Case-area targeted interventions (CATI) to rapidly contain the spread of cholera: updates from the study in the Democratic Republic of the Congo

GTFCC Research Session

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CATI : Case-Area Targeted Interventions

- Highest risk of cholera found within a radius of 50—250m during the first few days after a case presents for care
- Multi-pillar interventions close to cholera cases
- Reactivity as the primary objective of the strategy
- Already done in Haiti, Bangladesh, Yemen, Nigeria, South Sudan, Cameroon (rarely with vaccination)
- Literature indicates that CATIs are feasible and work well
- Particularly interesting strategy at the beginning and end of epidemics to target flare-ups







- Primary household (case household)
- Adjacent households (highest risk)
- Household in the ring (high risk)
- \bigcirc Housekeeping just outside the ring

• The MSF & Epicentre CATI project

- MSF CATI strategy was developed by experts in vaccination, WaSH, antibiotic prophylaxis, health promotion and epidemiology
- CATI MSF package:
 - Oral cholera vaccine (OCV): single dose
 - Hygiene kit
 - Health promotion
 - Chemoprophylaxis (primary and adjacent households only)

- Little evidence regarding CATI with vaccination
- Prospective observational study to accompany operations and assess the feasibility and effectiveness of the strategy
- Designed to adapt to the variation in implementation
- Epicentre supported operational teams to collect the data required for the study
 - Number of secondary cases in each ring
 - Coverage within the ring
 - Documentation of resources required

Preliminary Results

Preliminary Results

- Implementation of CATI with vaccination from April 2022 to April 2023
- 118 rings (around primary cases) were covered and included in the study
- **5 sites** in 4 provinces implemented by 4 MSF sections
- To come: consolidation of the final databases and data analysis

Number of rings			
Buhimba & Mugunga, Nord Kivu	42	Masisi, Nord Kivu	13
Kasika, Nord Kivu	34	Muji-Mayi, Kasai Oriental	6
Katuba, Haut Katanga	9	Minova, Sud Kivu	14
		Total	118



CATI en RDC



Overall median: 69 households

Overall median: 89 %



C CATI en RDC

Secondary cases

	Mean number of secondary cases	75 th percentile of number of secondary cases	Maximum number of secondary cases
Buhimba & Mugunga Nord Kivu	0	0	3
Kasika Nord Kivu	0	1	3
Katuba Haut Katanga	0	3	9
Masisi Nord Kivu	0	0	2
Muji-Mayi Kasai Oriental	0	0	0
Minova Sud Kivu	0	0	6

Secondary case: RDT positive cholera case enriched within the CATI ring **Secondary case taken into account for the study:** secondary case with an onset of symptoms between 2 and 30 days after the onset of symptoms in the primary case.

CATI en RDC

Initial conclusions from preliminary results

Photo: Lisa Véran, MSF

- Rapid implementation of CATI possible
 - CATI initiated in 2 days (median)
 - vaccination initiated in 3.5 days (median)
- Administrative coverage of first dose of vaccine 89% (median)
- Wide variation in turnaround times between different sites and rings
- Reflects the diversity of contexts and the different approaches taken by teams
- Overall, more than 75% of rings had no secondary cases
- Analysis of effectiveness and coverage in progress



Operational limits for CATI

- Outbreak of cholera in the Bulengo camp for displaced people in February, in the immediate vicinity of the health areas where MSF was carrying out CATI.
- The number of cases coming to the Buhimba CTU rapidly increased from less than 10 to 140 cases per week
- Impossible to identify the origin of each patient
 and to carry out CATI systematically
- Change to a lighter response

'ATI en RDC

• What are the criteria for changing strategy?



Figure: projet OCV Impact Wellcome

• The continuation of CATI in the DRC

- How will the CATI strategy with vaccination be implemented in the DRC in the future?
 - Which approach? Who will be involved?
 - DRC cholera preparedness and response plan
- Internationally, there is a trend towards the use of CATI in epidemics.
 - For the moment, no recommendations or guidance from GTFCC on the strategy
- Will there be a stockpile of vaccines dedicated to the strategy? Consider:
 - CATI uses few vaccines per population
 - CATI can rapidly reach populations most at risk
 - Way to address current cholera vaccine shortage

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Shortage of cholera vaccines leads to temporary suspension of two-dose strategy, as cases rise worldwide

The exceptional decision reflects the grave state of the cholera vaccine stockpile

19 October 2022 | News release | New York / Geneva | Reading time: 2 min (546 words)

A strained global supply of cholera vaccines has obliged the International Coordinating Group (ICG) — the body which manages emergency supplies of vaccines — to temporarily suspend the standard two-dose vaccination regimen in cholera outbreak response campaigns, using instead a single-dose approach.

Merci!

- CATI study team in the DRC
- The DRC's PNECHOL-MD & EPI and provincial and local authorities

Photo: Flavio Finger, Epicentre

- MSF operational teams in the DRC
- Community health volunteers
- Primitive Gakima and Louis-Albert Massing from BALI
- The Wellcome study team
- EpicentreMSF, LSHTM and MSP co-investigators

More information

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