



**International Federation
of Red Cross and Red Crescent Societies**

CHOLERA FRAMEWORK REPORT

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#01. Background / Situation Analysis

The 7th Cholera pandemic is believed to have originated in Indonesia in the middle of the 20th century but really reached a momentum with its expansion in Africa, after a new strain of *vibrio cholerae* was introduced in Guinea in 1970 probably through an asymptomatic traveller coming back from Asia(1). Cholera spread rapidly in West Africa **along the coast** and into the interior **along rivers or by land following the movement of nomadic tribes**(2). Within a few years, 30 of the 46 countries of the region were affected with a high case fatality rate (CFR) ranging from 4 to 12 % (WHO 1991). Since then, Cholera seem to have nested on the African continent, contributing to more than 2/3 of the reported outbreaks(3).

Since its introduction in 1970 on the African continent, 3 620 157 cases were officially reported - more than 50% of all reported cases worldwide. However, those figures are likely to be underestimated, due to under-reporting (fear of negative impact on travel and trade) and limitations in surveillance systems, inconsistencies in case definitions and lack of laboratory diagnostic capacities.

Recent calculations of the global burden of cholera estimate that 451 millions of people are at risk of cholera in Africa, and projections of 1,4 million of cholera cases and 50 000 deaths annually(4).

Table: Population at risk, estimated number of cholera cases and deaths per year in endemic countries and by WHO region

Summary table – Data source: *The global burden of cholera, Bull. World Health Organ 2012; 90:209-218A*

WHO Region	Total Population at risk	Estimated annual number of cholera cases	Estimated annual number of cholera deaths
AFR	451 068 932	1 411 453	53 632
EMR	126 277 440	188 793	6 020
SEAR	745 276 148	1 224 368	31 718
WPR	120 530 784	12 055	120
Total	1 443 153 304	2 836 669	91 490

AFR: African Region; EMR: Eastern Mediterranean Region; SEAR: South-East Asia Region; WPR: Western Pacific Region.

Cholera trends in Africa

Whereas the total annual number of cholera cases reported globally seems to be decreasing, the **trend in Africa is on the rise** (as shown on graph below) and the fatality rates remain as high as 2–5% (5).

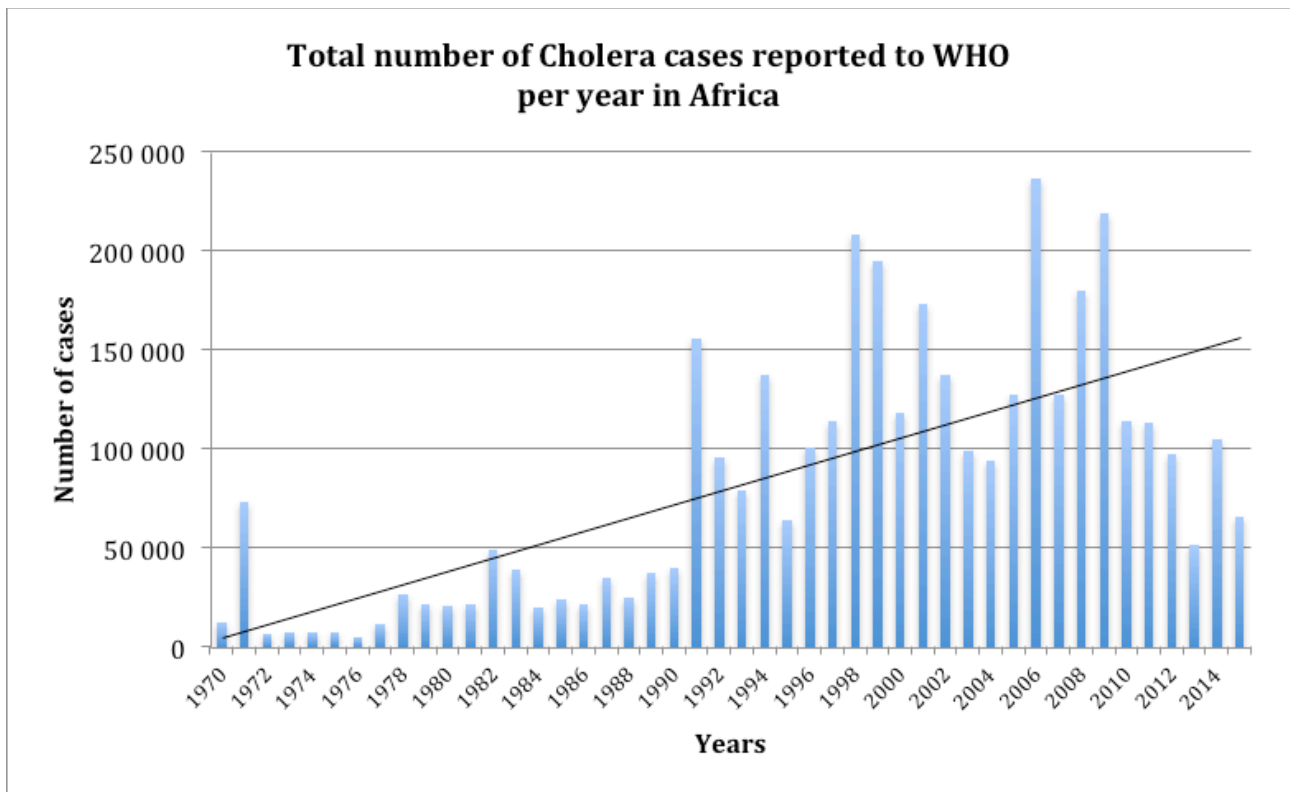


Figure: Annual number of cholera cases reported in Africa between 1970 and 2015.
Source: WHO data

Economic Burden

The economic burden of cholera is estimated to range between 19 and 156 million US\$ per year for the African region alone(6)(NB : those calculations were based on official figures of reported cases without taking into consideration the likely under-reporting).

On top of this cost-of-illness calculation, which take into account both the institutional costs (hospitalisation, medical supplies, etc.) and indirect costs, we have to consider the cost of the associated humanitarian response, and the economic losses for the country (trade and tourism consequences). A recent study done by Oxford economics for the IVI institute, showed that in the first year of an epidemic the economic consequences could cost as much as 2,5% of the GDP of the affected country.

Humanitarian Aid transfers captured by the UN OCHA-FTS (Financial Tracking Service) on cholera emergency response funds reveals increasing emergency costs supported by the humanitarian sector around 15 million USD per year (range between 5 and 35 million USD per year); These figures only account for pledges that have been registered through the FTS and for this reason represent an incomplete picture;

Moreover, if cholera poses a substantial health burden to poor countries, its impact on the economics of poor households – who are also the most affected – is non negligible. Cost-of-illness studies done in several locations (Zimbabwe, Bangladesh, Mozambique, India, Indonesia) shows direct and indirect costs ranging from 30-100 US\$ per case and up to 206 US\$ in northern Jakarta. The patient share of this cost of illness could represent as much as 21-65% of the average monthly household income(7-9).

Epidemiology of Cholera in Africa

Epidemiology of cholera in Africa have been well described, from its introduction in West Africa in the 1970's to most recent epidemiological reviews at regional (Africa) level, sub regional level or at national level.

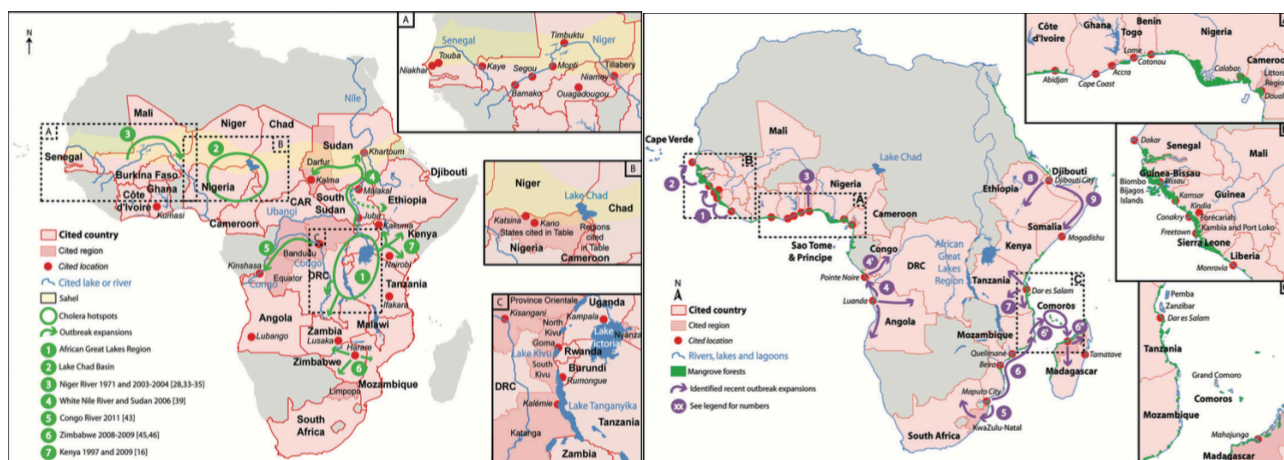


Figure: Identification of the major cholera transmission “basins” in both coastal and inland Africa(10,11)

Main Cholera transmission “basins” have already been identified, including Niger River, Lake Chad, Guinea gulf and West Africa coastal area, the Great Lakes region, White Nile River and Sudan, Congo River and additional smaller transmission foci around Zimbabwe and Kenya and in relation with Indian Ocean coastal region and islands.

Main findings:

- The majority of cholera outbreaks happened in **inland Africa** rather than in coastal areas.
- Most of the coastal foci were located near estuaries, lagoons, and mangrove or on islands.
- Main inland foci are endemic sanctuary zones, located around lakes and rivers
- In Coastal regions, outbreaks are more likely to appear in **coastal cities, where cholera is likely to be imported** from distant areas;
- Cholera outbreaks rapidly **intensify in densely populated urban slums and refugee camps** before **spreading to other regions**
- Seasonality of cholera outbreaks appear driven by **rain-fall induced contamination** of unprotected water sources, as well as **periodicity of human activities like fishing/trade**
- **Human displacements** constitute a major determinant of this spread
- Lulls in transmission periods of several years repeatedly recorded in coastal areas

Identification of priority countries for a sustained effort in cholera preparedness, response and prevention

The WHO revised cholera strategy uses a practical “typology” of country/outbreaks, which can be used to guide the overall cholera efforts:

- Outbreaks that happen in countries that declare cases every year (endemicity). For those countries, most of the outbreaks are predictable – indicating that we can do something to prevent transmission on the long term.
- Outbreaks happening in countries in a crisis situation, also reporting cases on a regular basis, but where access and security might be a problem. In those countries CFR are

often high; Most of the outbreaks are also predictable, and if long term solutions are difficult to implement, at least mortality can be reduced with increased preparedness and an adaptable response capacity (including OCV if there is a window of opportunity);

- Unpredictable outbreaks in countries usually less affected. In those countries, the staff and health system is poorly prepared – and there is a need of a surge capacity coming in to diligently guide the response; Speed of the deployment is key because there is likely no preparation;

Endemic and most affected countries

Looking at what is happening more recently (last 10 years), the most affected countries are: DRC, Somalia, Nigeria, Ghana, Cameroon, Chad, Sierra Leone, Mozambique, Tanzania, Kenya and Niger.

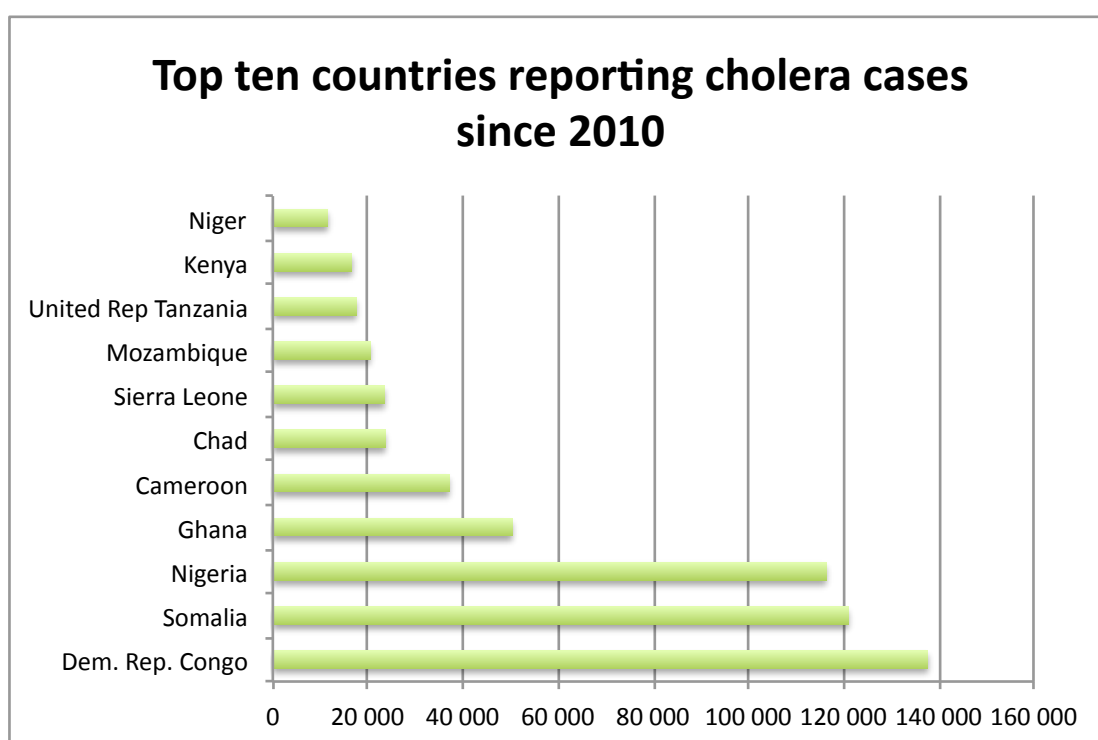


Figure: Number of reported cases per country (2010-2015) – source WHO data.

Endemicity is defined by WHO as: “Countries which are reporting cases at least 3 years out of the last 5 years”;

Looking at the WHO data, we found that for the period 2010-2015, countries reporting cholera cases 4 or more years out of the 6 years were:

Somalia, Togo, Côte d’Ivoire, Burundi, Niger, Mozambique, Cameroon, Ghana, Nigeria, DRC, Liberia, Benin, Uganda, Angola, Tanzania, Malawi, Zimbabwe, Guinea, Kenya (18 countries)

Priority countries

Definition of priority countries, as pointed out by WHO, should include not only endemicity but also the crisis factor, as well as several other justification and enabling factors:

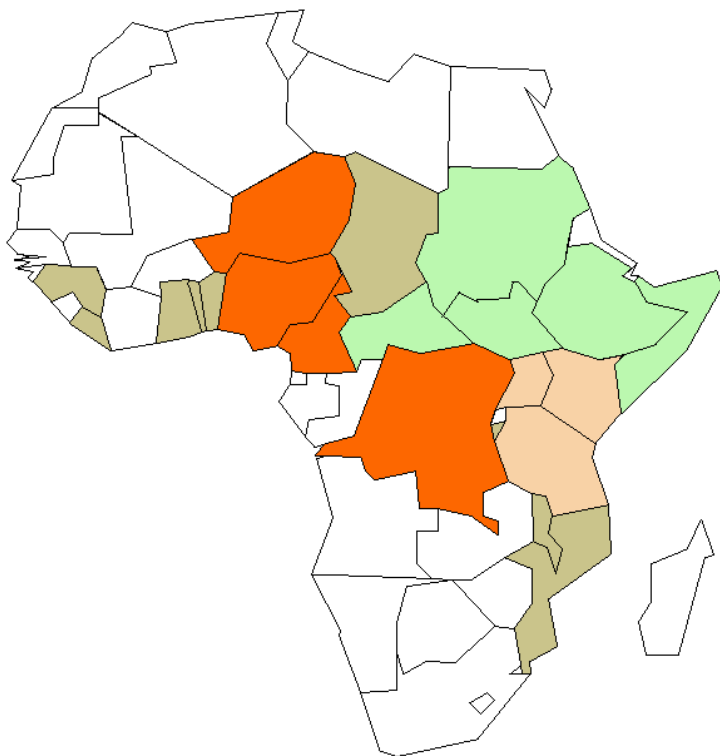
For the sake of the exercise, the following criteria have been used:

- Historical endemicity (number of years reporting cholera since 1970>28)
- Recent endemicity (number of years reporting cholera since 2010>4)
- Number of cases > 1000 cases/year
- Crisis-affected country
- Existence of a momentum in cholera preparedness and prevention (existing dynamic around cholera prevention and elimination)

Prioritization of Cholera Affected Countries

Region	Country	Points	Historical Endemicity	Recent endemicity	#cases >1000 cases/	Crisis Country	Momentum
WCA	Cameroon	5	1	1	1	1	1
WCA	Dem. Rep. Congo	5	1	1	1	1	1
WCA	Niger	5	1	1	1	1	1
WCA	Nigeria	5	1	1	1	1	1
ESA	Kenya	4	1	1	1	1	
ESA	Uganda	4	1	1	1	1	
ESA	United Rep Tanzania	4	1	1	1	1	
WCA	Benin	3	1	1			1
ESA	Burundi	3	1	1		1	
WCA	Chad	3			1	1	1
WCA	Ghana	3	1	1	1		
WCA	Guinea	3		1	1		1
WCA	Liberia	3	1	1	1		
ESA	Malawi	3	1	1	1		
ESA	Mozambique	3	1	1	1		
WCA	Togo	3	1	1			1
ESA	Somalia	3		1	1	1	0
ESA	Ethiopia	2			1	1	
ESA	Sudan	2			1	1	
WCA	Central Africa Republic	1				1	
ESA	South Sudan	1				1	

Table: Prioritization of cholera-affected countries in Africa



Map: Prioritization of cholera-affected countries in Africa

Endemic countries:

Cameroon, Dem. Rep. Congo, Niger, Nigeria, Kenya, Uganda, United Rep Tanzania, Benin, Burundi, Chad, Ghana, Guinea, Liberia, Malawi, Mozambique, and Togo.

Those countries are highly endemic, both historically and recently, and account for most of the cases reported in Africa. Some of those countries are facing a crisis or report difficulties to access some areas. It is interesting to notice that some of those countries are already engaged in a dynamic to better prepare for and prevent cholera outbreaks.

Crisis-affected countries with a special focus:

Somalia, Ethiopia, Sudan, CAR, and South Sudan.

Those countries are not amongst the historical affected-countries, and do not necessarily report a high number of cases compared to endemic countries. However, a special attention should be given in these areas affected by multiple, complex crisis.

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8. Schaetti C, Weiss MG, Ali SM, Chaignat C-L, Khatib AM, Reyburn R, et al. Costs of illness due to cholera, costs of immunization and cost-effectiveness of an oral cholera mass vaccination campaign in Zanzibar. *PLoS Negl Trop Dis*. 2012;6(10):e1844.
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#02. Review of existing approaches - with a focus on “what works”

Cholera is a proxy-indicator of high vulnerability, highlighting not only the heterogenic distribution of inequalities in water and sanitation services, but often also revealing the specific fragility or poverty of affected populations – most of the time living in remote underserved rural areas, overcrowded urban slums, or displaced situations.

New approaches in Cholera control and prevention uses historical data, GPS mapping and epidemiological analysis to identify key “Hotspots” areas participating to the diffusion of epidemics to other regions or even countries.

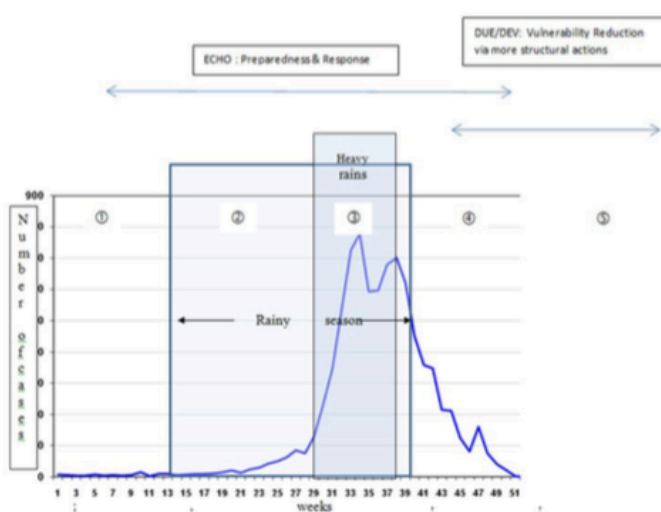
Understanding the patterns of cholera transmission on a national or local scale and knowing in advance which areas and specific populations will be affected greatly help to guide not only the preparation and response efforts to contain future outbreaks, but also to target the very much-needed but more expensive long-term prevention efforts, in a better risk-informed approach;

This section will present a review of approaches to cholera control and existing initiatives and last update of evidences on effective interventions.

1. West and Central Africa Cholera Approach (Shield and Sword Strategy)
2. The Guinea Experience
3. The DRC Experience
4. West and Central Africa Cholera Platform
5. Joint Cholera Initiative for (Eastern &) Southern Africa: JCISA
6. Global Task Force for Cholera Control and Prevention
7. Oral Cholera Vaccination (OCV) recent developments
8. Recent update on evidences for effective interventions in cholera control

1 - The West and Central Africa Cholera Approach (also known as the Shield & Sword Strategy)

Joint Framework ECHO – DUE/Etats Membres / Autres



The Epidemic Preparedness, Response and Prevention Cycle

- ① Preparedness
- ② Early response
- ③ Rapid scale-up, if needed
- ④ Lessons learned
- ⑤ Long-term prevention and risk reduction

DG ECHO, 2012: Towards an integrated Cholera preparedness, response and risk reduction strategy

A new approach has been developed in West and Central Africa since 2007, following the observed inadequation between the recurrent cholera outbreaks and the governmental and

humanitarian actors response. An analysis of the latest cholera outbreak responses revealed the following shortcomings:

- Recurrence of outbreaks without improving outbreak management
- Response is too late to make a difference
- Limited response capacities, absence of trained and experienced personnel
- Lack of preparedness, even in regions/areas regularly affected
- Lack of coherence between actors on how to respond to cholera outbreaks
- Untargeted interventions (generic response and absence of geographic targeting)
- Mix of preparedness, prevention, and response activities – when it is time to do emergency response only.
- Absence of cross-border collaboration and information sharing

A certain number of core priorities emerged as a common vision shared between governments, humanitarian actors and donors:

- The need for a better understanding of cholera spread, affected areas, risk factors, exposed populations
- The need for an evidence based, targeted, and context specific approach
- The need for a sustained preparedness effort and early response capacity
- The need to invest not only in emergency response but also in the long term risk reduction

The WCA integrated Cholera preparedness, response and prevention strategy involves:

A better understanding of cholera transmission, through epidemiological studies. Historical review of previous outbreaks – Identification of at risk populations, hotspot areas, transmission routes, contexts during which people get contaminated, specific risk factors, seasonality, etc. This opens the door to a better risk-informed programming, useful for preparedness, response and long-term prevention;

A targeted response. This requires investment in epidemiology knowledge, skills and capacity and its application to epidemiology-based interventions. The **Shield and Sword strategy** make the distinction between immediate emergency response actions (Sword) in affected areas and preparedness and preventive actions (Shield) in at-risk areas. Both Shield and Sword activities are defined **in relation to a specific transmission context**, described following a field epidemiology investigation. This risk informed response allows targeting specifically affected populations, with activities proven to interrupt the identified transmission routes, in the affected areas and at the appropriate time. The main transmission contexts already identified in West and Central Africa are presented below, but it should be noted that other specific transmission contexts may apply in other regions/outbreaks. This is why the response should be tailored to the context, following an investigation work.

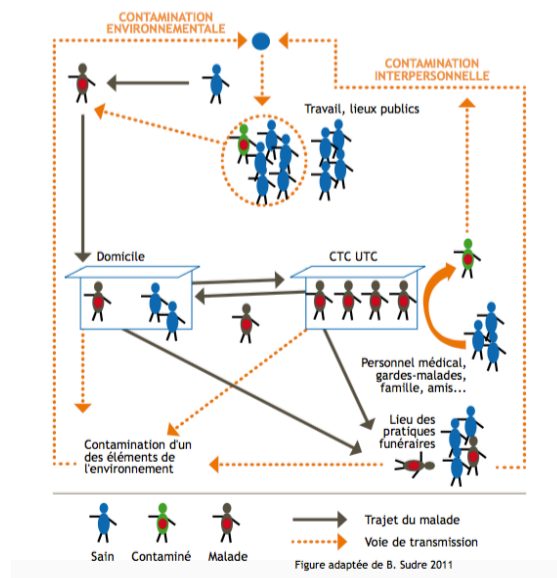
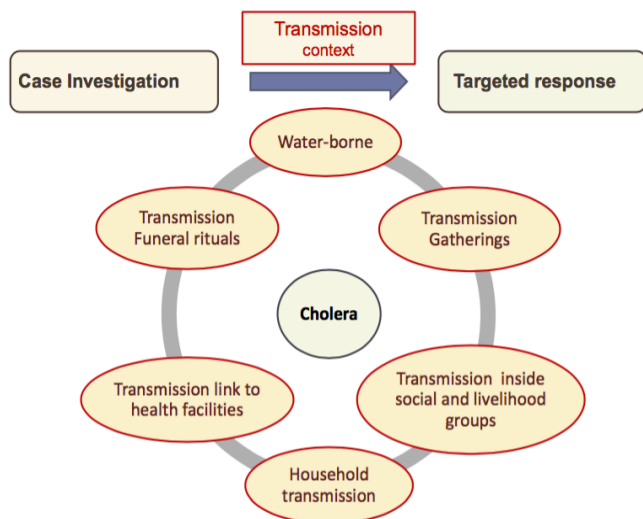


Figure: Field epidemiological investigation informs the targeted response – (Source ACF)

Increased preparedness for an enhanced capacity to detect, and start an early response. An analysis of existing disease surveillance systems concluded to the need for strengthening governmental surveillance and laboratory capacities and to include a community surveillance system in regularly affected areas; Investment in preparedness activities such as contingency planning, training and stockpiling emergency items, especially in hotspots, is also an essential component.

Communication, mobilization and advocacy for long-term risk reduction investments in high-risk areas: The emergency response phase is not the appropriate time to invest in long-term risk-reduction activities, such as sustainable behaviour change efforts or infrastructure construction and maintenance. However, at the end of an emergency intervention, there is a good opportunity window to capture lessons learned and summarize the necessary information to mobilize governments and their development partners on long-term risk reduction activities. Such mobilisation effort is best ensured in comprehensive “national cholera control plan” or strategy, with a multisectoral vision for cholera control that can ideally be sealed between relevant ministries (Health, Water and Sanitation, Education, etc.) and shared with development partners and donors.

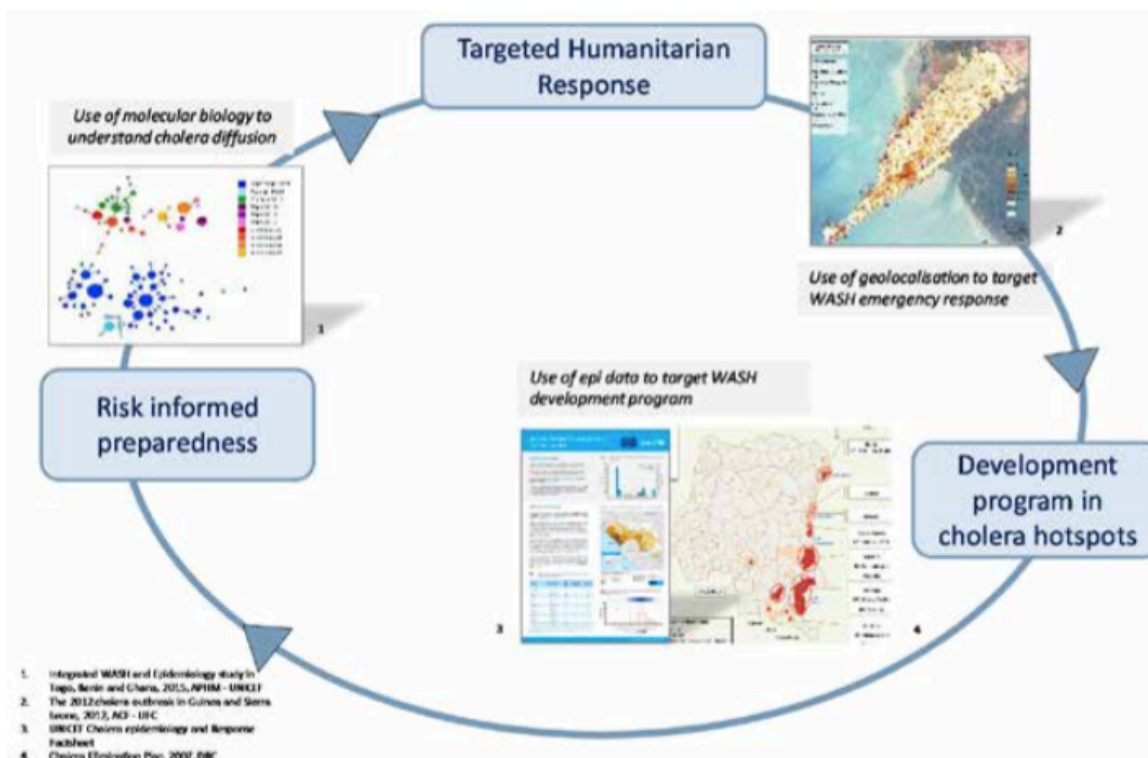


Figure: Epidemiological reviews reveal essential information on at-risk places (hotspots), populations and risk contexts, which are used to inform preparedness, response and long-term risk reduction efforts for cholera control (Source: UNICEF)

Special References

- DG ECHO West Africa: *Towards an integrated Cholera preparedness, response and risk reduction strategy*, 2012
- The West and Central Africa Cholera Platform: Overview of the strategy to control and prevent cholera in West and Central Africa. The “Shield and Sword” concept, 2016
- UNICEF WCARO Cholera Prevention and Control Initiative: *Roadmap towards cholera elimination*, 2017

2 - The Guinea Experience

2.a. Improved surveillance, preparedness, and response capacity

Following an epidemic that occurred in 2007 in Guinea, ACF and UNICEF supported by ECHO started to implement the West and Central Africa Cholera strategy. An historical review of the past outbreaks was done. Populations at risk were identified as well as risk factors, seasonality, and unsafe practices. This led to the implementation of a preparedness programme, in good coordination with the Ministry of Health. Surveillance was reinforced in high-risk areas with community sentinel sites; contingency plans were developed, emergency stocks prepositioned and people trained. In the absence of an outbreak since 2008, simulation exercises were held on a yearly basis.

In 2012, the same outbreak hit simultaneously Sierra Leone and Guinea. After the outbreak, a comparison of the response in Guinea and Sierra Leone was done, in order to identify the benefits of previous programmes in Guinea. A graphic summary of the response analysis in Guinea and Sierra Leone is shown below.

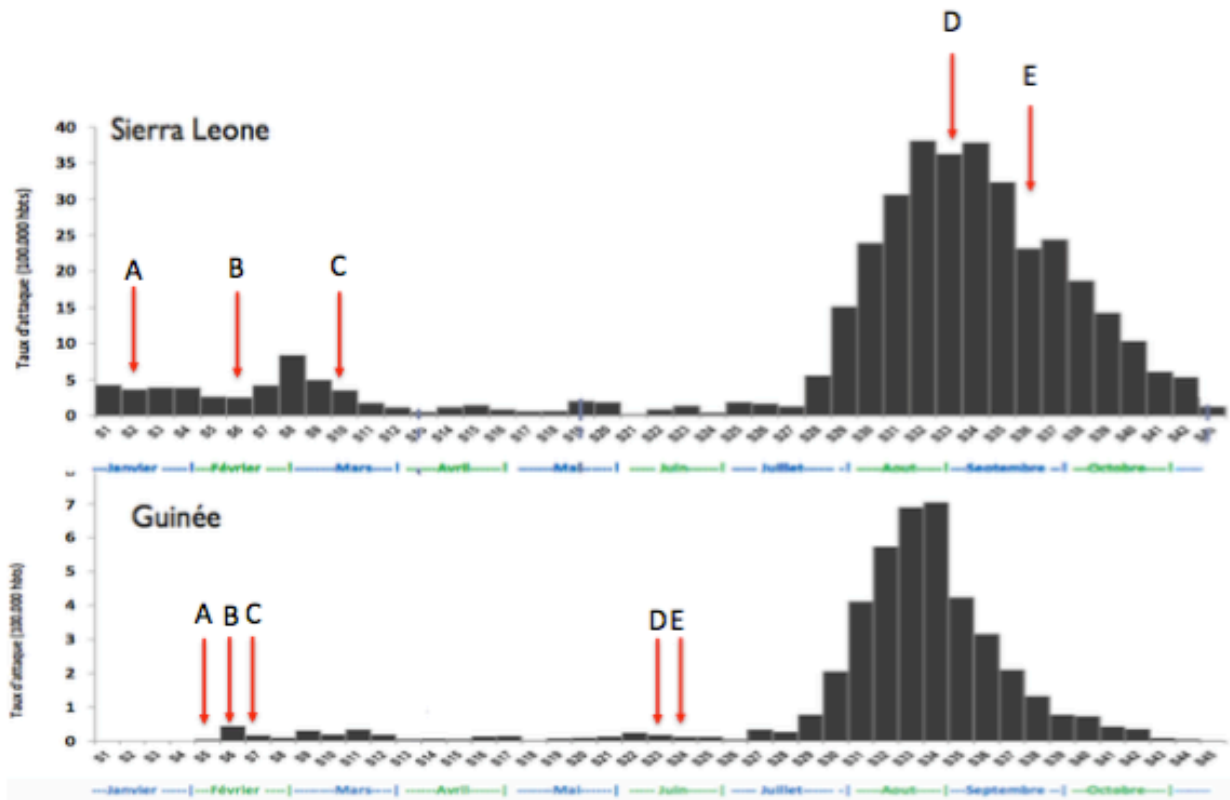


Figure: Essential steps in Cholera outbreak Response management. Comparison between Guinea and Sierra Leone, 2012 (Source ACF & DG ECHO).

A: Identification of first suspected cases; B: Official declaration of the cholera outbreak; C: Start of medical case management; D: Start of cholera control activities (WASH); E: Formal intersectoral coordination in place

In conclusion, preparedness efforts were key in identifying and confirming the first cases and triggering the start of the response in Guinea (8 days) – whereas unconfirmed cholera cases were probably circulating in Sierra Leone since January without being captured (>1 month). If it is not possible to attribute a lower number of cases in Guinea compared to Sierra Leone to the preparedness work in Guinea, it can be noted that the overall response started earlier in Guinea, allowing for a probably more efficient intervention.

2.b. The Shield and Sword response implementation in urban context

The Shield and Sword strategy was implemented for the first time in an urban context in Conakry during the 2012 epidemic. Urban interventions can get really complex due to the size of the affected population – Conakry city is hosting 1,2 million inhabitants. Being able to identify risky areas and at risk populations **at a very fine scale** is key in order to implement an efficient response.

This new approach involved geo-referencing of patients home, used to produce a weekly special analysis of cholera cases distribution. Clusters of cases and recurrent areas of transmission were identified. Field investigations in permanent clusters enabled the response team to reconsider the generic approach and to tailor interventions at a finer geographical scale.

Tools used during the response included:

- Identification of at risk areas/districts/neighbourhoods (based on historical review of available epidemiological information and neighbourhood characteristic identification)
- Weekly attack rates maps by districts/blocks
- Weekly maps of cluster of cases (made possible through GPS geolocalisation of cases home addresses)
- Identification of permanent cluster of cases
- Field investigation in permanent clusters

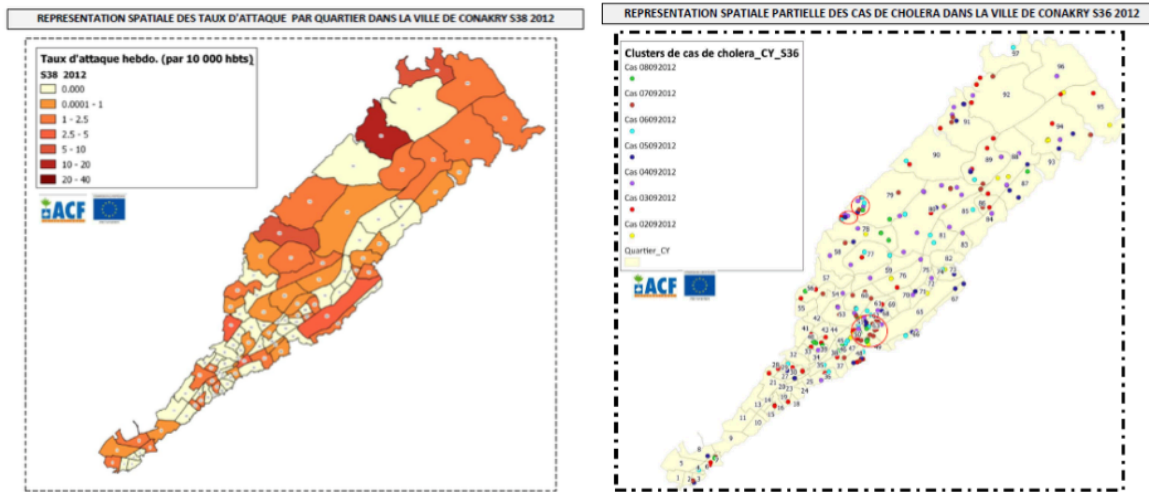


Figure: Epidemiology in action: Real time GIS mapping of cholera cases (Source ACF)

Examples of maps used: Left: Attack rate per district - Right: geolocalisation of cases and cluster identification.

Identification of affected districts can be interesting to identify pockets of vulnerability or to conduct vulnerability assessments. However, such geographical scale (the district) is too broad to be able to conduct targeted response activities other than mass sensitization, due to the prohibitive cost of covering an entire district. Precise identification of localisation of cases (GPS geo-referencing of patients homes) allowed for a more targeted intervention around affected households. Identification of cluster of cases through weekly maps gave the indication of a particular transmission pattern (as opposed to a random distribution) happening in this specific area. A detailed field investigation in identified areas was then used to orient the context specific control measures to be implemented.

Such intervention was made possible with the support and agreement of the government and other medical partners to access their medical registers / line listing and with a specific effort in geo-referencing each identified case house; Analysis of cluster of case was done with a scan technique software but it can be done visually, and only requires simple technical skills.

Special References

- ACF – Guinea and Sierra Leone Cholera response lessons learned Workshop – 2012
- ACF - Guide pratique de lutte contre le Cholera – 2013 (in French)
<http://www.platformecholera.info/index.php/response-tools/guidelines/254-acf-guide-pratique-de-lutte-contre-le-cholera-septembre-2013>
- DG ECHO presentation – Préparation au Choléra: Le cas de la Guinée, 2013 (in French)

3 – The DRC Experience on long-term risk reduction

In 2006, an epidemiological review of existing data about cholera in DRC provides a new insight on the cholera transmission dynamic and provides useful information on how it can be controlled.

Main findings are summarized below:

- Between 2000 and 2008, 208 875 cholera cases et 7 335 deaths (CFR 3,5%) were notified to WHO, i.e. 15% of cases and 20% of deaths reported worldwide.
- Affected areas essentially in East DRC, along the great lakes region. Small areas (less than 10% of the region) were identified as responsible for cholera persistence and outbreak diffusion (see below picture);
- Seasonal variations with low diffusion in dry season and epidemic resurgence in rainy season where cholera can diffuse up to bigger towns with the favour of population movements (traders, fishermen);
- Persistence of those small cholera pockets seem responsible for the restart of an epidemic the next rainy season, calling for a possible “metastability of the disease within the population” model rather than an “environmental persistence” model.
- Identification of at-risk populations (traders, carriers, mine workers and fishermen)



Figure 4 : Villes et zones lacustres d'intérêt particulier pour la lutte contre le choléra en RDC.

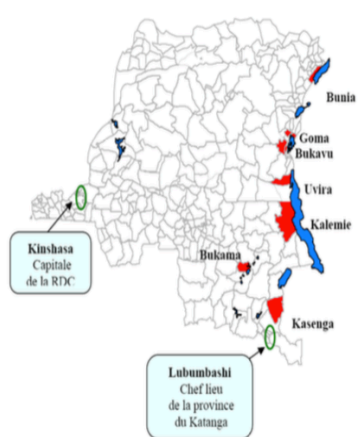


Figure: Hotspot identification and mapping in DRC – Source: DRC Ministry of Health. DRC Strategic Multisectoral Plan for Cholera control and Elimination 2013-2017

Such information was deemed sufficient to plan for cholera elimination in DRC. In 2007, a first national plan was elaborated to eliminate cholera in DRC. Since 2013, a new cholera national plan 2013-2017 is in place.

The **national cholera elimination plan** is a **multisectoral** plan, convening all relevant ministries around the table to participate in the plan; In DRC, participating ministries are: Health, Transports, Energy, Environment, Planning, and Rural development.

Such document has the advantage of officialising the **Government will to invest in durable cholera control** and even here elimination. It gives a direction towards which **development and humanitarian partners** can contribute, and facilitates the **advocacy and fundraising** efforts by providing leadership, a **coherent direction with explicit targets and budget**.

Based on this experience, long-term investments have been considered together with development partners such as UNICEF, AFD (French Development Agency), and Veolia in 4 important cholera hotspots.

Special References

From research to field action: example of the fight against cholera in the Democratic Republic of Congo(1)

Elimination of Cholera in the Democratic Republic of the Congo: The New National Policy(2)
National Cholera Elimination Plan – DRC:

<http://reliefweb.int/sites/reliefweb.int/files/resources/PLAN%20ELIMINATION%20CHOLERA%202013%202017.pdf>

UNICEF WASH Investments in Cholera Hotspots (in French):

<http://reliefweb.int/report/democratic-republic-congo/lutte-durable-contre-le-chol-ra-en-rdc-2014-s-curiser-l-acc-s-l-eau>

4 - The West and Central Africa Cholera Platform

A number of actors, interested in Cholera control and prevention at the regional level, decided to share their experience and work together to strengthen Cholera control efforts in West and Central Africa; This led to the creation in 2011-2012 of the regional cholera platform. The WCA Cholera platform is gathering the main WASH and Health actors involved in the fight against cholera in the region, including but not restricted to: ACF, ACTED, ALIMA, ECHO, IFRC, MSF, OCHA, UNICEF and WHO.

<http://www.platformecholera.info>

Initially, the Cholera Platform was mainly used to share information, alert when the situation was deteriorating and create a common understanding of the situation in the region. One of the most useful tools that have been developed is a real-time overview (weekly update) of cholera incidence for all the countries together with an historical perspective (several weeks follow up and comparison with previous years).

hotspots, seasonality patterns, vulnerable populations, risky practices and main transmission contexts: <http://plateformecholera.info/index.php/departments/unicef-cholera-factsheet>

In depth analysis of vulnerability in identified hotspots and long-term solution proposals for cholera risk reduction in those areas has been realised in 6 countries.

Next steps will include working with Governments and advocacy towards their Development Partners to integrate long-term risk reduction investments in cholera hotspots in their next programmatic cycle.

5 - The Joint Cholera Initiative for (Eastern &) Southern Africa

A similar approach to the WCA Cholera Platform is currently being developed in Eastern and Southern Africa, also led by UNICEF.

The Joint Cholera Initiative for Southern Africa (JCISA) is a multi-agency technical partnership bringing together WHO, UNICEF, UNOCHA and OXFAM. The goal of the initiative is to strengthen regional capacity and collaboration to ensure a more timely, integrated and effective technical support for cholera preparedness and response.

<https://www.humanitarianresponse.info/system/files/documents/files/ROSA%20Humanitarian%20Bulletin%20August%202013%20Cholera.pdf>

For now, this initiative covers ten countries, but the idea is to extend the coverage to all Eastern & Southern Africa.

JCISA also aims at contributing to the reduction in morbidity and mortality due to cholera in Southern Africa by putting in place appropriate systems and resources to support prevention, preparedness, risk reduction, rapid response and resilience at the sub-regional level and within endemic countries.

This initiative is younger than the WCA Cholera Platform and has not yet developed the on-line knowledge management platform or produced detailed epidemiological studies. However, Cholera weekly bulletins are coming out on a regular basis.

Joint Cholera Initiative for Southern Africa (JCISA) Sub-regional up-date on Cholera; 2017 – Week 8

Country name	2017 suspected cases								2017 Cumulative total			2016 total reported cases			Comments
	W1	W2	W3	W4	W5	W6	W7	W8	Cases	Deaths	CFR	Cases	Deaths	CFR	
Angola	28	28	42	28	13	15	14	nr	168	7	4.2%	78	4	***	Latest report 19/02/17: total of 271 cases officially reported with 11 deaths since 13 Dec. 2016. North West Zaire prov. (Soyo city), Cabinda & Luanda city
Botswana															
Lesotho															
Malawi	0	0	0	0	0	0	0	0	0	0	0	1,792	46	2.6%	
Mozambique	3	3	6	10	64	73	177	121	457	1	0.2%	1,167	6	0.5%	Cases in Maputo and Matola cities and two districts in Nampula province - Monapo and Meconta/Namitao
Namibia															
South Africa															
Swaziland															
Tanzania	288	80	156	299	74	20	68	46	1,031	14	1.4%	14,928	202	1.4%	Considerable reduction from week 5. Report from 26 February 2017 eight cases - Mara (North) and Dar es Salaam.
Zambia	0	0	0	0			22		22	0		1,379	32	2.3%	Outbreak in Chingwe district, Lusupa province - North West Zambia bordering DRC.
Zimbabwe	0	0			0	0	0	0	0			10	1	***	
Total w/Tanzania	319	111	204	337	151	108	281	167	1,678	22		19,354	291		
Total sub region*	31	31	48	38	77	88	213	121	647	8		4,426	89		

* 10 Southern African countries *** CFR no validity with so few cases. 0 - zero cases reported nr - no report received
Data source: Govt. reports/bulletins, UNICEF, WHO

The Joint Cholera Initiative for Southern Africa (JCISA) is a multi-agency technical partnership bringing together WHO, UNICEF, UNOCHA and OXFAM supporting national governments with the primary goal being to "strengthen regional capacity and collaboration in order to ensure more timely, integrated and effective technical support to countries in the areas of cholera preparedness, response and resilience".
The Southern Africa sub-region consists of ten countries, five of which have been identified by the Initiative as priority countries – Angola, Malawi, Mozambique, Zambia and Zimbabwe. For the purposes of this IM process Tanzania is being included given its proximity to three of the priority countries and the possibility of cross border transmission. For further information contact Ben Henson, bhenson@unicef.org or Georges Tabbal, gtabbal@unicef.org.

Highlights

- Tanzania outbreak continues but with significant reduction in cases over the past four weeks.
- A small outbreak in North Western Zambia bordering with DRC is reported to be under control and managed by MOH.
- Angola is seeing a reduction in cases in the far North but cases occurring in the capital, Luanda are a concerning trend.
- Mozambique has seen a significant number of cases in Nampula in the North of the country along the Nampula – Nacala highway as well as steadily increasing numbers in Maputo province.
- Malawi and Zimbabwe have reported no cases of cholera this year, though Zimbabwe still has a significant Typhoid outbreak in Harare and two other locations – with heavy rains in the southern half of the country the risk of cholera remains high.

Of the five priority countries in southern Africa, three currently have cholera outbreaks. With Tanzania included the region has reported 1,678 cases of cholera in 2017, with 22 deaths. However when Tanzania is excluded the deaths are considerably reduced – eight in total, with Angola accounting for six of those. A future bulletin may hopefully focus on the changing death rates (CFR) over past years in the sub-region.
This issue will focus on bringing cholera related information "up-to-date" in southern Africa using official reporting. Due to contractual issues there will be no JCISA bulletin produced mid March but it is hoped that it will be possible to produce a monthly up-date as from the end of March 2017.



6 - The GTFCC

The Global Task Force on Cholera Control (GTFCC) is a network of cholera experts which brings together governments, non-governmental organizations, UN agencies, and scientific institutions, who share the belief that collective action can stop cholera transmission and end cholera deaths. The secretariat of the GTFCC is ensured by WHO.

http://www.who.int/cholera/task_force/en/

The Global Task Force for Cholera Control and Prevention has been revived in 2014 following the 2010 General Health Assembly resolution on Cholera.

The specific objectives of the GTFCC are to:

- Support the design and implementation of global strategies to contribute to capacity development for cholera prevention and control globally.
- Provide a forum for technical exchange, coordination, and cooperation on cholera-related activities to strengthen countries' capacity to prevent and control cholera, especially those related to implementation of proven effective strategies and monitoring of progress, dissemination and implementation of technical guidelines, operational manuals, etc.
- Support the development of a research agenda with special emphasis on evaluating innovative approaches to cholera prevention and control in affected countries.
- Increase the visibility of cholera as an important global public health problem through integration and dissemination of information about cholera prevention and control, and conducting advocacy and resource mobilization activities to support cholera prevention and control at national, regional, and global levels.

To deliver on these objectives, working groups were established in key areas of cholera prevention and control: surveillance/ epidemiology and laboratory; oral cholera vaccines (OCVs); case management; water, sanitation and hygiene (WASH); communication/social mobilization and advocacy. Each working group has its own research and guidelines/directions publication agenda.

GTFCC Working Groups



Following a systematic review of scientific literature on the effectiveness of several interventions to control cholera, a gap in quality evidence was identified. A research agenda has been defined and research projects are now being implemented to measure the effectiveness of different

interventions (see below section **8- Review of evidences on effective interventions for cholera control**).

7. Oral Cholera Vaccination (OCV) recent developments

Use of pre-qualified Oral Cholera Vaccine (OCV) as an emergency response tool only started very recently, in 2013, with the creation of an emergency vaccination stockpile managed by the ICG (Inter-agency Consultative Group: WHO, UNICEF, MSF, IFRC), and funded by the GAVI initiative (B&M. Gates Foundation). Since 2013, OCV campaigns have been implemented in 14 countries, and under several contexts. Up to now, a total of 41 vaccination campaigns have been realized, for a total of 7,6 million doses. Average size of a vaccination campaign now reaches 500 000 doses.

Table: OCV campaigns since the ICG-OCV stockpile creation in 2013

Year	Type of Campaign	Number	Countries
2013	Endemic	2	Haiti (2)
2014	Endemic	10	DRC, Guinea, Haiti (8)
	Humanitarian Crisis	7	South Sudan (6), Ethiopia
2015	Outbreak	4	Malawi, South Sudan (Juba and Torit), Iraq, Nepal
	Humanitarian crisis	6	South Sudan (3), Tanzania, Cameroon, Malawi
2016	Endemic	4	Sudan, Haiti, Malawi
	Humanitarian crisis	4	Niger, South Sudan (2), Haiti
	Outbreak	5	Malawi, Zambia (2), Mozambique, DRC
TOTAL		41	

Source: WHO, GTFCC WASH working group meeting in Dakar, 2017

With such rapid developments in OCV use, and such increased focus on OCV from Governments and Donors, it is important to ensure that this focus on OCV enhances as well coordination with water, sanitation and hygiene activities and other cholera control measures.

8. Recent update on evidences for effective interventions in cholera control

Cholera has often been associated with the idea of poverty, be it at household level(3) or at country level(4,5). However, this link can be better understood with regards to the level of services (and in particular water and sanitation services) accessible to those populations, as it has been shown in recent publications(6–8).

WASH interventions have historically been effective in reducing the number of cases and preventing the reappearance of cholera and other water related diseases – as shown in the last century in Europe and America – and more recently in Latin America in the 1990s.

Cholera is transmitted mainly through the fecal–oral route, and the ingestion of fecally contaminated water plays a primary role in the spread of the disease, especially during epidemics. Stopping the fecal–oral contamination cycle can reliably prevent cholera; ensuring use of appropriate sanitation and proper hygiene (personal and food) and access to safe drinking water for the whole population are of utmost importance. In an epidemic, there is only one way to contract cholera: by swallowing something (usually water or food) that has been contaminated with fecal matter that contains *Vibrio cholerae*. Consequently, if fecal material is not ingested orally, the spread of cholera can be completely stopped and infection can be entirely prevented.

Other interventions used to control cholera during the past decades include effective disease detection and diagnosis; effective treatment with rehydration (oral or intravenous) and, when appropriate, antibiotics;

More recently, another effective intervention have been developed – Oral Cholera Vaccination (OCV) — but it has not yet been widely implemented. Reasons for its limited use include lack of awareness of its existence and low vaccine production capacity, both of which are currently being addressed; This new tool for cholera prevention and control will soon be part of the commonly used cholera toolbox.

Oral Rehydration Therapy (ORT)

Cholera can kill even healthy adults in a matter of hours if untreated, or if treatment is delayed or inadequate. Effective and timely case management of symptomatic cases is key. However, Cholera is an easily treatable disease. The prompt administration of oral rehydration salts to replace lost fluids nearly always results in cure. In severe cases, intravenous administration of fluids may be required to save the patient's life. Mild and moderate cases (80% of cases) can be successfully treated with oral rehydration salts (ORS) only(9).

ORT is therefore known to be one of the most cost effective intervention to prevent mortality in diarrheal infections(10).

Targeted Chemoprophylaxis in Contacts of Patients with Cholera

A recent meta-analysis have provided evidence that targeted chemoprophylaxis (use of antibiotics) for household contacts, which are at highest risk of getting sick than the general population, could have some protective effects in patients contacts(11). However, there have also been evidences that mass or targeted chemoprophylaxis can increase antibiotic-resistance and contribute to select resistant cholera strains.

WHO **does not recommend** the use of antibiotics for mass or targeted chemoprophylaxis distribution, and restrict its use for severe cholera cases only(12).

OCV

Recent reviews of evidences on the effectiveness of cholera vaccination report indicate the efficiency of a 2 doses per person (recommended) vaccination to vary between 85% at 6 months and 65% at 3 years(13,14). Efficiency of a single dose vaccination is currently being assessed for emergency response, with an initial bet of 6 months protection. One dose costs 1,85 USD.

In spite of delays related to order, supply and implementation, this can be considered an effective new tool for cholera prevention, in particular in endemic settings (where hotspots and vulnerable populations are already identified) and in crisis countries where traditional control measures would be more difficult to implement.

WASH and other interventions

WASH interventions have historically proven to be effective in cholera control and prevention (Cholera elimination in Europe & North America, and more recently in South America). However, the available scientific literature on wash effectiveness is scarce.

In an attempt to quantify the effectiveness of WASH interventions, a number of reference studies can be referred to (10,15). Several hypotheses have been made on the effectiveness of WASH interventions, starting with Esrey et al. 1991 – using a number of quality studies.

NB: Most of the available studies relate to overall diarrhea reduction – and do not specifically target cholera.

Estimation of the effectiveness of several WASH interventions on diarrhea reduction

Table: Assumed Reductions in diarrhea attributable to several WASH interventions

WASH Intervention	Corresponding Relative Risk	Reduction in diarrhea (%)
Water Supply – Improved public source *	1,20	17
Water supply – additional (house connection) *	2,70	63
Excreta disposal *	1,56	36
Hygiene promotion *	1,92	48
Water quality – source **	1,37	27
Water quality – HH Filtration **	2,70	63
Water quality – HH chlorination **	1,58	37
Water quality – Solar disinfection **	1,45	31
Water quality – Floccul/Disinf **	1,45	31

* Source: DCP2, Jamison 2006.

** Source: *Water Quality Interventions to Prevent Diarrhoea: Cost and Cost-Effectiveness (Clasen, 2008)*

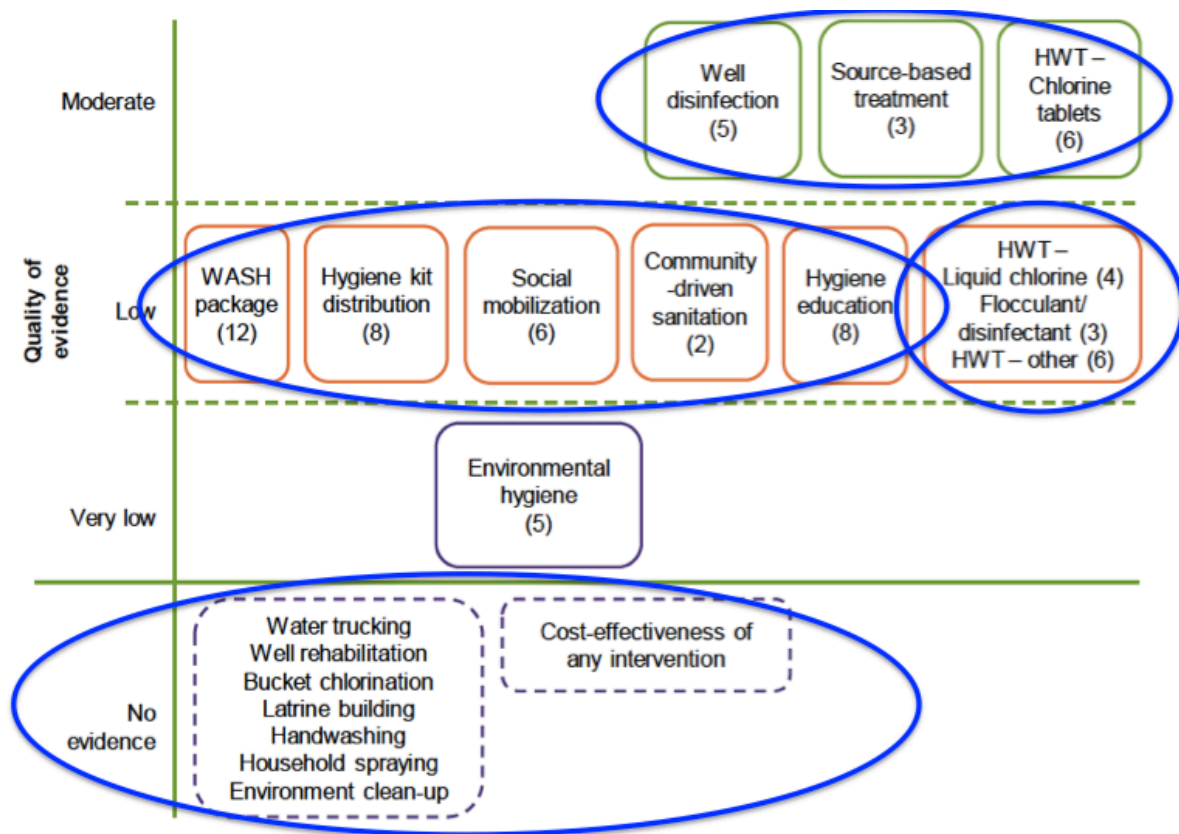
NB: DCP authors mention that these reductions are considered to be independent of one another, so that the benefits for several interventions could be additional.

Regarding the impact of WASH interventions designed specially **to prevent cholera**, recent systematic reviews (16–18) found a clear lack of evidence to help guide implementers decide what approach and intervention to select during a cholera outbreak – partially due to the difficulty to set up good evidence collection system in emergency / epidemic setting.

The recent introduction of an effective solution in the form of OCV pose the question of the comparative advantages of WASH interventions, their effectiveness as well as their cost-effectiveness. After identifying the evidence gaps and the need to include also non-academic documentation for further research, GFTCC engaged discussions with TUFT University to re-conduct a systematic review, including not only published academic papers but also grey literature documents from NGOs and other operational organisations;

The first results of this work (not yet published) were shared during the last GTFCC WASH working group meeting in Dakar in March 2017. The preliminary results are presented below.

Evidence Synthesis: WASH interventions in disease outbreak response



Source: TUFT University, GTFCC WASH working group meeting in Dakar, 2017

The study found low to moderate quality evidence of some effectiveness of interventions on health outcome for the following interventions:

- Well disinfection
- Source based treatment
- Household water treatment (HWT) chlorine tablets
- A WASH activity package (mix of activities)
- Distribution of hygiene kits
- Social mobilization
- Community driven sanitation
- Hygiene education
- HWT solutions with liquid chlorine, flocculent/disinfectant or other solution.

Very little or no evidence was found for the following activities:

- Water trucking
- Well rehabilitation
- Bucket chlorination
- Latrine building
- Handwashing
- Household spraying
- Environmental clean-up

Overall, the key programme characteristics for success were **simplicity, timing, community engagement and presence of a community health programme beforehand in the area;**

Source treatment and point-of-collection water treatment

Rationale: The community water source/point may be the source of contamination – or might get contaminated by sick persons, asymptomatic cholera carriers, case contacts, caretakers or unsafe environment;

Previous studies found out direct **well disinfection** to be only partially effective, the implementation of the intervention being often limited to a one-off disinfection, with no residual chlorine after 24 hours. Moreover, experience showed a decreased use of HHWT solution after the start of well chlorination, paradoxically increasing the risk of being exposed to contamination for having a false sense of protection(19).

Locally made well **chlorine dispensers** were found effective in some studies for up to 3 days but with no demonstrated results on sustained appropriate use.

Well design and well protection (cover) are also key elements to consider in protecting well water from being re-contaminated, and for this reason well water may often not provide a secured water source.

For all these reasons, direct **well chlorination** is not recommended as an effective solution, and alternative options should be considered. Other solutions include point-of-collection water chlorination or point-of-use water treatment options (HHWT).

Amongst already implemented point-of-collection water chlorination solutions, we can find:

- **Bucket chlorination:** This is an effective and simple way of proposing a chlorination service at the point of water collection, together with sensitization.
- **Chlorine dispensers:** Free chlorine dispensers next to point-of-collection with an initial sensitization phase was found to yield more intake in chlorination use that free distribution of HHWT solutions at home in rural Kenya(20) and proven very cost-effective.

However, there is not yet any good quality documented evidence of effectiveness of such intervention on cholera incidence reduction.

Where water access is delivered through a collective water supply service, **safe and continuous water supply** is key. A recent study done in DRC showed a direct correlation between temporary service interruptions and the upsurge in cholera cases(21). One reason could be that during interruptions of water service people rely on other less safe water sources.

Storage vessel disinfection

Rationale: Water is a possible vehicle of the vibrio, and several studies have shown possible recontamination of clean source water during transport and storage.

Regular cleaning of household water storage containers should be encouraged. 85% reduction in coliform counts was observed in a study in cleaned storage containers, but it should be noted that this alone did not protect stored water to be recontaminated at household level(22), and that only chlorine will provide a temporary remanant disinfection power in the form of free residual chlorine (FRC).

Household Water Treatment (HHWT) solutions

Rationale: When water access comes from several water sources (river banks, neighbour private wells, community boreholes, street vendors) it may be more efficient to target at-risk households directly and give them the possibility to protect themselves through household water treatment solutions (HHWT).

Amongst HHWT methodologies, filtration, Sodis (UV disinfection through sun exposure) and use of chemical products as chlorine or flocculent/disinfectant for turbid waters have been proven effective to reduce bacterial contamination in household water; However, only the HHWT solutions that provide residual disinfection potential (chlorine solutions) will be effective to protect from possible recontamination at household level;

Distribution of Household treatment in the form of chlorine or flocculent/disinfectant products seem to be one of the proven effective solution in providing safe water to a portion of the population – and has been proven to reduce cholera risk amongst users.

Adherence to the programme and maintenance of the behaviour is key to protect households. Pre-existence of the proposed technology in the community and demonstration, with follow-up visits are key elements for community acceptance and increased use.

Handwashing

Rationale: Cholera infection is faecal-oral. Main transmission route include ingestion of contaminated water OR ingestion of contaminated food. Unsafe handling of foods with contaminated hands or direct contact between hands and mouth can lead to vibrio ingestion.

A recent review investigated the effect of hand washing with soap, water quality improvement and excreta disposal on reducing diarrhoeal disease found that handwashing with soap could reduce diarrhea by 42%-48% compared to water quality (17%) and excreta disposal (36%) interventions(23). In several epidemiological studies, handwashing with soap behaviour was reported as a protective factor when cholera was not associated with a water source, but rather with food or unidentified source.

Focus should not be on water quality only, when proper hand hygiene practice can prevent person-to-person transmission as well as food and household water contamination. Hygiene promotion, and especially **handwashing with soap, should be an integral component of any cholera control program(17).**

Social mobilization

Rationale: Cholera is a deadly disease that can lead to severe dehydration and death in a matter of hours if left untreated. The cure is very simple, but needs to be implemented quickly. Simple rehydration with salt/sugar solution or manufactured ORS (Oral Rehydration Salts) sachets mixed with clean water can treat about 80% of all light and moderately dehydrated symptomatic cases. Being aware of the deadly disease, signs and symptoms, and urgent need to seek for rehydration care in the community (at ORPs) or to be referred to health centers or CTCs is key;

Existing studies looked at several interventions aiming at increasing cholera awareness and knowledge about cholera transmission and protection measures. The majority of studies concluded to have a good impact on knowledge, not always followed in observed practices(17).

Studies suffered various methodological limitations, and did not measure any effect on cholera incidence or mortality reduction.

Sanitation

Rationale: The faecal-oral transmission starts with dealing inappropriately with faeces, which can lead to the presence of the vibrio in the environment and possibly source water. Improving adequate and safe latrine use could reduce the environmental contamination and risk of further transmission. Not having a latrine or sharing a latrine with a neighbour has been identified as a significant risk factor in Zambia.

No studies were found looking at the impact of sanitation on cholera. More research is probably needed. However, sanitation interventions would probably need a consequent time, which might not be compatible with the need for an immediate response, but rather considered in a long-term risk reduction perspective.

Improvement of WASH infrastructures

Rationale: WASH infrastructures have historically proven to be effective in reducing cholera incidence (Europe & North America and most recently South America);

Few studies were found looking at the impact of infrastructures on cholera with no or little evidence provided. One study in DRC could link the quality of the service (water delivery interruptions) with cholera incidence(21), arguing for the need of a safe and reliable service.

Contexts of transmission – other than waterborne

The large majority of existing studies focussed on water quality interventions only, other transmission routes like the consumption of contaminated food as a result of poor hand hygiene, and person-to-person transmission appear to be overlooked in the literature. This seems to highlight the generally held belief that cholera is exclusively waterborne, thereby ignoring other routes of transmission – whereas transmission in a community is likely to occur through several routes at the same time, indicating the need for a more broader, integrated approach.

As already presented in the first section (1 - The West and Central Africa Cholera Approach -Shield & Sword Strategy), several transmission contexts during which an individual potentially get infected were identified, following field investigation work:

- Drinking contaminated water,
- Household and neighbourhood transmission,
- Transmission around funeral rituals and corpse handling,
- Transmission during social gatherings and in public places
- Transmission In and around cholera/health facilities,
- Or transmission within particular socio-professional groups.

Household and neighbourhood transmission: Household spraying, Hygiene/Disinfection kits distribution or not addressing the risk?

Rationale:

Several studies show an increased relative risk to contract cholera for case contacts (50 to 100 folds higher), this risk decreasing with time but still being higher for a sustained period of 23 days; The possible role of contaminated surfaces is currently being explored.

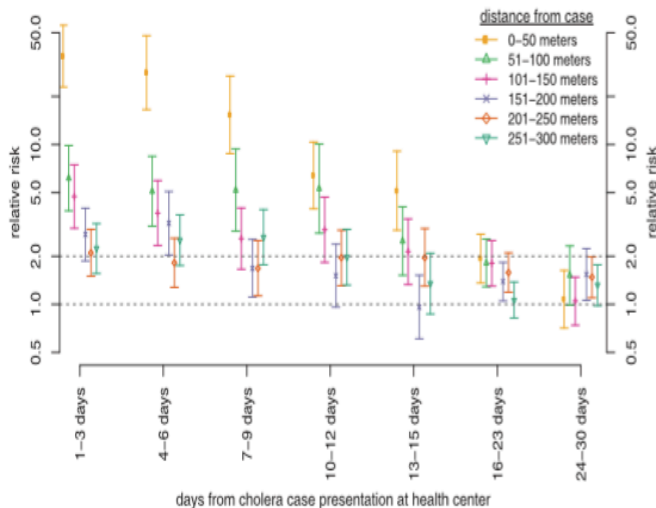


Figure: Relative risk (RR) of contracting cholera – function of the distance to a recently declared cholera case and evolution with time. Source: Tuft University.

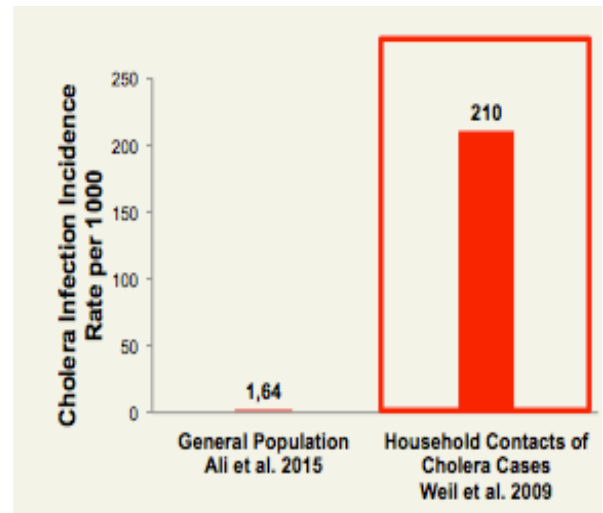


Figure: Cholera Infection incidence in Household contacts in Bangladesh compared to general population. Source: Johns Hopkins University.

Amongst the on-going research work, TUFT University is working to provide new insights - based on evidences and not on presumptions – on the risk of transmission at household level and the efficiency of different interventions to address this risk.

Household Disinfection to Reduce Cholera Transmission: Summary of Knowledge and Recommendations



Cholera is a severe, acute, dehydrating diarrhea that can kill children and adults in less than 12 hours, and is the result of infection with the bacterium *Vibrio cholerae* (*V. cholerae*). Water supply and sanitation infrastructures have eliminated cholera in many countries. However, in 2014, 32 countries reported cholera transmission, many of which struggle with poverty, rapid population growth, and instability. Internationally, there are 3-5 million cases of cholera a year, with 100,000-200,000 fatalities. Depending on the severity of the infection, cholera may be treated with oral rehydration salt (ORS) solutions, intravenous fluids, and/or antibiotics. The case fatality rate (CFR) in a well-managed cholera outbreak, with proper timely treatment, should be less than 1%; although in practice some outbreaks, particularly in the early stage, have CFRs much higher than that. Due to household contamination with the bacteria, household contacts of confirmed cholera patients are much more likely than community members to contract cholera. Household disinfection is one of many water, sanitation, and hygiene interventions in cholera outbreaks and is intended to prevent transmission from a cholera patient to household contacts and neighbors. For more information on cholera, please visit www.who.int/cholera.

Approaches for Household Disinfection

Traditionally, the primary household disinfection intervention was spraying of a cholera patient’s home with chlorine solution by a dedicated response team. However, recent concerns about the efficacy, effectiveness, and acceptability of household spraying have led agencies to reconsider practices. The current recommendations are to:

- Not complete household spraying with chlorine solution; and,
- Instead, deliver and train household members to use an “household disinfection kit” of materials to support disinfecting their own homes.

Despite the recommendations, household spraying with chlorine solution is still commonly completed, as it is a known and visual prominent outbreak response activity.



Household Spraying (IFRC)

Traditional approaches to address the risk have been “Household spraying”, meaning household disinfection with the support of a disinfection team, but the lack of protocols and clear dosages

instructions, and the cost/time required by such interventions have led to question its interest in cholera response.

Current recommendations are to not complete household spraying, because there is no evidence in the efficiency of a **one-off spraying process** (asymptomatic or convalescing household members may shed vibrio in the environment for several days and could be responsible for repeated household contaminations).

> As identified in the risk chart, any intervention trying to address this transmission context should be encouraged for a sustained period of time, probably at least 2 to 3 weeks and should start as early as 1-3 days after the identification of the case, when the risk is at its maximum and where the intervention could yield its highest benefit in preventing new contaminations.

Instead, current recommendations are to deliver and train household members to use a "household disinfection kit" to support disinfecting their own homes.

A first study led by the Johns Hopkins University(24) in Bangladesh showed a 47% reduction in cholera incidence amongst households with a sustained 7 days intervention of an Hospital based delivery of WASH intervention including: Distribution of soap and aquatabs, chlorine solution, and a Household water storage and distribution jerrycans with tap. The results are promising for cholera risk reduction amongst households, and a follow up study showed a sustained improvement in water quality and handwashing behaviour in sensitized households compared to the general population.

Because the Relative Risk (RR) is higher also for the neighbours, it could be useful to provide sensitization, distribution of hygiene/disinfection kits and counselling around the house of a cholera case, as a ring intervention strategy; This could provide a good "epidemiology-based" entry point for distributions in urban areas, rather than the socio-economic entry point usually used by Red Cross during interventions (**old people, disabled, single headed household, etc.**), and could alleviate the stigma on a particular family (principle of a blanket intervention in at risk area);

Transmission around funeral rituals and corpse handling

Rationale: Community / family management of deceased relatives are often reported to be a source of transmission during cholera outbreaks. The reported risk can be linked to direct corpse handling and preparation, as well as traditional ceremonies that may go together with the burial.

Possible interventions include but not limited to:

- Participating in the corpse preparation, ensuring the safety and hygiene precautions with respect of religious beliefs and traditions
- Limit the number of people with direct contact of the dead body
- Use of disinfectant (chlorine 2%) solution for washing possible stains and materials
- Washing hands with 0,05% chlorine solution
- If ceremonies are not forbidden, consider participating in ceremonies, with sensitization, hand-washing facilities, hygiene kits, etc.

There was no quantitative study made on this particular transmission risk and efficiency of the methods to prevent further contamination.

Transmission during social gatherings and in public places

Rationale: Investigations showed an increased risk associated with public markets, street restaurants, public or religious ceremonies, bus or train stations, ports and landings, and possibly churches/cult or schools.

Possible interventions include – but not limited to:

- Mobilization of administrative authorities to temporarily suspend markets and ceremonies
- Mass communication / cholera awareness and health promotion
- Installation of handwashing facilities, provided with water and soap
- Demonstration sites and distribution of hygiene materials
- Mobilization of religious authorities to raise awareness and provide health information
- Mobilization of teachers and school directors to raise awareness and provide health information and ensure clean water distribution, proper hygienic behaviours, latrines cleaning

There was no quantitative study made on this particular transmission risk and efficiency of the methods to prevent further contamination. However, a case study done in Touba, Senegal, showed a sustained reduction of cholera transmission following a pack of hygiene and safety measures organized by the health and water authorities, in conjunction with the religious leader.

Transmission In and around cholera/health facilities

Rationale: Case management done in an inappropriate setting are plenty. Lack of adequate human resources, materials and infrastructure can lead to such situation where Health centers or Cholera treatment centers may constitute a risk for visiting or accompanying family members, health personnel and neighbours.

Possible interventions include – but not limited to:

- Ensuring the appropriate isolation of cases (cholera patients not mixed with others)
- Ensuring IPC procedures are in place and in particular Entry/Exit disinfection
- Non-medical case management support – as well as accompanying family members management and sensitization
- Ensuring there is an adequate and safe supply of water
- Ensuring latrines disinfection is done
- Etc.

There was no quantitative or qualitative study made on this particular transmission risk and efficiency of the methods to prevent further contamination.

Transmission within a particular socio-professional group

Rationale: Specific population groups, such as fishermen, traders, nomadic herders and mine workers have been identified in certain regions to be responsible for the spread of cholera to others regions. Reasons are often linked to poverty and poor hygiene practices, with possible long-distance displacements.

Possible interventions include – but not limited to:

- Identifying vulnerable groups and their characteristics (movement dates and directions, etc.)
- Encourage and facilitate referral to health centre or CTC
- On site sensitization and distribution of hygiene kits and ORS sachets
- Etc.

There was no quantitative or qualitative study made on this particular transmission risk and efficiency of the methods to prevent further contamination.

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#03. Review of Red Cross Interventions and perception

An extensive review of Red Cross operations (DREFs and EAs), evaluations and reviews, lessons learned exercises, and existing guidelines was made, as well as a qualitative evaluation of the perception of the Red Cross work in cholera response, through interviews with National Societies, PNSs, IFRC staff, and external experts (DG ECHO, UNICEF, WHO, MSF, Save the Children).

3a. Review of Red Cross Interventions during the past 10 years (2008-2017)

A research was made on the IFRC website to retrieve all cholera operations reports since 2008. The search resulted in a list of 30 DREF and Emergency Appeals final reports, covering 17 countries from 2012 up to 2017.

The total of DREF and Emergency Appeals for cholera response over the past 6 years represents a total budget of 11,4 million CHF (10,6 million Euros). This amount does not include cholera programmes funded by other donors or supported by Partner National Societies.

The average (median) budget of an operation was 192'000 CHF, with an average (median) 113'000 people assisted per DREF.

Amongst all cholera operations, 16/30 were responses to outbreaks which finally revealed to be significant outbreaks (more than 5000 officially reported cases), the other half being early responses to smaller rapidly contained outbreaks. Only one DREF (in Gambia in 2012) was issued without having cases being reported in country (10 cases had been reported in the neighbouring region of Tambacounda in Senegal, coinciding with high risk period - major religious event in Touba).

An analysis of the RC response through DREF and EA reports showed a high heterogeneity of cholera response activities between operations. Not less than 46 types of activities have been identified, which can be sorted in 9 major categories:

- Coordination
- Surveillance
- Epidemiological reasoning and targeting
- Participation in vaccination campaigns
- Case management
- Participation in safe & dignified burials
- Community mobilization, cholera awareness, sensitization
- Water and sanitation activities
- Specific school interventions

Table: Red Cross Operations Analysis - Frequency of activities by category

Activity Category	N	%
Coordination	14	47%
Surveillance	22	73%
Effective use of EPI Data to lead the response	4	13%
Participation in OCV	2	7%
Case Management	22	73%
Participation in safe burials	4	13%
Community Mobilization & Sensitization	30	100%
WASH - Reduction of transmission	30	100%
School interventions	17	57%

Overall, 100% of operation reports mentioned some form of community mobilization together with water, hygiene and sanitation activities. Direct or indirect surveillance and case management activities were mentioned in 73% and activities specifically targeting schools in 57% of operations. Specific investment in participating to coordination efforts with the government and other partners were mentioned in 47% of reports. Activities linked to the use of epidemiological data to guide the response or participation in safe burials were less represented (13%), as well as participation in vaccination campaigns (only mentioned in 2 reports).

NB: One caveat of this analysis is that it depends on the quality of narrative operations reports. ***Improvements in the overall monitoring, evaluation and reporting of operations could greatly benefit to the quality control and credibility of Red Cross interventions.***

Coordination

Specific coordination efforts were only mentioned in less than 50% of the operation reports; However, as previously mentioned, there is a possibility that coordination activities were implemented during the operation without being specifically captured in the narrative report; Would it be the case, this could still be interpreted as not valuing enough the importance of coordination amongst the response activities.

> Why is it important?

Contribution to general coordination efforts is a duty of every humanitarian actor (coordination saves lives). Sharing information; allowing for a common programming; avoiding gaps in response distribution and duplication of efforts. Coordination contributes to the overall aid effectiveness; Interest in gathering data/information from GVT and other active partners interventions on the field. Equal interest to share data/information with GVT and other active partners. A place to share specific issues with other partners and harmonize response strategies. An ideal place for advocacy. A place to showcase Red Cross role and activities in cholera response;

Recommendations

Have 'Coordination' listed as a specific activity for cholera response – set specific activity indicators for reporting. Dedicate enough time and resources to coordination.

NB: Coordination is a key element, specifically in epidemic response where the situation can evolve rapidly, with affected areas (intervention hotspots) changing very quickly.

Surveillance

Activities listed under the category “Surveillance” included: Participation in outbreak investigation, active case finding, contact tracing and referral, community surveillance and/or mortality surveillance, and use of GPS for case localisation and mapping.

Activity	N	%
Outbreak investigation	2	7%
Active case finding, contact tracing, and Referral	21	70%
Community surveillance and mortality surveillanc	6	20%
GPS mapping	1	3%

Only one report mentioned the use of GPS to geolocalize cases and report them on maps used for spatial analysis – in the Kenya 2015 Emergency Appeal.

Few reports (2/30) mentioned the RC participation in outbreak investigations;

Community surveillance was mentioned in 6 operations, however the description of the activity related more to active case finding than establishing a proper community surveillance system.

Active case finding seem to be an activity reported in a vast majority of interventions (70%). However, few informations were provided in the reports on how this activity was implemented and only a few reports gave figures on the number of cases found and/or referred to health centers; Referral is also regularly mentioned, sometimes linked (but not always) with ORS administration before or during the transportation.

> Why is it important?

Surveillance is often pointed out as one of the major weaknesses in outbreak management in African countries; Weak official health surveillance systems are to blame, for a number of reasons; Lack of good communication infrastructures; Lack of resources. But the rarely mentioned under use of health services need to be taken into consideration – rendering health facilities based surveillance unable or not sensible enough to detect outbreaks and deaths happening in the community, especially for new outbreak detection; In these conditions, a pre-established community based surveillance system, complementary to the existing one and implemented in perfect coordination with health authorities, could prove very useful in high risk areas for early detection of cases and consequently triggering an early et more effective response.

Recommendations

Guidelines on community surveillance, active case finding, dehydration evaluation, ORS administration, referral, transportation, and notification of cases for monitoring purposes should be the basis for this exercise. Specific activity indicators should be defined and used for reporting. Participation in outbreak investigations could also be very useful in identifying specific transmission contexts and addressing them in the design of the response. Use of GPS and case mapping can be a very powerful tool to refine the analysis and allow for a more precise targeting strategy (specifically in urban contexts) but requires technically qualified personnel.

Epidemiological reasoning and targeting

Use of existing epidemiological information and analysis to guide and orient activities was only mentioned in 4 recent operations (Ghana 2014, Kenya, Nigeria and South Sudan 2015). In those reports, reference is made to data collection and analysis through new field assessments rather than exploiting the already existing information. None of the reports mentioned that epidemiological knowledge pre-existed to this particular outbreak, which could be useful to guide the on-going operation.

> Why is it important?

In a resource-limited setting, targeting the population most in need with the most effective interventions -in that particular context- are key elements of an effective response; Many DREFs mentioned that all the needs were not covered / or that items were not enough to supply all the population in the affected area. Targeting the correct population and prioritizing effective interventions over less effective ones are a necessity. Any intervention should be justified and as much as possible proven effective, if possible cost-effective, and implemented in the most efficient manner. Reducing the intervention to its most efficient version in order to make the best use of the available resources is a must. However, usual targeting methodologies used by the Red Cross (such as social vulnerability status: elderly woman/orphans, child headed households, etc.) will not be of great help when it comes to save lives and interrupt disease transmission (despite the fact that this was described as the targeting methodology in many reports). To save lives and reduce transmission, one need to use a targeting strategy based on a thorough epidemiological analysis, and constantly adapt to the evolving situation.

In an emergency operation, pre-existing epidemiological information is a very useful tool, allowing to save scarce resources and helping with targeting 1) most at risk population with 2) adapted solutions to avoid risky practices - if already known in 3) the most at risk areas; This pre-existing knowledge from previous outbreaks is often present, sometimes readily available but surprisingly not necessarily re-used for a new outbreak response.

Recommendations

In countries regularly affected by cholera outbreaks, ensure that an historical review of previous outbreaks and interventions is available, with key findings summarized in a report and shared with all the stakeholders.

In all operations: at minimum, make sure to attend all coordination meetings to adapt the response to the rapidly evolving epidemiological trends; and to assist to partners epidemiologists or socio-anthropologists reports presentations, in order to integrate their findings into the on-going response; If possible, hire the services of epidemiologists and socio-anthropologists to adapt the response to the context.

Participation in vaccination campaigns

2 reports mentioned the participation of the RC in a vaccination campaign (Guinea & Ghana). Despite the fact that in Ghana, the participation of the RC in Government vaccination did not seem directly related to cholera, the report still mentions *"The DREF operation proved to be very timely for social mobilization for cholera vaccination performed by the government, as well as for the introduction of two new vaccines (Pneumococcal and Rotavirus)"*. In Ghana, the RC did not have specific activities for the vaccination but rather extended the messages delivered to the community to also cover vaccination. In this particular case, this activity might be debatable, as the vaccination campaign was not related to cholera – possibly inducing confusion in the population's mind (as well as the National Society apparently). In Guinea, participation in the

immunization campaign was mentioned, but not included as an activity in the DREF.

> Why is it important?

Oral Cholera Vaccination (OCV) is a new tool to help protect population from being infected by cholera, thus helping to reduce morbidity and mortality; While there is still a debate on where and when OCV campaigns should be implemented, its efficiency seem to be proven – and its usefulness recognized particularly in closed setting (eg. in IDP/Refugee camps) or in areas with insufficient humanitarian access to provide long term classical health and WASH support. There is a growing interest from agencies and governments to implement vaccination campaigns, and the Red Cross could have a key role to play in the preparation and the implementation of those vaccination campaigns, for example through community awareness and mobilization;

Recommendations

Reports capturing the experience of RC societies involved in OCV campaigns could help spread the word and showcase the RC role and added value in this new response mechanism implementation; There is also a need to better inform National Societies on Oral Cholera Vaccination (OCV) and the potential role of RC in organizing those campaigns.

Case management

22 out of 30 reports mention some activities related to case management. Details are provided in the table below:

<u>Activity</u>	<u>N</u>	<u>%</u>
CTC Set up and operation	4	13%
Support to existing CTCs (material, equipments)	4	13%
Support to existing CTCs (Medical teams)	3	10%
Support to existing CTCs (Provision of medical supplies)	10	33%
Support to existing CTCs (Non-medical activities : registration, disinfection, safe burials, family management and psychological support)	2	7%
Targeted prophylaxis for case contacts in line with MoH policy	1	3%
Community case management (ORPs)	5	17%
Distribution of ORS sachets	13	43%

Direct management of cases in a dedicated CTC structure was mentioned in 4 operations (In Kenya, Sierra Leone and Chad). To date, medical management was realized only during ERU response in Sierra Leone and Chad with the exception of the Kenyan RC, which provided this service on request of the government without external support.

More frequent, punctual support to existing CTC in the form of material equipments, human resources or medical supplies, has been reported in nearly half of the operations;

Non-medical support to existing CTC, as involvement of volunteers in registration, disinfection, burials, and psychological support to patients and family members was only reported in 2 reports. However, it is probably more frequent but not reported in DREF reports because not considered as part of the DREF response – often done in partnership with other medical organizations like MSF;

It should be noted that mass or even targeted prophylaxis for case contacts is not recommended for cholera; Targeted prophylaxis for case contacts was only mentioned once in Kenya, in support of the Ministry of Health.

Community case management was only reported in 5 of the 30 operations. It was sometimes planned but “not implemented as planned”; Few operations directly mention ORPs as an activity, some mention giving ORS sachets to identified cases in the community before referral.

ORS distribution is mentioned in 13 operations. But it is often mentioned as a WASH activity, together with aquatabs or soap distribution. It is unclear how the operation was done, and what was the objective behind. Some operations mention ORS distribution, when in fact it was given to CTCs or Health centers.

> Why is it important?

Community case management (ORT) should be the basis of any cholera intervention. ORT saves lives. Implementing a community based ORT strategy may be one of the most effective interventions to prevent escalation of dehydration by providing a local, immediately available effective solution for light or moderate cases, and by reducing the caseload of severe cases in health centers or cholera treatment centers.

Recommendations

In emergency, targeting already affected areas with ORT (Sword) as well as not yet affected high-risk areas (Shield) can provide a timely solution for identifying and treating most of the cases in the community – as well as to increase referral of severe cases to designated health posts or nearest CTU/CTCs.

In preparedness and prevention intention, ORT implemented as a year round program in pre-identified hotspots in the form of ORPs (Oral Rehydration Points), can also be used as or connected to a community based surveillance and early warning system – able not only to detect abnormal upsurge in diarrhoea cases or suspicion of cholera cases and alert the health authorities, but also to immediately provide a local response with an already proven efficient intervention – or to refer the more severe cases directly to health centers.

Partnership with WHO/UNICEF and MoH for ORS supplies may provide a very useful solution in identified hotspots areas;

Direct medical management of cases in CTCs should only be done by professional, experienced health organizations. Such activities require very qualified emergency staff, professional logistics and are also highly HR consuming. This may sometimes be identified as an acute need when the Government is overwhelmed, but RC societies should only engage in this activity if they have sufficient capacity to respond – with potential support from the IFRC or other partner societies;

Support to existing health care facilities or Cholera treatment centers may also be a key element of the response, when health structures are understaffed. Support in the form of non-medical activities as WASH/IPC activities, registration and dealing with accompanying family members can also play an important role. Health centers are not always well structured and may lack efficient IPC materials and protocols, with a risk of becoming a source of transmission in the neighbouring community.

Recommendations

Non-medical support such as WASH/IPC activities can be key helping Health structures/CTCs ensure the security and safety of caretakers and neighbouring communities. Being involved from the start in the registration process can help gather essential information on the localisation of incoming patients – and address the situation through investigation and possible orientation of the response teams. Being in direct contact with family case contacts can help spread important information on cholera prevention and how to limit the spread to household members and neighbours.

Participation in safe & dignified burials

Participation in burials and dead body management was mentioned in 4 operations in Cameroon, Congo, Ghana and Guinea; Some of the operations mentioned dealing with dead bodies in CTCs, other reports mentioned providing support into the communities to ensure that there is no contamination during corpse handling, preparation of the body for the funerals, and dealing with the deceased belongings.

> Why is it important?

Inappropriate handling of dead bodies, without adequate disinfection and Handwashing, has been known to be the source of secondary cases in the community. Special funeral gathering events, with family relatives and friends coming from far for the event, can also be a source of spread of transmissible diseases; Such occasions constitute a particular opportunity to prevent transmission, by providing information or support to the family for the preparation and burial of the body and to raise awareness and inform family members, neighbours and sometimes relatives coming from distant communities on cholera, its symptoms and routes of transmission, how to prevent contamination and the immediate measures to take in case of apparition of symptoms;

Recommendations

Providing guidance and/or direct support for dead body management and funeral ceremony organisation should be a key activity in communities with no dedicated dead body management organizations.

Community mobilization, cholera awareness, sensitization

Community mobilization was present in all of the 30 operations (100%).

Key mentioned interventions were raising cholera awareness through public meetings and community leaders (90%), House-to-house sensitization (80%), distribution of IEC materials (80%) and Mass media messaging through radio, sms, videos etc. (70%). When reports provide some details on what was included in the messages, Handwashing comes first (73%) followed by water treatment and safe disposal (50%), hygienic food handling (37%) and safe faecal matter disposal (17%).

In 3 operations, the reports mention the organization of a short KAP survey in order to identify knowledge gaps, at risk practices, beliefs and to adapt the messages to the community;

<u>Activity</u>	<u>N</u>	<u>%</u>
KAP surveys to adapt messaging	3	10%
Cholera awareness through public meetings, religious leaders a	27	90%
House to house cholera senzitisation	24	80%
Mass Media Radio / videos messaging / sms	21	70%
Distribution of posters and other IEC materials	24	80%
Hygiene and Health promotion	26	87%
Handwashing promotion	22	73%
promotion of water treatment, safe storage and handling	15	50%
promotion of safe faecal matter disposal	5	17%
promoting hygienic food handling	11	37%

> Why is it important?

Cholera knowledge might not pre-exist in affected communities. The severity and rapidity of dehydration is one of the major characteristic of cholera, possibly leading to death in a matter of hours; Informing communities about the existence of a cholera outbreak, the risk of severe dehydration and death in a matter of hours, identifying signs and symptoms, the need of prompt rehydration or to be referred to an appropriate health centre or CTC, and the essential measures to prevent contamination can save many lives. Cholera awareness is a life saving activity. Radio, video or sms messaging can reach millions of persons in a matter of hours, and can be a very powerful communication channel. However, house-to-house visits may be complementary in the sense that messaging can be validated in a bidirectional exchange, and potential misunderstandings or fears addressed at the same time. There is also a good opportunity to link this activity with hygiene practices observation, hygiene items distribution or more interestingly voucher distribution, which can provide also a feedback on the impact of messaging on adherence to the desired behaviour adoption.

Recommendations

Community mobilization is a key, life-saving activity in epidemic response – as it can reduce the critical time between the moment where symptoms arise and the “seeking for treatment” behaviour, and as such should be one of the first measure to implement. There is also a high potential of transmission reduction if people adopt the adequate hygiene behaviours. Messages should ideally be tailored to the identified risk practices and not be limited to Handwashing and safe water treatment;

Water and sanitation activities

Water and sanitation activities were reported in 30/30 (100%) of cholera operations. However, a more detailed analysis reveals a high diversity of interventions. The most frequently reported interventions were the distribution of HHWT solutions in the form of aquatabs or PUR sachets (83%) and soaps (80%). Other reported interventions are listed in the table below.

Activity	N	%
water quality monitoring (HH or system)	6	20%
chlorination of water storage tanks	1	3%
Well disinfection / well chlorination	10	33%
Installation of water distribution point and water trucking	2	7%
Bucket chlorination	2	7%
Distribution of water bottles	1	3%
distribution of aquatabs / PUR	25	83%
distribution of water filters	1	3%
Distribution of jerycans and buckets	14	47%
Distribution of soaps	24	80%
Clean up actions in public places and around CTCs	16	53%
Installation of handwashing facilities	12	40%
Household disinfection (vomit, faeces,etc.)	10	33%
Latrine disinfection	9	30%
Hardware : Drilling new boreholes and/or rehabilitation of wells	9	30%
Hardware : Latrine construction or rehabilitation	11	37%

> Why is it important?

Cholera being a faecal-oral disease, water and sanitation activities are key to limit the spread of the vibrio and prevent new contaminations.

The diversity of interventions is not *per se* surprising, and could indicate the will to adapt the response to a particular context. Most of the interventions seem to be targeting possible routes of transmission or possible high-risk contexts with immediate and efficient responses, but this hypothesis could not be confirmed as no justification was provided in the reports on the situation analysis and the rationale behind the choice of a particular solution;

It should be noted that rehabilitation or construction of water points and latrines were included in the response in respectively 30% and 37% of the operations. Such interventions are usually implemented in the view of fulfilling a need, the lack of adequate water and sanitation services often being identified as the principal reason why communities are affected. With the exception of very few particular situations, engaging in infrastructure projects will go far beyond the emergency period of 2-3 months and will not provide any response to the actual emergency needs to reduce transmission. Considering that emergency works are often done without proper time needed for analysis and implication of the community, which could result in new problems or conflicts in the community, considering also that the works will most probably be finished far after the outbreak is over, building new infrastructures is therefore not seen as an effective use of emergency money, at a time where we want to use each penny available to save the maximum of lives. Such interventions will advantageously be done AFTER the emergency phase, with more long-term development funds and with the needed community dialogue and implication.

Recommendations

Water and sanitation activities are key in limiting the spread of vibrio cholerae and in reducing the risk of new contamination. The choice of one particular intervention should be linked to the analysis of the situation on the field, and to the knowledge of pre-existing working solutions in the country. Investments should be limited to proven effective and cost-effective emergency interventions, in order to be able to respond to the maximum of affected communities – rather than investing in infrastructure works which will often not respond to the emergency needs in the time allowed for the response.

Specific school interventions

Specific interventions in and around schools were mentioned in 17/30 (57%) of operations. School interventions, however, seem to be more a strategic orientation than a response to the identification of a particular transmission risk amongst school children, which was never mentioned.

Activity	N	%
schools provided with with storage tanks, jerry cans, buckets an	8	27%
CHAST hygiene education in schools	3	10%
Sensitization in schools	14	47%
Soap distribution for school children	2	7%

Generic sensitization activities in schools were reported in 14/30 (47%) of all operations, whereas specific hygiene promotion programmes like PHAST and CHAST were mentioned in 10%. Equipments such as buckets/jerrycans/handwashing stations were distributed in schools in 27% of cases, with soap being distributed only in 2 operations (7%).

> Why is it important?

Are school children a particularly vulnerable group in a cholera context? Is school a particular transmission context? Well, possibly, but ultimately epidemiological data analysis can help us identify and target the vulnerable groups, and identify specific contexts where transmission risk is high.

Specific interventions in schools are often more related to the belief of specific vulnerability of children, as well as to the high value of using children as efficient change agents for household hygiene practices.

Recommendations

Because school children are recognised to be efficient change agents for household hygiene practices, because school teachers can be used as efficient relays for health education and hygiene promotion, school interventions have a high potential to complement community meetings and house-to-house interventions; In that sense, a specific intervention model should be designed for school interventions.

Overall, each operation reported between 4 and 25 different activities, with an average of 15 activities reported per operation. Improvement in cholera response could benefit from simplification and prioritization of activities to be implemented during cholera responses, in relation with a justification of the intervention based on a context analysis.

3b. Review of Cholera Responses Evaluations

Evaluations and reviews were available for Uganda, Kenya, Nigeria, Ghana, Sierra Leone and Benin. The main findings are presented below.

RC widely recognized for:

- Community mobilization, including house-to-house
- Distribution of hygiene items, including aquatabs and soaps

Recommendations & room for improvement:

- Speed / timing of the response (inadequate: most of the time after the battle)
- Need to be more involved in coordination at all levels (national/district/local)
- Activities where RC should engage or not (in particular with regards to case management) should be clarified.
- Support to CTC (WASH, IPC) has been proven very useful
- Other actors request a higher implication of the RC in Community based Surveillance, cases follow up, mortality surveillance and active search and referral
- Need to improve general logistic support with regards to delays and quality checks (reports of expired products)
- Reported inadequation of the quantity of items > Design a distribution strategy based on epidemiological findings and reasoning > target most at risk populations
- Increase visibility / Red Cross identification
- Need for increased volunteer support/coaching/guidance/supervision. Invest in specialised HR at national and regional levels (public health specialists, epidemiologists, GIS specialists)
- Invest in preparedness (contingency plans, stocks) and readiness (trainings, simulations) at National levels + surge capacities at regional level (RDRTs)
- Need to have dedicated guidelines for each activities

Additional considerations

Operation reviews were generally found somewhat partial, **low quality evaluation reports**. Such work would benefit from an external evaluation point of view, in order to be more neutral on the findings and to improve the overall quality of the response.

Between the lines reading of the evaluation reports allows to identify one of the most critical issue: **The timing of the response**. A very good response provided 2-3 months too late is not acceptable: It is simply not providing relief to the affected population, nor contributing to saving lives. And it is not contributing to building the reputation of the Red Cross in cholera response. It would be adequate to start an early response with a dedicated contingency fund at national level followed by a quick DREF release if needed. Cholera outbreaks usually last 2-3 months and a delay in the start of the emergency intervention could possibly render it useless (start of the response after the peak of the epidemic when there is no more cases). In case the epidemic is over, consider adapting or stopping activities and not pursuing with distributions; Timing of each response activity during the response should be one of the most important criteria to be reported against – and evaluated after each intervention.

ORT is a very important but apparently not very well understood activity; **ORT is a case management activity**, not a WASH activity. There is a need for clarification at all levels of the organization.

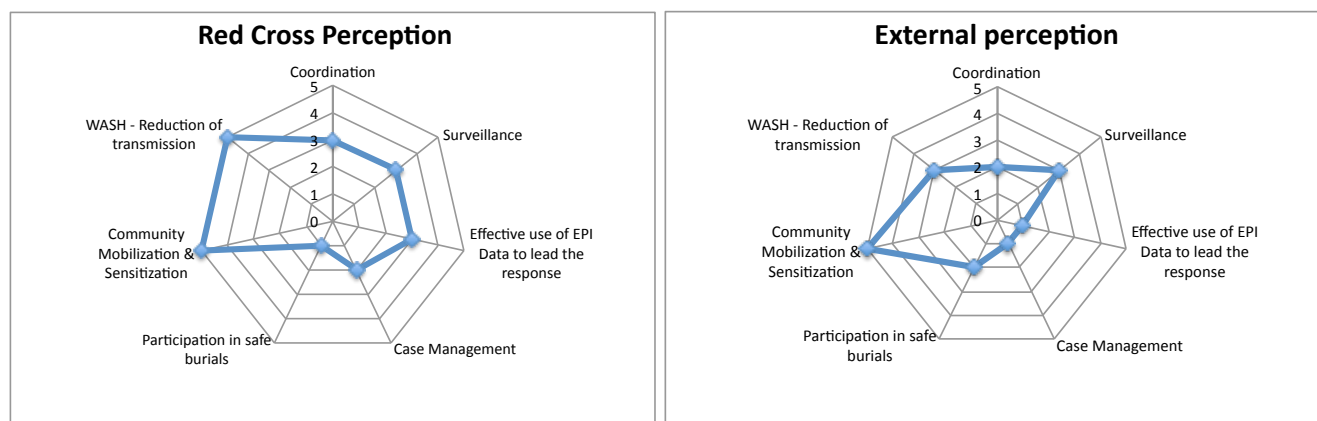
Red Cross cholera operations often have multiple activities, in multiple locations, but with few expert trained managers for coaching and supervision. There is a need to simplify the response and focus on emergency activities (not to mix with long-term prevention activities, which can be done later on), in most affected areas.

Speed and professionalism in the response could be increased through preparedness stocks and plans and HR capacity building done beforehand. Building capacities is key. However too much trainings are being done in emergency – when it is not the adequate time to train all the volunteers with multiple (CBHFA, ECV, PHAST, etc.). Ad hoc cholera training should be readily available and quickly implemented during the start of an emergency.

Emergency management, supervision and monitoring of the intervention should be done by expert/specialised staff – presently insufficient. Consider re-enforcing health staff of the NS with additional public health staff, epidemiologists and GIS specialists.

Review of RC and other stakeholders' perceptions

A summary of qualitative findings from interviews with National Societies, Partner National Societies, IFRC staffs and external stakeholders is presented below.



Graphic: Perceived expertise of the Red Cross in cholera response per sector.

This qualitative analysis confirms the main findings from the operation review and the evaluations. The perceived main strengths of the Red Cross response are at community level, especially for social mobilization, cholera awareness and health promotion.

The external partners perception is valuing specifically the volunteers' network – which gives the Red Cross an incomparable advantage – its ability to deploy an intervention at community level on a national scale. On the other hand, volunteers are not “specialists” and should be given adequate training, supervision and as much as possible simple tasks. This reflects on the perception of the Red Cross as a whole, perceived as an efficient community organization but not very specialized or “professional”.

The systematic search and use of available epidemiological data to prioritize interventions and target most affected areas, together with the contribution of a pool of trained cholera experts within the Red Cross family, could contribute to improve the operations results as well as build the credibility of the Red Cross movement.

This said, external partners consultation also revealed that the Red Cross had an under-exploited added-value that should be more explored: its permanent presence in the communities and its intimate relations with the communities. Such capacity should be exploited in the cholera prevention and response to provide immediate community based interventions when an outbreak happens (cholera awareness information, rehydration therapy together with community based surveillance, and participation to burials and burials ceremonies).

Participation in regional, national, sub regional coordination fora is probably an area where the Red Cross should be more present, with a professional and quality participation to the discussions in order to promote the Red Cross experience in the cholera response and showcase its particular expertise, through case studies, quality evaluations reports, or publications.

#04. Cholera Strategic Framework

A Cholera Framework representing all cholera related activities and their contribution to the general objectives at different level of implementation (individual or household, community, township, province/district, national or supra national) could be summarized as follow:

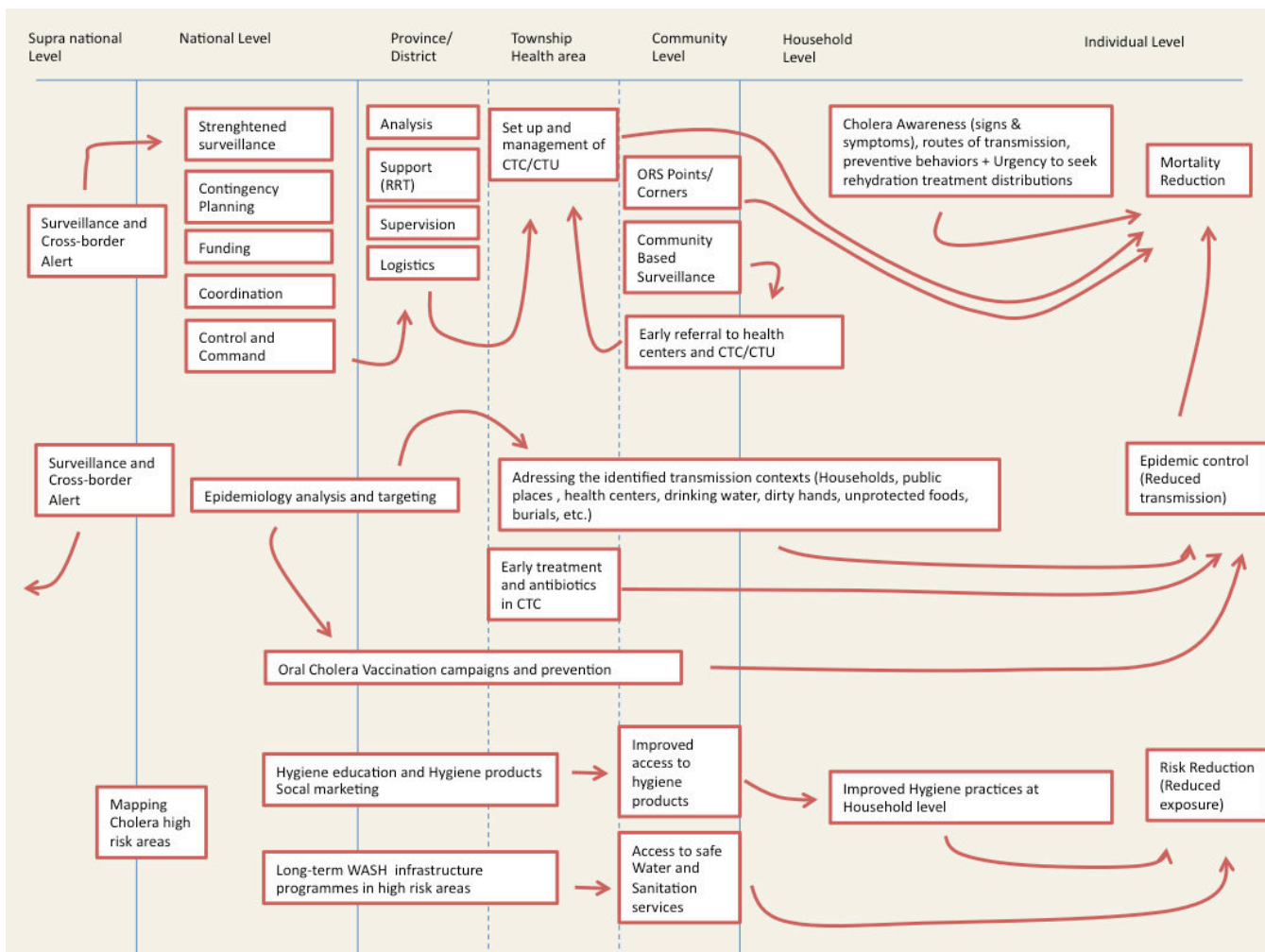


Figure: Overall Cholera Framework for interventions in control and prevention at different level of implementation.

Objectives

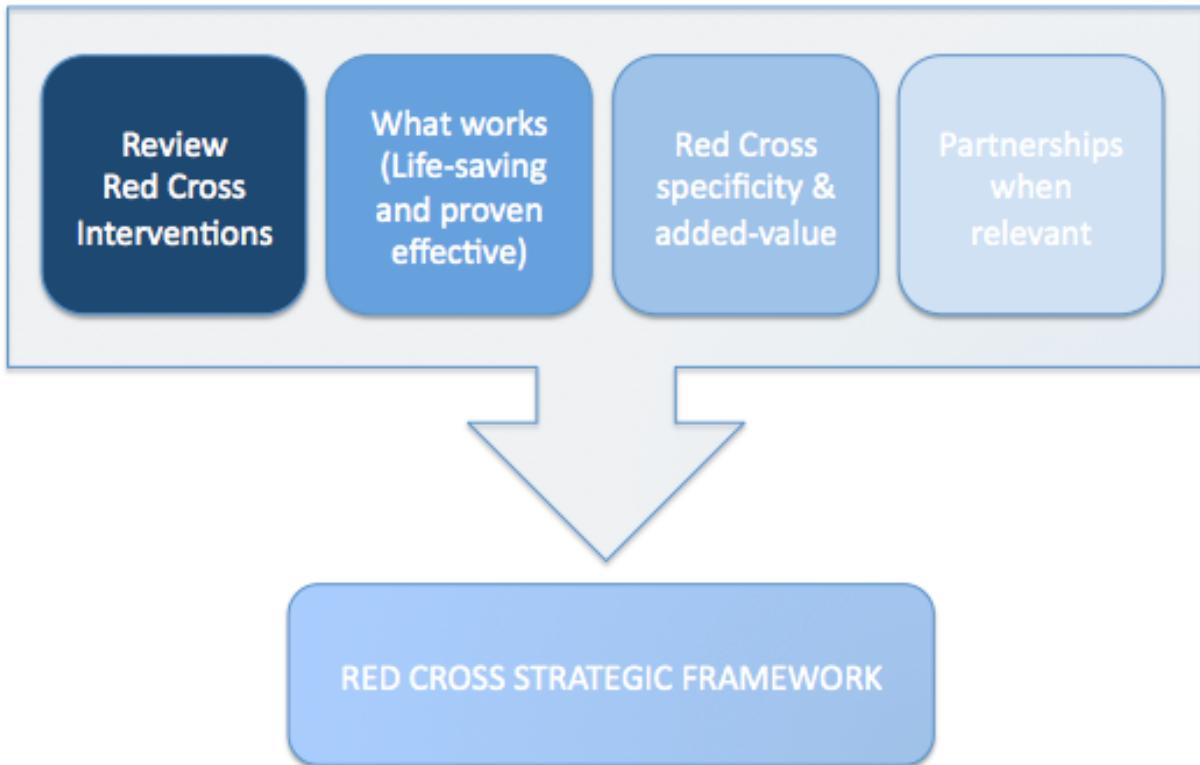
This Cholera Framework has two main objectives:



- Contribute to the reduction of the excess morbidity and mortality associated with cholera outbreaks (a short term immediate life-saving objective)
- Contribute to the reduction of the exposure and vulnerability to cholera risk (a long term risk reduction objective)

The Red Cross Movement Cholera Strategic Framework should fit within this overall Cholera Framework, even if it does not cover all the possible interventions – taking into consideration political choices, complementarity with other stakeholders’ role, and the specificities of the Red Cross movement.

The proposed approach was built with the idea to combine the existing Red Cross role and experience, up-to-date evidences on interventions that are life-saving and proven effective, consider the specificity of the Red Cross as an organization and evaluate where possible and relevant strategic partnership with other stakeholders.



For each situation, the choice of activities to be implemented need to be tailored to the context, on the basis of existing epidemiological investigations, and taking into consideration the capacity of the national Red Cross National society, which may vary according to experience.

The proposed interventions also have to be adapted to the context in which the operations are implemented. A matrix of possible strategic directions according to different scenario can be found below:

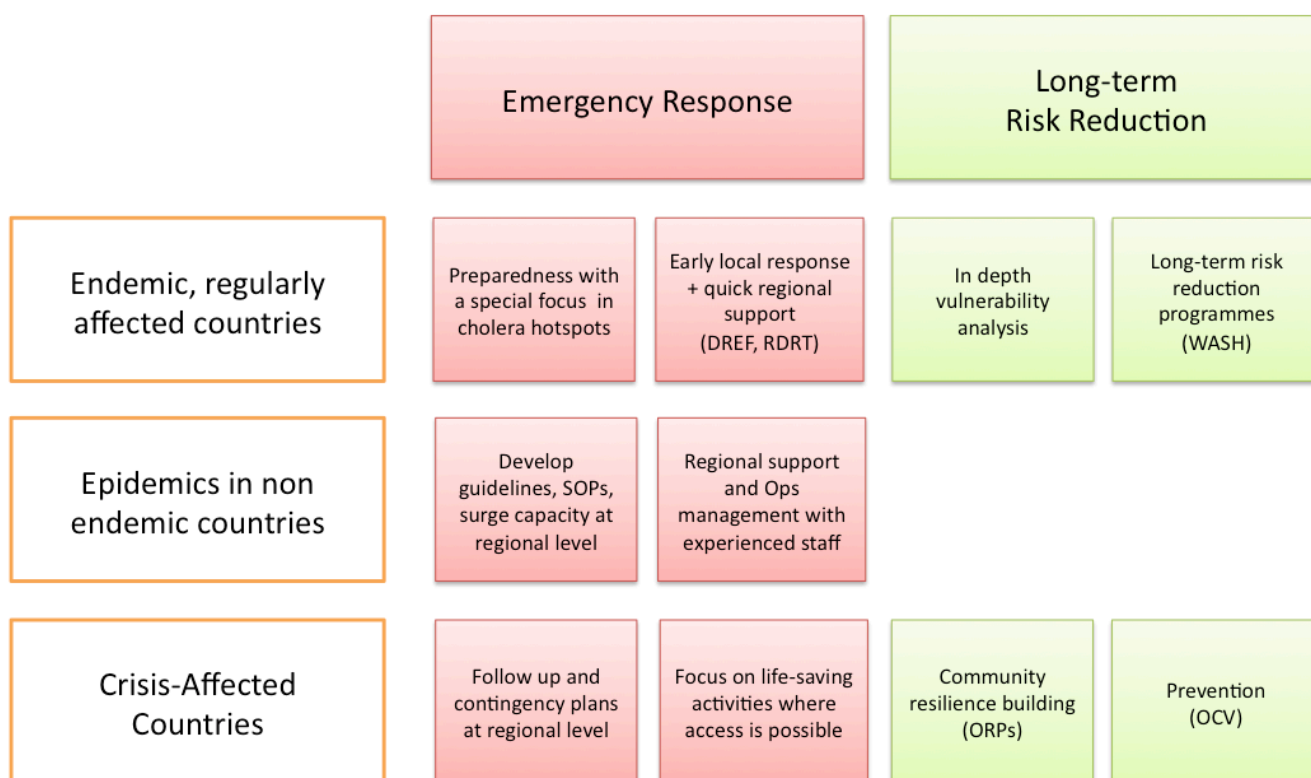


Figure: Matrix of strategic directions based on contextual scenario

⇒ For all contexts, the following key recommendations should apply:

Key principles for emergency response:

1. Use available **epidemiological information** and reasoning to inform the response and **target most at-risk populations**
2. Focus on **simple and immediate, community-based, efficient & life-saving** activities
3. **Minimize delays in the start of the response** by having ready clear contingency procedures, cholera guidelines, training modules, and experienced surge staff
4. Whenever possible, **increase the number of experienced professional staff** for the management of the operations, volunteers supervision and coaching – including the potential use of epidemiologists and GIS specialists
5. **Improve monitoring and reporting** against specific indicators and hold **systematic evaluation and lessons-learned** exercises

⇒ For each of the pre-identified contexts, specific orientation should apply:

In Endemic / regularly affected countries

In endemic or regularly affected countries, governments and humanitarian partners including the Red Cross should not be surprised by cholera outbreaks. Existing epidemiological knowledge allows making informed decisions for preparedness, response and prevention efforts.

For those countries, the focus is on:

- **Increased preparedness, especially in identified hotspots.** Because outbreaks are predictable, most of the caseload and associated mortality is preventable. Preparedness activities are essential, in hotspots areas and at district and national level;

- **Speed and quality of the response**, and surge capacity at national level. With increasing Red Cross cholera experience, additional activities can be added to the minimum response package, based on the identified needs and complementarity with other stakeholders;
- **Long-term risk reduction** in pre-identified hotspots. Because multiple responses to recurrent cholera outbreaks is not the ultimate solution, identifying the specific vulnerabilities and possible technical solutions in cholera hotspots could help the Red Cross, the Government and its development partners head towards a joint long-term risk reduction effort.

At regional (IFRC) level, possible support includes:

- Facilitate **cross-border / regional communication** and coordination between countries in the same cholera basin;
- Support preparedness efforts in Cholera Endemic countries (**contingency plans, stocks, training national response teams**);
- Support response efforts with **rapid DREF and experienced HR deployments** (maintain RDRT and surge expert roster for cholera operations).

In Epidemics in non-endemic countries

In non-endemic countries, it is likely that the level of preparedness will be very low, and that the cholera response will suffer important delays and erratic strategic decision-making on what to do and where to concentrate the efforts. There is also no need of dedicated preparedness in advance because cholera outbreaks are not foreseen on a regular basis.

For those countries, the focus is on:

- Setting up as quickly as possible a **good surveillance and epidemiological information analysis** system, in order to be able to **inform the response**;
- Initiating a **quick support request** to the region (IFRC) in the form of an experienced cholera operation coordinator, RDRTs and DREF
- Receive and deploy **experienced surge personnel** from the regional level (RDRTs)
- Implement the **minimum set of emergency activities** with **quick, simple, proven efficient life-saving activities**

At regional (IFRC) level, possible support includes:

- Providing **expert support for epidemiological analysis** & disease mapping (GIS, epidemiologist)
- Responding **quickly to the support request** in the form of an experienced cholera operation coordinator, RDRTs and DREF (by maintaining a trained roster of RDRTs and experienced cholera operation managers)
- **Preparing in advance all necessary guidance** (Response architecture, guidelines, tools, training packages for volunteers) for example in the form of a *Cholera CD mission assistant*.

In Crisis-affected countries

Crisis-affected countries have a highly versatile profile, but share a common characteristic: They are often overwhelmed with several complex issues to deal with at the same time, and very few capacities to respond to an additional crisis. It is even possible that a cholera crisis will go unnoticed for a period of time.

For those countries, the focus is on:

- Stay alert on a possible emergence of an outbreak – which can overload Government and humanitarian actors and quickly lead to a high case fatality if existing capacities already limited
- Initiating a **quick support request** to the region (IFRC) in the form of experienced cholera surge experts and funding, if needed
- Receive **experienced surge personnel** from the regional level
- Focus on **life-saving activities** in areas where access is possible
- Reinforce where possible **community self-resilience capacity – with ORPs** and promotion of home made ORS
- If possible, protect vulnerable and hard to reach populations through **participation in OCV** campaigns

At regional (IFRC) level, possible support includes:

- **Regional and cross-border situation monitoring, and early warning** for Crisis-affected countries
- Providing **expert support for epidemiological analysis**
- Responding **quickly to the support request** in the form of an experienced cholera experts and DREF
- **Preparing in advance all necessary guidance** (Response architecture, guidelines, tools, training packages for volunteers) for example in the form of a *Cholera CD mission assistant*.
- **Advocacy, coordination with OCV actors and technical support for OCV** campaign implementation

As a result, a matrix of pertinent interventions, from life-saving activities to preparedness and prevention has been drawn, with several possible activity selection options, based on the country situation, contextual analysis and available budget/capacities.

See attached Cholera Activities Matrix (excel file)

As an example, an extract of the matrix for emergency response reveals a set of 10 activities that have been selected amongst the most essential activities:

Status	Level	Objective	Category	Activity	Target
Essential	1	Reducing mortality	Coordination	Active participation in all Coordination fora	National level
Essential	1	Reducing mortality	Community mobilisation	Cholera awareness – signs & symptoms, risk of death, and urgency to seek immediate rehydration	Affected Regions
Essential	1	Reducing mortality	Case management	Oral rehydration therapy (ORT) in the form of Community ORPs	At risk Communities
Essential	1	Reducing mortality	Surveillance	Active case finding & Early referral to health centers/CTCs	Affected Communities
Essential	1	Reducing transmission	Epidemiological reasoning	Epidemiology analysis and identification of risk practices, populations, areas	National level
Essential	1	Reducing transmission	Burials	Participation in safe and decent burials	Affected Communities
Essential	1	Reducing transmission	Community mobilisation	Media sensitization (radios, videos, sms)	National level
Essential	1	Reducing transmission	WASH interventions	Source water treatment (Network chlorination, Bucket chlorination, Chlorine dispensers installation)	At risk Communities
Essential	1	Reducing transmission	WASH interventions	Household disinfection kits (jerycan with tap/disinfectant/aquatabs/soap)	Affected Blocks / HH
Essential	1	Reducing transmission	WASH interventions	WASH and community mobilization in markets, street restaurants, stations, public places, religious centers, schools	At risk Communities

Figure: Cholera Activity Matrix - Minimum set of essential activities for cholera response

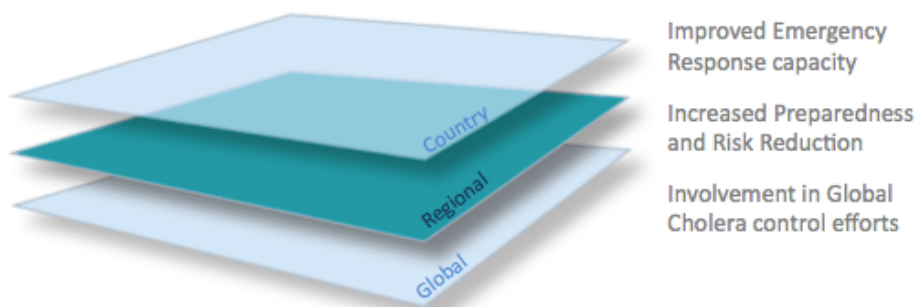
#05. Organization and Preparedness work for the Cholera Framework implementation

What do we already know?

- We know what we are already doing, what actually works, and what we should do
- We know where we need to work and what type of activities we should implement depending on the setting (endemic, non-endemic epidemic, and crisis-affected countries)
- We know what minimum and optional activities we should concentrate on during emergency response
- We know the preparedness work we need to do before being able to provide the quick and quality response we want
- And we know the work we need to start doing to shift the focus from emergency response to more durable solution in endemic / regularly affected countries

But how do we get there?

It is proposed to have an implementation of the Cholera Framework in layers, depending on the available time and resources:



Implementation of the Cholera Strategic Framework in layers (not necessarily in phases)

1st layer

[Focus is on: Improving Emergency Response Capacities and Results]

Work with what we already have – DREF / EA responses already constitute a very good base for cholera response. **But be better at what we do (quick and efficient)**. There is a need to be more consistent on what Red Cross is doing and on the speed and quality of interventions.

Result: Improved, timely and quality emergency interventions

Additional Benefit: Be recognized as an efficient actor in cholera response

So, How do we get there? We need to:

- Pilot the process: At the regional level, with a dedicate Cholera Programme Manager and in close collaboration with all interested National Societies (Cholera working group)

- Build regional capacity: Establish a regional surge Cholera response team Roster of trained and experienced professionals (RDRT and cholera operation managers) to be deployed with each cholera operation (at least at the beginning to kick start the response).
- Develop operations guidelines / tools (Cholera mission assistant)
- Develop quick training packages for the field
- Regional support (accelerated DREF instruction and surge Cholera specialists deployments)
- Systematic response evaluations and integration of practical lessons learned in existing guidance

2d Layer

[Focus is on: Building Regional Cholera resilience and risk reduction approaches]

Implement a comprehensive Cholera approach in a number of selected countries.

Invest in Epidemic / Regularly affected countries. Choose priority countries (ideally at least 2 countries in a same “cholera basin” to increase coherence, exchanges and cooperation), in which to implement a more comprehensive cholera approach, including risk-informed preparedness and long-term prevention. **Be pro-active in the new emerging approach to cholera control at regional level.** Connect with partners at national and regional levels and work in networks (Regional cholera platforms). Build local and regional epidemiological understanding and expertise, and increase national preparedness and response efficiency for predictable outbreaks; Use evidence-based information and existing country case studies (eg. DRC) to advocate for long-term approaches for cholera control with the government and other stakeholders. Feedback lessons learned to other stakeholders through the Regional Cholera platforms.

Result: Increased preparedness and response capacity in Endemic countries, and contribution to the shift towards long-term risk reduction solutions.

Additional benefits: Be recognized as a key Regional partner in cholera response and prevention

So, How do we get there? We need to:

- Select priority counties – within a Cholera Basins approach
- Develop a partnership with UNICEF, WHO and other regional actors for country epidemiological understanding (review of available information or contribution to the epidemiological review through consultancies for identification of key hotspots, at-risk populations and practices)
- Support contingency planning and preparedness at national level (Contribute to a multi-stakeholder national contingency plan)
- Pre-establish Agreements & contracts with UNICEF, WHO and other private/public organisations for the funding of the response
- Develop specific preparedness programmes in identified hotspots (see **Cholera Activities Matrix – Endemic countries – preparedness section**)
- Build national understanding and response capacity: Establish a national Cholera response team Roster of trained and experienced professionals (NDRT and cholera operation managers) to be deployed in cholera operation.
- Ask/welcome Regional support and learning (each cholera operation is a new occasion to build the regional response capacity)

- Systematic evaluation of preparedness efforts (How did the preparedness effort increased the speed of the response or the resilience of the community?) and capitalization of practical lessons learned in the form of case studies
- Use existing epidemiological information on hot spots identification and existing case studies in advocacy communication towards GVT and its development partners, to foster joint collaboration towards long-term cholera risk reduction;
- If possible, contribute to the investment case building in conducting vulnerability analysis and technical evaluations of possible solutions in identified hotspots
- If possible, contribute to the long-term risk reduction effort in investing in WASH programmes in identified hotspots
- Work in close collaboration with Regional Platforms and Global Cholera Task forces for monitoring and evaluation of the impact of preparedness and long-term investments on cholera risk reduction
- Contribute to building the case for cholera long-term risk reduction with capitalization of case studies
- Develop a fundraising strategy through the establishment of technical partnerships at national and regional level

3d layer

[Focus is on: Global thinking and approaches for efficient long-term cholera control]

Be part of the Global and Regional picture in the fight against Cholera.

Share experiences, showcase successes. Contribute to building a case for the long-term Cholera control and prevention efforts. Evaluate. Work on M&E requirements for measuring impacts of preparedness and prevention actions. Contribute to the Global Thinking. Invest in Research in collaboration with Academic institutions. Partner with other global stakeholders like UNICEF, WHO, and MSF. Have political leverage on Regional Policies (African Union, ECOWAS, EAC, SADC, etc.) and development agendas (ACP-UE programmes).

Results: Contribute to the understanding and advocacy effort toward a successful long-term Cholera control direction

Additional Benefits: Be recognized at global level as a major stakeholder in the fight against cholera

So, How do we get there? We need to:

- Be actively involved in all the Regional and Global Cholera Initiatives (WCA Cholera Platform, JICSA, GTFCC, etc.)
- Invest in Preparedness and Prevention programmes Evaluation and experience sharing in the form of Case Studies
- Partner with Academic institutions to respond to the lack of evidence-based guidance, evaluate and publish peer-reviewed results
- Partner with global institutions to have a stronger voice in a joint advocacy effort towards Decision-Makers about long-term risk reduction efforts for Cholera control
- Contribute to the mobilization of the global donor community for sustained Cholera risk reduction

#06. Donor mapping and analysis

Total reported contributions for cholera humanitarian response per year since 2010 varies between 1 million and 36 million US Dollars, with an average (median) of 14,9 million USD.

Table #: Total Donor contributions for cholera in African countries, per year, 2010-2106

Year	2010	2011	2012	2013	2014	2015	2016
Donor contributions (reported to FTS - in USD)	9 667 930	25 133 403	36 066 589	16 617 853	14 921 824	1 147 903	5 072 609

Source: UN OCHA – FTS (*NB: Only funds declared/registered to OCHA-FTS are included in this figures*)

Major Cholera Donors in Africa (2010-2016)

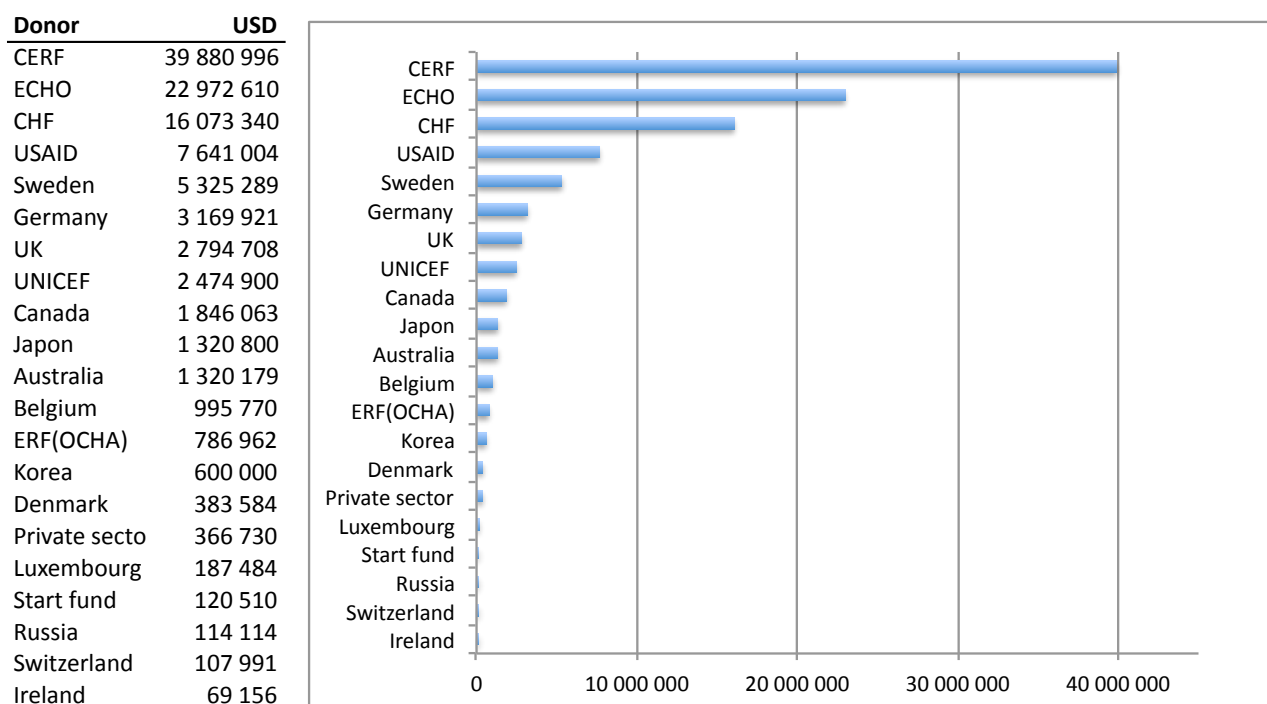


Figure: Total reported contributions per Donor for cholera response in Africa between 2010 and 2106 (source: UN OCHA FTS)

Main funding sources for cholera response during these years were: The UN emergency fund (CERF), European Commission (DG ECHO), and the crisis countries emergency pool funds (CHF).

- The CERF is the United Nations Central Emergency Response Fund (CERF). It is an envelope of 450 million USD/year, dedicated to support emergency response of UN organizations. Only UN organization can request / apply for CERF funding, but operational partners can indirectly benefit of CERF funds via partnerships with recipient UN organizations;
- DG ECHO (with an average 3,2 million USD per year). Mainly funding NGOs and UNICEF for a direct operational response. Rarely WHO. Supporting the West & Central Africa Cholera platform and the work of UNICEF to build a better cholera response and prevention capacity in the region. Different funding lines in countries and at global level (one of them being the Epidemic decision, now under the Emergency Toolbox Decision).
Emergency Toolbox:

http://ec.europa.eu/echo/files/funding/decisions/2017/HIPs/DRF_HIP.pdf

- CHF, Common Humanitarian Fund. (DRC, South Sudan, Somalia). Common Humanitarian Funds (CHFs) are country-based pooled funds that provide early and predictable funding to NGOs and UN agencies for their response to critical humanitarian needs. CHFs enable Humanitarian Country Teams—who are best informed of the situation on the ground—to swiftly allocate resources where they are most needed, and to fund priority projects as identified in a Consolidated Appeal Process (CAP), or a similar humanitarian action plan.

Other bilateral contributions include:

- USAID / OFDA funds are mainly oriented towards international NGOs. Applications are made at national level rather than regional or global level, however, USAID is supporting a number of regional programmes and initiatives as part of its DRR approach (including a small DRR programme in Guinea for cholera prevention); High-level discussions with USAID could lead to the creation of a specific budget line for Cholera or at least for Epidemics (not yet existing).

<https://www.usaid.gov/who-we-are/organization/bureaus/bureau-democracy-conflict-and-humanitarian-assistance/office-us>

<https://www.usaid.gov/what-we-do/working-crises-and-conflict/crisis-response/resources/usaid-ofda-regional-contacts>

USAID DRR programming (2009) : http://www.unisdr.org/files/14099_fullreport1.pdf

- Sweden: Humanitarian funding represents a budget of 450 million per year – 50% of which goes to Africa. Humanitarian funding goes both for NGO and UN organizations, plus contribution to Emergency Country Pool funds (CHFs). In our review, cholera funded operations were mainly located in the Sahel (Mali, Niger).

<https://openaid.se/aid/sweden/world/all-organisations/emergency-response/2016/#activities>

- Germany. Only one contribution (3 millions, to WHO in Kenya). But known to fund development WASH programmes in Africa;
- UK-Aid (DFID); FTS review indicates funding going to both NGOs and UN organizations. Total Humanitarian Aid budget is 2,3 billion USD a year (2014 data), representing 16% of UK total ODA.

DFID is present in Africa in the following countries: DRC, Ethiopia, Ghana, Kenya, Liberia, Malawi, Mozambique, Nigeria, Rwanda, Sierra Leone, Somalia, South Africa, Sudan, South Sudan, Tanzania, Uganda, Zambia and Zimbabwe.

DFID funds are available for Africa, in the form of regional budget lines.

An example of a regional fund that could be mobilized for such programme is:

<https://www.gov.uk/international-development-funding/regional-infrastructure-programme-for-africa>

DFID has also a dedicated budget line for Ebola. High-level discussions with DFID could lead to the creation of a specific budget line for Cholera or at least for Epidemics (not yet existing).

Major Donor Recipient Organizations in Africa (2010-2016)

<u>Donor recipients</u>	<u>USD</u>
UNICEF	44 602 940
WHO	16 444 859
Solidarités	13 700 408
OXFAM	8 615 723
IRC	8 059 419
ACF	4 679 471
IMC	1 931 096
Medecins d'afrique	1 241 117
CRRDC TD	1 031 250
UNPF	1 022 199

Figure: Total reported contributions for cholera response per recipient organization in Africa between 2010 and 2106 (source: UN OCHA FTS)

UNICEF is by far the biggest recipient of all cholera funds in Africa, followed by WHO. Looking at operational partners, Solidarités, OXFAM, IRC, ACF, and IMC are the most represented;

In comparison, the IFRC funding for cholera during the same period (2012-2016) was 10,6 millions Euros (DREFs and EA), not including specific projects funded through other mechanisms (Donors like DG ECHO, Partnership Agreements with UNICEF, private sector, or funds provided by PNSs).

Main Recipient countries in Africa (2010-2016)

<u>Recipient country</u>	<u>USD</u>
DRC	42 632 266
Chad	21 012 151
Mali	12 721 064
Niger	10 694 927
Somalia	4 822 867
South Sudan	4 502 260
Kenya	4 372 401
Zimbabwe	2 274 254
Cameroun	1 930 200
Cote Ivoire	1 625 725
CAR	1 544 969
Nigeria	237 268
Guinea	137 115
Guinea Bissau	120 644

Figure: Total reported contributions for cholera response per recipient country in Africa between 2010 and 2106 (source: UN OCHA FTS)

It is not surprising that DRC has received the biggest contribution so far, due to the largest burden of cases.

However, top receiving countries are not necessarily the one reporting the highest number of cases. It appears that main country recipients are crisis-affected countries, where humanitarian international attention lies – countries like Chad, Mali or South Sudan for example.

This may be explained by a higher presence of active humanitarian partners, or with an increased availability of humanitarian funds in donor envelopes for such countries (eg. availability of pool funds such as CHF which are not available in non crisis-affected countries).

Summary of findings related to Donor Analysis

- There is no particular cholera champion amongst donors and a highly variable interest in cholera response. Funding is not predictable and varies every year and in every country, depending on the context but not necessarily directly related to the cholera caseload;
- Most of the funds are coming through the CERF funding mechanism, accessible only to UN organizations such as UNICEF and WHO;
- DG ECHO is one of the major global donor for cholera response, and is probably the only donor to have a dedicated budget line for epidemic preparedness and response;
- At country level and in crisis-affected countries only, CHF funds can be accessed for cholera response even by NGOs directly.
- Additional potential donors include USAID and DFID, in countries where they have a physical presence.
- UNICEF and WHO are the major recipient organisations, able to mobilize funding from CERF, CHF and various donors.

Strategic orientations

- UNICEF and WHO Partnership

Strong partnerships should be sealed with UNICEF and WHO for cholera response and preparedness, as they are the major recipient organisations for cholera funds. UN organizations are often not direct implementers but instead rely on operational partners for the response. Contracts in the form of PCAs (Programme Cooperation Agreements) and SSFA (Small Scale Funding Agreements) can be signed in advance and activated when needed.

A MoU between UNICEF and IFRC already exists at global level, which could be used to reinforce the cooperation on a regional scale for Africa, on cholera preparedness and response. At national level, pre-agreed / pre-signed PCAs could be prepared by the IFRC or by National Societies directly in order to allow for a quick activation of the partnership in case of epidemic alert; Partnership with UNICEF and WHO could include: supplies of ORS, aquatabs or other HWT solutions, soaps, and buckets/jerry cans and possibly even funds for community mobilization.

If not already existing, a similar MoU could be sealed with WHO. The Red Cross potential role in Surveillance, Oral Cholera Vaccination campaigns, and Community case management should be emphasized by a stronger participation of the Red Cross in the GTFCC working groups – giving some arguments to WHO to adhere to a strategic IFRC-WHO partnership.

- DG ECHO

DG ECHO is already funding some of the RC operations through the “DREF budget line”, participating to some the response to small outbreaks in the form DREF replenishments after a first evaluation of the quality of the proposed intervention; In regular occasions, IFRC or PNS have also been funded outside the DREF framework to respond to bigger outbreaks.

If DG ECHO has funded and will be funding a significant number of DREFs, it should be noted that However, ECHO does not value the contribution of the Red Cross in cholera response as a “quality” response; Improving especially the quality of the small but numerous DREF responses, which might represent most of the Red Cross movement response to cholera outbreaks, is a key step towards being recognized by Governments, operational partners and donors as a key Cholera responder.

DG ECHO has already been approached by IFRC to fund specific regional Cholera preparedness and response programmes (in Niger/Guinea/Sierra Leone, and in Ghana) – but those programmes have unfortunately not been able to demonstrate a real added value to the regional and global Cholera approaches; Being able to deliver quality intervention in DREF responses and to show a renewed, harmonized and efficient strategy for cholera response based on the particular strength of the Red Cross movement would be beneficial for asking more regular funding to DG ECHO.

- Funds mobilization at country level, for emergency response and long-term risk reduction

Ad hoc mobilization of Government traditional development Donors and CHF pool funds can be best realized locally when there is an outbreak in the country. Same for the private sector;

However, those Government traditional development Donors would be best mobilized to fund the long-term risk reduction investments in identified Cholera Hotspots; Such mobilization efforts will be far more effective if coming from a country level all stakeholders partnership for cholera control, summarized in a Cholera Control / Elimination National Plan, as shown in the DRC example.

- Funds mobilization at Regional or Global level, for long-term preparedness and prevention

High-level discussions with Regional or Global Organizations such as African Development Bank, World Bank, EU institutions, USAID or DFID could lead to the initiation of a dedicated funding opportunity. Partnership with other UN organisations such as UNICEF and WHO could be key to leverage specific global funding. A High Level advocacy meeting is being organized in Geneva in September by the GTFCC, where IFRC should be present and well represented; In the GTFCC advocacy-working group is being defined an advocacy and funding strategy, including the private sector mobilization and partnership;

- Mobilize already existing IFRC funding sources, both for response and long-term prevention

DREF is a very useful funding mechanism for early cholera response, and has probably contributed to most of the RC funding in emergency;

Potentially, existing funds for long-term investments to achieve the WASH SDGs such as the GWSI initiative should also include cholera vulnerability as an important criterion. This does not necessarily involve activities other than the ones already planned, but rather to strategically re-orient part of these activities into pre-identified highly vulnerable areas (cholera hotspots).

The key principle of the risk reduction pillar of the proposed cholera strategy is that it is possible and cost-effective to reduce overall cholera incidence in a country with limited investments in cholera hotspots.

Integration of the cholera strategy principles in already existing IFRC programmes is a smart way to increase consistency of the cholera risk reduction efforts within the organisation and to be able to show coherence and credibility to external partners, governments and donors.