

Case-area targeted interventions to rapidly contain the spread of cholera: updates from the DRC study

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The risk of small-scale cholera outbreaks propagating rapidly and enlarging extensively remains substantial. As opposed to relying on mass, community-wide approaches, cholera control strategies could focus on proactively containing the first clusters. Case-area targeted interventions (CATI) are based on the premise that early detection can trigger a rapid, localised response in the high-risk radius around one or several case-households to reduce transmission sufficiently to extinguish the outbreak or reduce its spread. Current evidence supports a high-risk spatiotemporal zone of 100 to 250 meters around case-households for 7 days.

The CATI package delivered by Médecins Sans Frontières (MSF) incorporates key transmission-reducing interventions (including household-level water, sanitation, and hygiene measures, health promotion, active case-finding, antibiotic chemoprophylaxis, and, single-dose oral cholera vaccination (OCV)). We present the first results of an observational study designed to evaluate the CATI strategy applied by MSF. In addition to effectiveness, our study measures the feasibility, resource requirements, and process of implementing this approach.

During the study period, CATI has been implemented by 4 MSF operational sections in 118 rings in 5 different sites in the Democratic Republic of the Congo. The median number of households in each ring was 69. The median administrative vaccination coverage achieved was 89% across all sites. The median delay to CATI implementation was of 2 days from the onset of symptoms of the primary case, and the delay to vaccination was 3.5 days. The characteristics of the CATI rings varied widely across sites and between individual rings. The number of secondary cases observed in rings was generally low, no secondary case was observed in over 75% of all rings.

Preliminary results show that rapidly implementing CATI with vaccination to contain cholera cases is feasible and that the coverage of the different interventions is satisfactory. A more detailed analysis of effectiveness, coverage and resource needs is underway.

Case-Area Targeted Interventions aim to rapidly deliver a package of public health interventions to people living in the high-risk areas surrounding reported cholera cases. Here we present the first results of an observational study designed to evaluate the feasibility and effectiveness of CATI implemented in the DRC by MSF.

