Cholera Outbreak in Mchinji District, Malawi: Epidemiological Trends, Public Health Response, and Lessons Learned (2022-2023)

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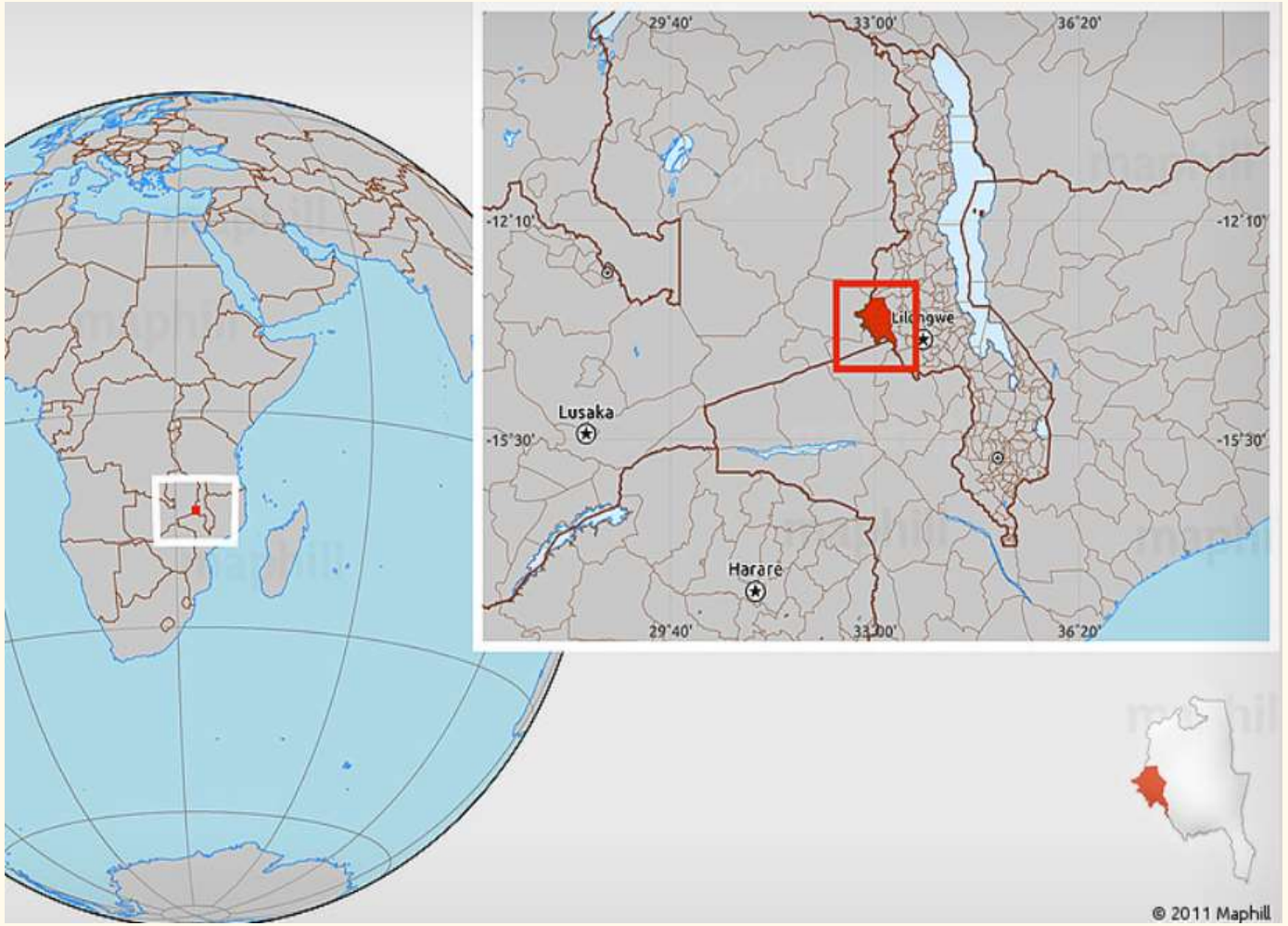
Background

- Total population 747, 719
- Total Health facilities = 19 (6 along the border)
- Borders Mozambique (Chifunde) and Zambia (Vubwi, Chipata, Chadiza)
- Surveillance uses Integrated Disease Surveillance and Response strategy (IDSR)



Source: http://www.maphill.com/malawi/central/mchinji/location-maps/gray-map/

Background

- Basic latrine coverage – 67.3%
- Access to health care – 80%
- Access to safe water – 63.9%
- Handwashing Facilities – 10.9 %
- Previous outbreaks – 2008 (CFR < 1%)
- 2022-2023 outbreak

Total cases	Total deaths	Case fatality rate	Facilities affected
405	16	3.9%	15

Source: http://www.maphill.com/malawi/central/mchinji/maps/physical-map/

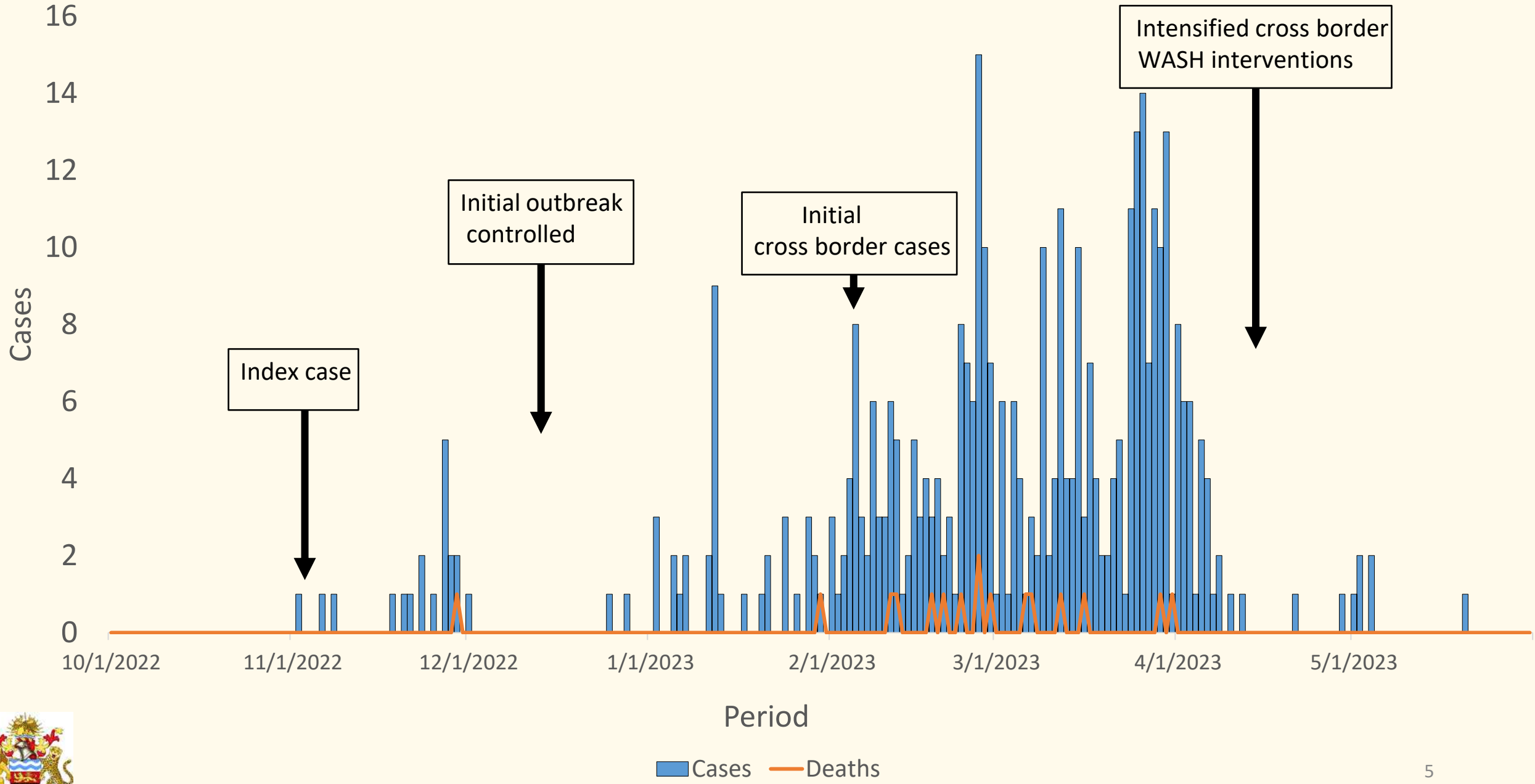
Objectives

- To describe the epidemiological characteristics of the cholera outbreak in terms of person, place and time
- To identify patterns risk factors, and potential sources of transmission
- To draw lessons for future outbreak preparedness and response

Methodology

- Cross-sectional descriptive study
- Data analysis using Epi info 7.2

Trend of Cholera Outbreak - Mchinji District, 4 Nov, 2022 to 23 May, 2023



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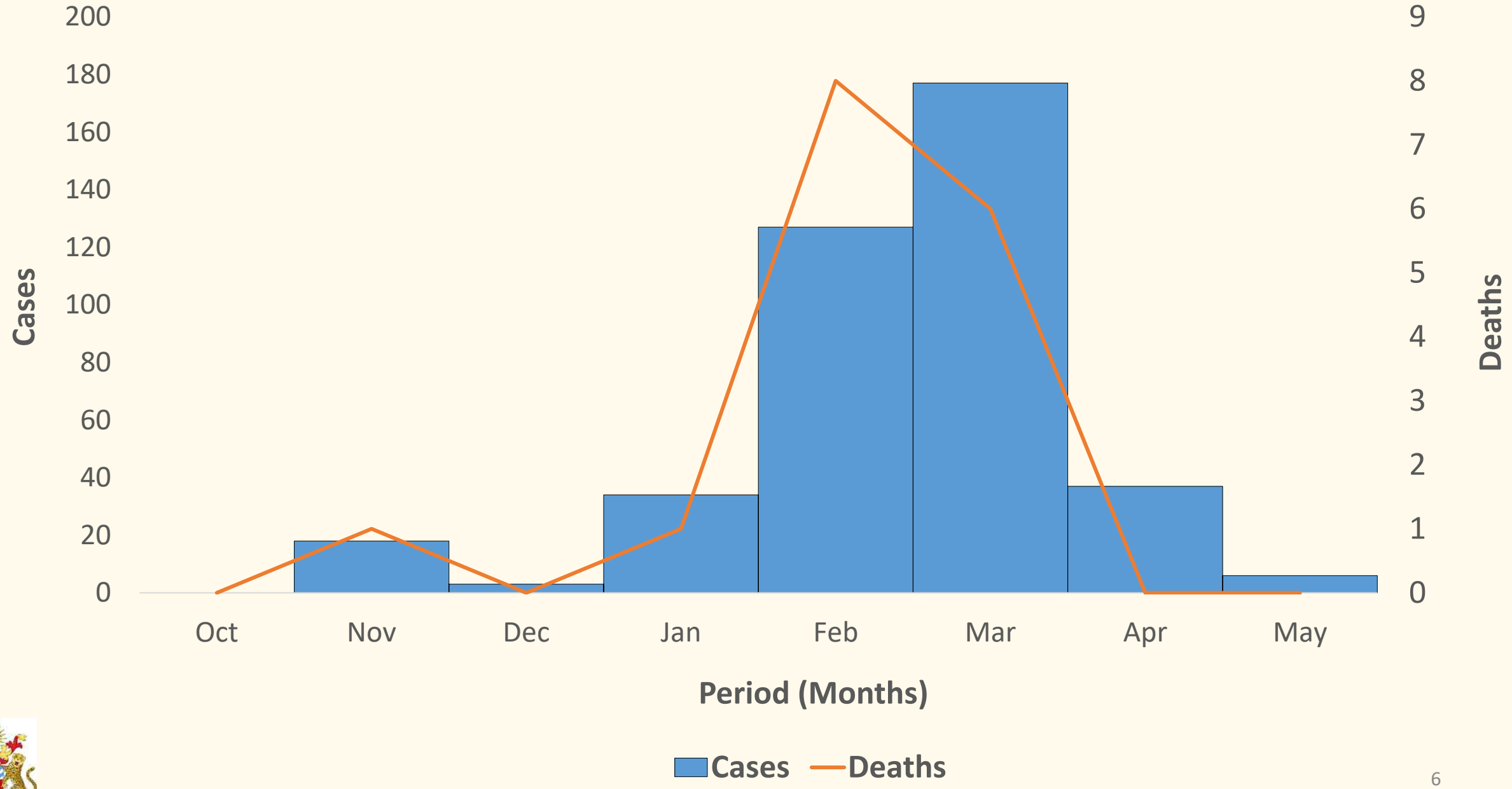
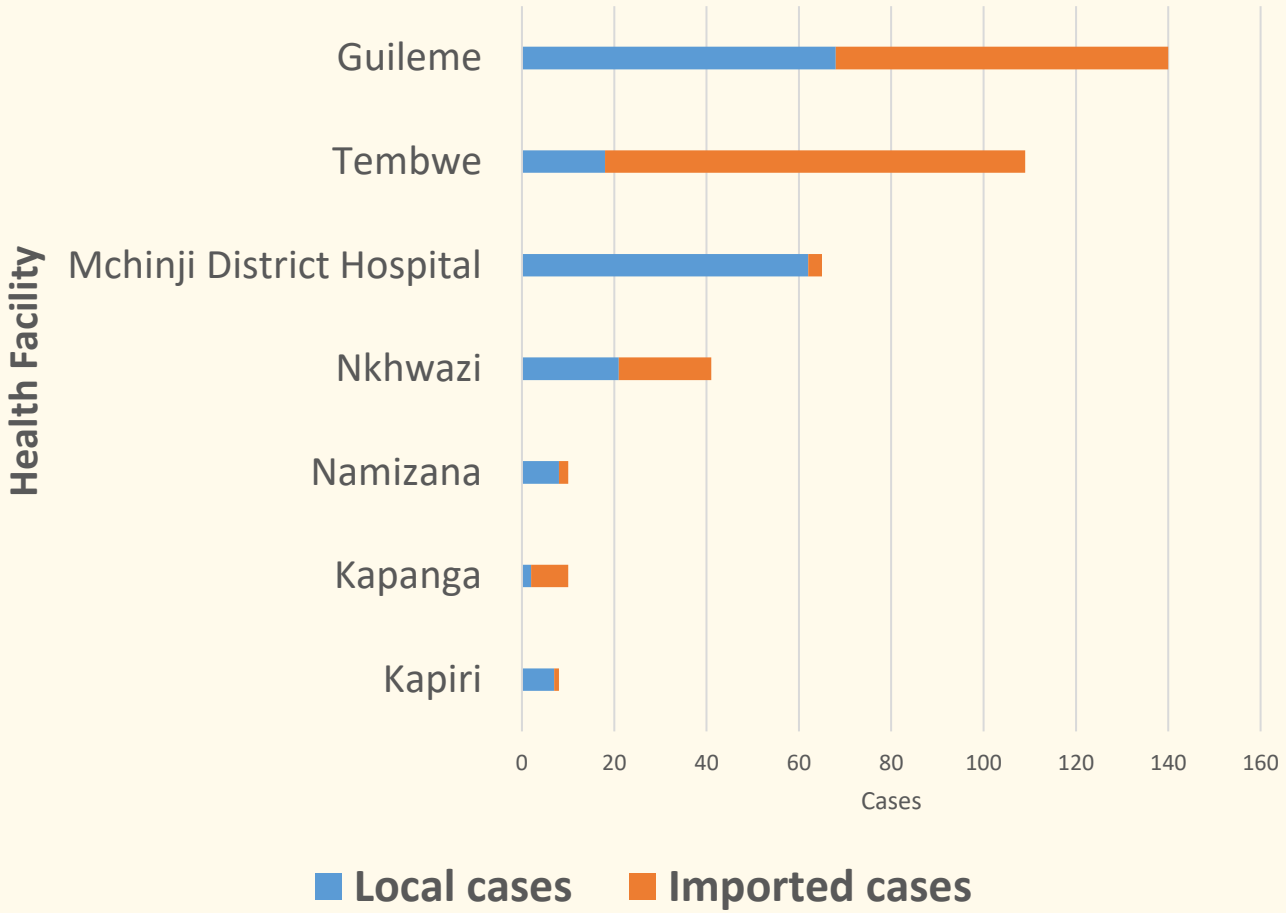
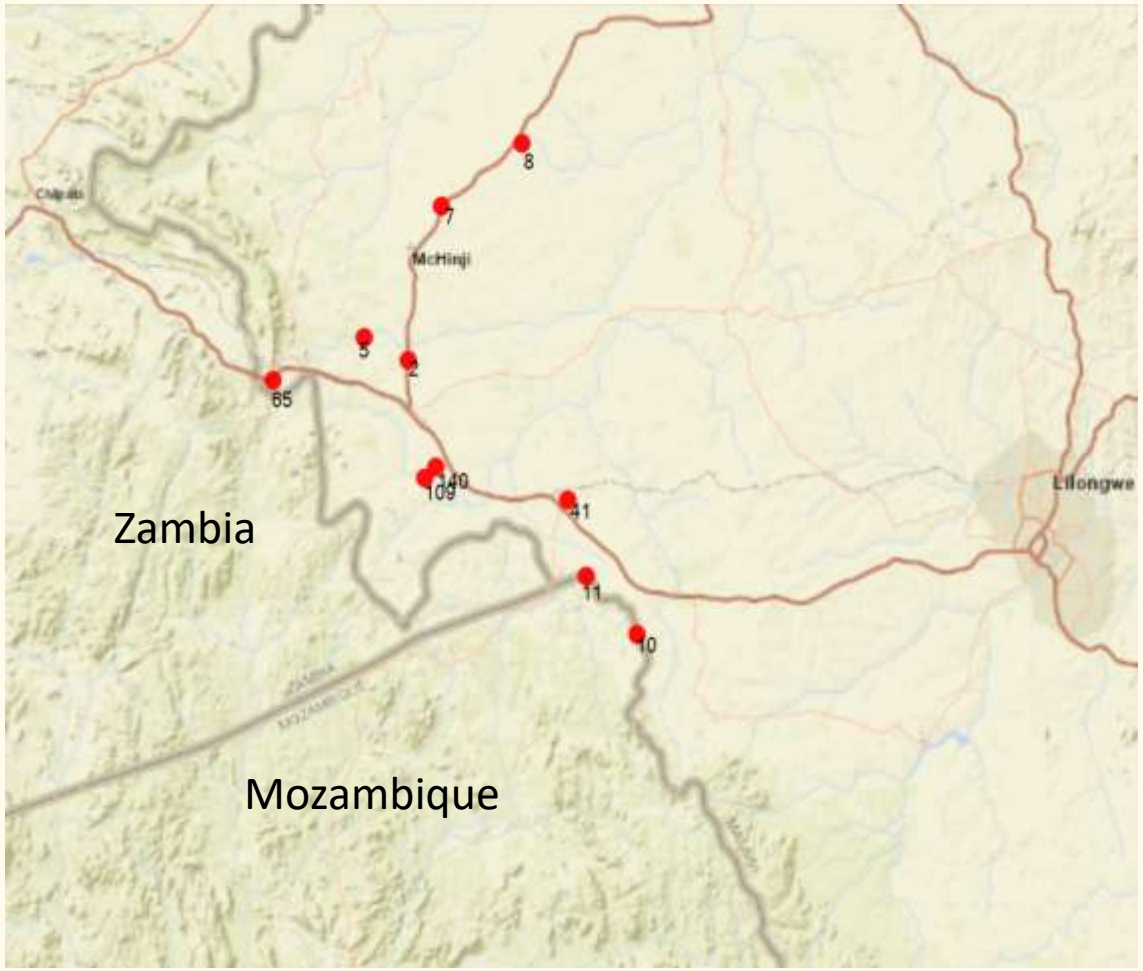
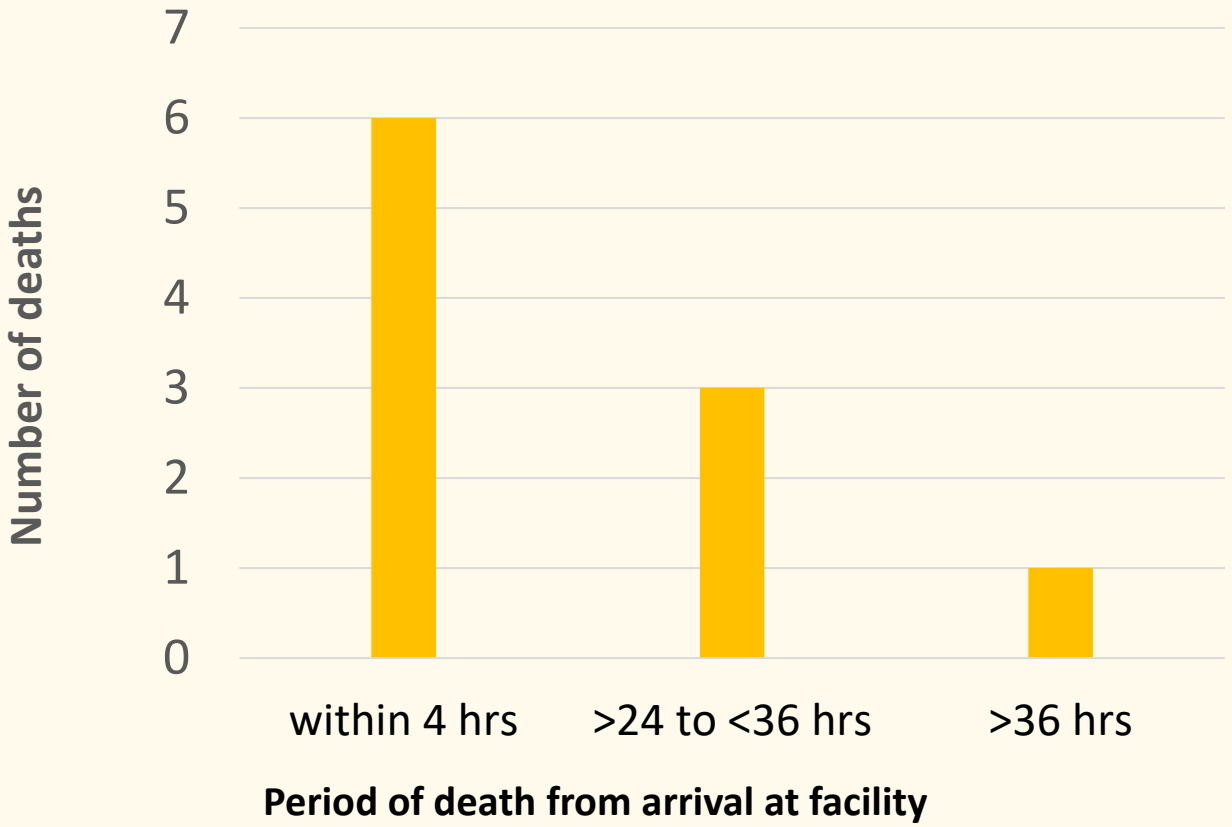


Cross-border Cholera Burden - Health Facility Level



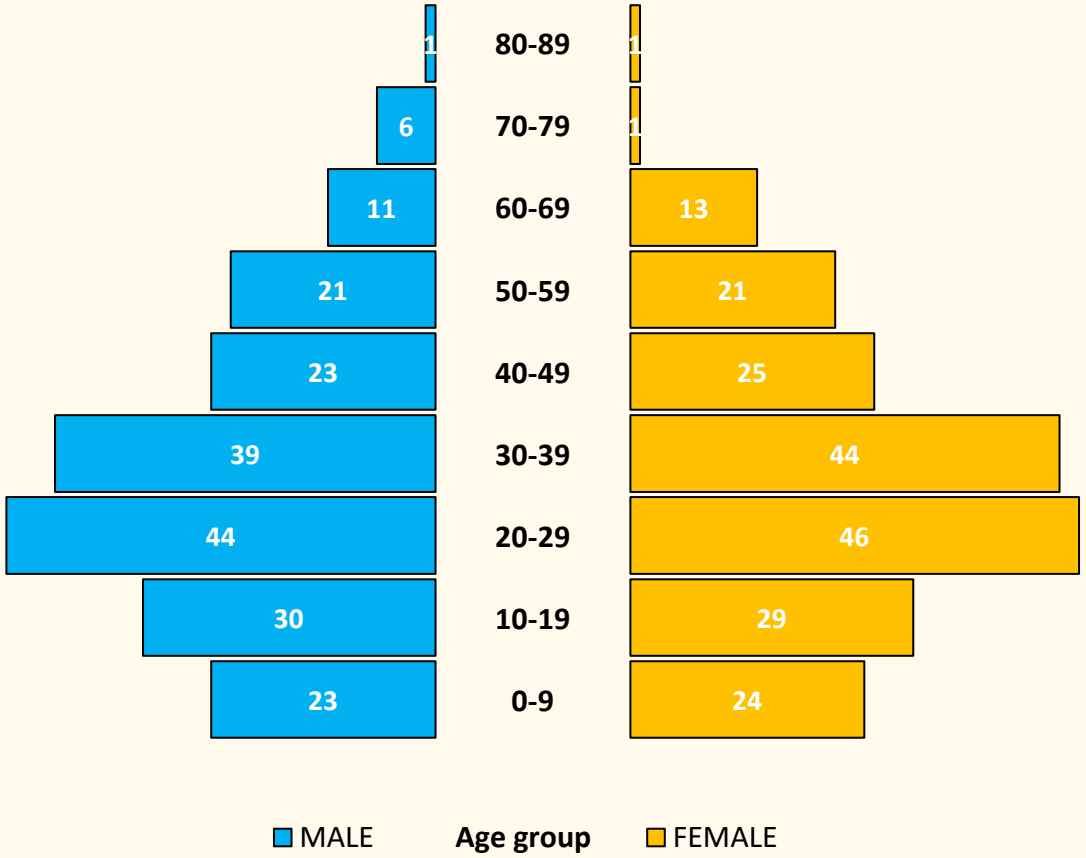


Cholera Case Fatality – Cross-Border Cases



- General Fatality - 16 (CFR 3.9)
- 10 (62.5%) imported
- 60% of the deaths were a result of delayed access to health care.
- Most of the imported cases had a history of traveling very long distances to access care

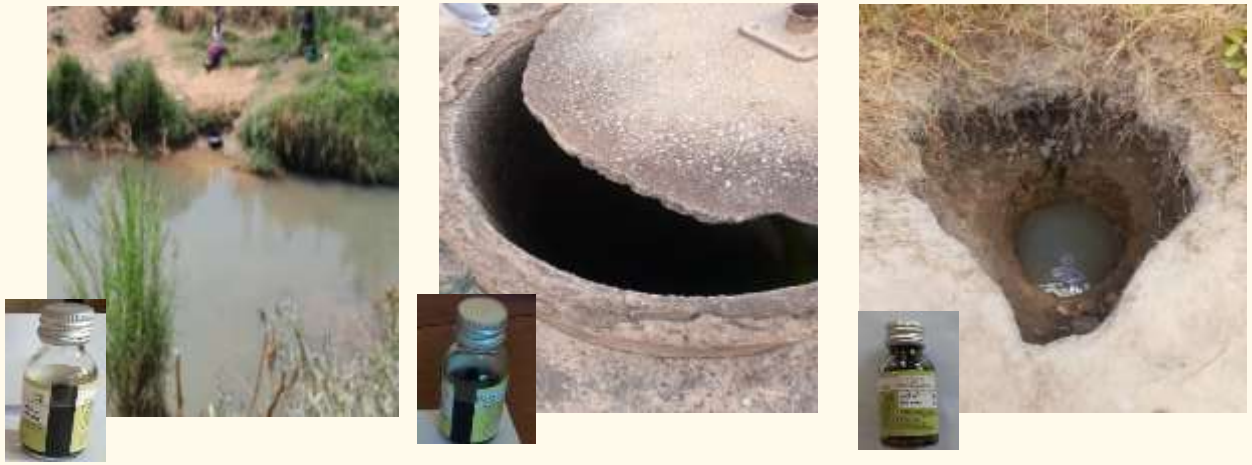
Age and Sex Distribution of Cholera Cases in Mchinji District – Nov 2022 to May 2023



- The most affected age group was the 20 – 29 of which females were relatively most affected as compared to males 51%
- The number of new infections from contacts was also high among females. 55%

Risk Factors

1. Lack of access to safe water



2. Inadequate sanitation
   - Nyongani latrine coverage – 68%
   - Kaombe latrine coverage – 30%
   - Zandana latrine coverage – 34%

3. Community resistance to Cholera preventive measures
   - Poor adherence to WASH measures
   - Low utilization rate of chlorinated water

Public Health Response

Intervention	Activity
RCCE	Cholera Education campaign through road shows along Mozambique borderline facilities (Kapanga, Namizana, Guilleme, Tembwe, MDH
	Cholera engagement meeting with gatekeepers from Mozambique and Malawian villages along the Malawi-Moz borderline
WASH	Distribution of chlorine (1% stock solution) for water treatment to affected villages in Mozambique
Case management	Establishment of oral rehydration points (ORP) along Malawi Mozambique borderline villages
	Deployment of surge staff to support high burdened CTUs
	Establishment of Cholera Camps in all high-burdened health facilities.

Opportunities

- Availability of partners to support Cholera interventions - WHO
- Availability of Cross-border collaboration platform with Mozambique

Best practices

- Provision of 1% stock solution for all imported cases upon discharge from CTU and HH across the border.
- Establishment of oral rehydration points (ORP) along Malawi Mozambique borderline villages

Lessons

- Cross-border collaboration is essential for effective outbreak response for diseases with PHEIC potential
- Urgent need to improve water and sanitation infrastructure to prevent future Cholera outbreaks and similar public health emergencies
- Timely and sustained public health interventions are essential in containing outbreaks, reducing spread, and improving patient outcomes.

Next steps

- We are in the early stages of developing a study to model future outbreaks using a stochastic model

Thank you