Case-area targeted interventions for cholera control: experience from tail of cholera outbreak in Kribi, Cameroon

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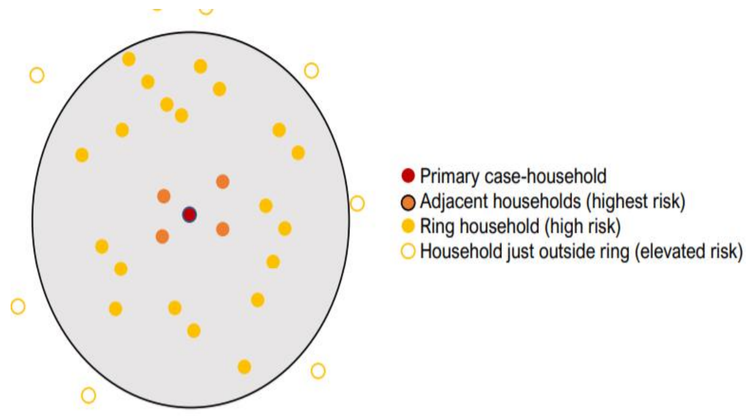


Example of representation of a ring for the CATI and arrangement of households in it.

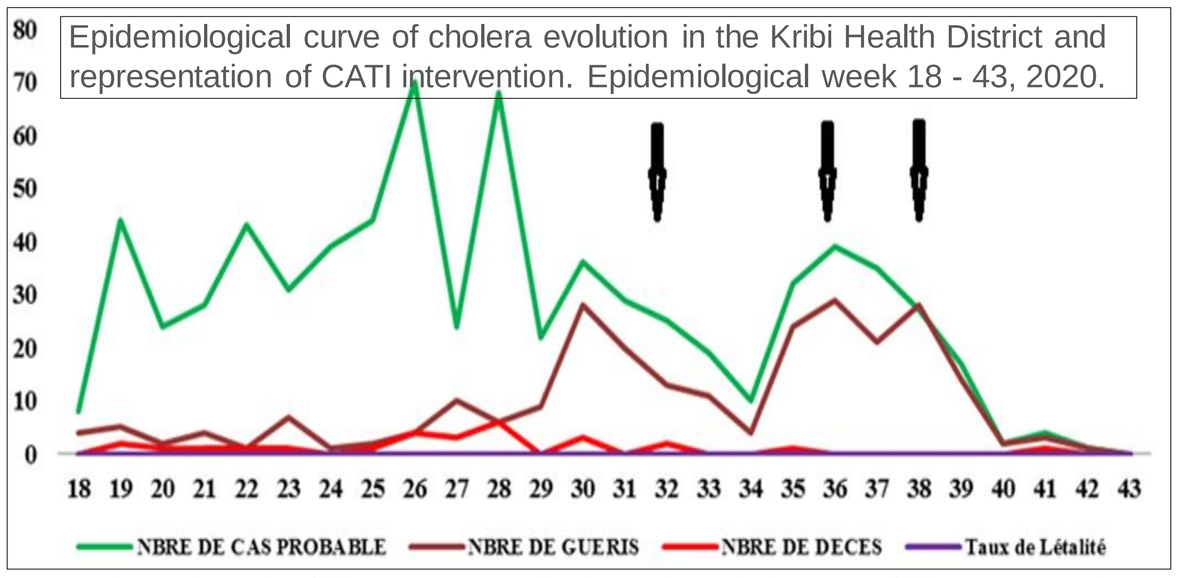
CATIs were effective at boosting vaccination coverage in target population at risk.

Background

- Case-area targeted interventions (CATI) = comprehensive package of cholera preventive interventions. targeting neighbours of cholera cases.
- The risk of cholera is highly elevated among those living around a cholera case.
- CATIs implemented promptly around first cases, or in the tail of the epidemic, might reduce transmission sufficiently to stop or limit spread.
- In May 2020, cholera outbreak declared in Kribi district, Cameroon. MSF supported the Ministry of Health (MoH) in its response, including active surveillance, case management, WASH, health promotion and support, for two oral cholera vaccination campaigns (OCV) targeting parts of the district.
- As cases continued after the mass vaccination campaign, MoH and MSF, in collaboration with UNICEF, initiated CATIs using remaining OCV. We describe the feasibility of CATI implementation.

Methods

- Trigger: rapid diagnostic test-positive cholera case.
- CATI-targeted area = 100-250 metres around the case-household; team deployed to the case-household to discuss with community & leaders.
- Staff: community members and medical, wash and health promotion staff (20-30).
- Package:
  - Health promotion
  - wash (water-purification tablets and soap)
  - OCV 1 dose for ≥1-year-olds (if not received during mass campaign)
  - antibiotic prophylaxis for members of case-household (azithromycin or doxycycline)
- Evaluation: population enumarated; for each CATI we recorded number of people eligible for the intervention and tallied the distribution of each intervention.



**Arrows: First. implementation of OCV campaign in Londji health area; Second. implementation of OCV campaign in Kribi, G.Batanga, Hevecam and Adjap health areas; Three:. Start of CATIs.*

Credits: J. P. Ouamba
Demonstration on the preparation and use of chlorine solutions in a health center in the Kribi Health District.

Ethics: This work fulfilled the exemption criteria set by the MSF Ethics Review Board (ERB) for a posteriori analyses of routinely collected clinical data and thus did not require MSF ERB review.

Our results suggest it was feasible to implemented CATI (with OCV, antibiotics and water treatment interventions) in a timely way at the tail of the cholera outbreak.

Credits: J. P. Ouamba
Research and evaluation of water sources in a household in Kribi Health District.

Results

- 8 CATIs deployed between 11/9/2020 and 16/10/2020, on average 3 days after RDT-confirmation (range 1-7).
- 1322/1533 (86%) households received health promotion.
- 18824 sheets of water-purification tablets & 7932 soap blocks were distributed
- 2771 (49%) people received OCV during mass campaign and additional 1685 (30%) during CATIs (OCV coverage 80%). The last 3 CATIs did not include OCV due to shortages.
- Antibiotics were administered to 19 members of case-households and 73 prison inmates.
- CATI intervention stopped as there were no new RDT confirmed cases.

Summary of CATI actions, Kribi Health District Cameroon.

Community / neighborhood	Immunised during the CATI	Sensitized households	Aquatab platelets distributed	Soap bars distributed	Delay between RDT result/ CATI launch
Mokolo	509 (48.2)	275 (87%)	4400 (23.4%)	1650 (20.8%)	6 days
Wamié	95 (25.6%)	86 (76%)	1376 (7.4%)	516 (6.5%)	2 days
Prison centrale	313 (83%)	30 (100%)	480 (2.6%)	180 (2.2%)	12 hours
Petit Paris	204 (12.6%)	437 (79%)	6992 (37.1%)	2622 (33%)	3 days
Afan Mabe	564 (38.5%)	280 (97%)	2800 (14.8%)	1680 (21.1%)	5 days
Damakale	0 (00%)	07 (88%)	112 (0.5%)	42 (0.5%)	12 hours
Village 7	0 (00%)	108 (93%)	1080 (5.7%)	648 (8.16%)	12 hours
Mbeka'a Paris	0 (00%)	99 (83%)	1584 (8.5%)	594 (7.4%)	1 day

Conclusions

We faced challenges: short planning time, shortages of OCV, delay in supply of WASH interventions, rainy season complicating access. Nevertheless, coordination among different actors was feasible and CATIs could be rapidly deployed. Targeted flexible strategies such as CATI are needed to timely tackle small outbreaks or sporadic cases before they expand into large-scale epidemics.

Acknowledgements

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