/Ebola-African-experts-root-for.html?lang=en>

Activities

- Planning a follow-up conference to revisit the Declaration and focus on deficiencies outlined:
 - Biobanking
 - Biodata
 - Bio-safety
 - Biosecurity issues
- Important focus on Bio-Ethics and Community Engagement

Expected Outcomes

- Heightened awareness of Africa's deficiencies and what needs to be done to address them
- Creating awareness of the GHSA and GPP strategies
- Moving closer to an Endorsement of the Dakar Declaration
- Fast tracking a regional and continental strategy to address EID and the reduction of opportunities for biological threats on the Continent
- Ensuring ongoing discussion and dialogue thereby promoting the opportunity for high-level advocacy and ownership of an African Agenda
- Adopting the evolving concept of DDD to address inefficient use of AID funding for human and infrastructure capacity development to cope with EIDs

Working together on...

- Strengthening agreements on the use of samples
 - Biospecimen Data Access Committee (BDAC)
 - Functions
 - Evaluation criteria
 - Hierarchy of access
- Identifying samples to be banked
- Requirements for storing and using samples i.e. a Biobank
- Ethical oversight, Governace, Legislation
- Integration in to Health System

Define Stakeholders

- Communicate biobank to National and Continental and International stakeholders:
 - Community
 - Africa Union/NEPAD
 - WAHO
 - WHO/UN
 - National Ministries of Health, Science and Technology
 - Tertiary Academic Institutions
 - Research Institutions
 - Funding Organisations
- Discussing closely with WHO & MSF

Thank you.

