

Evaluation of Community Based Surveillance in the Rohingya Refugee Camps in Bangladesh, 2019



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1. Background

- August 2017:** Following an influx of an estimated 742,000 Rohingya refugees in Bangladesh, MSF established a Community Based Surveillance (CBS) system in 13 sub-camps of the megacamp in Cox's Bazar
- April 2019:** Integration of alert and response component through the Epi Alert team.
- May-November 2019:** Evaluation of the public health surveillance, alert and response



View over the megacamp in Cox's Bazar, Bangladesh (E. van Boetzelaer, 2019)

Aims of surveillance activities in Cox's Bazar:

1. Detect and timely respond to suspect cases of epidemic prone diseases at health facilities or in the population;
2. Monitor community-based mortality (including still births and neonatal deaths);
3. Monitor community level water and sanitation indicators;
4. Identify pregnant women to allow for targeted follow-up by traditional birth attendants;
5. Monitor population movement.

Population under surveillance

- 13 sub-camps (12 square km)
- On average 97,340 households consisting of on average 548,739 persons
- Each surveillance worker covered on average 36 households per day and 714 households per month

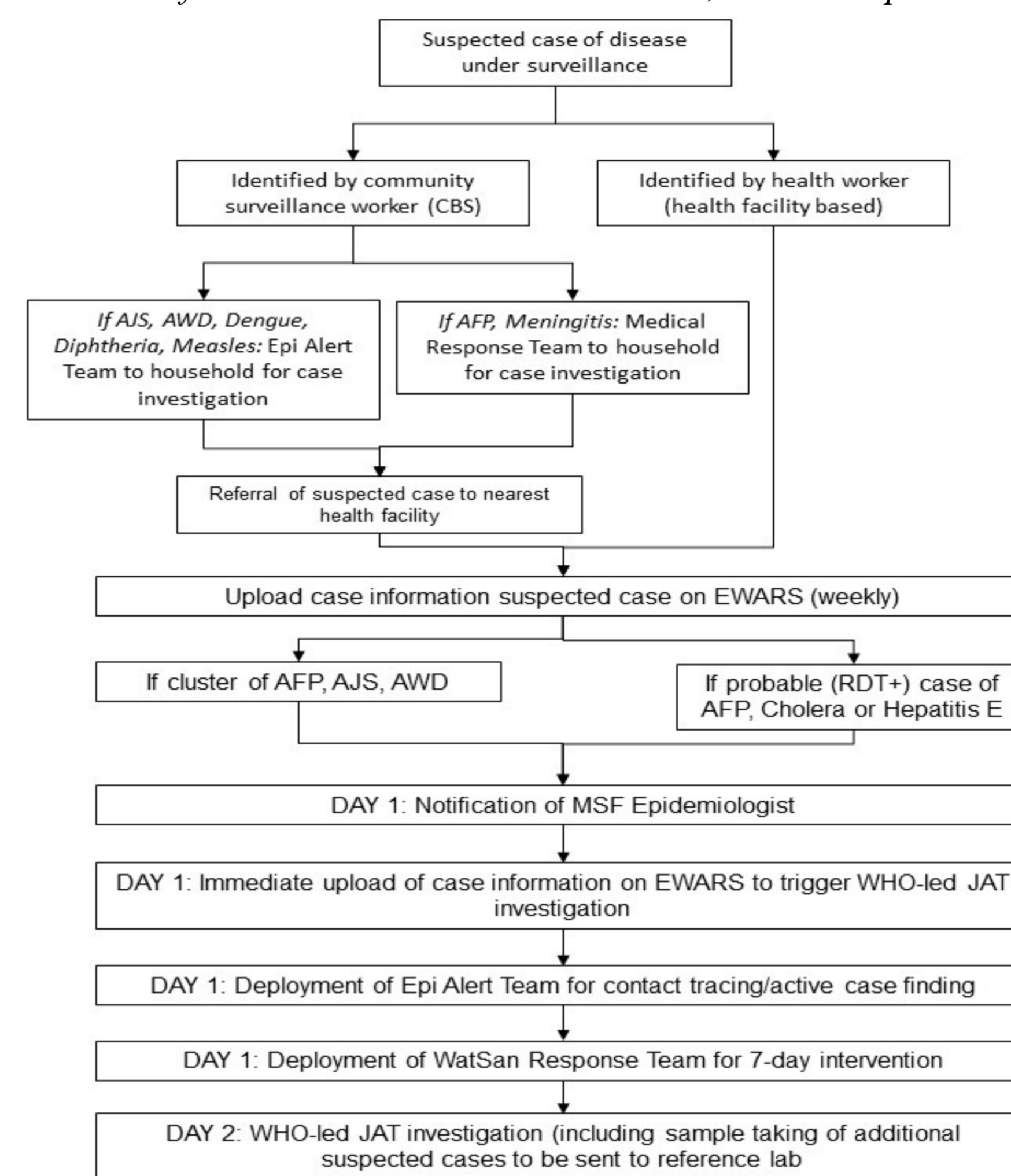
Diseases under surveillance

- Acute flaccid paralysis (AFP)
- Acute watery diarrhea (AWD)
- Acute jaundice syndrome (AJS)
- Diphtheria
- Measles
- Meningitis
- Dengue

& Community-based mortality

2. Methodology

Overview of MSF's Public Health Surveillance, alert & response mechanism



Alert & Response Mechanism

Epi Alert Team

- 10 trained Rohingya staff
- Case investigation of AWD, AJS, Diphtheria, Measles & Dengue
- Active case finding & contact tracing around suspected cases

Medical Response Team

- 4 medical assistants
- Case investigation of AFP & Meningitis
- Verbal autopsies of community-based deaths

Water & Sanitation Response Team

- Bucket chlorination
- Latrine cleaning
- Soap distribution
- Hygiene promotion

WHO-led Early Warning Alert and Response System (EWARS)

- All suspected cases reported into existing EWARS

Attributes under evaluation

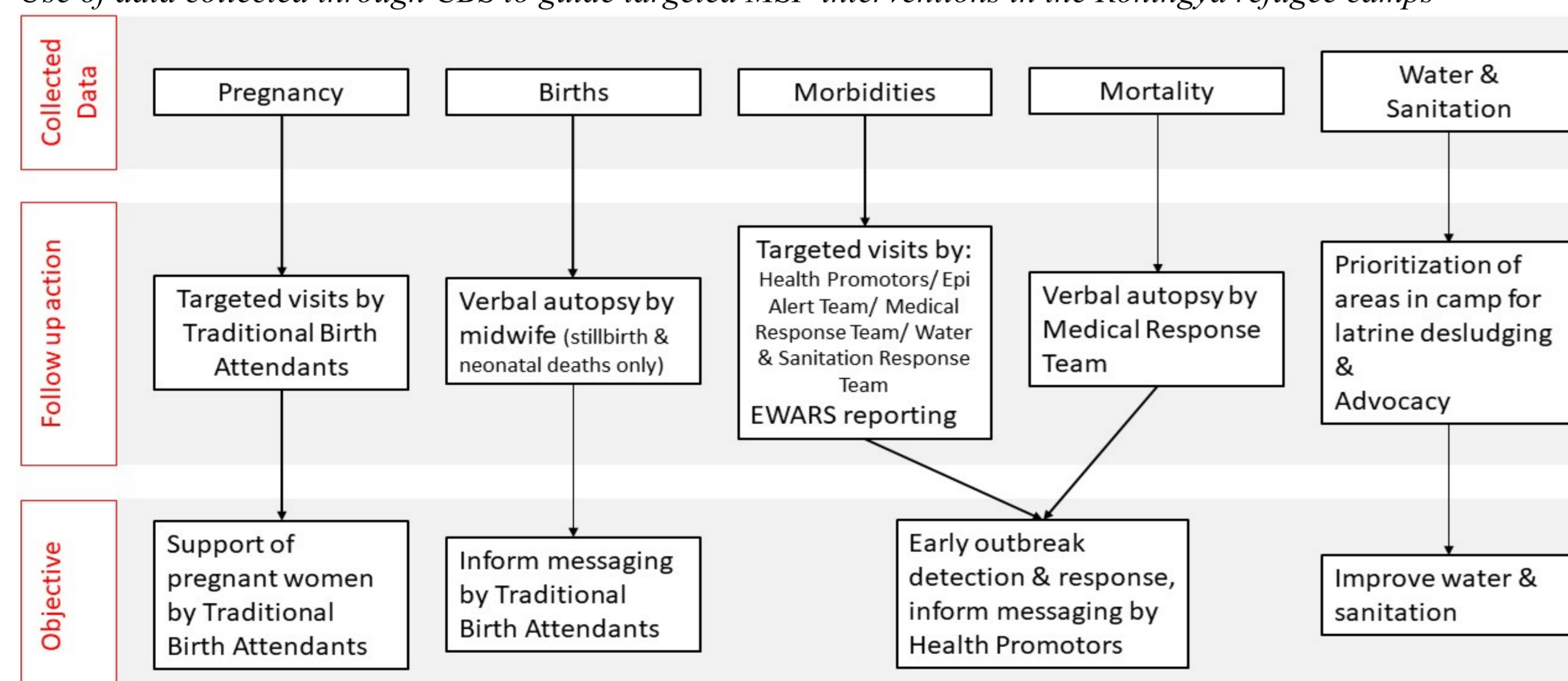
- Usefulness
- Simplicity
- Flexibility
- Acceptability
- Data quality
- Positive Predictive Value (PPV)
- Representativeness
- Timeliness
- Stability

4. Discussion

- This evaluation shows that the CBS system and the alert and response mechanism allowed for timely detection and response to cases of epidemic prone diseases was useful but resource intensive
- Different stages of an emergency demand a different level of exhaustiveness of a CBS to fulfill different needs and depending on levels of health facilities access
- In the initial phase it is very important to make sure that cases are not missed, and early referral procedures are in place to avoid undetected outbreaks
- The fact that detected disease trends were similar and cholera cases were identified by health facility-based surveillance as well as CBS, might indicate limited additional value of the CBS in a dense and stable setting such as Cox's Bazar
- **A passive community-event-based surveillance mechanism combined with health facility-based surveillance could be more appropriate as it would require fewer resources, still allowing for morbidity trends monitoring and including an early warning of important public health events**

3. Results

Use of data collected through CBS to guide targeted MSF interventions in the Rohingya refugee camps



| Attribute | Findings |
|---------------------------|---|
| Usefulness | <ul style="list-style-type: none">• See figure above for use of CBS data to inform MSF interventions• 21 RDT+ cholera cases triggered alert response mechanism (per case: on average 335 surrounding households visited for active case finding/ contact tracing, bucket chlorination, cleaning of latrines soap distribution & hygiene promotion sessions)• 2 clusters of suspected AWD triggered alert response mechanism |
| Simplicity | <ul style="list-style-type: none">• CBS, alert & response required 354 staff in 10 different roles |
| Flexibility | <ul style="list-style-type: none">• Dengue successfully added to CBS in September 2019• Periodic rotation of water & sanitation indicators |
| Acceptability | <ul style="list-style-type: none">• All households in catchment area consented to be included in CBS |
| Data quality | <ul style="list-style-type: none">• CBS data shows similar trends for AWD, AJS, Diphtheria and measles surveillance as health facility-based surveillance data |
| Positive Predictive Value | <ul style="list-style-type: none">• PPV: did notified cases by CBS meet case definition as ascertained by more trained Epi Alert Team?• Highest PPV: AFP (100%), AWD (88.76%) & measles (73.7%)• Lowest PPV: Meningitis (50%) & Diphtheria (41.7%) |
| Representativeness | <ul style="list-style-type: none">• CBS was exhaustive, all households in catchment area included• Surveillance coverage was high (85.2% - 97.5%) |
| Timeliness | <ul style="list-style-type: none">• Time between identification of suspected case by CBS and MSF response: within 24 hours |
| Stability | <ul style="list-style-type: none">• No interruptions reported |

Acknowledgements

All the 354 MSF staff working on surveillance in the Rohingya camps



MSF's Epi Alert Team in Cox's Bazar, Bangladesh (E. van Boetzelaer, 2019)

Contact information

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