

Cholera Outbreak in Zimbabwe

OCA, OCB, OCBA, 2008-2009

Context

Between January and April 2008, a relatively small epidemic spread out in 16 districts of the country and claimed a total of 2000 cases. In August 2008 an outbreak of cholera occurred outside Harare, the capital of Zimbabwe. Having started earlier than the regular seasonal increase of cholera cases, it retrospectively signalled the beginning of the worst cholera epidemic in the history of Zimbabwe. At the time of the cholera epidemics in 2008 and 2009, the economy in Zimbabwe was in ruins and the health care system was widely disorganised. The three sections of MSF present in the country (OCA, OCB and OCBA) responded to the epidemic. By the end of the epidemic, MSF had treated nearly 65 000 of the total 100 000 cases presenting to health structures – being one of the largest cholera interventions in MSF’s history.

Cholera was included in all sections’ emergency preparedness plans and they secured a stock for the epidemic response in the country. The three operating sections had an internal agreement with each other on the areas to be covered in case of emergency response.

- OCA:** (est. 6.7 million)
- 2 Harare
- 4 Mashonaland Central
- 5 Mashonaland East
- 6 Mashonaland West
- 10 Midlands
- OCB:** (est. 2.9 million)
- 3 Manicaland
- 7 Masvingo
- OCBA:** (est. 2.0 million)
- 1 Bulawayo
- 8 Matabeleland North
- 9 Matabeleland South

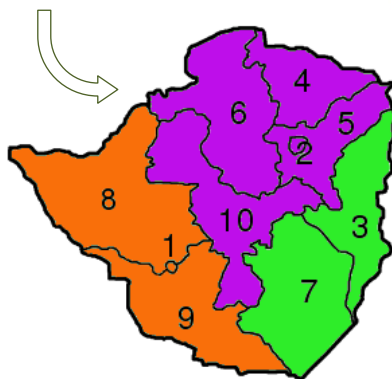


Figure 1: Map of Zimbabwe showing provincial borders

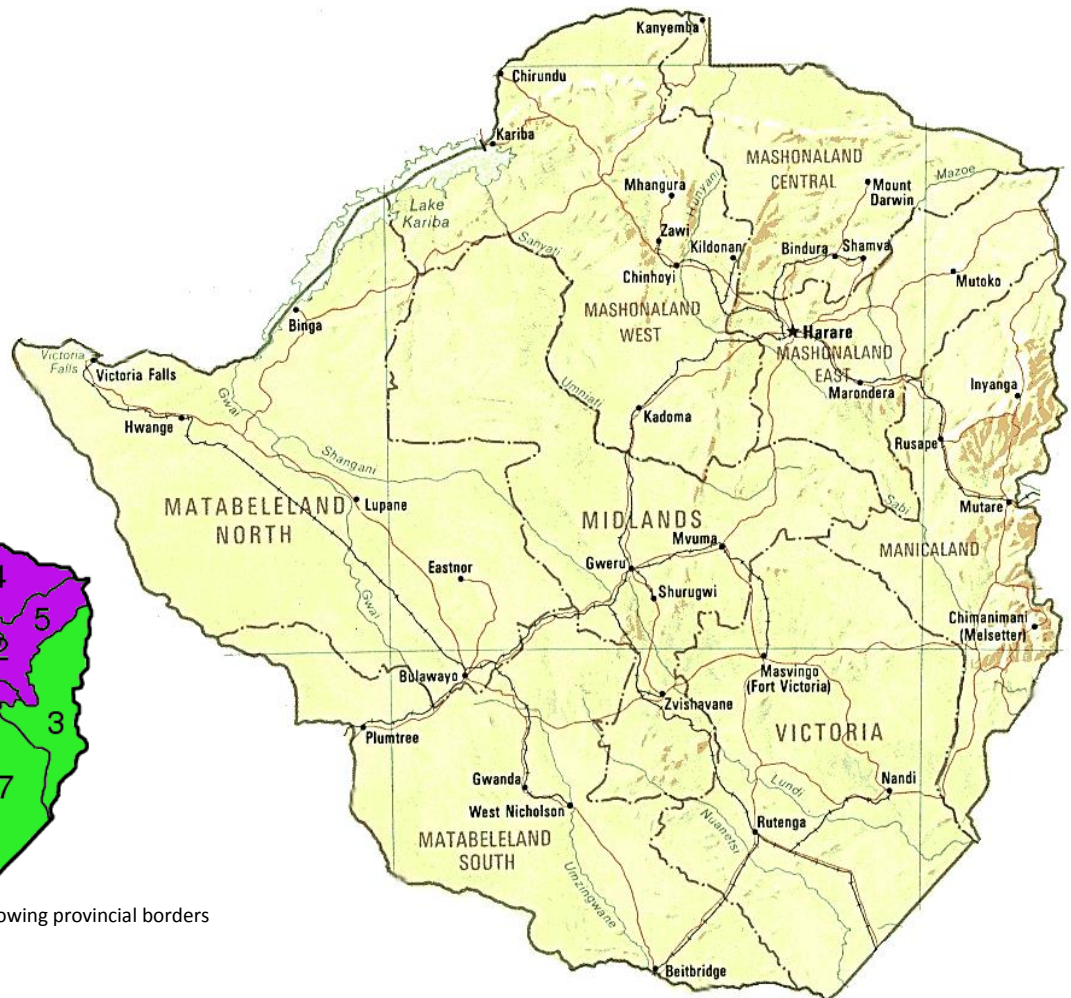


Figure 2: Map of Zimbabwe

Epidemiological overview

Since August 2008 and after five months of the beginning of the outbreak, the expected number of 60 000 cases was surpassed, with **64 701 cases and 3 295 deaths** registered by 2 February 2009.

Especially in rural areas, the outbreak spread very quickly to a large number of districts and attained a relatively high attack rate in a short period of time. **In rural areas the attack rate was higher than in urban areas**, which is an unusual phenomenon.

While the intervention was a success, it also highlighted some challenges that MSF is facing during cholera epidemics, some being general and others country specific. The lack of accurate data from the beginning of the outbreak may have contributed to the CTCs being overwhelmed early on. Trends in-patient admissions were not readily available as the estimates of the expected numbers of patients had not been fully taken into account. A rapid calculation based MSF cholera guidelines, using an estimated 1 000 000 inhabitants (half of the urban population), an attack rate (AR) of 1% and an estimated duration of 3 months, gives an estimate of 10 000 anticipated patients, averaging 75 severe patients per day and a peak of nearly 200 severe patients).

Main intervention

Medical case management	<p>Case management Major complaint by Zimbabwean MSF and MoH staff was that a high turn-over of expats brought changes in procedures and protocols that were confusing. There was some initial confusion regarding the patient circuit in some rural areas. These errors were resolved relatively quickly but showed the lack of practical knowledge of field staff.</p> <p>Zinc At this time Zinc was neither part of the MSF cholera kit nor of current protocols.</p> <p>Antibiotics The current MSF guidelines as well as the Zimbabwe cholera control guideline recommend the use of doxycycline as an antibiotic for the treatment of severe cases. The Zimbabwean guidelines for disease management recommend that <i>“the mainstay of cholera management is rehydration, be it intravenous or orally. The use of antibiotics is strictly limited to very few severe cases”</i>.</p> <p>Pregnant women In the Zimbabwean guideline, dosages are provided for ciprofloxacin and erythromycin for pregnant women and children under 12 years old.</p>	+-
	<p>Health promotion Health promotion was an integral part of the OCB intervention with significant work done with Environmental Health Technicians (EHT) and community leaders. Varied approaches were used with games and simple messages passed. EHTs were followed closely by an expatriate health promotion specialist who provided tools and training. In areas where there were no EHTs, community leaders were made responsible for the health education of their communities. Petrol was provided for the EHTs as well as soap for distribution and material for health promotion (IEC). However, in some parts of the intervention (e.g. Gokwe, Midland) preventive activities and health promotion were not prioritised and therefore not implemented in time.</p>	+-
	<p>Bucket chlorination The bucket chlorination strategy was not put in place during the first four months of the intervention. With the majority of cases identified as coming from a limited number of neighbourhoods within Harare, this intervention might have had a major impact on the development of epidemics if put in place earlier.</p> <p>WatSan outside cholera treatment structures Initially OCA tried to organise household disinfection teams, but when the number of cases rose, this initiative was abandoned.</p>	--
	<p style="text-align: center;">PILOT PROJECT</p> <p>Pilot project During the epidemic, many WASH actors were distributing chlorine tablets (Aquatabs) for home disinfection of water. This was done in both rural and urban areas. After residual chlorine testing, both MSF and Action Contre la Faim (ACF) found that the dosage of tablets distributed was not adapted to household use (very high residual chlorine). MSF also questioned the use of mass distribution of Aquatabs with minimal information given on the correct use.</p>	--
Rural/urban strategies	<p>All sections had emergency preparedness plans that had been updated within two years prior to the onset of the epidemic. All coordination teams were aware of these plans and could access them. There was sufficient emergency stock for cholera in the country to start the intervention.</p> <p>OCA <u>Rural</u>: The idea was to support rather than take over from the MoH to cover as much territory as possible. Outside the health structures, MSF supported health promotion and ORS distribution in the community. MoH coordinated the intervention while MSF provided technical knowledge, surveillance, supplies and transport. In centres with high case load, MSF also provided human resources. A rapid assessment and intervention team for each province and an explo team based in Harare, who could go anywhere in the OCA area, were created. Each team included multiple profiles, such as logistician/watsan, nurse and environmental health officer. If an intervention was necessary, a CTU was set up on site within two to three hours and the environmental health officer did health education. <u>Urban</u>: Overall, from what could be evaluated after the closure of the programme, the final strategy was good with 2 CTCs, 11 ORPs and bucket chlorination in affected areas. Data collection was efficient and in real time the data were used to orient the sites to ORPs and bucket chlorination. However, two limitations can be underlined: 1) triage of patients to segregate them according to severity was not established. Case management is usually easier and more effective when severe patients are separated from patients with moderate or no signs of dehydration. 2) based on the MoH decision, non-cholera patients were turned away from the health structures dedicated to cholera cases and chronic patients' files were not transferred.</p> <p>OCB <u>Rural</u>: Rapid response was facilitated by the 'rapid response team' of the regular mission. This team consisted of mixed profiles (log, nurse and drivers) of the regular project who are pre-identified to respond to emergencies. In the event of an emergency this team would leave to do an exploratory mission within 24 hours. They would manage a small emergency themselves, whereas in larger emergencies a team sent by the emergency desk would be involved. Strategy was based on three sub-teams (assessment, set-up and follow-up teams) with a clear sequenced role division between them. The assessment team went to new areas to evaluate, if an intervention was necessary and respond to any alerts. If support was deemed necessary, the set-up team would be sent. This team worked with the MoH staff and developed the site, always in the same way. Once the set-up was complete, the follow-up team took over and provided continued support to the site. The OCB strategy included the presence of an OCB Zimbabwean staff from the first to the last day of the intervention. OCB paid incentives to MoH staff in the supported centres. The development of the assessment, set-up and follow-up teams had a clearly beneficial effect on this intervention and created a systematic, coherent approach that was clear to all team members. Staff could easily move from one team to another without difficulty as the roles of everyone were clear.</p> <p>OCBA <u>Rural</u>: Strategy was somewhere between the 'light' support of OCA and the permanent presence of OCB in supported CTUs. It included a few days of set-up and training at each CTU (similar to OCA), but then ensured weekly follow-up at all sites, including supervision and data collection. <u>Urban</u>: Onset of the urban outbreaks in Beitbridge and Chegutu was explosive. The initial response was lifesaving with a more thorough intervention developed over time. Retrospectively, this response seems to have been adequate, and in Chegutu, CFR reduced dramatically after the OCBA arrival.</p>	++
	<p>ORPs <i>The idea of decentralising care can be overwhelming at the beginning of an epidemic, but the set-up of ORPs can greatly reduce the workload in a CTC and usually ensures earlier access to care for cholera patients in the community and provides a good opportunity for health promotion,</i></p>	+-
	<p>Supply and logistics <i>Supply of logistical items was a major challenge during this outbreak. However, due to intersectional sharing there seem to have been no major shortages for field teams.</i></p>	++
	<p>Data collection and monitoring <i>As there is no standard MSF data collection tool, each section used its own tool. In addition, MSF did not use the same data collection form (line list) as the MoH, so MoH staff at health centres supported by MSF were required to fill in two forms.</i></p>	--
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Recommendations

- A **harmonised data collection form** could probably have been negotiated with the authorities.
- During meetings with team members, some specific details were mentioned to improve data collection:
 - **Serial numbers/patient numbers** should be included in the line list and entered into the data system for easy follow-up and data retrieval
 - **Automatic calculation of weekly IR and AR** for small geographic zones
 - A way to **identify re-admission** should be integrated into an individual data collection system
- High turn-over of MSF expats brought confusion for national staff. This type of confusion could be **minimised with good briefings, clear protocols, team meetings and proper handover.**
- **Adequate training and briefings** for all expatriates and local staff must be **organised at an early stage.** It can be important to have **ready-to-use training modules** to quickly organise short training sessions in the country.
- Research has shown the benefits of **zinc** supplementation for children with diarrheal disease and it is now included in the WHO basic cholera kit. The MSF diarrheal disease specialist also recommends it **to be included in the MSF kit. Protocols should be revised and the kit adapted accordingly.** (20mg/day for 14 days for children up to 12 years, 10mg/day for children under 6 months (WHO prevention and control).
- **Health promotion** should be included from the **outset of programmes.**
- MSF should ensure that care of cholera patients **does not interrupt care for other patients.**
- **ORPs should be open at an earlier stage of the emergency;** the resources spent for this activity would probably reduce the strain on the CTC.
- If the **distribution of chlorination tabs is planned,** it needs to be ensured that the population is adequately informed and means for correct use are available.
- **Bucket chlorination** should be provided at an early stage of the emergency, if chosen as an alternative (depending on the situation).

References: (this document summarises the contents of the reports below)

- K. Alberti, (2009). Review of the MSF response to the 2008-2009 cholera epidemic in Zimbabwe. Internal Epicentre / MSF report
- A. Ronsse, (2009). Chorea outbreak in Zimbabwe. Epidemiological situation Week 47 to Week 5. MSF OCB – OCA – OCBA
- I. Bergeri, S. Kampmueller, (2011). OCG response to Cholera in Haiti, (Oct 2010 – March 2011) / Evaluation report (external)