

BU LABNET

A laboratory network and a new program model for external quality assessment of PCR based diagnostics for Buruli ulcer in endemic African countries

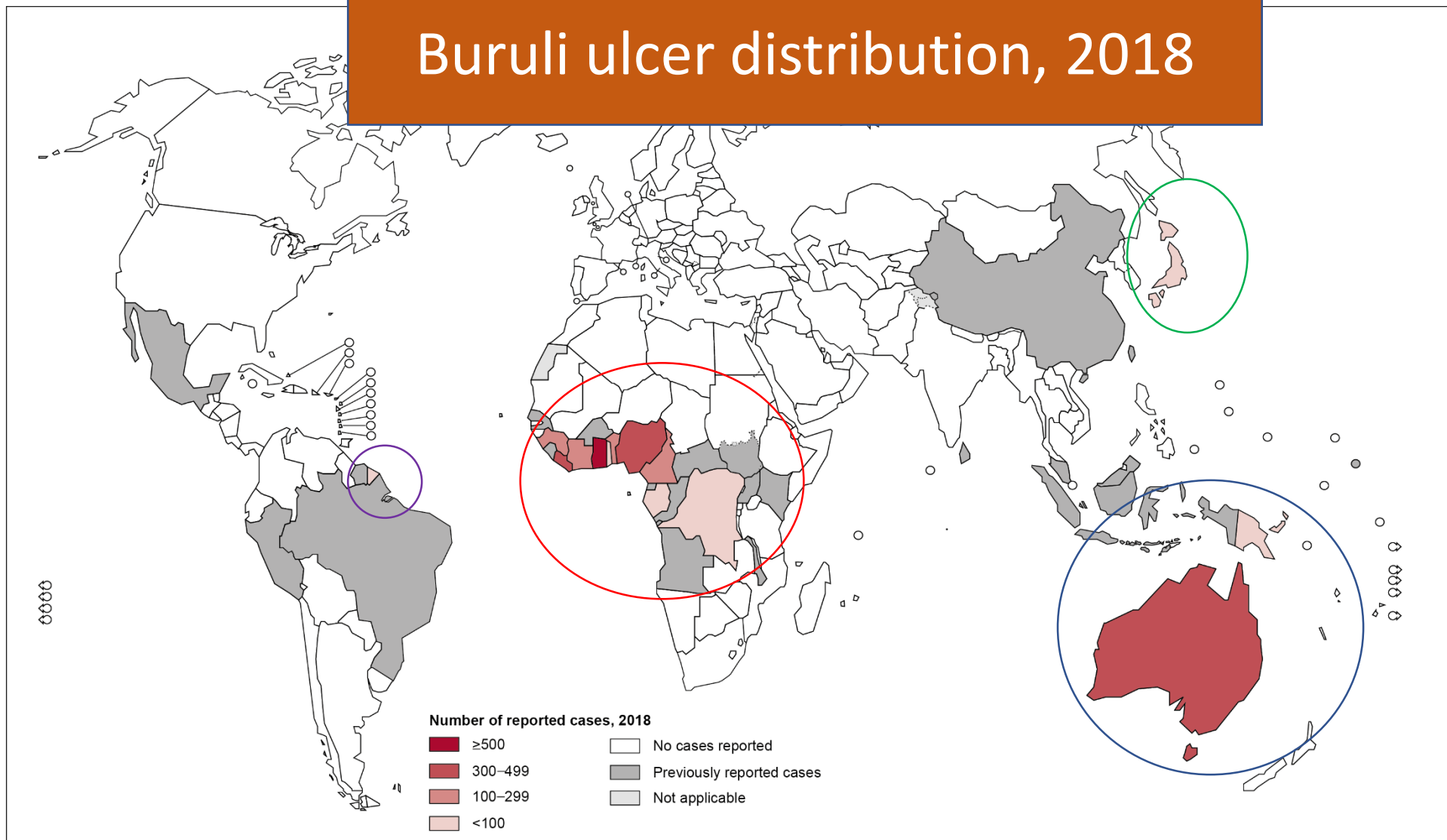


Summary of disease epidemiology

1. Buruli ulcer is a skin disease caused by *Mycobacterium ulcerans*
2. Cases have been reported from at least 33 countries
3. In 2018, 14/33 countries reported 2713 cases to WHO
4. Most patients are children <15 yrs in Africa and adults >60 yrs in Australia
5. Mode of transmission is not known
6. Diagnosis is clinical + PCR
7. Treatment is a combination of rifampicin and clarithromycin for 8 weeks +/- skin grafting to speed up healing



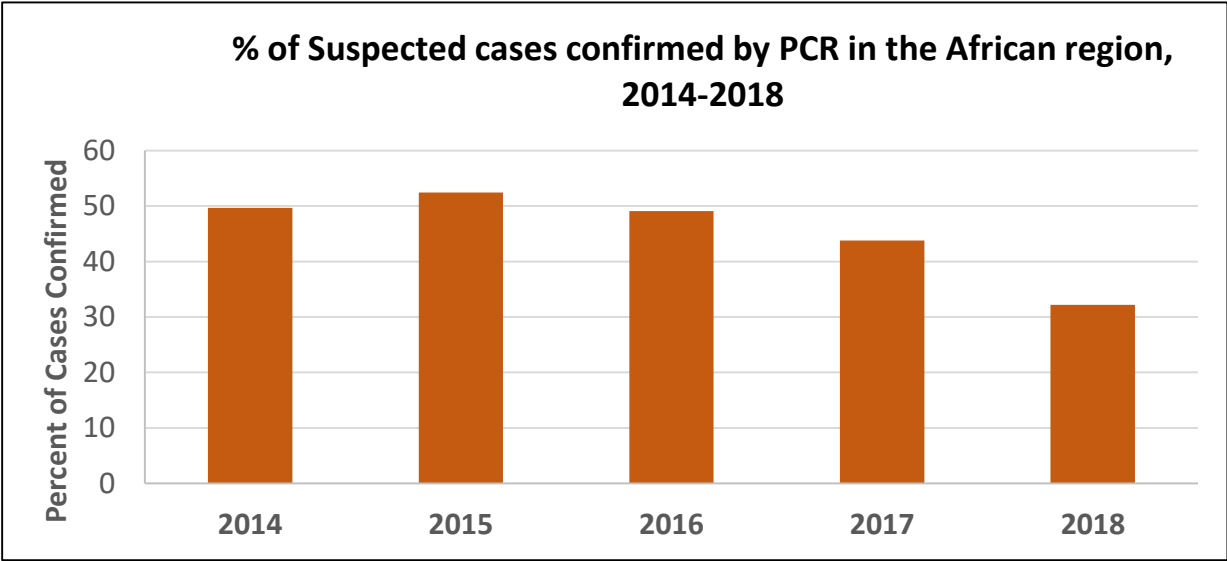
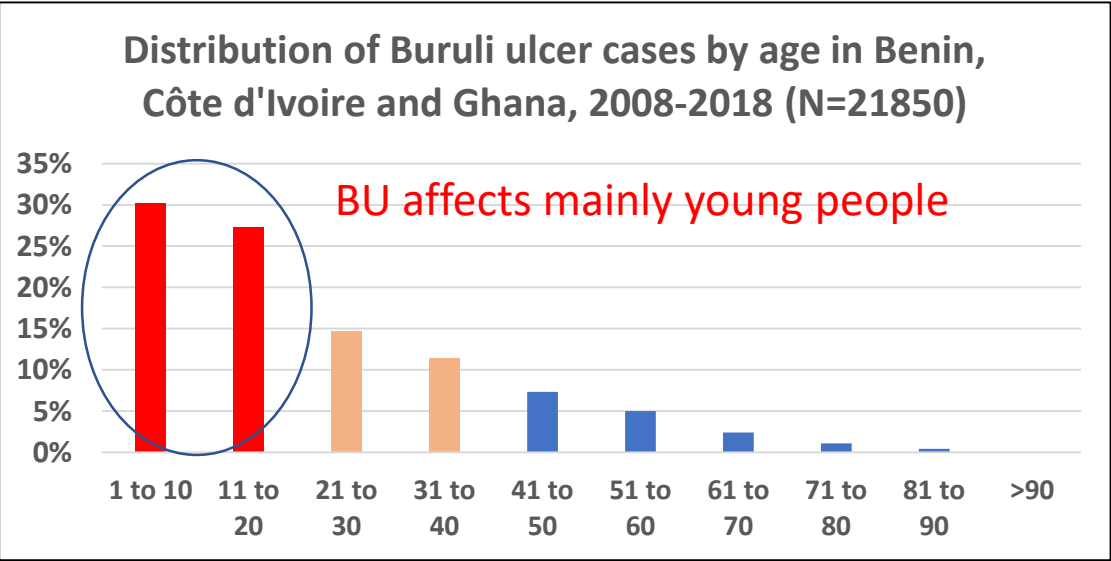
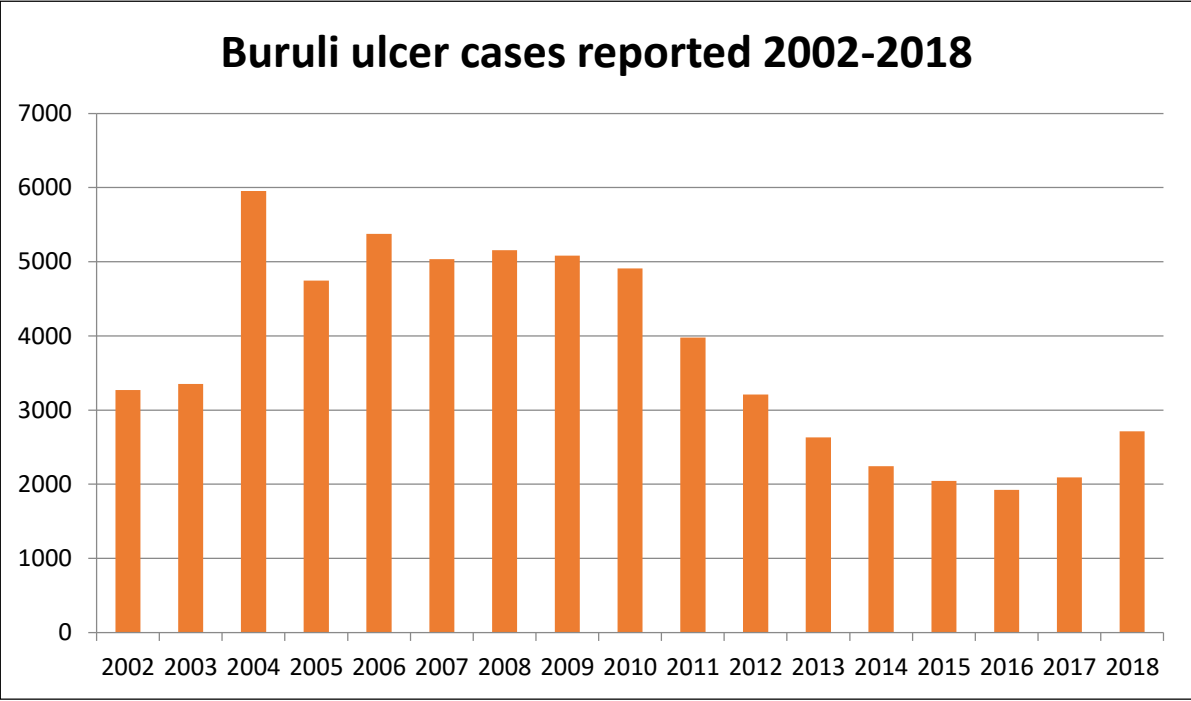
Buruli ulcer distribution, 2018



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Data Source: World Health Organization
Map Production: Control of Neglected
Tropical Diseases (NTD)
World Health Organization





Background:

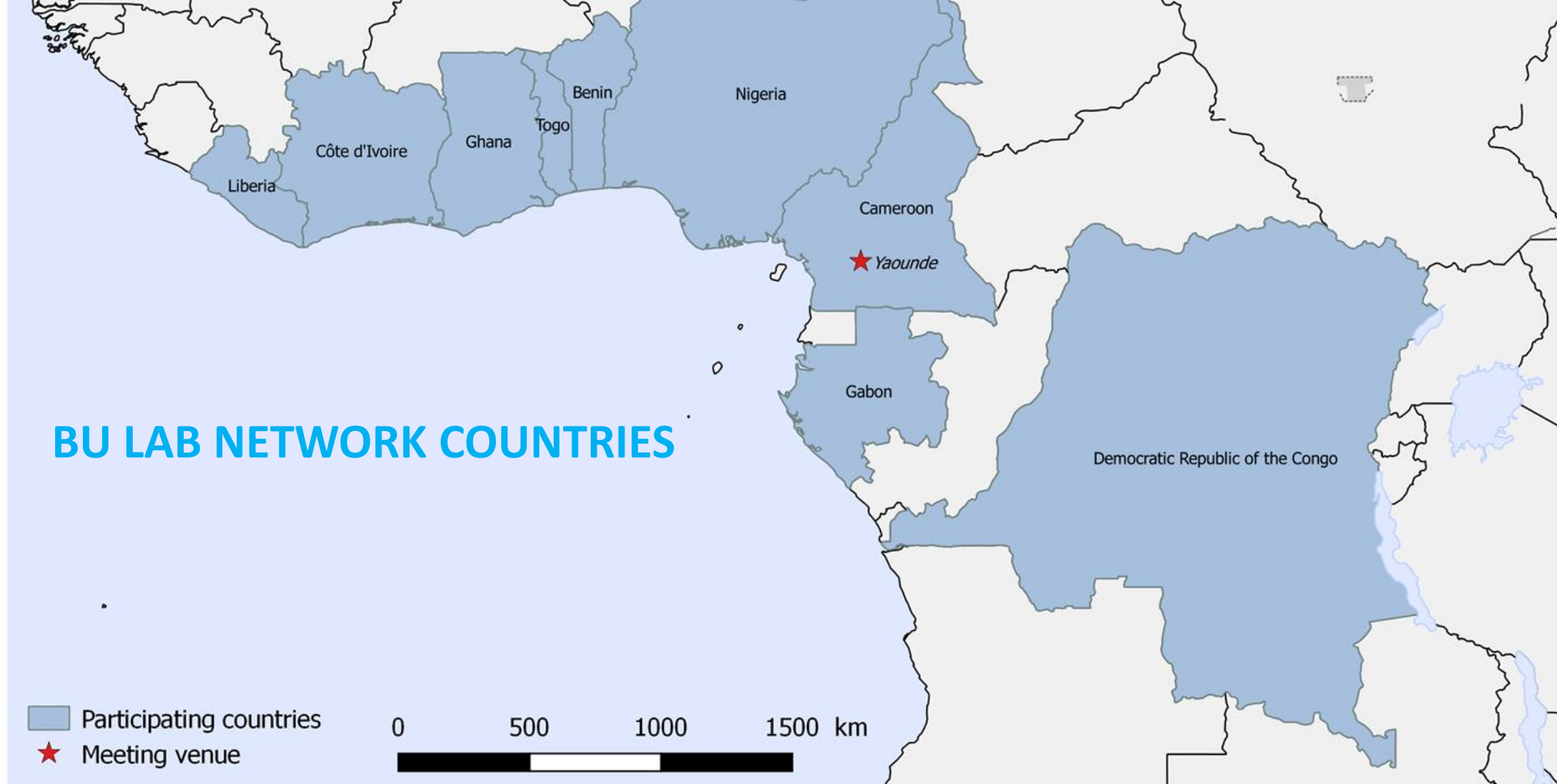
- Maintaining quality molecular diagnosis is a key to prevent and control the spread of Buruli ulcer in endemic African countries.
- Standardized and harmonized protocols for PCR based diagnosis of BU are essential to reduce ambiguity in the diagnostics methods and deliver quality results.
- A network that facilitates sharing of knowledge and best practices in diagnosing BU and conducting collaborative research can enhance the detection rates and contribute to reducing the global burden of the disease.

Objectives:

- To conduct external quality assessment program for diagnosis of BU through centralized coordinating system within the endemic countries.
- To establish standardized procedures for PCR-based diagnostics in BU considering the respective specific environment and available equipment
- To periodically monitor and provide necessary training to build the capacity of the member labs to conduct diagnosis with optimal quality.
- To represent the member labs under a network to enable knowledge sharing and conduct collaborative research to improve diagnostic approaches for BU.

Expected Outcomes/benefits:

- Harmonized testing procedures used by all the laboratories, which will ensure delivery of effective, efficient , accurate and reliable PCR Confirmation of Buruli ulcer in the African region
- Formalized functioning network of laboratories in the African region
- Improved and measurable performance of network labs on EQA testing
- Enhanced quality of data reported by WHO in Africa
- Publications obtained from collaborative research, which will enhance diagnostic approaches for BU
- Integrated NTDs in the PCR based platform for case confirmation in the different laboratories of the network



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Data Source:
WHO/UHC/NTD/IDM
Map Production:
WHO/UHC/NTD/IDM
World Health Organization



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Membership of the BU LAB NETWORK

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BU-LABNET members

The BU-LABNET comprises the following :

Core members: Laboratory experts from the network institutions performing PCR confirmation for Buruli ulcer in Africa

Associate members: Experts with interest in PCR for Buruli ulcer, other mycobacterial infections or skin-NTDs outside the core network

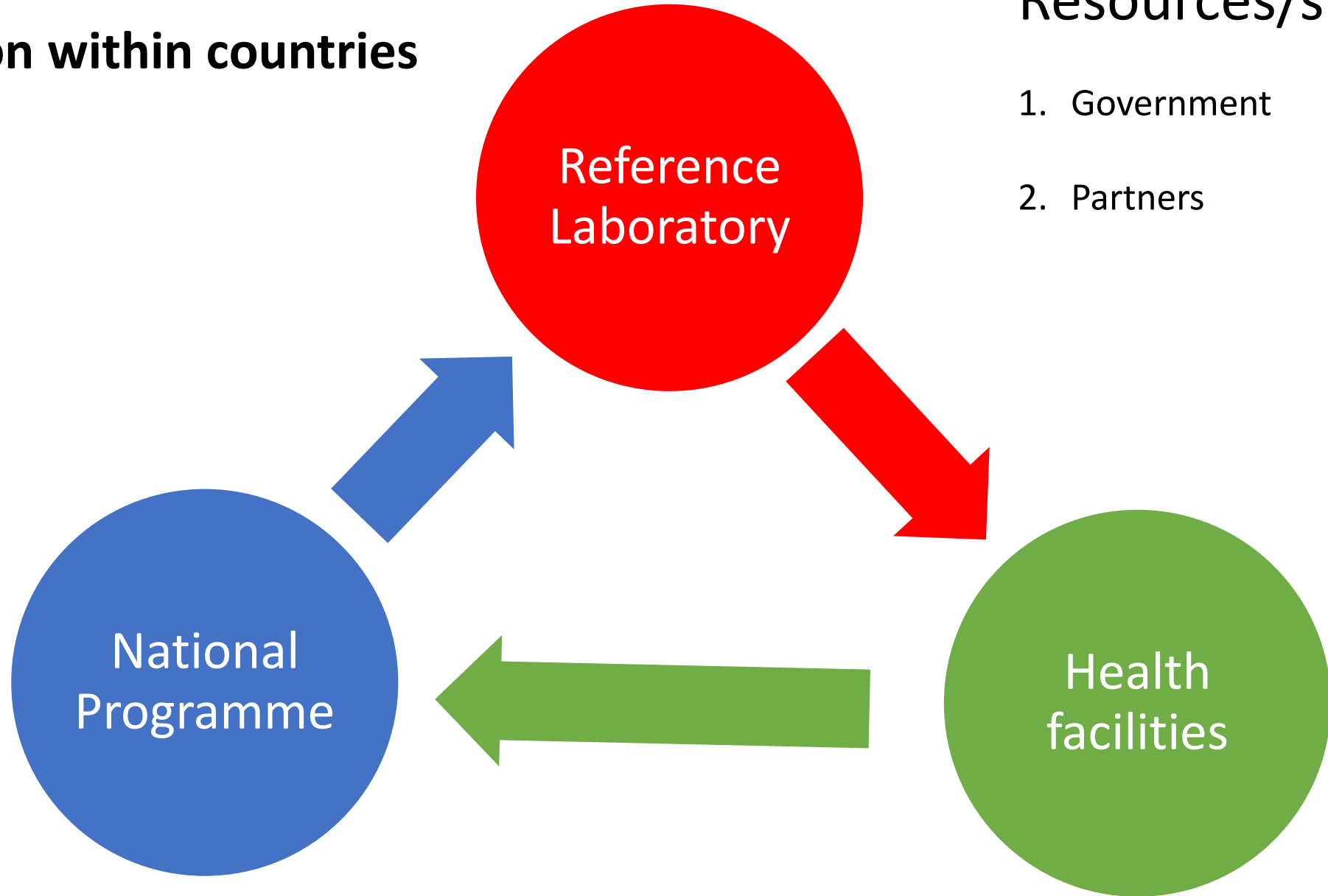
Members of the BU-LABNET from endemic Africa countries and collaborating Institutions



**First WHO Meeting of the Network
of Buruli ulcer PCR Laboratories in the WHO African Region**
21-24 October 2019, Centre Pasteur of Cameroon, Yaoundé

BU LABNET

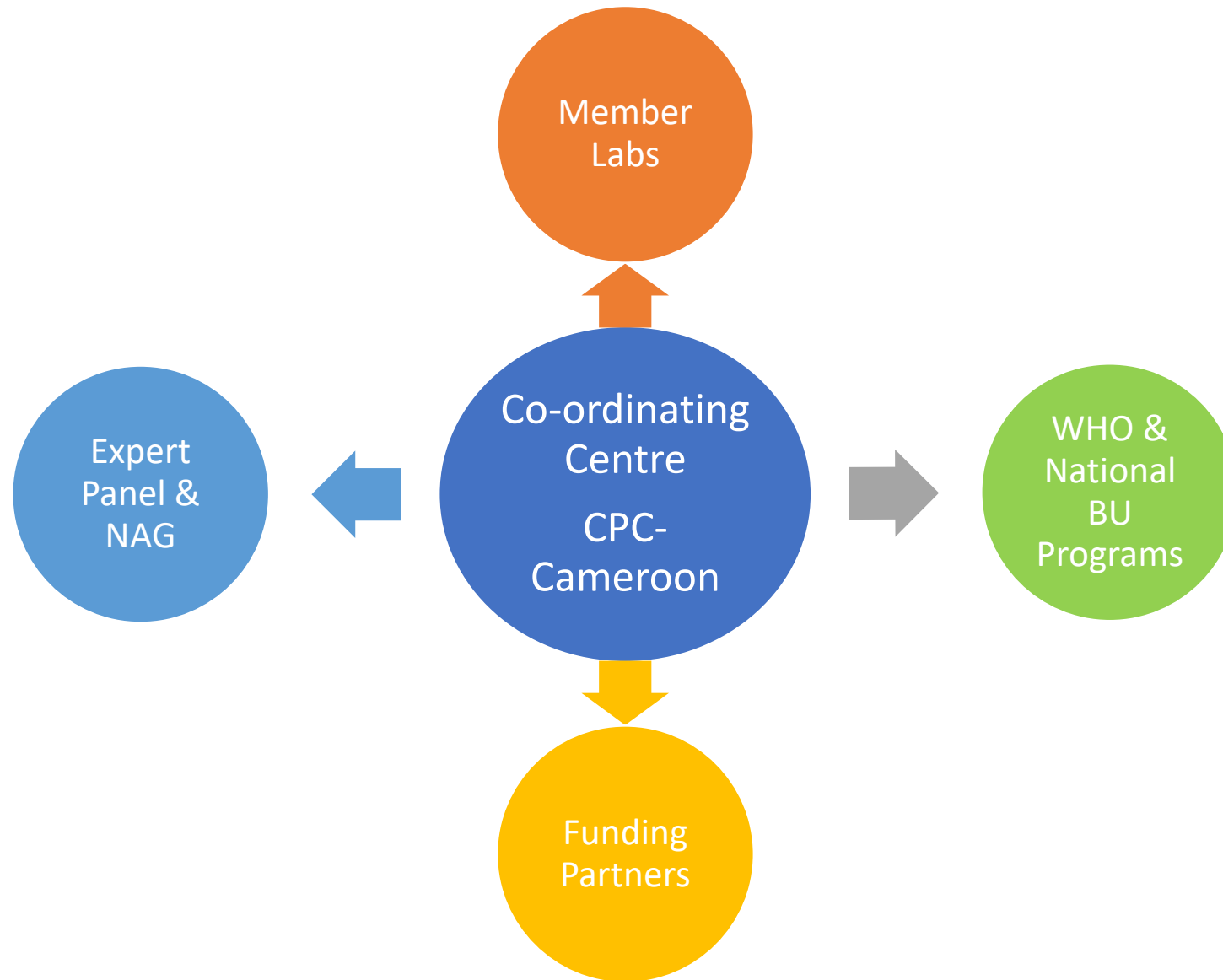
Coordination within countries



Resources/support

1. Government
2. Partners

Operational Framework – BU LABNET



- Coordination of the EQA Program
- Monitoring and evaluation of of member labs conducting BU diagnosis.
- Capacity building for PCR based diagnosis of BU
- Facilitate collaborative biomedical research to improve diagnostic approaches for BU.

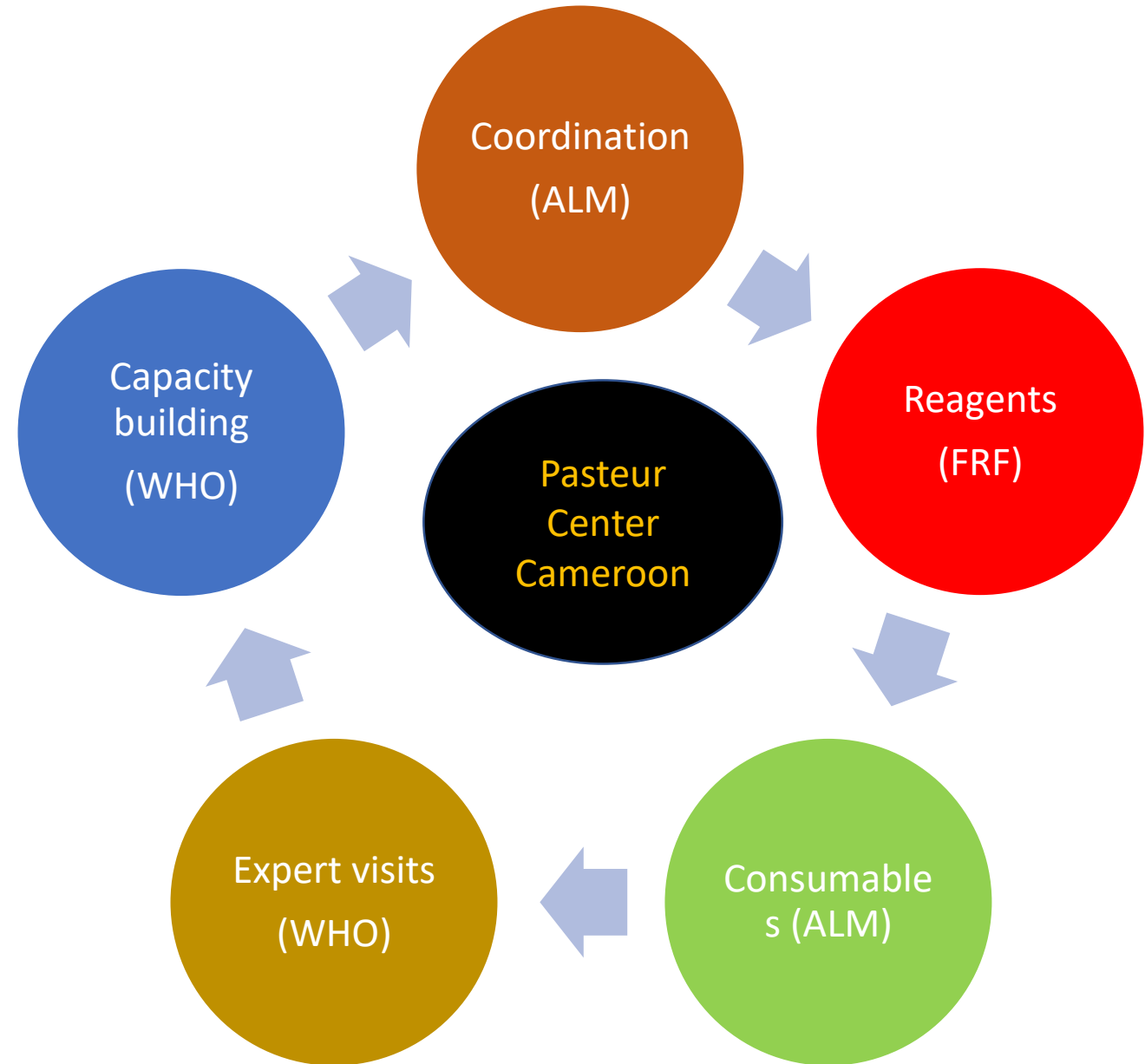
Organization and funding of the WHO BU - LABNET:

Coordination laboratory:

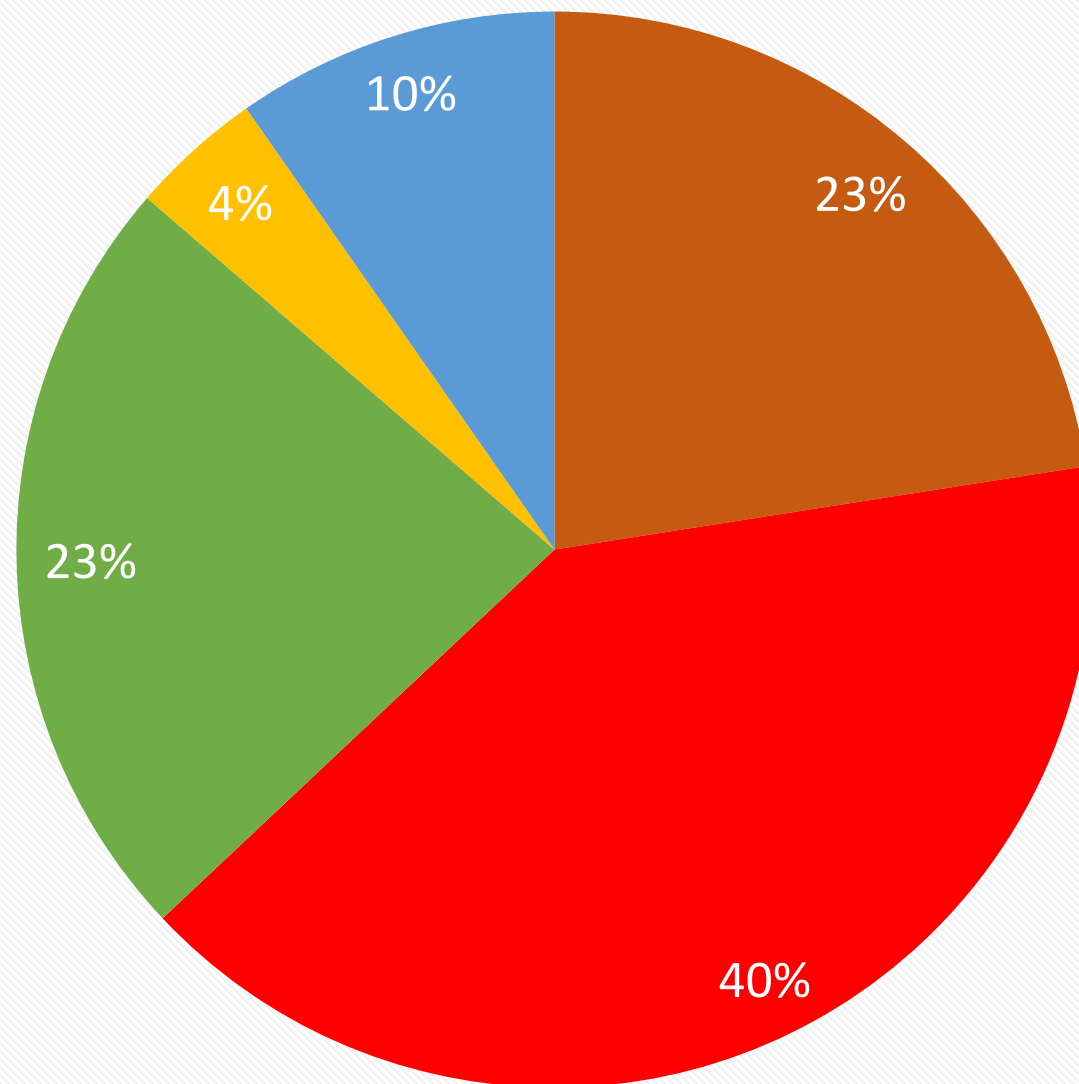
- Pasteur Center of Cameroon

Funding:

- American Leprosy Missions (ALM)
- Foundation Raoul Follereau (FRF)
- WHO



Distribution of the total 5-year budget



■ Coordination ■ Reagents† ■ Consumables†† ■ Expert Visits ■ Training/Capacity Building

BU-LABNET activities including impact of the COVID-19 crisis

The current COVID-19 outbreak has impacted the laboratory evaluation visits by the BU-LABNET experts that were initially planned for March and April 2020. Consequently, we will have to reschedule till further notice.

Also, procurement and shipment of reagents and consumables planned for April 2020 has been suspended till the end of the pandemic.

Other main activities from January 2020 including milestones

- ☐ Recruitment of a program manager to coordinate network activities
- ☐ Successful harmonization of PCR testing protocols and dissemination to member labs
- ☐ Strategic plan developed for 2020-2024; from the group SWOT analysis
- ☐ Document and communication shared point established
- ☐ BU-LABNET website development - ongoing
- ☐ Ongoing development of standard operational procedures (SOPs) and other tools to facilitate implementation of the EQAP.
- ☐ Drafted manuscript - describing the foundation work done in establishing this novel solid network of laboratories.

POST-COVID PLANS

After the COVID-19 outbreak, we plan to resume activities at full capacity, as follows:

- ❖ Re-launch purchase and shipment of PCR reagents and consumables for member labs - *ongoing*
- ❖ Finalize EQA procedures and start preparation of PT panels for shipment to member labs – *ongoing*
- ❖ Rapidly enhance network visibility; finalizing website and registration on other social media platforms – accounts available on twitter, linkedin and facebook
- ❖ Re-schedule laboratory evaluation visits by network experts

BU-LABNET social media platforms

Twitter:

https://twitter.com/BU_LabNet

Linkedin:

<https://www.linkedin.com/company/buruli-ulcer-laboratory-network>

Facebook:

<https://www.facebook.com/Africabulabnet>

Contact coordinating center

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THANKS FOR YOUR ATTENTION