

CLIMADE AFRICA WORKING GROUP MEETING MINUTES – WEEK 9

Host: Centre for Epidemic Response and Innovation (CERI)

Date: April 25, 2023

Time: 12:00 – 13:00 p.m. (SAST)

Facilitators: Prof Tulio de Oliveira, Dr Eduan Wilkinson, Dr Monika Moir,

Attendance/ No. of Participants: 73

Start time: 12:00p.m. (SAST)

Purpose of the meeting

Overview of cholera, outbreaks, and transmission.

Agenda Items

1. Welcome and update by Dr Monika Moir and Prof Tulio de Oliveira.
2. Climade Website update
3. Presentation: Cholera introduction and spread across the African continent by Carla Nartuhi Mavian from Emerging Pathogen Institute, University of Florida, USA.
4. Questions and Discussion

Discussion points and questions

1. Welcome and introductions by Dr Monika Moir and Prof Tulio de Oliveira.
2. Prof Tulio de Oliveira mentioned the addition of Climade news on the website which highlights the work that has done, training workshops, projects, and the opening of the BMRI Building at Stellenbosch University, Tygerberg campus.
(link: <https://climade.health/news/>)
3. Prof Oliveira spoke about the ongoing Chikungunya outbreak in Paraguay.
 - Seen 120, 000 cases with a high hospitalization and high fatality rate.
4. Dr Carla Mavian presented Cholera introduction and spread across the African continent) that highlighted on:
 - A brief introduction to the cholera pandemic.

- Introductions and spread across the continent.
- Overview of the cholera Transmission.
- Serogroups, serotypes,
- and biotypes.
- Lineage assignment of RVFV and the lack of available genomic data.
- The 7 pandemics of cholera
- Cholera today- Global context
- The Bayesian Framework and Phylodynamics to understand outbreak and genomic data.
- How climate changes such as heavy rainfall and floods can affect the spread of cholera.
- Cholera outbreaks in the Democratic Republic of the Congo.
- The epidemiology, evolution, Spatio temporal distribution of Cholera in the DRC.
- NGS and Phylogenetic pipeline.
- Phage resistance and sensitivity evolution
- Showed an increased in predatory phages.
- Mutation in O1- gene
- Recent outbreaks affecting the displaced populations within DRC.
- Identifying hot spots within the displaced populations.
- Cholera re-emergence in Haiti in 2022, outbreak linked to aquatic strains.
- Steps to prevent recurrent cholera epidemics in Africa.

5. Nanopore and Miseq protocols for cholera sequencing on the CLIMADE GitHub repository, a team in Zambia are currently working on the sequencing cholera.

6. SNP in O1 gene have not yet been linked pathogenicity of the bacterium.

Adjournment and Closing points.

1. Dr Monika Moir and Prof Tulio de Oliveira adjourned the meeting at 13:19 p.m. (SAST).

Next Meeting

Tuesday, May 2, 2023, at 12:00 – 13:00 p.m. (SAST)

Submitted by: Yajna Ramphal

Approved By: Monika Moir