

African Laboratory Network

AfroLabNet – Stationary Lab

Strengthening National Capacities for Outbreak and Crisis Management in Africa

Duration

2016–2021

Budget/year

approx. 250,000 EUR

Partner countries

Benin
Guinea
Nigeria
Togo

Challenges addressed by the project

Most African countries face the challenge of reliably diagnosing pathogens with epidemic potential and to adequately respond to outbreaks. The lack of such capacity has contributed to the delayed response observed during the Ebola virus disease outbreak in West Africa in 2014. To address this gap, this project aims to strengthen the relevant structures in Nigeria, Guinea and Benin so that local tropical and other infectious diseases, such as Lassa fever and Ebola virus disease, can be diagnosed effectively.

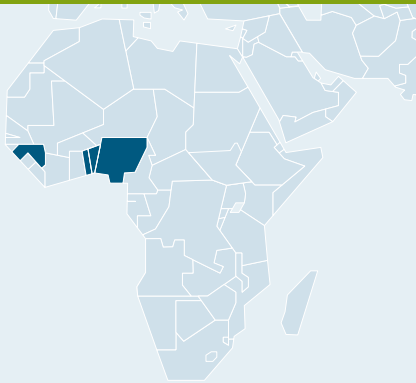
Objectives

- » Successful expansion of partner countries' diagnostic capacities for the rapid detection of emerging infectious diseases
- » Development of a sustainable partnership approach
- » Establishment of long-term cooperation to enhance the ability to react quickly in the event of an outbreak
- » Community studies on the occurrence of pathogens

Overview of activities

The Department of Virology at the Bernhard Nocht Institute for Tropical Medicine (BNITM) has been working with the Irrua Specialist Teaching Hospital (ISTH) in Edo State, Nigeria, for more than 10 years. In 2008, the Institute for Lassa Fever Research and Control (ILFRC) started providing nationwide Lassa virus diagnostics with the support of BNITM, and since then, it resolves over 90% of all suspected Lassa fever cases reported in Nigeria. This project enables ILFRC to maintain activities to improve patient care. Local staff can now safely diagnose hemorrhagic fevers using real-time PCR, including Lassa, Ebola, Dengue and Yellow fever, as well as SARS-CoV-2 since February 2020, and perform serological testing for various diseases. BNITM teams visit ILFRC at least three times a year to provide support with Lassa outbreaks, the implementation of new diagnostic tools, and intensive training of 15 staff members.

To strengthen laboratory capacities in Benin, various trainings have been performed at the Laboratory for Viral Hemorrhagic Fever (LFHB) in Cotonou, and since 2018, the laboratory is able to independently diagnose not only Lassa fever, but also Ebola, Dengue, Zika, Chikungunya and Yellow Fever. A serology training that took place in early has enabled the team to also perform serological testing. Thanks to the capacities build, the laboratory also rapidly and successfully implemented



Supported by:



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ISTH team together with ILFRC coordinator Dr Ephraim Ogbaini-Emovon, ILFRC laboratory team and BNITM team in March 2018, Nigeria



Training of laboratory personnel at the Glovebox, Benin



Training of laboratory staff in Gueckédou, Guinea

Photos ©BNITM

SARS-CoV-2 molecular diagnostics as early as March 2020. Positive cases are reported directly to the Ministry of Health and World Health Organization.

Similarly, the Laboratory for Viral Haemorrhagic Fevers in Conakry, Guinea, is also supported by this project. BNITM provides regular trainings and sustains the implementation and expansion of diagnostics capacities which currently include Ebola, Lassa, Yellow fever, Dengue and Zika viruses. Importantly, to upgrade the overall surveillance system of the country, a sentinel laboratory was successfully established in Gueckédou in June 2016 and offers the same panel of diagnostic services in Forest Guinea. The strong expertise in molecular biology of the laboratory teams in Conakry and Gueckédou allowed for the rapid and reliable implementation of SARS-CoV-2 testing as early as March 2020.

Partner institutions

- » Irrua Specialist Teaching Hospital (ISTH), Institute for Lassa Fever Research and Control (ILFRC), Nigeria
- » Laboratoire des Fièvres Hémorragiques Virales, Centre de Recherche en Virologie (PFHG), Guinea
- » Laboratoire des Fièvres Hémorragiques Virales de Gueckédou (LFHV-GKD), Guinea
- » Laboratoire de diagnostic des Fièvres Hémorragiques du Benin (LFHB), Benin

Supporting institution in Germany/Contact

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African Laboratory Network

AfroLabNet – Mobile Lab

West Africa Laboratory Network and European Mobile Labs (EMLab): Strengthening National Capacities for Outbreak and Crisis Management in Africa

Duration

2016–2021

Budget/year

approx. 100,000–150,000 EUR
plus mission expenses

Partner country

Nigeria

Challenges addressed by the project

Many countries worldwide, including sub-Saharan African countries, are challenged with infectious disease outbreaks which can threaten the health of the local population as well as the international community. The most devastating Ebola virus disease outbreak in history occurred in 2014–2016 and claimed more than 11 000 lives out of over 28 000 infected patients. In order to diagnose these outbreaks and support patients, laboratory capacities are required to ensure timely and accurate diagnoses of patients. This not only provides adequate medical care but also allows for the implementation of necessary infection control measures. AfroLabNet-Mobile Lab is dedicated to offer mobile diagnostic units operated by laboratory expert teams to meet this diagnostic capacity needs in case of infectious disease outbreaks.

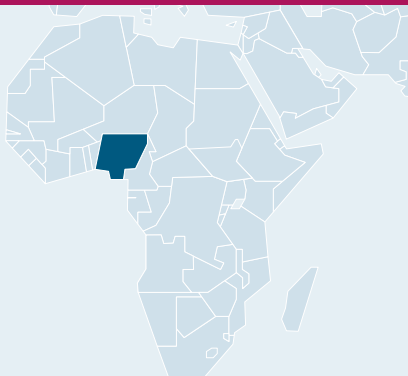
Objectives

The project ensures the readiness of Mobile Laboratory (European, EMLab and Nigerian, NigMLab) units to offer diagnostic services of pathogens up to risk-group 4 as well as of a pool of trained scientists to deploy and operate the EMLab in outbreaks and emergency situations.

Overview of activities

- » Ensure the operational readiness of the EMLab units with state-of-the-art diagnostics services and support the deployment of units upon request for assistance from countries in needs
- » Support the NigMLab with readiness, procedure harmonization, training and operations
- » Effective implementation of yearly theoretical and practical mobile laboratory training courses since 2017 with candidates from all over the world to guarantee the readiness of a pool of trained experts.
- » Successful participation of the EMLab to EU-level module field and table-top exercises since 2017

The BNITM and EMLab are partners of the Global Outbreak Alert and Response Network (WHO-GOARN) and the EMLab is registered in the voluntary pool of the European Civil Protection Mechanism of DG-ECHO (Directorate General for



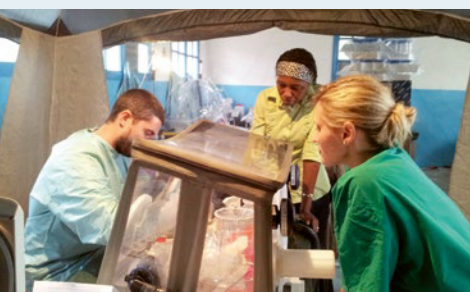
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EMLab training at the glovebox



Set-up of the EMLab in the Democratic Republic of the Congo



Official delegations visiting the EMLab in Uganda



Set-up of the EMLab in Uganda

Photos ©BNITM

European Civil Protection and Humanitarian Aid) at the European Commission. EMLab is represented at all relevant working meetings with WHO-GOARN and the European Commission.

In 2016 and 2017, the EMLab successfully deployed to the Democratic Republic of the Congo upon request of the WHO to support with the Yellow fever outbreak, and to Uganda for the Marburg virus disease outbreak. In 2018, the NigMLab deployed to Ondo State, Nigeria, to support the Federal Medical hospital of Owo with Lassa fever diagnostics. In 2020, the EMLab has been actively involved in the COVID-19 response with one completed mission in Weiden, Germany, and two ongoing ones. Since April 2020, the NigMLab is deployed in Delta State, Nigeria, providing diagnostics not only for SARS-CoV-2, but also for Yellow fever and Lassa viruses. As of October 2020, the EMLab, deployed under WHO/GOARN and following the request for assistance from Greece, supports the refugee camp Kara Tepe RIC in Lesvos, Greece, with SARS-CoV-2 diagnostics, as well as HIV and blood testing.

Partner institutions

- » Irrua Specialist Teaching Hospital (ISTH), Institute for Lassa Fever Research and Control (ILFRC), Nigeria
- » Robert Koch Institute (RKI), Germany
- » Bundeswehr Institute for Microbiology, Germany
- » National Institute for Infectious Diseases (INMI) Spallanzani, Italy
- » Participants from all over Europe (Austria, Belgium, France, Great Britain, Hungary, Italy, Portugal, Slovenia, Spain and Switzerland)

Supporting institution in Germany/Contact

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