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Cholera Toolkit

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Cholera Toolkit

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This document is accompanied by a USB device containing the three components of the UNICEF Cholera Toolkit: the Main Document, the Annexes and Additional resources. These components are meant to work together to make the best use of the Toolkit.



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Acronyms

AoR	Area of Responsibility (Cluster Approach)
AWD	Acute Watery Diarrhoea
AWP	Annual Work Plan
BCA	Basic Co-operation Agreement (UNICEF)
BCC	Behaviour Change Communication
C4D	Communication for Development
CA	Cluster Approach
CAP	Consolidated Appeals Process
CATS	Community Approaches to Total Sanitation
CBO	Community Based Organisation
CCC	Core Commitments for Children in Humanitarian Action (UNICEF)
CCPD	Common Country Programme Document (UN)
CEE/CIS RO	Central and Eastern Europe and the Commonwealth of Independent States Regional Office (UNICEF)
CERF	Central Emergency Response Fund
CHAP	Common Humanitarian Action Plan
CHF	Common Humanitarian Fund (UN)
CHW	Community Health Worker
CLA	Cluster Lead Agency
CLTS	Community Led Total Sanitation
CO	Country Office (UNICEF)
COTS	Cholera Outbreak Training and Shigellosis
CPD	Country Programme Document (UNICEF)
CRC	Convention on the Rights of the Child
CRC	Contracts Review Committee (UNICEF)
CSC	Communication for Social Change
CSO	Civil Society Organizations
CTC	Cholera Treatment Centre
CTU	Cholera Treatment Unit
DCT	Direct Cash Transfer (UNICEF)
DaO	Delivering as One (UN)
DHR	Division of Human Resources (UNICEF)
DIK	Donation In Kind
EHO	Environmental Health Officer

EMOPS	Office of Emergency Programmes (UNICEF)
EPF	Emergency Programme Funds (UNICEF)
ERC	Emergency Relief Co-ordinator (OCHA)
ERF	Emergency Response Fund (UN) – also known as a HRF or by other names
ESARO	Eastern and Southern Africa Regional Office (UNICEF)
EWARN	Early warning alert and response network
FA	Flash Appeal
FBO	Faith Based Organisation
GIS	Geographical Information System
GM	Gender Marker (CAP)
GPS	Global Positioning System
HACT	Harmonised Approach to Cash Transfer (UN)
HC	Humanitarian Co-ordinator (UN)
HCT	Humanitarian Country Team (UN)
HIV	Human Immunodeficiency Virus
HP	Hygiene Promotion
HQ	Headquarters (used in this instance for UNICEF HQ)
HR	Human Resources
HRBA	Human Rights Based Approach
HRF	Humanitarian Response Fund (UN) – also known as a ERF or other names
HWTS	Household water treatment and safe storage
HWWS	Handwashing with soap
IEC	Information, Education and Communication
IKA/IKC	In Kind Assistance / In Kind Contribution
IM	Information Management
IND	Immediate Needs Document (UNICEF)
INGO	International Non-Governmental Organisation
IO	International Organisation
IOM	International Office for Migration
KRA	Key Results Areas (UNICEF)
LFA	Logical Framework Analysis
LNGO	Local Non-Governmental Organisation
LoU	Letter of Understanding
LTA	Long Term Agreement (UNICEF)
MENARO	Middle East and North Africa Regional Office (UNICEF)
MoU	Memorandum of Understanding

MTSP	Mid-Term Strategic Plan (UNICEF)
NatCom	National Committees for UNICEF (established for the sole purpose of fundraising for UNICEF)
NFI	Non-Food Item
NGO	Non-Governmental Organisation
OCHA	Office for the Co-ordination of Humanitarian Affairs
OHCR	Office of the UN High Commissioner for Human Rights
OR	Other Resources (UNICEF)
ORC	Oral Rehydration Corner - also sometimes called an Oral Rehydration Therapy Corner (ORTC/ORC) or an Oral Rehydration Point (ORP)
ORE	Other Resources – Emergencies (UNICEF)
ORP	Oral Rehydration Point (also sometimes called ORTC/ORC)
ORS	Oral Rehydration Solution
PAHO	Pan-American Health Organisation, Regional Office of WHO for Latin America and the Caribbean
PCA	Project Co-operation Agreement (UNICEF)
PFP	Private Fundraising and Partnership Division (UNICEF)
PHAST	Participatory Hygiene and Sanitation Transformation
PLA	Participatory Learning and Action
PLWHA	People Living with HIV/AIDS
PoUWT	Point of Use Water Treatment
PoUWT&SS	Point of Use Water Treatment & Safe Storage
RC	Resident Co-ordinator (UN)
RDT	Rapid Diagnostic Test
RO	Regional Office (UNICEF)
ROSA	South Asia Regional Office (UNICEF)
RR	Regular Resources (UNICEF)
SSA	Special Service Agreement (UNICEF)
SSFA	Small Scale Funding Agreement (UNICEF)
TACRO	The Americas and the Caribbean Regional Office (UNICEF)
ToTs	Training of Trainers
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation & Hygiene
WCARO	West and Central Africa Regional Office (UNICEF)

1 Introduction



1.1 Background to the Toolkit

Cholera is on the rise with an estimated 1.4 billion people at risk in endemic countries and an estimated 3 million to 5 million cases and 100,000-120,000 deaths per year worldwide.¹ In many endemic countries, children under 5 account for more than half of the global incidence and deaths. Cholera has remained endemic in some Asian countries for centuries, has become endemic in an increasing number of African countries with epidemics throughout the years, and has recently returned to the Americas with on-going transmission in Haiti and the Dominican Republic. New, more virulent and drug-resistant strains of *Vibrio cholerae* continue to emerge, and the frequency of large protracted outbreaks with high case fatality ratios has increased, reflecting the lack of early detection, prevention and access to timely health care. These trends are concerning, signal a growing public health emergency and have gained the interest and investment of UNICEF at all levels.

¹WHO. [Cholera – Fact Sheet N° 107](#). Geneva, Switzerland, World Health Organization. (2011d).

UNICEF currently provides strategic technical support and guidance, surge capacity, training, supplies and logistical support for cholera and diarrhoeal disease outbreak prevention, preparedness and response worldwide. Its multi-sector approach – health, water, sanitation and hygiene (WASH), nutrition, education, protection and other sectors as well as services for emergency operations and supply management – offers the possibility of an integrated effort towards risk reduction, preparedness, capacity building and response in cholera and diarrhoeal disease outbreaks.

Multiple resources – both internal and external – are compiled and consolidated in this UNICEF Cholera Toolkit, to make them easily accessible and widely available for use by UNICEF and partners globally.

Summary of Annexes

Annex 1A UNICEF's mandate and guiding principles

1.2 UNICEF's roles and responsibilities

UNICEF supports child survival and development, mainly focussing on the sectoral areas of Child Protection, Education, Nutrition, Health, Communications for Development (C4D) and Water, Sanitation and Hygiene (WASH). Its programmes comprise strategic and 'upstream' work including strengthening of governments and their systems and other national actors as well as 'downstream' programme implementation. Many country programmes work across the development – humanitarian spectrum and provide an opportunity to build capacity through risk-informed programming and preparedness for emergencies, including disease outbreaks such as cholera.

UNICEF works in countries at the request of national governments and by agreement with them. It works in support of and in partnership with national government institutions, local government, and a range of civil society and other organisations, such as NGOs and the Red Cross/Crescent Movement.

1.2.1 Integrated cross-sectoral approach to cholera

To reduce the risks from cholera, including limiting the spread of outbreaks and preventing deaths, an integrated approach is needed with collaboration across the Health, WASH and other related sectors and crosscutting areas (such as C4D, Education, Nutrition, Child Protection) as well as key supporting services such as Emergency Programmes (EMOPS) and Supply Division (SD).

For all cholera-related activities, UNICEF Health and WASH Sections at all levels should work closely together with other key sections, such as C4D and supporting services. See **Annex 1A** for an overview of UNICEF's mandate, guiding principles and approaches.

UNICEF's roles in cholera prevention, preparedness and response

Advocacy:

- Advocate with partners to increase the visibility and resource mobilization for cholera control at all levels, including the work on prevention and preparedness.

Co-ordination:

- Provide support and technical input into national co-ordination mechanisms and taskforces through UNICEF's relevant sectors: Health, WASH, Communications for Development (C4D), Nutrition, Education, Child Protection and supporting services, such as Supply Division (SD) and Office of Emergency Programmes (EMOPS). UNICEF's Core Commitments for Children in Humanitarian Action (CCCs) includes its supporting role in sectoral co-ordination.
- Act in some cases as the relevant cluster lead (i.e., for WASH, Nutrition, Education) if the cluster system has been activated at the national level.
- Function as a key partner participating in sectoral (i.e., for Health, WASH, C4D, etc.) technical meetings and consultations at the global level.

Assessments, planning and prioritisation:

- Contribute to the national cholera risk and needs assessment, as well as cholera preparedness and response planning.
- Especially in endemic countries, contribute and influence to identify cholera at-risk areas and to include cholera as a risk factor within the national definition of sectoral strategies, planning and prioritisation for all cholera related sectors (i.e. Health, WASH, C4D, etc.).

Surveillance, early warning systems and alert mechanisms:

- Support the Ministry of Health (MoH) and WHO to collect surveillance and early warning data through UNICEF Health and WASH programmes in country and across borders.
- Support the MoH and WHO to implement an alert system and ensure rapid notification, verification and response from UNICEF WASH, Health and C4D programmes at minimum and key implementing partners for action.
- Contribute to outbreak investigation through UNICEF Health and WASH programmes.
- Integrate cholera as part of UNICEF's internal Early Warning/Early Action system to ensure preparedness and response to outbreaks are in place and considered as part of UNICEF's responsibilities.

Service delivery:

- Provide technical support with MoH, WHO and partners to develop guidelines and training materials or to ensure that existing guidelines and materials are operational.
- Support MoH, WHO, and partners to train national and international partners on all aspects of cholera management, including co-ordination, information management, surveillance, case management, WASH and C4D approaches.
- Identify, develop agreements with, support and build capacity of non-governmental organizations (NGOs) to deliver services for surveillance, case management, C4D and WASH interventions.
- Provide supplies for setting up cholera treatment centres, case management and WASH interventions, including procurement locally, regionally or globally from SD, as well as shipping, storage and distribution of supplies in country.

Communication (advocacy, behaviour change communication, communication for social change and social mobilization):

- Function as a key partner in co-ordination mechanisms for communication for behaviour and social changes and social mobilization interventions.
- Develop and implement risk communications and behaviour and social change communication strategies with government and key partners or ensure existing strategies are operational and support their implementation.
- Provide technical support to develop or use existing information, education and communication (IEC) messages and supporting materials, and to plan and implement campaigns.

Cholera prevention and control in UNICEF's regular programming:

- Address cholera prevention and control as an opportunity and responsibility in UNICEF's regular programming across all relevant sectors as an aid organisation that is present before, during and after cholera outbreak occurs.

See Section 4.4 for additional details.

1.3 Purpose, target audience and structure of the Toolkit

1.3.1 Purpose

The UNICEF Cholera Toolkit aims to provide UNICEF Offices, counterparts and partners with one source of information for prevention (or risk reduction) and control of cholera outbreaks, preparedness, response and recovery – including integration with regular/development programmes.

The Toolkit provides guidance primarily for the Health and WASH sectors; nevertheless guidelines are presented in an integrated manner, to avoid the continuation of 'silo' approaches for cholera prevention, preparedness and response. In addition, the Toolkit includes specific content linked to Education, Nutrition, C4D, Child Protection and other relevant sectors.

1.3.2 Target audience

The primary target audience for this Toolkit is UNICEF staff at all levels and across all divisions and sections in the UNICEF Country, Regional and HQ Offices. It may however also be useful for government counterparts and partners such as NGOs, UN and Civil Society Organisations (CSOs) working in cholera prevention, preparedness and response.

1.3.3 Structure of the Toolkit

The Toolkit comprises this 'Main Document', a series of 'Annexes' (templates, checklists, spread sheets and more detailed reference information available only in electronic copy) and a selection of 'Additional Resources' (an electronic library including published papers, IEC materials, cholera guidelines, training packages, examples of mapping and a range of other practical information, available in the companion USB). Links to web-based resources are included throughout the electronic version of the Main Document.

Key resources mentioned across the 'Main Document' and 'Annexes' are linked to the website where this additional information is available and/or to the companion USB. For accessing the documents in the companion USB, click on the icon  next to the document.

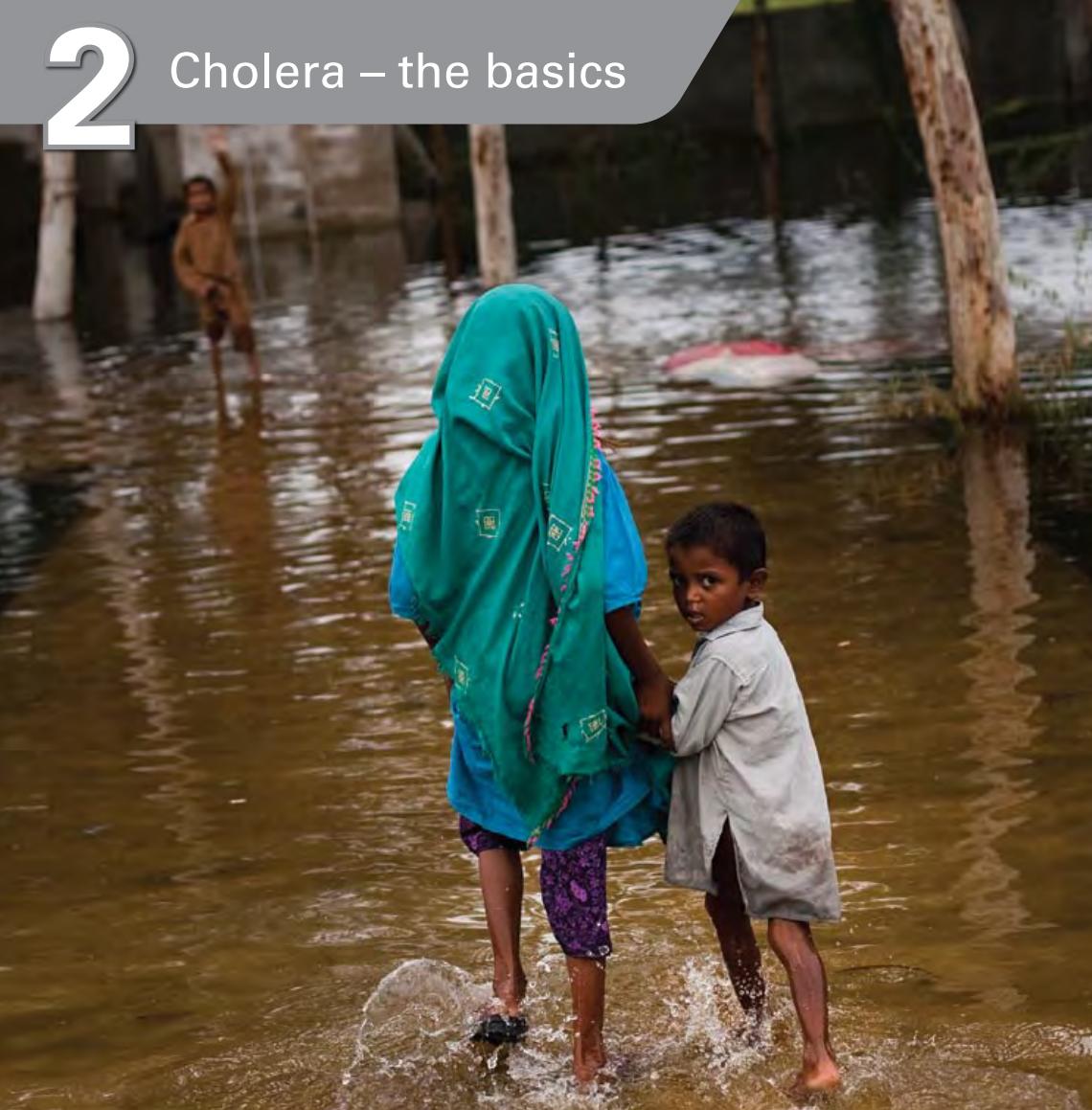
KEY RESOURCES

UNICEF, [Delivering better results for children: A handy guide on UN coherence](#) (2010). 

UNICEF, [UNICEF water, sanitation and hygiene strategies for 2006-2015](#) (2005). 

UNICEF, [UNICEF joint health and nutrition strategies for 2006-2015](#) (2005). 

UNICEF, [Core Commitments for Children in Humanitarian Action](#) (2010). 



2.1 Overview of Chapter 2

This chapter provides important background and contextual information for understanding the types and characteristics of cholera bacteria, the mechanism for infection, means of transmission and risk factors, and gender and age considerations for infection.

Summary of Annexes

Annex 2A Vibrio cholera - ecology data

Annex 2B Common misunderstandings about cholera

2.2 Cholera: history, classifications and mechanism of action

2.2.1 History and classifications

Cholera is one form of acute, watery diarrhoea, a symptom that can be caused by any number of bacteria, viruses and parasites. Cholera is caused by a bacterium (gram-negative rod), *Vibrio cholerae*. There are about 200 serogroups of *V. cholerae*, but only two, *V. cholerae* O1 and O139 are known to cause the specific disease known as cholera.² Serogroup O1 is further divided into three serotypes, Inaba, Ogawa, and the rare Hikojima and into two biotypes, classical and El Tor.

In its most severe form, cholera is one of the swiftest lethal infectious diseases known –characterized by an explosive outpouring of fluid and electrolytes within hours of infection that, if not treated appropriately, can lead to death within hours. In places where drinking water is unprotected from faecal contamination, cholera can spread with stunning speed through entire populations. These two characteristics of cholera have yielded a reputation that evokes fear and often panic. However, with prompt and appropriate treatment, mortality can be kept low. Furthermore, cholera outbreaks can be prevented or controlled through a combination of public health interventions, predominately through disease surveillance and early warning, provision of safe water, adequate sanitation, health and hygiene promotion and early detection, prevention interventions, including oral cholera vaccine, and treatment.

To date, there have been seven cholera pandemics, six of which have been most likely due to the classical biotype. The current pandemic began on the Indonesian island of Sulawesi in 1961 and resulted from the El Tor biotype. During this current pandemic, the classical form seems to have been almost entirely replaced by El Tor, which survives well on zooplankton and other aqueous flora and fauna. This fact is commonly cited as one reason for the persistence of the current pandemic, along with the fact that El Tor evokes less durable immunity than does the classical biotype.

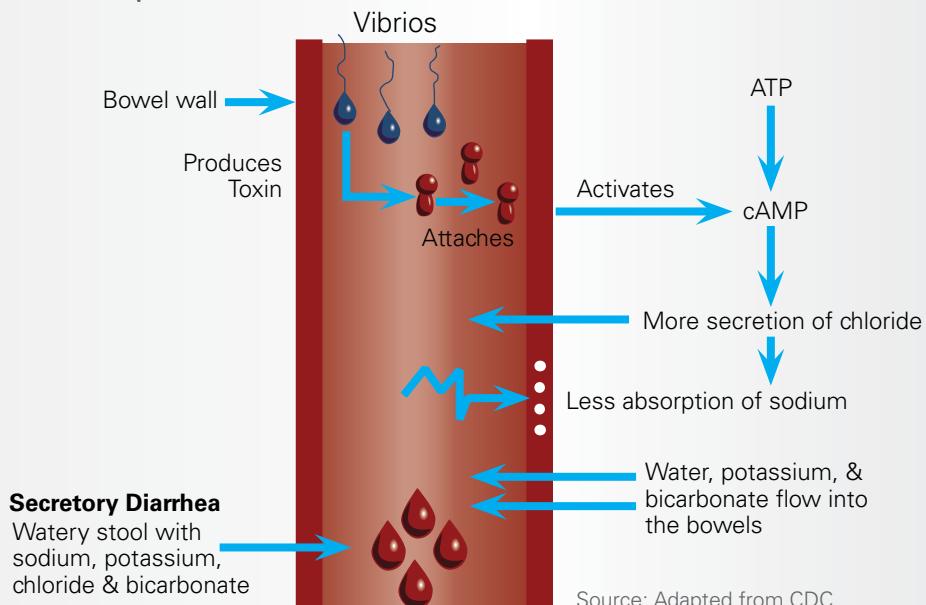
² The letter 'O' refers to the serogroup-specific lipopolysaccharide cell wall (O) antigen.

From a clinical standpoint, cholera caused by the El Tor biotype has a higher proportion of asymptomatic cases, who are silent excretors of infectious *V. cholerae*. However, most experts agree that recently the proportion of all cases of symptomatic cholera presenting with severe dehydration has increased and that this trend is attributable to the emergence of a variant strain of El Tor that produces the classical cholera toxin. Generally, the majority of people infected are asymptomatic (approximately 75 per cent). Of the symptomatic cases (25 per cent), a minority leads to severe cholera (20 per cent of those with symptoms, or 5 per cent of all infected cases) with a greater proportion presenting mild to moderate disease (80 per cent of those with symptoms, or 20 per cent of all infected).

2.2.2 Mechanism of action

It is very important to understand that the cholera bacterium itself is not responsible for disease; it does not invade the cells of the bowel wall, nor does it cause any destruction of the intestine or cross the intestinal barrier. Its behaviour differs from the bacterium that causes shigellosis, for example, which crosses the intestine, invades intestinal cells and causes an inflammatory response, all of which result in a bloody diarrhoea that is distinct from the watery diarrhoea that characterizes cholera.

FIGURE 1 Mechanism of cholera action



Vibrio cholerae acts by attaching to cells that line the intestine where it produces a toxin that interferes with the normal cellular processes of absorption and secretion of fluid and electrolytes. Specifically, the cholera toxin activates an enzyme system that helps regulate the flow of fluid and electrolytes across the bowel wall and 'locks' a part of what is normally a bi-directional 'pumping' mechanism into a one-way outflow position. Secretion of fluid therefore exceeds absorption, leading to a potentially massive depletion of fluid and electrolytes from the body, causing dehydration. Up to 50 per cent of infected people could develop severe dehydration with high mortality risk if left untreated. The diagram in **Figure 1** demonstrates this mechanism and explains why the fundamental principle of cholera treatment is rapid replacement of fluid and electrolytes lost. If replacement is handled efficiently and effectively, mortality can be kept to less than one per cent of those displaying clinical symptoms.

The incubation period for cholera ranges between 12 hours and five days, a relatively short period allowing for quick progression to onset of symptoms, shedding of the bacteria and transmission, and resulting in explosive outbreaks. The duration of the disease lasts as little as one day and up to one week in rare cases, with the usual duration being three days until the diarrhoea stops. Shedding of bacteria, however, continues in symptomatic patients from two days to two weeks and in asymptomatic ones for a few days.

Additional detail on the mechanism of cholera can be found in an animated online presentation produced by the Department of Microbiology and Immunology at the University of Rochester. See lifesciences.envmed.rochester.edu/curriculum/SEPAClass/MM.swf

2.3 Epidemiology & risk factors

2.3.1 Epidemiology

According to the World Health Organization (WHO), the number of reported cases of cholera has increased over four fold since 2000. In 2011, 58 countries reported a total of 589,854 cases and 7816 deaths to the WHO. However, this number is considered to be a significant underestimate due to poor surveillance and underreporting. Nevertheless, cholera is on the rise with an estimated 1.4 billion people at risk in endemic countries and an estimated 3 million to 5 million cases and 100,000-120,000 deaths per year worldwide.³

³ WHO. (2011d). *Cholera – Fact Sheet N° 107*. Geneva, Switzerland, World Health Organization.

In many cholera-endemic countries, children under five years old account for more than half of the global incidence and deaths. These figures represent less than one per cent of all estimated cases of diarrhoea and less than 10 per cent of estimated diarrhoea deaths annually. However, cholera's historical impact, frequent occurrence in explosive outbreaks, dramatic clinical picture, regular attacks on adults as well as children, highly contagious nature and potentially high lethality, make it one of the most conspicuous, and most feared, diseases.

Cholera has remained endemic in some Asian countries for centuries. It has become endemic in an increasing number of African countries with epidemic peaks throughout the years. Recently it returned to the Americas with ongoing transmission in Haiti and the Dominican Republic. New, more virulent and drug-resistant strains of *Vibrio cholerae* continue to emerge, and the frequency of large protracted outbreaks with high case fatality ratios has increased, reflecting the lack of early detection, prevention and access to timely health care.

Cholera occurs in both endemic and outbreak settings

Endemic: Country settings where cholera cases have been reported for three of the past five years (WHO), or where cholera cases are constantly present in a given geographic area or population group (WHO EWARN).

Outbreak: Endemic or non-endemic country settings where more cases of cholera occur than are expected in a given area, or among specific group of people, over a particular time period (WHO EWARN).

An 'outbreak' is more limited in geographic scope and number of people affected than an 'epidemic', which signifies a greater magnitude and degree of propagation.

In endemic countries, where people may have been exposed to cholera on numerous occasions during their lifetime, many people, especially adults, possess a level of acquired immunity that can protect them during outbreaks (in other words, prior infection gives protection against re-infection and less severe illness for several years, although probably not for life). In these endemic settings, children, who are less likely than adults to have been exposed, are the most vulnerable to symptomatic infection and severe illness and death. On the other hand, when outbreaks occur in countries where cholera is not endemic, all people, children and adults, are equally susceptible to the disease and the consequences of infection.

2.3.2 Transmission – the 'faecal-oral' route

The predominant route for cholera transmission is faecal-oral. **In an epidemic, there is only one way to contract cholera: by swallowing something (usually water or food) that has been contaminated with faecal matter that contains *V. cholerae*.** Consequently, if faecal material is not ingested orally, the spread of cholera can be completely stopped and infection can be entirely prevented. Other frequently cited risk factors represent different routes of getting to this single end-step. For example, people coming together at a funeral for cholera victims do not get cholera simply by virtue of their attendance at the mass gathering; they must consume food and/or drink that have been prepared by people whose hands have been contaminated with faecal matter which contains *V. cholerae*. Occasionally cholera is acquired from eating inadequately cooked shellfish that have accumulated *V. cholerae* in their natural environment; however, during an epidemic it is the faecal-oral route that is significant.

Although the transmission of cholera is sometimes described as "person-to-person", this conception can be misleading because the term "person-to-person" has been used in different ways by different authors. Cholera is not transmitted through the air or merely by being in close proximity to someone else who has it. Transmission generally occurs through the faecal-oral route, whether the intermediary is water, food, hands or other means. Cholera can also be transmitted by vomitus; however, there are more *V. cholerae* per gram of watery diarrhoea, and therefore many more grams of watery diarrhoea than of vomitus to transmit the disease effectively.

Cholera cannot occur where the bacterium is not present, but if the bacterium is already present or is introduced within a setting, **adequate levels of public sanitation, safe water supply and personal hygiene will inhibit its transmission**. *Vibrio cholerae* of many different subgroups are found in virtually all coastal water, especially in the tropics and subtropics. Toxigenic *Vibrio cholerae* O1 have been identified in the environment along the Gulf Coast of North America, in certain rivers of Australia, as well as in many locations afflicted by epidemics in many parts of the world. Only certain regions remain cholera endemic, particularly in the tropics and subtropics, and the presence of the disease is likely to relate to both environmental and socioeconomic factors.⁴ Even if cholera is brought into a more developed country, the disease is unlikely to spread because of

⁴ Lipp, E., Huq, A., Cowell, R.R., 'Effects of global climate on infectious disease: the Cholera Model.'  Clinical Microbiology Reviews, vol. 15, no.4, Oct 2002, pp. 757-770.



the relatively high level of coverage of safe water and sanitation. However, even when environmental conditions are grossly inadequate, families and individuals can protect themselves from ingesting cholera by taking appropriate measures personally and at home as discussed later in this Toolkit. **At all times, the key is to keep faecal material from being ingested by mouth.**

At the beginning of a cholera outbreak, large numbers of people can become infected from a single contaminated water or food source. Most tend to become infected from surface water, well or piped water sources rather than from food, although contaminated foods at mass gatherings can pose the risk of infecting large groups of people. When a number of people are infected, depending on their degree of over-crowding and water, sanitation and hygiene practices, **multiple overlapping faecal-oral transmission routes can advance the spread of the disease.** Therefore, while priority should be given to identifying and blocking the main source of contamination, it is also extremely important to work on blocking all other possible transmission routes at the same time.

A final point about transmission: Cholera is more infectious and communicable when propagated through the stool of an infected person versus when it exists in the environment, a mechanism known as a hyper-infectivity state.

2.3.3 Risk factors

The risk of transmission, illness and death from cholera is proportional to the interaction of cholera with the host and the environment. It should be stressed again that **the only way to become infected with cholera is to ingest the bacteria orally.**

Table 1 Cholera risk factors

<p>Risk factors for transmission</p> <ul style="list-style-type: none"> • Poor access to and use of water and/or limitations to monitoring and maintaining water quality • Practice of open defecation / poor access to and use of appropriate sanitation • Poor hygiene practices (handwashing, safe food preparation) • Crowded settings: dense urban slums, refugee or displaced sites, institutions (schools, prisons) gatherings (weddings, funerals) • Seasonal upsurges: increase spread during dry season with water shortages or during rainy season with flooding and contamination of water sources • Displacement or population movements 	<p>Risk factors for severe illness and death</p> <ul style="list-style-type: none"> • Low level of immunity to cholera (children and non-endemic settings) • Underlying conditions: malnourished, elderly, children, pregnant, chronic diseases, AIDS, low gastric acidity (elderly, infants, persons on antacids or gastric acid inhibitors), persons with blood group O • Lack of access to early detection and proper treatment (including individual knowledge and beliefs)
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Note: Consideration of the impact of climate change on cholera risk:

Climate change increases the risk of cholera in several ways: (1) the growth of bacteria, like *Vibrio vulnificus* and *Vibrio cholerae* (non-O1 and non-O139), in the sea and brackish waters substantially increases at higher temperatures and (2) severe disaster events damage water and sanitation infrastructure and create conditions conducive to faecal-oral contamination and higher transmission risk. Both warmer sea surface temperatures and extreme weather are influenced by El Niño Southern Oscillation variability. Examples of this pattern have been observed in areas of South America, and the Bay of Bengal, and in the Great Lakes Region of Africa.^{5,6}

Extensive research over the last two decades has linked cholera burden in many parts of the world to predictable changes in climatic conditions such as sea surface temperatures, ambient temperatures and rainfall patterns. Based on this evidence, multiple global collaborative projects are working to establish cholera early warning systems using climatic data and models.

For further details and reference information with respect to cholera risks, see **Annex 2A**.

⁵ Lipp, E., Huq, A., Cowell, R.R., 'Effects of global climate on infectious disease: the Cholera Model.' *Clinical Microbiology Reviews*, vol. 15, no.4, Oct 2002, pp. 757-770.

⁶ Bompangue Nkoko, D., Giraudoux, P., Plisnier, P., Tunda, A.M., Piarroux, M., Sudre, B., Horian, S., Tamfum, J.M., Ilunga, B.K., Piarroux, R., 'Dynamics of cholera outbreaks in Great Lakes Region of Africa, 1978-2008.' *Emerging Infectious Diseases*, vol. 17, no.11, Nov 2011.

Noteworthy characteristics of *Vibrio cholerae*

(*V. cholerae* O1 and O139)

Infective dose & concentrations:

- The infective dose, the amount of bacteria required for the disease to develop, is related to a person's health status and the conditions in their stomach. For example, someone with lower levels of gastric acid in their stomach, i.e., higher pH, require a lower infective dose because *V. cholerae* do not survive in acidic environments.
- The dose at which 50 per cent of people will become infected is approximately 10^6 (1,000,000) *V. cholera* bacteria.
- A single infected organism, e.g., a copepod or plankton, in surface waters can carry 10^4 - 10^6 *V. cholerae* bacteria, and rice water diarrhoea from an infected person can contain 10^7 - 10^9 *V. cholerae* per milliliter of volume.

Survival times:

- A few hours on dry surfaces
- 1-35 days at 2-4°C (ice box temperature)
- 1-14 days at room temperature
- 5-24 days in well water
- 1-2 years in warm coastal waters, estuaries
- 28-35 days in ice cubes in an ice chest
- 1-2 days on metal utensils
- Possibly over 6 months in frozen seafood.

Survival limits:

- At 65°C, almost all pathogens die within 12 seconds, although some cholera bacteria die at a temperature as low as 48°C (Note: the WHO guideline is to bring water to a rolling boil, which provides confidence that all bacteria are killed).
- *V. cholerae* survives best in alkaline waters and less well in acidic environments (pH range for *V. cholerae* survival is from 5 to 9.6).

Reservoirs for multiplication; growth and doubling times:

- The *Vibrio cholerae* bacterium is known to multiply in the human intestine, in interaction with copepods associated with water-borne zooplankton and phytoplankton, and on moist, warm, non-acidic foods, such as cooked rice, grains and seafood.
- The time needed for cholera growth to begin on suitable foods is less than one hour at greater than 30°C and somewhat longer at 22°C.
- At 22°C, the time needed for the bacteria to double in number is less than one hour.

2.3.4 Cholera considerations by gender and age

Age and gender differences with respect to roles, social norms and personal behaviours vary by context and can lead to distinctions in exposure sensitivity to the *V. cholerae* and to likely outcomes when severe cholera is contracted. Vulnerability may also vary in endemic and epidemic contexts.

Examples of how age and gender may affect susceptibility to infection:

- Women and girls often bear greater responsibility for the prevention of cholera because of their traditional roles in the preparation of food, collection and treatment of water, construction and cleaning of sanitation facilities, and enforcement of household hygiene.
- Women and girls are more likely to bear responsibility for the care of sick and dying family members, including washing and disinfecting clothes and bedding, preparing the bodies for burial, and preparing food for gatherers at funerals.
- Men are more mobile and more likely to eat outside the home, making them more vulnerable to infection due to poor hygiene in food outlets. In addition, more men undertake economic migration, and workers with high mobility, such as truck drivers and merchants, comprise a potentially high-risk group.
- Children (from age 6 months to 10 years) may be at relatively higher risk of infection than young babies because they frequently put objects in their mouths, spend considerable time in settings with poor hygienic conditions such as schools, possess a less-developed understanding and practice of hygiene, have more mobility and acquire less immunity than older people due to greater levels of environmental exposure.

For clarifications of common misunderstandings related to cholera, see **Annex 2B**.

KEY RESOURCES

ICDDR,B, [COTS Program: The Whole Program](#). 

Médecins Sans Frontières, [Cholera Guidelines](#) – 2004, 2nd ed., Chapter 1, September 2004. 

Ministry of Health and Population in Haiti/U.S. Centers for Disease Control and Prevention, ['Haiti Cholera Training Manual: A Full Course for Healthcare Providers'](#),  pages 4-8, (French version) 

WHO, 64th World Health Assembly Resolution: ['Cholera: mechanism for control and prevention'](#), January 2011. 

WHO, [Weekly epidemiological record, 'Cholera, 2011.'](#) 3 August 2012. 

The Lancet, [Seminar on Cholera](#), 2012

WHO, [Bulletin of the World Health Organization, 'The Global Burden of Cholera'](#) 24 January 2012.

WHO, Global Task Force on Cholera Control, ['Prevention and control of cholera outbreaks: WHO policy and recommendations.'](#)

WHO, Global Task Force on Cholera Control, [Cholera Country Profiles](#).



3 Understanding the situation and monitoring

3.1 Overview of Chapter 3

This chapter covers information required to understand and monitor the situation and to make informed decisions for prevention, preparedness and response, including (1) how to determine an outbreak, its magnitude and scale for response; and (2) monitor and report when there is no outbreak.

Summary of Annexes

- Annex 3A** Algorithm for alert verification and outbreak investigation
- Annex 3B** Cholera outbreak rapid assessment template
- Annex 3C** Information on laboratory, RDT and environmental testing
- Annex 3D** Sample alert register
- Annex 3E** Alert system template
- Annex 3F** Line listing template and additional information
- Annex 3G** Example of data collection spread sheet
- Annex 3H** Epidemiologic indicators and analysis of data
- Annex 3I** Epidemic curves and interpretation
- Annex 3J** Example of planning sheet
- Annex 3K** Template for daily reporting

3.2 Cholera-related assessment and monitoring

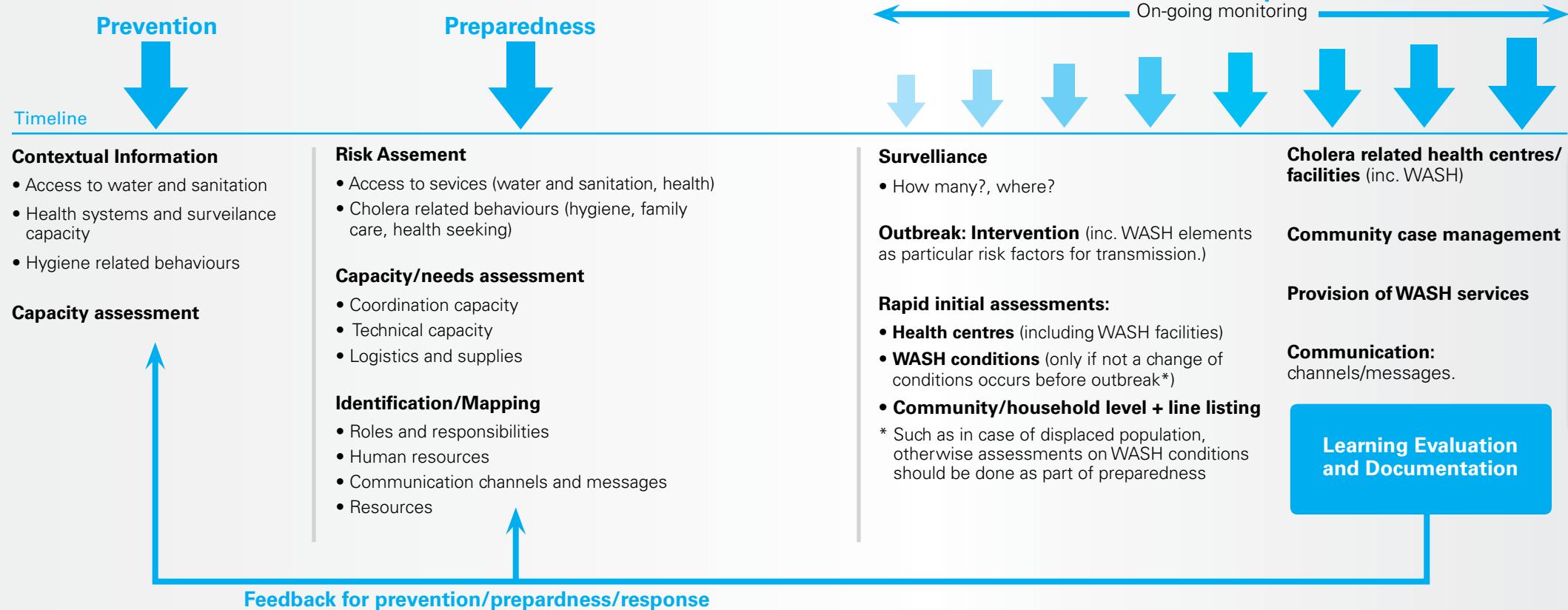
Knowing the characteristics of a given area – access to services, cultural factors determining family care behaviours, etc. – to determine its level of risk and capacity to handle cholera is a necessary part of any cholera prevention and preparedness strategy and following plan of action.

During a cholera outbreak, a close monitoring of the situation (cases reported and where they come from) and continuous assessment of the situation will allow actions to be undertaken in a timely manner to contain the disease, limit its spread and reduce mortality. Collaboration among all concerned sectors (especially health and WASH) is of the utmost importance.

Chapter 3 covers only assessment and monitoring related to cholera cases and reporting (during an outbreak).

The following scheme identifies the different elements of assessment and monitoring suggested to be included as part of prevention, preparedness and response to cholera.

FIGURE 2 Suggested elements for assessments and monitoring related to cholera prevention, preparedness and response



3.3 Determining an outbreak and its magnitude and scale

Determining an outbreak and its magnitude and scale includes the following key actions (adapted from [WHO EWARN Guidelines 2012](#)).⁷ Actions may not necessarily occur in the order presented and can be taken at the same time.

3.3.1 Action 1: Trigger and verify an alert

The detection of unusual numbers of cases of acute watery diarrhoea (AWD) reported through traditional surveillance methods or through rumours coming from the community or media should trigger an alert. Alerts must be verified within 24 hours of notification. If cholera is suspected, an outbreak investigation must follow.

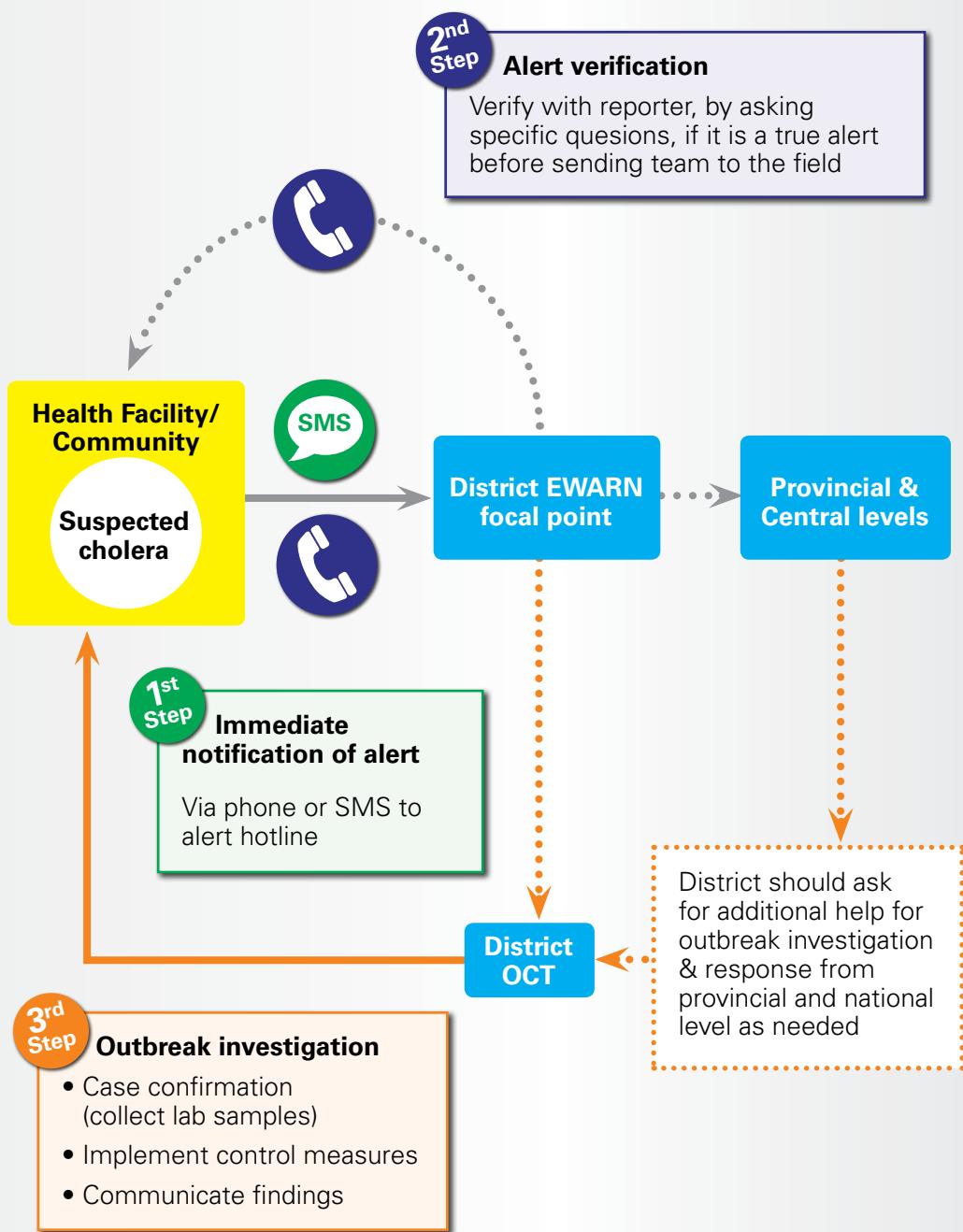
⁷ WHO, ['Outbreak surveillance and response in humanitarian emergencies: WHO guidelines for EWARN implementation.'](#) Geneva, 2012.

Data must be collected on a routine basis, shared immediately, and used to promote action.

The vital role of data cannot be understated. Timely, relevant data must be collected regularly, analysed for use and shared immediately with key multi-sectoral partners (health, WASH, communication, education, media, government and local officials, communities, and donors) to prompt and support urgent action, and to adjust response interventions based on changing epidemiology and the quality of response operations.

TIP

FIGURE 3 Steps in the process of notification, alert verification and outbreak investigation and response (WHO EWARN system)



Triggers to signal an alert for suspected cholera, to be verified within 24 hours

In non-endemic areas: There is a rapid increase of the number of children over 5 years of age or adults who develop AWD.

In an endemic area: There is a rapid increase in the number of cases of AWD compared to the expected number of cases* based on trends from previous years.

***Expected number of cases** – This figure is determined by analyzing past AWD data in the affected province, district, village, etc. Ideally, surveillance data should be collected and reviewed at the district level, or even smaller areas, before being aggregated at higher levels, which will lead to more sensitive outbreak detection. A monthly (or even better a weekly) average number of cases for the non-epidemic years can be compared to the current situation.

To review an algorithm for alert verification and outbreak investigation (both adapted from [WHO EWARN Guidelines 2012](#)), see [Figure 2](#) and [Annex 3A](#).

Alerts can be verified by asking a few simple questions which can be done by phone or SMS.

- What are the age, signs and symptoms of the suspected case(s)?
- What was the date of onset of symptoms of the first and most recent cases?
- What was the location and date of the health consultation?
- Where was the place of residence at onset of illness?
- Where are cases occurring (including any geographical, personal and time relationships between cases, e.g., same community, attended the same school, wedding, health centre, funeral)?
- What is the situation status or outcome to date, i.e., case management, death?

3.3.2 Action 2: Conduct an outbreak investigation

Once an alert is verified and cholera is suspected, an Outbreak Investigation must be conducted to confirm cholera, to identify the population at risk and to rapidly put in place control measures. **Response speed is critical**; suppression

of information, failure to recognize an outbreak or slowness to respond can result in an epidemic of greater magnitude and in the preventable loss of life.

A multi-disciplinary Outbreak Investigation team (rapid response team) should deploy immediately to study the occurrence. The team can consist of a team lead (either separate or a member of the technical team), an epidemiologist, a microbiologist to collect lab samples, a clinician, a WASH/environmental health specialist, a social mobilization/communication expert and a representative from the local community.

Action 2A: Perform field investigation to gather initial information

(Health and WASH): Information gathered from health centres and communities will help the investigation team confirm a cholera outbreak and form an initial understanding of the origins and scale of the outbreak. The team can also use the opportunity to make a quick assessment of Health and WASH response capacity. During this investigation the team will:

Visit the health facility to:

- Examine cases, if possible, or discuss signs and symptoms with a clinician.
- Look for additional cases in the facility register (see [IDSR Guidelines](#), pages 126-127, for conducting a register review).⁸
- Assess case management capacity at the facility (see [Annex 3B](#));

Visit the household, community, place of work or school, and interview case contacts to:

- Assess WASH conditions (including identification of behaviours related to cholera) where appropriate (see [Annex 3B](#)).
- Search for other suspected cases and deaths (see [IDSR Guidelines](#), pages 128-129, for contact recording form);

Collect stool samples from the first 5-10 suspected cholera cases. A cholera **outbreak can only be confirmed using a stool culture**, which also provides information on antimicrobial susceptibility. While the stool culture is being analysed, rapid diagnostic tests (RDT) combined with clinical and epidemiologic information can help support or oppose suspicions of a cholera outbreak.

⁸ WHO, *Technical Guidelines for Integrated Disease Surveillance and Response in the African Region*, 2010.

It is not necessary, in the midst of an outbreak, to confirm the status of every patient in order to provide appropriate cholera treatment. See [Annex 3C](#) for more information on laboratory testing, RDTs and environmental testing.

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Understanding the situation and monitoring

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Initiating response measures

At this point if the assessment is suggestive of a cholera outbreak (even before confirmation by stool culture) the investigation team should notify the MoH, or lead government body, to initiate response measures including gathering the multi-sectoral cholera taskforce, setting up an early warning, alert and response system in all at-risk administrative areas, developing a clear method of communicating information to key partners, reviewing and updating the national response plan, assessing resource needs, distributing messages to the community, etc. See Sections 5, 7, 8 and 9 for prevention, preparedness and response interventions.

Action 2B: Confirm cholera outbreak: An outbreak of cholera can only be confirmed by stool culture. The definition of a confirmed case is a suspected case in which *Vibrio cholerae* 01 or 0139 has been isolated in the stool.

Note on International Health Regulations (IHR):

Cholera is a disease requiring notification to WHO under the IHR. It can cause significant public health impact and can spread rapidly. See the [IHR website](#) to review the algorithm for the assessment and notification of public health events. Note that there should be no restriction on travel or trade due to cholera.

3.3.3 Action 3: Set up an early warning alert and response network

(this type of system can have a number of names such as disease early warning system (DEWS), integrated disease surveillance and response (IDSR), adapt for local terminology).

An EWARN is composed of people who:

- Collect information on trends of cases and deaths, in health facilities or in the community
- Inform the next reporting level for appropriate action to verify and investigate
- Implement any necessary control measures.

The EWARN system requires the necessary resources to record, transmit (SMS, phone, email, radio) and manage data, as well as for transportation and adequate supervision for field investigation and rapid response (See WHO [EWARN Guidelines, Section 2-4](#)  for more information on the EWARN structure, management.)

If there is an existing EWARN, coverage should be expanded and reporting frequency increased as required. Ideally, an EWARN should be established during the preparedness phase in areas of high risk for cholera outbreaks. If there is no EWARN in place, it needs to be established to ensure immediate alert notification of “hot spots” for rapid response and daily and weekly reporting and analysis for response and adjustment of programs.

Action 3A: Set up an immediate alert notification for “hot spots” to identify and report on:

- New cases and deaths in areas that have not reported
- Upsurges of cases and deaths in areas that have already reported cases
- Alarming gaps in supplies, human resources, accessibility or security.

The alerts should be immediately reported to a central notification cell, such as the Zimbabwe C4 (see [Annex 5A](#)), that signals Health, WASH and other relevant staff for response actions. Such notifications often make use of telephone, cell phone, text messaging and other means of rapid communication. Access to supportive services such as free “hotlines” for immediate alerts is increasingly being provided by mobile communications companies during outbreaks.

See [Annex 3D](#) for a sample alert register, and [Annex 3E](#) for a sample alert template.

Action 3B: Establish or strengthen the EWARN

- 1) **Develop and communicate a case definition agreed by all partners for the outbreak.** The case definition and instructions on where and how to report suspected cases should be circulated widely. Personnel at health facilities at all levels of the health system should be taught how to recognize cholera and how to report it. It is important that a common case definition is used consistently.

Examples of case definition *during* an epidemic

- AWD with or without vomiting in a patient aged 5* years or more (WHO 2012) **OR**
- Any individual experiencing 3 or more liquid stools with or without vomiting during a 24 hour period (MSF 2004)

*Although the WHO case definition uses an age range of over 5 years (over the age of 2 was also previously used) it is important to note that children under 5 are still affected by cholera and still need to be registered in the line listing (see below) and need to be treated immediately for AWD.

2) Establish line listing of cases by all health facilities receiving cases.

Cholera registers should be prepared in advance and distributed widely as needed; every facility should keep a line listing in a dedicated cholera register. A line listing helps tabulate and analyse case information by establishing the system of data collection and monitoring during a cholera outbreak, including information such as patient name, age, gender, address, date of onset of symptoms, date of first visit, degree of dehydration, treatment and outcome. See [Annex 3F](#) for a sample line-listing form and further details on data.

Information can be gathered from patients and their relatives in a treatment facility, when staffing resources allow, which can assist in the identification of possible transmission risks which will help establish more focussed responses. Once an outbreak has been confirmed, diagnosis of patients can rely on symptoms alone, i.e., during an outbreak of cholera in a defined area, almost every case of AWD with or without vomiting will be due to cholera.

Data from line listings should be analysed and used at the facility/local level and transmitted to the central level daily (if early in the outbreak) and weekly. Data can also be entered into a spreadsheet for quick interpretation of trends in numbers and pictorially through graphs. See [Annex 3G](#) for an example of a data collection sheet.

- 3) **Collect information on cases and deaths through active surveillance to complement official reporting channels.** It is important to employ a variety of means to actively review information obtained from

communities (i.e., rumours), religious leaders, political authorities, press reports, blogs, and any other unofficial information sources. Not all cases or deaths are seen at a health facility and may be left unnoticed and not included in the alert system.

3.3.4 Action 4: Describe the epidemic

Regular and timely epidemiologic updates are necessary to describe the progress and trends of the cholera outbreak and to monitor response actions. Updates can be performed daily (especially at the beginning of an outbreak), weekly or monthly, depending on the progression of the outbreak.

Data should be used to inform action. It should be monitored at the lowest administrative level to update response interventions and at national or regional levels to support advocacy and fundraising, predict spread, estimate resource needs and signal neighbouring countries of epidemic proximity. See [Annex 3H](#) for the definition of data, calculation methods and analysis.

Data should be analysed and reported using a mix of numbers, graphs and maps to describe:

- Person: who is affected (data broken down by sex, age, or risk factor);
- Time: trends over time (see [Action 4B](#));
- Place: location/place (see [Action 4C](#)).

See the information in [Annex 3F](#) on line-listings for more information on understanding person, place and time from collected data.

Action 4A: Conduct daily reporting

Cases, deaths and the case fatality rate (CFR) (see [Annex 3H](#)) need to be reported on a daily basis to signal trends and initiate or adjust response interventions. The analysis of these trends should be conducted at the lowest administrative level to allow immediate adjustment of the prevention and case management interventions. Information for daily reporting of cases and deaths can be drawn from alerts and facility-reported data from line listing. For details, see [Annex 3K](#) for a daily reporting template.

Action 4B: Conduct weekly reporting

Weekly reporting involves more analysis than daily reporting and provides a more robust picture of an epidemic's time trends, which can be illustrated in tables, line graphs or histograms. It covers daily and cumulative case data reported over the course of a week (incidence rate), CFR and attack rates

(AR) (see [Annex 3H](#)). Weekly data can also be described by age or gender to yield a more detailed analysis of trends. For an example, please refer to [Zimbabwe weekly epidemiologic bulletins](#) .

Epidemic curves (see [Annex 3I](#)) are used to determine whether cases are clustered in time, place or by person, i.e., by age and sex, to predict when the peak of the outbreak might occur; to develop hypotheses explaining exposure and disease, i.e., the source of the outbreak and the mode of transmission; and to estimate the end of the outbreak. Each facility should establish an epidemic curve, as well as district, provincial, and national epidemic curves, and they should be updated frequently and regularly.

Action 4C: Create epidemiologic maps

Maps are a useful tool to determine the geographic origin and likely path of cases; to monitor their progress, the CFR and AR; and to prioritise preventive and preparedness actions in surrounding areas and across borders. Spot maps or hand-drawn maps can show where, how and why the outbreak is moving and the locations of cases, roads, water sources and health facilities in more than larger country-level maps.

Action 4D: Identify sources of transmission

Analysis of the information gathered or estimated in Actions 2, 3 and 4 should help identify the source of transmission through the observation of common patterns among reported cholera cases. Assessments of cholera transmission from particular bodies of water, food outlets or other sources may rely on case control studies, sanitary surveys around water points, inspections of food hygiene and safety at food outlets, and testing of thermo-tolerant coliform, such as *E. coli*, in water sources as an indicator of the faecal contamination level and the potential risk of the presence of *V. cholerae*. Additional studies, including laboratory tests and environmental studies, can be conducted as necessary, although they can be time and resource consuming and the capacity limited in low-income countries.

3.3.5 Action 5: Estimate the populations at risk and number of expected cases

The estimation of risk is based on a number of combined factors that include water, sanitation and hygiene coverage; environmental factors such as seasonality or flooding; levels of crowding; population displacement and movement; systemic capacity to respond; population immunity; and other factors such as marginalization, economic stress and water supply limits faced by populations.

Action 5A: Estimate the populations at risk

Estimates of at-risk populations will reflect broad numbers in locations based on pre-determined risk factors (see [Section 2.3.3](#)) and will typically include the entire population in a defined geographic area (village, camp, province, etc.). See [Annex 6C](#) for details on risk and capacity assessment. While these populations are at risk of exposure, not everyone will become infected or demonstrate symptoms that require medical care (see Action 5B) and will therefore not be counted as cases in the reporting system.

Risk assessment methods can include: reviews of existing data on coverage, use and knowledge of safe water, sanitation and hygiene services and health services, observation, sanitary surveys, measurement of residual chlorine, key stakeholder interviews and focus group discussions.

Targeted prevention interventions to reduce the spread of disease - including water, sanitation and hygiene efforts, communications measures and oral cholera vaccines where indicated - should be focused on populations at risk of exposure. These areas should undertake preparations to manage cases through community and health staff capacity building (see [Chapters 7](#) and [9](#) for communication and WASH interventions).

Start water, sanitation, hygiene and communication interventions in at-risk areas before cases occur

Areas that are identified to be at risk should be immediately targeted for WASH and communication activities in order to prevent transmission to and within these areas. EWARN system strengthening and capacity building for health staff to improve case detection and management is also critical in these areas. See [Sections 7](#) and [9](#) for response interventions.

TIP

Action 5B: Estimate the expected number of cases

The number of new cases expected - and ultimately the magnitude of an outbreak - is very difficult to predict and depends on many different factors. An estimated attack rate (AR) can be used to determine potential numbers of cases and therefore areas that require significant attention and supplies for case management and infection control. The AR can be estimated using the historical AR data in that area or what is likely based on known parameters from previous outbreaks globally. The estimated AR should be based on an assessment of risk performed with partners. It is often a best guess and

should be rounded up to ensure there are adequate supplies (which can be used to address other diarrhoeal disease efforts after the outbreak). The estimated AR used for planning purposes is different from the cumulative attack rate calculated after an outbreak to determine the effects of control measures (see [Annex 3H](#)).

Estimated attack rates (AR) for epidemic planning

- 0.5-2%: low-medium risk settings (less crowded, open settings, rural or may have better access to services)
- 2-5%: higher risk settings (crowded places with poor water and sanitation, urban slums or camps)
- over 5%: typically very high risk settings (high population density, poor water, sanitation and health services, low population immunity and high vulnerability)

Note: The AR can exceed 5%, as in Haiti and Goma where populations have had little immunity and risk factors are many.

These AR estimates can be used to approximate the number of people expected to become ill (and who will seek medical care) among the populations at risk of exposure. These quantities will be used to determine the number and type of treatment facilities and their medical supply and WASH needs.

The following estimates (from MSF guidelines 2004) can be used to estimate the amount of resources needed during a specified time period for an outbreak:

- For all settings: The proportion of cases expected to be seen before the peak of the epidemic is 40%
- For low-medium risk settings: The peak of the epidemic is expected to be reached after 1.5-3 months, and the duration of the epidemic is 3-6 months (slower time to spread across the population due to low population density and open setting)
- For higher risk settings: The peak of the epidemic is expected to be reached after 1-2 months, and the duration is 2-4 months
- For very high risk settings: The peak of the epidemic is expected to be reached after 2-4 weeks, and the duration is 1-3 months (quicker time to spread across the population due to high population density with other risk factors).

From the estimates of AR the following percentages of illness are expected:

- 80% of those that are ill will have mild to moderate illness and seek care (they may or may not be hospitalized)
- 20% of those that are ill will have severe dehydration requiring hospital care.

See **Annex 3J** for a planning excel spread sheet that can help in calculating how many cholera treatment centres, staff, supplies, etc. would be required to cover initial supply and resource needs.

3.3.6 Action 6: Formulate and share conclusions and recommendations

After reviewing the analysis of the results, formulate conclusions and recommendations about the outbreak based on the following considerations:

- Situation is confirmed as a cholera outbreak
- The population affected and at populations at risk
- Possible causes of the cholera outbreak and laboratory results, source of infection, mode of transmission, AR, CFR and possible risk factors
- Measures already initiated to contain the outbreak
- Recommendations made for controlling the situation and for further investigation/studies
- Information shared with all stakeholders.

3.3.7 Monitoring of EWARN systems

Surveillance and early warning systems need to be monitored to ensure their quality on a regular basis, specifically to review:

- The number of sites collecting data that are reporting weekly data (graphed to show trend from previous weeks)
- The completeness and timeliness of reports (proportion of reports received per week) with trends
- The proportion of alerts responded to within 24 hours from notification and the number of alerts confirmed as outbreaks
- The details of specific alerts: date and time, location, whether a response was initiated, the outcome and mapping.

Regular supervision of health staff is also necessary to make sure the case definition is applied, the line listing is completed properly, data are being used for analysis and shared with key partners for action, reporting forms are available and the number of alerts that were not reported and the reasons are known.

3.4 Monitoring when there are no cases

Monitoring epidemiologic data when there is no outbreak of cholera is important and should be incorporated into the existing surveillance system with an early warning and alert component. This need is particularly important in:

- **Endemic settings:** High-risk areas and before seasonal upsurges
- **High-risk contexts:** in endemic settings where cholera exists or non-endemic ones where it may be introduced, for example in a displaced site characterized by little access to WASH and health care interventions, significant crowding and population movement.

Areas that are identified to be at risk should have an early warning and alert system in place and should undertake enhanced prevention and preparedness efforts.

KEY RESOURCES

MSF [Cholera guidelines: Chapter 2 \(2004\)](#) 

Outbreak surveillance and response in humanitarian emergencies: [WHO guidelines for EWARN implementation \(2012\)](#) 

WHO [Technical Guidelines for Integrated Disease Surveillance and Response in the African Region \(2010\)](#) 



4 Cholera prevention

4.1 Overview of Chapter 4

This chapter covers the individual and community behaviours and practices that can help to prevent cholera infection and transmission.

Summary of Annexes

Annex 4A Guidance Note on the use of oral cholera vaccines for UNICEF (2012)

4.2 How to prevent cholera through improved water, sanitation and hygiene

The single most important principle for preventing cholera transmission

Keep faecal matter away from water and food and kill cholera bacteria that have contaminated food or water prior to consumption.

The following table identifies specific actions, which if implemented by a large proportion of the population and by supporting practitioners, can prevent the transmission of cholera. In the longer term, eliminating cholera transmission⁹ will require sustained efforts on making water and sanitation services accessible and used, appropriate hygiene practices adopted (which usually requires changing personal and social behaviours) and health care services accessible and of good quality.

While the table indicates specific actions and outcomes to be achieved, **Section 4.4** discusses recommendations for the prevention of cholera through expanding and scaling-up existing programmes to cover cholera prone areas, as well as including cholera as an overt consideration for the prioritisation and planning of sectoral interventions in health, WASH and other cholera concerned sectors.

⁹ **Section 2.2** of this Toolkit discussed the transmission routes for cholera

Table 2 Community-focussed actions which will *prevent* the transmission of cholera

Target outcome	Household, community and institutional practices – Actions required (may involve sustained behaviour change)	Practitioners – Actions required
People have access to and use safe water supply for drinking	<ul style="list-style-type: none"> Water is taken from protected water sources. Effective water treatment is practiced¹⁰, such as boiling (up to a rolling boil)¹¹, use of proven filters or appropriate chlorine dosing. Boiled or treated water is used for drinking, making juices, other drinks and ice. Water is stored safely in a covered container with a tap, narrow neck or with a cover and a dedicated implement for extracting the water. 	<ul style="list-style-type: none"> Water services are made available providing water which is treated and has residual chlorine. Water quality is systematically monitored and action is taken where quality is not adequate (including training on how to maintain water safety). Education through behavioural change communication, education and mobilisation and information dissemination on safe drinking water practices is undertaken through multiple channels. Household water treatment and storage, including systems, materials, supply chains and follow up is undertaken. Water purification materials, storage containers and instructions for their use are distributed and their use is monitored.
Households, communities, institutions and food outlets practice safe food hygiene	<ul style="list-style-type: none"> Food is always prepared in a clean environment. People preparing food wash their hands with soap after visiting the toilet and before preparing food or handling water. Food that has been cooked is always served hot. Avoid raw or undercooked shellfish. Market vendors only sell unpeeled and unsliced fruit. All food is covered to protect it from flies and other insects. Fruits and vegetables that are eaten raw are always washed first with safe water and chlorine. Utensils are always cleaned with hot water and soap. Utensils are always stored and kept clean. Special handwashing facilities with soap are kept for customers and promote their use. Special care is taken to make sure food is safe at gatherings. 	<ul style="list-style-type: none"> Food providers are trained on environmental health and food safety. Hygiene education is provided through various channels, including social mobilisation sessions on food safety for households and institutions. Regular inspections are undertaken according to environmental health regulatory framework/ standards of food outlets and institutions, such as schools, workplaces, prisons. Corrective actions are taken when standards are not met.

¹⁰ WHO *Drinking Water Quality Guidelines*, 4th edition which provide information on dosing and other proven treatment methods (i.e. not all filters are effective). (2011)

¹¹ WHO *Drinking Water Quality Guidelines*, 4th edition (p143) recommends that water is brought to a rolling boil. (2011) As nearly all pathogens are killed at 65°C for 12 seconds even in turbid water, WHO no longer places a time limit nor a modification for altitude on its recommendation for boiling (personal communication: Margaret Montgomery and Bruce Gordon, 8 May 2012).

Target outcome	Household, community and institutional practices – Actions required (may involve sustained behaviour change)	Practitioners – Actions required
Infants are exclusively breastfed and if needed, given safe fluids and food	<ul style="list-style-type: none"> Babies under 6 months are exclusively breastfed. Older infants continue to be breastfed and are also given complementary foods prepared hygienically. Where formula milk is used it is prepared hygienically using boiled water that remains hot enough to kill bacteria in the formula (but cooled before serving). 	<ul style="list-style-type: none"> Advocacy, communication and social mobilisation sessions for and promotion of exclusive breastfeeding for infants under 6 months of age (including mothers' support group sessions) and promotion of breastfeeding with complementary feeding for older infants (including education on food hygiene for caregivers).
The environment is free from excreta because people dispose of it safely	<ul style="list-style-type: none"> Latrines with functional hand-washing facilities are used and kept clean. People do not defecate in the open (if people don't have access to a latrine – they always bury their faeces). Children's faeces are disposed of safely in a latrine or buried Excreta disposal facilities are provided in markets, other public places and institutions with functional and well managed hand-washing facilities. Excreta disposal facilities are culturally appropriate and a sustainable cleaning and maintenance system is established for communal or public facilities. Especially vulnerable groups are catered for. 	<ul style="list-style-type: none"> Advocacy for and facilitation of processes to encourage community led sanitation action. Support to government authorities to ensure institutions and public places have adequate accessible latrines with functional hand-washing facilities as well as systems to ensure they are cleaned and maintained. Communication for behaviour and social change interventions for latrine use and maintenance and open defecation free communities.
People wash their hands with soap and water at critical times	<ul style="list-style-type: none"> Hands are washed with water and soap at the critical times (after defecation or handling faeces, before preparing food, feeding a child or eating). If soap is not available then ash or another appropriate disinfectant is used. Because a shared cloth or towel can become contaminated hands should be dried in the air. Particular care is taken at funerals and other gatherings to ensure facilities for hand-washing with soap are available and used at critical times (including after contact with the deceased and his/her clothing, bedding, etc.). 	<ul style="list-style-type: none"> Behaviour and social change communication, education and social mobilisation activities on the importance of handwashing with soap at critical times are undertaken. Construction, operation and maintenance (including provision of soap) of handwashing facilities is supported in all public places, particularly next to public latrines and in food preparation and serving areas.
Environmental hygiene is adhered to in markets and other public places	<ul style="list-style-type: none"> Drainage systems are kept clean. Solid waste is safely disposed of to prevent fly breeding. Functional and clean latrines, with handwashing facilities and safe water, are available. Particular care is taken with the disposal of solid waste which also includes (if applicable) faeces in plastic bags which are collected in a formal system ('flying toilets'). 	<ul style="list-style-type: none"> Municipal authorities are supported to establish and sustain an effective solid waste collection and management systems in urban areas with particular attention to markets and other public places. Solid waste education and communication sessions are undertaken within schools and market places.

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These activities are critical for prevention of cholera. Additional interventions will be needed in formulating appropriate responses. See **Section 9.1** for further details on community-focussed actions for **cholera response**.

4.3 Use of cholera vaccines

Vaccination is becoming increasingly important to cholera control for a number of reasons, including: the availability of new, improved, less expensive and prequalified vaccines; growing awareness of large and protracted epidemics receiving extensive response operations and media coverage; increased interest by partners and donors in new technologies to address the worrisome growth in incidence of cholera worldwide; and, closer collaboration with technical vaccine experts and partners who implement traditional cholera control efforts.

There are currently two WHO pre-qualified cholera vaccines. Both offer the major advantage of being relatively easy to administer in a short time and of depending more reliably on functioning health systems and their partners than on the actions of families or individuals.

Vaccination: A recommended defence

Engagement with governments, WHO and partners is recommended to consider oral cholera vaccine (OCV) use pre-emptively in endemic, at-risk and humanitarian settings and reactively in outbreaks. In all contexts, the decision-making process must be based on a sound risk assessment.

Vaccination does not replace the need for improved water and sanitation services and hygiene education at all levels, nor does it replace the need for rapid diagnosis and appropriate management of cases that occur. It should also not be allowed to detract from necessary on-going attention to diarrhoeal diseases of other origin, which remain a major cause of childhood mortality in all developing countries.

It has become increasingly clear that the appropriate implementation of a *mass cholera vaccination program should be considered* as a potentially important element of any cholera prevention and control effort, **together** with the other areas of intervention discussed in this Toolkit.

See **Annex 4A** for:

- Specifications of the two pre-qualified vaccines
- General considerations on the use of OCVs
- Pre-emptive and reactive use of OCVs - why, when and how to use them, as well as who should administer them, where, and what additional feasibility considerations should be made during large outbreaks and humanitarian crises)
- UNICEF's role as a supporting agency
- Contact details for technical support and to access OCVs
- Link to CDC and WHO Webinar, "Cholera and Cholera Vaccines: an update for UNICEF."

Note: Although OCVs are covered in this Section of the Toolkit, they are used pre-emptively as a preparedness measure and reactively in response to outbreaks. They are intended to prevent the spread of cholera and to reduce mortality through preventing infection.

KEY RESOURCES

WHO, [Weekly epidemiological record, Cholera vaccines: WHO position paper](#), 26 March 2010. 

WHO, [Oral cholera vaccines in mass immunization campaigns: Guidance for planning and use](#), 2010. 

WHO, [Background paper on the integration of oral cholera vaccines into global cholera control programs](#), 2009. 

WHO, [Technical Working Group on creation of an oral cholera vaccine stockpile](#), April 2012. 

WHO, [Global Task Force on Cholera Control, Oral cholera vaccines use in complex emergencies: what next?](#) Meeting report, December 2005. 

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4.4 Incorporating cholera prevention into development / regular programming

The risk of cholera is the highest among the most marginalized populations, where water, sanitation and health related services are at the lowest coverage. Preventing cholera demands an overall strengthening of measures towards reduction of diarrhoeal diseases – improving access to the above mentioned services and hygiene related behaviours – and putting in place cholera specific measures in the most at risk areas. Increasing emphasis and bringing additional resources to existing diarrheal disease programs so they can scale up should be part of any cholera prevention strategy.

Through a mix of (1) scaling-up and expanding existing development programs (health, WASH, C4D, among others) to target cholera prone areas and (2) through integrating cholera as an overt consideration into the planning and implementation of development programs; the risk of cholera can be minimized and cholera be prevented. Nevertheless elimination of cholera will only be possible if the gains are sustained over the time.

4.4.1 Scaling-up and expanding existing programs in cholera prone areas

Development programmes' gains on improving access to water, sanitation and hygiene, access to health care including ORS and zinc, and achieving behaviour change related to hygiene and family care practices contribute to the reduction of diarrhoeal diseases and reduce the risk of cholera. The following interventions¹² have been identified as key for control and reduction of diarrhoeal diseases. Advocacy and support of national efforts, including resource mobilization, to scale up and expand them to cover cholera prone areas will contribute to the prevention and elimination of cholera in endemic and high risk settings:

- Community based approaches to eliminate open defecation and increase sanitation demand.
- Improve availability of water sources and adoption of household water treatment and safe storage.
- Behaviour change interventions to encourage appropriate hygiene practices (especially handwashing with soap), early and exclusive breastfeeding, supplementation of vitamin A, among others.



- Measles and rotavirus vaccinations for diarrhoea prevention.
- Fluid replacement to prevent dehydration, zinc treatment and continued feeding through ensuring the availability of low-osmolarity ORS and zinc and health promotion in communities at high risk for diarrhoea.
- Strengthen early detection of diarrhoeal diseases and epidemiologic monitoring systems.
 - Case management programmes for diarrhoea and other top causes of morbidity and mortality including malnutrition, i.e., Integrated Management of Childhood Illnesses (IMCI), Integrated Community Case Management iCCM, Community Management of Acute Malnutrition (CMAM) and infant and young child feeding (IYCF).
 - Improving monitoring systems, to be flexible to adapt and adjust to increased cases of AWD.
 - Create linkages between development diarrhoeal disease programs and emergency programs for cholera preparedness and early response.

¹² Adapted from the WHO/UNICEF 7-point plan for diarrhoeal disease control 

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4.4.2 Integrate cholera as an overt consideration into existing development programs

For endemic areas, cholera should be a specific consideration of the planning and delivering of any development programme. The list below highlights areas where the inclusion of cholera would be necessary as a mean to eliminate cholera transmission / prevent it to occur and improve health outcomes:

- In all concerned sectors (i.e. health, WASH, education, etc.) integrate cholera into the definition of strategies and plans of action, as well as in the allocation/ prioritisation of resources.
- Integrate cholera into the national risk assessment for risk-informed programming as a way to define specific actions for cholera preparedness and response.
- Integrate, within the national surveillance system, an early warning and response network in areas at high risk of cholera.
- Support the Ministry of Education and other curricula development institutions for pre-school, school, college and university level education to incorporate cholera into standard curricula at all levels.
 - In collaboration with training institutions, support the integration of cholera as part of the professional training for health, WASH, education, nutrition, community development, media professionals.
- Include within training for diarrhoea case management such as IMCI or iCCM, the detection, management and reporting of AWD focussed on staff working in cholera high risk communities
- Include cholera and diarrhoeal disease prevention messages (key family practices) in regular communication for development interventions.
- Build capacity of staff within institutions that run development programs to include cholera prevention, preparedness and response at national and sub-national levels.
- Build capacity and provide resources for use of oral cholera vaccines (OCV) in priority areas, where appropriate.

Opportunities for UNICEF to include cholera prevention into development programmes

In cholera endemic/at risk countries, UNICEF CO should include cholera as a consideration during the preparation of the Situation Analysis, Country Programme Document and Action Plan, Mid-Term Reviews and other programming and planning processes. In the same way, all concerned sectors within UNICEF should consider cholera prone areas during the definition of priority areas of intervention, especially those indicated in **Section 4.4.1** above.

All work plans and collaboration with governmental institutions and partners (including project cooperation agreements for the implementation of regular programmes) should consider the opportunity to incorporate the actions mentioned in **Section 4.4.2** or others aimed to increase specific capacity and awareness towards cholera prevention, preparedness and response.

Cholera risk must be factored within UNICEF CO's preparedness and contingency planning (including Early Warning/ Early Action).

KEY RESOURCES

WHO, UNICEF [Diarrhoea: Why children are still dying and what can be done](#) (2009) 

UNICEF [Pneumonia and diarrhoea: Tackling the deadliest diseases for the world's poorest children](#) (2012) 

WHO/UNICEF [Joint Statement: Clinical management of diarrhoea](#) (2004) 

5 Coordination, responsibilities and information management



5.1 Overview of this chapter

This chapter covers the rationale and structures for cholera outbreak prevention, preparedness and response, including the role of task forces and co-ordination committees. It also considers the meetings, sources of information and the importance of information management. The need for communication and the challenges presented by situations when cholera is present but not declared are reviewed, as are stakeholder roles and responsibilities overall.

Summary of Annexes

Annex 5A Comparison of co-ordination structures - Ethiopia & Zimbabwe

5.2 Co-ordination for cholera prevention, preparedness and response

5.2.1 Purpose of co-ordination for cholera prevention, preparedness and response

Effective prevention, preparedness and response for cholera require co-ordination and communication across multiple sectors and at different levels. The speed of response has significant bearing on the management and impact of an outbreak.

The purpose of co-ordination is to:

- Ensure coherence of the prevention, preparedness or response activities through the development of collaborative plans and agreement on technical standards
- Avoid both gaps and duplication, and promote complementarity
- Make the most effective use of all actors, including government partners, resources, funding and supplies
- Undertake collaborative assessments, leading to aligned planning and response assumptions
- Effectively share information
- Build capacities
- Mobilise resources
- Instigate timely monitoring, reporting and decision making
- Increase the efficiency and timeliness of early warning systems
- Establish common thresholds for triggering interventions.

5.2.2 Co-ordination structures for prevention, preparedness and response

Activities that will lead to the prevention of cholera (and infectious diarrhoeal diseases of all varieties) over the longer term should be undertaken as part of developmental efforts to build systems, structures and services.

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In particular, such efforts should provide greater access to improved water supply, sanitation and hygiene, promotion of health and hygiene promotion, reduction of malnutrition, use of ORS and zinc, and for the treatment of acute watery diarrhoea, particularly in children. Cholera-specific prevention activities and advocacy may be justified in high to medium risk countries and wherever possible should be considered a focus area for attention in existing co-ordination platforms.

Table 3 Suggested structures for cholera coordination by level/scale

Context	Co-ordination Level	Co-ordination Focus	Comment
An outbreak in a cholera- endemic area limited to one district with typical outbreak case numbers for the time of year	District	Primarily co-ordination of planning and implementation of response activities	Action may be managed through co-ordination at the district level with requests for additional supplies and support from national level, if required
An outbreak in a cholera endemic area that becomes much larger than the usual pattern and increases risks of crossing district boundaries	Sub-national or regional with support from national	Primarily technical, organizing logistics and supplies, providing supervision, supporting training and conducting risk and needs assessments, implementing support strategies and monitoring of activities	Response might require district or regional-based co-ordination mechanisms, plus additional support from national level including from existing sectoral and inter-sectoral co-ordination groups (such as an existing cholera or disease control co-ordination committee).
An explosive outbreak in a country which usually only has small outbreaks or a country which has not experienced cholera for many years	National (with additional support at sub-national level as required)	Primarily high-level liaison, strategic decision making, setting standards and delivering guidance, developing strategies for prevention and response, advocacy and resource mobilization and monitoring activities	Action might justify initiating either national disaster management or cholera-specific co-ordination mechanisms at national, regional and district levels . International support is also likely to be needed.
An outbreak that occurs near to or across country boundaries	National and cross-border	Primarily to ensure sharing of data, monitoring of trends and risks, response action and the movement of populations with associated transmission risks	Action would require co-ordination between authorities (national and local authorities) on either side of the border. International Health Regulations should be respected and international authorities duly notified.

Establishment of co-ordination structures

- Support existing government-led national, regional and district co-ordination mechanisms wherever possible.
- Keep co-ordination structures as simple as possible, respecting meeting timings and restricting reports to a needs basis.
- Provide direct linkage to senior government officials to ensure directives are issued for critical action.
- Consider how mechanisms will work at national level and link with the structures at regional or district levels (line management and communication channels).
- For federal countries or unions, be clear on the structures for each state, as they may differ.
- If cholera occurs near borders – establish cross-border co-ordination and communication linking authorities and key actors.
- Health and WASH sectors should be proactive in ensuring close collaboration, e.g., joint meetings, regular information sharing and joint assessments, logistics, interventions, planning and monitoring, and inclusion of other relevant sectors (such as Education, etc.).
- Make the most of civil society, particularly organisations with significant cholera response expertise such as medical NGOs, NGOs/CBOs and FBOs with experience in community mobilisation for cholera response.

5.2.3 Outbreak task forces or co-ordination committees

The Ministry of Health coordinates all departments responsible for preventive health and epidemiology and is usually the overall lead agency in cholera prevention, preparedness and response. Engagement is required from Ministries and Departments responsible for emergency/disaster preparedness, water, sanitation, education, community development, social protection, local government, public information, communication and finance. It is always beneficial to involve and engage civil society, the Red Cross/Red Crescent movement, UN agencies and other responsible bodies, such as medical research institutions.

In a country that has experienced large-scale outbreaks, the existence of a stand-alone *cholera task force* is more likely. For cholera endemic countries,

which do not tend to face large outbreaks, or in countries which have not had cholera for some years, cholera is more likely to be covered by a more general outbreak task force or co-ordination mechanism. A National Disaster Preparedness and Management Agency (or the like) may exist in addition to a cholera task force and may or may not have epidemic control as part of its mandate. Irrespective of format and name, the core functions of a cholera co-ordination unit will be:

- Preparing for epidemic
- Co-ordinating among sectors and sharing information
- Collaborating at regional and international levels
- Conducting risk and needs assessments
- Collecting and reporting of information on cholera cases and deaths
- Organising any relevant training
- Procuring, storing and distributing of essential supplies
- Implementing, supervising, monitoring and evaluating control activities.

Co-ordination arrangements may necessitate the creation of sub-committees, advisory or technical working groups tasked with the following focus areas:

- Overall co-ordination (usually an strategic advisory group)
- Surveillance and information exchange
- Case management and laboratory services
- Environmental health / water, sanitation and hygiene
- Advocacy, communication for behaviour and social change and social mobilisation
- Communication and resource mobilisation
- Distribution and utilisation of supplies and associated logistics.

Membership composition of a national cholera task force

A national cholera task force should be broadly representative. The size should balance inclusivity against the need for rapid decision making for quick and effective implementation. A typical task force might include:

FIGURE 4

Suggested members of a typical cholera national taskforce/coordination platform

Government authorities / institutions

- Ministry of Health
- Ministries responsible for:
 - Water and sanitation, if different from the environmental health department
 - Public information and communication
 - Education
 - Community development
 - Planning and finance/economy
 - Social welfare
 - Local government
- National Disaster Management Authority
- Security sector (such as the police).

UN Agencies

those active in Health and WASH

National and International organizations

active on Health and WASH in-country

Civil Society

Representatives with specific cholera expertise (health, WASH, education, communication, nutrition)

Medical research institutions

Private Sector

- Water utilities
- Local water vendors
- Laboratory services
- Clinical services
- Pharmacies

Including representatives of media sector might be considered, including community media such as radio associations

Membership composition may change by context. For reference, see the co-ordination structures utilized in two major epidemics with different contexts - in Ethiopia and Zimbabwe - shown in **Annex 5A: Comparison of Co-ordination Structures**, with some observations on their relative strengths and weaknesses.

During a cholera outbreak it is very important to identify organizations that have significant proven experience in responding to cholera and can help lead and guide other stakeholders in the response. A number of international institutions, agencies and organisations may be able to provide technical support. Unqualified individuals or organizations should not be allowed to manage cholera control activities, especially those relating to health care, until they have received adequate training. In epidemic situations where cholera outbreaks have not occurred before, training of national personnel will be a critical priority.

The Inter Agency Standing Committee Cluster Approach

The roles of the IASC Cluster Approach in a cholera response is limited to the following scenarios:

- When a national government is unable to cope with the scale of the cholera outbreak and requires additional emergency operational assistance, or
- When the Cluster Approach is already functional due to another large-scale disaster in-country.

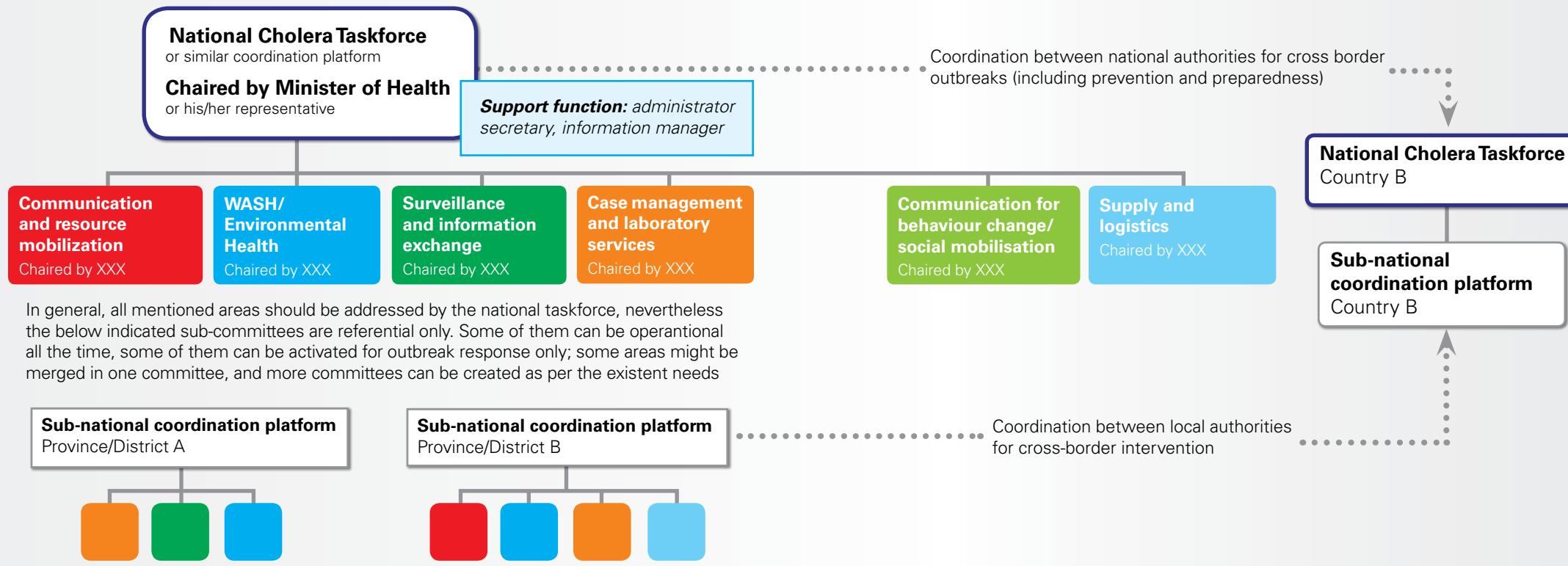
Under these circumstances, the roles of the individual clusters would be:

- To support government to undertake its role in cholera response and specifically to support national cholera task forces with operational support for co-ordination, logistics, mobilisation of resources, technical advice and capacity building / training of partners.
- To co-ordinate across sectors with close collaboration between Health and WASH, and linkages also to Nutrition, Education, Protection and Logistics.
- To support the MoH in implementing the cholera task force.

For further information on the Cluster Approach, refer to the Cluster Co-ordination Handbooks for WASH (WASH Cluster Co-ordination Handbook)¹³ and Health Clusters (Health Cluster Guide). These guides provide a range of useful information for supporting government-led sectoral and inter-sectoral co-ordination efforts.

¹³ Global WASH Cluster Co-ordination Project, [Water, sanitation and hygiene \(WASH\) Cluster Co-ordination Handbook: A practical guide for all those involved in the Water, Sanitation and Hygiene Cluster \(for field review\)](#),  January 2009.

FIGURE 5 Example of coordination arrangements for cholera preparedness and response



Challenges presented by national cholera task forces

In large outbreaks, a national cholera task force is likely to be activated, with instructions for full engagement from senior government officials. However, the high level of commitment required for participation in the task force is difficult to sustain due to:

- Inconsistent representation by stakeholders, both in terms of changing personnel and of sustained priority given to engagement, not to mention a perceived domination of the group by Health professionals.
- Perceptions by civil society representatives of being overlooked or limited either in number of agency representatives or ability to contribute.

5.2.4 Meetings and information required to manage cholera risks

A cholera task force or co-ordination mechanism should meet periodically during periods before seasonal outbreaks in which attention is focussed on prevention and preparedness. UNICEF and WHO should lobby for and facilitate a comprehensive preparedness review two months prior to the normal outbreak season.

During the response period, stakeholders should meet frequently (at least weekly) during the outbreak period. At the peak of an outbreak, the task force or committee managing the direct response, for example at district level, will need to meet daily to discuss the progression of the cholera outbreak and, the status of and gaps in the response, and to prioritise actions and disseminate data.



The coordinator chairing any meeting should possess technical knowledge and co-ordination skills regardless of his/her normal work sector. Meetings should have a prepared agenda and stated objective and be kept as short and focussed as possible. Actions points arising from the meeting should be disseminated as fast as possible and followed up.

Information is critical for stakeholder engagement and actions, but it is only useful if shared with those stakeholders who are responsible for acting on it. In cholera outbreaks, these stakeholders include:

- General public – who require information to protect themselves
- Media - who disseminate information widely to the general public
- *Responders at local, national, regional, sub-regional levels, e.g., government, UN, civil society, NGOs/CBOs, private sector, community leaders, who need to understand the situation, what needs to be done where and when, the resources needed and gaps in available resources.*

The following table identifies the types of information required to effectively manage cholera outbreaks.¹⁴

¹⁴ Inter-Agency Standing Committee (WHO), Global Health Cluster, A practical guide for country-level implementation of the Health Cluster, 2009.

Table 4 Types of information required for managing cholera outbreaks

Types of information needed in cholera outbreaks	Why it is needed	Where is it discussed in this Toolkit?
Contextual information and the basics of cholera: <ul style="list-style-type: none"> • How to prevent cholera and what to do if a person is infected • How and where to obtain assistance (usually free of charge) • Details about CTCs and ORPs. 	<ul style="list-style-type: none"> • To inform the public about what they need to do to protect themselves effectively. 	Chapters 2, 4, 8 and 9
Epidemiologic data and assessment information on risks and needs	<ul style="list-style-type: none"> • To understand how the outbreak is progressing, what the needs and priority response actions are and how to communicate persuasively with the public. • To adapt response to emerging circumstances. 	Chapters 2 and 3
<ul style="list-style-type: none"> • Capacity for response - who is doing what, where, when and availability of resources (human, supplies, logistics, finances) • Monitoring gaps and needs, i.e, knowing when and where stockouts occur, and having a plan for emergency resupply when they are reported. 	<ul style="list-style-type: none"> • To be able to identify capacity for responding and gaps in the response so that they can be addressed. 	Chapters 5, 6, 7, 8, 9 and 10
Data and information on the progress, efficiency and effectiveness of the response	<ul style="list-style-type: none"> • For learning, reporting on, accountability and improvement of the response effort. 	Chapters 3, 8 and 9

5.2.5 Co-ordination and communication when cholera is present but not declared

A cholera outbreak can have significant political ramifications. Governments may decide, for political and/or economic reasons, not to declare an outbreak when it occurs. WHO clearly states that food related bans are not required; however some past outbreak announcements had drastic consequences on trade. During outbreaks in Peru (1991) and in Tanzania, Kenya, Uganda and Mozambique (1998), seafood was banned for import by EU regulations (the last time a ban occurred on seafood imports).

If a cholera outbreak has potential international implications, it must be reported under the terms of the International Health Regulations. At the local level, governments may insist on referring to the disease by less threatening terms, like 'Acute Watery Diarrhoea (AWD)' or '001 disease'. Since cholera labeling appears to trigger significant reactions, non-declaration may be associated with concern over negative impacts on tourism, national pride or politics (since a cholera outbreak can be seen as a failure of government to deliver adequately on WASH and to address the level of poverty in a country).

The non-declaration of a cholera outbreak can pose a number of challenges to the response, including:

- Increased sensitivity among the government, UN, and civil society actors, thereby limiting information sharing, planning and response.
- Delayed action by some key actors (including government, UN, donors, NGOs) to take direct actions to control the outbreak, hence limiting funds available and actors involved in the early response.
- Delay use of the media to inform communities.
- Difficult cross-border communication because the disease is not officially defined.
- Lose early opportunities to reduce the spread of the disease.

(Note: It can be very difficult to determine, monitor, and share with relevant authorities the antimicrobial susceptibility of circulating V. cholerae strains if the government does not want cholera declared).

5.3 Stakeholder responsibilities related to cholera

The stakeholders outlined in the following table may be involved in cholera prevention, preparedness and response. The range of stakeholders involved will depend on the scale of the outbreak.

Co-ordination and communication when cholera is not declared.

- Use UNICEF's role in protecting the rights of children as an advocacy tool with the government.
- Proactively support co-ordination and action within the existing limitations, e.g. by supporting efforts from organisations already working on development programmes in the area.
- Build relationships and trust with the medical, WASH and other practitioner staff working on the response. Even when a government is not declaring the outbreak, practitioners on the ground are often working hard to do their best to respond within the limitations. If they trust that you will not put them in a difficult or dangerous position with the political authorities, they will welcome support for improving the response.
- Help to form a bridge between the government practitioners and other organisations with significant experience in responding to cholera where the links do not already exist.
- If there is reluctance to the use of the word 'cholera', but there is acceptance of the term 'AWD' (or another term), do not waste time debating language but stress with both governments and populations the seriousness of the disease. This includes the need to respond promptly and use mass media to inform large populations with key information.
- Emphasize AWD prevention, and treatment and referral systems in on-going development activities, particularly at community level.
- Encourage senior representatives (for example, the Humanitarian Co-ordinator or UN Resident Coordinator and Heads of Agencies) to lobby government officials to recognise the problem and explain why it is in their interest to use internationally accepted terminology.
- Provide evidence, where available, to support lobbying efforts, e.g., WHO written declarations that trade restrictions on seafood are no longer applicable, etc. Also, highlight the likely impacts if the outbreak becomes extensive, including the costs to the country, and share examples of other large outbreaks.

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Table 5 Potential stakeholders in cholera prevention, preparedness and response and their responsibilities / actions

Stakeholder category / level of importance	Description	Possible responsibilities / actions
Primary stakeholders: <i>Household- and community-based Human Rights Based Approach (HRBA) - rights holders</i>	Including: Girls, boys, women, men, i.e., <i>all community members, including infants, youth, older persons, single heads of household, orphans, people with disabilities, persons living with HIV/AIDS (PLWHA), etc.</i> children in and out of school; food and water vendors.	<ul style="list-style-type: none"> Community cholera preparedness planning and action, participating in local task forces or working groups Managing and maintaining household and community based water points and latrines and hand-washing facilities Using safe water, undertaking safe excreta disposal and practising safe personal and food hygiene Practising safe infant feeding, hand-washing with soap at critical times (after defecation or handling faeces, before preparing food, feeding a child or eating), and using and maintaining latrines Using ORS for rehydration and helping others to reach a health facility quickly when sick Peer education on undertaking safe water, sanitation and hygiene practices and the importance of safe infant feeding and use of ORS Selling and using safe water to prepare foods and beverages to be spent Practising safe food hygiene in food outlets Monitoring of new cases and informing health professionals.
Secondary stakeholders: <i>Community-based HRBA duty bearers</i>	Including: Schools / teachers; Religious institutions / leaders; Village-level community health workers (<i>and other extension workers</i>); respected community members (<i>leaders, traditional birth attendants, elders, etc.</i>); community groups (<i>women, youth, sports</i>); community-level private sector (<i>shop keepers selling household water treatment products, ORS, etc.</i>); people who may be influential in the local area (<i>staff of local colleges and well-known local people/celebrities</i>); women's and youth groups and/or clubs (<i>and other community groups</i>); community media (<i>such as community radio or TV stations, local theatre and mobile cinema/video groups</i>).	<ul style="list-style-type: none"> Cholera prevention through supporting WASH interventions Community cholera preparedness planning and action, including health and hygiene promotion Mobilising community members to adopt healthy and safe behaviours and practices and engaging communities in cholera prevention activities and local cholera task forces Providing education and motivating school children on measures for cholera prevention and response Providing leadership and motivation for community members and religious followers on measures for cholera prevention and response Facilitating discussions within communities to de-stigmatise cholera Providing feedback to authorities on the quality of services provided to communities Selling ORS, soap and water treatment chemicals or equipment.

Stakeholder category / level of importance	Description	Possible responsibilities / actions
Tertiary stakeholders: <i>District, regional, national or international HRBA duty bearers</i>	Including: Local government (<i>departments including health, water, education, community development, agriculture¹⁵</i>); ministries (<i>health, water, communication, disaster preparedness, social welfare, community development</i>); semi-autonomous institutions (<i>with responsibilities for nutrition, medical research, etc.</i>); educational establishments (<i>universities, colleges and other training establishments, e.g., those training epidemiologists, doctors, nurses, social workers, public health, environmental health, or water and sanitation professionals</i>); private sector (<i>providing supplies, supporting promotional efforts</i>); influential national celebrities or sports stars; non-governmental organisations and the Red Cross Movement (<i>national and international UN agencies and partners, e.g., WHO, UNICEF, OCHA</i>); and donors (<i>bi-lateral, unilateral, embassies, private</i>).	<ul style="list-style-type: none"> • Cholera prevention through supporting WASH interventions and, where appropriate, vaccinations • Preparedness planning and associated actions • Co-ordination at cross-border, national, regional and district levels • Surveillance and epidemiological studies • Outbreak investigation • Planning, prioritising actions and managing the outbreak response • Provision of technical guidance and standards • Laboratory confirmation of <i>V. cholerae</i> • Water quality testing and monitoring • Establishment of cholera treatment sites • Clinical assessment and case management • Logistic and supply chain support to prevent shortages of critical treatment materials • Psychosocial support for cholera patients and their families • Integrated communication (media and interpersonal communication) • Mobilising the community • Supporting, encouraging and monitoring of the work of community workers • Providing WASH services • Training at all levels • Monitoring of food safety at food outlets • Monitoring and reporting • Funding.

¹⁵ At local government level, sometimes cross-sectoral mobilisation teams work on projects outside of their own sector, and in larger outbreaks staff from outside of the usual sectors may be called in to support the response efforts

5.4 Data and Information Management

Accurate and consistent, systematically collected data needs to be collated, analysed and evaluated prior to being presented to decision makers for action. This process not only needs to be timely, but requires continual updating and re-evaluation. Responders to cholera crises need to understand both the value and limitations of the data. Records permit generation of baselines and comparisons (temporal/geographic) against which decisions are better informed.

5.4.1 Information management cycle

Information management in the context of a cholera outbreak involves the collection, processing, analysis and dissemination of information.¹⁶ The cycle of information management includes:

- a. Collection of raw data and information** – through disease surveillance, outbreak investigations, inventories and usage rates of supplies and other assessments
- b. Organising data and information** – presenting it in a way that can be shared, such as in an assessment report or a 'who is doing what where when' (4W) matrix
- c. Analysis of the information and learning from it** – exemplified by the analysis of epidemiologic data and identification of gaps in response by location
- d. Application of the knowledge enables decision making and action** – exemplified by responding in the areas of greatest need and where gaps have been identified
- e. Monitoring of the activities** – on-going collection of information and data for analysis and adjustment of response
- f. Dissemination of the aggregated, interpreted information with actions and activities needed or taken**

Outbreak information needs to be accessible to everyone involved in the preparedness and response efforts in an appropriate and timely manner. The co-ordination mechanisms play a key role in making dissemination effective, manageable and useful.

¹⁶ A range of information in this section has been adapted from: Global WASH Cluster Co-ordination Project, *Water, sanitation and hygiene (WASH) Cluster Co-ordination Handbook: A practical guide for all those involved in the Water, Sanitation and Hygiene Cluster*, January 2009, for field review.

5.4.2. How information should be managed

Coordinated decisions will need to be made on:

- What data need to be collected?
- Who will collect the data?
- How will the data be organised, i.e., collated, documented and stored (databases, GIS systems, electronic reports), and who will manage this process?
- Who will analyse the data and report on the findings (epidemiologist, WASH specialist, preventative health specialist, pharmacist)?
- How will the resulting information be disseminated (email, meetings, reports, radio, TV)?
- How will feedback be gathered on the information shared and fed back into the planning cycle (feedback from the general public, from response actors, from the media)?

Coordinated decisions will need to be made on:

- What data need to be collected?
- Who will collect the data?
- How will the data be organised, i.e., collated, documented and stored (databases, GIS systems, electronic reports), and who will manage this process?
- Who will analyse the data and report on the findings (epidemiologist, WASH specialist, preventative health specialist, pharmacist)?
- How will the resulting information be disseminated (email, meetings, reports, radio, TV)?
- How will feedback be gathered on the information shared and fed back into the planning cycle (feedback from the general public, from response actors, from the media)?



For large cholera outbreaks, dedicated staff will usually be required for data and information management at different levels. Consider which of the following roles existing staff can undertake and which will require dedicated staff:

- Information manager
- Data entry personnel
- Epidemiologist
- Environmental health specialist
- Database specialist
- GIS specialist
- Media relations specialist
- Web development specialist
- Translation services provider
- Reports officer.

Data and information management.

- Keep information management (IM) tools as simple as possible and information demands to a minimum.
- Conduct regular communication to help build networks and relationships, and to gather up-to-date information.
- Do not underestimate the workload involved in IM; recruit dedicated IM staff to support response for large outbreaks.
- Be aware of challenges in the collection of information, particularly due to manipulation of information (political, financial, cultural, capacity related).
- Provide formats and guidelines on information quality required, and utilise administrative support for follow-up.

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Refer to the following sections for further information on specific aspects of information management:

- Sharing information through co-ordination – [Section 5.2.4](#)
- Co-ordination and communication where cholera is not declared – [Section 5.2.5](#)
- Working with the media, including guidance and tips and the Ministry of Communication or Information – [Section 7.2.3](#)
- Epidemic graphs and mapping – [Section 3.3.5](#)
- Monitoring and reporting – [Section 3.3](#)

KEY RESOURCES

[World Conference on Social Determinants of Health Conference, Intersectoral actions in response to cholera in Zimbabwe: From emergency response to institution building](#), October 2011.

[WASH/Health Cluster Somalia, Roles and Responsibilities of Health, WASH, and Communications for AWD/Cholera response](#), February 2012.



6 Cholera preparedness

6.1 Overview of Chapter 6

Cholera preparedness is the process of ensuring readiness for a cholera outbreak in advance, so that the response will be more effective; staff know what they should do, the required supplies are available and the systems for co-ordination, communication, monitoring and support are agreed in advance. It is particularly important to undertake preparedness for cholera in countries with the following traits:

- Cholera is endemic
- There have been cholera epidemics in last 3-5 years
- Cholera outbreaks have occurred in nearby countries within the same geographical region (which could lead to cross-border transmission)

The Annexes to this Toolkit provide detailed information on steps and activities as well as examples of guidelines and workplans for preparedness and response.

Summary of Annexes

- Annex 6A** Checklist for cholera preparedness and response
- Annex 6B** Examples of cholera guidelines
- Annex 6C** Risk and capacity assessment
- Annex 6D** Preparedness and response plans: content and examples
- Annex 6E** Suggested logical framework for cholera preparedness and response
- Annex 6F** Main skills and training requirements for key cholera staff
- Annex 6G** Capacity building: methods and examples of cholera training and materials

6.1.1 Differences among preparedness, contingency and response planning

Preparedness plan: Identifies the steps required to prepare for a cholera outbreak, including gap analysis and capacity building activities (training, pre-agreement on standards, messages, etc.), pre-positioning of supplies, adapting and pre-positioning of IEC materials, identification of partners and pre-defined agreements for response implementation, among others. It also includes information on response in the event of an outbreak (a response plan), needs and required resources to address these needs.

Contingency plan: Considers different scenarios (small, medium and large outbreaks) and identifies preparedness measures and responses for each scenario. It is usually developed for an emerging crisis.

Response plan: Identifies the actions to be taken in response to a cholera outbreak, including who will do what, where, and when.

The process of achieving preparedness is ideally led and owned by the national government, through the provision of a framework for national commitment to action that outlines what the government and other stakeholders with proven capacity on cholera will be expected to do to support preparedness efforts at all levels. It should include longer-term capacity plans for cholera outbreak preparedness and response and sector-specific plans.

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6.1.2 Elements of cholera preparedness

Figure 6 provides an overview of a number of cholera-related preparedness actions. This chapter examines some of these elements; others can be found in throughout the Toolkit.

These elements become actions in the process of preparedness. The order of the steps that need to be taken will vary according to the existing level of preparedness within the country. See **Annex 6A** to review a Checklist for Cholera Preparedness and Response with activities by element and **Annex 6E** for a suggested Logframe to monitor preparedness and response activities.

6.2 National policies, strategies and guidelines

Cholera is one hazard that should be considered as part of a national risk assessment undertaken by the national disaster management authorities and therefore incorporated into national disaster management preparedness and response plans as well as sectoral policies and strategies. See **Section 5.3** on key stakeholder's responsibility.

Cholera guidelines should include the required standards, whether national or international, outlined by WHO (such as for surveillance and early warning case management or water quality), or adaptations of these to suit national or sub-national contexts.

Based on the national context, preparedness efforts should support the government to develop inter-sectoral cholera guidelines (covering the sectors / areas of health, WASH, nutrition, protection, education, and communication) and to disseminate and train personnel in their use.

A number of useful cholera guidelines (developed by government, sectoral working groups, non-governmental organisations and research institutions) are summarised in **Annex 6B**, which presents cholera guideline examples, a summary with descriptions and links to the examples.

6.3 Preparedness & response planning

The purpose of a cholera preparedness and response plan is to:

- Establish a coherent framework for preparedness actions to which all actors can contribute
- Provide an overview of the availability of specific partners with their key cholera-related experience and skills

FIGURE 6 | Overview of cholera-related preparedness actions



- Provide information and guidance against which resources can be mobilised
- Provide a framework for monitoring, evaluating and learning from the response
- Assist, through the planning process, in developing relationships and partnerships with all key stakeholders.

6.3.1 Cholera risk assessment and basic information for preparedness

As part of the preparedness planning process, it is important to do a risk assessment and to gather and analyse some basic information to identify the areas and populations that are at greatest risk of outbreak and where to target interventions. This assessment would also examine population vulnerability and capacities of communities and systems such as health and WASH. See **Annex 6C** for a risk and capacity assessment. Basic information can include:

- Information on past cholera trends and epidemics
- Seasonal patterns and risks of flooding
- Identification of risk areas for transmission and routes of possible transmission (coverage of WASH interventions, areas of high population density, population movements, etc.)
- Identification of vulnerable populations (marginalized, hard to reach, coverage of health services, disease trends of common illnesses that lead to morbidity and mortality, vaccination coverage)
- Identification and mapping of health facilities for case management and areas acceptable to set up CTCs, CTUs and ORPs
- Identification and mapping of water sources and contamination focuses (defecation fields, open sewerage, etc.)
- Capacity of health, WASH and other key sectors to respond (including HR, supply and funding resources).

6.3.2 Content of a cholera preparedness and response plan

A cholera preparedness and response plan should include the following sections. See **Annex 6D** for detailed content within each section of the plan.

Table 6 Suggested content of a cholera preparedness and response plan

Plan section	Example of basic information
Statement of the problem	Basic epidemiologic information and level of response
Contextual information	Country facts, relevant information in WASH coverage, health capacity, needs assessment, co-ordination mechanisms
Strategic objectives and outcomes	Identification of main focus areas for development of objectives
Contingency scenarios (if a contingency plan)	Outlines of potential events, milestones and likely impacts
Strategies and actions for preparedness	Co-ordination and information systems, mapping of partners and health facilities, surveillance and early warning, information on behaviours and community participation, capacity for procurement and storage of supplies
Strategies and actions for response	Understanding the situation, delivery of services for case management and WASH, community interventions and communications
Monitoring and reporting	Monitoring of data and programs
Procedures for operationalising, monitoring and revising the plan	Obtaining approval and activating plan, summary of responsibilities, communication procedures
Summary of cost estimates	Costs of materials, equipment, human resources

6.3.3 Ten key steps in preparedness and response planning

Step 1: Gather all key stakeholders involved in outbreak co-ordination and response for a planning workshop. This meeting is a good opportunity to define/reassess the cholera co-ordination and information management system. It is also an opportunity to build relationships and partnerships.

Step 2: Identify geographic areas and populations at risk: gather past information on AWD/cholera outbreaks and trends including routine epidemiologic data, past situation reports and maps, including possibly routine information on WASH and health coverage and any other contextual information such as seasonal data, conflict updates, locations of camps for refugees and displaced persons, etc. (see [Section 2.3.3](#) for risks). If the information is not readily available, conduct desk reviews and field-level risk assessment to identify areas and populations at risk (see [Annex 6C](#) for risk and capacity assessment). Estimate the number of people that may be affected in case of an outbreak (see [Section 3.3.5](#)). Refer to [Annex 3J](#) for a planning spread sheet.

Step 3: If a preparedness and response plan, including communications, exists, review the plan and update it accordingly. If not, develop a plan ([Annex](#) in development).

Step 4: Review key guidelines, policies and procedures, as available. If they are out of date, update them with the latest standards.

Step 5: Identify and map partners (including who is going to do what where), health facilities, surveillance and early warning systems and WASH structures such as water points and sanitation systems. Analyse the capacity of the partners and these services for preparedness and response to an outbreak. For details, see [Annex 6C](#).

Step 6: Identify national staff to be trained in various disciplines, with an estimated schedule, or those that should be trained according to the most affected areas. See [Annex 6F](#).

Step 7: Estimate the current availability of supplies and supply needs based on a risk analysis, to include the existing procurement system and the logistics for storage and distribution. See [Annex 3J](#) for a planning excel sheet.

Step 8: Estimate the available funds and funding sources for prevention, preparedness and response.

Step 9: Conduct a simulation exercise, if possible, to practice the response processes before an outbreak occurs.

Step 10: Monitor the preparedness plan regularly and adjust accordingly. See [Annex 6E](#) for preparedness and response logframe and examples of objectives, expected results, outcomes, indicators and activities.

In countries vulnerable to cholera, preparedness plans should also be in place at sub-national levels, by region, district or equivalent area, depending on the size and structure of the country. The plans should be based on the framework established in the national plans, but focussed on the particular needs and priority areas for intervention for the specific context. Refer to [Section 9.5](#) on community preparedness for cholera.

Because cholera crosses borders, cholera preparedness and response plans may also be needed at a higher regional level, i.e., at continental level, versus regional within a single country, to support the response efforts among affected countries.

6.4 Human resources

6.4.1 Human resources required for cholera prevention, preparedness and response

Human resources need to be identified, trained and equipped for cholera prevention, preparedness and response activities, notably the following personnel and individuals for:

- **Health-related personnel** – Clinicians; nurses; public health specialists; epidemiologists; laboratory technicians; pharmacists; stock/supply managers; hospital/clinic administrators; data recorders/analysts
- **Support staff in health facilities** – Site managers; logisticians; WASH specialists; chlorine makers; cleaners/laundry workers; guards; cooks
- **Water, sanitation and environmental health personnel** – Water and sanitation co-ordinators/public health co-ordinators; water and sanitation engineers/public health engineers; environmental health officers; water quality specialists
- **Hygiene promotion and community-based workers** – Hygiene promotion co-ordinators; field-level hygiene promoters; community mobilisers/community health workers

- **Operational/support staff** – Logisticians; supply officers; finance and admin officers; human resource officers
- **Community- level leaders and professionals** – Community leaders; religious leaders; other organisational leaders, including occupational and women's organisation heads; teachers and head teachers; representatives of community-based organisations; prison wardens
- **Media** – News journalists, radio, television and a press/media experts (to support the government response).

Refer to **Annex 6F** for a listing of key personnel required to address cholera, the key skills they require for their jobs and the topics- which need to be included in their training.

Refer to **Section 7.5.3** on human resources for social mobilization, **Section 8.4.4** on human resources for health facilities and treatment sites, and **Annex 8G** for further details and numbers of staff required for different types of facilities.

Job descriptions and back-up support

It is important to have simple job or task descriptions for all staff, including any outreach workers (voluntary or paid) in order to clearly define what is expected of them. See [COTS cards](#) .

Outreach staff should also be clearly informed of where they can obtain help and advice, e.g., if they are asked difficult questions in the field or if they feel they are not making progress in their work.

6.4.2 Speeding up deployment of personnel for cholera response ('surge')

Because cholera outbreaks can develop and spread very quickly, it is imperative to deploy personnel as rapidly as possible. The preparedness and response plan must identify the key personnel required for the response and include job description templates or terms of reference for anticipated posts. The availability of these documents will expedite recruitment processes.

The following procedures can also be used to speed up deployment:

- **Instruction by Government for temporary movement of staff** – shift support staff from outside the outbreak area to roles working on the response
- **Use of trainee doctors and nurses** – to work together with and support professionally qualified, experienced doctors and nurses working in the area(s) affected by the outbreak

- **Stand-by agreements between partners** – to facilitate immediate availability of staff at the onset of an outbreak (such agreements can be national, regional or global in scope)
- **Memoranda of Understanding (MOU)** – agreements with other sector actors for joint collaborative action on rapid response at the onset of an emergency
- **Use of emergency staff rosters** – pre-identification of human resources through UN organizations, NGOs and the private sector
- **Use of global emergency standby partner staff** – engagement of additional resources through the Global Outbreak Alert and Response Network (GOARN) or other stand by partner mechanisms.

6.4.3 Developing capacity for cholera

Challenges in developing response capacity during an outbreak

Building the capacity of personnel working in cholera response should be prioritised as an essential element of preparedness. It is very difficult to build capacity once an outbreak begins because personnel often work long, erratic hours and experience exhaustion and limitations to their ability to leave their posts. Nevertheless, during epidemics in places where cholera has not existed or occurred for some time, undertaking capacity building during the outbreak will be unavoidable.

Co-ordinating capacity building – Ideally the National Cholera Task Force or Outbreak Task Force should co-ordinate the processes of capacity mapping, capacity needs assessment and capacity-building plan development, implementation and monitoring.

Longer term capacity building – Over the longer term, prevention, preparedness and response should be incorporated into the curricula of all standard professional educational/training courses for medical, WASH, nutrition, community development and protection disciplines by government and academic institutions.

Developing capacity for cholera – The following table identifies steps in the development of a capacity-building plan, its implementation and monitoring. The right hand column identifies additional resources on capacity-building needs, examples of existing training materials and case study examples. **Section 10.2** presents UNICEF's various options for human resources mobilisation.

Table 7 Development of response capacity for cholera

Steps	Further information
Capacity mapping - Assessment of sectoral capacities at each level on cholera prevention, preparedness and response	<ul style="list-style-type: none"> <i>Stakeholder analysis example</i> - Ministry of Public Health and Sanitation, Government of the Republic of Kenya (2011, DRAFT) Multi-sectoral cholera prevention and control plan, 2011-2012 <i>Capacity mapping example</i> - Tanzania WASH sector emergency preparedness
Capacity building needs assessment - Identification of the capacity building needs, priority geographical areas of the country and priority target groups	<ul style="list-style-type: none"> Annex 6F – Key skills and training for cholera control
Capacity building plan - Includes specific actions, methods, target groups and timeline(s). It includes the incorporation of prevention, preparedness and response lessons into the curricula of all standard professional educational/training courses for medical, WASH, nutrition, community development, protection disciplines.	<ul style="list-style-type: none"> Annex 6G – Capacity building for cholera – methods and examples Section 8.4.4 – Human resources for health facilities and treatment sites
Identification of resources for capacity building - finances, training materials, trainers, etc.	<ul style="list-style-type: none"> Section 6.6 – Resource mobilisation
Implementation of the capacity building plan	
Supervision of trainees and monitoring of impacts	<ul style="list-style-type: none"> Chapters 8 and 9 – program monitoring and reporting

6.5 Supplies / stockpiles

The pre-positioning of preparedness supplies/stockpiles for cholera can lead to greater efficiency in response. See the following tips for considerations in establishing preparedness stocks.

Identification of required preparedness stocks and specifications –

Prepare listings of required supplies/stockpiles as part of a preparedness and response plan. See **Annex 3J** for a planning spreadsheet with key supplies.

Cholera kits – Identify key cholera kits available to partners, for example MSF, WHO or the Red Cross/Red Crescent movement. Remember that consumables within the kits have use-by-dates and may need replacement if the stocks are held for some time.

- Medical supplies – see [WHO Interagency Diarrhoeal Disease Kit](#)  [MSF Cholera Kits](#)  (also in French) and Laboratory supplies – see [WHO Enteric Disease Bacteriology Kit](#) 
- WASH and general logistics supplies for establishment and infection control (WASH) of cholera related health facilities and sites (**Annex 3J**)
- Supplies for community-focussed WASH and Health – see (**Annex 3J**)
- Supplies for communication interventions, i.e. pre-positioning of IEC materials and pre-identification of partners, especially partners working at community level.

Specifications are available for key **WASH Cluster preparedness stocks** and a briefing paper on **WASH related non-food items**  .

Preparedness stock mapping – Undertake a mapping of existing preparedness stocks to which Health and WASH sector actors have access, and identify gaps in stocks. An example of preparedness stock mapping for emergency WASH is under development.

Ownership, strategic storage options, insurance and logistics – Options for the strategic storage of stocks need to be identified, ideally within existing stores with established stock control systems and appropriate temperature conditions. Logistics plans will be required for moving supplies to the main warehouse and to strategic storage locations. Each supply location should set reorder points based on estimated usage rates and estimated resupply times, and then adjust those re-order points based on operational success. The goal is to avoid stockouts throughout the system.

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Replacement and disposal of out-of-date consumables – Tracking will be required of consumables with use-by-dates, such as antibiotics, intravenous drips, chlorine and other water treatment chemicals. Disposal options will also be required in consultation with the Ministry of Health or the responsible authority (such as the Environment Agency).

Procedures for approval and customs procedures – For certain supplies, such as water treatment chemicals and medicines, governmental approval/sanitary registry will be required before they can be imported and used in country. For supplies being imported, customs clearance will need to be negotiated. For medical supplies, additional checks may be required. Pre-arrangements with customs authorities can help accelerate processing.

6.6 Resource mobilization

Areas requiring funding for cholera – Resource mobilisation will be required to cover the cost of the following activities (in addition to the costs of co-ordination, management, human resources and logistics):

- **Prevention** – Water, sanitation and hygiene; promotion of breastfeeding; child nutrition; vaccine; communication and social mobilisation interventions.
- **Preparedness** – Planning at all levels; development of SOP and guidelines; purchase of pre-stocks; capacity mapping and needs assessment; capacity development; surveillance and early warning systems.

- **Response** – Outbreak investigation and assessments; equipment and supplies (medical, WASH, logistics, etc.); communication and behaviour change activities; social mobilisation interventions; on-going capacity development; monitoring and evaluation.

Resource mobilisation options – Options for resource mobilisation are likely to vary depending on whether funding is required for prevention, preparedness or response related activities as identified in the following table.

Cholera preparedness supplies.

- Work with the Ministry of Health medical stores – they will already have a supply and logistics system in place for regular health-related supplies that can sometimes also be used for cholera preparedness and response.
- Co-ordinate with partners such as the national Red Cross / Red Crescent Societies or the World Food Programme that may have strategically placed warehouses which can be used for strategic placement of supplies. The Logistics Cluster, if activated, may also be able to provide support.
- Consider using cholera kits, which include medical and logistical / WASH supplies (tents, jerry cans, ropes, plastic sheeting, latrine slabs, etc.), for the quick establishment of cholera-related health facilities, but are not as useful when a decentralised response is required, as in rural areas that require a range of smaller facilities. It may be relatively easy to split the medical items (such as IV drips and antibiotics) but not as easy to split the non-medical items (such as buckets, latrine slabs, tents). See Annex 8E for more information.
- Remember that cholera kits and water treatment kits with chemicals will include consumables with use-by dates. If the stocks or equipment are held for some time, the consumables will need replacing and old items will require disposal.
- Consider whether an intervention must be requested from the Minister for Health to communicate with customs authorities in order to fast-track customs procedures when importing large quantities of urgent cholera supplies. This request should be made as soon as cholera has been identified (whether it has been declared or when the government has not declared it as cholera, but has acknowledged that there is an outbreak of an acute watery diarrhoeal disease).

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Table 8 Funding sources for cholera prevention, preparedness and response

Activity	Funding sources
Cholera prevention	Large-scale, preventive WASH interventions may be funded by development banks and bilateral donors (as part of longer-term development programmes - often as part of a Sector Wide Approach ¹⁷). Smaller scale interventions, supported by civil society and the private sector are increasingly involved.
Cholera preparedness	UNICEF works to encourage the government, development partners (donors) and others to integrate preparedness activities into longer-term development programming. Specific fundraising for preparedness activities may be more challenging in endemic contexts where cholera outbreaks are usually small or medium in size. Funds are likely to be more accessible in the periods after a large-scale outbreak. It may also be possible to integrate cholera preparedness efforts into general emergency preparedness proposals in support of national disaster management efforts.
Cholera response	Funds for preparedness and response activities may be available from: <ul style="list-style-type: none"> Bilateral and multilateral donors such as: USAID, EU, ECHO, DFID, NORAD. Emergency funds; Emergency Programme Fund (only UNICEF); consolidated appeals and pooled funding mechanisms; Central Emergency Response Fund (CERF); Consolidated Appeals Process (CAP); Common Humanitarian Funds (CHF); Emergency Response Funds (ERF); and Transitional and Early Recovery Appeals.

For further information on the resource mobilisation options available to UNICEF and partners for addressing cholera, please refer to **Section 10.2**.

¹⁷ For more information on Sector Wide Approach visit to www.who.int/trade/glossary/story081/en/

KEY RESOURCES

Human resources

MSPP Haiti/CDC: [Haiti Cholera Training Manual: A Full Course for Health Care Providers](#) (2011) (Also in French). 

MSPP/CDC: [Community health worker training materials for cholera prevention and control](#) (2011) (Also in French). 

ICDDR,b: [COTS Programme: The Whole Programme](#). 

IFRC [Epidemic control for volunteers; a training manual](#), IFRC Switzerland. (2008) 

OXFAM-GB / UNICEF ESARO WASH sector cholera training 

UNICEF [Guidelines on external staff in emergencies; Standby Arrangements](#) (2006) 

WHO: [Five keys to safer food: train the trainers course](#). 

Supplies

UNICEF [Supply calculator](#) UNICEF intranet user ID and password is required.

MSF: [cholera kit lists \(medical and non-medical supplies for CTCs/CTUs\)](#) 

WASH Cluster: [WASH Cluster preparedness stocks](#). 

Global WASH cluster. WASH related non-food items. A briefing paper 

An example of preparedness stock mapping for emergency WASH in Tanzania 

Cholera CTC WASH equipment list, Ethiopia 

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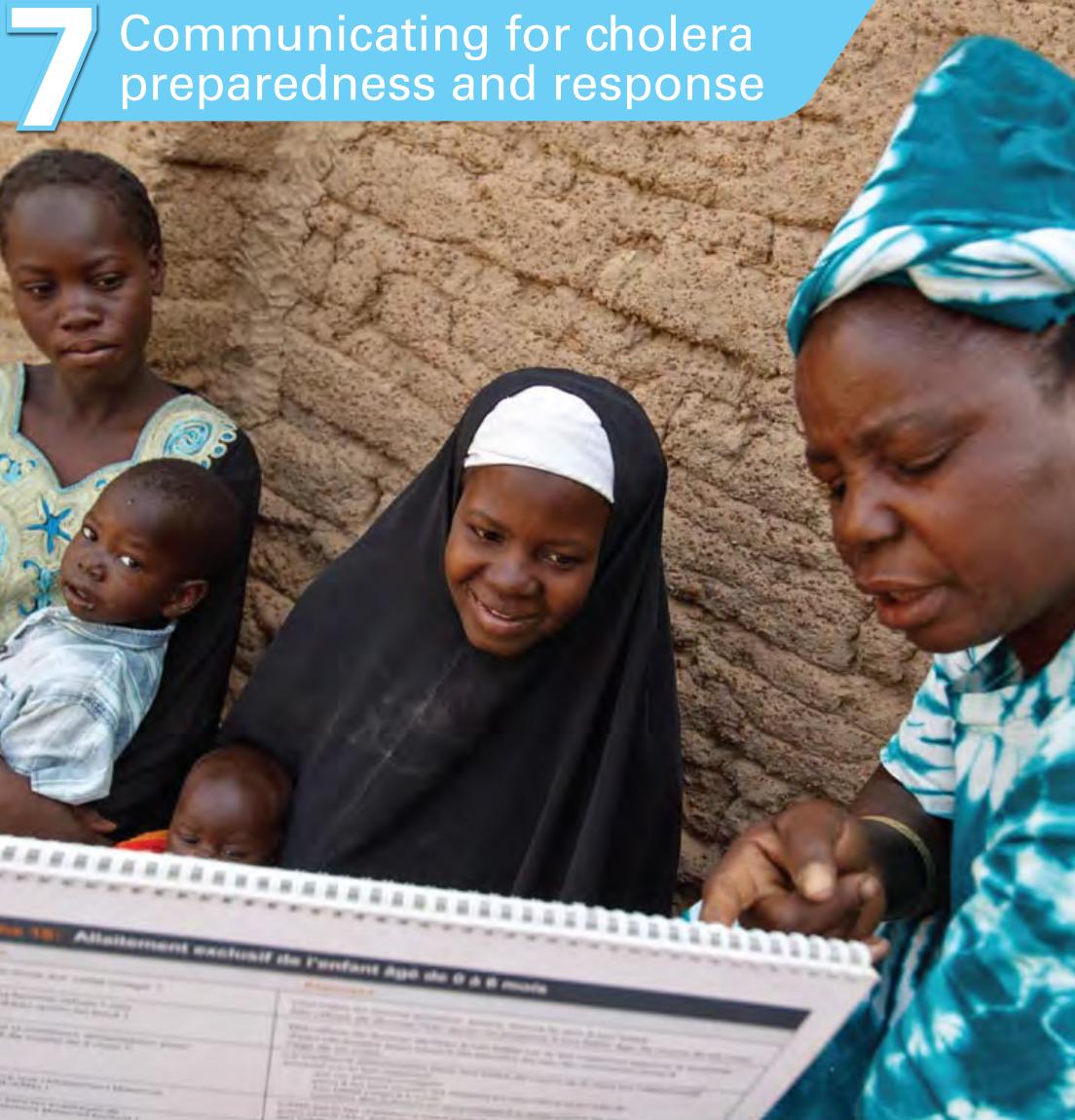
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7.1 Overview of Chapter 3

This chapter highlights the two main areas of communication that play a central role in successful prevention, preparedness and response efforts with respect to cholera outbreaks: 1) communication for development (C4D) which focuses on local-level advocacy and behaviour and social change issues, and 2) media relations, advocacy and institutional communication.

Summary of Annexes

- Annex 7A** Communication Strategies
- Annex 7B** Communication Plan: template & example
- Annex 7C** Communication preparedness workplan and checklist for cholera outbreaks
- Annex 7D** Information on different communication activities and channels
- Annex 7E** Key messages actions and behaviours for cholera prevention, preparedness and response
- Annex 7F** Community beliefs and perceptions in relation to cholera
- Annex 7G** Working with communities & troubleshooting
- Annex 7H** IEC workplan template

7.2 Introduction to communication for cholera

Successfully controlling an outbreak of cholera requires the collaboration of many different stakeholders and the implementation of a variety of different interventions. Effective and strategic communication in varying forms (media and external relations, advocacy, hygiene promotion, behaviour change communication, communication for social change and social mobilisation, etc.) is at the heart of cholera preparedness and response.

Effective and strategic communication is critical at all levels. Examples include:

- Communication with the general public on prevention, preparedness and response, often through the national, local and community media who can play a critical role
- Communication with donors and external communities to mobilise aid and financial support for the cholera preparedness and response
- Advocacy with policy and decision makers to ensure appropriate attention is focussed on the cholera outbreak, reaching the most affected and marginalised populations
- Inter-sectoral communication between practitioners through co-ordination structures
- Interpersonal communication with and between health workers, patients, service providers, affected families and communities
- Communication with NGOs/CBOs and Faith-Based Organizations.

Because of the cross-cutting nature of communication, this Toolkit includes a specific chapter as well as numerous references to the role of communication throughout. The table below provides an overview of the sections and chapters that relate directly to communication.

Table 9 Communication-related sections in this Toolkit

Focus of this chapter	
Communication - introduction, co-ordination, planning and assessments	Section 7.2
Media and external relations	Section 7.2.3
Advocacy, social mobilisation and behaviour and social change communication in relation to cholera	Section 7.3 and 7.4
Additional activities related to communication and transfer of information within this Toolkit	
Surveillance, outbreak investigation, epidemiological data, monitoring and reporting	Chapter 3
Human resources – including capacity building / training	Section 6.4
Information for and dialogue with patients and their families	Section 8.5
Further technical details on service delivery: community focussed interventions	Chapter 9

Effective communication strategies fulfil five main criteria: they are based on research and evidence, are measurable, integrate a variety of different channels, mobilise a width of different actors and involve communities at different levels.

Communication is not just about providing information to affected communities; it should also facilitate participatory discussion in order to trigger community action and contribute to building rapport between communities and service providers. Finally, communication should advocate that government decision makers generate more resources and create better policies to fight against cholera.

Communication must be evidence-based, results-oriented and delivered first, fast and from the field in a consistent, compelling and coherent way, as per the right of communities to be informed. Doing so:

- Raises awareness and understanding and promotes behaviour and social change, employing national, local and community media, social networks/groups, NGOs/CBOs, mobile technologies/SMS
- Promotes advocacy to drive positive change at different levels, e.g., external relations with government, social media to get people engaged, community engagement via dialogue and action.
- Supports resource mobilization and fundraising, e.g., through international media, global websites, op-eds, human interest stories, and international media visits.

See [Annex 7A](#) for a review of various types of communication strategies used to prepare and respond to cholera outbreaks.

7.3 How to develop a communication strategy and plan

The development of an evidence-based, inter-sectoral communication strategy and plan (media and C4D) is a vital first step in ensuring effective communication. It will help the prevention and response efforts by:

- Providing useful, consistent and timely information, facilitating discussion among families and communities at risk and promoting appropriate steps to protect their health, including identifying symptoms and seeking medical treatment early;
- Mobilizing key stakeholders, including affected communities, government departments, civil society, opinion shapers, community leaders, CBOs/FBOs and the media to contribute to mitigating the outbreak;

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- Aligning with information management efforts (section 5.4) and updating families, communities, media and other key stakeholders about the course of the outbreak and the measures being taken to address it;
- Engaging community members, including children and women, and providing a platform for transparent feedback and suggestions from affected communities with regard to the effectiveness of cholera interventions so their voices can be heard.

The strategy and plan should address on-going and planned programmes and define the goals (including behavioural); describe the approaches and the material, financial and human resources required; identify specific activities to be implemented and identify the participant groups (commonly known as the target audience); define key messages to be developed with and for participant groups and the timetable and means to deliver them; and finally, outline the key monitoring activities.

When planning communication, it is critical to distinguish among participant groups to better focus the communication interventions. If the goal is to inform affected communities and support their resilience building, the communication channels to be used could be the national and sub-national media, community media, NGOs/CBOs, community workers or others. However, if the goal is to talk with potential donors, it is important to work with the international media. Communication approaches for urban and rural contexts may also vary, as might the ways to communicate with duty-bearers (service providers) and rights-holders (children, families and communities).

7.3.1 Steps in the development of a communication plan

Communication planning is an on-going process that needs to be updated regularly in light of on-going assessment and feedback from communities and key participant groups, particularly those from high-risk populations.

The following table¹⁸ outlines the steps needed to develop an inter-sectoral communication strategy and plan. Further information on how to undertake the steps can be found in the Key Resources listed at the end of this chapter.¹⁹

¹⁸ Adapted from WHO, [Outbreak communication planning guide](#), 2008, WHO: Geneva, Switzerland.

¹⁹ While it is important that Media Relations and C4D teams work together and complement each other, they do different jobs, often carried out by different staff/teams/sections. In addition, the UNICEF National Committees via UNICEF Private Fundraising and Partnership Division (PFP) play an important role with regard to fundraising and advocacy.

Table 10 | Steps in the development of an inter-sectoral communication strategy supporting preparedness²⁰ and response plans

Before the outbreak occurs	Key players / partners
<p>Step 0 - Co-ordination: Bring key inter-sectoral partners together (as a subgroup of the National Cholera Task Force) to coordinate the assessment, communication needs, planning and actions that need to be taken and assign the roles and responsibilities of the different partners and to identify the likely resources and funding available.</p>	<ul style="list-style-type: none"> • Health, WASH, Education and communications experts (C4D and Comms/External Relations) • Government ministries • UN, NGO, IFRC/RC societies
<p>Step 1 – Formative assessment and Identification of trusted communication channels</p> <ul style="list-style-type: none"> • Collect and analyse any existing formative behavioural and socio-cultural research about cholera and/or hygiene and sanitation practices. • Using rapid research and participatory methods, identify gaps in knowledge, attitude, practices and social norms of different groups in the community. • Agree on key messages that are simple, direct and effective. • Perform a stakeholder analysis to identify primary, secondary and tertiary participant groups, their barriers and facilitating factors to adoption of behaviours. 	<ul style="list-style-type: none"> • Communication experts of MoH, MoE and Communication and Public Information Department • UN, NGOs, • IFRC/RC Societies • Communication organisations, research agencies • Academic institutions

²⁰ See ANNEX 7C for a communication preparedness checklist

Before the outbreak occurs	Key players / partners	Before the outbreak occurs	Key players / partners
<p>Steps 2 and 3 - Development of the plan with the following components:</p> <ul style="list-style-type: none"> • Communication outline: Communication objectives, participant groups, key messages, channels and activities. • Implementation plan: Actions required, responsible and timeline. • Monitoring plan: Monitoring indicators (both process and outcome), monitoring activities, responsibilities and timeline. It is critical to closely monitor activities and evaluate the impact of communication interventions. Hence, a robust M&E plan should be in place from the onset of activities. <p>*Consider that both cultural and specific (local) languages have been considered and messaging and communications is refined and targeted appropriately.</p>	<ul style="list-style-type: none"> • Communication task force • UN, NGO, RC/RC Societies partners • Outreach networks e.g. CHWs or Red Cross/ Crescent volunteers • National authorities 	<p>Step 5: Release information in a transparent way on the outbreak as quickly as possible and provide information on the government's response and what actions affected and non-affected communities can take. This communication can be done through weekly radio (including community radios) and/or television broadcasts: by using print media or via interpersonal communication channels such as community dialogues, theatre groups, local leaders, etc. Identify a media spokesperson to be responsible.</p> <p>See the Co-ordination and communication when cholera is not declared. Section 5.2.5.</p>	<ul style="list-style-type: none"> • Co-ordination task force • Media spokesperson
<p>Step 4: Reflect, update and act on the intersectoral communication plan that has been developed as a preparedness measure. Ensure that the plan is still valid and modify it as appropriate.</p> <p>Put the communication plan into action.</p> <ul style="list-style-type: none"> • Bring stakeholders together and review the communication strategy and plan following the rapid assessment. • Broadcast information via the appropriate mass media or disseminate information via local channels on what families and communities can do to protect themselves from cholera and what to do if they get sick. • Hold regular co-ordination meetings to obtain feedback from partners, to review if the plan is working and to identify additional actions. • Carry out monitoring visits to the field to assess progress and identify remedial actions. 	<ul style="list-style-type: none"> • Communication task force 	<p>Step 6 – Listening:</p> <ul style="list-style-type: none"> • Develop a system for ongoing information gathering during the outbreak, e.g., making use of focus group discussions, suggestion or complaint boxes, participatory radio discussions, hotlines or individual interviews, etc., to ensure that the concerns of the population are heard and the barriers to changes in practice are understood. • Raise the issues at higher level and monitor if actions have been taken. • Obtain updates on health information from the surveillance system and other sources to ensure that unreach populations are identified and targeted as soon as possible. • Develop and maintain a mechanism for an immediate response to rumours and misinformation. 	<ul style="list-style-type: none"> • Affected community, local leaders. • UN, NGO, RC/RC Societies partners • Outreach workers • Media organisations

After the outbreak	Key players / partners
<p>Step 7: Communication activities should continue for some time after the outbreak is over, especially in the cholera-prone countries/areas. In these countries/areas, as part of cholera prevention, cholera related messages should be mainstreamed within regular development programmes. Such activities may include the following:</p> <ul style="list-style-type: none"> Provide feedback to and hear feedback from affected communities and all partners on the results of the response communication activities, and preparedness for future outbreaks. Hold meetings with all stakeholders, to review communication data, draw lessons learned, identify gaps and priority areas, and agree on way forward. Produce and share key interventions, case studies, good practices, lessons learned and human interest stories with local, regional and global organizations, policymakers and donors. Report back to donors. 	<ul style="list-style-type: none"> Communication task force

Refer to the [WHO media handbook wall chart and manual](#).  Media guides that detail the status of mass media communications have also been developed for a variety of countries and are available from the following website: [INFOSAID](#).

7.3.2 Identifying communication channels

The communication assessment will provide clues for identifying the best channels according to the current situation and the context. It is recommended that **both interpersonal methods AND community and mass media** methods are used for communication during a cholera outbreak. See [Annex 7D](#) for a description of the different types of communication activities and channels used in cholera responses.

7.3.3 Working with the media / crisis communication

Develop connections with national and sub-national media and with the media departments of the Ministry of Information and Communication and local radio stations before the emergency will mean that opportunities for collaboration and coherence of approach are identified early. If community radio stations are present in the country, they often play an important role in informing and generating dialogue with local communities.

The dialogue and sharing of information with affected communities and families is essential for cholera control efforts. News of a cholera outbreak can incite high emotions within a society and can inflame underlying tensions. It should be a high priority of those involved in cholera control to ensure that a calm analysis of the situation is undertaken to provide the appropriate basis for good decisions and to ensure frequent and effective communication with those who have the ear of the public. It is also important to inform and train media partners, including community radio personal and other information sources (such as local leaders), on key cholera issues and how the media and local information sources can support the country's preparedness and response. Media professionals can become important allies, particularly during outbreaks.

The first step in ensuring constructive communication with an external audience is to have one skilled designated spokesperson who can represent the situation on behalf of the cholera control authorities. Authority should be delegated for holding regular media conferences and issuing regular releases of information. While there may be situations where some data should be kept confidential, these are rare; in general information should be shared with the public when it is available, although care should be taken to make it comprehensible to a lay audience. Consider preparing media briefings with key, up-to-date information to be distributed during the press conference. All journalists should leave the press conference with the same information, including numbers, statistics and response.

Making the most of media opportunities.

Many countries have a *public service requirement for radio and TV stations*, through which the government can channel public information announcements at no cost. These are often used in communicating details of elections or school arrangements.

In Pakistan, these channels were used for advocacy around the International Year of Sanitation and Global Hand-Washing Day. In Tanzania, the government regularly announces outbreak news during a regular weekly slot on one radio station.

Key information on how to prevent cholera and where to go for treatment, as well as information on the status of the outbreak and planned activities, should be broadcast as a public service.

Broadcasters are often looking for ideas for radio and television programmes, and collaboration can also mean that they are willing to fund more imaginative and interactive programmes such as 'phone-ins' during which people can ask questions about cholera, or short radio skits that use humour or drama to convey important messages.

The mass and community media can be made more interactive through the use of innovative broadcasting methods that allow audiences to provide feedback such as phone-ins, 'help-lines', talk shows or interactive texting. Where traditional media such as street theatre, interactive film shows or music are used, efforts should also be made to provide communities with a chance to comment and ask questions during or after the show.

In countries with established community radio networks, radio stations can act as dialogue facilitators, giving a voice to the voiceless through access to information. Community radio does not just broadcast content; it promotes community engagement and participation in its own development process. These stations can be strong allies with respect to cholera prevention and response.

Social media and new information and communication technologies (ICTs) also offer valuable opportunities for communication. ICTs can connect people across the globe for discussion, debate, and joint sharing and learning. They allow broad national or global social movements to form through on-line affiliations that connect offline groups and individuals and allow them to find each other and collaborate. ICTs, as well as community-based communication channels, enable individuals and communities to express demand for new services, better education and broader development outcomes. They can be useful communication channels for cholera preparedness, response and recovery.

Communicating with the media

Include media communication in your action plan

- Be assertive in preventing, minimizing, or countering false rumours. Rumours are rife during cholera outbreaks and cultivating a constructive relationship with the mass media, preferably before an outbreak, can go far to prevent their potentially destructive impact.
- Release information to the public frequently and accurately; the guiding principle should be that the public has a 'right to know'. Authorities do not own the data; their job is to interpret and share it. Express empathy for victims and their families and communities early.
- Show competence and expertise releasing information in appropriate language adapted to the audience; overly technical jargon can add mystery and fuel suspicions, defeating the goal of information dissemination.
- Discuss with media representatives the balance that must be struck between disseminating news and providing a service to the affected population. Mass and community media can be a very useful way to deliver health and WASH communications to the public.
- See: **UNICEF's global MoU with the World Association of Community Radio Broadcasters to facilitate local partnerships** 

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7.4 Developing messages; visual aids, relevant IEC and other communication materials

It is important to understand that **one-way messages alone are normally not effective in bringing about action or behaviour change**. All those involved in cholera prevention and response should be providing consistent information to participant groups in order to avoid confusion and misunderstanding. Different agencies do not necessarily have to communicate in the same way or use the same message, but they must aim to achieve the same action or result. For example, the key message may be, '*wash hands with soap and water at key times*'. Some agencies may choose to prioritise hand washing before eating and after defecation whilst others may choose to communicate the message, '*your neighbour is washing his hands with soap and water – are you?*'

See [Annex 7E](#): Key messages actions and behaviours for cholera prevention, preparedness and response and UNICEF's [Behaviour change for communications \(BCC\) in emergencies: a toolkit](#).  Front line health workers including other service providers and community outreach workers at the community level health care facilities need clear guidelines on key health messages and behaviour.

Examples of cholera related visual aids are available at the additional resources companion USB and the [C4D cholera response UNICEF intranet site](#) and [CDC library of health promotion materials](#).

Behaviour and social change communication

- Dialogue and discussion can be very effective in identifying practical actions and motivating groups or individuals, but both mass media and interactive methods should be employed.
- Posters and leaflets are only one way to provide information to families and communities, and they have limitations particularly where literacy rates are low. Interactive drama/theatre groups, video sessions and community dialogue initiatives as well as mass media channels are likely to be more effective at promoting behaviour and social change.
- Pre-testing of visual aids and other IEC materials is of critical importance to ensure the acceptability, understanding and effectiveness of messaging. Cholera preparedness plans should attempt to review any existing material and where possible adapt these to the cholera response.

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- New ways of communicating with communities should be explored, using traditional communication channels (folk groups, theatre plays, group discussions and school debates) and new media (cell phone SMS messages, social media, etc.).
- Clarity about which visual aids should be used to reach specific groups is important, i.e., health workers may need visual reminders to wash hands after patient contact and to remind them of the signs and levels of dehydration, but mothers of young children will need specific information on how to prepare and administer oral rehydration solution (ORS) to their children.
- T-shirts and caps with slogans may be useful for identifying outreach workers and trained community volunteers, and whilst unlikely to significantly impact their role in motivating communities and promoting behaviour change, they may enhance trust and their influence.
- Make messages specific and practical, not overly simplified; for example '**Drink clean water**' is not as clear as, '**Make your water safe by bringing drinking water to a rolling boil**'. In this case, if boiling is not feasible, include instructions about other methods such as chlorine liquid, tablets or powder, or water filters, and where these can be obtained.
- Identify and prioritise behaviours that will make the biggest difference to preventing and treating cholera (usually preparing drinking water and storing it safely; safely disposing of faeces; handwashing with soap at key times and heating food thoroughly; seeking treatment early; using ORS for rehydration).
- Ensure that communication is complemented by the provision of supplies where possible, e.g., chlorine tablets and or soap where people cannot afford them, or by a discussion on how to locally produce some supplies. Distribution should include information and training on how to use materials supplied as well as monitoring and support for consistent use.
- Ensure that resources/supplies/devices are available at community level. ***Do not promote anything that is not feasible/accessible or acceptable to communities.***
 - Identify barriers preventing people from taking the desired action, and work out ways to overcome them.
 - Identify misunderstandings when they occur, and modify the communication strategy to minimize them.

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7.5 Mobilising for community action

7.5.1 Involving communities

Communities are vital resources whose energy, knowledge and insights into ways to address cholera should not be ignored.

Ideally community groups should be facilitated to define the actions they can take to help prevent, prepare for or mitigate cholera. Attempts to impose pre-defined actions will often fail. (See [Chapter 9](#) for further information).

“Communities were not initially involved in the cholera response. This later changed through the establishment of community cholera management committees.”

Source: CEPHI (2009) Zimbabwe Cholera Evaluation

The checklist below details key activities in relation to community mobilisation [Section 9.1](#) lists the key community-focussed cholera response strategies as well as possible community actions.

<input type="checkbox"/>	A training package/module is available to train community workers/volunteers on interpersonal communication to advance safe household water treatment and storage, and safe health, hygiene and sanitation practices for cholera prevention. The training outlines key messages to deliver in the event of an outbreak, on preparing and using ORS, seeking treatment, handling of vomit/faeces of sick person, etc.).
<input type="checkbox"/>	Community workers have been trained or arrangements made to train community workers/volunteers on cholera prevention and response before the cholera season or as soon as possible into an outbreak.
<input type="checkbox"/>	Arrangements with NGOs, CBOs or other partners for community-based activities in communication for cholera prevention and response are signed/drafted. Activities include: door-to-door activities, group discussions, identification of positive deviants and community dialogue and participatory activities to promote safe practices, mobilization of existing networks, or any other relevant intervention.
<input type="checkbox"/>	Agreements are signed with religious/traditional leaders and their associations to promote safe health, hygiene and sanitation practices for cholera prevention amongst communities.

7.5.2 Key audience / participant groups for community action

Everybody in a community needs to know about how to prevent, prepare for and respond to cholera outbreaks, and, as many families as possible need to take action for an effective response. However, to be able to reach large numbers of families in a short timeframe it may be necessary to focus efforts on certain key groups or institutions such as:

- Community leaders
- Religious leaders, community volunteers and extension workers

- Schools - refer to [Annex 9E](#) (Cholera response actions in institutions or public settings) and the UNICEF toolkit for teachers on water, sanitation and hygiene for schools in emergencies for further information
- Existing groups such as workers unions and co-operatives, women's groups, youth groups.

Key resource people from these groups can be rapidly trained (or preferably identified and trained through preparedness) and can then meet with their affiliates or congregations. Community meetings can also be organised to communicate with large groups of people.

Where resources allow, home visiting by volunteers or extension workers can also help to convey important information and mobilise household and community action.

7.5.3 Human resources for community mobilisation

Extension workers from various disciplines, e.g. health or agriculture, community development workers or social workers may have relevant experience in mobilising communities and need briefing on the key messages and concepts for cholera response. The national Red Cross/ Red Crescent Societies and local and national NGOs may have worked closely with communities and possess the ability to initiate mobilisation efforts to mitigate cholera. It may be possible to work through the existing administrative structures (see box in [Annex 7G](#)). However, it will be important to ensure that mobilisation efforts are coordinated and supported. Assigning responsibility to key personnel and ensuring that regular sub-sector meetings are held will help maximise the potential benefits of community action.

If no outreach networks already exist, it may be useful to identify and train community volunteers, but this effort needs to be planned, supported and owned by both the government and communities.

Inexperienced hygiene promoters may need a lot of extra mentoring and supervising in field by experienced staff. Water, sanitation, and hygiene promotion is not a defined profession, and personnel normally come from a variety of backgrounds and may lack experience working in water and environmental health disciplines or responding to cholera. There is a lack of experienced hygiene promotion personnel worldwide, and cholera preparedness planning efforts need to consider how this issue can be addressed within each national context, including the provision of adequate training.

Supervision and support for outreach workers is also important and could be provided by the existing supervision structures, or new personnel may need to be recruited and trained.

More information about community actions can be found in [Chapter 9](#) and about developing capacity in [Section 6.4](#).

7.5.4 Community preparedness planning

Community engagement aims at strengthening the capacity of communities to identify their own issues and development needs, assess their options and take action, including the ability to assess the impact of their actions and to analyse their capacity gaps. A variety of community-based communication channels - including courtyard meetings, local level dialogues with service providers, social mappings and action plans, community-based entertainment programmes, community radios and other local media channels and religious groups - can be used to empower people for meaningful participation and to create demand for quality services.

Supporting communities in areas particularly vulnerable to cholera in the development of community action plans is a key preparedness priority. Capable facilitation is required to raise awareness about the possible risks of cholera and to explain how action plans can be useful. An existing WASH or health-oriented community committee could develop a plan, or a community cholera co-ordination committee could be formed for the purpose of developing and supervising implementation of the plan.

Community action plans could detail:

- How to improve water, sanitation and personal and food hygiene practices of various groups in the community, e.g., through the use of handwashing stations
- How to make sure that all community members know how to prevent cholera and what to do if someone in their family or neighbourhood gets cholera
- How to support community members in visiting a health centre – especially those who have limited mobility or means to get there
- Where an ORS corner could be situated and who would manage it in the event of an outbreak

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- What precautions could be taken at mass gatherings such as funerals and weddings
- What improvements could be made to markets or public institutions such as schools
- How to monitor and report on cases and trends
- Who is available to help and what communication would be necessary in the event of an outbreak, e.g., targeting authorities, health personnel, etc.

The following sections provide additional guidance for supporting communities with cholera preparedness:

- **Section 4 / Table 2** – The prevention of cholera (includes practical actions that can prevent cholera)
- **Annex 7D** – Communication activities and channels for cholera response
- **Annex 7E** – Key messages, actions and behaviours
- **Annex 7G** – Working with communities & troubleshooting
- **Section 5.3** – Involvement of key stakeholders and sector responsibilities (includes a listing of stakeholders who may be involved in cholera response efforts at community level)
- **Chapter 9** and related annexes – Service delivery: community-focussed interventions (includes community-level actions in the household and in community- based institutional or public settings)

Country-specific examples of preparedness actions relating to community preparedness (most of which were undertaken after a cholera outbreak had started in neighbouring areas) are noted in the Key Resources section that follows.

KEY RESOURCES

Wateraid Australia, IWC, IRC; [Promoting good hygiene practices: Key elements and practical lessons.](#) 

WHO [Outbreak communication planning guide](#), WHO: Geneva, Switzerland (2008) 

UNICEF [Writing a communication strategy for development](#) 

UNICEF [Specific tools and guidance](#). UNICEF Communication for development, cholera response intranet-site

AED-FHI360, [Bringing the community together to plan for disease outbreaks and other emergencies](#) 

Training / awareness raising sessions run in Ethiopia for community leaders and key field extension workers in Oromia region, Ethiopia 

CDC, [Cholera communication resources](#)

Example formative research question guide for investigating sanitation & hygiene, extract from UNHCR hygiene promotion briefing pack 

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8 Case management and infection control in health facilities and treatment sites



8.1 Overview of Chapter 8

This section covers service delivery for case management in treatment facilities, including infection control (WASH). A summary of cholera response strategies in health facilities and cholera treatment sites is outlined in [Annex 8A](#). For community case management (CCM) and community-based strategies see [Chapter 9](#).

Summary of Annexes

[Annex 8A](#) Cholera response strategies in health facilities and treatment sites

[Annex 8B](#) Summary of treatment guidelines: antibiotics and fluid replacement

[Annex 8C](#) Preparation of ORS

[Annex 8D](#) Infant and Young Child Feeding and cholera

[Annex 8E](#) Establishing cholera treatment sites including infection control (WASH)

[Annex 8F](#) Establishment of Oral Rehydration Points (ORP)

[Annex 8G](#) Human resources for cholera-related health facilities and treatment sites

[Annex 8H](#) CTC-CTU evaluation form

[Annex 8I](#) Information for patients and their caregivers

[Annex 8J](#) Mainstreaming protection into cholera response

[Annex 8K](#) Sample weekly surveillance form

[Annex 8L](#) Algorithm Management of AWD (ICDDR,B 2013)

Managing a patient with cholera

The management of a patient with cholera entails the following five steps:

- Assess the patient for dehydration and classify according to degree (none, some or severe)
- Rehydrate the patient rapidly with intravenous or oral fluids (within three hours) in accordance with treatment guidelines, while frequently monitoring and regularly re-assessing the patient's status
- Monitor ongoing fluid losses using a cholera cot and replace these losses with ORS (sometimes additional intravenous fluids are also needed) until the diarrhoea stops
- Treat all patients with dehydration and ongoing profuse fluid losses, with an appropriate antibiotic (as determined by laboratory testing on a representative sample of cases)
- Feed the patient a normal diet as soon as possible.

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8.2 Clinical assessment

Cholera is similar to other acute watery diarrhoeal diseases in that the clinical signs are those of dehydration. At the same time, cholera is like no other form of diarrhoea; the excretion of fluid and electrolytes from the bowel can be so explosive and so rapid that a healthy adult can be dead within hours if not treated appropriately. In fact, more than half of the patients with severe dehydration who are not treated die acutely, mostly within 12 – 18 hours of hours of the onset of symptoms, rarely within 6 hours. The incubation period is from 18 hours to 5 days.

Although patients with severe cholera (called “cholera gravis”) have a life threatening illness, in fact for each severe case, there are many others who are infected but have only a mild illness or may not have any symptoms. It is estimated that most people infected with *V. cholerae* remain asymptomatic, while others develop only mild or moderate dehydration that is relatively easy to correct (see **Section 2.2**). The figure commonly cited for the proportion of population with severe dehydration is around 2%-5% of all of those infected (or 20% of symptomatic will have severe symptoms, with 80% of symptomatic having mild to moderate symptoms), although recent reports show a much higher proportion of severe cases occurring during outbreaks, possibly due to a variant strain of *V. cholerae* O1 El Tor that produces *V. cholerae* O1 classical toxin. The severity of the illness may be related to ingestion of a larger infective dose of cholera bacteria, a delay in seeking treatment, or host factors such as low gastric acid (including taking medicines to reduce or neutralize stomach acid), malnutrition, pregnancy, or HIV/AIDS (see **Sections 8.3.9** and **8.3.10**).

8.2.1 Case definition of cholera

Whatever the cause, all suspected cholera patients should be managed in the same manner, although those with severe malnutrition (see Section 8.3.9) and those who are pregnant need special considerations. The diagnosis of cholera through laboratory testing is not needed other than to document the occurrence of an outbreak and to collect some samples to determine antibiotic sensitivity. All cases that meet the standard case definition should be considered to be cholera.

The reason this definition focuses on children over 5 years of age and adults is that there are many different causes of acute watery diarrhoea in younger children that can result in severe dehydration. Severe dehydrating diarrhoea is rare in adults, and cholera is one of the few conditions that can be responsible for it. **However, children under the age of 5 still get infected with cholera and it is still important to register cases in the line-listing and immediately treat all children under 5 with AWD regardless of the case definition.**

Case definition of cholera

SUSPECTED CASE:

Outside an outbreak:

- In an area where the disease is not known to be present (non-endemic area), a person 5 years of age or older develops severe dehydration or dies from AWD; or
- In an endemic area, a person develops AWD with or without vomiting

During an outbreak (epidemic):

- A person aged 5 (sometimes 2) years or older, who develops AWD with or without vomiting (WHO 2012) OR any individual experiencing 3 or more liquid stools with or without vomiting during a 24-hour period (MSF 2004)

CONFIRMED CASE:

A suspected case in which *Vibrio cholerae* O1 or O139 has been isolated by stool culture

8.2.2 Signs and symptoms of cholera

The first symptoms of cholera are usually painless watery diarrhoea often with severe vomiting. Fever is not seen with cholera, and its presence should alert one to other aetiologies or complications. Severely dehydrated patients often have severe muscle cramps until rehydrated.

The volume of stool excreted during an episode of severe cholera is far greater than with any other common cause of diarrhoea and may be as much as 250ml/kg body weight (more than 10 liters) in a 24-hour period. Although the stool is often described as resembling ‘rice water’, a yellowish liquid with flecks of mucus or light brownish-liquid with flecks of solid matter in it, this is not always the case.

Given the loss of copious fluid and electrolytes, dehydration can develop rapidly.

Fig 7 Assessing elasticity of the skin



Signs and symptoms of dehydration (WHO)

The signs and symptoms that correspond to different degrees of dehydration are:

- With less than 5% loss of normal body weight, there are usually no objective signs of dehydration but the patient may be very thirsty and be mildly dehydrated
- With 5- 9% loss of normal body weight, this patient has "some dehydration" and will have signs of dehydration such as poor skin turgor, rapid and / or weak pulse, weakness, dry mouth and eyes
- With >9% loss of normal body weight, the patient has "severe dehydration" and will have many signs of severe dehydration including very poor skin turgor, weak or absent pulse, decreased or absent urine flow, sunken eyes, increased or gasping respirations, wrinkled skin of the fingers ("washer woman's fingers"), and altered mental status (e.g. stupor or coma) Patients with severe dehydration often have severe muscle cramps which resolve after rehydration.

Note: The diagnosis of dehydration in a severely malnourished child can be difficult since the skin turgor of a malnourished child may also be poor. Treatment of malnourished children need special treatment (see section 1.3.9)

WHO definitions of dehydration

Assessment	Fluid deficit as % of body weight	Fluid deficit in ml/kg body weight
No signs of dehydration	<5%	<50 ml/kg
Some dehydration	5-9%	50-90 ml/kg
Severe dehydration	>10%	>100 ml/kg

If the degree of dehydration is less than 5%, there may be no objective signs of dehydration, but when dehydration exceeds this, the skin turgor, or elasticity, decreases. This symptom is a useful and reliable sign of dehydration, especially in children. (however, use of the WHO algorithm based on 5 signs/symptoms is more reliable www.who.int/publications/2005/9241593180.pdf). To determine if skin turgor has been lost, take a pinch of the skin of the abdomen of the patient. As a rule of thumb, if the skin returns to place immediately, there is no dehydration; if it returns in less than three seconds, there may be some, or moderate, dehydration; if it takes more than three seconds, along with one other sign (such as lethargy, sunken eyes, weak pulse, or difficulty drinking), there is severe dehydration.²¹ (COTS Chapter 2.6) 

²¹ As a demonstration, pinch the back of your forearm: it should return to its place immediately; pinch the skin on the back of your hand: it should return to place slowly; pinch the skin over your knuckle: it should return to place very slowly (>2 seconds).

8.3 Treatment

Rehydration is the first priority in the treatment of cholera. Rehydration is accomplished in two phases: 1) replacement of fluids to replace the volume already lost and 2) maintenance of hydration to replace ongoing fluid losses. In addition, dehydrated patients should receive an appropriate antibiotic. Lactated Ringer's solution (LRS) is preferred over isotonic sodium chloride solution because Ringer's solution includes a base (lactate) to correct metabolic acidosis as well as potassium which is lost during cholera. In severe dehydration 100ml/kg needs to be given over 3 hours. 30ml/kg is given in the first 30 minutes and 70 ml/kg over the next 2 1/2 hours. The duration of rehydration is doubled in children under 1 year of age or if there is malnutrition. Ongoing losses, which can best be monitored using a cholera cot, also need to be replaced, preferably with ORS. See additional details on intravenous rehydration in **Section 8.3.1**.

The goal of the maintenance phase is to preserve normal hydration status by replacing ongoing losses. In this phase, the oral intake route is preferred with volumes to match the output. The hydration status of the patient must be monitored since some patients with excessive outputs will not be able to keep up with ORS alone. If they again become dehydrated, they will need IVs using the same methods as originally given; then they can again continue on ORS. For IV fluid treatment protocols, see **Annex 8B**. For an Algorithm for the management of acute watery diarrhoea (AWD), see **Annex 8L** (ICDDR,B 2013).

With appropriate and competent treatment, rehydration should be achieved within four hours. Steps in the treatment of a patient with suspected cholera are to:

1. Assess for dehydration
2. Assess for any other co-morbidities e.g. malnutrition' which would affect the rate of fluid replacement
3. Place the patient on a cholera cot in order to monitor stool output easily
4. Rehydrate the patient and monitor frequently, then reassess hydration status
5. Maintain hydration (usually with ORS) by replacing ongoing fluid losses until diarrhoea stops
6. Administer an oral antibiotic to dehydrated patients
7. Feed the patient as soon as they are able to eat.

This section focuses on case management in facilities; however, early detection and management of cases at the community level can ensure rapid initiation of rehydration therapy and save lives. See **Section 9.11** for information on Community Case Management of cholera.

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8.3.1 Intravenous rehydration

In cases of *severe dehydration*, intravenous fluids are recommended. It is important to use a solution that replaces both water and electrolytes (the key electrolytes that need to be replaced include sodium, potassium and a base (e.g. bicarbonate, lactate or citrate). Lactated Ringer's solution, sometimes called Hartmann's

solution, is preferred. If this is not available, normal (0.9%) saline solution can be used, but a full complement of electrolytes should be replaced as soon as possible (as soon as the patient can drink) by the simultaneous administration of ORS. The initial rate of infusion should be quite rapid. Dextrose solution should NOT be used as it lacks the necessary salts. See [Annex 8B](#) for additional reference information on rehydration.

Wherever a patient with severe dehydration due to cholera is being treated, optimally in a CTC or CTU, a 'cholera cot' and a basin to collect vomit should be available. A cholera cot is a bed with a hole in the centre through which defecation can take place into a bucket. In addition to providing the patient a meaningful degree of dignity, a cholera cot allows even non-professional staff to assess the quantity of fluids lost. A translucent bucket is optimal since it allows a nurse to quickly see how rapidly the bucket is filling up and to focus the attention on those patients with excessive volume loss. The volume of fluid lost should be assessed every few hours and the rate of infusion of intravenous replacement or oral fluid calculated accordingly. Fluid losses do not have to be replaced exactly, but the quantity of stool lost is an excellent guide to the amount of fluid that needs to be replaced and the rate it needs to be administered. A short video explaining the cholera cot is found at www.youtube.com/watch?v=bjhrh-6ljh0.

8.3.2 Oral rehydration

In patients with some dehydration (but not severe) rehydration can usually be achieved orally using ORS. If a patient with moderate dehydration cannot drink, or has excessive vomiting, IV hydration may be needed. ORS can also be administered by naso-gastric tube, if an IV line cannot be established, the patient cannot drink and the clinical staff are skilled in their use.

See [Annex 8B](#) to review the WHO recommended quantities of ORS for treating some dehydration and for the rates of administration.

Fig 8 Cholera Cots



How to encourage adults and children to take ORS

TIP
Experience has shown that health personnel need to be quite assertive in getting both adults and children to ingest adequate amounts of ORS to correct dehydration. Putting patients in a large room with a barrel of ORS and instructing them to "keep drinking" is insufficient. Each patient should have one family member or caregiver who will provide ORS and personal nursing care to the patient and also learn about ORS in the process. Nursing staff do not have the time to do this by themselves. One proven method is to observe patients drinking a teaspoon of ORS every minute, or 300ml per hour for children. Adults should be instructed to drink as much as they can tolerate until their hydration status returns to normal. If patients do not improve after several hours, the amount of ORS ingested should be increased to the level tolerated by the patient. If signs of severe dehydration or intractable vomiting appear, intravenous rehydration should be commenced. Some patients who have been given an IV and have been switched to ORS for maintenance may not be able to maintain hydration with ORS because of severe purging. If this occurs, an IV will have to be started again to rehydrate the patient again.

Cases of *AWD without signs of dehydration* do not need to be treated at a facility. If there is adequate space at an oral rehydration point/corner, they can be shown how to prepare ORS, taught how to use it at home, and given other key information on preventing and managing cholera. See [Annex 8C](#) for preparation of ORS and a [CDC poster on how to make and use ORS](#). Patients who are sent home for self-treatment should be provided recommendations for prevention of dehydration in new or suspected cholera cases in their village/area or family, and they should be asked to return if they:

- have an increased number of stools
- eat or drink poorly
- begin to vomit
- have any other signs of deteriorating status.
- or pass blood in their stool / have a fever indicating a cause other than cholera.

See [Annex 8I](#) to review information for patients and caregivers at the treatment centre and upon discharge. The formula for the recommended formula for ORS is shown here (also known as low osmolarity ORS).

Composition of commercially manufactured Oral Rehydration Solution (ORS)

The composition of ORS, for preparation in one liter of clean water (mmol/litre)

- Sodium – 75
- Citrate – 10
- Chloride – 65
- Glucose – 75
- Potassium – 20

For more information on specifications and use of ORS, see the [Rehydration Project](#).

For most patients use of this fluid/electrolyte mixture in the recommended amounts is adequate to re-establish and maintain a normal state of hydration. It also averts the possibility of the patient developing important electrolyte imbalances, such as metabolic acidosis and hypokalemia (potassium deficiency). Note that the glucose is present not only for its energy value, which is minimal, but because its presence takes advantage of what is known as the 'glucose-sodium co-transport system' in the intestine. In other words, the inclusion of glucose facilitates active absorption of sodium and water from the intestinal lumen across the intestinal cells and into the blood stream. This mechanism is preserved in all acute watery diarrhoeas, including cholera.

8.3.3 Alternative rehydration solutions

If available, rice based oral rehydration is recommended for use in cholera. Some hospitals prepare such a homemade solution by cooking rice flour, and after cooling, adding the salts in the correct concentrations. For most small treatment centers, this is not practical, but a packet version of rice ORS is also available ([Ceralyte 70](#)) and is prepared in manner identical to the glucose ORS. The use of rice ORS reduces the purging rate by about 30% in cases of cholera and is therefore preferred if this can be made available.

There are often many places, especially in the more rural areas of poorer countries, where ORS is not available in adequate quantities to meet demands during an outbreak of cholera. As a substitute - when ORS is not available - homemade rehydration solutions consisting of table sugar and table salt dissolved in water are used as stop-gap measure of last resort. One recipe, for example, calls for 6 teaspoons of sugar, $\frac{1}{2}$ teaspoon of salt and 1 liter of clean water. For more information on homemade oral rehydration solutions, see the [Rehydration Project](#). Such a solution should be provided while taking the patient to a treatment center where they can receive proper treatment.

Teas, sugary drinks and carbonated beverages are not suitable as a rehydration solution during severe diarrhoea and can even increase purging.

For additional reference, see the [WHO position on the use of ORS](#) to reduce mortality from cholera. Some key points regarding ORS and homemade sugar-salt solutions include:

- Rehydration should be started immediately, and ORS (prepared from sachets) is the most effective formula to manage dehydration from diarrhea of any etiology.
- It is recommended that sachets of ORS be made available for immediate use at the community level.
- If ORS sachets are not available, then homemade sugar and salt solutions can be used for immediate, interim use until the cholera patient can be transferred to an ORP or facility for further treatment.
- Differences between ORS from sachets and homemade solution include the following:
 - Sugar is a disaccharide and must be digested in the intestine before the glucose is made available for glucose facilitated transport. Thus, ORS made from sugar is slightly less effective than ORS from glucose.
 - Homemade solutions using sugar and salt do not contain some key ingredients in ORS, such as potassium and a base (e.g. citrate or bicarbonate)

8.3.4 Maintenance of hydration

After an adequate state of hydration has been established, treatment must continue until the diarrhoea stops. The amount of ORS required to maintain hydration varies greatly from one patient to another, but in all cases the amount of fluid and electrolytes that are lost decrease steadily with time (as the cells of the intestine with the cholera toxin slough off and newer, healthy ones replace them). If possible, patients who have presented with severe dehydration should be kept under observation until their diarrhoea has completely abated (usually less than 2 days if the appropriate antibiotic has been used, rarely up to 5 days) to ensure that there is no recurrence of dehydration. Once the patient can be maintained on ORS there is no need to continue the use of a cholera cot. If the patient has access to ORS and is both able to drink and understands how much s/he needs to drink, early discharge is acceptable once rehydration has occurred if beds / staff are under pressure.

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8.3.5 Importance of treatment by skilled clinical staff

The importance of prompt treatment by skilled staff

It is of vital importance to promptly refer suspected cholera cases to a care facility with quality services. It remains unfortunate that during cholera outbreaks case-fatality rates are higher in remote areas and that a considerable proportion of deaths occur before patients can reach designated health facilities. Once a patient reaches an appropriately skilled, staffed and equipped health facility alive, mortality should be negligible. The target should be a case fatality rate of less than 1%. Any death after arrival indicates either a failure of treatment at the CTC or the presence of a complicating comorbidity e.g. severe malnutrition, pneumonia or HIV. But death from cholera in an otherwise well individual who arrives alive at a CTC should not be accepted. Achieving this goal depends entirely on the skill and experience of the facility staff.

Both intravenous and oral rehydration for cholera requires knowledge that health professionals do not routinely learn during their pre-service training programs. Important differences in patient outcomes have been documented between those with more and those with less experience. In a large outbreak, it is necessary to appoint a specialized rehydration team to train government and national and international NGO personnel to ensure that health staff who are responsible for cholera patient care are well versed in the techniques of case management. In at least one instance, authorities have not allowed NGO personnel to provide treatment for cholera patients until they had been to a training course at a central facility. Key elements of this training especially include a) assessment of dehydration status, b) calculation of intravenous fluids volume requirements, and c) training in starting intravenous lines with large bore sets in patients who are severely dehydrated. The use of small needles and inexperience with starting intravenous lines in such patients have often been major constraints. Needles for intravenous infusions should be 19 gauge or larger for adults and 21 gauge butterfly (scalp vein) needles should be used for infants. Interosseous infusions or subcutaneous infusion does not provide sufficiently rapid hydration for patients with cholera.

8.3.6 Use of zinc

Zinc has been shown to significantly reduce stool volume, to shorten the duration of illness and to reduce subsequent episodes of diarrhoea and mortality. Zinc should be included in the management protocol and distributed with ORS including at oral rehydration points or by community-based health workers (according to national protocol). All children below the

age of 15 years should receive a dosage of 10mg – 20mg per day of zinc along with ORS during the treatment of cholera. This routine should be continued for 10 - 14 days at home following the end of the illness.²² As with antibiotics, messages should be clear that this is a critical part of cholera management but not a replacement for rehydration.

8.3.7 Use of antibiotics

Treatment with an appropriate antibiotic reduces both stool volume and duration of illness in patients presenting with some or severe dehydration.²³

The importance of rapid rehydration versus antibiotic administration

Antibiotics are not necessary to ensure the survival of a patient with cholera. The “cure” for cholera lies in rapid rehydration and the maintenance of an adequate state of hydration for the duration of the illness. However, antibiotics shorten the illness (allowing patients to be discharged sooner) and reduce rehydration requirements: thus, more patients can be effectively treated with fewer supplies and fewer trained staff when antibiotics are used.

Although antibiotics are not necessary for the survival of the individual cholera patient, their use during outbreaks is critical to shorten the duration of disease, reduce stool volume and the hydration fluid requirements and reduce the time required until the patient can be discharged. If antibiotics are not used, patients will need to be treated longer in the facility; thus, increasing the nursing and resource demands. During large outbreaks, patients must be cured quickly in order to make room for more patients to be treated successfully.

Apart from improved management of individual patients, antibiotics also reduce the number of cholera bacteria being shed via the patient's faeces, thereby restricting transmission, especially after the patient is discharged from clinical care. If antibiotics are not given, patients take their infecting bacteria home with them, potentially spreading it to others.

Note that if severe dehydration is accompanied by frequent vomiting, antibiotic therapy should be postponed until after the patient has been rehydrated and vomiting has stopped. For those patients with some dehydration, antibiotics can be given together with oral rehydration therapy.

²² Zinc supplementation in children with cholera in Bangladesh: randomised controlled trial, SK Roy et all, BMJ

²³ New England Journal of Medicine, 2011, Jan 6; 364 (1):5-7

A few antibiotics are effective with a single dose, assuming that the infecting bacteria are susceptible to them. However, *V. cholerae* have often been found to be resistant to many antibiotics in recent years; thus, the choice of the correct antibiotic is critical (for example, nearly all strains are now resistant to cotrimoxazole.) Faecal samples do not have to be taken from every patient, either to establish the diagnosis or to guide the treatment, but establishing the antibiotic susceptibility pattern of the circulating vibrio at the onset of an outbreak and periodically thereafter is important. As a general rule, if the strains are sensitive to tetracycline, the best antibiotic is doxycycline. If it is resistant to tetracycline, the best choice (currently) is azithromycin. Ciprofloxacin may also be used, but because it has become less susceptible in recent years, three days of treatment is needed rather than a single dose.

In any given outbreak, issues of cost, availability, reliable access to patients and their level of expected compliance should be taken into account when developing policy for antibiotic use. For information regarding effective antibiotics for use in cholera treatment, see **Annex 8B**.

8.3.8 Prophylactic antibiotics

The question of prophylactic or preventive, antibiotic treatment of close contacts of cholera patients has long been debated. Although use of prophylactic antibiotics are “efficacious” in carefully controlled situations, they are not recommended because programs that attempt to use this approach inevitably results in wide spread and inappropriate antibiotic use and the development of antibiotic resistance.

However, in special and very unusual situations when antibiotics can be delivered quickly to persons potentially exposed to cholera, but not yet ill, and when those persons can be taken under direct observation, prophylaxis may prevent cases from occurring. An example of such a scenario is a cholera outbreak among prisoners.

KEY RESOURCES

[MSF Cholera Guidelines: Chapter 5.](#) 

[ICDDR,b: COTS Programme. The Whole Programme](#) 

[MSPP/CDC Haiti Cholera Training Manual: a full course for health providers \(2011\)](#) 

[MSPP/CDC Fact/wall sheets for clinical presentation and management](#) 

8.3.9 Nutrition

Any person can become a cholera patient, even those who are well nourished. However, because risk of cholera is linked to poverty, cholera often occurs in areas with high levels of childhood malnutrition. This can pose a particular problem to case management. However, even in areas where prevalence of malnutrition is not of concern, children are still considered at risk due to the infection / malnutrition cycle. The following need to be considered with respect to child nutrition and cholera outbreak preparation, prevention and response.

Breastfeeding

Breastfeeding should be encouraged and continued whenever and wherever possible. Children who are being exclusively breastfed rarely contract cholera. If breastfeeding is temporarily interrupted, as is often necessary during an outbreak if a mother is infected, it should be resumed as soon as possible. Keep in mind that if a mother is alert and able to breastfeed without compromising her condition, it should be encouraged. See **Annex 8D** for guidance on breastfeeding and infant feeding during cholera outbreaks.

Children with malnutrition

Severe acute malnutrition (SAM) can seriously compromise cholera diagnosis and management; similarly cholera can compromise the diagnosis and management of SAM. For assessment and treatment protocols for management of cholera in malnourished children, see the [CDC training manual, pages 17-20, and the Algorithm in Appendix I](#)  (Assessment and treatment of a severely malnourished child 6-59 months with AWD). The assessment of children with mild or moderate malnutrition may be difficult because the signs of dehydration, such as low skin turgor, sunken eyes, lethargy, and so forth, can also be signs of malnutrition, and experience is needed to assess hydration status in these children.

Key points:

1. Manage the cholera first;
2. Assess using full WHO algorithm for dehydration as individual clinical signs are unreliable in severe malnutrition especially skin turgor which is emphasised above;
3. Give the IV fluids slower (ie 1 hour for the first 30ml/kg and 5 hours for the next 70ml/kg)
4. Do not use Resomal for cholera;
5. Certain complications are more likely (e.g. hypoglycaemia, fluid overload);
6. Transfer to a malnutrition unit as soon as possible after rehydration and manage according to malnutrition protocol.

A child with SAM requires additional precautions while being treated for cholera. *If a child is referred to a treatment facility for SAM and is suspected to have cholera, the child should be transported to a cholera treatment facility (CTC/CTU) or isolated from other malnourished children immediately.* Treatment should take place in a CTC or CTU and not in a unit specialized in SAM treatment because of the danger of contamination and potential transmission of infection to other severely malnourished children, who require specialized treatment. If a significant number of malnourished children are affected by cholera, special facilities should be developed and staffed by experienced health personnel.

Children with SAM and severe dehydration who are brought to a health facility are likely to be in a state of shock. They are often unresponsive, their pulses very weak or absent, and they may be vomiting. **These children need to be rehydrated immediately, and the infants can be breastfed; cholera treatment is urgent and outweighs all other patient needs.** Cholera-infected children are in a seriously compromised condition and should be prioritized above other patients. See the [CDC training manual for treatment](#) [doesse of IV fluids and ORS for malnourished children](#) .

Severely malnourished children need to be monitored extremely closely (every 10 minutes or so) because of the risk of over-hydration causing heart failure and death. Note that the rate of rehydration should be slower than for adults to alleviate this risk, and additional risks of hypoglycemia and sodium-overload that could result from the administration of Lactated Ringer's solution to dehydrated children with SAM. Some health care providers add glucose to the Lactated Ringer's solution to prevent hypoglycaemia and rehydrate over 6 hours rather than 3 hours (30ml/kg in the first hour and 70 ml/kg over the next 5 hours).

During cholera treatment, a severely malnourished child will either receive IV hydration as described, or ORS as it is normally prepared. Following successful treatment for severe dehydration, a child with severe malnutrition should be transferred to a SAM treatment centre to continue SAM treatment. It is important that children are assessed for malnutrition on discharge to ensure adequate recovery with the appropriate treatment regime.

Usually, severely malnourished children with moderate dehydration (not from cholera) are treated with a special variant of ORS called ReSoMal (Oral Rehydration Solution for Severe Malnutrition) that contains about two-thirds of the sodium content of ORS, but ReSoMal should only be used after cholera is resolved and the child is referred to a SAM treatment facility. **ReSoMal should NOT be used to treat dehydration from cholera because the sodium concentration is too low for cholera patients.**

The assessment of children with mild or moderate malnutrition may be difficult because the signs of dehydration, such as low skin turgidity, sunken

eyes, lethargy, and so forth, can also be signs of malnutrition. Children who are moderately malnourished may be more susceptible to contracting cholera, so that in any supplementary feeding programs, prophylaxis antibiotics, zinc and ORS should be provided with clear instructions for use.

Patients seen in cholera treatment centres, particularly those that are vulnerable to malnutrition (pregnant women, children and those with chronic diseases such as AIDS) should be provided safe food at the cholera treatment facility and encouraged to eat nutritious meals on a regular basis. Adequate nutrition should not be overlooked and should be provided by the facility or families.

8.3.10 Cholera management with co-conditions

Pregnancy

Cholera patients who are pregnant have additional risk factors for more severe outcomes that can affect both the mother and newborn.²⁴ Women who are pregnant typically have increased severity of diarrhoeal disease with greater dehydration in the third trimester. However, there is no increased risk of mortality with appropriate treatment. The greatest potential impact of maternal infection affects the outcome of the newborn because cholera infection in the third trimester poses a greater risk of spontaneous abortion and premature delivery. Poor neonatal outcomes are due to physiological causes (e.g. dehydration and reduced blood flow to the placenta), not to the cholera toxin. The fetus does not contract cholera infection from its mother. The management of cholera in pregnant women includes:

- Rehydration: use WHO protocol with aggressive fluid replacement and close monitoring of hydration status.
- Careful monitoring of stool losses using a cholera cot with careful balancing of rehydration fluids with stool output. I.V. fluids should be continued longer for maintenance, as well as intial rehydration to avoid the risk that the patient again becomes dehydrated if ORS is not able to keep up with stool losses.
- Administration of antibiotic for the mother: Azithromycin or Erythromycin or
- Antibiotics are not needed for the newborn unless they are needed for other complications.
- Additional services: CTCs need to be prepared to provide obstetrical services and consider arrangements for deliveries and referral for obstetric and pediatric / newborn medical care.

For details, see the [MSF presentation on cholera and pregnancy from Haiti](#) .

²⁴ Hirschhorn N, Chowdhury A.K, and Lindenbaum J, "Cholera in pregnant women," *The Lancet*. 1969; 1: 1230-1232.

HIV/AIDS

In general, people with HIV/AIDS are more susceptible to infection from various pathogens and have more severe clinical outcomes. There are currently no additional treatment strategies attributed to patients who also have HIV/AIDS. They should be assessed and treated according to national cholera treatment protocols.

Other complications from cholera treatment

Acute renal failure can occur if the cholera patient is not rehydrated sufficiently. This most often occurs if the patient is given enough rehydration fluid to avoid death, but not sufficient fluid to maintain normal blood flow. Examples of this may occur if there are delays in reaching a treatment center in time, but some fluids are given while in transit. It is recognized if the urine flow does not resume after the patient has been hydrated. Electrolyte imbalance can occur, especially hypokalemia (low potassium), hyponatremia (low sodium) or hypernatremia (high sodium). These are most likely to occur if the incorrect rehydration fluids are administered. Treatment of any of these conditions requires referral to a hospital for further management.

8.4 Health facilities and treatment sites

8.4.1 Description of health facilities and treatment sites

Different levels of health facilities and associated structures may be required during a cholera response. However, organisations may use different terminologies for the levels of health facilities, or similar terminologies with different meanings. It is important in any prevention, preparedness and response action that the terminology used for different health facility levels are discussed and agreed upon to simplify communication across sectors and among organisations, to save time, and to help prevent life-threatening misunderstandings.

For more information on site selection, set up of treatment centres and infection control measures (WASH), refer to **Annex 8E**, and **Annex 8H** for a CTC/CTU evaluation checklist for monitoring.

8.4.2 Treatment centre locations

Urban settings – Ideally a hospital-level facility like a CTC should be provided within a hospital compound. When a cholera patient arrives at the hospital (often the diagnosis is suspected by the guards), the patient should go directly to the CTC and not through other wards or corridors. Thus the CTC needs to be close to the entrance to the facility. Where possible, it is preferable to have one well-managed CTC with a number of ORPs to hydrate patients before they reach the centre. However, during large epidemics or in

Levels of cholera-related health care with common terminologies

The following categories of facilities have been grouped by levels of care:

LEVEL 1 - Within the community – Oral Rehydration Point (ORP) or Oral Rehydration Corner (ORC) (no beds). An ORP or ORC is a location at community level (urban, rural or IDP/refugee camps) where people with mild/moderate dehydration can be managed through the provision of ORS (and zinc), screened for severe dehydration and referred to a health facility as needed. Lacking beds, ORPs and ORC's are not equipped to handle longer-term treatments such as intravenous rehydration, which require a well-equipped health facility. By helping to reduce the severity of dehydration of patients who require health facility services, ORPs reduce stress and overcrowding at health facilities. However, they require trained personnel to ensure that ORS is appropriately provided to those who need it. For more information about treatment at an ORP/ORC, see **Annex 8F** and **Section 9.11** for community case management (CCM) of cholera.

LEVEL 2 – Small health facility/dispensary (1-5 beds). A small health facility/dispensary receiving small numbers of patients may contain an ORC and, where necessary, a room with a small number of dedicated beds for occasional severe patients. The health facility may have the capacity to administer IV fluids for treatment of severe dehydration if staffed by a qualified health professional.

LEVEL 3 – Medium size in-patient facility – Cholera Treatment Unit (CTU) (10-20 beds) Annex 8E. A cholera treatment unit (CTU) often serves cholera patients in places where there are long distances between communities, requiring a larger number of decentralised facilities of smaller size. Smaller in size than a cholera treatment centre (CTC) and usually located either inside a health facility or close to it, and sometimes separately, a CTU has an in-patient facility allowing for separation of cholera patients from others. They offer an ORC as well as a full range of treatment, including regimens for severe dehydration.

LEVEL 4 – Hospital-based facility or distinct site – Cholera Treatment Centre (CTC) (25-200 beds) Annex 8E. A dedicated treatment facility for cholera patients, a CTC is ideally constructed in a hospital compound. A CTC contains an ORC and offers a full range of treatment including treatment for severe dehydration. A CTC is often used in urban areas where there are a large number of cases.

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urban areas spread over large distances or placed where traffic is heavy and congested, more CTCs or a combination of CTUs and CTCs may be needed.

Rural settings – The priority in rural settings to increase coverage and access may mean establishing a central hospital-level facility (CTC) and a series of facilities at medium-sized health facilities (CTUs) with a range of ORPs at village level. In some instances it may be better to establish a CTU at village level. The CTU should ideally be located inside the health facility/post or close to it because they are familiar places and because staff and resources are likely to be accessible. Otherwise, it can be set up elsewhere. Hopefully, treatment of cholera should not interrupt care of patients with other illnesses and health care needs.

In both urban and rural settings – ORPs can be located at the home of a community health worker or community leader or established at another location such as a community centre or religious building. Location information should be distributed to community members for reference. Refer to **Annex 8E** for further information on site selection.

8.4.3 Infection control through water, sanitation and hygiene actions

What does infection control seek to achieve – Infection control in a cholera-treatment facility is a critical component of patient care. It focuses on reducing the risk of transmission of the cholera bacteria and other diarrhoeal pathogens. Infection control is mainly based on the water, sanitation and hygiene (WASH) actions that need to be undertaken in a facility.

Adherence to infection control procedures, training, equipment and supportive supervision

– Despite the intention of facilities' health and management staff to take responsibility for making sure that infection control procedures are established and enforced, sometimes the facilities themselves become sources of infection, usually because:

- Staff lack knowledge of the different the various infection control procedures required for general diarrhoeal diseases and cholera
- Staff do not possess adequate disinfectants
- Staff are over stressed and exhausted from working around the clock with limited or no time off because strict rules limiting work hours are neither adhered to nor enforced
- Staff focus on curative aspects of case management rather than on prevention.

Therefore, professionals from the WASH sector should provide support to health professionals to make sure that correct procedures are established and adhered to. Medical NGOs with significant cholera experience, such as Medécins sans Frontières (MSF), always include logisticians, WASH and health professionals to establish and manage CTC/CTUs.

Key principles for cholera infection in health facilities

- The main points are: the use of cholera cots with buckets and re-usable plastic sheets as well as pans for vomitus both of which are contaminated with *V cholerae*.
- Frequent hand washing, and control of access to the unit.
- Handwashing with disinfectant water (0.05% chlorine or with a hand sanitizer with at least 60% alcohol) must be undertaken routinely by staff, caregivers and patients at key locations around the facility or site – on entry/exit from the site, in-between wards/areas of the centre, after patient contact, after using the toilet, and before eating.
- Limit contact between the most severe patients and others through isolation within the health facility and assignment to a single caregiver.
- The entrance to a cholera treatment centre should be guarded to restrict entry and exit only to individuals who have permission to enter (staff, patients, designated caregivers or supervisors).
- Health facility wards, latrines and bathing units should all be accessible and easy to sanitize.
- Vomit and diarrhoeal fluids must be safely disposed of in a pit latrine after adding chlorine.
- Food movement into/out of the cholera treatment facility should be limited; ideally food should be prepared and provided on site.
- Soiled bedding and clothes should be disinfected before they are allowed out of the centre
- Bodies of deceased cholera victims should undergo specific procedures for storage, cleansing, preparation and burial. Care must also be taken that family members have the opportunity to grieve with the body in a designated mourning area. See **Annex 9D** for more information on safe care of the dead.

Caregivers and infants – One caregiver should be encouraged to stay with each patient as it is unlikely that there will be sufficient nursing staff to do all that is required, especially administering and encouraging ORS intake. This restriction reduces the potential for cross-infection and helps ensure that staff have the necessary space to carry out procedures efficiently.

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Exception should only be made for infants who are being exclusively breastfed to be allowed into the centre. Other children should be denied entrance unless they are sick and need to be admitted for care. Finally, names and contact details of relatives caring for a patient's children should be noted as a protective measure at the time the parent is admitted to the centre.

Water, sanitation and hygiene facilities – Ensuring cholera and other health-related treatment centres have appropriate WASH facilities/services is essential to proper infection control. All CTCs must ascertain that water is available in appropriate quantity and quality for the various required purposes; that sanitation facilities are properly maintained (including final disposal of sludges), caregivers and staff (by gender); and that handwashing stations are available at key points. See **Annex 8E** for specific design parameters for the WASH facilities, for maintenance considerations, and for specific procedures and measures for infection control.

KEY RESOURCES

MSF: [Cholera Guidelines, Chapter 4 and Annexes 7-11 for criteria for CTC/CTU](#) 

MSF, [What is a Cholera Treatment Centre \(CTC\)?](#) (website)

MSPP/CDC, [Haiti Cholera Training Manual: A full course for Health providers, 2011](#) 

Ethiopia (Oct 2006, draft) [Protocol No 7 – Hygiene, sanitation](#)  and [isolation aspects of CTCs](#),  Federal Democratic Republic of Ethiopia; and associated photos;

Fewster, E. Video of the WASH and infection control aspects of an upgraded CTC in Haiti, 2011, International Medical Corps. 

WASH Cluster Somalia, [Guidelines for water, sanitation and hygiene in cholera treatment centres, 2009.](#) 

8.4.4 Human resources for health facilities and treatment sites

Staff required for health facilities and treatment sites include medical staff, such as nurses, doctors, pharmacists, community health workers (at some sites) and management and support staff, such as site managers, logisticians, WASH specialists, cleaners (for floors, toilets, clothes and bedding), cooks, guards, water carriers, and disinfectant makers.

The number of staff required for each facility depends upon:

- Size of the facility

Making infection control work

- Simplified training sessions and reminders on infection control and WASH can be useful tools that outline the rules for infection control on arrival, during admission and on departure; they can also be posted on the walls of the facility for ease of reference.
- The provision of basic equipment and supplies (see Section 8.4.5) can assist in enabling and motivating hard-working but understaffed health and support staff to be able to implement infection control.
- Mobile back-up WASH support can be helpful to support staff in smaller facilities where it is not feasible to have dedicated WASH and logistics staff.

- Absolute minimum number of staff necessary to make sure it runs effectively and allows adequate time off so that staff can function safely
- Available human resources are balanced against need in all locations.

The most serious human resources challenges are likely to be presented by explosive, large-scale, fast-moving epidemics requiring multiple facilities, creating a high level of competition for staffing, particularly local health professionals. Such challenges are particularly acute in resource-poor contexts where an epidemic has not been declared or lacks the high profile to receive adequate levels of support. It can also be challenging for health staff in small health facilities to rest or update training.

Refer to **Annex 8G** for further details and numbers of staff needed for different levels and sizes of facilities, and to **Section 6.4** for further information on human resources and staff training.

Note on incentives: Staff often work overtime in challenging conditions, and the issue of incentives comes up frequently, which can lead to strikes leading cholera response workers to demand compensation for their work or to request equal salaries to other staff doing the same job (when agencies all have different pay scales). It is important to keep staff well compensated for their work and to ensure that cholera services are maintained on a regular basis. If possible, staff compensation should be agreed upon by the government and all supporting agencies when outbreak preparations are being made. Typically, during a cholera outbreak, health care services should be provided for free, however, these may be imposed on when staff are not compensated for their work.

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Training of staff working in cholera related health facilities

- Training should be an integral part of preparedness efforts because it is difficult to undertake once a cholera outbreak is underway and staff are often overworked, exhausted and unable to leave their posts to attend training sessions.
- Trainee or student nurses and doctors can be directed to support qualified health staff during large-scale cholera outbreaks
- New staff can be mentored by experienced staff or those already running cholera-related health facilities, before the moving on to their own facilities
- Simple job aides with job tasks can help as training tools and references in the health facility once the response is underway. See the Key Resources that follow for links to examples
- A dedicated training team in large outbreaks will help improve confidence and standards
- Mobile teams providing supportive supervision can also provide on-the-job refresher training as a core part of their responsibilities and can help identify resource gaps. Mobile teams are particularly valued by staff in small, dispersed health facilities and can help boost morale.

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Note on registration of external practitioners: During large cholera outbreaks, cholera response staff from other countries may offer to volunteer response services, but they may not be qualified to provide such services. Pre-registration of Foreign Service providers by the Government during the preparedness phase could greatly ease the deployment of support staff during an outbreak.

KEY RESOURCES

COTs program: Staff pocket cards for diarrhoeal diseases. 

Médecins Sans Frontières (MSF), [Cholera Guidelines, 2004, Chapter 4 section 3 and Annex 11 for Human Resources](#). 

8.4.5 Equipment and supplies for cholera treatment centres

To set up cholera treatment centres, the following equipment and supplies are likely to be needed:

- **To establish and maintain a site and implement infection control procedures** – Equipment includes: tents, fences, jerry cans, plastic cups, cholera cots, buckets, vomit basins, bowls, mops and other cleaning implements, latrine slabs, plastic sheeting, poles, plastic drums (for mixing and storing chlorine and ORS), body bags, equipment for electricity supply, cooking and eating utensils, incinerator and protective clothing (gum boots, gloves, overalls, aprons, however, this clothing is not needed in a well-run CTC except where it would be used for inserting IV cannulae, moving dead body or fluids, cleaning plastic sheets etc.). Consumable supplies include: disinfectants, toilet paper, plastic aprons and gloves and food.
- **To provide medical care** – Equipment includes: needles, cannulae, surgical gloves, surgical gowns, aprons, scissors, forceps, basins, trays, sphygmomanometers, and thermometers. Consumable supplies include: ORS sachets, IV drips, syringes, nasogastric tubes, antibiotics, and body bags. Be sure that large bore needles are used for IV lines (at least 19 gauge or larger for adults and 21 gauge butterflies for infants).
- **To accommodate health staff** – Where staff have to be brought in from outside areas, additional equipment may be required, particularly at rural health facilities. Equipment may include tents, camp beds, blankets, eating utensils and food supplies (where food is not provided onsite).

Refer to **Annex to be developed**, for a standard listing of key equipment and supplies for health facilities and treatment sites, with notes on how to determine quantities and prioritise items, and an associated Supply Calculator (see **Annex 3J**). See Section 6.5 for kits of drugs.

KEY RESOURCES

MSF, [Médecins Sans Frontières \(MSF\), Cholera Guidelines, Chapter 4 section 4](#). 

MSF, [MSF, cholera kit lists \(medical and non-medical supplies for CTCs/CTUs\)](#). 

8.4.6 Program monitoring: case management practices and treatment facility quality

On-going program monitoring is needed to make adjustments in programming according to identified needs (staffing and training, supplies, etc.). Service delivery at treatment centres can be monitored by:

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- Following case management quality at the health facility by observing trends in the case fatality ratio (CFR) which should remain below 1 per cent. Observations should be made on a daily and weekly basis. See **Section 3** and **Annex 3F** for more information.
- If a death occurs because of dehydration, the management of the case should be reviewed to identify reasons for the death to improve case management in the future.
- Following treatment facility processes, including case management protocols, infection control at the facility, staff competency and supplies on a daily basis through direct supervision and on a weekly basis using a CTC – CTU monitoring form. For details, see **Annex 8H**.

Note: It is crucially important not only to fill out the forms, but also to adjust programs accordingly.

KEY RESOURCES

WHO, [Cholera outbreak, Assessing the outbreak response and improving preparedness](#), 2004. 

8.5 Information for patients and their caregivers, psychosocial support and protection.

8.5.1 Involving patients and their caregivers

In many countries where cholera is endemic, the care of patients relies heavily on the involvement of family members who often prepare food and carry out simple nursing tasks, especially administering ORS and alerting the nurses to any medical problems. However, only one family member should be staying with the patient (except for visiting hours) since additional family members add to confusion and inhibit proper medical care.

8.5.2 Informing and conversing with patients and their caregivers

A range of information should be provided to patients and their caregivers on arrival at the health facility, during their stay and before discharge. On each occasion, they should be offered opportunities to ask questions and raise concerns. Information provided should cover a description of cholera, procedures for looking after themselves during their stay, breastfeeding,

rules for infection control (including food preparation and consumption) and reassurance to assuage feelings of shame about their sickness. Before discharge, instructions should be provided on preparing ORS, recurring illness and preventing the spread of cholera to other family and friends. They should also be informed of additional support resources for use in the event of discrimination or conflict with neighbours or the wider community. Recommended activities include:

- Regular meetings with families, especially before discharge, family briefing and education sessions, notice boards and suggestion/complaint boxes can all help to facilitate communication.
- Drawing and psychosocial therapy may be useful for helping children during their recovery.

See **Annex 8I: Information for patients and their caregivers** for useful additional information.

8.5.3 Psychosocial impacts

Populations may possess strong feelings of insecurity during an outbreak and fear of being stigmatised if they seek treatment or suffer from severe diarrhoea. Patients and their families may feel ashamed of being treated for cholera – especially if the disease is new to the country.

Supportive attitudes by medical and nursing staff help reduce stigma associated with cholera. Staff sensitivity when a patient dies and the need to recognise the impact on families are also meaningful. Whenever possible, families should be given the opportunity to mourn with the body of their loved one and to say their goodbyes with respect and dignity.

Families grieving the loss of loved ones may feel unable to undertake usual funeral and mourning practices, causing additional pain and suffering and a reduction in the effectiveness of the response. Addressing stigma early can encourage care-seeking behaviours.

The recent cholera outbreak in Haiti serves as a powerful example of how the response addressed the population's fear of the sick and the dead as well as the construction of cholera treatment centres.

For further information on the Haiti example and on other attitudes toward cholera, refer to **Annex 7F**. For more details specifically on the Haiti study, review the presentation, ["Psychosocial Responses to the Cholera Outbreak"](#)  and [The Haiti Red Cross Paper](#) . The following box provides tips on

responding to the issues highlighted in this section. For additional details, refer to **Section 2.3** and **Annex 7F**, and **Section 9.7** and **Annex 9D**.

8.5.4 Protection considerations

Programme responses to cholera outbreaks should alleviate rather than exacerbate vulnerabilities for affected populations. See **Annex 8J** for information on protection during a cholera response.

Examples of protection challenges that may be faced include:

- Children, who lose their primary caregiver through sickness or death may suffer a loss of family income and risk abuse, exploitation or other forms of harm.
- People who are living in extreme poverty are least likely to have access to safe water and sanitation services, and they may live far from health posts.
- People, particularly women, from marginalised groups are less likely to be literate, to speak the national language and to have access to information on cholera and how to protect themselves.
- Refugees, asylum seekers and prisoners may be refused access to health care.

KEY RESOURCES

Save the Children, [Rapid Assessment of Protection Issues within Zimbabwe's Cholera Epidemic and Response](#), 2009. 

OXFAM, [Excreta disposal for physically vulnerable people in emergencies](#), 2009. 

World Health Organization, [Psychological First Aid: Guide for Field Workers](#), 2011. 

Inter-Agency Standing Committee (IASC), [IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings](#), 2007. 

Grimaud, J. and Legagneur, F. ['Community beliefs and fears during a cholera outbreak in Haiti'](#), Intervention, 2011, 9(1) pp. 026-034. 

UNICEF Haiti [Briefing Note: Strategy for integrating a gendered response in Haiti's cholera epidemic](#), (2012) 

Addressing protection, gender and psychosocial needs

Case management

- Collect and analyse disaggregated gender and age data from cholera cases.
- When possible, divide the hospitalisation of cholera patients by gender and provide needed supplies, e.g., menstruation toiletries for adolescent girls and women, during hospitalisation.
- Ensure that children possess identification and contact details at all times and keep relatives or temporary caregivers informed of their location and status so that children and their parent(s) are not accidentally separated when one is admitted to a health facility.

Psychosocial support

- Provide opportunities for non-judgemental discussion of cholera as part of awareness-raising campaigns. Build on what people know, rather than trying to convince them to dismiss their strongly held beliefs.
- Provide opportunities for grieving family members to spend time with the body of their loved ones before burial.
- Provide psychological first aid to the patients and family members of hospitalised patients as well as information on cholera to prevent or reduce fear and stigma. Community health workers and other service providers may be trained on Psychological First Aid (PFA).
- Work with influential community members, using existing community organizations such as children's and youth networks, on cholera education to help reduce the stigma faced by community members who are affected.
- Facilitate referrals to specialized psychological, social and protection services.

Community outreach

- Build dialogue with patients in treatment centres and establish conflict resolution mechanisms with the wider community.
- Engage girls, boys, women and men in dialogue, using age appropriate language and communication channels and making sure that they all gain equal access to information about:
 - The existing gender division of roles in cholera prevention and response, and how men and women can share the workload and ensure women and girls are not overloaded with extra work.
 - The importance of good hygiene and of seeking treatment early.
 - The establishment of cholera treatment centres, safe water points and community committees to engage with the response management and create opportunities to provide feedback to the service providers.
- Use a variety of communication channels to share outbreak information with vulnerable and hard to reach people on how to prevent cholera and what to do when sick, bearing in mind differences in preferred or trusted channels among groups; monitor the effectiveness of reaching the target groups and make adaptations as required.
- Use peer education, an effective method to engage children and young people.
- Provide training for people working with children, the elderly, and people with disabilities in care or protection centres or homes, in the prevention of cholera and what to do if someone becomes sick.

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9 Community focussed interventions



9.1 Overview of Chapter 9

This chapter should be read in conjunction with [Chapter 7](#) on communication, behaviour change and social mobilisation, with specific reference to [Section 7.4](#) on mobilising for community action and to the associated [Chapter 7](#) Annexes, which identify methodologies for behaviour change communication and motivational messaging.

Summary of Annexes

[Annex 9A](#) Water supplies and treatment

[Annex 9B](#) PoU Water Treatment and Safe Storage

[Annex 9C](#) Safe excreta disposal

[Annex 9D](#) Safe care of the dead

[Annex 9E](#) Cholera response actions in institutional or public settings

[Annex 9F](#) Community-based surveillance form (weekly)

[Annex 9G](#) Provision of supplies/NFIs

A comprehensive community-based strategy integrating WASH and health promotion components is critical to early prevention, detection of illness and case management.

Key actions needed for cholera control at community level include those:

- That will break the chain of transmission and reduce the number of people who will be infected with cholera
- That will prevent people from dying of cholera.

The importance of early prevention, detection and treatment

Early prevention, detection and treatment of cholera at the household and community levels will prevent and reduce the spread of cholera and limit illness and death

Community-based strategies have the following main objectives:

- Prevention of new cases in the community through provision of safe water, safe food, hygiene promotion messages and sanitation activities
- Detection, treatment and referral for treatment of cases in the household and the community
- Community-based surveillance for early detection and monitoring of reporting of cases and deaths.

A community-based strategy must be linked to higher level health and WASH services including surveillance systems in order to record cases and deaths, ensure appropriate supervision, supply chain and referral systems.

Community-based health workers, including trained community health workers (CHWs), hygiene promoters, volunteers, etc., play a major role in delivering services to the community. CHWs need to be identified, trained and equipped to manage their role as a key actor in cholera preparedness and response plans. They also require close supervision and support, including oversight of supplies, in order to provide adequate and continuous service to their communities.

The following table provides an overview of the actions and strategies for cholera response, including activities to prevent the spread of the disease (see [Chapter 4](#) for additional reference) and indicates which actors are likely to be responsible for their implementation as well as the role of the community in each.

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Table 11 Community-focussed actions for cholera response

Cont'd from
Table 2
Located on
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Target outcome	Household, community and institutional practices – Actions required (may involve sustained behaviour change)	Practitioners – Actions required
People have access to and use safe water supply for drinking	Refer to Section 4 (Table 2) for details	
Households, communities, institutions and food outlets practice safe food hygiene	Refer to Section 4 (Table 2) for details	
Infants are exclusively breastfed and if needed, given safe fluids and food	Refer to Section 4 (Table 2) for details	
The environment is free from excreta because people dispose of it safely	Refer to Section 8 for details on case management at community level	
People wash their hands with soap and water at critical times	Refer to Section 4 (Table 2) for details	
Environmental hygiene is adhered to in markets and other public places	Refer to Section 4 (Table 2) for details	

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Target outcome	Household, community and institutional practices – Actions required (may involve sustained behaviour change)	Practitioners – Actions required (CONT'D)
(a) Children and adults who have diarrhoea with or without vomiting are effectively rehydrated (b) Households know where to get ORS and know how to prepare and use it	<ul style="list-style-type: none"> Children and adults who have diarrhoea with or without vomiting are given ORS made with safe water and zinc. Children and adults who have diarrhoea with or without vomiting and who do not have access to ORS may be given another solution (such as sugar-salt solution, or rice-based ORS) or water to slow down the process of dehydration until proper care with ORS and zinc is available. See Section 8.3.3 for details. Children and adults who are sick during a cholera outbreak immediately go to a health facility. 	<ul style="list-style-type: none"> ORPs at community level are established. Community case management by trained CHWs Advocacy, education and mobilisation on the use of ORS (and zinc) for the treatment of dehydration and for health care-seeking behaviours during a cholera outbreak Support for the establishment of a supply chain for ORS and zinc for easy access in all urban and rural areas <p>See Section 9.11 on community case management of cholera.</p>
Items contaminated with infected vomit and faeces are safely disinfected	<ul style="list-style-type: none"> Floors, furniture, bed linen, clothes or other items soiled with vomit or diarrhoea are effectively disinfected with water and chlorine. Disinfectant spraying is not cost-effective and not recommended. See explanation in Section 9.6. 	<ul style="list-style-type: none"> Education through family visits and mobilisation on the appropriate procedures for disinfecting areas and materials soiled with faeces or vomit. Disinfectant need to be provided Education and mobilisation on the critical importance of not washing clothes and bed linen in or near open or safe water sources
Households are not ashamed of getting cholera and seek help promptly	<ul style="list-style-type: none"> Peer-to-peer information sharing and encouragement that getting cholera is not shameful and on the importance of seeking help promptly. 	<ul style="list-style-type: none"> Awareness raising is undertaken through the media and with religious and community leaders to alleviate the stigma associated with cholera
Precautions to prevent cholera transmission are taken at funerals and when handling dead bodies	<p>Handwashing facilities with soap are installed and their use is promoted:</p> <ul style="list-style-type: none"> After going to the latrine After touching a corpse, its clothing or bedding Before food preparation Before eating food or drinking. 	<ul style="list-style-type: none"> Education and mobilisation on safe handling of the dead and cholera safety at funerals is provided, especially for religious and community leaders and health extension workers
Households and institutions practice safe hygiene and use ORS effectively	<ul style="list-style-type: none"> Supplies are received and used as instructed 	<ul style="list-style-type: none"> Supplies available, and those critical for taking action on WASH safety and ORS use, are identified Most vulnerable people for the distribution of supplies are identified Supplies, with training and support for use, are distributed

KEY RESOURCES

US Centers for Disease Control & Prevention (CDC), [Community Health Worker Training Materials for Cholera Prevention and Control](#), 2012. 

CDC, Slideshow: ['Cholera Prevention & Control: Introduction and Community Engagement'](#), 2010. 

UNICEF and partners: [Joint Statement: Scaling up the community based health workforce for emergencies](#), October 2011. 

9.2 Improving access to adequate quantity and quality of safe water supplies

Access to safe and adequate water supplies is critical to effective cholera response, but interventions to enhance and secure supplies are often of an emergency and temporary nature. Therefore, clear and well communicated exit strategies are required from the outset. Whenever possible, investment in water supplies should seek to achieve sustainability of the supplies and complementarity with existing infrastructure and service providers.

Urban water supplies – Priority interventions relating to urban water services include repairing existing systems, boosting bulk storage option, increasing and monitoring residual chlorine levels and supply through water tankering and bucket chlorination where there are no alternative options. Construction of new and additional (permanent) water supplies should be prioritised as necessary in cholera-affected areas. Pre- or post-emergency risk mapping should identify critical supplies and define steps to address shortfalls and promote sustainability of supplies.

Efforts to improve urban water services during a cholera response should consider involving communities / user groups and the value of their contribution to cholera control efforts. They can play an important role in monitoring the provision of services and their effectiveness, reporting leaks or broken systems to the authorities, and supporting the operation and maintenance of point sources.

Rural water supplies – Access to improved water supplies is usually more limited in rural areas than in urban areas. Sustainability presents a significant challenge, although some communities can make their systems sustainable using a range of management models, such as small scale private operators, community committees, privately owned sources.

Weaknesses in the sustainability of rural systems need to be considered as part of the cholera response, to prioritise required repairs and agree on temporary management arrangements for the period of the response if existing management systems are not working effectively.

Point of use water treatment and safe storage (PoUWT&SS) also known as Household Water Treatment and Safe Storage (HWTS) –

PoUWT&SS puts households in control of the safety of their water supply and can ensure safe drinking water to a significant proportion of households and help to protect them from cholera during an outbreak. Household water treatment options include: boiling, filtration (ceramic candle, ceramic bucket, activated carbon); chlorination (liquid or tablet); coagulant / disinfectant combinations; and solar disinfection.

At community level, the variety of methods and products can lead to confusion, so it is important to select the most appropriate to the context and communicate clear messages on the procedures and use. It is essential to ensure supplies to individual families, particularly in the most at risk populations, thereby avoiding breaks that can jeopardize their health and safety. Furthermore, safe storage is an essential requirement if water is to be kept safe until use and should be a focus of community training and communication.

Factors that need to be considered in the promotion of PoUWT&SS include:

- The necessity of providing information in the local language, with training of people to undertake household water treatment, provision of follow-up support and monitoring and assurance that adequate equipment and consumables are available.
- The uptake of PoUWT&SS is higher in countries with existing PoUWT&SS programs, where educational and promotional materials in local languages are already in use and the products are familiar to local populations and can be scaled-up in production to meet additional demand during a cholera outbreak. (For more information on existing programs, see [CDC Safe water](#) - The need for consistency on messaging and agreement on residual chlorine levels, especially when high turbidity water is encountered.

Refer to **Annexes 9A** and **9B** for further information on chlorination levels to use during a cholera outbreak; further discussion on the controversies; strengths and weaknesses of PoUWT&SS options; and tips on urban and rural water supplies and PoUWT&SS.

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Community Health Workers play a key role in disseminating messages and teaching the community about the provision of safe water and safe water storage. For additional information, see [CDC Modules 6,7,8,9 CHW training on cholera prevention and control](#) .

The strategy for delivery on the water related outcome is the **primary responsibility of:** Water Authorities - Local Administration / Municipal Authorities (Water Dept / Health Dept) - Private Sector (small scale water providers) – Communities - Institutions – Householders **with support from:** Ministry of Water - Ministry of Health – WHO – Local Non-Governmental Organizations (LNGOs) – International Non-Governmental Organizations (INGOs) – other International Organizations (IOs).

KEY RESOURCES

WHO [Evaluating household water treatment options](#) 

WHO [Water Safety Planning for Small Community Water Supplies](#) 

UNICEF, DRC WASH cholera rapid assessment tool  

Somalia WASH Cluster Guidelines for using a pool tester/residual chlorine comparator (no date) 

Somalia WASH Cluster Sanitary survey for hand-dug wells and boreholes in Somalia (no date) 

WHO [Measuring chlorine levels in water supplies, Technical Notes for Emergencies](#), No 11. 2011 

WHO [How to measure chlorine residual in water, Technical Notes for Emergencies](#), No 11. 2005 

9.3 Improving food safety and hygiene

Food safety and hygiene in food outlets and markets – Food can be a major source of transmission of cholera bacteria. Not washing hands before food preparation, insufficiently cooked food, improperly re-heated, leftover food, dishes washed in contaminated water, and the presence of flies in large numbers can all contribute to the risk of a person ingesting cholera bacteria and becoming infected. Hygienic preparation, cooking, storage and serving of food are paramount. The training of food handlers working in food outlets and markets and the monitoring of food quality for adherence to minimum standard of hygiene are critical elements of cholera response. Raising general public awareness of basic food safety standards is a valuable way to encourage food handlers to improve their practices.

Environmental Health Officers – Health Officers usually represent the Health Department, but they prioritise curative rather than preventive interventions and they may struggle with limited resources to do their job properly. As important actors in cholera prevention, preparedness and response particularly in urban areas, they should be targeted to receive additional funding as well as training, support and collaborative action.

Food safety and hygiene in the household, in institutions and at social gatherings – The promotion of food safety and hygiene in the household, in institutional settings and at social gatherings (funerals, weddings and other events) is a high-priority response and should be an integral part of communication efforts using a range of channels. Food prepared and consumed in institutional settings and at gatherings poses a particular risk because if it becomes contaminated, there is a greater potential for more people to ingest the bacteria. People exposed to cholera at mass gatherings may carry cholera back to their homes and transmit the disease to people in other parts of the country. For more information, see [CDC CHW training module 10](#) .

Refer to **Chapter 2** and **Annex 2A** for information on the survival of cholera in foods and at different temperatures, and **Annex 9E** for summaries of cholera preparedness and response activities in institutional and public settings.

The strategy and actions to deliver this outcome are the **primary responsibility of:** MoH - Local Administration / Municipal Authorities (Health Dept / Env. Health Dept) - Restaurant owners/management - market traders - Religious and community leaders – Households, **supported by:** WHO – LNGOs – INGOs – IOs.

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KEY RESOURCES

Somalia WASH cluster '[KITCHEN and COOKING Recommendations for Schools and Children Centres for Cholera Response](#)', Somalia 2011. 

See example of **IEC materials for food vendors for using with training from Tanzania in Kiswahili** and the associated translation. 

9.4 Improving access to and use of safe excreta disposal

Excreta disposal in urban areas – In urban areas, excreta disposal has proven to be challenging. The provision of temporary communal latrines in public places or institutions during the response phase may be the only option that funding allows, but this option requires time and effort to establish and sustain effective operation, maintenance and cleaning. Sharing latrines can also be promoted. Alternatively, where plastic bags are commonly used or introduced as a temporary measure for excreta disposal during a cholera outbreak, the effective collection, transport and final disposal will need particular attention to ensure that cholera-contaminated faeces do not get back into the environment.

Excreta disposal in rural areas – During a cholera outbreak, efforts should focus on minimising open defecation and other dangerous sanitation practices, primarily through communications for behaviour change and community mobilisation. Messages should focus on what actions people can take immediately; for example, in rural and even in peri-urban areas the burying of faeces (sometimes called the 'cat method' of disposal) is usually possible. Some specific contexts may demand additional actions, for example the construction of latrines if there was an outbreak in an IDP camp. Timing constraints often prevent adequate provision and use of new latrines during a cholera outbreak, so alternative means of faeces disposal is frequently required. Much can be achieved through community groups, schools and religious institutions to encourage community-level and community-led action to eliminate open defecation and promote safe excreta disposal.

Maintenance, cleanliness and hand-washing facilities – Where latrines exist, efforts should focus on ensuring they are used, kept clean and provided with handwashing facilities. In the absence of latrines, other forms of safe excreta disposal should be promoted and households should be encouraged to establish handwashing stations and individuals should be encouraged to always wash their hands with soap after defecation and/or disposing of faeces.

Accessibility of excreta disposal facilities – Efforts must be made to make sure that public and institutional latrines are gender specific and accessible in terms of both travel distance and physical design for people with limited mobility, such as people with disabilities, the elderly and pregnant women.

Understanding barriers to latrine use and motivators for behaviour change

–Telling people unaccustomed to using latrines that they should use them is an uncertain proposition at best. Cultural practices relating to defecation, excreta and its disposal must be understood to discover the barriers to latrine construction and use. The training for community level staff (extension workers, community health workers, health brigades, Red Cross or Red Crescent volunteers, etc.) should encourage the identification of such barriers to practicing healthy behaviours. Although investigating such community-specific issues may not always be possible during outbreaks, relevant information can be gathered and lessons drawn from prior research and from assessment and monitoring processes during the outbreak in order to gain insight and consider actions to address the challenge. See [CDC CHW training Module 11](#) 

The ability to identify specific motivators for action holds critical importance in successfully changing attitudes and behaviours regarding latrine use. In community-led total sanitation (CLTS) programmes, communal shock and disgust have been employed to motivate people by exerting peer pressure to effect behaviour change, but these motivators need to be handled sensitively. While the CLTS method may be a powerful motivator, individuals and their families may resist if they already feel stigmatised because they have contracted cholera and need care. It is therefore important to ensure that communication methods do not put off anyone from seeking treatment and support.

Refer to [Annex 9C](#) and [Chapter 7](#) for information on communication, behaviour change and mobilization.

The strategy for delivering the excreta free environment outcome is **primarily the responsibility of:** MoH - Local Administration / Municipal Authorities (Health Dept. / Env. Health Dept. / Water and Sewage Depts. / Education Dept / Civil Works Dept.) - Schools (staff and PTAs) - Religious institutions – Community (leaders and members) **supported by:** WHO – LNGOs – INGOs – IOs

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KEY RESOURCES

[OXFAM, Excreta disposal for physically vulnerable people in emergencies.](#)
Technical Brief, 2009. 

Access for all – Accessibility features for latrines, adapted from CCBRT, Tanzania 

[WHO Technical Notes 10, 13, and 14 on excreta disposal in emergencies](#)



[Harvey, P., Excreta disposal in emergencies, A field manual, Inter-agency publication.](#) WEDC. 

9.5 Improving handwashing practices

Making handwashing with soap easier at key times through the use of facilities positioned next to the latrine, kitchen or canteen is a practical action that communities can support together (such as the construction of low cost handwashing stations, so called 'tippy taps'). Ash can also be used as an alternative where soap is not available, but again, discussions will be needed with community members to ensure that this is acceptable. For information on communication for behaviour change and the promotion of hand-washing, refer to [Chapter 7](#). See also [CDC CHW training module 4](#) 

Critical times for handwashing with soap

- After using the toilet / latrines
- After cleaning a soiled baby
- Before eating
- Before feeding a child

TIP

Responsibility for promoting and facilitating handwashing lies with: *MoH - Local Administration / Municipal Authorities (Health Dept / Env. Health Dept)*
- *Community Extension Workers - Community Members – Restaurant Staff*
- *Market vendors - Water Vendors – Schools, supported by: WHO – LNGOs – INGOs – IOs.*

KEY RESOURCES

[USAID HIP, How to build a tippy tap](#) 

9.6 Disinfection of vomit and faeces in households and transport vehicles

During cholera outbreaks, bedding, clothing and other surfaces, as in vehicles used to transport cholera patients to a health facility, become soiled with faeces and vomit and disinfection to maintain sanitary conditions is an ongoing challenge.

Previous recommendations called for spraying of homes or vehicles with a pressurised chlorine sprayer, but **this process is no longer recommended** because:

- There is no evidence of the effectiveness of a one-off spraying process
- Typically the spraying team would not reach a contaminated home until several days after the onset of cholera, during which time other family members may have already been infected
- Asymptomatic or convalescing household members may be responsible for repeated household contaminations
- The spraying process can stigmatise a family and damage household possessions. Both of these issues can discourage households from seeking prompt treatment family members.
- The household spraying process requires considerable resources and staff time that could be better used for more effective actions.

Disinfecting bedding, clothes and transport vehicles used by cholera patients

- Households affected by cholera or diarrhoea should carefully cleanse the premises with dilute bleach, other available disinfectants or with water and soap and allow washed items to dry in direct sunlight, if possible.
- Bedding, clothing, and other materials used by cholera patients must not be washed in or near a clean source of running or stored water.
- Vehicles used to transport a cholera patient should also be washed inside with a dilute bleach solution after the patient has left the vehicle.
- Households should be provided with information and, when and where possible, with the materials for disinfecting their home. Such materials could also be left with community leaders for distribution to affected families as needed.
- Information on good home disinfection practices can be incorporated with other information on PoUWT&SS, hand-washing and proper food hygiene.



Refer to **Annex 9B**: *Point of use water treatment and safe storage for disinfectant concentrations*.

Responsibility lies with: MoH - Local Administration / Municipal Authorities (Health Dept / Environmental Health Dept) - Community Extension Workers - Community leaders – Households

KEY RESOURCES

Position paper prepared during the Haiti earthquake against spraying the households of cholera patients

9.7 Promotion of safe handling of the dead

Funeral rites are meaningful cultural and religious events that help bereaved families come to terms with their loss. During cholera outbreaks, traditional and local practices may need to be suspended or adapted to minimise the risks of transmission during such ceremonies:

- The bodies of people who have died of cholera pose a risk of transmission because they may leak fluids that contain high concentrations of cholera bacteria.
- Family members who prepare the body for viewing and for burial may also be involved in preparing food for the gathering.
- Communal gatherings often provide food for large numbers of people, and safe food hygiene measures may not be taken.
- Food prepared in advance may provide a breeding medium for cholera bacteria.
- Funeral gatherings may involve practices, such as touching or kissing the deceased that facilitate transmission.
- People traveling to funerals from long distances may become infected and spread cholera to other areas of the country upon their return home.

A participatory social approach is required to allow safe grieving, and the banning of funerals gatherings would add to the stigma that can be associated with cholera. Community and religious leaders should be consulted to identify risks and mitigate them through the promotion of safe practices.

Refer to **Annex 2B** on misunderstandings and beliefs about cholera for a discussion on the relative risks at funerals as documented in different areas of the world, and **Annex 9D** for further details on safe practices for funerals of people who have died of cholera. For additional reference, see [CDC CHW training module 12](#)

Responsibility lies with: MoH - Local Administration / Municipal Authorities (Health Dept) - Social Workers – Religious and Community Leaders – Households

KEY RESOURCES

Guidance provided for people at funerals, Somalia

Guidance provided for people at funerals, Zimbabwe

WHO, [Disposal of dead bodies](#)

9.8 Provision of supplies / Non-food items

Supplies such as soap, disinfectants, narrow-necked water storage containers or other non-food items (NFIs) can be useful to provide to households during a cholera outbreak to enable them to practice safe hygiene. However, consideration must be made of programme resources available such as funding, transport and distribution mechanisms, the size of the population in need, and how long supplies will last.

It can be very difficult to distribute large quantities of supplies and NFIs without adequate logistical support. Large NGOs may have the resources to enable them to do manage the process in an effective and timely manner for smaller communities. National and local governments, however, which bear responsibility for large populations, are likely to be hampered by the lack of funding to procure sufficient NFIs and to coordinate transport, fuel and personnel for their distribution.

Therefore, effective targeting of NFIs may be an appropriate strategy for reaching:

- Families living in particularly high-risk areas
- Communities where an outbreak has already started or a neighbouring area
- Particularly vulnerable families or sub-groups within communities
- Schools and other public institutions, e.g., child protection centres, feeding centres, prisons, etc.
- Specific facilities established for supporting the cholera response, such as community ORPs.

Refer to **Annex 9G: Provision of supplies/NFIs** for tips on the selection and distribution.

Responsibility lies with: MoH - Local Administration / Municipal Authorities (Health Dept) - Social Workers – Private Sector - Religious and Community Leaders – Households.

KEY RESOURCES

Global WASH cluster. WASH related non-food items. A briefing paper. 



9.9 Good environmental hygiene in markets and other public places

Solid waste can pose a significant health risk near markets and shop outlets by attracting flies and vermin and blocking drainage systems. If unable to ensure functioning, year-round drainage systems, municipal authorities should prioritise high cholera-risk periods for ensuring waste disposal and keeping drainage systems clean. Community clean-up campaigns focussed on market areas and drainage near food outlets can also be initiated with the help of strong community leadership. The provision of tools and protective equipment may spur communities to take action.

Particular care must be taken when disposing of solid waste that might include faeces in bags (so-called 'flying toilets'). Where possible, arrange for separate, dedicated collection, treatment and disposal systems for these plastic bags.

Responsibility lies with: MoH - Local Administration / Municipal Authorities (Dept Health / Dept Env. Health / Dept Sanitation) - Market traders – Community Leaders and Action Groups.

9.10 Cholera response in institutions and other public settings

Places where people gather require special attention during a cholera response because they can generate increased risks for cholera transmission if care is not taken. At the same time, they can also provide opportunities for more easily spreading information on good practice and for motivating community members to take action.

Specific response activities are needed in institutions and other public settings. A table in **Annex 9G: Cholera response actions in institutional or public settings** summarises the actions by the following institutions or settings:

- Schools, colleges and other educational settings (Guidance sheet: Preparedness for schools, day care centres and child friendly spaces, Somalia 2011) 
- Feeding centres (Guidance sheet: Cholera preparedness and response for health facilities and feeding centres, Somalia 2011) 
- Refugee or IDP camps
- Food and cooking recommendations for school and children centres, Somalia 2011 
- Prisons

The information in **Annex 9E** can be adapted for use in other public institutions or settings, such as religious institutions, police or military barracks, public exhibition grounds, workplaces, etc. Market places and food vendors have been covered in the **Sections 9.3, 9.4 and 9.9**.

KEY RESOURCES

WHO [Guidelines on Drinking-water quality, 4th Edition](#) (2011) 

9.11 Community Case Management

The role of the community-based health worker can be to:

- Provide input into preparedness and response planning including liaising with the community
- Provide messages for prevention and control (see **Chapter 7**)
- Mobilize the community (see **Chapter 7**)
- Provide services and commodities for safe water (i.e distribution of aquatabs), hygiene (soap), and sanitation (see **Chapter 9**)
- Detect, assess, treat and refer cholera patients in the community and the home including infection control (see **Chapter 9**)
- Support the establishment and running of ORP services (See **Chapter 8**)
- Monitor and report cholera activities (See **Chapters 3 & 9**).

See CDC CHW Training materials for cholera prevention and control in [English](#)  and training slides in [French](#) for an overview of key messages for cholera prevention and control, training modules on community mobilization, WASH, use of ORS, preventing stigma, including community education cards and PowerPoint training slides and **Annex 8F**.

9.11.1 Treatment of cases in the community

Community health workers can play a significant role in detecting, assessing and treating cholera in the community and individual households. As CHWs often live in the community where they work, they are the front line health workers. They are the first to notice any trends in AWD and to influence early case management of patients, saving lives as time is critical. CHWs should be identified, trained, equipped and supervised before a cholera outbreak, during preparedness and for ongoing prevention activities. When an outbreak strikes, they can be mobilized to support cholera control activities.

CHWs can either see patients through their routine services including integrated community case management (iCCM), through house-to-house visits or at established ORPs during an outbreak. As the first point of contact or in areas where treatment facilities don't exist CHWs can:

- Identify AWD and signs of dehydration (see **Chapter 8**)

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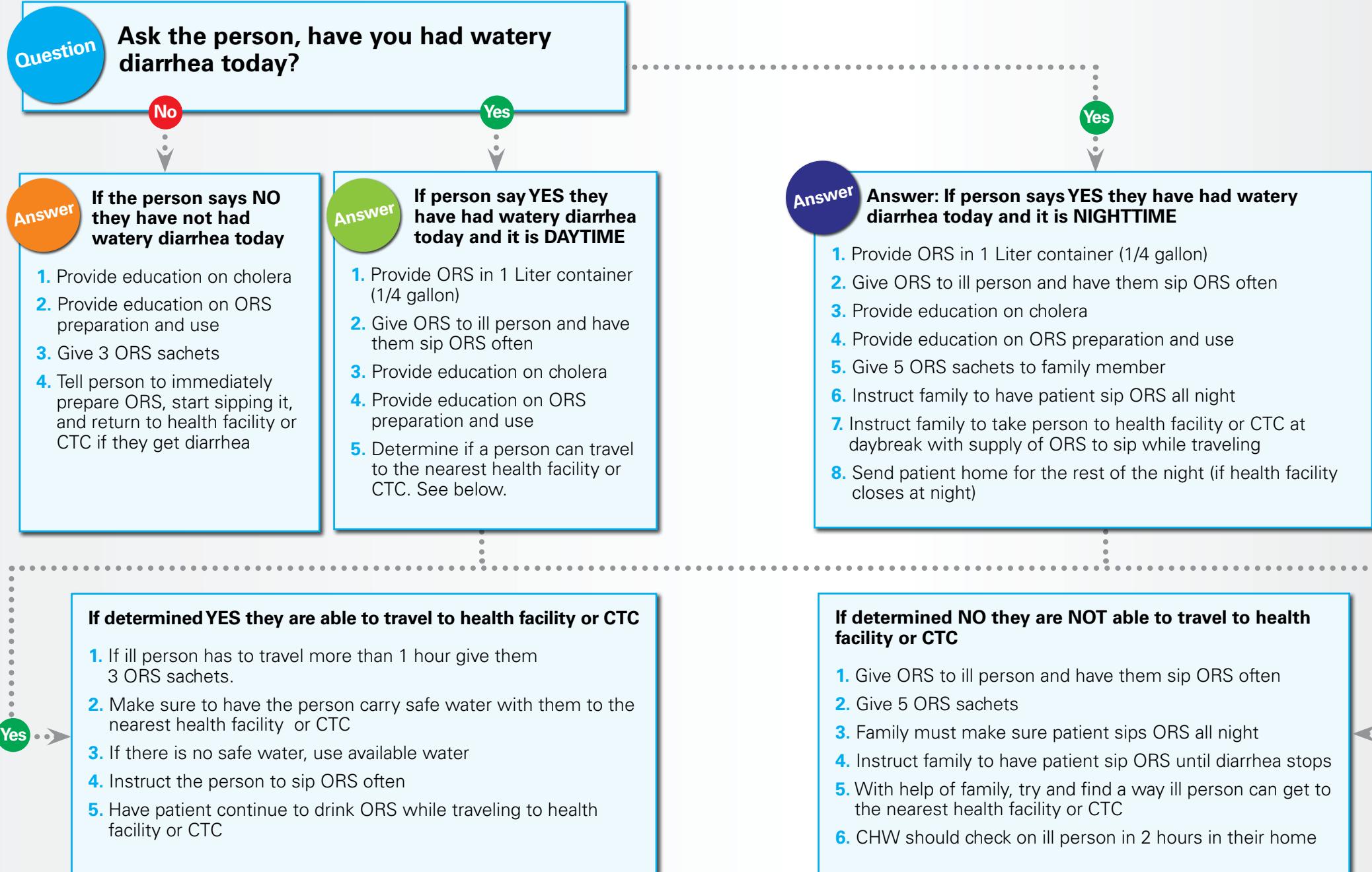
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FIGURE 9 Decision Making Guide



- Treat mild forms of cholera by rehydrating the patient with ORS and providing zinc. For reference, see **Annex 8C**, for rehydration guidance and [module 5 in the CDC CHW](#)  training guide
- Save lives by starting rehydration early while transferring to a treatment facility for more severe cases
- reduce the burden on other cholera treatment facilities such as CTC/CTU's.

By way of example, CHWs employ a process much like to one depicted in the following chart, which can be used for the assessment and treatment of AWD with ORS and also with the inclusion of zinc.

Taking care of the sick at home

Early rehydration for the sick person and good hygiene to avoid spread of the disease is critical. The CHW will provide guidance to families on how to use ORS, conduct proper feeding of infants and children, recognize danger signs and refer cases to treatment centres, and keep the household clean and safe to reduce the spread of cholera in the home and community through effective WASH measures.

9.11.2 Monitoring and reporting of cholera activities

CHWs can provide significant support in the detection and reporting of rumours to signal an Alert (see Chapter 3) and for ongoing monitoring of cholera activities. There is a significant amount of data on cases and deaths that go unreported as people may not seek or have access to health care. Through the use of cell phones, CHWs can quickly signal an Alert for immediate verification. They can also be provided with a simple reporting form for community or household visits. See **Annex 9F** for a community-based surveillance form to count cases and deaths. Additional information can be added such as treatment provided, age and gender. These data need to be provided to the health facility for inclusion in the district and national level surveillance system.

9.11.3 Mobile teams

Community teams composed of health and hygiene promoters resemble community-based health workers as described. They can provide messages, ensure they are understood appropriately and reinforce them; ensure measures for prevention are put in place at household level; play a role in identifying and reporting new cases, treating them early and referring them as appropriate; and contribute to the surveillance system.

9.12 Accountability to communities

It is important to develop a system of regular communication with communities to help them gain awareness and understanding of situations and identify successes and problems with the response, such as groups that are not being reached, misconceptions and misunderstandings, and poor-quality interventions from partners including increased involvement in providing community-based solutions.

Regular discussions (weekly then monthly) with different target groups are useful, and these could be supplemented by the use of suggestion boxes, phone-ins or complaint-collection mechanisms.

Actions to improve accountability to affected populations should be included in all partner agreements.



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10 UNICEF procedures for emergency preparedness and response



10.1 Overview of this chapter

This chapter presents UNICEF-specific procedures for emergency preparedness and response to complement and operationalize the activities and interventions proposed in the previous chapters of this Toolkit. Although some elements and their rationale may apply to other organizations, most of the considerations, links and resources are intended as guidance for UNICEF staff and relate to internal UNICEF processes.

Exceptional circumstances – as during cholera outbreaks – call for exceptional responses, which may fall outside of UNICEF Country Office (CO) standard operating procedures and processes. The implementation of global guidelines and administrative instructions at country level is flexible and usually dependent on local context and interpretation as applied by Country Office management.

However, the fact that a UNICEF CO is not familiar with a specified procedure as adaptation of our systems should not preclude its use if circumstances dictate this to be appropriate. Collaboration among the Human Resources, Operations/Supply and other divisions and functions to investigate options should be instrumental to preparedness activities. In addition, advocacy and lobbying with management is recommended, to allow systems and procedures to be adapted in the best possible way to improve UNICEF's ability to respond quickly to the emergency.

Summary of Annexes

Annex 10A Examples of Terms of Reference for cholera related Human Resources

Addressing large scale emergencies

'**Simplified Standard Operation Procedures (SSOP)**' have been established for Level 3 and Level 2 Emergencies. They aim to streamline, simplify and clarify UNICEF procedures and to enable an effective response to major emergencies.

Level 3 (L3): the scale of the emergency is such that an organization-wide mobilization is called for. SSOPs for L3 emergencies were issued by the Executive Director on 6 March, 2012.

Level 2 (L2): situations where the magnitude of the emergency is such that a Country Office needs additional and prioritized support from other parts of the organization (Headquarters, Regional and Country Offices) to respond, and where the Regional Office (RO) must provide dedicated leadership and support. SSOPs for L2 emergencies were issued by the Executive Director on 24 January, 2013.

Both SSOPs are available at www.unicefinemergencies.com/procedures/index.html

TIP

10.2 Human resources

Emergencies such as cholera outbreaks always require significant additional resources of all kinds, so staffing should be planned accordingly to cope with additional demand. Following are a variety of options for increasing human resources during any emergency response, including cholera outbreaks.

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10.2.1 Human resources required in an outbreak

Section 6.4 of this Toolkit outlines the range of key personnel likely to be required during a cholera outbreak. Some particular areas in which UNICEF's involvement may be required include:

- Supporting the government and partners to identify human resource needs (including secondment of UNICEF staff into Government)
- Funding personnel through partnership agreements to work at various levels
- Contracting personnel directly to work as part of the UNICEF team or to support the government or other partners

A suggested list of key professional staff that UNICEF and partners might consider for emergency cholera response is presented below:

Co-ordination and information management:

- Emergency coordinator for cholera response (inter-sectoral)
- Information manager

Programmes:

- WASH coordinator (sector focus)
- Health coordinator (sector focus)
- WASH manager (programme focus)
- Epidemiology specialist
- Case management specialist
- Hygiene specialist / C4D specialist
- Sanitation specialist
- Water specialist (water supply and water quality)

Operations:

- Dedicated administration officer
- Dedicated financial officer
- Logistician

Example of Terms of reference for some of these roles are presented in **Annex 10A**; they can be adapted as needed based on the local needs and conditions. Depending on the scale and urgency of the outbreak, other roles might be necessary to cover sub-national co-ordination and media relations

and other functions, or they may be included in existing job descriptions. Keep in mind that for each five to eight additional Professional Staff, additional Programme Assistant will be required, so it must be included as part of human resources needs. Other needs related to increased staff such as office equipment and furniture as well as accommodation will be needed to deal with by UNICEF CO.

10.2.2 UNICEF's modalities for increasing human resources for emergency response

To increase human resources capacity for responding to cholera outbreak, the following options can make available additional staff for support:

Internal Redeployment

- **In-country re-deployment** – This is the quickest option in situations where there are sub-offices and personnel who can be called for support. In this case, the decision making process is internal to the CO, and there are no delays on external issues such as visa requests.

- **Surge deployment from other UNICEF offices** – This option can be fast and can tap experienced UNICEF staff, generally at minimal cost. Surge staff can come from Country Offices (requires special permission from the CO Representative of the supporting office), Regional Offices and Headquarters (deployment for in-country support, particularly for establishing the response).

Note: Some regions have established Regional Response Mechanisms (RRM) in which UNICEF staff from CO and RO have been 'pre-certified and cleared' for emergency deployment to allow quick mobilization.

For Level 3 Emergencies, an Immediate Response Team (IRT) will become available at global level to provide in-country support on a no-regret basis for a period of up to 3 months.

Standby partners

Secondment of technical staff can be requested from global stand-by partners (through EMOPS). These serve as a relatively quick source of additional human resources for emergency response. In addition to that, secondments from national partners is also possible through/within Project Cooperation Agreements (PCAs), nevertheless it requires to be arranged in advance as part of the preparedness activities.

Additional information on the global standby partnership mechanism and how to access it at country level can be found at: www.intranet.unicef.org/Emops/EMOPSSite.nsf/root/Page091103

With respect to co-ordination functions, the Global WASH Cluster has a Rapid Response Team that can provide additional support for Sectoral Co-ordination and Information Management under the above-mentioned global stand-by partnership mechanism. See the [WASH Cluster Rapid Response Team brochure](#) for additional details.

External Recruitment

UNICEF also has the ability to recruit supplemental human resources through Individual or institutional contracts, Temporary Assignment (TA) or Fixed Term (FT) positions.

Individual and Institutional Contracts offer the easiest and quickest of these hiring options, although professionals on this contract modality do not have authority to manage internal UNICEF administrative systems. Although the organization is moving towards reducing the length of contracting process, a TA might require up to 4 to 6 weeks from the time of request to fulfillment. And, an FT post can take 6 months or longer to recruit, so its use for emergency response is limited.

Although the Country Office leads the process, Division of Human Resources (DHR) at Headquarters can provide assistance, including identification of candidates, notably through its **Global Web Roster (GWR)** of pre-screened professionals. From the GWR, names of 'technically cleared' individuals can be recommended and their interest in applying for identified roles solicited. As with any other type of contracts, DHR rules and regulations apply.

Finally, Institutional and Individual Contracts, TA and FT hiring options require clear Terms of Reference (ToR) and/or a detailed Job Descriptions (JD). With respect to emergency cholera response, it is highly recommended that a UNICEF office in a country at high risk for cholera outbreaks make advance efforts to identify the most likely profiles to be required and prepare ToRs in advance.

Keep in mind also that when preparing the ToR or JD and requesting the deployment, the duration of the assignment (with estimated dates), managerial level and reporting lines for the requested staff must be included in the initial communication so as to avoid processing delays. A list of key positions for cholera preparedness and response is included in **Section 10.2.1** and template ToRs in **Annex 10A**.

10.2.3 Building UNICEF's capacities to address cholera outbreaks

In order to effectively support a country government, UNICEF staff must already possess cholera preparedness and response capacity. Table 12 identifies UNICEF staff who require such capacity, the key skills required and training subjects needed.

Section 6.4.3 identifies the steps necessary to establish capacities within the country, identify capacity-building needs and develop a capacity-building plan.

Annex 6F identifies the training requirements for key staff and **Annex 6G** outlines capacity-building methods and examples of training and materials.

KEY RESOURCES

ICDDR-b. [COTS training](#) 

UNICEF [Recruitment and staffing in emergency situations](#)
(Ex. Dir. CF/EXD/2010-005) 

UNICEF [What are Stand-by Resources?](#) 

UNICEF's [Corporate Emergency Activation Procedure and Simplified Standard Operating Procedures](#)

- UNICEF's Corporate Emergency Activation Procedure (Ex. Dir. CF/EXD/2011-011) 
- Simplified Standard Operating Procedures (SSOPs) for Level 3 Emergencies 
- Enhancing UNICEF's response to L2 emergencies (Ex. Dir. CF/EXD/2013-003) 
- Simplified Standard Operating Procedures (SSOPs) for Level 2 Emergencies 

Human Resources in Emergencies ([UNICEF intranet webpage](#))

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Table 12 Capacity required of UNICEF staff on cholera preparedness and response

Personnel Role	Key skills required	Training required	Resources available
Country management team and logistics staff	<ul style="list-style-type: none"> Leadership to guide collaboration among Health, WASH and other actors Possession of decision-making rationale for priority actions Ability to expedite response by UNICEF systems Grasp of specifications for key procurement items 	<ul style="list-style-type: none"> Basics of cholera preparedness and response Cholera related UNICEF policies and guidelines Latest knowledge of relevant vaccines Linkages between emergency programming and development 	<ul style="list-style-type: none"> This UNICEF Cholera Toolkit, including the additional resources UNICEF webinar on cholera (To be developed after completion of the Toolkit) Existing cholera guidelines (WHO, MSF, COTS) (available within the additional resources) Sector training materials (see a non-comprehensive list in Annex 6G) Emergency simulations Established institutional cholera-related training, such as ICDDR,B.
Section Chiefs and Programme Officers (WASH, Health, Nutrition, Protection, Education, C4D)	<ul style="list-style-type: none"> Leadership Facilitation and co-ordination Development of communication strategies and plans Mentoring and capacity-building skills Monitoring 	<ul style="list-style-type: none"> Basics of cholera preparedness and response WASH and health related cholera preparedness and response actions Context-specific responses 	

10.3 UNICEF implementation arrangements for general emergency response

Understanding the response implementation arrangements within UNICEF, is critical to generating the greatest positive impact for women and children and to fulfilling the Core Commitments to Children in Humanitarian Action.

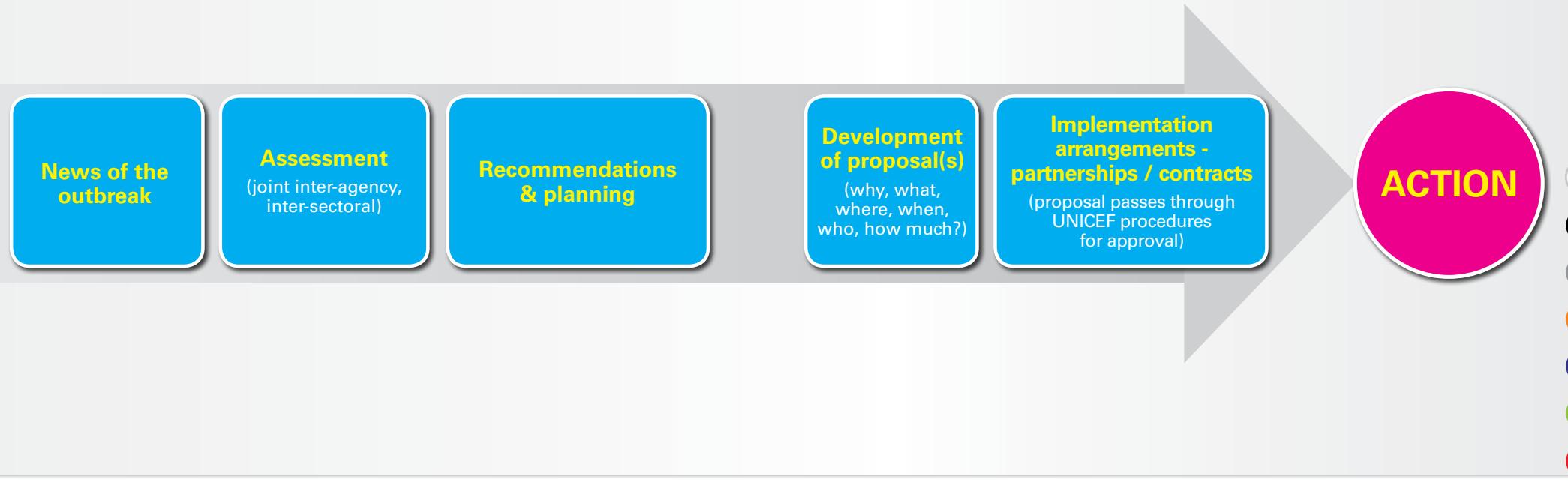
The delivery of UNICEF's programmatic response (for emergencies as well as development) is heavily dependent upon the capacity of national and international implementing partners, including government, non-governmental organizations (NGOs), civil society organizations (CSOs) and contractors. UNICEF's preparedness plan should therefore identify the most

suitable partners prior to an emergency as well as activities to improve their capacity to respond.

All implementation arrangements are ruled by the **Basic Cooperation Agreement (BCA)** signed between UNICEF and the host government. The BCA constitutes the legal basis for UNICEF's presence in a country, its programme cooperation, the programme procedures and its right to observe all phases of the programme, including emergency response situations.

With respect to the transfer of resources for implementation, UNICEF has only a limited number of options, whose selection depends on both the type of organization with which UNICEF is liaising as well as the nature of results expected from the relationship.

FIGURE 10 Example of coordination arrangements for cholera preparedness and response



Transferring resources to a governmental partner is done within the scope of the Annual Workplan signed with UNICEF. It is a relatively quick option for transferring funds, and implementation depends on the government's capacity.

Engagement with NGOs is possible through three different options: a **Project Cooperation Agreement (PCA)** and its "junior" version, the Small Scale Funding Agreement (SSFA); a **Institutional Contract**; or, through a **Long Term Arrangement (LTA)**.

Each of these options has its own positive and negative aspects that need to be considered when choosing which is most appropriate for a given situation. Note that **during a response**, the use of an LTA will be possible **only** if this has been developed **in advance**, otherwise the partnership (PCA) or 'institutional contract' options are the only options to use (for details on LTAs, see below). Ultimately, the decision should be based on the level of results expected from the arrangement. **Annex 10A** presents key considerations to make when choosing between SSAs or PCAs for emergency response, and a brief summary of the implementation arrangements described follows:

Project Co-operation Agreement (PCA) – The PCA is the main type of agreement used for development- and emergency-related partnerships. It focuses on the collaborative implementation of a jointly developed intervention within the framework of the UNICEF Programme of Cooperation or set of supported humanitarian responses. Although specific processes can be established for the approval of PCAs during emergencies, their creation and administrative processes take time (25 days²⁵ on average); hence, they should be developed as a preparedness measure to be useful in the early stages of cholera outbreak.

While stand-alone PCAs can be developed for emergency responses, Country Offices are increasingly using them as contingency mechanisms prepared in advance of an emergency either as stand-by mechanisms activated when an

²⁵ Based on the practical feedback from UNICEF WASH staff from COs through the WASH in Emergencies Training. It only includes the time spent during UNICEF's internal administrative process, after agreement with partners has been reached and before they have the resources to start implementation on the ground.

emergency is declared or by introducing specific 'emergency clauses' into regular programme's PCAs. See [Annex 10E](#) for a summary of the uses of PCAs as contingency mechanisms.

Small-Scale Funding Agreement (SSFA) – An SSFA is similar in scope to a PCA, but smaller in scope and both simpler and quicker to develop and deploy because it does not require a committee/review panel approval process. Note that **the cumulative value of SSFAs cannot exceed US\$ 20,000 in total**, including funding in cash and supplies, for an individual NGO/CSO in a calendar year; hence its use is limited, especially where large-scale action is required.

Direct Cash Transfers (DCTs)

A DCT is the means by which cash is made available to a partner (government or NGO/CSO) against a PCA, SSFA [for NGO/CSOs] or a request for emergency support [from government partners] to implement agreed activities. DCTs are usually paid on the basis of a 3 months implementation window schedule in one lump sum to each partner. **DCTs have to be spent within 3 months and liquidated within 6 months – and any unspent money returned – within six months, otherwise the UNICEF financial system blocks further payment to the partner until the DCT has been cleared. Such a block has widespread negative impact because** the financial system covers all UNICEF Programmes and Sections in a CO; 'therefore, a blocked payment to a partner stops any further payment by offices and sectors working with the same implementing partner in the country until the outstanding DCT is cleared.

Individual and Institutional Contracts – are contractual agreements between UNICEF and an external party, most frequently an individual (managed by HR) or an institution (managed by Operations/Supply section) including NGO or CSO, but also private sector, academic institutions, among others, to perform services at a specified fee. For example, it can be used for the recruitment of temporary staff as consultants or for the delivery of services, procurement of supplies or arrangement of logistics. Each country establishes its own threshold requirements for contracts to pass through the Contract Review Committee (CRC) either at sub-national or national level. However, the CO Representative can modify the composition and operation of the local CRC in order to expedite the review process during emergencies, which otherwise take up to 19 days, on average.^{26,27}

²⁶ *Financial and Administrative Management for Emergencies. A Guide for UNICEF staff* (p. 33)

²⁷ Based on the practical feedback from UNICEF WASH Staff from COs through the WASH in Emergencies Training.

Institutional contracts under SSA are not exempt from UNICEF policies and procedures. Instead, they are administered in accordance with UNICEF processes for competitive tendering and procurement, including a request for quotation, public advertisement or invitation to bid; following by a competitive selection and justification for the recommendation based on technical quality and price.

Long Term Agreement (LTA) – An LTA can expedite the operational processes associated with the procurement of services and supplies because bidding and clearance are completed during the establishment of the LTA. Establishing an LTA takes several months and should be prepared as part of the CO preparedness, and once established it can last for a period of one to two years. In cholera endemic countries, LTAs should be set up as preparatory measures undertaken.

KEY RESOURCES

UNICEF [Basic Cooperation Agreement \(BCA\)](#) 

UNICEF [PCAs and SSFAs associated guidelines for Country Offices](#) 

UNICEF [Contract Review Committee \(Financial Circular 19, rev. 3\)](#) 

UNICEF [Programme Policy and Procedure Manual \(Intranet e-Manual\)](#) 

UNICEF [Financial and Administrative Management for Emergencies. A Guide for UNICEF staff](#)  

10.4 UNICEF supply procurement

This section focuses on UNICEF options for the procurement, storage and use of preparedness stocks. Challenges presented by supply procurement processes can create an emergency response bottleneck; therefore, preparedness activities can ensure the readiness and availability of necessary supplies for emergency response, including the identification of key supplies and agreement on the assignment of responsibility for procurement, insurance, storage and logistics. In addition to the regular in-country procurement process, UNICEF CO can access supplies from:

- **International procurement through Supply Division, Emergency Supply List and Supply Calculator:** An [Emergency Supply List \(ESL\)](#) has been developed, comprising relief items essential for responding to the needs of 250,000 people. The ESL consists of 161 items allocated to staff support (35 items) and programme support (126 items). UNICEF regional warehouses maintain supplies of ESL items at all times.

A [Supply Calculator](#) is also available to estimate order quantities and costs of key supplies needed, including those from the ESL. It has built-in calculations that generate order recommendations, based on the size of affected population, as well as a freight cost estimator for shipments for international orders issued through UNICEF Supply Division (SD).

Note that international procurement through UNICEF SD is available for all Country Offices upon request. Supply Division has the ability to deliver ESL-listed items within 72 hours to the affected UNICEF CO's port of entry. However, this option is usually the most expensive and should be used as the option of last resort. Detailed information on how to initiate and place orders is available at the [Supply Division UNICEF intranet webpage](#).

To log into the Supply Calculator and to place orders through SD, an UNICEF intranet user ID and password is required.

- **Long-Term Arrangements (LTAs) – Section 10.3** provided a brief overview of LTAs. After LTAs are in place, monitoring of the product quality and readiness of suppliers for all LTAs involving delivery of supplies should be scheduled as part of the preparedness activities.
- **In-kind assistance (IKA) / donations in kind (DIK) / in-kind contributions (IKC)** – In general, these arrangements are not encouraged because of the challenges they pose with respect to implementation (especially when items are not considered as part of the intervention from the beginning), liability (duty free, safety), quality control (IKA/DIK bypasses regular pre-delivery inspection), warehousing, logistics and distribution costs, and further monitoring and reporting.

IKA/DIK/IKC arrangements should be considered **only** for items already included in UNICEF procurement planning and which would otherwise require a purchase order and the need for which is defined using the same specification. Any *DIK/IKA/IKC options should be referred to PARMO* (manages relations with government donors) or to *PFP* (manages private contributor relations) and *Supply Division BEFORE entering any discussions or commitments*.

- **Procurement through PCAs with partners** – It is possible to establish PCAs with partners that include shared access to emergency stocks (of both organisations) or supply transfers by UNICEF to partners to be stocked and managed by them. Partners can also be cleared for direct procurement using UNICEF funding, reducing the burden on UNICEF as a procurement agency and speeding up the acquisition process in emergencies (especially for items which can be locally procured and which the implementing partner has the capacity to handle internally). Ideally the pre-clearance process should be undertaken as a preparedness measure. The Country Office-based Operations/ Supply function holds authority for clearance of implementing partners for in-country procurement, which usually includes a review/audit of their procurement and logistical processes and capacity. Alternatively, Supply Division in Copenhagen must approve offshore procurement arrangements. See template for a **request to procure internationally through UNICEF PCAs** 

Note for consideration that the USAID Office of U.S. Foreign Disaster Assistance (OFDA), the European Commission's Humanitarian Aid Department (ECHO) and other donors have similar clearance process which can serve as an indication of partner's capacity to handle the procurement of supplies.

- **UNICEF contingency stocks** – UNICEF Offices may hold contingency stocks of key items, especially those procured offshore and not readily available on the market. Nevertheless, due to the liabilities on International Public Sector Accounting Standards (IPSAS), funds used for procurement of supplies are not considered spent – and therefore cannot be reported as used – until these supplies are delivered to beneficiaries/final users, reducing UNICEF's ability to maintain contingency supplies. One option is to consign these supplies to government or implementing partners, which implies that UNICEF cede ownership and management of these goods in order to be released from the accounting requirements. To make proper use of this feature, UNICEF should carefully evaluate a partner's capacity to store and manage stocks and build the necessary confidence to ensure these goods will be used as originally planned. **All transfer of goods to government and partners must be properly accounted for and reported via internal UNICEF systems.** In the case of implementing partners, the goods must be transferred under the scope of a PCA and reported accordingly.

Refer to **Annex 10B** for further details about supply procurement. General considerations with respect to the supplies required for cholera response and preparedness measures for their availability (identification, mapping, procurement and storage) are discussed in Section 6.5 of this Toolkit. In addition, **Annex (to be developed)** outlines lists of key supplies and considerations for identifying priority supplies.

KEY RESOURCES

- UNICEF.** [UNICEF Supply Catalogue, Emergency Supply List and Calculator](#) (UNICEF intranet user ID and password is required). See stand-alone version. 
- UNICEF.** [Long Term Arrangements \(Supply Manual, Chapter 6, Section 8\)](#) 
- UNICEF.** [Additional considerations for IKA approval](#) 
- UNICEF.** [Financial and Administrative Management for Emergencies. A Guide for UNICEF staff](#)  

10.5 Resource mobilization

UNICEF is officially a 'fund' and hence does not receive any core resources from the United Nations. It therefore has to raise funds from external sources for both development and humanitarian aid, as well as its ability to respond to the Core Commitments to Children (CCCs) in humanitarian action, including cholera outbreaks. All UNICEF funds originate from: i) government donors, ii) National Committees (NATCOMs) or iii) private donations.

The various possible funding options open to UNICEF for humanitarian action, including response to cholera outbreaks, are:

Table 13 Funding options for UNICEF's humanitarian action

Re-programming of existing Country Office Resources (RR/OR/ORE)	Regular Resources (RR) can be diverted immediately by a CO Representative, according to the approved thresholds. ²⁸ Diversion of Other Resources (OR) can only be done with approval from the donor.
UNICEF Emergency Programme Fund (EPF)	The Emergency Programme Fund (EPF) is intended to support a CO's ability to meet the CCCs, pending donor contributions. It is approved within 24-48 hours and is considered a <i>UNICEF loan</i> (from an account managed by EMOPS); the funds must be repaid after contributions from donors become available.
Central Emergency Response Funds (CERF)	The CERF is a stand-by fund established and managed by UN (as CERF Secretariat established at OCHA). Only UN and the International Organization for Migration (IOM) are eligible to submit proposals, which should be based on sectoral priorities and projects.
Fund raising appeals	These funding requests comprise any other appeal options to support humanitarian action, including: <ul style="list-style-type: none"> • Immediate Needs Document (IND) • Stand-alone Crisis Appeal • Flash Appeal • Consolidated Appeal Processes • Other transitional and early recovery appeals.

²⁸ According to the [CF/EXD/2004-15](#), Representatives can authorize up to US\$ 200,000 if CO RR budget >\$2 million (for RR <\$2 million the maximum is US\$ 150,000). Anything beyond these thresholds requires RO / HQ approval.

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UNICEF procedures for emergency preparedness and response

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Other funds may become available through transfers of resources from another UN Agency. See [Annex 10C](#) for specific information on these and other resource mobilization mechanisms.

KEY RESOURCES

[Resource Mobilization in Humanitarian Action \(Intranet Webpage\)](#)

[OCHA. Consolidated Appeal Process webpage](#)

[OCHA. Central Emergency Relief Fund webpage](#)

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This document is accompanied by a USB device containing the three components of the UNICEF Cholera Toolkit: the Main Document, the Annexes and Additional resources. These components are meant to work together to make the best use of the Toolkit.





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The United Nations Children's Fund (UNICEF) supports and protects women and children through programmes focused on the sectoral areas of protection, health, education, nutrition, communications for development (C4D) and water, sanitation and hygiene (WASH) as well as through its Supply Division (SD), Emergency Operations Services (EMOPS), Public Sector Alliances and Resource Mobilization Office (PARMO) and Division of Communication (DOC).

The organization's guiding protocols and approaches include the [Core Commitments for Children \(CCCs\) in Humanitarian Action \(2010\)](#) , UNICEF's corporate humanitarian policy to uphold the rights of children affected by humanitarian crises, which outlines the minimum requirements for the design and delivery of UNICEF programming in emergencies, to ensure adequate child protection and child survival.

UNICEF's work supports the [Convention on the Rights of the Child \(CRC\) \(1990\)](#)  and uses a **Human Rights Based Approach (HRBA)** to programming, where activities are undertaken to assist women and children, as rights holders, to attain their human rights¹.

As of mid-2010, UNICEF has intensified its focus on issues related to equity with a goal of better targeting the poorest populations.

UNICEF's work is also guided by its:

- **Medium Term Strategic Plan, 2006-2013** (MTSP), which documents the guiding principles for UNICEF along with a series of **Key Result Areas** (KRAs), which all UNICEF activities must support
- **Sectoral strategies**, such as the [UNICEF WASH Strategy, 2006-15](#) , and the [UNICEF Joint Health and Nutrition Strategy, 2006-15](#) 
- **Country Programme Document** (CPD), which documents the aims, objectives, activities, outcomes and resources required for a five-year UNICEF programme in each specific country.

Increasingly the United Nations is focussing on its own coherence, with pilot countries implementing the [Delivering as One](#)  (DaO) approach, whereby all UN agencies are making an effort to better plan, report and deliver as one body. Where the DaO approach is implemented, the CPD becomes a **UN Common Country Programme Document** (CCPD) supported by a **UN Country Programme Management Plan** (CPMP).

In emergency contexts, the efforts to improve UN coherence can be seen in the humanitarian reform process started in 2005. UNICEF's accountabilities in global cluster leadership and co-ordination under the Cluster Approach include: **Nutrition** (Lead); **WASH** (Lead); **Education** (Co-lead with the Save the Children Alliance); **Protection** (Lead Areas of Responsibility (AoR) on **Child Protection**, and co-lead in the sub-cluster of **Gender-based Violence**). UNICEF also co-chairs the IASC Sub-Working Group on Preparedness and plays as significant role as a partner to the World Health Organization (WHO), which is leads the Health cluster.

¹ UNICEF [The Human Rights-Based Approach, Statement of Common Understanding, Annex B, State of the World's Children, 2004](#); (2004)  and [OHCHR Frequently asked questions on a human rights-based approach to development co-operation](#) (2006) 

The references used for this annex handout are identified here.

Survival times of *Vibrio cholerae*:

- In well water – for 7.5 +/- 1.9 days, and the El Tor Biotype can survive for 19.3 +/- 5.1 days (Felsenfield, O.)
- In a wide variety of food and drinks – for 1-14 days at room temperature and 1-35 days in an ice box (see the table below, which gives a higher number of days for frozen fish)
- In ice cubes – for 28-35 days in an ice chest.
- On solid objects (formites) – from 1-7 days, including on metal tableware / utensils for 1-2 days (Felsenfield, O.).

Limits for growth (International Commission on Microbiological Specifications for Foods & Lipp, et al.)

	Optimum	Range
Temp (°C) for growth	37	10 - 43
pH	7.6	5.0 – 9.6
Lethal heat	D 60°C x 2.7 min (90% of the vibrio will be killed)	> 48°C
Salinity for growth	5-25% salinity	It can however withstand a salinity of 0 provided that the sodium ion is present, and it can also grow well at salinities near 45%

Lag time for initiation of growth

- The lag time for initiation of growth on suitable foods is < 1 hour at > 30°C and a little longer at 22°C. The doubling time is <1hr at 22°C.

Impact of heat and cold on survival times:

- In milk and ice-cream – can survive 5-21 days (room temp.), 14-28 days (refrigerated).
- In frozen contaminated skimmed milk at -20°C – can survive for 30 days.
- Evidence for the survival of *V. cholerae* on frozen foods is contradictory, but there is some evidence of survival in frozen seafood products of > 6 months.
- *V. cholerae* is sensitive to heat (>45°C) depending on the suspending medium and on pH. *V. cholerae* is sensitive to acid and dry conditions. Almost all of *V. cholerae* will be killed at 65°C after 12 seconds.
- Survival is increased when foods are cooked before contamination because cooking food eliminates competing organisms, destroys some heatable growth inhibitors, and produces denatured proteins that *V. cholerae* O1 uses for growth (Mintz et al).

Relative risks from different types of foods and drinks

- In acidic foods and beverages (pH < 4.5) and in dried foods, salted fish and fruit juices, survival is generally < 12 hr at room temperature of 25-30°C.
- Raw and undercooked seafood and leftover cooked rice are the most commonly implicated foods in cholera outbreaks.
- Milk and milk products, soft desserts, sweets containing eggs and sugar and cooked noodles permitted the survival of *V. cholerae* for a long time. Cholera bacteria has also been shown to grow well on peanut sauce (pH 6-7).
- Certain acidic foods, such as tomato sauce (pH 4.5-5), fermented porridge, toronja drink (grapefruit drink in Peru), curdled milk (which has a pH of 3.5) and lime juice are relatively protective (citrus fruits have a pH < 4.5).
- One study (Rodrigues, A. et al.) indicated that adding the juice of 2 limes to a sauce for 8-10 persons has a strong effect. Whilst there is limited scientific evidence for the dosages required to de-activate *V. cholerae*, or for how long it takes before all have died, a higher acidity / lower pH is known to be unfavourable to the

survival of *V. cholerae*. Therefore, where it is already culturally acceptable to add lime or other acidic fruits to food or drink, this should be encouraged, along with continuing promotion of other prevention strategies.

- In one detailed study of survival in foods and drinks (Felsenfield, O.):

- Cholera bacteria lasted < 1 day in beer, carbonated water, carbonated soft drinks, coffee, sour limeade, and whiskey.
- Cholera bacteria lasted for longer periods in cocoa (3-5d), sweet home-made lemonade (5-7d) and tea (2-3d).
- Felsenfield, O. (no date) summarised that: 'Raw water, ice, eating utensils, sweet soft drinks, non-acid sliced soft fruits, food contaminated after cooking or pasteurisation, and fruits and vegetables 'refreshed' with sewage-containing water before marketing and eaten raw are probably the most important vehicles of cholera'.

Estimates of survival on various foods (Felsenfield, O.)

Food type & treatment	Storage survival (days)		
	2 - 4 °C	28 - 30 °C	
Cereals	Uncooked	1-5	1-2
	Cooked	1-28	1-14
Fruits	Citrus	<1	<1
	Other	1-5	3-11
	Dried	1-4	<1
Vegetables	Raw	7-14	3-7
	Cooked	2-14	1-3
Vegetables	Raw	5-7	2-3
	Cooked	5-14	2-7
Melons, gourds, squash, cucumber	Raw	3-14	1-7
	Cut	3-21	1-7
	Cooked (gourd)	5-7	3-5
Eggplant	Raw	14-21	3-5
	Cooked	14-28	3-7
Roots	Raw	5-14	3-5
	Cooked	5-21	2-7
Beef	Raw	5-7	1-2
	Cooked	7-14	2-7
Fish	Raw	7-14	2-4
	Cooked	14-25	3-6
	Frozen	>180	-
Cereals cooked	Corn (maize)	1-2 weeks	3-5
	Rice	1-2 weeks	5-7
	Oatmeal	1-2 weeks	5-7
Coconut	Cream	2-3 weeks	5-10
	Milk	2-3 weeks	3-7
Custard		3-4 weeks	7-10 (1-2 weeks)
Cheese, cottage		2-3 weeks	7
Ice cream		3-4 weeks	5-7
Milk	Open canned and cow (pasteurized, cream, skimmed)	3-4 weeks	14-21 (2-3 weeks)
Noodles	Mung bean, rice, vermicelli - dry	1-3	1-2
	Mung bean, rice, vermicelli - cooked	2-3 weeks	7-14 (1-2 weeks)
Sankaya (eggs, sugar, coconut)		3-4 weeks	7-14 (1-2 weeks)
Sarim (noodles, sugar, coconut)		3-4 weeks	7-14 (1-2 weeks)

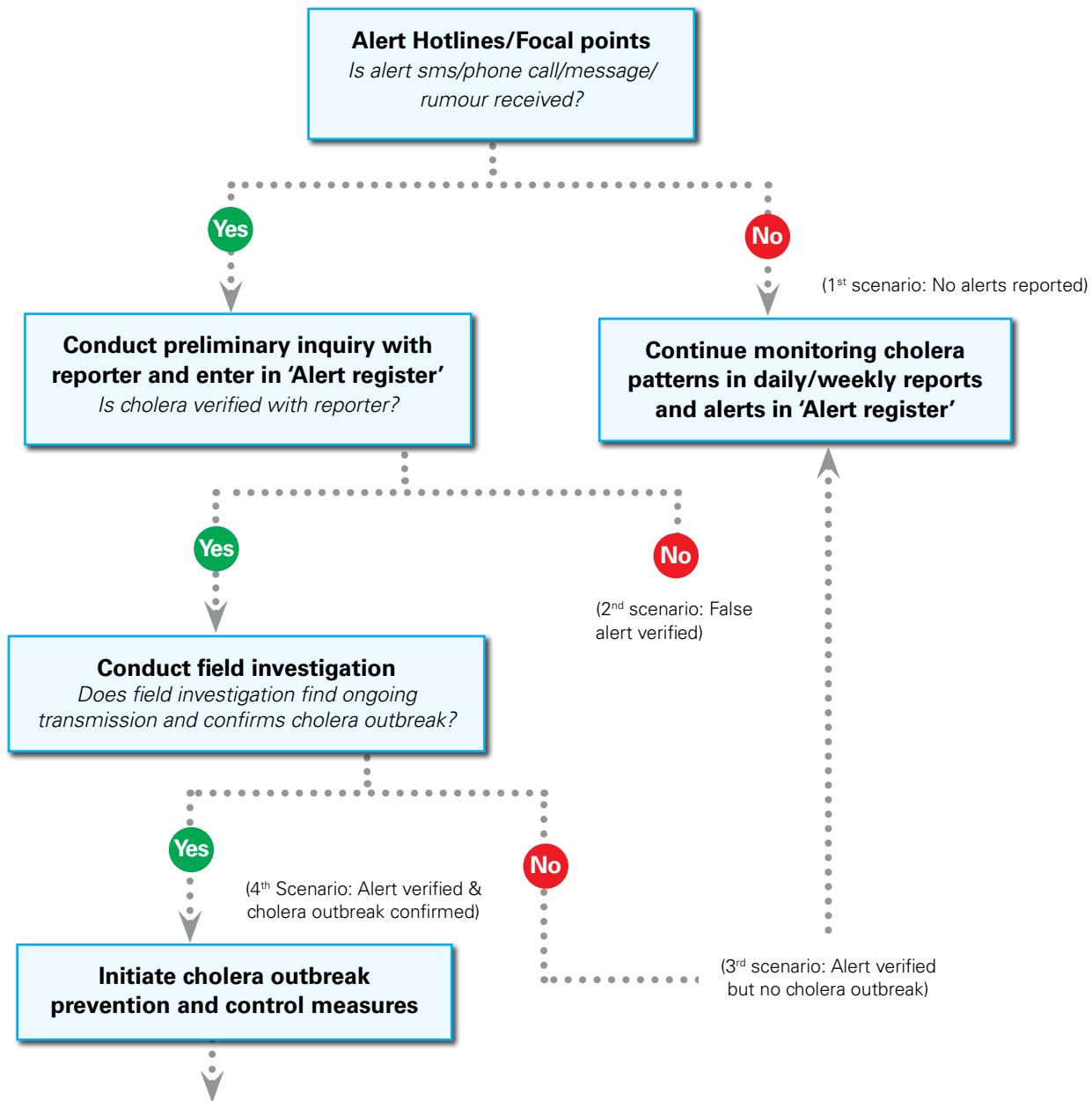
The information in this annex has been taken from the following publications:

- Public Health Agency of Canada (2012) *Vibrio Cholerae, Pathogen safety data sheet – infectious substances*, www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/vibrio-cholerae-eng.php [accessed 7 May 2012].
- International Commission on Microbiological Specifications for Foods (1996) *Microorganisms in Food 5: Characteristics of Microbial Pathogens* pp416-422
- Felsenfield, O. (no date) *Notes on food, beverages and formites contaminated with Vibrio cholerae*, pp725-734 (Author Affiliation: Chief, Communicable Disease Division, Tulane University Research Centre, Covington, LA, USA).
- Estrada-Garcia, T. & Mintz, E. (1996) Cholera: Foodborne transmission and its prevention, *European Journal of Epidemiology*, 12(5); pp461-469.
- Lipp, E., Huq, A., Cowell, R.R. (2002) Effects of global climate on infectious disease: the Cholera Model, *Clinical Microbiology Reviews*, Oct 2002, Vol 15 (4) pp757-770.
- Rodrigues, A., Sandström, A., Cá, T, Steinsland, H, Jensen, H, Aaby, P (2000) Protection from cholera by adding lime juice to food – results from community and laboratory studies in Guinea-Bissau, West Africa, *Tropical Medicine and International Health*, 5(6),418-422 .
- Mintz, E.D., Papovic, T. & Blake, P.A. (1994) Chapter 22: Transmission of *Vibrio Cholerae* O1, pp345-356, *Vibrio cholerae and Cholera: Molecular to Global Perspectives*, Ed, Wachsmuth, I. K., Blake, P.A., and Olsvik, ø., American Society for Microbiology, Washington DC 20005.

Examples of misunderstandings	Comment / clarification
<p><i>Cholera outbreaks will occur in refugee camps, impoverished countries, and areas devastated by famine, war or natural disasters.</i></p>	<p>Cholera is only likely to flourish in situations where toxigenic V. cholerae O1 or O139 exists in the environment or where there is evidence that it has been introduced. Refugee camps, poverty, war and natural disasters do not in themselves cause cholera. However, if disasters occur in cholera-endemic areas, transmission may be facilitated by deteriorating or destroyed water, sanitation and hygiene conditions and health services, crowded settings and population movements. The spread can also be exacerbated with flooding.</p>
<p><i>Infants have immunity from nursing mothers who have previously had cholera so they don't get sick.</i></p>	<p>Infants who are exclusively breastfed are less vulnerable to cholera because breast milk does not contain <i>V. cholerae</i>. If they are formula fed, there is a risk that they can contract cholera from contaminated water used to make the formula. Babies can also pick it up from crawling on the ground and putting contaminated items into their mouths. If a mother has recently had cholera, then some immunity will also be transferred to the child through the breast milk.</p>
<p><i>People with O type blood are more likely to get infected and sick with cholera.</i></p>	<p>There is, for unknown reasons, an increased risk for people with type O blood to develop severe disease. However, all people exposed to cholera are at risk if they ingest the <i>V. cholerae</i>, including blood type O.</p>
<p><i>If there are fewer cases of cholera in the same location over time, then cholera control efforts must have been successful.</i></p>	<p>In endemic countries, the cholera vibrio continues circulating and also remains in the environment during non-outbreak periods. When the environmental conditions are favourable, the cholera vibrio starts to multiply in bodies of water, hence there is a greater chance for more people to ingest large numbers of the vibrio, giving rise to an outbreak. If for a few years the environmental conditions in a particular location are not especially conducive for the vibrio, then there may not be an outbreak. Therefore, the lack of an outbreak in a specific year may not be directly linked to prevention or preparedness activities. There is also a level of immunity that can protect those that have been infected in a recent outbreak. HOWEVER, this should not be used as a reason to not undertake prevention or preparedness activities.</p>
<p><i>Ice/low temperatures can eliminate vibrio.</i></p>	<p>Freezing water or food does not eliminate the risk. The cholera vibrio can survive for 28-35 days in ice cubes in an ice chest and it is believed that it can survive in frozen seafood for over 6 months. See Annex 2A for further details and references.</p>
<p><i>Drinking some carbonated fizzy drinks or adding lemon or lime to water can kill off the cholera vibrio.</i></p>	<p>Carbonated fizzy drinks and lemon or lime juice are very acidic (i.e., pH below 5). Cholera survives best in a less acidic environment (i.e., pH 5 to 9.6), and has been found to die off more quickly outside of that environment. It is proven that adding acidic fruit juices to sauces and drinks can have a protective effect, but there is limited scientific evidence on the quantities required or how long the vibrio needs to be in the acidic condition before it dies. So this is not recommended as a protective action. See Annex 2A for further details and references.</p> <p>IMPORTANT NOTE - Fizzy drinks such as soda do not help to rehydrate someone who is ill and should not be used for this purpose.</p>

Examples of misunderstandings	Comment / clarification
<p><i>Common practices at funerals, such as washing or kissing the body and feasting, should be banned during a cholera outbreak. Other types of gatherings should also be prohibited.</i></p>	<p>Allowing people to perform their cultural and religious rituals to mourn their loved ones is important for the grieving process. Banning funeral gatherings can cause more harm than good by encouraging stigmatisation of patients and their families and making people reluctant to seek medical help. Risks of transmission at funerals has been documented in some academic papers in Africa, including Guinea Bissau (1986 and 1997/8), Kenya (1994), Tanzania (1977) and Zimbabwe (2008). Precautions must be taken in preparing the corpse, such as disinfection, designating different people to handle the body and prepare the food, and in conducting funerals, such as careful handwashing with soap and good food hygiene, so the risk of transmission can be kept to a minimum. Any contact between food and the dead needs to be avoided. Significant precautions should also be taken at weddings and other gatherings.</p>

i A case control study in Guinea-Bissau relating to the 1994 cholera epidemic, identified that cholera was strongly associated with a) eating at a funeral with a non-disinfected corpse, and with touching (i.e., transporting, washing) the body. This is documented in: Gunnlaugsson, Einarsdóttir, J., Angulo, F.J., Mentambanar, S.A., Passa, A. and Tauxe, R.V. (1998) 'Funerals during the 1994 cholera epidemic in Guinea-Bissau, West Africa: The need for disinfection of bodies of persons dying of cholera', *Epidemiol. Infect.* 120, pp7-15; Other academic papers documenting risks from funerals have included: St. Louis, M.E., Porter, J.D., Helal, A., Drame, K., Hargrett-Bean, N., Wells, J.G. and Tauxe, R.V. (1990), 'Epidemic cholera in West Africa: The role of food handling and high-risk foods', *American Journal of Epidemiology*, 131(4), pp719-727; and Shapiro, R.L., Otieno, M.R., Adcock, P.M., Phillips-Howard, A., Hawley, W.A., Kumar, L., Waiyaki, P., Nahlen, B.L. and Slutsker, L. (1999), 'Transmission of epidemic Vibrio Cholerae O1 in rural Western Kenya associated with drinking water from Lake Victoria: An environmental reservoir for cholera?' *Am. J. Trop. Med. Hyg.* 60(2), pp271-276; and Mandara, M.P. and Mhalu, F.S. (1981) 'Cholera control in an inaccessible district in Tanzania: importance of temporary rural centres', *Med J. Zambia*, 15(1), pp10-3; and CEPHI (2009) *Evaluation of the health cluster response to the cholera outbreak in Zimbabwe*.



Outbreak response components:

- **Characterize the epidemiology:** line listing; descriptive epidemiology, epidemic curve, CFR, hypothesis regarding transmission
- **Laboratory confirmation:** control measures should not await laboratory results; antimicrobial sensitivity should support case management
- **Prevention:** e.g., community prevention messages, immunization, prophylaxis of contacts, social mobilization
- **Control:** Interrupt transmission, isolate/manage cases

Alert verification:

Start of over the phone, find out about:

- Who is reporting the alert/rumour (and their contact details)
- Person/Place/Time
 - Numbers of cases/deaths;
 - Age, Sex, Origin of cases/deaths;
 - Date of onset or consultation;
- Treatment and outcome;
- Check case definition used and symptoms/signs exhibited;
- Any healthcare staff affected;
- Any clusters (by family or contacts, geographically);
- Measures taken so far;
- Community reactions.

Note: all the above may not be known by the person reporting the alert, but can help in deciding whether an alert is false or not, and will help orient a field investigation if needed.

Field investigation:

- On-site visit, preferably within 24 hrs
- Review of cases with clinicians
- Assessment clustering of cases in time and space
- Household visit
- Examination of cases, interviews case contacts
- Interview to determine medical history, review of vaccination records
- Performance of rapid tests as indicated
- Collection samples in relevant media
- Line listing of cases
- Expansion of surveillance coverage and enhancement of reporting as required

Four possible alert scenarios

1. No Alerts reported:

e.g., Alerts seen in weekly reports but not reported immediately as expected; this can also be known with regular supervision

Possible actions:

- Orientation/training on alerts and recommended notification thresholds; check communication lines to ensure non-reporters can communicate with EWARN focal points

2. False alert on verification:

e.g., SMS alert is received from community health worker of suspected cholera; verification process reveals isolated case of non-watery diarrhoea in a healthy 3 year old

Possible actions:

- Re-orientation on case-definitions as part of supportive supervision; positive feedback on use of EWARN

3. Alert confirmed & no cholera outbreak

e.g., A health facility reports a cholera case, confirmed on verification and field investigation suggest no ongoing transmission

Possible actions:

- Probably a sporadic case of cholera, emphasis on optimal treatment of the case and immediate notification of any new cases; positive feedback on use of EWARN

4. Alert verified & outbreak confirmed

e.g., Health facility reports unusual numbers of acute watery diarrhoea among adults with severe dehydration. Verification and field investigation confirms an outbreak of severe diarrhoeal disease, possibly cholera

Possible actions:

- Cholera outbreak response measures initiated
- Laboratory samples taken for confirmation and antibiotic sensitivity.

General Information

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Date of visit: _____

Location:

Province	District	Town	Village/area	Treatment facility name(s)

Key persons met (local and partners)

Names	Functions	Organisation	Telephone

Members of the assessment team

Names	Functions	Organisation	Telephone

Outbreak scale and progress in assessment location

Approximate size of the affected area to-date (number of villages/districts)	
Approximate size of the population in the affected area	
Approximate population density in the affected area	
Total number of reported cases in affected area both facility and community (note age and sex) note if zero	
Total number of reported deaths in affected area both facility and community (note age and sex), note if zero	
Cases mainly coming from (name of places)	
Information on the trend in cases and deaths (over past weeks, months)	
Number of health facilities or treatment centres receiving and treating patients with suspected cholera in the area	
Are there any specific places affected (schools, prisons, displaced camps, gatherings) or notable changes in context such as population movements, mass gatherings, flooding, security	
Is this an area with specific trade routes (specify such as fishing trade) and associated traffic	
Suspected reason/s for the outbreak	

1. Rapid assessment in facilities (health and WASH)

Cases and deaths

Date of first case	
Details of first cases if known including:	
<ul style="list-style-type: none"> name, age, sex, address, onset of symptoms, number ill in same household detection place (facility or community) within 3 days of illness what were the water source/s used by the first case/s (list them and investigate in community) within 3 days of illness what were the food items eaten by the first case/s (list them and investigate in community) within 3 days of illness did the first case/s attend any funerals or social gatherings (note where and investigate in community) exposure to any known risk factor: specify risk factor 	
Total number of cases at the facility	
Number of new cases presented today	
Number of cases currently admitted	
Number of cases going up/down	
Total number of deaths in the health facility or treatment center since first case	
Total number of deaths in the community (outside health facilities) since first case	
Number deaths in the past 7 days	
Are the number of deaths in the community registered at facility	

Outbreak confirmation

Were laboratory tests taken on a sample of patients (what kind, stool for culture, RDT)	
If laboratory samples were collected note when and where they were sent for analysis	
If already received what were the results of the laboratory test	

Surveillance and reporting

Which case definition was used: note it here	
Are children 0-2 years old included in the cases reported	
Presence of a registration book/line listing (please get a copy or take a photo of it and attach)	
Is there a system to rapidly report suspected cases for immediate verification within 24 hours, what are the difficulties	
What method of communication is being used to report cases and deaths (landline, mobile phone, radio, other or none), are community cases and deaths reported at the facility, note any problems with reporting cases for alerts and for regular reporting	
How often are cases reported to central level	

Rapid facility assessment

Health catchment population total	
Average walking distance to facility (<5 hours, >5 hours), is the treatment facility accessible to the community, if no, why	
Service hours of operation	
Are services for cholera given for free, if not, please note cost	
Facility number of rooms, beds and capacity to expand	
Number and position of staff at the facility and have they been trained on cholera control (see Annex 8G staffing)	
Are guideline/flowcharts illustrating proper management of cholera cases available to health care workers and used	
Quantity of ORS, IV fluids, antibiotics, zinc and medical supplies, chlorine, buckets, cholera cots used in the past 3 days and are stock available (please note quantity)	
Is triage/classification done before entering the treatment facility, or everybody was admitted	
Are the cholera patients isolated from other patients, if so how is this done	
Number of functioning latrines in facility and mechanisms of safe disposal of excreta and vomit, are they clean	
Are the health care workers aware of and following proper infection control to avoid contamination? (hand-washing, etc.)	
If it is a CTC/CTU, is it fenced off	
Are there hand-washing facilities with chlorinated (0.05%) water and soap available in the treatment facility and at points of entry and exit? (please note gaps)	
Is there footbath at points of entry and exit with 0.2% chlorinated water	
How often is the water in the footbath changed?	
How is the water treated, what are the chlorination rates and regime	
How is water supplied in the facility, distance of water source from the facility, treatment practices and is there any storage?	
How many litres of water per patient are available in the center?	
Are clothes and bedding disinfected, if yes, with what	
How is the waste water disposed or treated?	
Is there a system of waste management (pit, incinerator)	

Resources and Supplies needs

Are there an appropriate amount of supplies at the facility, any stock-outs of ORS, IV fluids, antibiotics, zinc, cholera beds, chlorine)	
Have any supplies been requested, if so to whom and when	
Are there enough staff for case management, infection control and support services (see Annex 8G for staff in facilities)	
Does the facility have the necessary funding to continue services and accept a larger case load	
Does the facility have enough space to accommodate more patients	
Are resources needed (cell phone access, phone line, internet) for communicating alerts and sending regular data	
What is missing urgently (supplies, staff, funding, space)	
What is missing for medium term	

2. Rapid assessment outside health facilities

Water supply

What types of water sources are available and being used (wells; borehole, pond, open river, rainwater harvesting) • how has this changed recently (water supply shut off, drought, flood, population influx)	
Is there a system that measures free residuals Is there a % target?	
Is there a system that measures turbidity? Coliforms? How often are these variables measured?	
Observe water sources and undertake a quick sanitary survey to identify key sources of contamination • are there any interruptions in water supply • are there any broken water sources in the area for drinking or non-drinking water sources • is the community using the same water sources that are likely to be contaminated, if so what sources (river, borehole) • are there any sanitation breaks or changes in the system or infrastructure that can lead to contamination?	
What are the measures undertaken to treat bulk drinking water supplies or water sources at community level? • is there a system to monitor chlorine levels and who is responsible? • are they working properly or has this changed recently?	
Observe or ask about type of water source used (spring, well, tap, water venders, stream, lake, river) and what they are used for (drinking, cooking, bathing), how has this changed?	
What are the measures undertaken at household level to treat/make drinking water safe? (boiling; chlorination; filter through a cloth; ceramic filter; other method; none) • are these functioning or has this changed recently • are chlorination materials available for household water disinfection and does the community have access to these	
How is water stored in the home? • has this changed recently	
What is the average quantity of drinking water per day? • has this changed? and why	
What is the average quantity for other uses including cooling per day?	
Are there standard guidelines for chlorination of community sources and are they at the community/household level?	

Excreta collection and disposal

Are latrines are being used and are they being used correctly?	
Are latrines placed to avoid contamination of water supply?	
Are septic tanks used, where are their contents emptied?	
Is disposal of septic tank contents adequate for preventing disease transmission?	
Are sewers are used, where does the wastewater go, is it treated	
In areas without latrines or flush toilets, where do people defecate, is there evidence of open defecation?	
Is there evidence of overflowing latrines, septic tanks, broken sewage pipes?	
Are latrines, septic tanks, sewers close to water systems?: note distance	

Waste disposal

Is there a central waste collection service? <ul style="list-style-type: none"> • have there been any changes or interruptions 	
Is waste disposal close to habitation? <ul style="list-style-type: none"> • any change in proximity 	
Is solid waste contained?	
Is the contamination of the solid waste with human faeces evident?	

Community and household hygiene and health promotion practices

Do people have knowledge of what cholera is, how it is transmitted?, how to detect and treat it and what to do? <ul style="list-style-type: none">• how to protect themselves• what to do when someone gets sick• what ORS is and how to use it• do households have ORS or where to get it• when and how to wash hands• how to safely dispose of faeces	
Is information concerning, handwashing, defecation excreta disposal practices and household disinfection of water available?	
What are the practices that may be leading to spread of cholera and increased illness and death, and what are the reasons for people to engage or not engage in them?	
Do households have access to soap, to chlorine? In which form? Do they know how to use the chlorine?	
In schools <ul style="list-style-type: none">• does the school have treated water?• are there latrines, if so are they clean and have handwashing facilities• is food prepared and under hygienic measures?• do teachers know what to do in the event of cholera	
At funerals and gatherings (specify) <ul style="list-style-type: none">• is food served at gatherings?• are precautions undertaken to prevent cholera transmission at burials or gatherings (if so what)• have any burials occurred in the community?, if so where and when	
In restaurants and markets <ul style="list-style-type: none">• is food served hot, freshly cooked and stored in hygienic manner?• is handwashing practiced by food servers?• are there any measures for hygiene and quality control regarding food vendors in the community and have these changed?	
How are dead bodies disposed of <ul style="list-style-type: none">• do family member come in contact with the body during burial ceremonies• are bodies transported	

Resources and supplies

Are there sufficient stocks of chlorine, buckets with lids or Jerrycans, soap, IEC materials, medical equipment?. Please detail any stockout in the last month	
Have any supplies been requested?, to whom, when	
How many stockouts has the center experienced in the last month?	
Are there enough staff (hygiene promoters, sanitation engineers)	
What is missing that is urgently required?	
What is missing for medium term?	

3. Organization of the response

Is there a cholera coordination committee at district level?, is it multi-sectoral?, note the key organizations and leadership	
Is there a response plan?	
Has a list of needs been established according to assessment?	

4. Potential sources of contamination

1. Drinking water source 1
2. Drinking water source 2
3. Drinking water source 3
4. Non-drinking water source 1
5. Non-drinking water source 2
6. Food source 1
7. Food source 2
8. Other source 1

ACTIONS TO BE TAKEN

Short term and URGENT

Medium to long term

Stool samples

A cholera outbreak can only be confirmed using a stool culture. A stool culture also provides information on the antimicrobial susceptibility of the bacteria. Stool samples should be collected on the first 5-10 patients and sent for bacteriological testing in the nearest competent laboratory (possibly in another country).

The techniques for stool sample collection and transport are not complicated, and the procedures for isolating and identifying *V. cholerae* in the laboratory and determining antimicrobial susceptibility are relatively straightforward.

Stool samples collected and placed in Cary Blair transport media that are kept at ambient temperature and arrive at the laboratory several days later can still yield viable *V. cholerae*. Results should be available within 24-48 hours. The procedures for collecting, transporting and performing stool cultures are usually within the laboratory capacity of all countries and most provincial and district laboratories in endemic countries. Refer to [CDC laboratory protocols](#) (also in French).

Rapid diagnostic tests (RDT)

A rapid diagnostic test (RDT) provides important complementary information that, when combined with clinical and epidemiologic information, can further support or oppose the suspicions that an outbreak is due to cholera, especially when awaiting confirmation from stool cultures. RDT's for cholera do not require an equipped laboratory, and they can be performed in field conditions or in any clinic. However, they are not 100% specific, and provide no isolates for antimicrobial susceptibility testing, serotyping, toxin testing or molecular subtyping.

The Crystal VCR RDT for *V. cholerae* O1 and O139 can provide results in about 10 minutes. It can be used to detect outbreaks early in their course, if procured and distributed to all levels of the national health system. It is relatively inexpensive (approximately \$2 per test) and easy to use (even by those with limited technical skills) with appropriate instructions.

However, RDTs are not particularly useful for making the diagnosis of cholera in a single patient. The greater the number of patients tested, the more confidence one can have in the results of the RDTs, which will either show a majority of cholera-positive or a majority of cholera-negative results.

For example, using the Crystal VCR RDT for a cluster of cases:

- If the cause of their disease is cholera, the test will be positive in about 8 or 9 of the ten tests (sensitivity = 80-90%).
- If the cluster of cases is due to another disease, the RDT will be negative in most instances (at least 6 out of 10, and probably more) (specificity > 60%).

Because of its potential usefulness, the Crystal VC RDT and locally adapted instructions or guidelines for its appropriate use should probably be part of the supply package distributed in advance of an outbreak in areas where outbreaks are predictable occurrences.

Laboratory confirmation - from environmental reservoirs

It is possible to isolate *V. cholerae* from food and environmental samples including sewage. The methods used are detailed in '[Centers for Disease Control and Prevention Laboratory Methods for the Diagnosis of Vibrio cholerae: examination of food and environmental samples](#)' . However it is not recommended that these procedures be undertaken on a regular basisⁱ because:

- They are extremely time and resource consuming.
- Without complete testing it is easy to get false positives from environmental samples caused by non-toxigenic or non-O1, non-O139 vibrio strains that do not cause cholera.

- In faeces of an infected person, the concentration of the cholera bacteria is very high, but in environmental samples such as food or water the concentration is generally much lower and may even require ultra-filtration or other concentrating techniques.
- Other indicator organisms, such as *Escherichia coli*, for which rapid, simple presence/absence tests are available, are commonly used to determine the microbiologic safety of drinking water.
- The capacity for environmental testing is not often available in low-income countries.
- Case-control or other epidemiologic studies are considered more reliable for identifying the source(s) of cholera transmission.

Therefore assessments of the risk of cholera transmission from particular water sources, food outlets or other sources rely on the following:

- Case-control or cohort studies to identify the water sources and/or food outlets that people who have symptoms of cholera have used in comparison with uninfected, asymptomatic persons.
- Sanitary surveys around water points to identify the risks of contamination.
- Inspections of food hygiene and safety in food outlets.
- Testing for thermo-tolerant coliform (mainly *E.coli*) in water sources as an indication of the level of faecal contamination and potential risk of the presence of *V cholerae*.

ⁱ Mintz, Eric, 'Personal communication,' US Centers for Disease Control and Prevention, USA (June 2012).

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Reported Alert	Date of report and by whom	Alert details: • Who is affected? • Where is affected area? • When was the initial occurrence? • How many affected? • Are deaths reported?	Alert update as of (date and time)	Actions Taken Include name of who has taken action, time, date, and specify action taken)	Remarks	Status of the Alert • Ongoing • Closed

Justification:

The alert system will assist and support the MoH to collect, verify and respond urgently to cholera alerts for rapid response by all partners and relevant sectors.

Define Objectives:**General:**

Put in place an alert system for early detection of cases and deaths from cholera, in order to implement urgent response measures and reduce the impact on morbidity and mortality.

Specific:

- Evaluate and identify alerts/“hot spots” and organize urgent response with partners according to needs (supplies, training, social mobilization, WASH)
- Create a routine alert system with participation from different partners for daily and weekly reporting

Definition of types of alerts

- New cases and deaths in areas that have not reported
- Upsurges in cases and deaths in areas that have already reported cases

During the outbreak other criteria might be included in the definition of alert:

- Lack of capacity at the treatment centers
- Lack of access to WASH materials and services
- Lack of partners in the defined areas
- Lack of drugs and equipment
- Inaccessibility of services

CASE DEFINITION

Add agreed upon case definition here

Source of alerts:

- Ministry of Health (MoH), including local health authorities at district level
- World Health Organization (WHO)
- Non-governmental organizations (NGOs)
- International Organizations: UN agencies, Red Cross/Red Crescent
- Other relevant health partners including private sector and civil society organizations
- Others including community-based rumors, media, blogs, etc.

Types of response (examples below: can be any or all)

- Establishment of a CTC/CTU
- Establishment of an ORP
- WASH response: access to safe water, sanitation, aqua-tab distribution, etc.
- Procurement of supplies
- Training and recruitment of health staff
- Communication.

Strategy of the alert system:

1: Reception of information: Information will be received 24/7 through email or phone

ALERT SYSTEM WHO/GOVERNMENT

E-mail xxxxxcholera@who.com
xxxxxcholera@gmail.com

Tel: **+XX.XXX.XXX.XXXX**

2: Verification of information:

- MoH central body and decentralized authorities including health workers
- WHO: central and decentralized teams
- Partners implementing cholera programs in decentralized locations

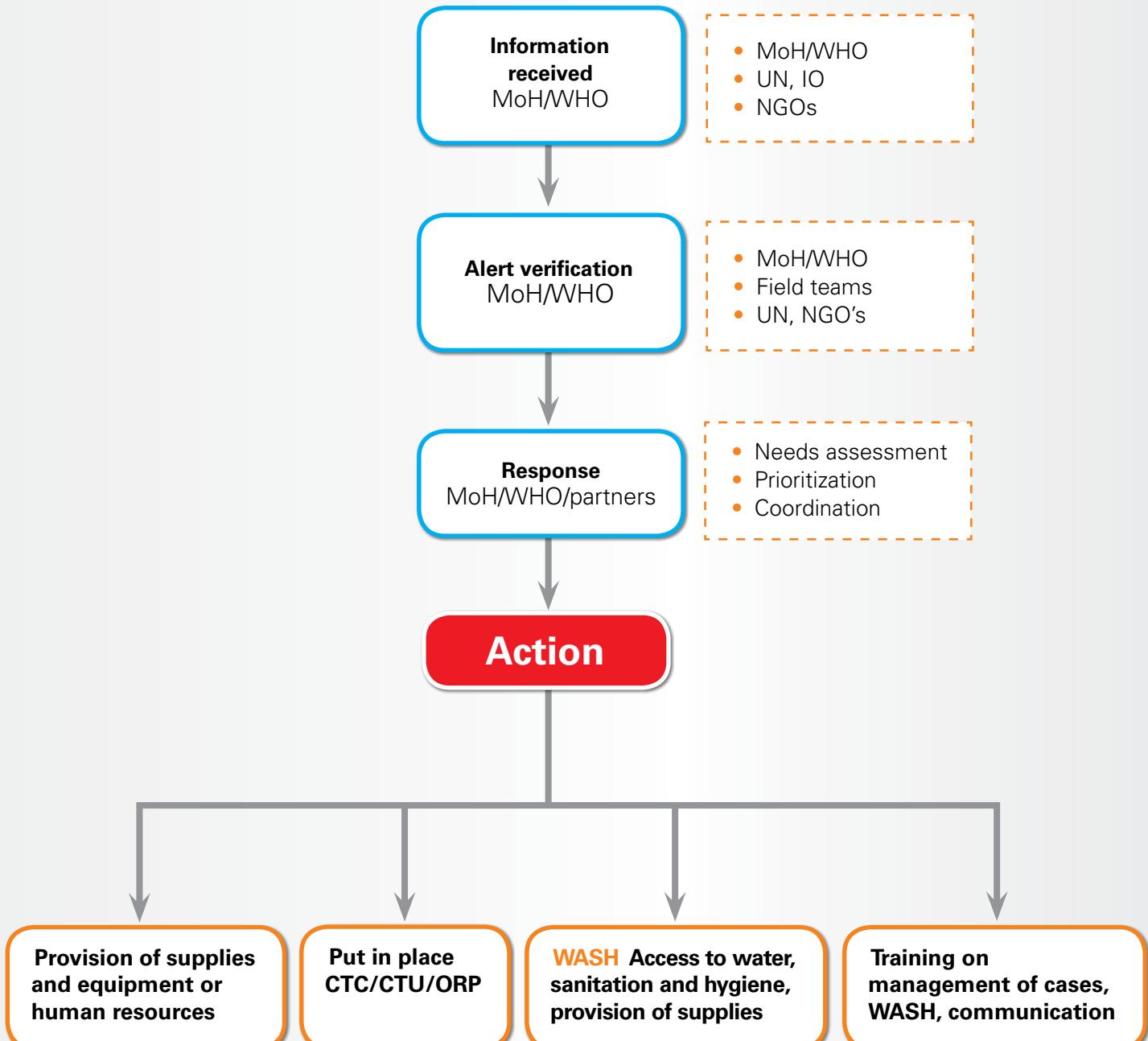
3: Response from alert team (examples):

- Prioritize alerts according to urgency
- Call for meetings with MoH and partners (coordination)
- Seek partners to conduct risk and needs assessments
- Deploy rapid response teams
- Call partners to implement the response actions (see below)

4: Actions

- WASH activities
- Set up CTC, CTU, ORP
- Train staff
- Mobilize medical and WASH supplies
- Communication and community mobilization.

Alert Scheme – Response MoH/WHO/Partners



Communication and community mobilisation

Sample health facility outbreak monitoring line-listing form

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Case No.	Name	Age	Address	Sex (M/F)	Date of onset (dd/mm/YY)	Date of admission (dd/mm/YY)	Lab specimen taken ¹ and lab register number	Treatment given (Yes/No) IVF, ORS, antibiotic, zinc	Outcome ²	Final diagnosis

¹ Laboratory specimens: S=Stool culture or RDT

² Outcome: I = Currently ill, R= Recovering or recovered, D = died

Additional information to be included in a line listing

Why the information should be collected?

Name	<p>The names of patients with cholera should be recorded in the facility register to allow for follow-up after discharge, or to be able to identify those individuals who relapse and require additional treatment. The registry allows for monitoring of the quality of care given at the facility and for compliance with guidance provided to individuals discharged from the facility. It also prevents patients from being double-counted should they have to return.</p> <p>Names of patients are personal information and should be kept confidential at all times. No names should be released to outsiders under any circumstances. Cholera is, for reasons that are not well understood, a disease that has a certain stigma attached to it.</p>
Age	<p>Age should be recorded for a variety of reasons. Knowing the age distribution of cases together with the number of cases helps ensure that an adequate supply of essential commodities, such as zinc, is present.</p> <p>A potential problem with use of a cholera case definition that incorporates age (such as the WHO case definition - acute watery diarrhea in a person 5 years old or older) is that it makes it impossible to capture with the cholera surveillance system suspected cases that do not meet the age criteria. Where no age criteria is included in the case definition, but age itself is recorded, it is easy to distinguish those patients who meet the WHO case definition from those who do not. This difference is useful as it allows for the identification of increases in AWD that are limited to children under 5 years old and may be due to rotavirus or other pediatric infections and not to cholera.</p> <p>As mentioned previously, age may be recorded as accurately as possible, but it is not necessary for monitoring purposes. While more exact ages might be useful for the purpose of a complete epidemiological analysis of the outbreak at some point in time, busy and overworked staff at peripheral facilities should record ages only as 'less than 5 years' or 'more than 5 years'. If possible and deemed desirable, additional age categories, 5-14 years, 15-44 years, 45 years and above, can be added.</p>
Sex / Gender	<p>The rationale for collecting information on sex/gender is presented in Section 2.3.4 of the Toolkit. <i>V. cholerae</i> do not preferentially infect one more than another, but the risk of exposure may vary between men and women in a given setting, and analyzing the reasons may shed light on control activities.</p>
Address	<p>Like name information, address line listings allow for follow-up of individuals who have been discharged from a facility and help avoid double-counting of cases. Far more important, however, they allow for a localized mapping of the occurrence of cholera cases. Knowing where cases come from, and especially where the first cases occurred, can be a critical piece of information for targeting control efforts (remember John Snow and the Broad Street pump – his maps remain classic examples of cholera epidemiology). Mapping the residential addresses of patients can show evidence of clustering of cases and may provide hints as to the source of the outbreak and to likely routes of transmission. This monitoring information can, in turn, suggest areas where active surveillance and case-finding might be intensified and might even help direct control measures toward priority locations.</p>
Date of onset of symptoms	<p>The date of onset of symptoms allows for the establishment of an 'epidemic curve', a simple bar chart that plots the number of cases by date of onset (see example). Epidemiologists use epidemic curves to try to identify the type of outbreak (single source, person-to-person, multiple exposures, etc.), to predict when the peak of the outbreak might occur, and to ascertain the end of the outbreak. Each facility should establish an epidemic curve, and district, provincial, and national epidemic curves should also be established and updated on a regular basis, as applicable.</p>

Why the information should be collected?

Date of admission/ first visit	Recording the date of first visit to the facility provides information on access to and utilization of available health services. With cholera, it is of the utmost importance to minimize the lag between onset of illness and care-seeking. As discussed above, cholera can kill within hours. Knowing whether people are taking too long to reach clinical care and ascertaining the reasons for an excessive delay can save lives, if the problems are corrected.
Degree of dehydration (at time of presentation)	The proportion of cases seen at a health facility with no dehydration, or with mild, moderate, and severe dehydration, can provide an understanding of delay in care seeking and, if it is occurring, the reasons for delayed presentation to health facilities should be investigated rapidly. The information can help forecast resource and supply needs.
Treatment	Recording the treatment that each patient in a facility is prescribed and receives is crucial to determining the performance of the facility. Ensuring that patients and their degree of dehydration are correctly assessed, and that the corresponding treatment is correctly prescribed is critical and should be monitored regularly by health authorities. This information does not necessarily have to be recorded in a line listing, but it should be recorded on treatment charts that are kept for each patient. If a statistician, or recorder, is available, the information can be transcribed to the register at the time of the patient's discharge from the facility.
Outcome	The outcome of each patient should be recorded in the line listing. 'Discharged to home', 'died', or 'absconded' (left against medical advice) would be the most common entries.

Although not often recorded on a patient's register, it may also be useful to ask additional specific questions on the living conditions and water, sanitation and hygiene conditions in the person's home when patients arrive in a treatment facility. This information can enable analysis to be undertaken on possible key risks for certain members of the society (women, men, girls, boys, elderly, etc.) which can then in turn be useful for developing appropriate responses.

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This is a suggested spread-sheet for collecting and tracking information on reported cholera cases by different CTCs in a specific geographical area. The excel file attached has been built to manage information from up to 10 CTCs for up to 26 weeks (approximately 6 months), with an individual worksheet for each CTC.

To reduce the risk of formulas being modified inadvertently, the spread-sheet has been blocked allowing users to enter information only in the cells indicated above. If users would like to unblock the spread-sheet for it to be modified and customized according to their specific needs, they can do so. The password is **cholera**

The excel spread-sheet  is comprised of the following workbooks:

- An introductory **Explanation** workbook, including information on how to fill and use the other workbooks.
- Ten workbooks for reporting on **Individual CTCs** (CTC 1 to CTC 10): The name/title of the workbook for each CTC can be changed to include their specific name / designation.

See below for details on the fields and information requested to enter on these workbooks.

Cholera case record											
General Hospital											
Population : 50,000											
Week	Days	New cases			Deaths			CFR %	Weekly Incidence /100	AR (%)	Moderate case (ORS only)
		< 5 years	> 5 years	Total	< 5 years	> 5 years	Total				Severe case (IV +/- ORS)
2013											CONSUMPTION
Mo	11-03-13	0	6	6	0	0	0	0.0			RINGER
Tu	12-03-13	1	8	9	0	0	0	0.0			ORS
Wd	13-03-13	2	9	11	1	0	1	9.1			
Th	14-03-13	0	12	12	0	0	0	0.0			
Fr	15-03-13	3	3	6	0	0	0	0.0			
Sat	16-03-13	1	9	10	0	0	0	0.0			
Sun	17-03-13	1	10	11	0	1	1	9.1			
Total	Week 11	8	57	65	1	1	2	3.1	0.13	0.13	39
Mo	18-03-13	3	13	16	1	0	1	0.3			6
Tu	19-03-13	4	6	10	0	0	0	0.0			8
Wd	20-03-13	1	7	8	0	0	0	0.0			6
Th	21-03-13	1	9	10	0	1	1	10.0			8
Fr	22-03-13	2	5	7	0	0	0	0.0			4
Sat	23-03-13	3	6	9	0	0	0	0.0			6
Sun	24-03-13	2	12	14	0	0	0	0.0			12
Total	Week 12	16	58	74	1	1	2	2.7	0.15	0.28	60
Mo	25-03-13	3	10	13	1	0	1	7.7			10
Tu	26-03-13	4	12	16	0	0	0	0.0			11
Wd	27-03-13	1	18	19	0	0	0	0.0			12
Th	28-03-13	1	23	24	0	2	2	8.3			13
Fr	29-03-13	2	25	27	0	1	1	3.7			14
Sat	30-03-13	3	1	0	1	1	1	2.0			15
	Population : 50,000										228
	General Hospital										1140

Insert date

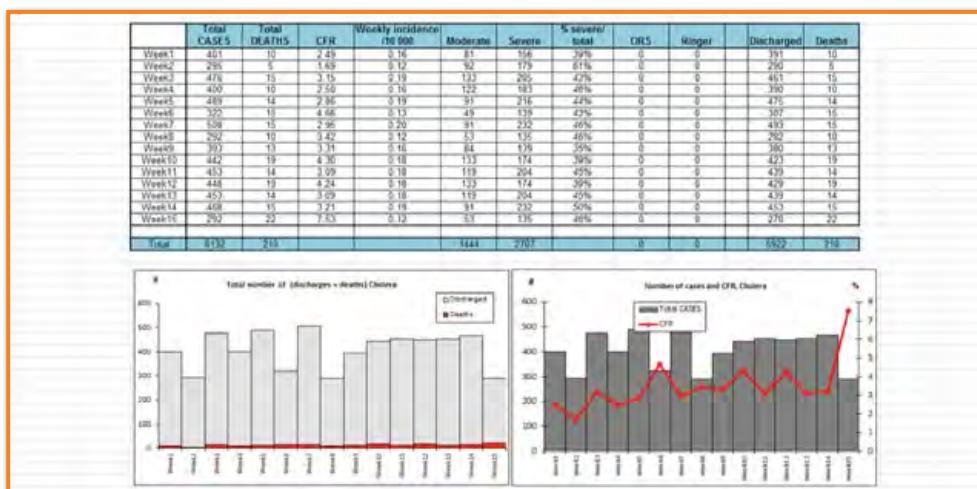
Insert week⁽¹⁾

These can be renamed to reflect individual CTC names /denomination

(1) Important note: If you start the data collection on week 3 for the CTC1, and the cases are declared two weeks later in a new CTC2, you should notify the cases in the worksheet CTC2 starting on week without deleting the previous weeks but filling them with zeros.

SUMMARY											Total Population		252,000	
Cholera case record														
Week	Days	New cases			Deaths			CFR	Weekly incidence /100	AR (%)	Moderate case (ORS only)	Severe case (IV + ORS)		
		< 5 years	> 5 years	Total	< 5 years	> 5 years	Total							
6	Mo	10	43	53	6	2	2	3.8			5	19		
7	Tu	10	55	65	2	1	3	4.6			10	20		
8	We	11	45	56	1	1	2	3.6			10	24		
9	Th	12	36	50	0	0	0	0.0			16	18		
10	Fr	20	34	54	0	0	0	0.0			8	25		
11	Sa	13	42	55	1	0	1	1.8			15	24		
12	Su	13	55	68	1	1	2	2.9			17	20		
	Week	89	312	491	8	5	10	2.6	0.16	0.16	81	156		
14	Mo	8	33	41	4	1	6	4.6			9	21		
15	Tu	16	28	44	0	0	0	0.0			12	25		
16	We	11	36	47	0	0	0	0.0			11	24		
17	Th	13	36	49	0	1	1	2.0			14	24		
18	Fr	19	24	53	0	0	0	0.0			11	24		
19	Sa	16	26	51	2	0	2	3.9			14	27		
20	Su	0	43	51	0	1	1	2.0			21	34		
	Week	91	265	295	6	4	5	1.7	0.12	0.12	92	179		
21	Mo	8	34	43	3	2	5	11.8			13	18		
22	Tu	15	40	55	1	0	1	1.8			15	22		
	Total	313	210	523	14	5	19	14.4	2.65	2.65	152	318		

A **Case Global Summary** workbook: Where the aggregate numbers for all CTCs reported in the spread-sheet (up to 10) are automatically calculated and presented.



A **Graph Summary** workbook showing the aggregate weekly summary for the geographical area. This includes two graphs:

- Total numbers of discharged and deaths per week, and
- Number of cases and CFR per week.

SUMMARY											Total Population		252,000	
Cholera case record														
Week	Days	New cases			Deaths			CFR	Weekly incidence /100	AR (%)	Moderate case (ORS only)	Severe case (IV + ORS)		
		< 5 years	> 5 years	Total	< 5 years	> 5 years	Total							
6	Mo	10	43	53	6	2	2	3.8			5	19		
7	Tu	10	55	65	2	1	3	4.6			10	20		
8	We	11	45	56	1	1	2	3.6			10	24		
9	Th	12	36	50	0	0	0	0.0			16	18		
10	Fr	20	34	54	0	0	0	0.0			8	25		
11	Sa	13	42	55	1	0	1	1.8			15	24		
12	Su	13	55	68	1	1	2	2.9			17	20		
	Week	89	312	491	8	5	10	2.6	0.16	0.16	81	156		
14	Mo	8	33	41	4	1	6	4.6			9	21		
15	Tu	16	28	44	0	0	0	0.0			12	25		
16	We	11	36	47	0	0	0	0.0			11	24		
17	Th	13	36	49	0	1	1	2.0			14	24		
18	Fr	19	24	53	0	0	0	0.0			11	24		
19	Sa	16	26	51	2	0	2	3.9			14	27		
20	Su	0	43	51	0	1	1	2.0			21	34		
	Week	91	265	295	6	4	5	1.7	0.12	0.12	92	179		
21	Mo	8	34	43	3	2	5	11.8			13	18		
22	Tu	15	40	55	1	0	1	1.8			15	22		
	Total	313	210	523	14	5	19	14.4	2.65	2.65	152	318		

A **Graph per CTC** workbook showing the aggregate weekly summary of total number of cases and weekly incidence per CTC, for all CTCs. This includes two graphs:

- Number of cases of cholera by centre, and
- Incidence weekly of cholera by centre (and district).

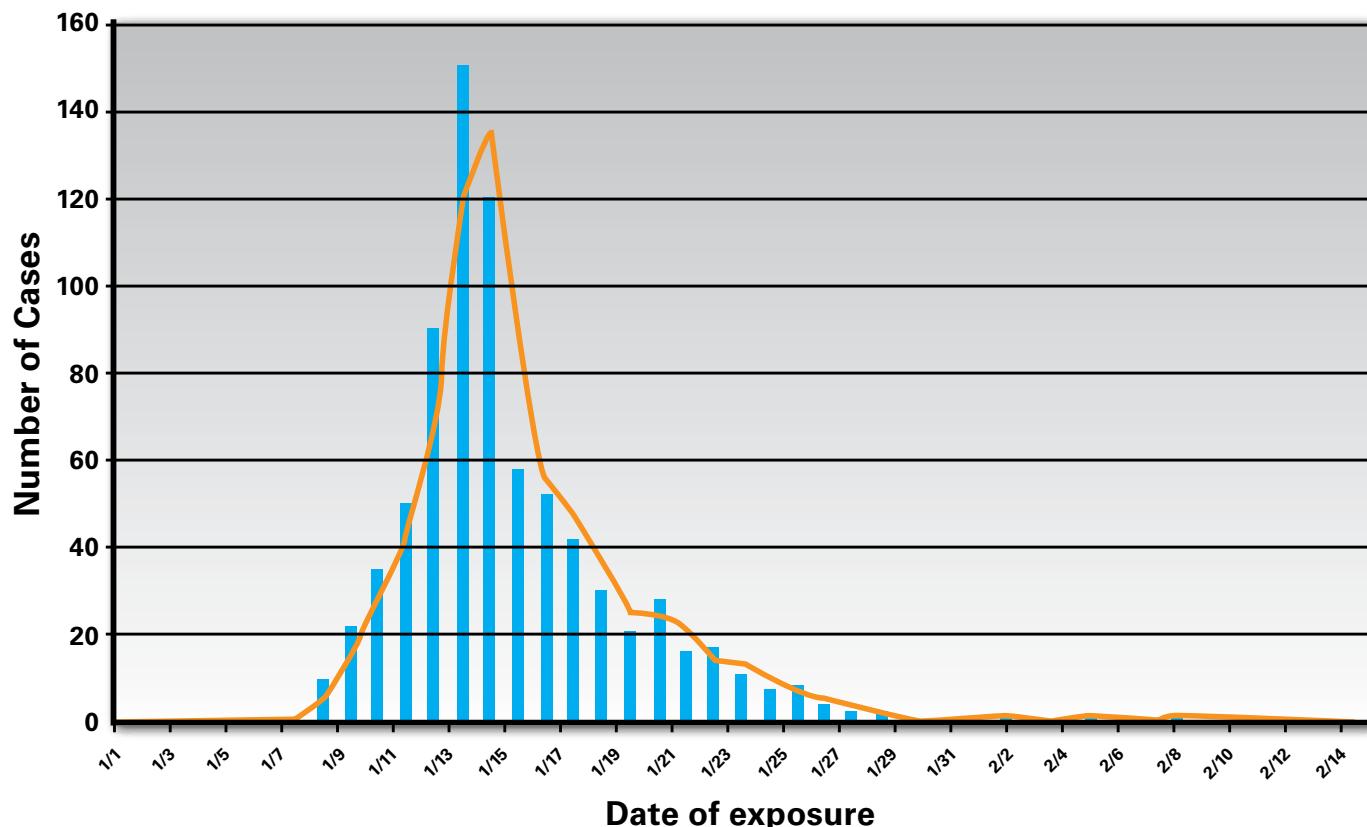
Indicator	Description
Cases	<p>Determined according to case definition:</p> <p>Suspected case:</p> <ul style="list-style-type: none"> • Not during an outbreak: <ul style="list-style-type: none"> ▪ In an area where the disease is not known to be present (non-endemic area), a person 5 years of age or older develops severe dehydration or dies from AWD; or ▪ In an endemic area, a person develops AWD with or without vomiting • During an outbreak (epidemic): A person aged 5 (sometimes 2) years or older, who develops AWD with or without vomiting (WHO 2012), OR any individual experiencing 3 or more liquid stools with or without vomiting during a 24-hour period (MSF 2004). <p>Confirmed case:</p> <p>A suspected case in which <i>V. cholerae</i> O1 or O139 has been isolated in the stool.</p>
	<p>Analysis - daily collecting and reporting of cases to determine hot spots for immediate response and where the affected area is on the epidemic curve. The number of cases will be used to calculate incidence rates, CFR, hospitalization rates, and attack rates. Zero cases detected should also signal a response. Communities or facilities may not be reporting cases (as can happen during holiday times), patients are not seeking care, or the area has not yet been infected but could be at imminent risk.</p>
Incidence	<p>Definition: The extent or magnitude of a cholera outbreak is best determined by calculating the incidence. The incidence of a disease is the rate of new cases occurring in a population over a specified period of time. For monitoring the course of a cholera outbreak, daily incidence is used initially, followed by weekly incidence when the outbreak has stabilized</p> <p><i>Weekly Incidence (per 1,000 population) =</i> $\frac{\text{Number of new cholera cases during the week} \times 1,000}{\text{population of interest (i.e. community, displaced site)}}$</p>
Incidence	<p>How to calculate:</p> <ul style="list-style-type: none"> • Number of cases – Can be determined from the line listing • Population at risk from exposure - To determine an incidence rate, the population that is at risk of exposure to the causative agent needs to be known. This is relatively easy to do in stable situations such as refugee camps. However, where there is a lot of migration - as in complex emergencies, situations where there is strong fear of cholera or other circumstances - a population can change considerably from week to week. For this reason, it is often best to calculate incidence for each "catchment area" or at each facility that serves a specified, and known, population. The population served by the facility, if stable, can be drawn from census information or from other health-related exercises such as micro-planning for polio eradication or other vaccination-related activities. When facility-based incidence cannot be calculated due to uncertainties about the population served, incidence for larger administrative units, such as districts, can be estimated by summing the number of reported cases from all facilities serving the district population over the period of time in question and dividing by the estimated district population available from previous census estimates or other sources. <p>At the beginning of an outbreak, when the number of patients being seen is at a peak, incidence can be collected on a daily basis; usually, however, weekly incidence is sufficient. The quotient is usually multiplied by 1,000 (as shown above) to make the comparison across facilities consistent. Weekly Incidence is reported, for example, as 190/1,000 population, meaning that a little less than 1 in every 5 people living in the catchment area being reported upon, was seen at the reporting site and met the case definition of cholera.</p> <p>Analysis - comparison of magnitude of cases: Local incidence whether daily, weekly, or monthly, can be compared by health authorities in order to determine which areas are experiencing the worst outbreaks. In order to be able to compare the magnitude of an outbreak in one area with that in another, the population served by a health facility must be known. One hundred cases seen in a clinic that serves ten thousand people suggests a problem considerably smaller than fifty cases in a population of one thousand. Control efforts can then be appropriately targeted.</p> <p>Asymptomatic cases - It is important to note, when discussing cholera epidemiology, that a large number of people infected with <i>V. cholerae</i> O1 or O139 never develop symptoms. This proportion of asymptomatic individuals is usually reported to be on the order of 80% or more. The proportion of asymptomatic cases would be higher in endemic areas and lower in non-endemic areas where there has been little or no prior exposure and immunity. Incidence does not report on infections with <i>V. cholerae</i>, but only on the rate at which people develop symptomatic illness and, of course, on the proportion of those with symptoms who presented to facilities, were diagnosed and recorded.</p>

Indicator	Description
Deaths	<p>Definition: Deaths from all that are described as a case based on case definition</p>
	<p>Definition: The second important indicator for monitoring purposes is the facility case-fatality ratio which provides an indication of the quality of care that people are receiving as well as providing an indication of whether people are managing to reach health facilities in an adequate time-frame. It is the number of cases of cholera that die at a facility in a given time period divided by the number of new cases seen during that time period.</p> <p>Note: The difference between a case fatality <i>rate</i> and a case fatality <i>ratio</i>. In a rate, the cases counted in the numerator are included in the denominator. Every death that is counted occurred in a person who was seen that week, and is therefore a person who is included in the denominator. In fact, this is often not the case, as cases who present the previous week may survive until the following week, and be counted as deaths (in the numerator) during a week in which they were not counted as cases (in the denominator). The shorter the time period used, the more significant this distinction becomes; in fact, daily case fatality rates are almost always <i>ratios</i>, whereas monthly case fatality rates are much closer to being true <i>rates</i>.</p>
Case Fatality Ratio (CFR)	$\text{Case Fatality Ratio (CFR)(\%)} = \frac{\text{Deaths from cholera during a week} \times 100}{\text{New patients of cholera during the same week}}$
	<p>How to calculate: Case-fatality ratios are conventionally expressed as a percentage so the quotient is multiplied by 100 (as shown above). Calculating CFR on a regular basis allows for an instant determination of the effectiveness of case management.</p> <p>Use of CFR to assess effectiveness of the response: Thirty-one (31) deaths occurring out of 284 patients seen at a facility during a week would give a CFR of 10.9%. This is not an unusual CFR at the beginning of an outbreak, where care-seeking may be delayed and before: appropriate treatment facilities are established, communications strategies are implemented, training is undertaken and appropriate supplies are provided, and an adequate number of health professionals have become involved in providing treatment. Within a very short time, however, the CFR should be reduced to less than 1%, which is the well-established target standard for cholera control, although for some groups, such as those compromised by underlying conditions such as HIV/AIDS or malnutrition, it might remain considerably higher. Should the CFR at any individual treating facility or overall, remain above 1% for several consecutive reporting periods, and especially after the first few weeks of an outbreak, investigation and correction is warranted. The clearest explanations for persistently elevated case-fatality rates are on-going delays in care-seeking behaviors, illustrating the importance of effective communications strategies and/or faulty treatment procedures that require re-training and intensive monitoring of all involved in providing intravenous and oral rehydration therapy. No deaths should occur in patients who have been in treatment for at least four (4) hours who have no special underlying risk factors. In other words, all deaths should occur among people who arrive at the CTC/CT in a moribund state, usually because they have delayed health-care seeking or because they had difficulty accessing a health facility. Deaths that occur after four (4) hours can almost always be attributed to ineffective case management, the reasons for which require immediate investigation and correction. Data from communities or from line-listing can be disaggregated to show community CFR as well.</p>
Case Fatality Ratio (CFR)	<p>Note: The difference between daily case fatality ratios vs. case fatality ratios calculated over longer periods: The shorter the period, the less stable the CFR – although very useful at the beginning of the outbreak, as cases diminish over time, even a single death can bring the daily CFR back up above 1%. CFR's calculated over longer periods (weekly, or a moving 7-day or 14-day CFR) are less subject to the dramatic swings that characterize daily CFRs and may be more suitable over the longer term.</p> <p>Note: One additional measure to consider is the <i>cumulative CFR</i>. Like the AR, this is often calculated over the period of the entire outbreak, or perhaps annually in endemic areas. While it too may be useful in shedding “important light” on the overall severity of the outbreak and the effectiveness of clinical treatment efforts when viewed retrospectively, it may be somewhat problematic in that the cumulative CFR may never attain the gold standard of 1% if the outbreak is short and the CFR was high in the first epidemic peak. Even in extended epidemics, such as those in Zimbabwe and Haiti, after many weeks of very low CFRs, the cumulative CFR will remain well above 1% due to the high number of cases and high CFRs during the initial weeks.</p>

Indicator	Description
Hospitalization rates	Definition: All cases of acute, profuse watery diarrhea, with or without vomiting who spend at least one night in a health facility in a department affected by cholera, regardless of the level of dehydration or treatment received. The definition of hospitalization needs to be agreed upon and made clear by all partners so it is consistent.
	$\text{Hospitalization rate} = \frac{\text{Number of hospitalizations} \times 100}{\text{Number of cases seen during the week}}$
	Analysis: The hospitalization rate can be high at the beginning of an outbreak when there is under-detection of cases (so hospitalizations appear higher), and there are underreported community cases, lack of early treatment and the case definition is used incorrectly, i.e., all people seen at the facility are considered hospitalized. Response should follow accordingly by either assessing the data collection methodology or community knowledge, care seeking and referral. The average reference is estimated to be 34% based on data in Peru in 1991.
Attack Rate (AR) or Cumulative Incidence (CI)	Definition: The attack rate is sometimes called a “cumulative incidence rate” and refers to the proportion of the population that contracts cholera during a designated time period (week, month, whole outbreak)
	$\text{Attack Rate (Cumulative incidence rate)} = \frac{\text{Attack Rate (Cumulative incidence rate)}}{\text{Number of people at risk at the beginning of the same period}}$
Attack Rate (AR) or Cumulative Incidence (CI)	Analysis: CI is expressed as proportion and it specified time interval, e.g., C.I. = 0.15% per week. This is the preferred measure to monitor weekly incidence. Attack rates in endemic areas are calculated over the course of a year and generally run between 0.2%-0.5% per year in the absence of outbreaks. In smaller populations with poor environmental conditions the rate can be higher, and in confined areas such as refugee camps attack rates are usually on the order of 5%-8%. Cholera outbreaks can cause higher attack rates. For example, during the outbreak that occurred among Rwandan refugees in camps near Goma, Zaire in 1994, it was estimated that 100% of the population was infected. Knowing the attack rate, as defined here, does not help control efforts during the course of an outbreak, but can shed important light on the magnitude of the outbreak and on how effectively control measures were instituted when viewed retrospectively.
Prevalence Rate (PR)	The prevalence of a condition indicates what proportion of a population has a given disease at a given point in time or over a defined period of time. Because the duration of a particular episode of cholera is of short duration, only a matter of days, and because many people with cholera either are cured, or die, in such a short time, cholera prevalence is not a particularly useful indicator for describing an outbreak.

An epidemic curve plots the number of cases by date of occurrence. For cholera, the shape of the epidemic curve can give important information. A series of epidemic curves follow with their possible interpretations.

Example 1 - Point source outbreak



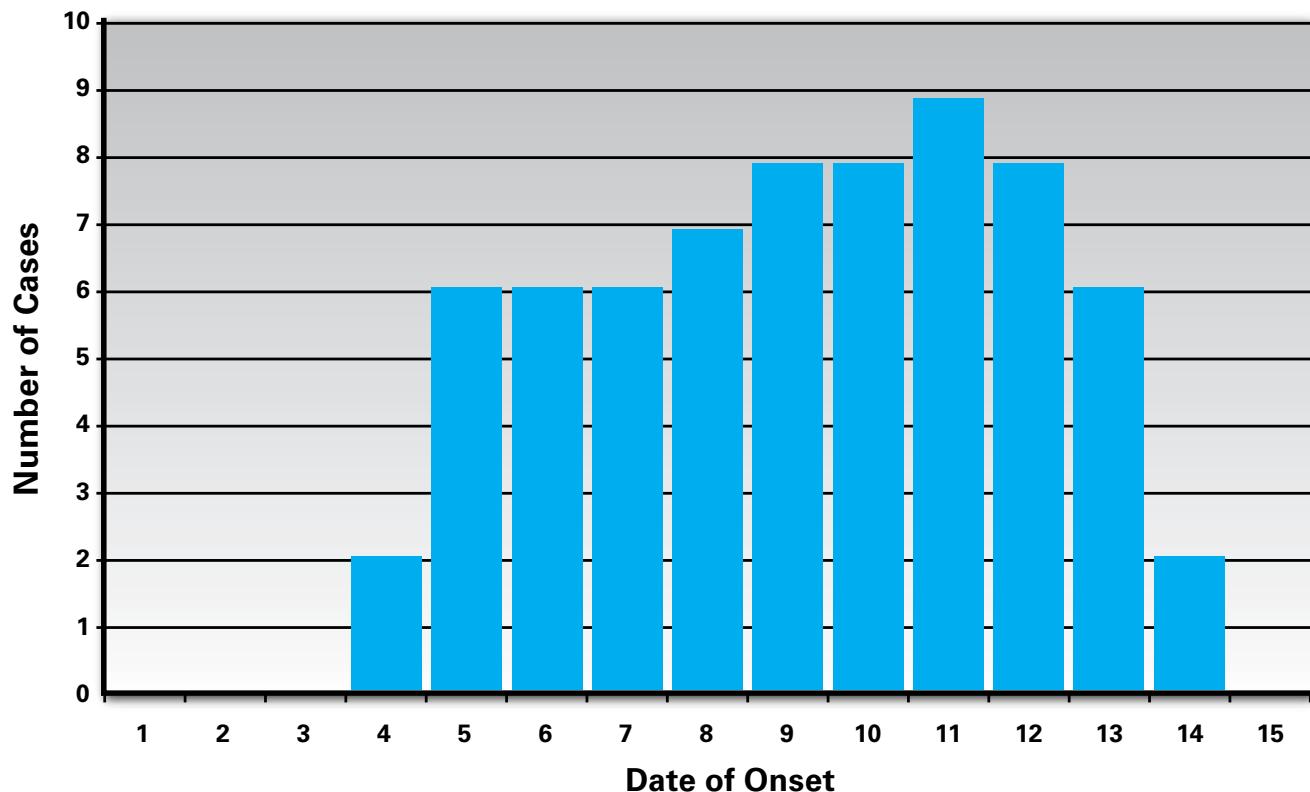
This pattern is typical of what is called a **point-source outbreak**. Here, all of the cases have been exposed to the source of infection at the same time, as might occur, for example, if a group of people attend a dinner where one or more of the foods consumed had been contaminated. This curve might describe the experience of a group of people who attend the funeral of a person who has died of cholera and who all ate food that was prepared, without hygienic precautions, by people who also prepared the body for burial.

A point-source outbreak is characterized by a few early cases, rapidly rises to a peak, and subsides a bit more slowly (for the mathematically minded, this curve is a classical log normal distribution). The distribution of the cases in time represents the variability of the incubation period, perhaps dependent on the infective dose. All of the cases occur within one incubation period (which for cholera can be from a few hours to 5 days; in fact, for cholera outbreaks, it is entirely reasonable to plot the x-axis, or time element, of the epidemic curve by 6 or 12 hour periods, rather than by days).

Although this epidemic curve actually depicts a cholera outbreak, most cholera outbreaks do not follow this pattern. Here, there is no secondary transmission – all of the cases were exposed at the same time.

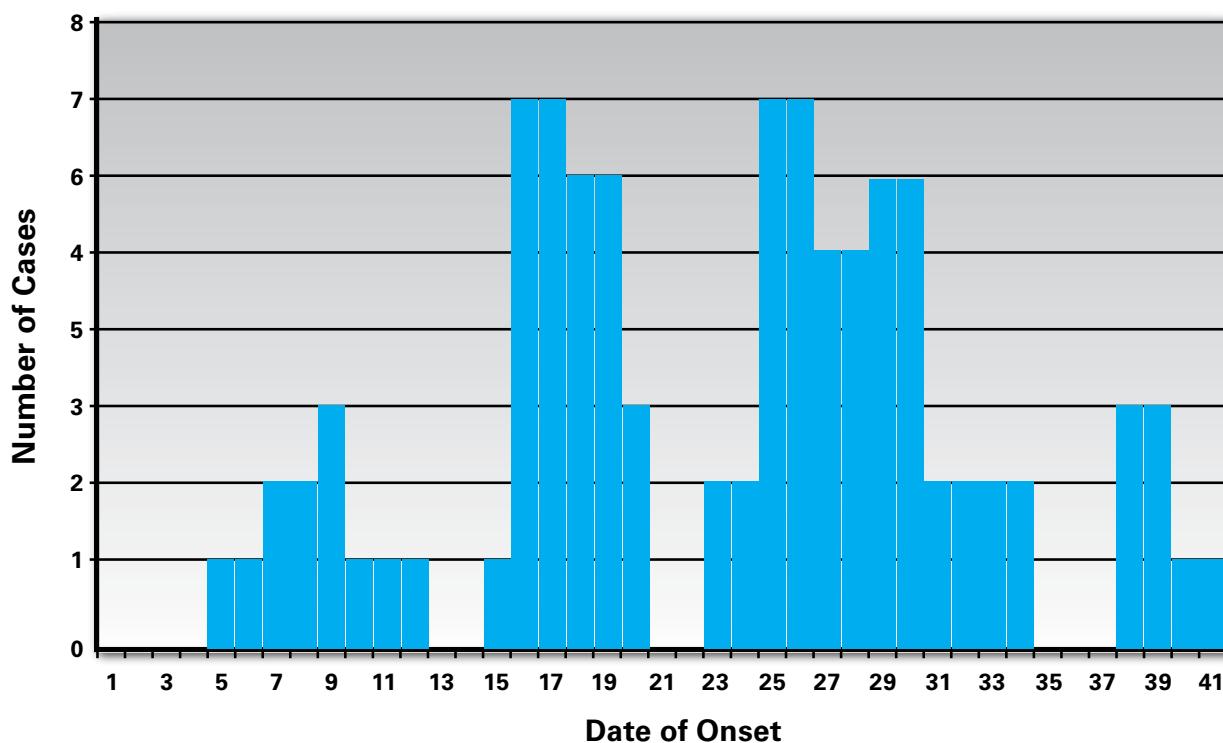
Example 2 - Common source outbreak with continuous exposure

A variant of the point-source outbreak is one in which there is a single source of infection, but where there are multiple exposures to that source in an on-going fashion. For example, if water in a tube well is contaminated and people continue to use it over a period of time, individuals will be exposed on each day that the tube well remains in use. The epidemic curve might look like this:



Example 3 - Intermittent single source of exposure

Another variant of an epidemic curve from an outbreak with a single source of exposure happens when exposure to that source is not continuous (as above), but intermittent. Imagine a contaminated well in the bush, where relatively few people draw water from it, and then only every few days. In this case, an epidemic curve would resemble, more or less, several point-source outbreaks. In the graph below, one sees that 12 cases occurred over 8 days, then 30 cases over 6 days, and so on. This could happen with cholera, if a single remote source were contaminated, but it would be an exception, not the rule.



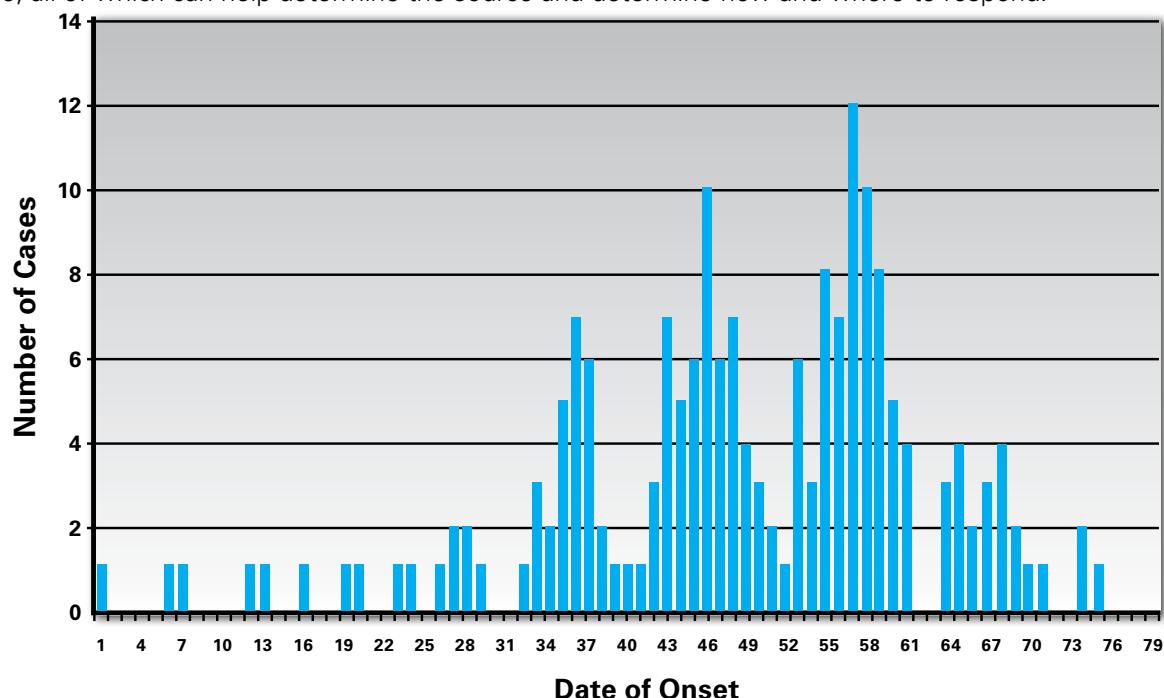
Example 4 - Person-to-person (faecal-oral) outbreak

So far, all of the epidemic curves shown represent single source outbreaks with no secondary transmission. Consider the usual situation of cholera, however, where there is propagation of the infection from person to person. Here, each case can give rise to a number of other cases. The frequency of such occurrence is called the reproductive number. For the 2008-2009 cholera outbreak in Zimbabwe, mathematical modelling suggests that each case resulted in between 1 and 3 additional cases (Mukandavire et al., (2011) Proc Nat Acad Sci 108:8767-72). The epidemic curve of a person-to-person propagated outbreak can look like this:

Here, there seem to be a number of "mini-outbreaks," as in the preceding example, but each one has a higher peak than the preceding one, indicating a reproductive number greater than 1. In theory, the peaks of the different 'generations' of infection would be one incubation period apart, but in reality things are never this neat. Toward the end of the outbreak, as the number of susceptible individuals decreases due to exposure of a large proportion of the population, the migration of a large number of susceptible individuals from the area, the high number of deaths that removes infectious individuals from the population, or unknown reasons, the epidemic peters out.

Summary

In summary, the epidemic curve of an outbreak can yield information and insight regarding the magnitude of the outbreak, the pattern of spread, the time period over which the outbreak continues, and the incubation period of the disease, all of which can help determine the source and determine how and where to respond.



In all instances, the objective of outbreak control is to lower the peak(s), compress the time over which cases occur, and minimize the generations of person-to-person propagation.

The epidemic curve, combined with mapping of the locations at which cases are occurring, as well as other information derived from the line listing, such as gender and age, will allow for a fairly detailed description of the outbreak in terms of person, place, and time.

Disclaimer

In real life, cholera outbreaks may be due to multiple exposures to multiple sources over an extended period of time, with exposures to common sources and person-to-person transmission occurring simultaneously. When this happens, analysis of the epidemic curve will be difficult and any attempts to interpret the epidemic curve will be fruitless.

Reference note:

The graphs in this section come from: cphp.sph.unc.edu/focus/vol1/issue5/1-5EpiCurves_slides.ppt (Accessed 24 June 2012) and epiville.ccnmtl.columbia.edu/sars_outbreak_study_2/data_analysis.html (both accessed 24 June, 2012). Labels on the x-axis are not necessarily from cholera outbreaks.

**For an editable version of this template, click here **

This is a suggested spread-sheet for planning CTCs and ORPs for cholera response. The excel file has been built out of planning sheets and supply lists recommended and used in the field in previous outbreaks. It is comprised of 5 different sheets for planning of health facilities, mapping of partners, supplies for CTC/CTUs, supplies for ORPs and detailed content of Diarrhoeal Disease Kits (DDK) available

Planning Sheet and Supply Calculator												
Region/cluster	Municipality	Total population	Risk level	Attack rate	# Estimated cases	Severity cases	# cases/day	Basic isolated	PHC (100 beds)	ICU patients (100/ICU in severe)	# ICU isolated	CMS isolated beds (1,000)
Region A		100,000	Low risk	1.0%	1,000	100	4	11	2	0	1%	20
Region B		100,000	Medium risk	1.5%	1,500	150	6	17	3	0	4%	30
Region C		100,000	High risk	2.0%	2,000	200	8	23	4	0	7%	40
Total		300,000			5,500	550	14	51	9			

Estimated number of cases + CTC worksheet, to estimate the number of cases, beds and CTC required based on the risk level of a given area.

Mapping of partners											
Region	Partnership	Local government	Private sector	Academia	Name of healthy schools cluster (local level)	Name of healthy schools cluster (regional level)	Name of healthy schools cluster (national level)	Number of healthy schools (local level)	Number of healthy schools (regional level)	Number of healthy schools (national level)	Number of schools with healthy schools partners
Region A	Partnership A	Local government A	Private sector A	Academia A	Healthy Schools Cluster A (local level)	Healthy Schools Cluster A (regional level)	Healthy Schools Cluster A (national level)	100	100	100	100
Region B	Partnership B	Local government B	Private sector B	Academia B	Healthy Schools Cluster B (local level)	Healthy Schools Cluster B (regional level)	Healthy Schools Cluster B (national level)	100	100	100	100
Region C	Partnership C	Local government C	Private sector C	Academia C	Healthy Schools Cluster C (local level)	Healthy Schools Cluster C (regional level)	Healthy Schools Cluster C (national level)	100	100	100	100
Region D	Partnership D	Local government D	Private sector D	Academia D	Healthy Schools Cluster D (local level)	Healthy Schools Cluster D (regional level)	Healthy Schools Cluster D (national level)	100	100	100	100

Mapping of partners worksheet, to record suitable partners and their capacity to operate CTCs and ORPs in a given area, based on the needs estimated above.

Logistics supplies for the establishment of CTC/CTU including infection control (WASH)						
For a CTC/CTU basic component for:						
Observation	80 patients					
Isolation	14-20 patients					
Recovery	80 patients					
Neutral areas and 'isolation' waste areas						
Average length of stay if 5 days == number of patient in a month 1500						
WHO (adapted), Annex II, pg 127-246						
CTU 100 patients						
Item	Number / Equipment items	Observation (80 patients)	Isolation (14-20 patients)	Recovery (80 patients)	Neutral areas and 'isolation' waste areas	Total supplies
CTC/CTU necessities						
Foot, 12m ²	2.6m ² (covered) (800) foot example 2m ² (patient)		1	1		2
Foot, 20m ²	Neutral area Isolation and recovery Morgue/indicative area		1		1	2
Plastic sheeting (sheet) for Isolation or ground	Depends on the perimeter of the centre How long will wege the other supplies					
Plaster					1	1
PPE gear					1	1

CTC/CTU package worksheet, with a list of recommended supplies to establish a Cholera Treatment Centre/Unit (CTC/ CTU). It has been developed on a basis of a 100-bed facility but can be customized as required. Includes materials and equipment for establishing, operating and maintaining it (including infection control / WASH facilities).

ORP package worksheet, with a similar list of supplies and materials required for setting up an Oral Rehydration Point (ORP), based on a requirement of 15 patients per day.

Important note: The worksheet does not calculate the supply requirements automatically because the final list of supplies will be modified depending on the local availability of resources but it provides recommended parameters to be consider when ordering the necessary supplies

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<p>Final Assessment (Review all existing records of 1000 lines, reported with 1000 records) Page 1001 If needed, group components of the report are represented in a correct and accurate manner, using 1000 records through 1000 Final Assessment.</p> <p>For writing a formula like for your control other can modify that need to be added to: reference you can used a different methods than the rest of the 1000.</p>	<p>Indicators - when writing the report over a Request can modify to group lines and columns reference Page 1000-1000.</p> <p>The Request, reference the control requests, because to create the report 1000, apparently to maintain order.</p>																																																								
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Diarrhoeal Disease Kit (DDK) Modules worksheet, with a detailed list of the content of the interagency DDKs available that can be ordered to support cholera outbreak response. The worksheet offers an example on how items can be regrouped or how additional items can be added creating a “**setpack**” so these items can be ordered separately without having to order the 145 boxes that composed the DDK.

This can be useful when:

i.e; the equipment does not need to be reordered after the first order.

i.e. the national protocol might use a different antibiotic than the ones contained in the standard DDK

For an editable version of this template, click here 

A. Highlights of the day:

- # cases and # deaths added today (in comparison # cases and # deaths yesterday)
- X % of the districts affected have reported today (X/X affected districts)
- X % of districts reported to be affected (X/X affected)
- Cumulative Institutional Case Fatality Rate X %
- Daily Institutional Case Fatality Rate X %
- No reports from X or X district

Email: cholera_taskforce@who.int

Toll free numbers for **cholera alert**
XXXXXX or XXXXXX

Mobile number for **cholera alerts** and **SMS** is **XXX-XXX-XXX**
Water and Sanitation alert numbers
XXX-XXX-XXX (during working hours)
XXX-XXX-XXX (after hours)

DAILY CHOLERA UPDATE AND ALERTS

Date: / /

- * Please note that daily information collection is difficult due to challenges in reporting accuracy which may result in an increase or decrease in the numbers.
- ** Daily information on new deaths should not imply that these deaths occurred in cases reported that day. Therefore daily CFRs >1% may occasionally result

B. High priority districts to be investigated today

(with cholera taskforce determine cut-offs for priority areas based on the progression of the epidemic)

Districts reported high number of cases today (cases added today > X)	Districts with a daily CFR > X% :	Districts with high number of deaths outside health facility / CTC (determine #)	Districts with cases re-occurring after more than X days	Districts which have not reported for more than X days:

C. Follow-up actions (for example)

Province	District/Area	Flagged as a priority on (date)	Cause for flagging, Action taken to be taken (when and who will be doing what)	Responsible for Following up	Follow up with	Follow up Status
			Non reporting for XX days	District officer		On-going
			XXX cases reported over 1 day	NGO		Done reported Situation Stable
			% CFR increasing	District officer		On-going
			Lack of supplies	District officer		On-going

D. Epidemiological Data

Province	District/area affected	Today's update					Cumulative					
		Cases added today	Deaths added today	CFR of cases added today (%)	Community Deaths added today (included in the total)	Cumulative Cases	Cumulative Deaths	Cumulative CFR (%)	Community Deaths (included in the total)	Proportion Community Deaths (%)	Date last updated	Number of days since previous report
		X	X									

"X": No report



Flagged for follow up



Report received after more than 1 day

Purpose

This note provides guidance for UNICEF on the use of oral cholera vaccines (OCV) to implement the 2010 World Health Organization (WHO) recommendations on public health use of OCV¹. This note does not replace WHO guidance and recommendations but summarizes existing information on OCV and provides options for UNICEF to engage with governments, WHO and partners. The guidance will be updated accordingly with new WHO recommendations.

Summary

Oral cholera vaccines are safe, effective, and acceptable (see Annex A for details on OCV). They present an additional tool for cholera control to supplement, but not to replace, existing priority cholera control measures. With the September 2011 WHO prequalification of a newly manufactured cholera vaccine that is significantly lower in price (50% lower) and simpler to deliver than other cholera vaccines, - it has no need for buffer, has a smaller packed volume and has a vaccine vital monitor (VVM) - there is increased opportunity to use OCV, either pre-emptively or reactively. Furthermore, the International Coordinating Group (ICG) consisting of MSF, IFRC, UNICEF and WHO, is considering the establishment of an OCV stockpile for epidemic response.

UNICEF recommends engagement with governments, WHO and partners to consider OCV use pre-emptively in endemic, at-risk and humanitarian settings and reactively in outbreaks. In all contexts, the decision-making process must be based on a sound risk assessment

Background

The incidence of cholera is on the rise, with more than 500,000 cases and 7000 deaths reported worldwide in 2011². However, these data are considered a significant underestimate; the actual burden of cholera is estimated to range anywhere from 1.4 million to 4.3 million cases worldwide, resulting in 28,000 to 142,000 deaths per year worldwide, among the 1.4 billion people at risk in endemic countries³. The trends in cholera globally are alarming. There is an increased frequency of large and protracted cholera outbreaks with high mortality, reflecting the weaknesses of existing mechanisms for prevention, early detection, control of spread and access to timely health care. Cholera has become entrenched in more countries in Africa, and it has recently returned to the Americas with ongoing transmission in Haiti and the Dominican Republic. A new strain of *Vibrio cholerae*, more virulent and causing a more severe clinical illness, emerged in 1992 and has now spread globally⁴. In addition, climate change and rapid and unplanned urbanization are increasing the pool of already marginalized populations at risk⁵. Children under five bear the greatest burden of cholera in endemic areas, and account for about half of the estimated cholera deaths⁶. A marker of inequity, cholera targets the most vulnerable of at risk communities. These populations possess the poorest underlying health status, the least access to essential services such as safe water, sanitation, hygiene, health services and education messages, and they live in the most fragile settings prone to crises and global socio-economic fluctuations.

The 64th World Health Assembly (WHA) in 2011 highlighted this increasingly pressing situation and called for renewed efforts for cholera prevention and control. The WHA urged countries "to undertake planning for and give consideration to the administration of vaccines, where appropriate, in conjunction with other recommended prevention and control methods and not as a substitute for such methods"⁷.

¹ Cholera vaccines WHO position paper *Weekly Epidemiologic Record* (WER) No 13, 2010, 85, 117-128 

² Cholera 2011 *Weekly epidemiologic record* (WER) No. 31-32, 2012, 87, 289-304 

³ Ali M, Lopez AL, You YA, Kim YE, Sah B, Maskery B, Clemens J. The global burden of cholera. *Bull World Health Organization*, 2012, 1;90(3):209-218A.

⁴ Siddique AK, Nair GB, Alam M, Sack DA, Huq A, Nizam A, Longini IM Jr, Qadri F, Faruque SM, Colwell RR, Ahmed S, Iqbal A, Bhuiyan NA, Sack RB. *El Tor* cholera with severe disease: a new threat to Asia and beyond. *Epidemiol Infect*. 2010 Mar;138(3):347-52.

⁵ Background Paper on the Integration of Oral Cholera Vaccines into Global Cholera Control Programmes 

⁶ Deen JL et al. *The high burden of cholera in children: comparison of incidence from endemic areas in Asia and Africa*. *PLoS Neglected Tropical Diseases*, 2008, 2(2):e173. 

⁷ Cholera: *mechanism for control and prevention* 

Recommendations for UNICEF

UNICEF can play a critically important, supportive role in advancing the consideration of cholera vaccines as an additional public health tool in global, regional and national cholera prevention and control strategies. UNICEF Country Offices should engage with national counterparts and partners who may consider the introduction of OCV as part of the long-term strategy for cholera control and who may also propose the use of OCV in specific situations like humanitarian crises or outbreaks, in addition to the activities laid out in the Core Commitments for Children in Humanitarian Action (CCCs). Once the decision is taken to use OCV, UNICEF Country Offices can play an essential role in the implementation of vaccination campaigns.

General considerations for the use of oral cholera vaccines

This section provides information to help UNICEF appreciate why to use OCV, when (in what context) to consider their use and how to use them, including where and for whom, based on current WHO guidance and recommendations.

Priority cholera control measures should aim at (1) preventing the spread of cholera through strong disease surveillance and early warning, access to safe water, adequate sanitation, hygiene and food safety measures and (2) limiting mortality through early detection and timely and effective case management. The use of OCV as an additional tool will vary according to the country and context; decisions on their use will be made by national health authorities supported by WHO and other partners. In any setting, initial consideration to use OCV should be based on:

- A sound risk assessment that clearly outlines cholera epidemiology and trends;
- The capacity of the community and national mechanisms to prevent and control outbreaks;
- The feasibility of conducting a cholera vaccination campaign and attaining good coverage;
- The relevance of OCV with respect to competing public health priorities.

Documenting both the decision and outcomes of use or non-use of OCV will be vital to developing evidence-based guidance and strengthening recommendations for future OCV use.

Why vaccinate with OCV

The intent of OCV use is to both protect the individual who receives the vaccine and to reduce transmission and, consequently, the burden of disease in the community.

When to consider the use of OCV

There are effectively two contexts when OCVs can be used:

1. Pre-emptive vaccination of populations takes place **before** likely upsurges in cholera transmission or outbreaks in order to limit and reduce spread of the disease. Pre-emptive vaccination aims to:

- *Contribute to the control of diarrheal diseases* in countries and communities where cholera is *endemic*⁸ with known cholera transmission occurring at predictable times and places, i.e., seasonal upsurges;
- *Prevent a potential outbreak* in targeted populations and areas at risk for cholera outbreaks i.e., areas that lack essential services to prevent the spread of *Vibrio cholerae* in the environment, such as adequate clean water, sanitation and hygiene;
- *Prevent a potential outbreak during humanitarian crises* where essential services to prevent the spread of *Vibrio cholerae* in the environment (adequate clean water, sanitation and hygiene) and health care are disrupted or destroyed, populations may be on the move or residing in crowded settings and the area is at risk for cholera outbreaks.

2. Reactive vaccination of populations occurs **after** the start of an outbreak and aims to limit mortality (protect the individual who receives the vaccine) and reduce the spread of the disease. Reactive vaccination aims to:

- *Reduce spread to and limit mortality in a community at imminent risk* of outbreak extension but one that is either not yet or so far little affected by the current outbreak, i.e., neighbouring communities - across borders, or linked by river systems or water and sanitation systems.

⁸ Endemic cholera: WHO: the occurrence of faecal culture-confirmed cholera diarrhoea in a population in at least 3 of the past 5 years.

An outbreak of cholera at the national level commonly consists of a succession of several outbreaks as it spreads through the country or across borders. Vaccinating communities in areas at imminent risk during such a succession would have greater impact than in areas where the transmission has already been active for several weeks or months. Many of the individuals in a community where there is active transmission may have already been infected with cholera even if they are asymptomatic. In fact, an estimated 80 per cent of infected individuals will be asymptomatic but still shed the bacteria. This reactive strategy is particularly important in areas where response mechanisms cannot deliver typical cholera control measures^{9,10}.

The epidemiologic and contextual criteria for the use of OCV in epidemic settings should be carefully analysed as part of the decision-making process. Documentation and evaluation of impact of future use of OCV in various contexts will be critical to further refine the evidence-based decision making process.

How to deliver OCV

It is anticipated that OCV will be delivered to high-risk areas through mass vaccination campaigns, given two important considerations:

- 1. Where to target mass campaigns:** Based on a thorough situational risk assessment, vaccination should target geographic areas and communities that are particularly vulnerable, especially marginalized populations, crowded and unhygienic settings, urban slums, refugee and displaced sites, and communities who lack access to safe water, sanitation and hygiene and health services.
- 2. Whom the mass campaigns should target:** All people over the age of one year in the at-risk communities may benefit from receiving OCV. In endemic contexts, adults are likely to be already immune, so they may be of less value to include in the target population. In most contexts the following guidance applies:
 - **WHO recommends prioritising children as they have the greatest risk of death**, particularly if resources are limited. Such prioritisation may also have a greater impact in preventing transmission in the community.
 - **Target other groups with increased risk of death**, e.g., pregnant women, individuals with HIV, those with moderate or severe malnutrition and older populations, if resources allow.

Mass vaccination campaigns require community support, especially for selecting the target groups. This process requires dialogue with community leaders as well as a strong, carefully designed communication component that should address: continuation of hygiene and prevention behaviours, population perception of the risk of cholera, the introduction of OCV as a new vaccine, potential confusion with other mass vaccination campaigns such as polio, ineffectiveness against other diarrhoeal diseases, i.e., vaccinated individuals can still become sick with acute diarrhoea.

- 3. Additional feasibility considerations during large epidemics and humanitarian crises¹¹:** During an acute humanitarian crisis or large cholera outbreak, **consideration of the use of OCV should not distract from the immediate priority of implementing lifesaving interventions** to quickly reduce crisis-related excess mortality and providing basic lifesaving services related to health, water, sanitation, hygiene, food, shelter, and protection. A 2005 WHO meeting on the use of OCV in humanitarian settings, outlined the following considerations that require special attention in planning and conducting a two-dose vaccination campaign:
 - Availability, arrival time and distribution of vaccines;
 - Continuous access to at-risk populations to identify the most vulnerable groups, performance of a risk assessment and execution of a campaign with good coverage;
 - Population movements (particularly for the second dose);
 - Local supply and logistics constraints (including storage and cold chain capacity);
 - Human resources constraints and access to trained staff;
 - Prevailing security conditions.

The WHO-appointed Strategic Advisory Group of Experts (SAGE) Working Group on Vaccination in Humanitarian Emergencies is developing an updated framework for use of OCV in humanitarian settings for release in 2012-2013.

⁹ Oral cholera vaccine use in complex emergencies: what next? WHO Meeting Report 2005 

¹⁰ Ad hoc meeting of experts convened by WHO for cholera control in humanitarian emergencies 2010

¹¹ Oral cholera vaccine use in complex emergencies: what next? WHO Meeting report 2005 

UNICEF's role as a supporting agency

At the Global and Regional levels, UNICEF can play a supportive role as a partner to WHO and key stakeholders to:

- Advocate for the most appropriate use of OCV in specific settings through an approach that is integrated with standard prevention and treatment interventions;
- Document decision-making processes as well as the effectiveness, feasibility and impact of mass campaigns in various contexts;
- Develop further guidance and tools on the use of cholera vaccines;
- Through Supply Division (SD), work with vaccine manufacturers to facilitate the supply of vaccines;
- Support the development and implementation a global OCV stockpile mechanism;
- Act as a member of the International Coordination Group (ICG) for the OCV global stockpile.

At the Country level, as part of its commitment to preparedness, UNICEF should support governments, WHO and partners to prevent, prepare for and respond to cholera through actions including effective coordination, preparedness and response planning, and the implementation of standard prevention and treatment efforts. In addition, UNICEF can engage in the development and implementation of OCV vaccination strategies with national authorities, WHO and partners to:

- Review the epidemiological situation of cholera at local level, including the historical endemicity, attack rate and case fatality rate of previous outbreaks and the extent of the current outbreak;
- Identify risk areas and communities for targeted vaccination (risk assessment) and build corresponding capacity needed at national and regional levels;
- Support the most relevant strategy, given local conditions, for the eventual introduction of OCV as a component of the national strategy for cholera control, and document the decision-making process;
- With SD, or through the potential OCV stockpile mechanism, source OCV from manufacturers, procure it, and distribute it to governments and partners;
- Procure and distribute other necessary supplies including cold chain equipment (linked to existing procurement systems through SD);
- Plan and conduct vaccination campaigns including logistics and capacity building (according to existing national immunization programs and systems);
- Conduct social mobilization for campaigns and monitoring;
- Document effectiveness, feasibility and impact of the use of OCV in various contexts.

How to access vaccines and technical support

For further information and technical support on OCV and decision making, please contact:

- Heather Papowitz: Senior Advisor Health – Emergencies, PD/NY, hpapowitz@unicef.org
- **CC to:** Osman Mansoor: Senior Health Advisor (New Vaccines), PD/NY, omansoor@unicef.org

For further information on OCV procurement and supplies:

- Ana Balmes: Contracts Manager in Supply Division, Copenhagen, abalmes@unicef.org
- Ian Lewis: Contracts Officer in Supply Division, Copenhagen, ilewis@unicef.org

For further information on OCV procurement and supplies during humanitarian crises:

- Jens Grimm, Logistics Specialist in Supply Division, Copenhagen, jgrimm@unicef.org
- Jean-Cedric Meeus, Senior Emergency Supply Manager, Copenhagen, jcmeeus@unicef.org

KEY RESOURCES

WHO Publication: "Oral cholera vaccines in mass immunization campaigns: guidance for planning and use"
whqlibdoc.who.int/publications/2010/9789241500432_eng.pdf

A three-step decision-making tool for the reactive use of OCV (to analyse risk, capacity to contain an outbreak, and feasibility of conducting a campaign) is described in Annex 1, pages 47-54 of the above WHO publication.
whqlibdoc.who.int/publications/2010/9789241500432_eng.pdf

Webinar: Cholera and Cholera Vaccines: an update for UNICEF intranet.unicef.org/PD/CBSC.nsf/Site%20Pages/Page0201 (intranet) and vimeo.com/45662328 (external) password is response2012.

Acknowledgements

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Annex A: Cholera vaccine specifications

Basic information: Oral cholera vaccines (OCV) are safe, effective, feasible and acceptable according to various studies on their use. There are currently two WHO prequalified OCV, Dukoral^{®12} and Shanchol^{®13}, that provide protective efficacy greater than 60 percent (> 60%) for at least two years (see table for dosing schedule). A booster dose is recommended by the manufacturer for both vaccines every two years (every six months in children 2 – 5 years old for Dukoral[®]). This recommended interval may change as a recently published study showed a 65 per cent protective efficacy of Shanchol[®] among adults during the third year of follow up¹⁴. Re-analysis of data of a Bangladesh trial that took place in the 1980s showed some evidence of extended protection to people not vaccinated, allowing for an additional benefit from large-scale vaccination of at-risk populations¹⁵. Both vaccines require a cold chain, and Dukoral[®] requires dilution with a buffer solution. Dukoral does not have VVM, but lab results indicate good heat stability. Research is underway for the use of a single dose of Shanchol[®] in clinical trials in India and for other vaccines that are more efficient for field use.

Cost effectiveness: A global investment case was conducted by the International Vaccine Institute (IVI) to provide evidence for investing in OCV production and use as part of a broader public health strategy for cholera control. The study concluded that in 15 years cholera vaccination could prevent up to 18 million cases and 600,000 deaths and would be "very cost effective" (using WHO definition of the cost/DALY \leq GNP/capita) particularly programs targeting children¹⁶. A study by the Diseases of the Most Impoverished Program used data on incidence, cost of illness and private demand for OCV from Beira, Mozambique, Matlab, Bangladesh, Kolkata, India and North Jakarta. Vaccination in all sites would be cost-effective, and programs for children (1-14 years old and 5-14 years old) would be "very cost-effective" in both Beira and Kolkata taking into account herd protection¹⁷.

Availability of cholera vaccines/global stockpile: The current annual production capacity is 2 million doses of each vaccine with a possible increase based on demand¹⁸. The creation of a stockpile of at least 2 million doses of OCV for outbreak control was recommended at the 2011 WHO consultation on OCV stockpile and confirmed in a 2012 WHO consultation. A global stockpile could act as a "gateway" to make the vaccines more readily accessible for field use, increase efforts towards surveillance, increase the demand and supply, motivate manufacturers and provide

¹² Jertborn M, Svennerholm AM, Holmgren J. Evaluation of different immunization schedules for oral cholera B subunit-whole cell vaccine in Swedish volunteers. *Vaccine*, 1993, 11:1007-1012.

¹³ Trach DD et al. Investigations into the safety and immunogenicity of a killed oral cholera vaccine developed in Viet Nam. *Bulletin of the World Health Organization*, 2002, 80(1):2-8.

¹⁴ Sur D, Kanungo S, Sah B, Manna B, Ali M, et al. Efficacy of a Low-Cost, Inactivated Whole-Cell Oral Cholera Vaccine: Results from 3 Years of Follow-Up of a Randomized, Controlled Trial. *PLoS Negl Trop Dis*, 2011, 5(10): e1289.

¹⁵ Ali M et al. Herd immunity conferred by killed oral cholera vaccines in Bangladesh: a re-analysis. *Lancet*, 2005, 366:44-49.

¹⁶ www.who.int/immunization/sage/SAGE_April_2011_cholera_investment_case.pdf

¹⁷ Jeuland M, Cook J, Poulos C, Clemens J, Whittington D, DOMI cholera economics study group. Cost-effectiveness of new-generation oral cholera vaccines: a multi-side analysis. *Value in Health*, 2009, 12(6):899-908.

¹⁸ WHO Consultation on oral cholera vaccine (OCV) stockpile strategic framework: potential objectives and possible policy options meeting report. 6-7 September 2011. Geneva, Switzerland

experience for deploying vaccines and evaluating the impact of vaccination to control outbreaks. UNICEF is a member of an International Coordinating Group (ICG) for the management of the stockpile.

Summary of studies: Research conducted in endemic settings (Vietnam 1998¹⁹, Beira-Mozambique 2003-2004²⁰, Zanzibar 2009), in stable refugee camps (Uganda 1997²¹, Darfur 2004²²), in emergencies (Aceh 2005²³) and during cholera outbreaks (Micronesia 2000-2001²⁴, Hanoi 2008²⁵) provide broad indication that, overall, the use of OCV is feasible and acceptable as an additional public health tool to prevent the spread of cholera in synergy with traditional control measures, with some lessons and limitations as outlined below.

In 1998, in Hue, Vietnam, mass campaigns took place at schools, community health centers, government buildings and homes of group leaders. Coverage was 84 per cent for the first dose and 79 per cent for the second dose. The wastage rate was 10 per cent. The vaccine effectiveness was estimated at 76 per cent. Since 1998, yearly campaigns target children 1-15 years old and are conducted before the peak cholera season. Pre-emptive vaccination also takes place during natural emergencies, such as floods.

In Beira, Mozambique, a cholera-endemic neighbourhood was vaccinated using Dukoral® in December 2003 and January 2004. The vaccination campaign was preceded by information campaigns that included door-to-door visits. Vaccination teams inoculated an average of 609 persons per day. Overall, more than 98,000 doses of vaccine were administered during the two rounds. Response during the first round was strong and many of the people vaccinated were from outside of the targeted area. The vaccine coverage was 57 per cent. The vaccination campaign was shown to be feasible, although the vaccine presented some logistical challenges.

Nearly 44,000 refugees living in camps were targeted for cholera vaccination in Northern Uganda in 1997, using Dukoral®. Acceptance among this stable population was high, with coverage estimated at 83 per cent for the first dose and 76 per cent for the second dose. Logistical issues included the large amount of cold storage space required. Cholera vaccination campaigns were also conducted in two stable camps for internally displaced persons in Southern Darfur in 2004. The time from initial planning to completion of the second round was seven weeks. More than 40,000 people were fully immunized with two doses of Dukoral®, with estimated vaccine coverage of 88 per cent. The organizers received strong support from the residents and community leaders.

Following the tsunami in 2005, mass cholera vaccination campaigns using Dukoral® vaccine were conducted over a six-month period in Aceh among internally displaced persons. Logistics were made difficult by high level of population movement, damaged roads, depletion of local health workers, security problems and limited cold chain capacity in the area. More than 54,000 persons received both doses, for an overall coverage of 69 per cent, but at significant cost and logistical challenges.

Three experiences of reactive use of OCV during cholera outbreaks have been documented. On the Pohnpei Island of Micronesia in 2000-2001, the single-dose live-attenuated CVD 103-HgR vaccine (Orochol®, which is not marketed anymore) was used in an effort to control an outbreak which was spreading across the archipelago. Vaccine effectiveness was estimated at 79.2 per cent. In 2007-2008 in Vietnam, the occurrence of cholera outbreaks in the capital, Hanoi, prompted authorities to conduct a two-dose vaccination campaign using the Vietnamese killed OCV (same as Shanchol® vaccine) in two districts. The vaccine effectiveness was estimated at 76 per cent. A mass

¹⁹ Vu DT, Hossain MM, Nguyen DS, Nguyen TH, Rao MR, Do GC, Naficy A, Nguyen TK, Acosta CJ, Deen JL, Clemens JD, Dang DT. Coverage and costs of mass immunization of an oral cholera vaccine in Vietnam. *J Health Popul Nutr.* 2003; 21(4):304-8.

²⁰ Cavailler P et al. Feasibility of a mass vaccination campaign using a two-dose oral cholera in an urban cholera-endemic setting in Mozambique. *Vaccine.* 2006 24(5):4890- fieldresearch.msf.org/msf/bitstream/10144/18822/1/feasiabilty%20of%20a%20mass%20vaccination.pdf

²¹ Legros D, Paquet C, Perea W, Marty I, Mugisha NK, Royer H et.al. Mass vaccination with a two-dose oral cholera vaccine in a refugee camp. *Bull World Health Organ* 1999; 77(10):837-41.

²² Chaignat CL, Monti V, Soepardi J, Petersen G, Sorensen E, Narain J. Cholera in disasters: do vaccines prompt new hopes? *Expert Rev Vaccine* 2008; 7(4):431-35.

²³ Chaignat CL, Monti V, Soepardi J, Petersen G, Sorensen E, Narain J, Kieny MP. Cholera in disasters: do vaccines prompt new hopes? *Expert Rev Vaccines.* 2008, 7(4):431-5.

²⁴ Calain P, Chaine JP, Johnson E, Hawley ML, O'Leary MJ, Oshitani H, Chaignat CL. Can oral cholera vaccination play a role in controlling a cholera outbreak? *Vaccine.* 2004, 22(19):2444-51.

²⁵ Anh DD, Lopez AL, Thiem VD, Grahek SL, Duong TN, Park JK, Kwon HJ, Favorov M, Hien NT, Clemens JD. Use of oral cholera vaccines in an outbreak in Vietnam: a case control study. *PLoS Negl Trop Dis.* 2011, 5(1):e1006.

vaccination campaign using Shanchol® was conducted in Guinea Conakry in the district of Boffa (total population 162,190 inhabitants) from mid-April to mid-May 2012. The campaign was organized by the Ministry of Health and Médecins sans Frontières (MSF), with the support of the Agence de Médecine Préventive (AMP). The first cases of cholera had been confirmed in the district in early February 2012, two months before the beginning of the rainy season, and were still increasing in March when the decision to vaccinate was taken. The campaign targeted the entire population over 1 year of age. The vaccine coverage for the two doses reached 77 per cent of the target population (90 per cent for the first round). The last case of cholera in Boffa was reported in early May 2012²⁶.

The cost of delivering the vaccines in country (not including the vaccine itself) was in the range of \$0.50 to \$0.70 per fully immunized person in the various settings, with the notable exception of Aceh (\$8.15 per fully immunized).

WHO Pre-qualified Vaccines	Dukoral®	Shanchol®
Type of vaccine	Killed whole cell <i>V.cholerae</i> O1 plus recombinant B subunit of cholera toxin (WC/rBS)	Killed whole-cell bivalent vaccine (O1 and O139); no B subunit
Age	From two years of age; no upper age limit.	From 1 year of age; no upper age limit.
Dosing	2 doses given orally 1-6 weeks apart. 3 doses in children 2 – 6 years old. Booster dose after 2 years.	2 doses given orally 2 weeks apart. Booster dose after 2 years
Packaging	3ml single dose vials each with a sachet of sodium bicarbonate buffer	1.5ml single dose vials
Buffer	Dilution in 150ml of water (75ml for children 2-5 years) mixed with buffer	No buffer needed
Protection/efficacy	Protection is 1 week after 2 nd dose. 85-90% protection at 6 months in all age groups and 62% at 1 year in adults	Earliest onset of protection 7-10 days after 2 nd dose Provides 67% protection over 3 years
Adverse effects	No significant adverse effects reported.	No significant adverse effects reported.
Storage and Cold chain	3 year shelf life at 2-8 C and is stable for 1 month at 37C. No VVM. Packed volume per dose: 136cm ³ (In 2-dose pack; also available in 20-dose pack)	2 year shelf life at 2-8C VVM 14 Packed volume per dose:16.8cm ³ (In 35-dose pack)
Manufacturer	Crucell	Shantha, a Sanofi Company
Production capacity	2 million doses per year	2 million doses per year but plans on 10 million with additional facilities
Countries licensed	Licensed in 60 countries	India
Estimated prices per dose*	Crucell: EUR 3.6 to 7.2	Shanta: USD1.85

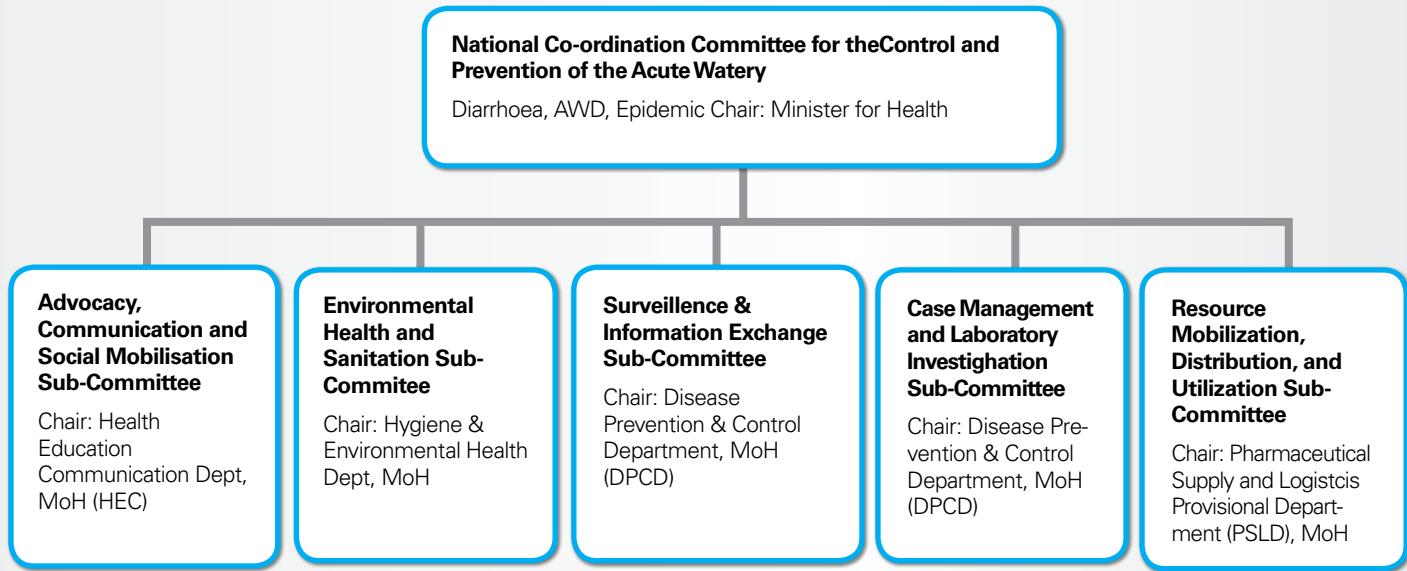
* Estimated vaccine prices only for public sector, a tender process will be required to fix prices.

Ethiopia AWD co-ordination structure, 2006-7 ¹		Zimbabwe cholera co-ordination structure, 2008-9 ²
Cholera / AWD	The Federal Government of Ethiopia did not officially declare cholera and referred to the outbreak in country as 'AWD'.	The cholera outbreak was declared although there was some delay in requesting support from the UN and international organisations.
Federal / National	Ethiopia is a Federal Country	Zimbabwe is a Nation State
Size of outbreak	78,191 cases (847 deaths) - 2006 & 2007 as reported in WHO Weekly Epidemiological Reports Population: 85 million (2010, UNDP Human Development Report)	128,208 (5634 deaths) - 2008 & 2009 as reported in WHO Weekly Epidemiological Reports Population: 12.6 million(2010, UNDP Human Development Report)
Sectoral or Cluster structures utilised for cholera	Cross-sectoral, government-led co-ordination system. Initially existing sectoral emergency tasks forces were responding to the outbreak along with other emergencies such as flooding, landslides and drought. As the AWD outbreak increased in size, a separate structure managed by the Ministry of Health was established under an umbrella National Co-ordination Committee for the Control and Prevention of the Acute Watery Diarrhoea, AWD, Epidemic.	Cluster system and establishment of a co-ordination centre, C4. Initially WHO and other UN and NGO partners contributed through the Cluster system in the areas of health, WASH and logistics with support provided to the Ministry of Health and Child Welfare. A Cholera Command and Control Centre (C4) was subsequently established by WHO in the Ministry of Health and Child Welfare to support outbreak co-ordination.
Perceived strengths of the co-ordination system	Government led, by instruction of the Minister for Health who occasionally chaired meetings. Provided opportunity for all national actors active in the response to openly discuss challenges and bottlenecks which crossed across health, WASH, nutrition, logistics. Overview possible with information from a wide range of sources and outbreak data shared by the MoH, both useful for prioritising actions. Collaboration was possible on developing environmental health-related communication messages and plans, including Government, NGOs and UN agencies.	The C4 strengthened the WHO team in country and hence its ability to support the Ministry of Health and Child Welfare. The structure at national level was complemented by the establishment of Operational Support Teams, at the offices of the Provincial Medical Director and City Health Department. Because of the political challenges in the country (the outbreak occurred before a coalition government was established) many organisations wanted to support the outbreak without supporting the government and the WHO staffed C4 offered a channel for such support to be offered.
Perceived weaknesses or challenges facing the co-ordination system	Cholera was not declared, which contributed to a delay in establishing the AWD co-ordinating structure, by which time the outbreak had already spread to a number of National Regional States. Not all sub-committees of the co-ordination system were functional. Challenges were faced with timely reporting between the various States and Federal level. The links between the AWD co-ordinating committee and the technical task forces were not formalised and depended on representatives who attended both meetings.	The establishment of the C4 was seen to lead to some confusion over the respective role of the Health Cluster versus the C4. The WASH Cluster felt that the C4 did not have much of an impact, and the WASH Cluster continued to co-ordinate WASH responses for the epidemic outbreak.

¹ This structure was as existed before February 2007, after which the Federal Government of Ethiopia approved the use of the Cluster Approach for trial for general emergency co-ordination² Ministry of Health and Child Welfare, Zimbabwe & WHO (2008) Establishment of Cholera Command Centre (C4) in Zimbabwe

Cholera co-ordination structure, Ethiopia, 2006-7

Temporary co-ordination structure at Federal level for the AWD outbreak

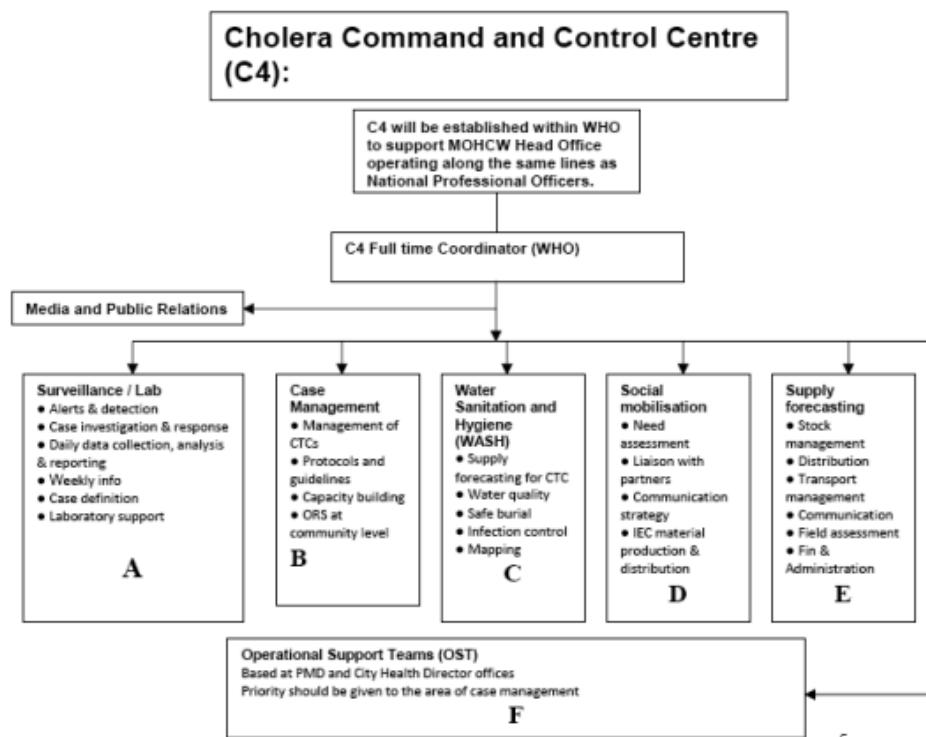
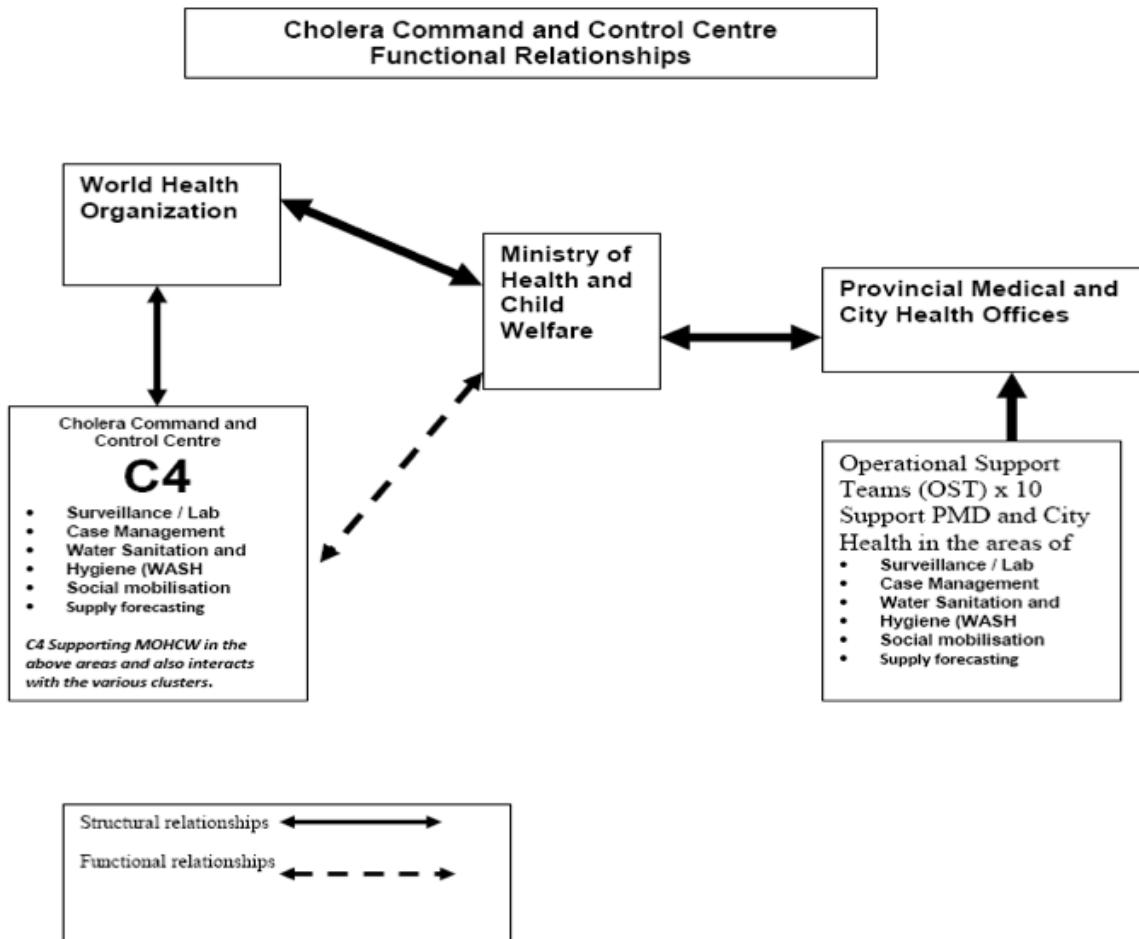


Some of the National Regional States also established AWD Task Forces during the AWD outbreak.

Emergency co-ordination meetings covering all types of emergencies

Federal level	National Regional State level
<p>Technical Information Management Exchange (TIME) Forum Meeting - Chaired by the Disaster Prevention & Preparedness Agency (DPPA) supported by OCHA</p> <p>The following report to the TIME meeting: Emergency Food Aid Task Force – Food aid pipeline (WFP); Food aid distribution (DPPA); Emergency food stocks.</p> <p>Water & Environmental Sanitation Task Force – Chair: Ministry of Water Resources / co-Chaired by UNICEF</p> <p>Health & Nutrition Task Force – Chair: Ministry of Health / co-chaired by WHO</p> <p>Agriculture Task Force – Chair: Ministry of Agriculture</p>	<p>The co-ordination mechanisms vary in each National Regional State – two examples of elements of the co-ordination mechanisms are included below.</p> <p>Afar National Regional State:</p> <ul style="list-style-type: none"> • Afar Regional Relief Task Force Meeting – Chair: Disaster Prevention & Preparedness Bureau • Afar Water, Sanitation & Hygiene (WASH) Emergency & Development Task Force / Co-ordination Meeting – Chair: Water Bureau <p>Oromia National Regional State:</p> <ul style="list-style-type: none"> • Early Warning Task Force – Chair: Food Security Disaster Prevention & Preparedness Committee (FSDPPC) • Food Security Task Force – Chair: FSDPPC • Health & Nutrition Task Force – Chair: Health Bureau • Water Resources Task Force – Chair: Water Bureau • Agriculture / Livestock Task Force – Chair: Agriculture/Livestock Bureau

Cholera co-ordination structure, Zimbabwe, 2008-9



A = Surveillance/ Laboratory will work closely with EDC Director, NHIS, NMRL

B = Case Management will work closely with Department of EDC.

C = WASH will work closely with Environmental Health Department and UNICEF.

D = Social Mobilization will work closely with Health Promotion Unit and UNICEF.

E = Logistics will work closely with NatPharm, Pharmacy Dept and HARP unit.

F = OSTs will be seconded to Provincial and City Health Directorates.

Checklist PreparednessFor an editable version of this template, click here 

Activity	Responsible/Comments	
Co-ordination, institutional framework, information management		
Co-ordination structures for cholera preparedness and response have been clarified – at national, sub-national (regional, district, community) levels and who is to be involved at each level (including government authorities with representatives of different sectors, national red cross / red crescent society, civil society, research institutions, community representatives, etc.)	<input type="checkbox"/>	
Institutional responsibilities for co-ordination have been clarified	<input type="checkbox"/>	
Mechanisms for cross-border co-ordination and communication have been established	<input type="checkbox"/>	
Information management requirements have been identified (what will be needed, who will manage it and how it will be shared, when and with whom)	<input type="checkbox"/>	
Emergency cholera outbreak simulations have been undertaken	<input type="checkbox"/>	
Cholera risk assessment		
Basic information on cholera risk is gathered, analyzed and used for planning, including; trends of cholera and maps over the last 5 years (including across the border), cholera risk areas and populations are identified, basic health and WASH coverage indicators, and basic information on the capacity of the health and WASH systems in the high risk areas. This should be done by all key sectors and stakeholders and where appropriate across borders.	<input type="checkbox"/>	
Cholera preparedness and response plan		
An intra-sectoral integrated cholera preparedness and response plan (including timeline, budget, and indication of responsibilities) has been developed with all key stakeholders	<input type="checkbox"/>	
Policies, strategies, guidelines, standards and standard operating procedures		
National policies and strategies into which cholera must be integrated have been identified and persons responsible for integration identified and informed	<input type="checkbox"/>	
The process to revisit, develop or update national cholera guidelines have been established and are being enacted. Updated guidance, tools and standards are available in all key locations (health facilities, communities, water and sanitation institutions, schools, etc.)	<input type="checkbox"/>	
Standard operating procedures for specific strategies and actions have been developed	<input type="checkbox"/>	
Communication strategy & plan		
A communication strategy and plan has been developed (for both media and communication at the community level)	<input type="checkbox"/>	
IEC materials have been produced and adapted for rapid use - refer to Annex 7C handout for a detailed communication checklist	<input type="checkbox"/>	
Surveillance & early warning		
Surveillance and early warning systems for cholera are in place and functioning	<input type="checkbox"/>	

Laboratory capacities are adequate for cholera surveillance and response (equipment, consumables, training)	<input type="checkbox"/>	
Human resources		
Capacity mapping for cholera has been completed	<input type="checkbox"/>	
Capacity needs assessment has been undertaken	<input type="checkbox"/>	
Capacity building plan has been developed	<input type="checkbox"/>	
Training has been undertaken for health workers, WASH professionals and local authority leadership in priority areas (those most vulnerable to cholera)	<input type="checkbox"/>	
Rapid response teams have been established (where appropriate) with defined terms of reference	<input type="checkbox"/>	
Standby agreements have been established with partners for cholera response	<input type="checkbox"/>	
Contact lists have been established for cholera response (or general emergency sector stakeholders contact list with cholera capacity indicated)	<input type="checkbox"/>	
Health facilities		
Health facilities have been mapped and their capacity for cholera management assessed	<input type="checkbox"/>	
Health facilities in high risk areas are prepared with the appropriate staffing, technical standards and guidance, supplies and data monitoring documents	<input type="checkbox"/>	
Supplies/stockpiles		
The required contingency stocks of drugs, medical and WASH supplies have been identified	<input type="checkbox"/>	
Logistics responsibilities for procurement, distribution and storage have been agreed (including for items which require cold storage)	<input type="checkbox"/>	
Procurement procedures for obtaining supplies have been identified	<input type="checkbox"/>	
The ownership of preparedness stocks / stockpiles have been identified as well as replacement schedules for consumables	<input type="checkbox"/>	
Resource mobilisation		
Sources of funds and channels for fund-raising have been identified and processes initiated	<input type="checkbox"/>	
Community preparedness (in priority cholera vulnerable areas)		
Community mobilisation and development of community action plans has been undertaken	<input type="checkbox"/>	
Water quality surveillance has been strengthened	<input type="checkbox"/>	
Participatory health and hygiene promotion is being undertaken	<input type="checkbox"/>	
Community based surveillance is being undertaken	<input type="checkbox"/>	
Training of community leaders, food providers, water providers is underway	<input type="checkbox"/>	

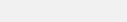
Checklist Preparedness

Activity	Responsible/Comments
Outbreak investigation and confirmation	
Verification of suspected cases of cholera for an Alert	<input type="checkbox"/>
Inter-sectoral, inter-agency rapid outbreak investigation/assessment to area of suspected outbreak	<input type="checkbox"/>
Laboratory confirmation of initial cases	<input type="checkbox"/>
Immediate response actions	
Declaration of a cholera outbreak and notification of central level authorities and authorities in surrounding districts and across borders	<input type="checkbox"/>
Hold an immediate cholera task force meeting/inter-sectoral meeting of key stakeholders with cholera response experience –revisit preparedness plan and prioritize needs and actions. Identify who is going to do what and where	<input type="checkbox"/>
Estimate populations at risk and the numbers expected to fall ill to estimate supply and resource needs	<input type="checkbox"/>
Set up an early warning, alert and response network and system for quick reporting and response to cases and ongoing monitoring.	<input type="checkbox"/>
Conduct a needs assessment to identify resource needs (supplies, HR, funding)	<input type="checkbox"/>
Utilize communication preparedness plan and pre-prepared IEC materials to initiate briefing of the media and communication with the general public on prevention and management	<input type="checkbox"/>
Mobilize partners to the area of initial outbreak for case management, communications and WASH interventions and conduct immediate cholera prevention communication and preparedness to manage cases in surrounding communities	<input type="checkbox"/>
Rapidly identify gaps in human resources (HR) and partners: transfer staff internally in country for initial response and request surge HR or initiate requests to emergency registers	<input type="checkbox"/>
Release stocks of supplies from stockpiles and initiate orders of supplies according to estimations of needs	<input type="checkbox"/>
Prepare a funding proposal for emergency funding. Identify bilateral donors in country and hold a donors meeting.	<input type="checkbox"/>
Response actions-community focus	
Increase monitoring of water points, chlorinate water sources and increase chlorine residuals in urban areas	<input type="checkbox"/>
Intensify monitoring and food outlets and initiate refresher trainings on food safety and hygiene, particular focus at markets	<input type="checkbox"/>
Establish and initiate communication and community mobilisation methods and channels to reach households and vulnerable groups, utilise pre-prepared IEC materials	<input type="checkbox"/>

Training sessions for community leaders, religious leaders, schools teachers etc.	<input type="checkbox"/>	
Intensify monitoring and cleaning/maintenance of institutional and other public latrines and hand-washing facilities	<input type="checkbox"/>	
Establish ORPs at community level with training and support	<input type="checkbox"/>	
Initiate and undertake vaccination campaigns (if appropriate)	<input type="checkbox"/>	
Response actions-health facilities		
Detailed assessments of health facilities, needs and gaps	<input type="checkbox"/>	
Establish new cholera treatment facilities to fill gaps, train, monitor	<input type="checkbox"/>	
Provide training, mentoring support for case management, infection control and collecting, analyzing and using data	<input type="checkbox"/>	
On-going coordination, info management and monitoring		
Hold regular inter-sectoral, inter-agency national coordination meetings	<input type="checkbox"/>	
Hold regular inter-sectoral, -inter-agency district coordination meetings	<input type="checkbox"/>	
Establish information management tools, systems and channels of communication for regular communication of the situation, response actions and needs to all key stakeholders	<input type="checkbox"/>	
Produce and continue to update a who is doing what where table	<input type="checkbox"/>	
Regular collection, analysis and dissemination to all key actors of epidemiological trends and action taken on the information	<input type="checkbox"/>	
Field visits, monitoring (against agreed indicators in preparedness plan) and regular production of situation reports	<input type="checkbox"/>	
Regular supervision and hands on refresher training	<input type="checkbox"/>	
Review meetings, real time evaluations	<input type="checkbox"/>	

The following table identifies a number of different types of cholera guidelines, selected because they highlight a number of elements of good practice.

Examples of cholera guidelines with elements of good practice

Examples	Prepared by	Description and comments on elements of good practice
Examples of national cholera guidelines		
Guidelines on Cholera Control, Kenya (2001) 	Division of Communicable and Vector Borne Diseases, Disease Outbreak Management Unit, Ministry of Health, Government of Kenya	National cholera guidelines with two main sections – clinical guidelines for cholera management (background on cholera, management of a patient with cholera, management of a cholera treatment centre, and patient/relatives education) and cholera surveillance and outbreak control (objectives of cholera surveillance, process of cholera surveillance, outbreak response and environmental health interventions in prevention and control of cholera).
Zimbabwe Cholera Control Guidelines, 3rd edition (2009) 	Ministry of Health and Child Welfare and WHO	National cholera guidelines developed during a major cholera epidemic in Zimbabwe. Covers the background on cholera, the prevention of cholera, being prepared for a cholera outbreak, early response to the threat of a cholera outbreak, management of a patient with cholera, preventing the spread of an outbreak, the role of the laboratory and reporting/surveillance. It has useful practical annexes.
Add your example		
Examples of guidelines developed through sectoral collaboration		
Cholera guidelines (in briefing sheet format)	Somalia WASH Cluster	<p>A series of guidelines in simple briefing sheet format for easy use in the field. Guidelines produced include:</p> <ul style="list-style-type: none"> • Kitchen and cooking recommendations for schools and children centres for cholera response  • Cholera / watery diarrhoea preparedness and response in schools, day-cares and child friendly spaces  • Cholera preparedness and response for health facilities and feeding centres  • Funeral and burial recommendations for deaths from acute watery diarrhoea / cholera   • Guidelines for water, sanitation and hygiene in cholera treatment centres  • Using a pool-tester  • Undertaking a sanitary surveys for wells and boreholes 
WASH guidelines for cholera prevention, preparedness and control - Toolkit F (2010, late draft)   	Emergency WASH sectoral working group, The United Republic of Tanzania (covering both the mainland and Zanzibar, involving both Ministries of Health and various civil society actors and UNICEF)	<p>Developed from best practice from a number of countries to support capacity development of the WASH sector in Tanzania in cholera prevention, preparedness and response. Developed in support of the government cholera guidelines which were due for updating, and also to be used as a resource to strengthen the WASH components and sector capacity. Covered background to cholera, prevention, WASH preparedness, community focussed WASH responses, WASH in health centres or CTCs during a cholera outbreak and supportive supervision and follow up of affected families. Includes a communication framework and other practical annexes.</p> <p>Developed as part of a series of emergency WASH tools. Another toolkit particularly relevant for cholera is the Toolkit E – which focuses on hygiene communication in emergencies.</p>

Examples	Prepared by	Description and comments on elements of good practice
Examples of guidelines developed by specific organisations		
Cholera outbreak: Assessing the outbreak response and improving preparedness (2004)	World Health Organisation	The cholera outbreak guideline (2004) covers: outbreak detection, outbreak confirmation, organisation of the response, management of information, case management – treatment, reduction in mortality, hygiene measures in health care facilities, involvement of the community to limit the spread of the disease, control of the environment – safe water, safe food, sanitation; funeral practices; surveillance and involvement of international partners. Includes a number of useful annexes.
Cholera Guidelines (2004)	Medécins sans Frontières	Practical guideline for the use of Medécins sans Frontières as an organisation but also widely respected and found useful also by other actors. Covers: features of cholera outbreaks, outbreak investigation, intervention strategies, interventions to reduce mortality, case management, reducing the spread of the epidemic, monitoring and evaluation, the end of the outbreak and cholera preparedness. Has a range of useful practical annexes.
COTS Program	Cholera & shigellosis outbreak training materials, by the International Centre for Diarrhoeal Disease and Outbreak Control, Bangladesh	Materials provided as part of an e-based training programme, 'Emergency response to cholera and shigellosis epidemics', but also useful as a guidance document. Provides background information on cholera and shigellosis and the clinical presentation and management of both. It also covers co-morbidities, co-ordination and actions during and after outbreaks. Information available as training session downloads, job specific pocket cards www.cotsprogram.com 
CDC	Haiti guidelines and training material for clinicians and CHWs	See Toolkit for links
OXFAM	2ND Edition of cholera outbreak guidelines 2012 	

1. General Information

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Date of visit:

Location:

Province	District	Town	Village/area	Treatment facility name(s)

Key persons met (local and partners)

Names	Functions	Organisation	Telephone

Members of the assessment team

Names	Functions	Organisation	Telephone

Basic information on assessment location

Basic information	
Approximate size of the population in the affected area (number of villages/districts)	
Population density	
Type of setting: Urban/rural/camp	
Are there any specific places with high density populations?(prisons, displaced camps, schools)	
Are there any foreseen changes in context? • seasonal changes including rainy or dry season, flooding (note when) • population movements including for gatherings or for trade • mass gatherings • security threats	
Is this an area with specific trade routes and associated traffic ?(specify type such as fishing trade and the trading times of year)	
Information on cases of cholera/AWD in the past 3-5 years, if data available what were the numbers and trends	

2. Risk and capacity assessment in facilities (health and WASH)

Facility structure and standards

Health catchment population total	
What are the top causes of morbidity and mortality in the catchment area (% proportion of diarrhoea and age)	
What is the % coverage of treatment with ORS and zinc	
Average walking distance to facility (<5 hours, >5 hours), is the treatment facility accessible to the community, if no, why	
Service hours of operation, specify	
Facility number of rooms, beds and capacity to expand (see part B of this assessment form for feasibility to become a CTC)	
Is there a system of triage?	
Are guideline/flowcharts illustrating proper management of cholera cases available to health care workers and used?	
Does the facility have the necessary funding to continue services and accept a larger case load?	
Are services for cholera given for free?, if not note cost	
Is an ambulance available all the time?	

Surveillance, alert and early warning

Does the facility have a standard case definition for cholera?: note it here	
Does the facility have a cholera registration book/line listing? (get a copy or take a photo of it and attach)	
Does the facility have the capacity to analyze gathered data (numbers, line graphs)	
Is there a system to rapidly report suspected cases for immediate verification within 24 hours?, what are the difficulties	
What method of communications is being used or available to report cases and deaths? (landline, mobile phone, radio, other or none), are community-based data reported to the facility?	
How often are data reported to central level, what are the difficulties?	
Does the facility have capacity to collect lab samples? (test kits, Cary-Blair transport media) <ul style="list-style-type: none"> • where are lab samples sent? • what are the challenges? 	

Infection control

Number and type of functioning latrines in facility and mechanisms of safe disposal of excreta and vomit, are they clean	
Are the health care workers aware of and following proper infection control to avoid contamination? (hand-washing, etc.)	
How is water supplied in the facility, distance of water source from the facility, treatment practices and is there any storage?	
How many litres of water per patient are available in the center? How many litres of drinking water? And water for other uses?	
Is there a system to disinfect clothes and bedding?, if yes, with what	
Is there a system of waste management? (pit, incinerator)	
How is the waste water disposed or treated?	
Does the facility have a system to manage dead bodies of cholera patients? do staff know the procedure?	

Supplies

Are there an appropriate amount of supplies at the facility and any stock-outs of ORS, IV fluids and tubing and needles, antibiotics, zinc, cholera beds, chlorine, soap, gloves, RDTs)	
How is the supply chain managed and where are supplies obtained for regular programs and for emergencies, what are the challenges?	

Is a stock record card used and up to date?	
Are resources needed (cell phone access, phone line, internet) for communicating alerts and sending regular data?	
What is missing that is urgently required in case of an outbreak? (supplies, staff, funding, space)	
What is missing for medium term?	

3. Risk and capacity assessment outside health facilities

Water supply

What types of water sources are available and being used? (wells; borehole, pond, open river, rainwater harvesting)	
• how has this changed recently (water supply shut off, drought, flood, population influx)	
Is there a system that measure free residuals? Is there a % target?	
Is there a system that measure turbidity? Coliforms? How often are these variables measured?	
Observe water sources and undertake a quick sanitary survey to identify key sources of contamination <ul style="list-style-type: none"> • are there any interruptions in water supply? • are there any broken water sources in the area for drinking or non-drinking water sources? • is the community using the same water sources that are likely to be contaminated, if so what sources? (river, borehole) • are there any sanitation breaks or changes in the system or infrastructure that can lead to contamination? 	
What are the measures undertaken to treat bulk drinking water supplies or water sources at community level? <ul style="list-style-type: none"> • -is there a system to monitor chlorine levels and who is responsible? • -are they working properly or has this changed recently? 	
Observe or ask about type of water source used (spring, well, tap, water venders, stream, lake, river) and what they are used for (drinking, cooking, bathing), how has this changed?	
What are the measures undertaken at household level to treat/ make drinking water safe (boiling; chlorination; filter through a cloth; ceramic filter; other method; none) <ul style="list-style-type: none"> • are these functioning or has this changed recently? • are chlorination materials available for household water disinfection and does community have access to these? 	
How is water stored in the home? <ul style="list-style-type: none"> • has this changed recently 	
What is the average quantity of drinking water per day? <ul style="list-style-type: none"> • has this changed and why 	
What is the average quantity for other uses including cooling per day?	
Are there standard guidelines for chlorination of community sources and are they at the community/household level?	

Excreta collection and disposal

Are latrines are being used are they being used correctly?	
Are latrines placed to avoid contamination of water supply?	
Are septic tanks are used, where are their contents emptied?	
Is disposal of septic tank contents adequate for preventing disease transmission?	
Are sewers used, where does the wastewater go, is it treated?	
In areas without latrines or flush toilets, where do people defecate, is there evidence of open defecation?	
Is there evidence of overflowing latrines, septic tanks, and broken sewage pipes?	
Are latrines, septic tanks, sewers close to water systems: note distance? Have the latrines good lighting and are separated for men and women?	

Waste disposal

Is there a central waste collection service? <ul style="list-style-type: none"> • have there been any changes or interruptions 	
Is waste disposal close to habitation?	

Community and household hygiene and health promotion practices

Is there a network of community-based health workers and are they trained on detecting and managing cholera?	
Are households provided with key messages on a regular basis? (note how often and the last communications) including: <ul style="list-style-type: none"> • how to protect themselves • what to do when someone gets sick • what ORS is and how to use it • do households have ORS or where to get it • when and how to wash hands • how to safely dispose of faeces • how to manage gatherings and funerals 	
Are IEC materials and key channels identified? (radio, schools, TV, religious institutions, papers)	
Do households have access to soap, to chlorine? In which form? Do they know how to use the chlorine?	

In schools <ul style="list-style-type: none">• does the school have treated water?• are there latrines? If so are they clean and have handwashing facilities?• is food prepared and under hygienic measures?• do teachers know what to do in the event of cholera?• are students given information on cholera?	
At funerals and gatherings (specify) <ul style="list-style-type: none">• what is the traditional practice for burials?• is food served at gatherings?• are precautions undertaken to prevent cholera transmission at burials or gatherings? (if so what)	
In restaurants and markets, <ul style="list-style-type: none">• -is food served hot, freshly cooked and stored in hygienic manner?• -is handwashing practiced by food servers?• - are there any measures for hygiene and quality control regarding food vendors in the community and have these changed-is information provided to food handlers	
How are dead bodies disposed of <ul style="list-style-type: none">• do family member come in contact with the body during burial ceremonies?• are bodies transported?	

Resources and supplies

Are there sufficient stocks of chlorine, buckets with lids or Jerrycans, soap, IEC materials, medical equipment? Please detail any stockout in the last month	
Have any supplies been requested, to whom, when	
How many stockouts the center experienced in the last month?	
Are there enough staff (hygiene promoters, sanitation engineers)	
What is missing that is urgently required	
What is missing for medium term	

4. Cholera coordination and management

Is there a cholera coordination committee at district level, is it multi-sectoral, note the key organizations	
How often does the coordination committee meet	
Is there a response plan	
Is there a budget allocated for cholera control, note amount and for what	
Has a list of needs been established according to assessment	

5. Key risk factors (including level of capacity)

In the assessment location with all partners in the team, determine the key risk factors (i.e high population density, risk of flooding, seasonal upsurges pending, possible breaks in water and sanitation systems, population movements predicted, see section 2.3.3 for risk factors) and make an estimate of the populations in this area at risk and expected cases if an outbreak in this location occurs.

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7.

ACTIONS TO BE TAKEN

Short term and URGENT

Medium to long term

Part B - CTC Feasibility

This sample questionnaire can be used to assess the feasibility for a health facility to become a CTC during an outbreak (see **Annex 8E** for detailed specifications)

- What is the catchment population for the health facility?
- Are there any other primary or secondary care facilities providing AWD/cholera care that are also serving the catchment population?
- Where within the hospital grounds should the CTC be set-up? Why is this location the most suitable?
- How large is the land (dimensions in feet or meters)?
- Is the land flat or must it be levelled?
- What is the surface upon which the CTC will rest? Must a foundation be created (such as a concrete slab)?

- Is the land susceptible to flooding? How is it drained?
- Given the size and shape of the land what tent configuration is recommended (number and size of tents)?
- Is there a stable source of running water at this site? If not, how can one be created?
- What is the availability of potable/drinking water to the site?
- How will waste be managed from the CTC?
- What is the availability of latrines/bathrooms to the site? Are latrines/bathrooms separate for patients and staff?
- How will soiled bed linens and materials be handled (laundered or disposed)?
- What is the hospital's general facility for waste management? How does the hospital use any of the following: incinerator, on-site burial, municipal waste pick-up and dump? Is there a stable source of electricity to this site?
- What, if any, additional security is needed for this site?
- Aside from open land on the hospital grounds, is there any other viable location?

Staffing & Operations

- How will the CTC be staffed? From which department(s) of the hospital will the staff be sourced?
- Does the health facility have the capacity to manage and operate the CTC?
- What will be the estimated running cost of the CTC as planned?
- What are the financing options for CTC if the hospital cannot cover all of the costs?
- What is the staffing plan for hospital?
- Is there secure storage for equipment, medicines or consumables if they arrive before the completion of the CTC?
- What are the greatest anticipated challenges

A. Contents of a preparedness and response plan

The following two tables identify the key elements in preparedness and response plans.

Sections to include versus the type of plan

Type of plan	Sections to include in the plan
Preparedness plan (other than a contingency plan)	I to III - and - V to XIV
Contingency plan (as a specific type of preparedness plan)	I to VXIV
Response plan	I to III - and - VI to XIV

Contents of a cholera epidemic preparedness and response plan

Section	Sub-sections
I	Statement of the problem (brief) Overview on cholera – what it is, the symptoms, the effects Context-specific epidemiological data from previous years – cases, deaths, by season, year and location
II	Contextual information • Geographical data • Demographic data • Socioeconomic and cultural factors – particularly those known to have an impact on water, sanitation and hygiene and health seeking behaviours • Identification of areas most vulnerable to cholera as seen from previous outbreaks • Constraints and lessons learnt from previous cholera outbreaks • Identification of the hazards (disease outbreak from cholera) and key risk factors
III	Strategic objectives and outcomes • Establish a coherent framework for preparedness actions to which all actors can contribute. • Provide an overview of the availability of specific partners with their key cholera-related experience and skills. • Provide information against which resources can be mobilized. • Provide a framework for monitoring, evaluating and learning from the response. • Respond to the questions: - What are the strategic objectives of the plan? - What are the expected outcomes of the plan?
IV	Setting scenarios (for contingency planning only) • Identify the specific scenarios to which the plan will respond • Identify the likely impacts of these scenarios • Use the sections below to identify key preparedness actions and responses needed for each scenario
V	Strategies and actions for preparedness <i>Identify strategies and actions for preparedness to cover the areas identified below Ensure cross-cutting considerations are effectively considered and responded to such as protection, gender, vulnerability and the environment</i>
<i>Institutional framework, co-ordination</i>	• Clarification of co-ordination structures for cholera preparedness and response – at national, sub-national (regional, district, community) and who is to be involved at each level • Identify the institutional responsibilities for co-ordination, implementation of different elements of the plan • Identify mechanisms for cross-border co-ordination and communication (where appropriate)
	• Identify the national policies and strategies into which cholera must be integrated • Identify the process to revisit, develop or update national cholera guidelines • Develop standard operating procedures for specific strategies and actions

Section	Sub-sections
<i>Cholera preparedness and response plan</i>	Develop an intra-sectoral integrated cholera preparedness and response plan (including timeline, budget, and indication of responsibilities)
<i>Communication strategy & plan</i>	<p><i>Note that this is an element of the overall cholera preparedness and response plan, but has been separated to place emphasis on it in line with its critical importance for an effective response.</i></p> <ul style="list-style-type: none"> • Develop communication strategies and plan • Identify advocacy strategies on cholera for political, government, civil society and community levels • Preparation of information for key stakeholders (health workers, community leaders, school teachers, food vendors, water vendors, etc) and development of visual aids or tools
<i>Community preparedness</i>	<ul style="list-style-type: none"> • Community mobilisation and development of community action plans • Water quality surveillance • Participatory health and hygiene promotion • Community based surveillance • Training of community leaders, food providers, water providers
<i>Surveillance & early warning</i>	<ul style="list-style-type: none"> • Establishment or surveillance and early warning systems for cholera • Strengthening of laboratory capacities (equipment, consumables, training)
<i>Human resources</i>	<ul style="list-style-type: none"> • Capacity mapping • Capacity needs assessment • Capacity building plan • Training of health workers, WASH professionals and local authority leadership • Establishment of rapid response teams (where appropriate) and definitions for terms of response • Development of standby agreements • Emergency simulations • Contact lists
<i>Supplies / stockpiles</i>	<ul style="list-style-type: none"> • Contingency stocks of drugs, medical and WASH supplies • Identify procurement procedures for additional supplies on the onset of an emergency • Identify logistics responsibilities for procurement, distribution and storage • Ownership, replacement schedules
<i>Resource allocations</i>	Identify the sources of funds and channels for fund-raising
<i>Information management</i>	Identifying what information is needed, who will manage it and how it will be shared and with whom
<i>Strategies and actions for response</i>	<p><i>Identify strategies and actions for response to cover the areas identified below. Ensure cross-cutting considerations are effectively considered and responded to such as protection, gender, vulnerability and the environment</i></p>
<i>Understanding the situation</i>	<ul style="list-style-type: none"> • Procedures for outbreak detection and epidemiologic surveillance and investigations • Laboratory strengthening (at different levels) • Assessment of needs and risks
<i>Service delivery: case management and infection control in health facilities and treatment sites</i>	<ul style="list-style-type: none"> • Clinical assessment and case management (rehydration, maintaining hydration, antibiotics, prophylaxis antibiotics, ORS and zinc) • Establishment of health facilities and sites (location, infection control/WASH, staffing, training) • Information for and dialogue with patients and their caregivers (focus on accountability)

Section	Sub-sections
Service delivery: <i>Community focussed interventions</i>	<ul style="list-style-type: none"> Mobilising for community actions - households, communities and institutions (schools, religious institutions, prisons, workplaces etc) Use of ORS, breastfeeding and encouragement of healthcare seeking behaviours Improving access to adequate quantity and quality of safe water supplies Improving food safety and hygiene Improving access to and use of safe excreta disposal Improving handwashing practices Disinfection of vomit and faeces in the household Promotion of safe care of the dead Provision of supplies/NFIs Good environmental hygiene in markets and other public places
<i>If a preparedness plan has not been previously prepared then also add the following to the response plan (Use the preparedness plan outline above for further details and links)</i>	<ul style="list-style-type: none"> <i>Co-ordination and institutional responsibilities</i> <i>Guidelines, standards and standard operating procedure development</i> <i>Community preparedness actions</i> <i>Surveillance and early warning procedures</i> <i>Human resources – staff requirements, training</i> <i>Supplies/stockpiles required</i> <i>Resource mapping</i> <i>Information management</i>
VII <i>Monitoring and reporting</i>	<ul style="list-style-type: none"> What needs to be monitored Identify indicators Who will monitor Who will report and to whom Identify proposed monitoring and evaluation schedule
VIII <i>Procedures for operationalising, monitoring and revising the plan</i>	<ul style="list-style-type: none"> Process for approval and activation of the plan Summary of responsibilities by institution or agency for undertaking elements of the cholera preparedness and response plan Identify the monitoring and evaluation schedule for the plan and responsibilities Communication procedures for formal dissemination of plan through government structures, and how directives will be established for implementation
XIV <i>Summary of cost estimates for implementing each element of the plan</i>	<p>This should include costs for: Materials, equipment, logistics, costs for human resources (field allowances etc)</p>

D. Examples of preparedness and response plans

The Toolkit has a range of examples of country or regional preparedness, contingency and response plans. The plans included have differing strengths and weaknesses, but have been included for reference and to prompt ideas.

The table below identifies a few plans which provide a variety of types, different sectoral areas and which include elements considered examples of good practice.

Examples of preparedness and response plans with elements of good practice

Preparedness and response plans and associated guidance	Notes on the elements considered good practice
Ministry of Public Health and Sanitation, Government of the Republic of Kenya (2011, DRAFT) Multi-sectoral cholera prevention and control plan, 2011-2012  plus associated thematic areas matrix 	Preparedness plan established thematic groups to take forward preparedness efforts. Prepared a thematic areas matrix with a goal, objectives, activities, indicators, stakeholders and budget per year. The development of the plan has involved a wide range of stakeholders and has recognised their potential contributions to the preparedness and response efforts.
WHO/UNICEF cholera epidemics preparedness guidance for inter-agency preparedness in West and Central Africa 	Joint preparedness guidance by WHO and UNICEF on a regional level to support country teams. Promotes coherence. Has clearly identified practical actions under a number of sub-headings.
The Government of Zimbabwe and UNOCHA (2009) Inter-agency contingency plan, Zimbabwe, June 2009-10 	An example of a contingency plan based on different scenarios. Includes different hazards – floods, drought, cholera and influenza A H1N1, civil unrest. Includes sector/cluster response plans –WASH, Education, Nutrition, Health, Protection and Food Aid. It identifies co-ordination mechanisms and includes contact details.
Zimbabwe Health and WASH Clusters (2008) Zimbabwe Cholera Outbreaks, Co-ordinated Health and WASH Preparedness and Response, Operational Plan 	Includes operational standards and protocols (such as for CTCs). Includes a responsibilities and accountabilities matrix with specific identification of areas of potential overlap between the two sectors. Includes a fuel and supplies matrix, a cost estimate and a contact list.

C. Examples of communication plans

Communication plans are part of a preparedness and response plan. However, they have been separated out here because of their critical importance to the overall effectiveness of the response.

The following plans are included in the Toolkit.

Examples of country communication plans with elements of good practice

Country communication plans	Notes on the elements considered good practice
Zimbabwe social mobilisation communication brief and communication workplan 	English: Simple outline of key objectives, activities, target audiences, dissemination strategy as well as existing and planned materials.
Sierra Leone preparedness communication strategy 	English: Overview of plan and matrix detailing cholera risks, vulnerable groups, social networks and channels of communication as well as work plan.
Tanzania cholera communication plan 	English: Four-step communication plan as in template and example in these guidelines. Includes different target groups, messages and channels of information.
Haiti information and awareness campaign 	French: Communication plan and provides a table of activities and combined work plan.
DRC communication plan 	French: Use of three main strategies: advocacy, social mobilisation and BCC. Details expected behaviours, general indicators and budget as well as channels of communication.
Benin communication plan 	French: Outline of key problems to be addressed, expected behaviours, target audience and channels of communication. Also considers resources required.

Goal: To reduce the spread and limit mortality from cholera through an integrated approach

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CO-ORDINATION, INSTITUTIONAL FRAMEWORK, INFORMATION MANAGEMENT

Objective: To improve leadership and coordination of cholera preparedness and response, ensuring a cholera risk reduction focus and including all related sectors, levels and stakeholders/partners.

Expected result: Effective coordination mechanisms are established and provide guidance for all sectors and stakeholders/partners on common approaches and standards for cholera preparedness and response, ensure all gaps and vulnerabilities are covered without duplication.

Outcome	Suggested indicators	Suggested activities	Reference (in the toolkit)
Multi-sectoral coordination framework for cholera preparedness and response (including taskforce and technical working groups, sub-national coordination structures) is established and functional	<ul style="list-style-type: none"> Terms of reference for the cholera taskforce with defined coordination arrangements and structures including technical (sub) working groups and sub-national coordination platforms with clear functions, roles and responsibilities # and % of meetings ¹held by the multi-sectoral national taskforce per identified time period (daily or weekly during an outbreak, quarterly inter-outbreak periods) # and % of meetings held by the sub-national taskforces (daily or weekly during an outbreak, quarterly inter-outbreak periods) # and % of cross border coordination meetings held (daily or weekly during an outbreak, quarterly inter-outbreak periods) Who does what where matrix document 	<ul style="list-style-type: none"> Establish a cholera taskforce (or similar overall coordination mechanism) at national level, integrating all related sectors and stakeholders. Support coordination functions and regular meetings (to analyse epidemiologic data, conduct risk assessments, preparedness and response planning, reporting, information management, definition of technical standards, resource gap analysis and mobilization, etc.). Identify and define technical (sub) working groups (i.e. surveillance, case management, WASH, community mobilization) as necessary for coordinating cholera preparedness and response activities. Identify and define coordination structures and leads at sub-national level, and promote their engagement into national activities. Set up cross-border coordination mechanisms among Ministries of Health and/or responsible authorities/stakeholders at local level. Develop a who does what where and when (4W) document and keep it updated on a regular basis 	Chapter 5 Annex 5A
Preparedness and response plans are developed with all key sectors and stakeholders	<ul style="list-style-type: none"> Preparedness plan document Response plan document Preparedness and response checklist filled out by key responsible # and % of at risk districts/provinces have a cholera preparedness and response plan # of simulation exercises conducted on preparedness and response plans 	<ul style="list-style-type: none"> Conduct a national workshop with all key sectors and stakeholders to review the epidemiologic situation and risk assessment and produce a preparedness and response plan with wide input Produce a preparedness plan with all key sectors and levels of service delivery Produce a response plan with all key sectors and levels of service delivery Conduct a national and sub-national simulation exercise to test plans 	Chapter 6 Annex 6A and 6D

Outcome	Suggested indicators	Suggested activities	Reference (in the toolkit)
Cholera related sectors and actors receive technical support and guidance from the cholera taskforce/technical (sub) working groups.	<ul style="list-style-type: none"> # and % of health facilities or outreach staff that have technical standards and guidance available # and % of partners involved in cholera control have technical standards and guidance and are using them for control measures 	<ul style="list-style-type: none"> Define and agree technical standards, standard operational procedures, and other technical guidance in all related sectors and levels Distribute key technical guidance, standards and tools to all partners and direct service providers including community health workers 	Chapter 6 Annex 6B
Cholera risk and capacity assessment identifies areas and communities at risk and capacity to prevent, prepare and respond to an outbreak	<ul style="list-style-type: none"> Risk and capacity assessment document for preparedness Risk and capacity assessment during response 	<ul style="list-style-type: none"> Conduct a multi-sectoral risk and capacity assessment (preparedness and response) Identify areas for interventions for case management, WASH, enhanced surveillance and early warning and communications (preparedness and response) Identify capacities gaps and what is required to be strengthened for cholera preparedness and response 	Chapter 6 Annex 6C
Cholera related needs are identified based on a gap analysis and actions are defined to address the gaps	<ul style="list-style-type: none"> Needs and gap assessment document (preparedness and response) Capacity and resource map document with actions against it to fill gaps 	<ul style="list-style-type: none"> Conduct a needs and gap analysis with all key stakeholders to identify gaps in resources such as supplies, human resources, training and funding (preparedness and response) Based on needs and gap assessment identify a plan and responsible parties to fill gaps (preparedness and response) 	Chapter 6 Annex 6F and 6G
Information on cholera preparedness and response activities is collected and analysed in a timely manner. Sector and partners receive it for guiding their implementation.	<ul style="list-style-type: none"> Communication plan document outlining the communication system and information management tools for operational response (all sectors) for preparedness and response # of cross border communication systems are established (where relevant) # and % of partners reporting to the cholera taskforce using pre-defined information management tools during response # and % of information bulletins published for partners and key stakeholders for cholera related activities (will vary if during preparedness and response) 	<ul style="list-style-type: none"> Define and implement information management tools/systems for cholera prevention and response (including epidemiological data, information on reported cases, information on CTC/CTU, information on community focused interventions) Develop cross border communication channels where relevant Train relevant staff on communications and information management Analyse information from partners to identify needs and gaps in cholera response Produce regular information bulletins outlining cholera preparedness and response activities 	Chapter 6

SURVEILLANCE AND EARLY WARNING AND MONITORING DISEASE TRENDS

Objective: To improve early detection and consistent monitoring of disease trends

Expected result: Cholera is detected early and monitored on a routine basis to inform action and adjust programs accordingly

Outcome	Suggested indicators	Suggested activities	Reference (in the toolkit)
Early warning, alert and response network (EWARN) is set up in affected areas and those at high risk including across borders	<ul style="list-style-type: none"> # and % of alerts verified in the first 24 hours # and % of verified alerts responded to by partners within 48 hours 	<ul style="list-style-type: none"> Set up and EWARN system using standard case definition with direct linkages to response from the health and WASH sectors (daily or weekly), including verification of rumours Train health staff and rapid response teams at all levels including the community on EWARN system Provide supplies and resources to manage the EWARN system Implement rapid field investigation and response to reported cases or alerts 	Chapter 3 Annexes 3A, 3D, 3E
Case-based surveillance for cholera is in place and functioning in affected areas and those at high risk for cholera	<ul style="list-style-type: none"> # and % health facilities meeting reporting deadlines (target 85%) # and % laboratories with no stock out of reagents # and % of weekly (daily) epidemiologic analyses completed # and % monthly summary reports 	<ul style="list-style-type: none"> Set up or strengthen a case-based surveillance system in all health facilities, CTC/CTU and communities in affected areas or at risk areas and provide standard case definition Train health staff to use a uniform case definition for reporting of all suspected cases, and how to register using a line-listing that meets the case definition Collect stool specimens from 10-20 suspected cases for laboratory confirmation at the beginning of the outbreak, periodically throughout and to determine the end Where needed improve laboratory capacity through training, provision of laboratory supplies and periodic quality checks Map all cases to identify areas where cases are concentrated to better target areas for cholera control activities Analysis of and publication of a weekly (daily) surveillance data Analysis and publication of monthly summary reports Analyse data to identify and understand transmission routes and epidemiological trends 	Chapter 3 Annex 3C, 3F, 3G, 3H and 3I

REDUCING / CONTAINING CHOLERA TRANSMISSION / SPREAD

Objective: To prevent and control transmission of cholera among affected and at risk populations.

Expected result: Transmission of cholera is eliminated/contained

Outcome	Suggested indicators ²	Suggested activities	Reference (in the toolkit)
People access and use safe water supply for all purposes but specially for drinking and cooking	<ul style="list-style-type: none"> % of people accessing and using safe water (from chlorinated sources/by using household water treatment methods) for drinking and other purposes. % of samples from water sources reporting more than 0.5 mg/l of FRC % of people treating water for drinking at household level and having a FRC of 0.2 mg/l. % of people recognising/ indicating household water treatment and storage practices in FGD/household interviews and observation. 	<ul style="list-style-type: none"> [Especially in high risk area and when there is indication of contamination of the water source] repair/ improve water points and undertake shock/emergency chlorination before they reinitiate their operation. Undertake bucket chlorination in centralised water points (boreholes, wells, hand pumps). [In areas where water supply systems are not available] Provide safe drinking water through water trucking, centralised treatment and distribution, etc. Train water vendors in safe water production and handling and in certain contexts in point of use/ household water treatment and [as appropriate] provide the required supplies for undertaking it. Distribute supplies for household water treatment [including water containers, as per necessary]. Monitor water quality at water distribution points and household level; and undertake follow up actions when problems are reported. 	Chapter 9
Households, communities, institutions and food outlets practice safe food hygiene and follow national food safety standards (when existent)	<ul style="list-style-type: none"> % of inspections on institutions/outlets reporting good hygiene conditions % of people recognising/ indicating safe food hygiene practices in FGD/household interviews. 	<ul style="list-style-type: none"> Train food providers on environmental health and food safety. Communicate and undertake community mobilization to promote safe food practices among households. Conduct regular inspections on institutions and food outlets to monitor. 	Chapter 9
Infants are given safe fluids and food	<ul style="list-style-type: none"> % of children under 6 months being exclusively breastfed % of mothers using safe water in food production when they introduce solid food to infants 	<ul style="list-style-type: none"> Provide health and hygiene education messages into all interventions at the community and facility level on how to ensure safe infant and young child feeding 	Chapter 7
Risk of cholera transmission through excreta (faeces and vomit) is reduced because they are properly disposed	<ul style="list-style-type: none"> [for development/prevention phase] % of communities reporting open defecation free status % of people using appropriate sanitation facilities for excreta disposal [including disposal of children's and babies faeces] % of people recognising/ indicating practices for disinfecting items contaminated with faeces/vomit in FGD/household interviews. 	<ul style="list-style-type: none"> Undertake communication and community mobilization activities focused on behaviour/social-norms change, towards stop open defecation. [When community facilities exist] support operation, maintenance and final disposal of excreta. [When other options are limited and the practice already exists] promote the use of flying toilets as a temporary measure, with special attention on effective collection, safe transport and disposal. Communicate/train on appropriate procedures for disinfecting areas and materials soiled with faeces and vomit. Distribute disinfectant (and sometimes tools for disinfection) at community level. Household spraying is not recommended in all situations given its high resource/time consuming nature, lack of evidence on its effectiveness and issues around the risk of increased stigmatization of cholera patients and households. 	Chapter 7 and 9

Outcome	Suggested indicators ²	Suggested activities	Reference (in the toolkit)
People wash their hands with water and soap (or ash) at critical times	<ul style="list-style-type: none"> % of people washing their hands with soap (or ash) at critical times³. % of households where soap (or ash) is available specifically for handwashing % of public sanitation facilities where handwashing stations are available with soap (or ash) available for use 	<ul style="list-style-type: none"> Undertake communication and community mobilization activities to promote handwashing with soap or ash [in cholera epidemics, use of sand is not recommended due the risk of it to be contaminated]. Provide and maintain handwashing stations (ensuring soap is always available) as a complement of communal/public sanitation facilities (at markets, schools, and other institutions) and next to food preparation and serving / eating areas. Distribute soap at household level [targeted for vulnerable groups, such as cholera patients' families at CTC level], as part of non-food item kits. 	Chapter 7
Environmental hygiene is adhered to in markets and other public places	<ul style="list-style-type: none"> # of communal/public solid waste disposal sites created and in use health risks around solid waste are contained, especially where contaminated with human faeces 	<ul style="list-style-type: none"> Support activities on solid waste management, collection and disposal, with particular attention to markets and other public spaces Establish solid waste management and disposal system and; with special emphasis on management and disposal of faeces in plastic bags (flying toilets), collected as part of the regular system. Undertake communication and community mobilization activities to promote proper disposal of solid waste management at community level. 	Chapter 7 and 9
Precautions to prevent cholera transmission are taken at gatherings, with specific focus on funerals and when handling dead bodies	<ul style="list-style-type: none"> % of gatherings⁴ where safe food and personal hygiene practices are promoted and facilitated. 	<ul style="list-style-type: none"> Train religious and community leaders, community health workers on how to keep people safe at gatherings (safe food and personal hygiene practices, with special emphasis on safe handling of dead bodies). Provide/facilitate information and means for water treatment for drinking, handwashing stations, handling/disinfection dead bodies. Undertake communication and community mobilization activities to promote proper hygiene measures in gatherings. [With special emphasis on funerals] Identify risk practices for cholera transmission on gatherings and other social practices and use them to tailor communication/community mobilization activities. 	Chapter 9
[Especially in high risk areas] People identify the risk of cholera (and its transmission routes) and know how to prevent it.	<ul style="list-style-type: none"> % of people recognising cholera transmission routes and indicating measures for preventing it in FGD/ household interviews and through observation # of trained community mobilizers per 1,000 affected people. 	<ul style="list-style-type: none"> Identify personal and community behaviours related to cholera [both, those which may increase the risk of transmission or provide a protective factor] and use it for developing IEC materials (printed, audiovisual, etc.). Train community mobilizers on communication techniques and the use of IEC materials. Training should include information on case identification and referral. Disseminate cholera preventive and response messages through various communication channels (mass media, interpersonal communication, through schools, etc.) <i>[Each communication channel and type of messages has advantages and disadvantages. A complementary combination of them should be developed and used].</i> [Note: This must be linked with all other training/communication/ community mobilization-type of activities indicated before and should be part of the same communication strategy]. 	Chapter 7 and 9
Transmission of cholera from CTC/ CTU and other cholera treatment centres is eliminated through appropriate infection control measures	<ul style="list-style-type: none"> # and % of CTC/CTU/health centres with appropriate isolation systems and practices in place # and % of CTC/CTU/health centres using safe water supply. # and % of CTC/CTU health centres using appropriate sanitation facilities, including disposal of wastewater and medical waste. 	<ul style="list-style-type: none"> Train health staff on safe hygiene practices and handling of cholera patients, excreta (faeces and vomit and contaminated items) and medical waste. Provide means for isolation of cholera cases/treatment rooms within health facilities. Provide appropriate water supply, including monitoring of water quality at a regular basis. Provide handwashing facilities with disinfected water and soap, making them accessible for health staff, caregivers and patients. Provide and maintain of appropriate sanitation facilities, ensuring they are easy to access and clean Dispose faeces/excreta and wastewater appropriately, as part of the maintenance of the sanitation facilities (dislodging of latrines and final sludge disposal, wastewater treatment on site, etc.) 	Chapter 8

REDUCING CHOLERA MORBIDITY AND MORTALITY

Objective: To reduce cholera morbidity and mortality**Expected result:** Early detection and appropriate case management of cholera to keep the CFR to < 1%

Outcome	Suggested indicators ⁵	Suggested activities	Reference (in the toolkit)
Establishment of a network of prepared Cholera Treatment Centres including ORP's	<ul style="list-style-type: none"> # of CTC/CTU and ORP per population according to the national standards Map of all health facilities that have standards to be a treatment center Document outlining resource needs for treatment facilities including materials for a stockpile of supplies Warehouse supply list for stockpile 	<ul style="list-style-type: none"> Identify and map health facilities and partners with capacity to run cholera treatment centres. Establish standards for setting up CTC/CTU's and ORPs Identify and train partners on how to establish treatment centers and monitor quality Identify resource needs for the facilities including trained staff, supplies, data collection materials, oversight and funding Stockpile health, WASH and communications supplies and materials for use in high risk areas Establish a database mapping all trainings completed by trainees and trainers for cholera Establish a referral system 	Chapter and annexes 8
Children and adults who have AWD/cholera are effectively managed at treatment centers with quality services	<ul style="list-style-type: none"> # and % of health staff trained on case management protocols # and % of treatment facilities that have standard treatment guidelines available % no stockouts of supplies including ORS, zinc, IVF, antibiotics according to level of care) in CTC's or other treatment facilities # and % of treatment facilities that have monitored quality of services in the last month (using CTC/CTU evaluation form) CFR for each treatment center 	<ul style="list-style-type: none"> Identify and train/refresh health staff including community health workers on early detection/active case finding, case management, infection control (see section above) in facilities and managing and reporting data Distribute standard treatment guidelines for health staff at all levels Provide health, WASH and communications supplies on a regular basis Supervise health staff providing treatment on a routine basis Monitor the quality of treatment centres on a regular basis Integrate management of cholera into standard training for diarrhoea including IMCI and Integrated Community Case Management (iCCM) 	Chapter 8
Cases in the community are detected early and adequately managed and referred	<ul style="list-style-type: none"> % of patients presenting at the health facility within 24h of developing symptoms # and % of community-based health works trained # trained community-based health workers/500 population % stockouts of community-based health worker supplies % of caregivers recognising/ indicating why and how to access/ use ORS, breastfeeding, proper feeding, care seeking, through FGD or household interviews. 	<ul style="list-style-type: none"> Identify and train community-based health workers in detection, community-based surveillance, case management, hygiene and health promotion and reporting Disseminate guidelines and standards to community-based health workers Provide materials such as ORS, zinc, aquatabs, IEC materials to community-based health workers Establish ORP at community level and the associated supply chain. Especially in high risk areas, distribute ORS at household level and disseminate information on how to access them at community level. Identify suitable home-made rehydration fluids and define – with the responsible health authorities –endorsement/ support for their use. Undertake communication and community mobilization activities for early detection of dehydration, rehydration at household level (using ORS or another government-supported rehydration fluid⁶) and early care seeking for treatment. Set up case referral systems and train/provide information to community health workers on location of cholera treatment centres. 	Chapter 9

Outcome	Suggested indicators ⁵	Suggested activities	Reference (in the toolkit)
Population at risk is effectively vaccinated against cholera	<ul style="list-style-type: none"> % coverage of target population with 2 doses of oral cholera vaccine (OCV) 	<ul style="list-style-type: none"> Undertake risk assessment to inform on areas and population at risk and targeted for vaccination Prepare a strategy for OCV use for target populations with all stakeholders Procure OCVs from UNICEF supply division Conduct a communications campaign for OCV with other key messages such as health, hygiene and sanitation. Develop and carry out a vaccination campaign Evaluate and document campaign results including coverage, acceptance and impact 	Chapter 4 Annex 4A

- 1 The denominator will depend on the time frame, if it is weekly, daily and over time in X # of months.
- 2 The table presents suggested indicators for monitoring the accomplishment of the indicated outcomes. The list of activities aims to be as comprehensive as possible and should be selected depending on the specific context in which they are applied.
- 3 Critical times: Before handling and preparing food, eating or feeding; after defecating, cleaning children or attending somebody with cholera; after touching dead bodies during funerals.
- 4 This includes weddings, parties, funerals, religious/sports/political gatherings and any other congregation of people in which food might be sold/distributed and other "risky" hygiene practices are present (especially during funerals) can pose as special risk for cholera transmission
- 5 The table presents suggested indicators for monitoring the accomplishment of the indicated outcomes. The list of activities aims to be as comprehensive as possible and should be selected depending on the specific context in which they are applied.
- 6 They might be sugar-salt solution, rice-based ORS, among others, and their use should be approved and endorsed by the health authorities.
- 7 Main messages should include that household-based treatment is only an immediate measure, and must be followed by care by trained health staff.

The following table provides an overview of the key skills and training required for personnel working on cholera outbreak prevention, preparedness and response.

Key skills and training required for personnel working in cholera

Personnel	Key skills	Key subjects required in training	Resources available
Health-related personnel			
Physician	<ul style="list-style-type: none"> Clinical experience Patient management, especially with IV monitoring and ORS Coordination and leadership Team building Communication skills 	In-depth knowledge of cholera, especially case-management	Various guidelines from WHO, CDC, ICDDR,B, MSF, and numerous medical texts
Nurse	<ul style="list-style-type: none"> Clinical experience Placement and monitoring of IV lines Patient and family communications Team worker 	<ul style="list-style-type: none"> Knowledge of cholera Monitoring patient care 	See above
Epidemiologist	<ul style="list-style-type: none"> Outbreak investigation Data collection and analysis Formulation of public health recommendations Leadership and coordination Presentation of information 	In-depth knowledge of cholera: causes, routes of transmission, prevention interventions	See above
Water, sanitation and environmental health personnel			
Water and sanitation / public health engineers	<ul style="list-style-type: none"> Facilitation and coordination Developing communication strategies and plans Mentoring and capacity building skills Monitoring 	<ul style="list-style-type: none"> Basics of cholera WASH and health related cholera preparedness and response actions Context specific responses 	<ul style="list-style-type: none"> WASH sector cholera training OXFAM-GB & ESARO WASH cholera training
Environmental health officers	<ul style="list-style-type: none"> Listening, observation and negotiating skills Facilitation <p>How to do:</p> <ul style="list-style-type: none"> Bucket chlorination Measure chlorine residual Sanitary survey Effective HWTS 	<ul style="list-style-type: none"> Basics of cholera Cholera preparedness and response priorities Communication skills Assessing barriers to change Practical actions to support handwashing or HWTS How to work with market and food providers Management systems for public latrines Funeral guidelines 	<ul style="list-style-type: none"> Five keys training course - adapted WASH sector cholera training

Personnel	Key skills	Key subjects required in training	Resources available
Hygiene promotion and community workers			
Hygiene promotion co-ordinator	<ul style="list-style-type: none"> Facilitation and coordination Developing communication strategies and plans Mentoring and capacity building skills Monitoring 	<ul style="list-style-type: none"> Basics of cholera WASH and health related cholera preparedness and response actions Context specific responses 	<ul style="list-style-type: none"> WASH sector cholera training OXFAM-GB & ESARO WASH cholera training
Field level hygiene promoters	<ul style="list-style-type: none"> Facilitating community meetings and groups Training outreach workers Monitoring HH water testing 	<ul style="list-style-type: none"> The basics of cholera Cholera preparedness and response priorities Communication skills Assessing barriers to change Practical actions to support handwashing or HWTS 	CDC CHW training (adapt)
Community mobilisers/ CHW	<ul style="list-style-type: none"> Home visits Listening skills Observation skills Problem solving Managing diarrhoea HWTS Making handwashing facilities Sanitation promotion Monitoring community actions 	<ul style="list-style-type: none"> Communication skills refresher Practical actions to support handwashing or HWTS Using ORS and seeking treatment early Funeral guidelines 	<ul style="list-style-type: none"> CDC CHW training (English, French, Creole) Haïti guide du formateur (French) IFRC Epidemic control for volunteers; a training manual Ethiopia community leaders / key field workers trainings
Community level leaders and professionals			
Community leaders	<ul style="list-style-type: none"> Managing ORPs Mobilising action in communities Conflict resolution / reducing stigma around cholera 	<ul style="list-style-type: none"> Cholera basics Cholera preparedness and response priorities First aid treatment for cholera When to refer Practical actions to support handwashing or HWTS Funeral guidelines 	<ul style="list-style-type: none"> Ethiopia community leaders / key field workers training CDC CHW training (adapt) IFRC Epidemic control for volunteers; a training manual
Religious leaders	<ul style="list-style-type: none"> Mobilising action in religious institutions and communities Conflict resolution / reducing stigma around cholera 	<ul style="list-style-type: none"> Cholera basics Cholera preparedness and response priorities Practical actions to support handwashing or HWTS Using ORS and seeking treatment early Funeral guidelines 	<ul style="list-style-type: none"> Ethiopia community leaders / key field workers trainings IFRC Epidemic control for volunteers; a training manual

Personnel	Key skills	Key subjects required in training	Resources available
Head teachers and teachers	<ul style="list-style-type: none"> Mobilising school staff and community members Supporting child learning and action Conflict resolution / reducing stigma around cholera 	<ul style="list-style-type: none"> Cholera basics Cholera preparedness and response priorities Practical actions to support handwashing or HWTS Using ORS and seeking treatment early Funeral guidelines Sanitation in schools 	<ul style="list-style-type: none"> WASH for school children in emergencies
Prison wardens	<ul style="list-style-type: none"> Mobilising action amongst inmates Conflict resolution / reducing stigma around cholera 	<ul style="list-style-type: none"> Cholera basics Cholera preparedness and response priorities Making handwashing stations Using ORS and seeking treatment early Funeral guidelines 	<ul style="list-style-type: none"> Ethiopia community leaders / key field workers trainings Or adapt CDC CHW training (English, French and Creole) IFRC Epidemic control for volunteers; a training manual
Support staff in health facilities (CTC, CTU)			
WASH & logistical co-ordinator	<ul style="list-style-type: none"> WASH Logistics Communication Managing staff Monitoring 	<ul style="list-style-type: none"> Cholera basics Cholera preparedness and response priorities Infection control and WASH requirements in CTC, CTU 	MSF (2004) Cholera Guideline (including further information job descriptions, pp115-126)
Chlorine maker	<ul style="list-style-type: none"> Literacy / numeracy Reliability 	<ul style="list-style-type: none"> Cholera basics Infection control and WASH requirements in CTC, CTU Chlorine mixes required for a CTC/CTU 	COTS, Pocket cards Somalia briefing note on WASH in CTCs
Cleaner / laundry worker	<ul style="list-style-type: none"> Practical cleaning skills Ability to follow instructions Reliability 	<ul style="list-style-type: none"> Cholera basics Infection control and WASH requirements in CTC, CTU Cleaning routines and laundry procedures 	Ethiopia tool for infection control and WASH in CTCs with associated pictures
Guard	<ul style="list-style-type: none"> Ability to follow instructions Reliability 	<ul style="list-style-type: none"> Cholera basics Infection control and WASH requirements in CTC, CTU Movement control of people in CTC/CTU Importance of hand-washing and feet disinfection in CTC/CTU 	Video of WASH elements of a CTC in Haiti – Fewester/Medair Haiti cholera training manual: a full course for healthcare providers (English and French) MoH Haiti and CDC
Cook	<ul style="list-style-type: none"> Cooking skills Good food and water hygiene Ability to follow instructions Reliability 	<ul style="list-style-type: none"> Cholera basics Infection control and WASH requirements in CTC, CTU Food and water hygiene in CTC/CTU 	

A. Capacity building methods relevant to cholera

The following table identifies options for building the capacity of partners and community members in cholera prevention, preparedness and response.

Capacity building methods relevant to cholera

Method	Description and relevance of this method to cholera	Further information
Training	<p>Training should normally be planned as a preparedness measure but will usually also be needed at the time of a response. Training sessions should consider job descriptions and must be based on the practical skills that will be required to do the job.</p> <p>Refresher training may also be required to motivate practitioners. For example, community outreach workers may become demoralised if they have not had much support in the past, and they may need to be re-oriented to focus on the key actions that are important in addressing cholera.</p> <p>Adults learn best when they can reflect on and discuss the subject matter, so training should be as interactive as possible and should make use of problem solving exercises.</p> <p>Cholera prevention, preparedness and response should be integrated into the professional training courses for Health, WASH, Nutrition and other humanitarian aid and development sectors.</p>	<p>Annex 6F – on possible training needs for different stakeholders (Also see the table below for examples of training courses and materials)</p>
Establishing sectoral rapid response teams (using MoUs)	<p>Memoranda of Understanding can be developed between sectoral organisations to establish rapid response teams or to agree on joint actions for cholera preparedness and response. They state common strategies to follow and create a precedent for specific actions. They do not usually involve a formal transfer of resources or funds (although parties to the MoU can pledge contributions to fund joint actions) and are not legally binding in the same way as a formal contract.</p>	<p>Section 10.1 - on Human Resources</p> <p>MoU draft for a national emergency WASH resource team (NEWASH-RT) </p>
Mentoring/ coaching Secondment Work- shadowing Peer support Supportive supervision	<p>These methods all involve learning from others in a work environment. In relation to cholera they will be most useful whilst a cholera outbreak is occurring and can be particularly useful for the initial periods after arrival of newer staff members who do not have previous or only limited experience on cholera.</p> <p>Mentoring/coaching - involves a more senior staff member providing motivational advice and guidance to a newer member of staff.</p> <p>Secondment – involves a newer member of staff temporarily joining another organisation or department to gain experience in a new area of work.</p> <p>Work-shadowing – involves a newer member of staff accompanying a more experienced one in their daily activities so they can watch what they do and learn by seeing.</p> <p>Peer-support – involves two staff of a similar level but with different experience and skills sharing their skills and knowledge with the other person.</p> <p>Supportive supervision – involves a staff members line manager or other more senior official supporting the learning and development of the staff member through using motivational approaches and providing guidance in response to identified learning needs</p>	
Development of guidelines and standard operating procedures	<p>The development of cholera guidelines and standard operating procedures yields critical tools for capacity development. They provide an easy reference for what needs to be done and the methods and procedures to use. They can be used as part of training courses, for mentoring/coaching and also for self-learning and reference before and during an outbreak.</p>	<p>Annex 6B – Cholera guideline examples</p>
Documenting and sharing of good practice	<p>The documentation and sharing of good practice is useful for building capacity for cholera prevention, preparedness and response. If the learning relates to particular areas of confusion or areas of the work which are challenging, the learning can be particularly useful.</p>	

B. Examples of cholera training and materials

The following table provides an overview of the examples of training courses for cholera included in the comprehensive UNICEF Cholera Toolkit.

Examples of cholera training and materials in the Cholera Toolkit

Trainee target group	Country (date)	Supporting organisations	Notes
Community health workers	Haiti (2011)	CDC	<ul style="list-style-type: none"> CHW training includes PowerPoint presentations and a supporting guide with modular trainers' materials.
Community leaders, key outreach workers, ToTs, zonal and district workers	Ethiopia (2007)	Governments of Amhara Regional National State, Oromia Regional National State and Federal Government (water and health departments and ministries), PSI, MSF, Merlin, OXFAM, UNICEF, WHO	<ul style="list-style-type: none"> The Oromia course outlined was intended for community leaders and key outreach workers. An outline is also provided for training the ToTs (1 day) who would roll out the community leader and outreach workers training. The Amhara course outlined was for actors at zonal and district levels to become ToTs (2 sets of 2 days).
Health and WASH staff at district & regional levels	Tanzania (2010)	MoH, Tanzania Red Cross Society, UNICEF	<ul style="list-style-type: none"> A short training quickly set up in response to an assessment which identified gaps in the capacity to establish CTCs with infection control at district and regional levels. Training accompanied provision of CTC kits for pre-positioning at regional level. An evaluation of the training.
Epidemic control for volunteers	Global (2008)	International Federation of Red Cross and Red Crescent Societies	Includes background information on different epidemics, training materials and guidance and a series of tools .
Haiti cholera training manual: a full course for healthcare providers (English and French)	Haiti	CDC	A quick reference for the treatment and management of acute watery diarrhea designed for use in the recent cholera outbreak in Haiti. Draws heavily on information from other sources.
WASH sector actors	Chad (2011)	UNICEFWCARO	Training outline for a ½-day introduction to cholera, preparedness and response actions.
WASH sector actors	Uganda (2010)	Department of Water Development, Ministry of Water and Environment, UNICEF	Cholera prevention and response training for actors at district level and field workers from a range of disciplines (4 days).
WASH sector actors	Kenya (2008)	UNICEF Kenya and WESCOORD	Disease surveillance and cholera sessions (1/2 day) as part of a 5-day emergency WASH training for cluster organisations. These were also accompanied by a case study based epidemic response exercise.
WASH sector actors	Tanzania (2010)	UNICEF Tanzania, Ministry of Health and Social Welfare, IFRC, UNICEF ESARO	Integrated 8-day emergency WASH training on cholera (4 days) and flooding and displacement (4 days) for WASH and health actors at national level.

Trainee target group	Country (date)	Supporting organisations	Notes
WASH sector actors	Regional (2009)	OXFAM-GB and UNICEF ESARO	<ul style="list-style-type: none"> • A comprehensive set of tools  for running a cholera training course (4 day) for WASH actors. Includes all materials needed for the training course, including PowerPoint presentations, session plans, supporting information, and all admin related documents for setting up and running the course. Designed to train ToTs at the same time as running the course for participants.
Health workers	Global	USAID and International Centre for Diarrheal Disease Research and Control, Bangladesh	COTS (Cholera & Shigellosis Outbreak Training) - is an e-book aimed at health workers, funded by the US Agency for International Development. It is designed to share the clinical, scientific, and public health expertise on cholera and shigellosis from the International Centre for Diarrhoeal Disease Research, Bangladesh with others working in cholera control. For details, see: www.cotsprogram.com 
Women (can be adapted for others)	Global (2004)	WHO	The 'Five Keys to Safer Food'  message and associated training material explains the basic principles that are necessary to ensure safe food handling practices and prevent foodborne diseases. The materials were developed by WHO to provide countries with materials that are easy to use, reproduce and adapt to different target audiences.

Communication type	Description/objectives	What to consider in a cholera response
Advocacy	Aims to engage the support of influential organizations and individuals to help acknowledge and/or address the problem, e.g., by the provision of funding, the deployment of human resources or the use of an influential voice.	Often targets those in positions of power or responsibility or those who control financial or other resources. May be required where governments, donors or other agencies are reluctant to acknowledge the outbreak.
Social mobilization	Aims to mobilize all possible partners (e.g., government, UN agencies, private business, media, civil society, academia, existing development programmes, communities, etc.) to focus on the specific problem and contribute to the response. Includes but not confined to community mobilisation.	The mobilisation (and co-ordination) of partners and especially the mobilisation of affected communities should be a key aspect of the response.
Outbreak communication & public information	Providing information to at risk populations and stakeholders (e.g., relevant sectors, media, etc.) to ensure they can make well-informed decisions and take coordinated action to minimize the effects of the outbreak. An additional objective is to build and maintain trust in public health authorities.	Outbreak communication should aim to dispel rumours and misinformation about cholera. Disclosure policies and standby agreements should be developed as a preparedness measure. Training and briefing papers for the mass media will be important.
Behaviour change communication (BCC) / Information, education and communication (IEC)	BCC is the strategic use of communication to promote positive health outcomes, based on proven theories and models of behaviour change. It represents an evidence-based, strategic evolution of the concepts of IEC and health education. The term IEC is often used to refer to materials only (e.g., visual aids, radio spots, etc.)	Formative assessment, communication planning, audience segmentation and pre-testing of materials are all vital steps and need to be undertaken as a part of preparedness measures. BCC during a cholera outbreak should make use of the mass media <u>and</u> interpersonal communication channels.
Social marketing	Considers marketing principles such as 'product, price, positioning and promotion' (4Ps) to encourage the use of a product or practice that has a social value, e.g., handwashing with soap and use of water treatment products. Requires a significant period of formative research (several months usually) to investigate how people perceive a product and the best ways to promote its use and motivate changes in consumer behaviour. Typically uses a variety of communication channels. Mass communication is a key objective.	The use of social marketing for cholera control will need to be developed as part of a preparedness plan but existing research into handwashing or use of household water treatment could be used during a cholera outbreak. If organisations already use social marketing to provide products (ORS, PoUWT&SS), then their work should be incorporated and built upon during a cholera response.
Hygiene promotion	Aims to ensure the effective and sustainable use of WASH facilities and community and individual action to reduce hygiene risks by employing all of the above communication strategies . Uses dialogue and discussion to motivate community action.	Consultation and mobilisation communities to ensure that new WASH facilities are acceptable and used. Establish systems for cleaning and maintenance of public facilities. Motivate people to take action to improve hygiene and seek treatment. Provide information on use of unfamiliar NFIs such as household water treatment products.

The following activities also involve communication and are sometimes considered as communication strategies.

Coordination	<p>Aims to ensure coverage and consistency of response and the most efficient use and prioritisation of resources.</p>	<p>Multi-sectoral, sectoral, national, regional and area-based cholera task forces and regular meetings that define actions and responsibilities are vital during a cholera response.</p> <p>Rapid sign-off on approved information and key messages is also required. Agreement on these is important to ensure consistency of information.</p>
Training	<p>Aims to develop a variety of key skills necessary in different target groups to mitigate the impact of the cholera outbreak.</p>	<p>Refresher courses for health staff and outreach workers, religious leaders, teachers, etc. Ensure focus on cholera, practical actions and skills required.</p>

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STEP 1: Hygiene Communication Assessment – Cholera Response

Key questions	Summary of situation to date
What are people (assess different target groups) doing that presents a risk to hygiene and public health?	<ul style="list-style-type: none"> • Relatively high coverage of latrines (approx. 70%) • Low coverage and use of improved latrines; the majority do not have handwashing facilities. • Low prevalence of handwashing with soap in adults and children • Drinking water sources not protected • Water from water vendors not clean • Water is not stored or drawn safely at home • Children's faeces are not seen as dangerous • Leftover food not reheated thoroughly, and fruits are not washed before eating • Fruit juices and ice-lollies use contaminated water • Poor hygiene amongst food sellers / cooks • Food is not prepared hygienically for communal gatherings • Failure to wash hands with soap following the preparation of a cholera victim's corpse leads to further transmission • People are scared to disclose sickness or death because of associated stigma • Indiscriminate refuse disposal creates breeding grounds for flies • Delay in seeking treatment for cholera for various reasons
What feasible priority actions or practices are required to protect their health?	<ul style="list-style-type: none"> • Wash hands with soap and water at key times • Treat drinking water by boiling, use of chlorine, Water Guard or other treatment method • ORT (ORS, zinc, other liquids and feeding) especially for children • Use / dig latrines or improve latrines by adding handwashing facilities and use them • Safe disposal of children's faeces • Reheat food until hot • Cover food to prevent contamination by flies • Seek treatment early, take liquid (ORS if available) on the way • Report cases and deaths and get professional help for the burial
What are the key obstacles that make these practices difficult or prevent people from taking action? (community perspective)	<ul style="list-style-type: none"> • They believe that cholera is caused by witchcraft (so cannot be prevented by drinking clean water and handwashing, etc.) • They do not believe that proposed solutions will make a difference • They do not think that children's faeces are harmful • They do not like the taste of boiled or chlorinated water • They fear that they will not be allowed to bury their loved ones properly
What motivates people who already practice the desired behaviour? (Doers and non-doers)	(Assessment to be carried out)
What are the different primary targets or audience groups?	Mothers with young children, older women, husbands, school children, youths, water vendors, food vendors
Who might influence the primary target groups? (Family members, friends or change agents, e.g., celebrities, sports personalities, teachers, etc.)	Traditional leaders, traditional healers, traditional birth attendants (TBA), religious leaders, teachers
What feelings might influence these different target groups? (e.g., nurture, disgust, affiliation, convenience, etc.)	<ul style="list-style-type: none"> • Mothers like to feel they are doing the best for their children. • Fathers like to feel they are protecting their family. • No one likes to think they might be consuming faecal matter

Key questions	Summary of situation to date
What are the trusted methods of communication used by the different target groups? (Ask who/where do you go to for advice – then probe)	Older women, TBAs, Radio, Community Owned Resource Persons (CORPs), Street Government
What methods of mobilising communities are available (e.g., strong leadership, religious institutions, women's groups, social networks, local NGOs, etc.)	Religious leaders, PHAST extension workers?
What outreach workers are available?	Tanzania Red Cross Society (TRCS) volunteers, Community Health Workers (CHWs), TBAs
What else can be done to enable men, women and children to take action? (e.g., provision of WASH facilities, distribution of hygiene items or household water treatment technologies)	Mass distribution of soap or chlorine? Provide handwashing stations next to public latrines?
What advocacy initiatives are required at the national or local level?	Need for more environmental health workers? Authorities to be held responsible for producing cholera plans? Increased/ timelier funding for cholera response?

STEP 2: Communication Outline – Cholera Response

Aim: To ensure that men, women and children are given information on how to protect themselves from cholera and are mobilised to take action to reduce the risk of cholera

Objective: Define objectives for each different target group

Specific outcomes: Select 3 indicators ONLY based on priority actions outlined below. For example:

- At least 30% increase in handwashing after defecation and before preparing or eating food, within 6 months (in target group)
- At least 30% increase in use of PoUWT&SS, (point of use water treatment and safe storage) within 6 months (where promoted)
- At least 30% increase in knowledge of 3 key actions to prevent cholera, within 6 months in target group

Primary Target Audienceⁱ The primary target audience is at the heart of your communication efforts. The success of the hygiene communication will primarily be measured by change or action in this group.

Target Group/ Participatory Group	General Community
Key messages / concepts /actions desired ⁱⁱ	<p>General information (in fact sheet):</p> <p>Cholera is spreading by eating contaminated food or water / made dirty by the cholera germ present in faeces – everyone is at risk</p> <p>Normally the disease is spread by not observing good sanitation and hygiene.</p> <p>Anyone with acute, watery diarrhoea needs to go to a health centre straight away for treatment</p> <ol style="list-style-type: none"> 1. Signs and symptoms of cholera 2. Mode of transmission 3. Location of treatment centres 4. Preventative & control measures: see below (personal hygiene, food, water, environmental sanitation & hygiene, home based care with ORS / fluids/ funeral safeguards): <ol style="list-style-type: none"> a. Do not drink local brew during the cholera outbreak b. Do not hide a patient with cholera symptoms – take him/her immediately to the treatment centre. <p>Your health is in your hands – wash your hands with soap and flowing water:</p> <ol style="list-style-type: none"> 1. After helping someone who is sick 2. After visiting/using toilet 3. After touching child's faeces (after cleaning child's bottom) 4. Before eating and feeding a child 5. Before preparing/cooking food 6. Before breast feeding your child <p>Gatherings are contributing to the spread of cholera</p> <ol style="list-style-type: none"> 1. Avoid gatherings during the cholera outbreak 2. Do not eat or drink at any gatherings, e.g., at funerals or celebrations, weddings, open markets, etc., during the cholera outbreak 3. The bodies of people who have died of cholera are very infectious
Trusted \Preferred communication channels	<ul style="list-style-type: none"> • Mass media • Small media • Traditional or local media • Participatory community • Interpersonal communication

Target Group/ Participatory Group	General Community
Communication methods & locations	<ul style="list-style-type: none"> Household information and leaflets/fact sheet Information provided in mosque, church, etc. Information provided at community meetings, markets, bus station, bars and clubs, clinics, etc. National and local radio spots Newspapers Musical events Mobile video units (note – could use experience of people severely affected by cholera in Pemba to prepare a video to influence others) Public address system Mobile phones
Communicators/ person responsible	<ul style="list-style-type: none"> Community based volunteers (e.g., CORPs, Red cross volunteers) Shehias, religious leaders, Imams Community leaders and committee members Water user associations Radio stations and contacts, by name Clinic staff/ Environmental health officers (EHOs) District health committees
Resources required	<ul style="list-style-type: none"> Training Materials Equipment Human resources

Target Group/ Participatory Group	Mothers (of young children)
Key messages / concepts /actions desired	<p>What to do if you or your child has diarrhoea and vomiting:</p> <ol style="list-style-type: none"> Use ORS immediately made using safe water (boiled or treated with chlorine) In case you don't have ORS, drink plenty of safe water or other fluids (except fizzy drinks) Immediately go to the nearest health facility while drinking safe water on the way Dirty clothes from the cholera patient should be washed in disinfectant/chlorine or boiled <p>Only drink safe water:</p> <ol style="list-style-type: none"> All drinking water should be boiled or treated with chlorine <p>Be very careful with food:</p> <ol style="list-style-type: none"> Do not eat fruits without washing: fruits should be cleaned with safe flowing water before eating Food should be well cooked and eaten while hot Don't eat cold leftovers – reheat all food well <p>Feed your child safely:</p> <ol style="list-style-type: none"> A child under 6 months should be exclusively breast fed and should stay with the mother as long as she is conscious Cholera does not spread by breast feeding, mother's milk is always very safe for a child even if a mother has cholera <p>Your health is in your hands – keep them clean:</p> <ol style="list-style-type: none"> Wash your hands with soap: <ol style="list-style-type: none"> After using a latrine After cleaning child's bottom Before eating and before feeding a child Before preparing food Before breastfeeding Do not wash hands in the same water / bowl as other people and use running water <p>Dispose of faeces safely:</p> <ol style="list-style-type: none"> Use a toilet properly Construct and use a latrine if you don't have one If you have not completed construction of a toilet bury your faeces (child's and adult)

Target Group/ Participatory Group	Mothers (of young children)
Trusted \Preferred communication channels	<ul style="list-style-type: none"> • Mass media • Small media • Traditional or local media • Participatory community • Interpersonal communication
Communication methods & locations	<ul style="list-style-type: none"> • Household visits • Information given by outreach workers and volunteers at women's group meetings • Information and leaflets provided at clinic
Communicators/ person responsible	<ul style="list-style-type: none"> • TRCS, CHW, TBAs • NGOs, extension workers • Nurses and doctors • Religious leaders
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Target Group/ Participatory Group	Primary School Children
Key messages / concepts /actions desired	<ol style="list-style-type: none"> 1. If you see a pupil vomiting and diarrhoea, immediately give ORS (mixture of salt and sugar), take him/her to the nearest treatment centre 2. Yes – as a precaution we are required to always drink safe water boiled or treated 3. Be careful with foods-don't eat cold or open food without reheating 4. It is essential to use toilet when you are at school and at home. Toilets should be kept clean, to prevent spread of cholera by flies from the toilet 5. Wash hands with clean water and soap after visiting toilet or after playing and before eating 6. You should not eat fruits that are not washed well 7. Don't touch vomit. Pour chlorine over it to prevent the spread of bacteria, take the patient to a treatment centre while giving him/her ORS (or mixture of sugar and salt) or safe water on the way 8. You must inform a teacher as soon as possible
Trusted \Preferred communication channels	<ul style="list-style-type: none"> • Mass media • Small media • Traditional or local media • Participatory community • Interpersonal communication
Communication methods & locations	<ul style="list-style-type: none"> • Include in school lessons and assembly • Information: posters / flyers on school notice boards and other prominent places • Drama • Competitions, games • Music • Children's councils • Peer educators • Information given at parent groups • Madrassas and Sunday schools

Target Group/ Participatory Group	Primary School Children
Communicators/ person responsible	<ul style="list-style-type: none"> • Teachers • Environmental health staff; TRCS staff and volunteers • NGOs working with children • Shehias, religious leaders, Imams • Ministry of Education
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Target Group/ Participatory Group	Secondary School Children
Key messages / concepts /actions desired	<ol style="list-style-type: none"> 1. Same as for primary school children 2. Spread the word and help protect your family and community
Trusted \ Preferred communication channels	<ul style="list-style-type: none"> • Mass media • Small media • Traditional or local media • Participatory community • Interpersonal communication
Communication methods & locations	<ul style="list-style-type: none"> • Leaflets, booklets • Drama • Music • Children's councils • Peer educators
Communicators/ person responsible	<ul style="list-style-type: none"> • Teachers • Environmental health staff; TRCS staff and volunteers • NGOs working with children and adolescents • Shehias, religious leaders, Imams • Ministry of Education
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Target Group/ Participatory Group	Food & Fruit Vendors
Key messages / concepts /actions desired	<p><i>Do not contribute to the spread of cholera</i> <i>If your customer dies of cholera, to whom will you sell tomorrow?</i></p> <p><i>Maintain the good health of your customer</i></p> <ol style="list-style-type: none"> 1. Clean utensils with hot water and soap 2. Keep utensils clean 3. Serve only boiled or treated water for drinking or making juices 4. Serve hot food 5. Keep special hand-washing facility with soap for your customers 6. Wash hands with soap after visiting toilet and before preparing food 7. Prepare food in clean environment 8. Wash fruits and vegetables that are eaten raw with safe water 9. Sell only unpeeled or unsliced fruits
Trusted \Preferred communication channels	<ul style="list-style-type: none"> • Mass media • Small media • Traditional or local media • Participatory community • Interpersonal communication
Communication methods & locations	<ul style="list-style-type: none"> • Fact sheets • Rapid orientation/training and certification system
Communicators/ person responsible	<ul style="list-style-type: none"> • Environmental health officers • Market inspectors • Community volunteer
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Target Group/ Participatory Group	Water Vendors
Key messages / concepts /actions desired	<p><i>Sell clean and safe water (a vendor who cares for his customers sells them safe water, sells water from safe source)</i></p> <ol style="list-style-type: none"> 1. Collect water from safe sources; or treat the water with chlorine or by boiling 2. Store the water safely in covered containers from which it can be poured; do not introduce hands or objects into the water 3. Keep the surroundings of the water source in clean and hygienic condition, avoid haphazard spilling of water 4. Do not allow buckets or containers to be contaminated through poor drainage or putting buckets inside each other 5. Wash your hands with soap before fetching / collecting water 6. Use appropriate water storage and clean containers regularly with soap and water 7. Advise your customers to boil all water or treat it with chlorine during a cholera outbreak, as any water can be contaminated, even if it looks clean

Target Group/ Participatory Group	Water Vendors
Trusted \Preferred communication channels	<ul style="list-style-type: none"> • Mass media • Small media • Traditional or local media • Participatory community • Interpersonal communication
Communication methods & locations	<ul style="list-style-type: none"> • Fact sheets • Rapid orientation • Public address
Communicators/ person responsible	<ul style="list-style-type: none"> • Environmental health officers • Water department • NGOs
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Secondary Target Audiencesⁱⁱⁱ The secondary target audience is in a position to influence the primary target audience. The above message/actions/concepts will also apply to the secondary target audiences but additional messages may also be important

Target Group/ Participatory Group	Teachers
Key messages / concepts /actions desired	<ul style="list-style-type: none"> • You can make a difference in the cholera outbreak • Diarrhoea and cholera are responsible for the loss of hundreds of millions of school days every year; water treatment at school and at home can prevent the spread of these diseases; handwashing with soap can reduce diarrhoeal disease by nearly half. • The handwashing habits you teach in school will last a lifetime. • You can easily include handwashing with soap in many lessons. • Making water treatment and handwashing stations is a good activity for school children and can also influence their families/communities.
Communication methods & locations	<ul style="list-style-type: none"> • Teacher training and in-service education
Communicators/ person responsible	<ul style="list-style-type: none"> • Ministry of Education (MoE)
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Target Group/ Participatory Group	Religious Leaders
Key messages / concepts /actions desired	<ol style="list-style-type: none"> 1. You can make a difference in the cholera outbreak 2. Protecting yourself and protection others by helping to maintain safe water points and spreading hygiene messages 3. Many religious faiths call for washing and cleanliness before prayer or during other religious rituals; only hands that have been washed with soap and running water are truly clean. 4. The health of your congregation, particularly the children among them, is at risk because they do not wash hands with soap. 5. One million lives could be saved each year through handwashing with soap?
Communication methods & locations	<ul style="list-style-type: none"> • Briefing / orientation / leaflets at religious conventions • Local meetings
Communicators/ person responsible	<ul style="list-style-type: none"> • Ministry of Health and Social Welfare (MOHSW)
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Target Group/ Participatory Group	Youth groups/ women's groups, etc.
Key messages / concepts / actions desired	<ol style="list-style-type: none"> 1. You can make a difference during the cholera outbreak 2. Spread the word on simple precautions you and your members can take 3. Treat drinking water by boiling it or adding chlorine to ensure that it is safe to drink and will not spread disease 4. Store treated water safely in covered containers from which it can be poured; do not introduce hands or objects into treated water 5. Handwashing with soap can reduce diarrhoeal disease by nearly half. 6. Include information about handwashing in your usual activities. 7. Make sure you provide handwashing facilities and use running water and soap at youth clubs or meeting venues.
Communication methods & locations	<ul style="list-style-type: none"> • Briefing / orientation / leaflets at community meetings • Local meetings
Communicators/ person responsible	<ul style="list-style-type: none"> • Ministry of Health and Social Welfare (MOHSW)
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Target Group/ Participatory Group	Clinic health staff
Key messages / concepts /actions desired	<ol style="list-style-type: none"> 1. Importance of handwashing with soap at key times and after patient contact 2. Inform carers that they should disinfect their homes in all areas where there have been vomit and faeces 3. Use the opportunity of helping people to get access to safe water in their homes and maintain hygienic measures homes to also investigate if anyone else is sick and provide information to family members and neighbours about how to disinfect clothes, utensils.
Communication methods & locations	<ul style="list-style-type: none"> • Flip charts • Leaflets • Discussion with patients and relatives • Reminders (cues for action), e.g., posters at handwashing points
Communicators/ person responsible	<ul style="list-style-type: none"> • Ministry of Health and Social Welfare (MOHSW)
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Tertiary Target Audiences The tertiary target audience comprises decision makers and funders who can contribute to the success of the programme

Target Group/ Participatory Group	Journalists, radio and TV producers
Key messages / concepts /actions desired	<ol style="list-style-type: none"> 1. Key facts about cholera prevention and control addressing myths, beliefs and practices 2. Signs and symptoms 3. Mode of transmission 4. Prevention and control measures (hand-washing with soap, latrine use, food hygiene, personal hygiene, etc) 5. Treatment centres 6. Use of home based care (ORS) and fluids 7. Where to get information – Outbreaks alert / Early Warning – the MOHSW reports on outbreaks every Saturday to the radio
Communication methods & locations	<ul style="list-style-type: none"> • Press conferences • Media Briefings • Fact sheets • Website
Communicators/ person responsible	<ul style="list-style-type: none"> • Ministry of Communication and Transport • Ministry of Health and Social Welfare (MOHSW) • Media NGOs
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

Target Group/ Participatory Group	Government Ministers
Key messages / concepts / actions desired	<ol style="list-style-type: none"> 1. Impact of cholera on your community 2. What you plan to do about it and what support you need 3. How to involve schools in the fight against cholera 4. Advocacy for longer-term infrastructure needs and the prioritization of cholera affected areas to help prevent recurrence in future years
Communication methods & locations	<ul style="list-style-type: none"> • Briefing paper • Proposals
Communicators/ person responsible	<ul style="list-style-type: none"> • Ministry of Health and Social Welfare (MOHSW) • Ministry of Education
Resources required	<ul style="list-style-type: none"> • Training • Materials • Equipment • Human resources

STEP 3: Monitoring plan – Cholera Response

Communication Outcome Indicators	Monitoring activities	By whom	How often
• % of patients presenting at the health centre within the first 24h of developing symptoms	• Record in clinic register	• Clinic staff	• On-going collection of data at clinic – collate and interpret monthly
• % household carers correctly using ORS	• Random HH visits to 20 families per mobiliser • Baseline and 4 month follow up questionnaire survey	• Community mobilisers • Cross checked and collated by EHOs or other supervisor every two weeks	• Weekly • 4 monthly during outbreak
• % of vulnerable populations that treat their drinking water at household level with chlorine resulting in a residual chlorine rate of > 0.2mg/l (household bleach, PuR sachet, Aquatab, etc.)	• Random HH visits to 20 families per mobiliser • Baseline and 4 month follow up questionnaire survey	• Community mobilisers • Cross checked and collated by EHOs or other supervisor every two weeks	• Weekly • 4 monthly during outbreak
• % of the vulnerable population who wash their hands with running water and soap (or alternative; ash, sand, etc.) at least 2 critical times (before eating and after defecating)	• Random HH visits to 20 families per mobiliser • Baseline and 4 month follow up questionnaire survey • Observations at public toilets	• Community mobilisers • Cross checked and collated by EHOs or other supervisor every two weeks	• Weekly • 4 monthly during outbreak
• % of mothers or main caretakers of babies or infants who wash their hands with soap and running water at least 4 critical times (before eating or feeding their child and after defecating or cleaning their child)	• Random HH visits to 20 families per mobiliser • Baseline and 4 month follow up questionnaire survey	• Community mobilisers • Cross checked and collated by EHOs or other supervisor every two weeks	• Weekly • 4 monthly during outbreak
• % of vulnerable population who report defecating, at least 100m from water points and houses, if no latrines are available	• Random HH visits to 20 families per mobiliser • Baseline and 4 month follow up questionnaire survey	• Community mobilisers • Cross checked and collated by EHOs or other supervisor every two weeks	• Weekly • 4 monthly during outbreak
• % of gatherings (weddings, parties, funerals, etc.) that instigate precautions (safe food preparation, chlorination of drinking water, handwashing facilities, safe sanitation, safe preparation and burial of bodies, etc.)	• Observations using checklist before and during gatherings	• EHOs and community leaders	• As required – all events to be monitored
• % food vendors taking correct precautions when preparing and selling food (hand-washing before preparation, use of boiled water, serving only very hot food)	• Obtain feedback from market users and food vendors • Observation at markets and food outlets • Baseline and 4 month follow up questionnaire survey	• EHOs	• Weekly observations in high risk areas • Baseline and 4 month follow up questionnaire survey

Communication Outcome Indicators	Monitoring activities	By whom	How often
Communication Process Indicators			
<ul style="list-style-type: none"> Communication materials have been developed with the target audiences and are interesting, acceptable and visible 	<ul style="list-style-type: none"> Focus group discussions Field visits Real time evaluation 	<ul style="list-style-type: none"> Senior hygiene promoters Evaluation team 	<ul style="list-style-type: none"> Within 2 months of start of response
<ul style="list-style-type: none"> The majority of participants in FGDs feel that they have been provided with adequate information about the response and that field workers are working collaboratively and respectfully with them 	<ul style="list-style-type: none"> Focus group discussions Field visits – interviews with key informants Real time evaluation 	<ul style="list-style-type: none"> Senior hygiene promoters Accountability monitors Evaluation team 	<ul style="list-style-type: none"> Monthly
Communication Output Indicators			
<ul style="list-style-type: none"> Hygiene communication plans and materials that use both the mass media and interpersonal communication approaches are in use 	<ul style="list-style-type: none"> Field visits – interviews with key informants Real time evaluation 	<ul style="list-style-type: none"> Communication working group Senior HP and communication staff Evaluation team 	<ul style="list-style-type: none"> Within 1 month of start of response
<ul style="list-style-type: none"> Hygiene communication training and orientation for all implementers and secondary target audiences has been carried out and reviewed 	<ul style="list-style-type: none"> Real time evaluation Field visits – observations of training 	<ul style="list-style-type: none"> Communication working group Senior HP and communication staff Evaluation team 	<ul style="list-style-type: none"> Within 2 months of start of response
<ul style="list-style-type: none"> Information on the response is regularly provided to affected communities and feedback and complaints mechanisms are in place 	<ul style="list-style-type: none"> Interviews with those working on complaints mechanisms Review of complaints and response Real time evaluation 	<ul style="list-style-type: none"> Communication working group Evaluation team 	<ul style="list-style-type: none"> Within 1 month of start of response

STEP 4: Implementation plan (example) – Cholera Response

Actions Required	Who has lead responsibility	Who will support action	By when?
Coordinate communication efforts	Chair of the communication and mobilisation working group	Members of the communication and mobilisation working group	On-going
Draw up joint work-plan ^{iv}	Chair of working group	Members of working group – rotate responsibility	On-going
Communication formative research	Director of health education department	Local partners – Red Cross, Oxfam, CARE, ACF	By March 7th
Review communication policies and guidelines	Chair of the communication and mobilisation working group	Members of the communication and mobilisation working group	End January
Prepare local communication plans	Chair of district cholera task forces	Task force members	Mid April
Develop national mass media related materials	Ministry of Health (Director of PH)	Information Communication Dept (mass media department)	End March
Develop training and orientation packs for key target groups	HP training specialist (consultant)	Communication working group	End April
Establish systems for communication at district to village level	District health promotion department	District health promotion staff and NGOs	End April
Identify community level partners	UNICEF	Working group and district level partners	End March

i The messages for the primary target audience were compiled by an interagency working group in response to the cholera outbreaks in 2010

ii Based on communication assessment

iii These messages are examples only and have not been ratified by the interagency working group

iv Key activities for the communication working group should be recorded on the joint workplan, but it is recommended that additional, more detailed workplans are drawn up for those actions requiring complex steps involving other actors.

Sample Communication preparedness work plan template

For an editable version of this template, click here



Activity	Person(s) responsible	January	February	March	April	May	June
Communication co-ordination meeting							Weekly meetings during outbreak season
Meetings with district PH departments							
Communication assessment in four high-risk areas							
Workshop to analyse data							
Draft briefing packs for journalists and media							
Meeting with media representatives to obtain feedback and discuss plan of action							
Finalisation of briefing packs							
Drafting of leaflets for general public, community leaders and teachers							
Finalise leaflets							
Prepare three radio spots in four languages for key target audiences							
Organise contracts and MoU for partners-local theatre groups, radio stations, media							
Design one-day training for teachers							
Organisation of 50 training workshops for 1000 teachers							
Organise three two-hour workshops for 1000 teachers							
Organisation of 50 training workshops for key line ministries							
Field visits and monitoring							
Real time evaluation							

Communications preparedness checklist for cholera outbreaks

Activity	Comments
A communications sub group has been formed within the cholera task force (or equivalent) or time has been allocated to discuss and plan for communication responses during a cholera outbreak. This group must include representatives from Health, WASH and Education.	
Meetings have been held with key Ministries and stakeholders that might be involved in the cholera response e.g. Ministry for Social Welfare, Health, Water, Education and where possible representatives have been invited to planning meetings.	
The roles and responsibilities including the person who will be responsible for sign off of key information and its release have been allocated and agreed and a system for co-ordination has been identified.	
Either a methodology for a rapid assessment on socio cultural beliefs about safe water, sanitation and hygiene practices in affected communities has been developed or formative research on socio cultural beliefs on water and sanitation practices in potentially affected communities, including effective and credible channels of communication, has been conducted.	
A communication plan to be used in the event of a cholera outbreak has been drafted and agreed with partners. This should detail at risk areas, risk factors, participant groups, behavioural outcomes and trusted and acceptable channels of communication and methodologies for these groups. A special attention to be given to the marginalized, hard-to-reach communities.	
Initial key messages /information on safe household water treatment and storage, safe, hygiene and sanitation practices for cholera prevention and for correct treatment seeking behaviours have been developed and agreed with partners.	
Visual support material on safe household water treatment and storage, safe, hygiene and sanitation practices has been prepared, pre-tested, printed and is available in stock and arrangements for large scale printing are set up. This should include media briefing materials.	
A training package/module to train community workers/volunteers on interpersonal communication and on safe household water treatment and storage, safe, hygiene and sanitation practices for cholera prevention is available.	
Community workers have been trained or an agreement is established with an NGO to train community workers/volunteers on cholera prevention before the cholera season or as soon as possible into an outbreak.	
Agreements with NGOs, CBOs or other partners for community based activities in communication for cholera prevention and response are signed/ drafted. Activities include: door-to-door activities, group discussions, identification of positive deviants and community dialogue and participatory activities to promote safe practices, mobilization of existing networks, or any other relevant interventions.	
Agreements with religious/traditional leaders associations to promote safe household water treatment and storage, safe water, hygiene and sanitation practices for cholera prevention amongst communities are signed.	
Agreement with proximity media (local radio) for activities such as airing of key messages/jingles on safe household water treatment and storage, safe water, hygiene and sanitation practices and interactive radio programs (example: panel discussions with community workers, religious leaders, community champions), is signed.	
Agreements with mass media for public information and other broadcasts, including identification of national leaders/celebrities to advocate for key behaviours are signed/ drafted.	
A spokesperson has been identified and oriented/trained.	

Below are some of the different types of communication activities and channels that have been used in cholera response efforts.

Communication methodologies for cholera response

Medium	Channel	Description	Comment
Mass media 	Radio spot	Short and succinct information about cholera often using music, drama, humour to attract attention and information repeated frequently.	Mass media is a very useful first phase tool to get information to as many people as possible as quickly as possible. Radio spots, text messages and public information broadcasts can often be put together quickly. Consider who has access to which stations and what time of day is most appropriate. For example some groups including many women may not have access to radios or specific groups may not tune into certain channels.
	Radio programme	Varying formats targeting different audiences but with focus on cholera: talk show, phone in, newscast etc.	
	Public information broadcast	Specific information about cholera aimed at what the public can do and broadcast either via the TV or radio.	
	Text messages	Reminders to engage in specific behaviours such as handwashing with soap or information on where to obtain treatment.	
	Television programme	Varying formats targeting different audiences: talk show, newscast, documentary, etc.	
	Cinema show / mobile video unit	Screening a popular film and providing information on cholera prevention and treatment before the screening or showing a film specifically on cholera. Videos can also be shown by mobile video unit, moving from village to village.	
Interpersonal communication 	Home visits	Use of outreach workers such as community health workers or mobilisers, Red Cross volunteers or extension workers, etc., to visit people in their homes and provide information and encouragement.	Outreach workers will need orientation to focus specifically on cholera.
	Training/briefing sessions	Can be of varying length - a few hours or a few days - and for varying target audiences, such as health workers, community or religious leaders, journalists, etc. Can be training of trainers (ToTs) who will then train others.	Try to make information as practical as possible and identify barriers to implementation of suggested actions. Training needs follow up and support especially in the case of ToTs.
	Group discussions	Small discussion groups (up to 15 people) where people have the opportunity to ask questions. Can use interactive methods such as 'three pile sorting' or demonstrations to encourage people to talk.	House visits can be particularly useful to reach the most vulnerable members of the community.

Medium	Channel	Description	Comment
Traditional or local media (or venues) 	Music/songs	Can be used in different ways, e.g., in songs about handwashing with soap or music show to encourage attendance and then provide information on cholera.	
	Theatre	Play itself usually focuses on cholera and can be undertaken in community locations where people usually gather (such as near market places, community meeting places), but could use theatre venue to provide information before other shows.	Consider specific entertainment or relaxation venues used by large numbers of the population, e.g., football, cricket or wrestling matches, hairdressers, near market places, etc.
	Puppets	As above but using small or large puppets and aimed at varying age groups.	Follow up as required to ensure accurate information is being communicated.
	Storytelling	As above – can use different props or none.	
	Community meetings	Usually large meetings organized by influential leaders in the community. Not everyone may feel able to contribute views equally.	
Participatory 	Community health clubs	Often focus on self-help actions that group can take and offer support and motivation and sometimes training in various health issues.	
	School health clubs	As above but usually run by teachers or youth workers out of school hours; should identify practical actions that children can take to improve hygiene in school or community.	Health clubs may exist already but will need reorienting to ensure a focus on cholera rather than general health issues.
	CLTS / CATS	Community led or community approaches to total sanitation programmes (CLTS or CATS) use peer pressure and other key motivators to improve uptake of sanitation facilities.	PHAST methods may need adapting to encourage a focus on specific and priority cholera issues (the full PHAST approach is time-consuming and hence during an outbreak only some of the methods will be appropriate for use).
	PHAST methods	Participatory hygiene and sanitation for transformation (PHAST) methods (not the step by step approach) such as three pile sorting or pocket charts can be used to stimulate discussion with community groups. The aim is to enable these groups to identify specific actions they themselves can take to address cholera.	Usually require good facilitation (especially CLTS /PLA) and regular follow up.
	PLA	Participatory learning and action (PLA) methods such as community mapping can help to stimulate discussion and awareness about cholera risks and aim to motivate groups to take action that they should define themselves.	Will take time to work supportively with communities and groups

Medium	Channel	Description	Comment
Small media 	Stickers	Information provision on cholera; often aimed at children and intended to act as a reminder to action.	Need to ensure that a reasonable proportion of the population is literate and can read both the words and pictures when using posters, leaflets or stickers for community members. Pre testing is important.
	Posters	Information provision on cholera; often used as a reminder to action but can also provide information e.g. where to go to get treatment.	Information leaflets can be very useful for specific target groups providing an educational and promotional role such as teachers, community leaders, health workers etc. Helps to ensure that consistent information is shared as part of the prevention, preparedness or response efforts.
	Leaflets	Information on cholera; people are able to take these home and review them later. Can also be used for a range of different target groups – community leaders, food vendors, school teachers, health workers, etc.	
(Source: Ministry of Health, Uganda)	T-shirts and caps	Printed with slogans about cholera prevention.	Do not try to convey too much information on one poster.
	Megaphones	Information provision via loudhailers used outdoors where people gather in large numbers.	T-shirts and caps are probably only useful for identifying outreach workers and are unlikely to influence behaviour change.

Cholera Prevention

Key Outcomes	Key Messages	Actions/behaviours	Sample motivational messages
People have access to and use a safe water supply for drinking	Only drink safe water	Use only boiled (rolling boil) or treated water (filters, chlorine) for drinking, making juices and ice	Protect your children: boil all your drinking water
		Use the protected water sources (e.g. pipe, covered well, borehole or handpump) for all drinking water	
		Store treated water safely in a covered container with a tap or spout from which it can be poured; to prevent contamination, do not introduce hands or objects into the stored water. If water must be dipped out, use a dedicated clean implement, such as a ladle.	
Households, communities, institutions and food outlets practice safe food hygiene	Prepare food safely	Wash hands with soap and water before preparing food	Will you take food from someone who doesn't wash his hands after going to the toilet? I won't!
		Always serve cooked food whilst it is hot – including food that is reheated	
		Wash all fruit and vegetables that are eaten raw before eating: use safe treated water or chlorine solution for water treatment to do this	
		Cover all food to protect it from flies and other insects	
		Clean all utensils with hot water and soap and dry and store in a safe place	
		Provide hand-washing facilities with soap in restaurants and canteens and promote their use	Can you eat in comfort if you haven't washed your hands?
		Only sell unpeeled and unsliced fruits or vegetables	
Infants are given safe fluids and food	Protect your children by feeding them safely	Exclusively breastfeed babies under 6 months old	I do what is best for my baby – do you?
		Continue breastfeeding older infants as well as providing complementary food prepared hygienically	
		Where formula milk is used, ensure that it is prepared hygienically using safe water. (Pay attention to the temperature to avoid accidental burnings)	
		Wash hands with soap and water before feeding your children	

Key Outcomes	Key Messages	Actions/behaviours	Sample motivational messages
The environment is free from excreta because people dispose of it safely	Dispose of all faeces safely (in a latrine or by burying it)	<p>Always use a latrine or toilet</p> <p>If you don't have a latrine, bury all faeces including babies' and children's</p> <p>Provide handwashing facilities next to the latrine and always use them after using the latrine</p> <p>Make sure there is a system for cleaning all public latrines especially</p> <p>Make sure latrine blocks are cleaned and repaired promptly (institutions)</p>	Isn't it time to make the right choice? Use a latrine – you know it makes sense.
People wash their hands with soap and water at the critical times	Wash hands with soap and water	<p>Wash your hands with soap and water at the critical times:</p> <ul style="list-style-type: none"> • After going to the toilet • After wiping a child's bottom • Before eating • Before feeding a child • Before preparing food • Before handling water • After looking after a sick person or a dead body <p>If you don't have soap then use ash</p> <p>Dry your hands in the air (not using a towel or cloth)</p> <p>Provide handwashing facilities at all public places</p>	More and more people are using soap to wash hands – do you?2
Environmental hygiene is adhered to in markets and other public places	Keep the environment clean in markets and other public places	<p>Don't throw rubbish into drains</p> <p>Throw your rubbish in the bins provided</p> <p>Don't throw your flying toilets (plastic bags containing faeces) into the public drains – use the special bins provided</p>	Help us to help you stop eating shit! Make your bags fly into the right bin!

CHOLERA RESPONSE: Include outcomes above where appropriate as well as the following

Key Outcomes	Key Messages	Actions/behaviours	Sample motivational messages
Children and adults who have vomiting and diarrhoea are effectively rehydrated	It is critical to stay hydrated. The lost body fluids must be recovered	<p>Give ORS using safe water to anyone who has diarrhoea or vomiting</p> <p>If you don't have ORS then keep giving the person another government-supported rehydrating fluid (such as sugar-salt solution, or rice-based ORS) or just plain water (which is not a treatment but will help the person to not dehydrate as quickly)</p> <p>If you have frequent watery diarrhoea that looks like rice water or are vomiting, you may have cholera. Do not panic. Cholera can be cured. Go to a doctor or clinic immediately. Drink as much as you can on the way. Contact XXX for more information³</p>	Everyone is using it – don't get left behind.

Key Outcomes	Key Messages	Actions/behaviours	Sample motivational messages
Households know where to get ORS and how to prepare and use it	ORS can help to prevent dehydration and death	<p>packets of ORS can be found in most shops, markets, and pharmacies</p> <p>If you have a packet of ORS, do the following:</p> <ol style="list-style-type: none"> 1. Wash your hands with soap (or ash) and water before preparing the mixture 2. Put the contents of the ORS packet in a clean covered container. Add one litre of clean water and stir. Too little water could make the diarrhoea worse 3. Add water only. Do not add ORS to milk, soup, fruit juice or soft drinks. Do not add sugar 4. Stir well, and drink it/feed it to the child from a clean cup. Do not use a bottle. Give one glass after each episode of diarrhoea 5. Store prepared ORS safely and you can use this mixture for up to 24 hours after you have made it. After this any unused mixture must be thrown away⁴ 	A good parent like you knows what to do when the children are unwell.
Households are not ashamed of getting cholera and seek help promptly	Cholera is nothing to be ashamed of	Don't be scared or ashamed of cholera. It can be treated easily if you get medical help quickly. Contact XXX to find out where your nearest cholera treatment centre is ⁵	It could happen to you – get to a treatment centre fast!
Items contaminated with infected vomit and faeces are safely disinfected	Disinfect areas and materials soiled with vomit and faeces	<p>Disinfect areas of the floor or furniture soiled with vomit or faeces with water and chlorine or with soap and water</p> <p>Wash clothes and bed linen of people who have had diarrhoea and vomiting in water with added chlorine or boil them and dry them in the sun</p> <p>Do not wash soiled clothes or bed linen in open water sources or near to improved water sources If the transport taking a sick person to a health facility becomes soiled, wash it with water and chlorine</p>	You can make a difference – take the advice of those in the know.
Precautions to prevent cholera transmission are taken at funerals and when handling dead bodies	Keep people safe at funerals	<p>Where possible, do not provide food at funerals</p> <p>If food is provided, the people who prepare the body must not also prepare the food</p> <p>Everyone at a funeral during a cholera outbreak must wash their hands with soap:</p> <ul style="list-style-type: none"> • After going to the latrine • After touching the body if it is an important custom • Before eating food or drinking <p>Hand-washing facilities with soap are provided and everyone is encouraged to use them</p>	Don't put your guests at risk - provide water and soap for handwashing and make sure they use them
Households and institutions are enabled to practice safe hygiene and use ORS effectively.	Use the NFIs/ supplies as intended	<p>Use the supplies / NFIs provided to improve hygiene. If HHWT products are included, provide information and ensure population knows how to use it</p> <p>Use the ORS sachets when someone has diarrhoea and vomiting making it with safe water</p>	See above

¹ Taken from SHARE handwashing with soap: why it works and how to do it available from www.choosesoap.org

² Taken from SHARE handwashing with soap: why it works and how to do it; available from www.choosesoap.org

³ Taken from INFOASAI message library: infoasaid.org/message-library

⁴ ibid

⁵ Ibid

Understanding community beliefs and perceptions is fundamental to effective communication. Group discussions and interviews can be held to ascertain beliefs, but it will be important that facilitators are skilled in gaining people's trust and listening in a non-judgemental way to their concerns.

Psychosocial impacts of the cholera outbreak in Haiti in October 2010¹

Common beliefs expressed by Haitians following the cholera outbreak:

- It is a poison brought by foreigners to divide us
- It is a disease brought by foreigners to exterminate us and take our land.
- Cholera does not exist in our country. It is something else which is killing us.
- It is a disease brought by NGOs in order to get more money
- Each time we have elections in our country, there is a disease outbreak. It is political. It is made to divert our attention
- It is a punishment from God
- It is another divine sign (after the earthquake) that the end of the world will come soon,
- 'Mikwob pa touye aysisyien': Microbes don't kill Haitians
- Kolera powder (belief that the voodoo believers have created a powder to contaminate water with cholera)

Examples of the impacts of these beliefs were:

- The most common and widespread emotion around cholera was fear.
- The shame and stigmatisation of the people who had cholera, including rejection by their own communities, sometimes leading to violent attacks on the affected persons.
- Sometimes there were misunderstandings on the purpose and use of both ORS and household chlorine as medicines that could be used to prevent cholera; for example, there were cases of chlorine being drunk directly to prevent cholera
- A significant fear around the establishment of CTCs because of concern that it would bring cholera to the local area.
- People misunderstood treatment protocols and lost trust in the medical teams when they did not provide antibiotics
- Fear surrounded the body of a person who died of cholera, which affected the grieving process and sometimes led to the abandonment of the body
- People began to believe that voodoo priests were spreading the disease, and 45 members of the voodoo sect were assassinated
- Violence was also directed against NGOs and the CTCs; one NGO had its tents burnt down by the local population because they were intending to set up a CTC in the area

¹ Grimaud, J and Legagneur, F (no date) Community beliefs and fears during a cholera outbreak in Haiti, Intervention, 9(1) pp. 026-034; and **Haitian Red Cross Psychosocial Support Programme (no date) Facing cholera: Psychosocial support response to the outbreak**  , PowerPoint presentation

The following table outlines other common misconceptions in relation to cholera from various countries.

Common beliefs and misconceptions which can have an impact on cholera transmission and control

Belief	Recommended fact-based response
The faeces of babies are free from infection.	The faeces of babies and young children are often the most dangerous because they may have a higher concentration of pathogens
The patient will become worse if they go to the CTC and mix with other ill patients.	Care must be taken to wash hands and dispose of faeces and vomit safely, and precautions in the CTC should prevent the spread of infection from one patient to another. Doctors and nurses in the CTC rarely get cholera despite the fact that they are in very close contact with patients all the time. Once a patient arrives at the CTC they stand a much better chance of being treated successfully.
A lactating mother who has sex will give her child cholera.	The cholera vibrio is not transmitted in breast milk. Transmission is not affected by vaginal sex.
ORS is a cure for diarrhoea, and if it doesn't work straight away then you should stop taking it.	ORS helps to rehydrate patients with diarrhoea. It does not work immediately and should be given each time the patient has a bowel movement. If someone is vomiting, small amounts of ORS should still be given frequently as some fluid will be absorbed. If the patient is losing a lot of fluid and is becoming severely dehydrated, they may need to have an IV infusion instead of ORS and should go to a health facility as soon as possible.
Cholera is caused by a failure to perform certain rites and ceremonies	Cholera is caused only by swallowing contaminated food or water. Rites and ceremonies can help calm the fears of those living in the midst of an epidemic but they have nothing to do with disease transmission, neither in their performance nor in their absence.
Cholera is a curse from God or witchcraft from malicious enemies.	Everyone is vulnerable to cholera, but everyone can do something to prevent it. Witchcraft cannot cure or cause cholera. Hygiene is very important in Islam, and there are numerous references made to it in the Koran.
Acid in the water pipes caused the cholera outbreak.	If acid was present in the water pipes, then it would probably help to kill the cholera bacteria. If acid were present people would experience other symptoms.
Nursing and medical staff will blame the patient for being ill.	Nursing and medical staff who blame patients for being ill are not doing their job properly and they are in breach of the Hippocratic oath if they do. A complaint should be lodged against them. Unfortunately nursing and medical staff are only human, and some may be very judgmental. They are also at risk from cholera too.

It can be counterproductive to simply dismiss strongly held beliefs, and people will be wary of sharing their thoughts in the future if they feel unheard. It is best to listen carefully and affirm any positive beliefs or practices. Once people have been allowed to share and discuss their thoughts, the facilitator can begin to share alternative ideas and recommendations in a non-confrontational way.

Potentially harmful cultural practices in relation to cholera

- Burial must take place near a water source
- All orifices on the body must be cleaned out, including the mouth, throat and anal passage
- It is important to touch or kiss the body of someone who has died

These practices are, however, only harmful if the cholera vibrio is transferred to drinking water or food and someone else then ingests them..

Sample strategies for responding to psychosocial needs and beliefs

A variety of strategies were used in Haiti by the Haitian Red Cross to respond to the psychosocial needs and beliefs and their resultant challenges, as follows:

- Group discussions addressing beliefs and perceptions were held and facilitated by trained psychosocial volunteers and involved a process where beliefs were not discounted but built upon to build trust and rapport.
- A process of conflict mediation was undertaken with communities and led to the acceptance of a new CTC. The process involved the establishment of a community committee to engage with the CTC management.
- The volunteers were available for conflict mediation with the communities and also to help with the reintegration of the cholera patient into their families.
- Training and group sessions with voodoo priests were facilitated.
- A group of 70 journalists were sensitized on psychosocial aspects of cholera.
- Radio broadcasts highlighted psychosocial aspects of cholera.
- Psychological first aid was offered to cholera patients. Community health workers and other service providers can be trained on Psychological First Aid (PFA).
- Social networks of children, men and women were reactivated.
- Referrals to social services and protection services were facilitated.
- The possibility of creating referrals for people who need specialised care was explored.
- Meetings with families were held in the CTC.
- A mourning tent was set up in CTC so that family members could have an opportunity to spend time with their deceased beloved one and say their final goodbyes before burial.

This Annex serves as a hand-out and provides additional information to [Section 7.4](#).

Example of key groups to engage in communication:

School age children

Children are an important target group for cholera communication, and their inquisitive minds and flexibility may mean that they find it easier to adopt changes in practice or behaviour. They may also help to influence their parents or other elders, although it is important not to overburden them with high demands and to recognise their vulnerabilities, capacities and limitations. Cholera communication activities can be carried out either directly with children in school or in the community. Alternatively, teachers can be trained to discuss cholera and how it can be prevented with their pupils.

It will be vital to involve the Ministry of Education and head teachers in planning any proposed response. Ideally, activities should be incorporated into the curriculum during cholera preparedness. However, schools may also be willing to identify cholera committees and develop action plans during the response. Protecting children in school by ensuring access to safe drinking water, adequate sanitation and handwashing facilities, as well as scrupulous hygiene when preparing and serving food, should be mandatory. In addition, school children can be influential in encouraging their parents to improve water, sanitation and hygiene practices at home.

Religious institutions

Many religions, including Islamic and Christian ones, place great value on cleanliness and hygiene. Islamic religions call for hands to be washed under running water and have strict rules regarding hygiene on which communication efforts can capitalise. Religious leaders will need orientation, support and training, however, to ensure that they understand the key information that is needed by their congregations in order to mitigate the negative impacts of a cholera outbreak.

How to mobilise communities

- Visit the community and involve key members in a rapid assessment of cholera risk factors and factors that prevent people from taking action. Begin the process of assessing community and social dynamics.
- Identify formal and non-formal leaders, but recognise that they may not be representative of everyone. Try to identify other leaders such as elders, religious leaders, women's leaders, youth leaders, etc.
- Remember to involve primary and secondary schools and religious institutions in mobilisation efforts, and ask them to consider how they can help mobilise community members.
- Organise community meetings through formal channels to discuss the issue and ask for suggestions on how to proceed. Come prepared with some ideas and suggestions, but do not force these on people; allow them to express themselves.
- Provide people with examples of how other communities have successfully organised themselves, e.g., by initiating community cholera committees or setting up various task forces with specific roles and responsibilities.
- Encourage people to be proud of their plans and achievements in raising awareness and controlling cholera.
- Continue to assess community dynamics, alternative communication channels and populations or individuals might be excluded from the general meetings.
- Engage assistance from within the community to help identify particularly vulnerable community members and ensure that cholera efforts also reach them.
- Enable leaders to take responsibility rather than controlling the whole process.
- Offer training and resources, e.g., visual aids or leaflets where means allow.
- Continue to offer as much regular support and facilitation as possible and listen to community concerns.
- Engage communities and groups in monitoring their own efforts.

How to develop community action plans

- Meet with community leaders and influential people to discuss the situation and how their actions could help to influence others. Share with them the information you know about handwashing with soap and treating household water and ask them to share their thoughts and recommendations.
- Provide demonstrations to influential people, e.g., on constructing a tippy tap or using chlorine to treat water.
- Meet with different community groups to discuss the cholera situation. Ask them to consider what they can do to help address the problem.
- Organise joint community assessments of hygiene and water and sanitation practices, and ensure community meetings are held to discuss the results. Prioritise challenges and ask for suggestions of ways to tackle them.
- Use community mapping to identify trouble spots such as open drinking water sources, leaks in water pipes or blocked drainage, etc. This visualisation effort can often help to motivate community action.
- Ask for public offers of commitment to help fight the epidemic, and try to get influential people to commit to practical actions first.
- Use the following ideas to help move people towards commitment:
 - Draw a line on the ground or on a large piece of paper and label it with numbers from one to ten. Ask people to indicate how important it is to them to try and fight the cholera epidemic on the scale of one to ten with ten being very important.
 - If they indicate less than 10, ask them why and what would be needed to make them indicate the top score.
 - Go through the same process and ask how confident they feel that they can make a difference to course of the epidemic and again to indicate this on the scale of one to ten. Ask them the reasons why they have not scored 10 and what might change their score.
 - Continue to explore the issue and guide participants towards identifying the actions they can take.
 - Organise visits between villages to share experiences of developing action plans and what has been successful.
 - Where resources allow, organise competitions to reward successful villages, communities or groups.
- Do not force ideas on people or tell them what to do – you are a facilitator not an educator!

Troubleshooting – managing challenges that prevent good water, sanitation, and hygiene behaviours

What to do if:	Suggestion
People complain about the taste of chlorine	<p>Verify that the amount of chlorine they are using is correct for the quantity and cloudiness of the water. Explain that the measure is temporary and discuss the importance of trying to prevent acute diarrhoeal disease and cholera especially in young children and babies even if adults refuse to drink the water. Consider alternative proven methods for water treatment, including chlorination flocculation, ceramic or bios and filters, solar disinfection, and boiling.</p> <p>See Annexes 9A and 9B on issues related to water treatment and supply, including recommendations on chlorination.</p>
People don't like the taste of boiled water	Suggest that they pour the water back and forth using two clean containers or shake the water well in a bottle. Adding a very small pinch of salt can also help to restore the taste.
People say there is no soap available	Suggest they keep a small pot of ash by the handwashing facilities and use this instead. Other possibilities for handwashing are sand, lemon tree leaves or haritha seeds (Tanzania).
People complain of the smell of the latrines	Suggest they collect a large quantity of ash and pour this on top of the faeces. Use of vent pipes with fly mesh to reduce the smell.
Family members are not able to share the same latrine	Discuss the issue in small groups and ask participants to make some suggestions for addressing the problem, e.g., two families sharing two latrines so that different members do not have to share.
People believe that witchcraft is the cause of cholera	Focus on motivations for behaviour change. A scientific understanding of disease is not always necessary for people to make changes. They may be motivated by something other than improving health such as a sense of disgust that they may 'eat' faeces if they don't wash their hands (as per the CLTS methodology).
Children's faeces are safe	<p>Once again, they may believe that children's faeces do not cause disease but they may still not want to 'eat' them!</p> <p>Pull a hair from your head (which represents the size of a fly's leg) – drag it over some children's faeces and dip the hair in a bottle of water. Ask if anyone wants to now drink this water!</p>
People don't like to use soap for washing hands before eating because it makes the food taste different	Suggest that they use a brand of soap without a strong scent and rinse their hands thoroughly when washing. Explain that not washing hands with soap could mean that they are eating someone else's faeces along with their tasty food.

ⁱ WASH Sector Emergency Co-ordination Group, United Republic of Tanzania (2011, late draft) *Tanzania hygiene communication in emergencies guidelines – Toolkit E; United Republic of Tanzania, water, sanitation and hygiene (WASH) emergency preparedness and response toolkits for use on the Mainland and in Zanzibar*

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Activity	Description	Target audience	Deadline	Person responsible	Budget US\$
Printed media					
Briefing packs	Production of 200 briefing packs covering key facts on prevention and what to do if you get sick. Government strategy and example community actions. Examples of media involvement from various countries	Journalists and media	End July 12	Dr W - MoH	300
Leaflets	Production of 6,000 leaflets in 3 key languages on what to do during cholera outbreak and common prevention methods	Community leaders	End August 12	Mrs P - MoH	2000
Radio, film and TV					
Radio spots	Three different radio spots in 4 local languages for different target audiences	Mothers and young children Fishermen Heads of household	End September 12	Ms H - UNICEF	5000
Community media					
Clean hands theatre group	Organise contract and MoU for community theatre group to work during cholera months	Urban shanty town dwellers	End August 12 – contract	Mr T - UNICEF	2000
Training and orientation					
Series of one day trainings and mobilisation on cholera	Preparation of training materials and organisation of 50 workshops in key areas	Religious leaders Head teachers Community mobilisers	End August 12 - contract	Mr T - UNICEF (Oxfam, ACF, MoH)	2000
Refresher trainings	One day refresher trainings for 500 staff	Nurses COs	End July - contract	Cecilia S - UNICEF	6000
Advocacy					
Two hour presentations	Key reasons for involvement in response and example activities from other contexts	Key line ministries: education, agriculture and social welfare	Preparation end May 12 Delivery: end June 12	Mrs S – Public health dept	200

Cholera response strategies	Those responsible for implementation of actions (this may vary by context)	Other actors – support for implementation	How can the community be involved?
Clinical assessment (Section 8.2): <ul style="list-style-type: none"> Establish the patient has diarrhea Identify the degree of dehydration Triage 	<ul style="list-style-type: none"> Medical director Medical doctors Nurses 	<ul style="list-style-type: none"> Ministry of Health Local authority health department (dept.). Experienced medical NGOs 	Bring people who are sick to the medical facility as soon as possible.
Treatment (Section 8.3): <ul style="list-style-type: none"> Rehydrate (IV fluids & ORS) Maintain hydration (ORS & Zinc) Give antibiotics, if appropriate 	<ul style="list-style-type: none"> Medical doctors Nurses Nurse aides 	<ul style="list-style-type: none"> Ministry of Health Local authority health dept. Experienced medical NGOs 	Follow instructions for the use of ORS and zinc. Caregivers should encourage patients to take ORS and zinc as instructed.
Establish the health facility or cholera treatment site, including infection control (WASH) (Section 8.4): <ul style="list-style-type: none"> Locate and establish site in discussion with the health authorities and the community Establish rules and procedures for infection control (WASH) in the facility Establish responsibilities for infection control (WASH) monitor Supply chain logistics and management 	<ul style="list-style-type: none"> Site manager Logistician Water, sanitation and hygiene specialist Medical doctors Nurses, nurse aides Watchmen Cleaners, cooks, water carriers 	<ul style="list-style-type: none"> Ministry of Health Local authority health dept. Experienced medical NGOs Community cholera treatment committee 	Form a community cholera treatment committee. Involve it in the discussions and in agreement over the location of the site and in dialogue with the wider community. The team can also share and address the community's concerns.
Human resources (Section 8.4.4): <ul style="list-style-type: none"> Identify and recruit staff Provide professional training for medical staff with bedside supervision and mentoring Provide on the job training for support staff 	<ul style="list-style-type: none"> Ministry of Health, local authority health department – medical Site manager / logistician / WASH specialist - on the job training for support staff 	<ul style="list-style-type: none"> Training institutions Experienced medical NGOs 	Recruit many of the support staff from the local community. Once some key support staff have been trained, they can train others.
Information sharing and dialogue with patients and their caregivers (Section 8.5): <ul style="list-style-type: none"> Provide information & engage in dialogue on patients' arrival and during their stay Discuss their home context (identify key risky practices) Provide information and dialogue on discharge plans Give psychosocial support 	<ul style="list-style-type: none"> Nurses Nurse assistants Red Cross/Crescent Volunteers Psychosocial support team members 	<ul style="list-style-type: none"> Ministry of Health Local authority health department Experienced medical NGOs 	Have the community cholera treatment committee help support patients when they return home and in efforts to reduce stigmatization and conflict.

Antibiotics

Various organizations that participate in cholera responses recommend the use of antibiotics in cholera-infected patients with moderate or severe illness and who have begun IV hydration. None of the guidelines recommend antibiotics as prophylaxis for cholera prevention, and all emphasize that antibiotics should be used in conjunction with aggressive hydration. In addition, the guidelines recommend that antimicrobial susceptibility testing should inform local drug choices.

PAHO/WHO antibiotic recommendations

Case type	Option 1	Option 2
Adults	Doxycycline, 300mg po single dose	Ciprofloxacin, 1g po single dose OR Azithromycin, 1g po single dose
Pregnant women	Erythromycin, 500mg/6 hours for 3 days OR Azithromycin, ¹ 1 g po single dose	—
Children over 3 years, who can swallow tablets	Erythromycin, 12.5mg/Kg/6 hours for 3 days OR Azithromycin, 20 mg/kg, in a single dose, without exceeding 1g	Ciprofloxacin, suspension or tablets, 20mg/kg, in a single dose OR doxycycline, suspension or tablets, 2-4mg/kg po in single ² dose
Children over 3 years, or infants who cannot swallow tablets	Erythromycin, suspension, 12.5mg/kg/6 hours for 3 days OR Azithromycin, suspension 20 mg/kg, in a single dose	Ciprofloxacin, suspension, 20mg/kg, in a single dose OR Doxycycline, syrup, 2-4 mg/kg po in a single dose

Other available guidelines are summarized in the following table:

Guidelines for Cholera Treatment with Antibiotics

Organization (click for additional information)	Recommendation	First-line drug choice	Alternate drug choices	Drug choices for special populations
World Health Organization	Antibiotic treatment for cholera patients with severe dehydration only	Doxycycline	Tetracycline	Erythromycin is recommended drug for children
Pan American Health Organization	Antibiotic treatment for cholera patients with moderate or severe dehydration	Doxycycline	Ciprofloxacin Azithromycin	Erythromycin or azithromycin recommended as first-line drugs for pregnant women and children; Ciprofloxacin and doxycycline recommended as second-line drugs for children
International Centre for Diarrhoeal Disease Research, Bangladesh	Antibiotic treatment for cholera patients with some or severe dehydration	Azithromycin	Doxycycline Ciprofloxacin Cotrimoxazole	Erythromycin recommended as first-line drug for children and pregnant women
Medicins Sans Frontières	Antibiotic treatment for severely dehydrated patients only	Doxycycline	Erythromycin Cotrimoxazole Chloramphenicol Furazolidone	

* Please note, due to space constraints, dosage information is not included in this table.

Source: www.cdc.gov/cholera/treatment/antibiotic-treatment.html

Treatment with IV fluids in severe dehydration

Guidelines for treating patients with severe dehydration

Start intravenous fluids (IV) immediately. If the patient can drink, give ORS solution by mouth while the IV drip is set up.

Give 100 ml/kg Ringer's Lactate Solution divided as follows:

Age	First give 30 ml/kg IV in:	Then give 70 ml/kg IV in:
Infants (<12 mos.) or children with malnutrition	1 hour*	5 hours
Older (>1 yr.)	30 minutes*	2 ½ hours

* Repeat once if radial pulse is still very weak or not detectable.

Reassess the patient every 1-2 hours and continue hydrating. If hydration is not improving, give the IV drip more rapidly. Ongoing losses also need to be replaced and 200ml/Kg or more may be needed during the first 24 hours of treatment.

Also give ORS solution (about 5 ml/kg per hour) as soon as the patient can drink.

After 6 hours (infants) or 3 hours (older patients), perform a full reassessment. Switch to ORS solution if hydration is improved and the patient can drink.

Treatment with ORS

ORS alone can be used to treat patients with none or some dehydration. Patients with severe dehydration need IV fluids.

ORS TREATMENT (no dehydration)

50ml ORS per Kg bodyweight *plus ongoing losses*. Continue breastfeedign /feeding.

ORS TREATMENT (some dehydration)

80ml ORS per Kg bodyweight *plus ongoing losses* over 4-6 hours. Observe the patient for 4-6 hours and reassess every hour. If the dehydration is worsening or if there is vomiting (>3times in 1 hour) then give IV fluids.

ORS amounts to replace ongoing losses and/or to prevent dehydration

Age	Amount of ORS after each loose stool	ORS quantity needed
Less than 24 months	50 to 100 ml	Enough for 500 ml / day (1 sachet)*
2 to 5 years	100 to 200 ml	Enough for 1,000 ml / day (1 sachet)*
Over 10 years	As much as wanted	Enough for 2,000 ml / day (2 sachets)*

* ORS sachets are usually for 1 litre. In some countries, ORS sachets are conditioned for less than 1 litre.

1 The FDA classifies azithromycin as a Category B drug, which means that there is no confirmed risk in studies with human subjects

2 Although doxycycline has been associated with a low risk of yellowing of the teeth in children, its benefits outweigh its risks

Prepare ORS solution

1. Wash your hands with soap and water
2. Pour the entire contents of 1 packet of ORS into a clean container (mixer bowl or jar) for mixing the ORS. The container should be large enough to hold at least 1 litre.
3. Measure 1 litre of clean water (or correct amount for packet used). Use the cleanest drinking water available.
In your community, what are common containers caregivers use to measure 1 litre of water?
4. Pour the water into the container. Mix well until the salts completely dissolve



How to prepare ORS solution

How to give and store ORS solution

1. Explain to the caregiver the importance of replacing fluids in a child with diarrhoea. Also explain that the ORS solution tastes salty. Let the caregiver taste it. It might not taste good to the caregiver. But a child who is dehydrated drinks it eagerly.
2. Ask the caregiver to start giving the child the ORS solution in front of you. Give frequent small sips from a cup or spoon. (Use a spoon to give ORS solution to a young child.)
3. If the child vomits, advise the caregiver to wait 10 minutes before giving more ORS solution. Then start giving the solution again, but more slowly. She should offer the child as much as the child will take, or at least $\frac{1}{2}$ cup ORS solution after each loose stool.
4. Check caregiver understands. For example:
 - Observe to see that she is giving small sips of the ORS solution. The child should not choke.
 - Ask her: How often will you give the ORS solution? How much will you give?

5. The child should also drink the usual fluids that s/he drinks, such as breast milk. If the child is not exclusively breastfed, the caregiver should offer the child clean water. Advise the caregiver not to give sweet drinks and juices to the child with diarrhoea who is taking ORS.
6. How do you know when the child can go home? A dehydrated child, who has enough strength to drink, drinks eagerly. If the child continues to want to drink the ORS solution, have the mother continue to give the ORS solution in front of you. If the child becomes more alert and begins to refuse to drink the ORS, it is likely that the child is not dehydrated. If you see that the child is no longer thirsty, then the child is ready to go home.
7. Put the extra ORS solution in a container and give it to the caregiver for the trip home (or to the health facility, if the child needs to be referred). Advise caregivers to bring a closed container for extra ORS solution when they come to see you next time.
8. Give the caregiver 2 extra packets of ORS to take home, in case she needs to prepare more. Encourage the caregiver to continue to give ORS solution as often as the child will take it. She should try to give at least $\frac{1}{2}$ cup after each loose stool.

How to Store ORS solution

1. Keep ORS solution in a clean, covered container.
2. Ask the caregiver to make fresh ORS solution when needed. Do not keep the mixed ORS solution for more than 24 hours. It can lose its effectiveness.

Key messages

- Cholera is not transmitted in breastmilk.
- Breastmilk is always the safest source of nutrition for babies and young children, especially during a cholera outbreak.
- Babies should be exclusively breastfed for the first six months of life. From six months of age, babies need a variety of additional foods that are hygienically prepared. Breastfeeding should continue for as long as possible, preferably until the child is at least two years old.
- Babies should continue to be breast-fed while receiving treatment for cholera.
- A mother with cholera should continue to breastfeed as long as she is conscious, even while receiving intravenous fluids. Baby and mother should remain together.
- Hygienic preparation of complementary foods for children aged six months and above is essential to reduce the risk of cholera infection.
- Babies who cannot breastfeed are highly vulnerable and should be prioritized for special attention and care to reduce the risks of artificial feeding.

Q: Is cholera transmitted through breastmilk?

A: Cholera is not transmitted in breastmilk. Cholera is contracted by drinking contaminated water or eating contaminated food. Cholera is also spread by poor sanitation and hygiene practices, such as not handwashing with soap.

Q: What is the safest water and food for babies and young children when cholera is present?

A: Breastmilk is the safest source of nutrition (solid and fluid) for babies and young children at all times, including when there is cholera. Babies should be exclusively breastfed for the first six months, meaning they should be given breastmilk and no other food or fluids, not even water. Breastmilk provides all the food and fluids that a baby need for the first six months of life. **Exclusive breastfeeding is the best way to prevent cholera in babies aged less than six months because breastmilk is clean and protects against infections.** Babies who are given other food and fluids before they are six months old often do not grow well and get sick more often because the food and fluids do not contain as much energy and nutrients as breast milk, and may contain germs that cause cholera, diarrhea and vomiting.

From the age of six months, babies need a variety of nutritious foods that are hygienically prepared to complement intake from breastmilk. Breastfeeding should continue for as long as possible, preferably until the child is at least two years old.

Q: If a mother is infected with cholera, should she still breastfeed?

A: A mother with cholera should continue breastfeeding as long as she is conscious, even while receiving intravenous fluids. It is important that the mother receives rehydration with intravenous fluids and/or ORS. Antibiotics should be given only to the infected mother, not to an uninfected healthy baby.

Q: If a mother has severe dehydration, should she still breastfeed?

A: Severe dehydration in the mother can reduce breastmilk volume. Rehydrating the mother with intravenous fluids and/or ORS can correct this quickly (within an hour). Once the mother is improving, she can continue breastfeeding, even while receiving intravenous fluids.

Q: Should the mother and baby be separated if the mother has cholera?

A: Both the mother and the baby should remain together if the mother has cholera. Keeping the mother and baby together means that the mother can continue to breastfeed her baby and helps maintain the emotional bond between the mother and baby. It is very important that the mother washes her hands and breasts with soap and water or chlorine water. If baby refuses to suckle because of taste of soap/chlorine, clean the nipples and surrounding area with small amount of breastmilk. Where possible, someone who is not sick can care for the baby between each breastfeed. If possible, wrap the baby in a clean cloth for each feed and wash the cloth thoroughly after each feed.

Q: What are the risks of not breastfeeding?

A: Studies have shown that babies and young children who are not breastfed are 6-25 times more likely to die in unhygienic conditions than breastfed babies. Artificial feeding with infant formula or powdered milk is dangerous at all times but especially when there is cholera. The water and utensils used to prepare the milk may be a source of infection for the child. Artificial feeding also reduces the production of breastmilk by the mother, has no properties to protect against infection, and disrupts the bonding between mother and baby. Because of the dangers of artificial feeding, infant formula and powdered milk must never be distributed for the general population. Health authorities and relief organizations should not request or accept free donations of formula or powdered milk. Donations are easily misused and could damage good breastfeeding practices leading to illness and death of babies and young children.

Q: How is it possible to tell if a baby is dehydrated?

A: Dehydration in the baby may occur if the breastfeeding mother is severely dehydrated or if the child has cholera or another type of diarrhea. A child may be dehydrated if he/she is urinating less than 6 times a day. Signs of severe dehydration include at least two of the following signs: sunken eyes, unable to drink or drinks poorly, skin pinch is slower than two seconds, lethargic or unconscious. Signs of moderate dehydration include at least two of the following signs: sunken eyes but drinks eagerly or is thirsty, skin pinch goes back in two seconds, irritable.

Q: What should be done if the baby has cholera or is dehydrated? (see Chapter 8 section 8.22 and 8.3 in the toolkit)**A: Child with severe dehydration:**

- Immediately refer to hospital and treat with intravenous (IV) fluids. Within one hour of giving IV fluids, give ORS and zinc, if the child is able to tolerate. The child should breastfeed as soon as he/she is strong enough to suckle. If child has cholera, treat according to national guidelines.

Child with moderate dehydration:

- Children aged less than six months: breastfeed exclusively, frequently and longer at each feed.
- Children aged six months and over: breastfed frequently and longer at each feed. The child should be given ORS (or other fluids if ORS is not available) using a cup and spoon or dropper. Also give zinc.
- Screen for severe acute malnutrition (SAM) using MUAC tapes¹ and visible signs (including bilateral oedema) and refer children with SAM for treatment.

Q: What about complementary feeding for children aged six months and above?

A: Hygienic preparation of complementary foods is essential to reduce the risk of cholera infection. Wash hands at ALL critical moments (before eating, handling food or feeding a child, after visiting the toilet and after handling baby faeces). Ensure that all food is cooked thoroughly. If food has been cooked but has then been left to stand or has cooled down, then it must be thoroughly reheated. Remember that children should also be breastfed until they are at least two years.

Q: What can be done for children aged less than two years who cannot be breastfed?

A: There are some special circumstances when breastfeeding is not possible, for example when the mother is very sick or dead. These children are highly vulnerable and should be prioritized for special attention and care to reduce the risks of artificial feeding. Caregivers need access to safe clean water to prepare artificial feeds, fuel to boil water, soap to clean feeding cups and utensils and a supply of formula milk for as long as the child requires artificial feeding.

¹ MUAC = mid-upper arm circumference. In children aged 6-59 months, SAM is indicated by MUAC <11.5 cm and/or bilateral oedema (both feet). In children aged less than 6 months SAM is indicated by signs of visible wasting and/or bilateral oedema.

For further information on staffing for health facilities and treatment sites, see the **Annex 8G**.

A. Establishment of cholera-related health facilities or treatment sites including infection control

Design parameters for establishment of a cholera treatment siteⁱ (adapted mainly from the MSF, 2004, cholera guidelines)

Element	Design parameters	Notes on procedures for infection control and on design variations for smaller health facilities
Position	High ground with good drainage is the best option. Do not select low ground or a depression. Consult and agree with local leaders on the appropriate location.	
Distances	To a market = 100m To a water source = 40m (sandy soil); 15m (clay) To other buildings and especially dwellings = 100m	
Walls and floor	Concrete floor or, if a temporary structure, plastic sheeting as floor covering	<ul style="list-style-type: none"> It should be possible to wash the floors and collect or drain waste water in a soak pit or latrine within the facility. Floors of the wards should be washed up to 4 times a day with a solution of 0.2% chlorine solution. Walls can be sprayed with a 0.2% solution when the patients are not present.
Access	A good road is important for access by patients, water, food, etc.	
Space and surface	The space should be adequate for future expansion if required. Ward capacity = 2.5m^2 per patient plus one attendant <ul style="list-style-type: none"> A 29m^2 tent can accommodate 10 patients + attendants A 82m^2 tent can accommodate 30 patients + attendants 	Consider the space required for the various components of the site including locations for the latrines and bathing units.

Element	Design parameters	Notes on procedures for infection control and on design variations for smaller health facilities
Layout and movement within the facility	<p>The layout of the facility should include areas for:</p> <ul style="list-style-type: none"> Assessment of the incoming patients and administer ORS where patients are only mildly or moderately dehydrated A separate isolation area including the wards for the treatment of severe cases Recovery of patients before discharge A neutral area A morgue A waste zone The centre should be fenced to restrict access in and out of the centre to the entrances which are manned by guards The ward area should be separated by male and female to allow for as much dignity as possible within the facility. 	<ul style="list-style-type: none"> See the simple layout of a CTC 'in Section B of this Annex, and also the MSF 3-D CTC layout from MSF A guard should be stationed at every entry / exit to the centre to restrict access to the centre to people who do not have the permission to enter People should not be allowed to move freely between the areas, but require permission from the medical staff as to which area they can enter Only one caregiver is allowed to enter the cholera treatment centre with each patient, thereby reducing the chances of cross infection. Therefore, briefing by staff on infection control and care procedures within the centre does not need to be undertaken for multiple caregivers.
Light	<ul style="list-style-type: none"> Hospitalisation wards need good light (replacing an IV line with a flashlight is not easy) Different options for light include: main power, generator, kerosene lamps, solar lamps, individual torches For a CTC a generator is advised even if there is mains electricity It is important to have back up options for power Regular supplies of kerosene, generator fuel, etc., will be needed 	
Water supply – water quantity	<p>Cholera treatment centres:</p> <ul style="list-style-type: none"> 60 litres per patient per day 15 litres per caregiver per day Storage should be available for 3 days of water supply <p>ORPs: 10 litres per patient per day</p>	<ul style="list-style-type: none"> Water supply is essential for good hygiene at a treatment centre. Water may need to be delivered by a tanker to storage tanks. For smaller centres and ORPs arrangements may be needed with community members to deliver water to the centre on a daily basis.
Water supply – water quality	<p>The water should have a chlorine residual of 0.5 – 1.0 mg/l at turbidity < 5NTU, after 30 mins contact time (Sphere, 2011, p100) for pH < 8</p>	<p>Safe water quality is particularly important for drinking, making ORS and washing utensils.</p>

Element	Design parameters	Notes on procedures for infection control and on design variations for smaller health facilities
Latrines	<ul style="list-style-type: none"> 1 latrine / 20 patients or caregiver in the observation/screening and recovery area (min 2 latrines, male/female) 1 latrine / 50 patients in the hospitalisation areas (most won't use them) h(min 2 latrines, m/f) 2 latrines minimum in the neutral area (m/f) 2 latrines for visitors outside of the centre (m/f) The latrines must be easy to clean so that waste water can be washed into the latrine hole or to a soakpit to the side of the latrine. Toilets in the patient area should be large enough to allow a caregiver plus a patient to enter (double unit size), have some form of moveable and washable chair and ideally also a hand-rail inside patient to use for stability when using the toilet. Toilets should be independent to contain the vibrio and not connected to the sewer (the sewer system may be inadequate and leak into water pipes or drain into an open water source). 	<ul style="list-style-type: none"> Particular care will be needed for regular cleaning (several times a day) of the latrine slabs and up to 1m height on the walls with 0.2% disinfectant water. A small health facility with only 1-5 beds may not have the resources for multiple latrines. In this circumstance, the minimum number of latrines will be 2 (male and female), which patients, caregivers, staff and visitors will have to share. Particular care is required to make sure the latrines are cleaned regularly. Refer to the OXFAM-GB technical brief  and CCBRT design options for latrines to improve accessibility for sanitary facilities.
Showers / bathing units	<ul style="list-style-type: none"> 1 private shower room per 50 patients or caregivers - minimum of 2 (m/f) in each area of the centre Minimum 2 shower rooms (m/f) for staff in the neutral area Bathing areas to be connected to a grease trap and soakaway contained inside the CTC Bathing units in the patient area should be large enough to allow a caregiver plus a patient to enter (double unit size) and also have a washable chair and ideally also a hand-rail inside for the patient to rest on when showering. 	A small health facility with only 1-5 beds may not have the resources for multiple bathing units. In this circumstance the minimum number of bathing units will be 2 (m/f).
Hand-washing stations	<p>Hand-washing stations should use a 0.05% chlorine solution, and they should be located:</p> <ul style="list-style-type: none"> At the entrance / exit to the treatment site At all latrines (separate for men and women) At the entrance to all tents (patient and administrative) In the kitchen In the mortuary In the waste disposal area In every ward/clinical area <p>All hand-washing stations must have drainage into a covered soakpit within the centre, or have drip trays / buckets for collecting water from the hand-washing stations which must be emptied into a soakaway or latrine.</p>	Handwashing on a regular basis is the main infection control procedure for a health facility or cholera treatment centre. It is important that a dedicated staff member works to keep the hand-washing containers filled up and to ensure the adequate drainage or disposal of the wastewater.

Element	Design parameters	Notes on procedures for infection control and on design variations for smaller health facilities
Footbaths and spraying	<ul style="list-style-type: none"> Footbaths and spraying are not required if the infection control processes can keep the CTC clean. In practice they are a useful reminder of the need to maintain high levels of cleanliness. Footbaths with a sponge and 0.2% chlorine solution changed twice a day to be placed at the entrance / exit of the cholera treatment centre and at the entrance / exit to each ward. Or a guard with a sprayer with 0.2% chlorine solution to spray feet on the entrance and exit of the centre. 	<ul style="list-style-type: none"> The spraying of feet upon entrance and exit to the centre is to avoid contamination in and out of the centre. Spraying is also undertaken in different areas of the centre to make staff and visitors aware of the potential contamination they are bringing into the centre. Footbaths can be used at exit/entry to the centre and the wards, but they become dirty quickly so are not the preferred method over spraying. The spraying of feet and the use of footbaths is not considered to be fully effective, but these processes are still considered to be useful to make staff, patients and their visitors more aware that they are entering a cholera treatment centre which has the potential for infection if procedures are not followed.
Stock chlorine solutions	<ul style="list-style-type: none"> Stock solutions of liquid chlorine should be made daily for 0.05%, 0.2% and 2% active chlorine and kept in different coloured (or clearly labelled) plastic 125 litre containers with taps. Approximately 110g of HTH chlorine is required per patient per day. Hence for example 112kg of HTH at 65%-70% active chlorine will be needed for a 100 bed (160 patient) CTC.ⁱⁱ 	See the table on Section C of this Annex for further details on mixing.
Cholera beds and buckets for faeces and vomit	<ul style="list-style-type: none"> The cholera bed should be cleanable The bed should have a hole in the middle on to which a patient's bottom is placed for the diarrhoea to pass through See Annex 8 of the MSF Cholera Guidelines for a simple design which can be made locally Each bed should have two plastic buckets of 10-15 litres – one for the vomit and one for the faeces. 	<ul style="list-style-type: none"> For larger facilities a dedicated staff member should be responsible for disinfecting and disposing of the faeces and vomit. The cholera beds should be cleaned with or sprayed with a 0.2% chlorine solution after each occupancy. Alternatively re-usable plastic sheets may be used which can be cleaned and disinfected between patients. The faeces and vomit should be disinfected with a 2% chlorine solution before being disposed of into a pit latrine. MSF recommend adding 1cm of 2% into the faeces bucket (approx half a cup or 100-125ml) and then another 100-125 ml before disposal (see the note below the chlorine concentrations table for discussion).
Morgue	<ul style="list-style-type: none"> A closed tent of plastic materials should be used to wash and keep the bodies of people who have died of cholera. The table used for the body and the floor should be washable and impermeable with good drainage so that the waste fluids can be collected and disposed of in a soak pit. A mourning area for relatives of patients to come and spend time with the body should also be provided. A door should exist allowing entrance from within the centre and also a door to the outside centre to allow for the collection of the body. 	Refer to Annex 9D on safe handling of the dead and good practice at funerals of people who have died of cholera which includes disinfection routines and safe care practices for handling the body, the burial and for the funeral itself.

Element	Design parameters	Notes on procedures for infection control and on design variations for smaller health facilities
Laundry area	<ul style="list-style-type: none"> The laundry area should be located nearest to the area producing the most contaminated items. Where sinks are not available large plastic tubs will be needed with a soakaway for the waste water. Drying lines should be included near to the laundry area. A stove, fuel and a large metal tub will be required if it is decided to boil the clothes and bedding instead of disinfecting them. 	<ul style="list-style-type: none"> The laundry area will be used to wash soiled materials (blankets, gowns, protective clothing, patients clothing etc). Materials should be immersed in 0.05% chlorine disinfectant for 10 mins and then washed as normal and hung to dry.ⁱⁱⁱ
Neutral area	<ul style="list-style-type: none"> The neutral area should include the kitchen area, staff changing, resting and meeting areas and the stores. The neutral area should have its own entrance also with a guard stationed at the door. 	
Kitchen	<ul style="list-style-type: none"> The kitchen should be in the neutral area. Hand-washing facilities should be available with 0.05% chlorine solution. Adequate utensils and storage units / containers should be provided for the preparation and storage of food. 	<ul style="list-style-type: none"> Only the kitchen staff should be allowed to enter the kitchen and handle the food. Dishes should be rinsed in a 0.05% chlorine solution and then washed by usual methods. If food is brought into the centre by caregivers, either food should be transferred to a new container at the gate, which can be washed and kept in the centre, or the container washed with 0.05% chlorine solution before taking out of the centre.
Waste management area	<ul style="list-style-type: none"> Waste should be separated into 3 categories at source by placing into different coloured / marked containers: <ul style="list-style-type: none"> Softs (all that can be burned) – can be collected in a bin with a lid. Organics (waste that cannot be burned) – can be collected in a bin with a lid. Sharps (waste that can cause injury and transmit disease if not handled properly) – to be collected in a puncture proof safety box or container. The waste management area should include a sharps pit, an incinerator or burner and an organics pit. 	Unless the CTC is located on the grounds of a medical structure, whose staff wishes to continue to use the waste zone on closure of the cholera-related treatment structure, the organics pit should be backfilled and the sharps pit filled in with concrete.
Protective clothing	<ul style="list-style-type: none"> Protective clothing such as gum boots, overalls, plastic aprons, goggles are not routinely needed if infection control procedures are adequate. Disposable gloves should be used by medical staff when performing invasive procedures, by all staff when handling chlorine, chlorine products, vomits, faeces, soiled clothing, bedding and other waste, and for the washing/preparing of dead bodies. Aprons may be required by cleaners. Gowns or clothes should be made available for patients on hospitalisation after bathing and also for caregivers if their clothes become soiled. 	Clothes for use within the facility should be kept within the facility.

Element	Design parameters	Notes on procedures for infection control and on design variations for smaller health facilities
Mosquito nets	Mosquito nets are not advisable inside a treatment facility because the staff member needs access to the patient. Other methods such as indoor residual spraying or coils will be needed.	
Managing menstruation	<ul style="list-style-type: none"> Female patients and female caregivers may have to manage their menstruation whilst in the centre. Information should be provided to the women on how they can obtain menstrual hygiene materials and where they can dispose of them. Having separate sections or wards for men and women will also assist women and girls who are also managing their menstruation whilst in the centre. 	<ul style="list-style-type: none"> Ensuring that the toilets and bathing areas are private and the hand-washing facilities are separate for women and men, will make it easier for women and girls to manage their menstruation in the centre. Disposal options for menstrual hygiene materials should be established (bucket with lid in the latrine, or to dispose of them directly into the latrine). This information shared with female patients and their caregivers.

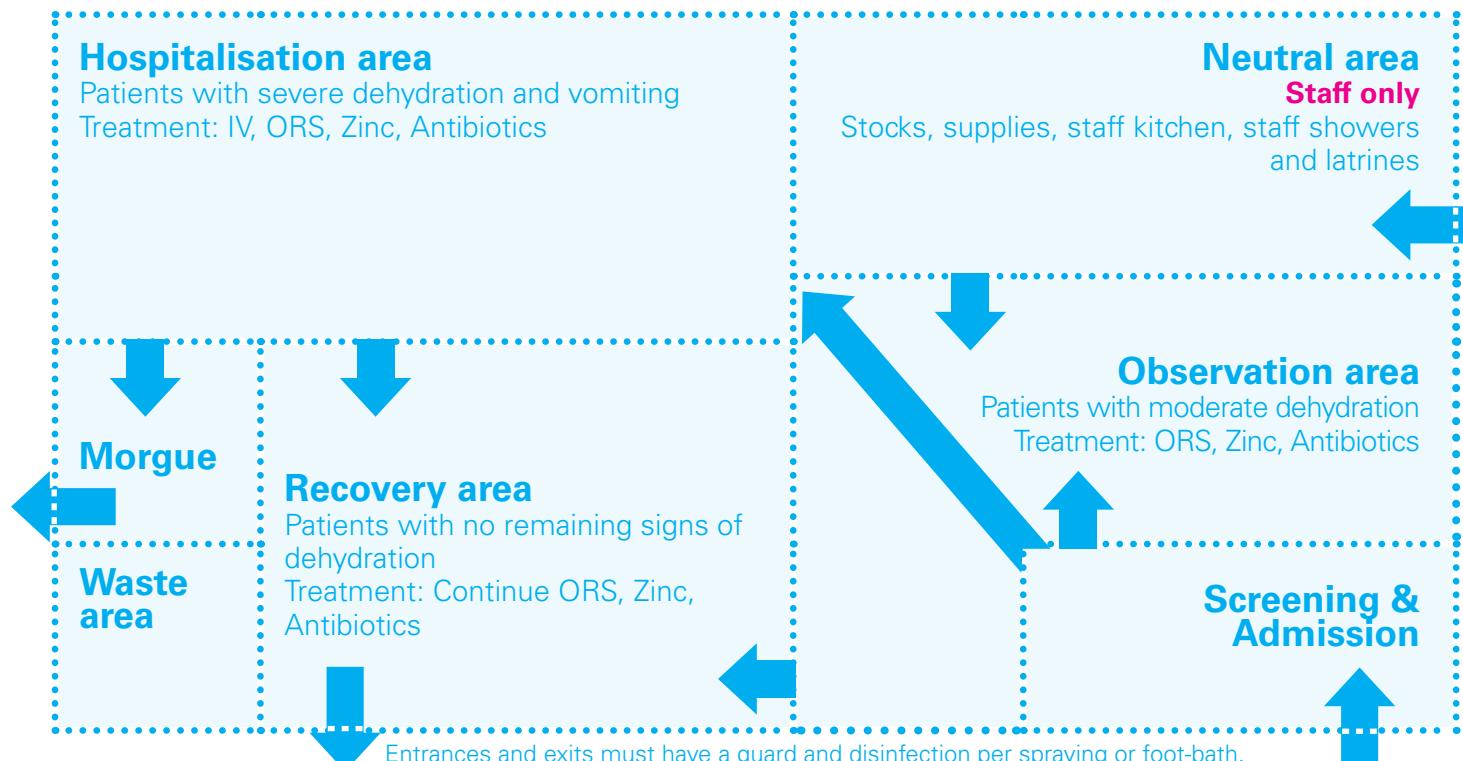
Key infection control requirements in a cholera treatment centre

	Actions by patients	Actions by caregivers	Actions by staff
On entry	<ul style="list-style-type: none"> Their feet (bottom of shoes) must be disinfected with a 0.2% solution (with a sponge or by spray) Hands must be washed in a 0.05% chlorine solution Their clothes need to be sterilized in boiling water or soaked in a 0.05% solution for 10 minutes and then washed normally, rinsed and dried. Temporary clothes may be needed for this period. The patient needs to be informed of the infection control procedures while within the facility 	<ul style="list-style-type: none"> Only 1 caregiver allowed per patient Their feet (bottom of shoes) must be disinfected with a 0.2% solution (with a sponge or by spray) Hands must be washed in a 0.05% chlorine solution Their clothes need to be sterilized in boiling water or soaked in a 0.05% solution for 10 minutes and then washed normally, rinsed and dried. Temporary clothes may be needed for this period. The relative needs to be informed of the infection control procedures while within the facility 	<ul style="list-style-type: none"> Their feet (bottom of shoes) must be disinfected with a 0.2% solution (with a sponge or by spray) Hands must be washed in a 0.05% chlorine solution To inform the patients and caregivers of the infection control procedures while within the facility

	Actions by patients	Actions by caregivers	Actions by staff
When within the treatment centre	<ul style="list-style-type: none"> They should remain in the area of the treatment facility as instructed by the health staff Their vomit and faeces will be collected in bedpans or buckets They should not vomit on the bare earth Their vomits/faeces must be left for 10 minutes in a 2% solution before it is emptied into a pit latrine (see table above). Hands must be washed in a 0.05% chlorine solution after using the toilet, before entering or exiting the ward area and before eating If their clothes become soiled they should be sterilized in boiling water or soaked in a 0.05% solution for 10 minutes and then washed normally, rinsed and dried. 	<ul style="list-style-type: none"> The caregivers will need to help the patient use the latrine and shower unit when they are getting better The caregivers should try to minimize contacts with the patient's waste Hands must be washed in a 0.05% chlorine solution after using the toilet, before entering or exiting the ward area, after helping the patient, and before eating If their clothes become soiled they should be sterilized in boiling water or soaked in a 0.05% solution for 10 minutes and then washed normally, rinsed and dried. 	<ul style="list-style-type: none"> Staff should use separate latrines and washing facilities in the neutral area and should wash hands after use with 0.05% chlorine solution Only food prepared in the centre should be eaten. It must be consumed in the neutral area. Hands should be washed before eating.
On exit	<ul style="list-style-type: none"> Their clothes are sterilized in boiling water or soaked in a 0.05% solution for 10 minutes and then washed normally, rinsed and dried. They should bathe in a 0.05% solution. Their feet (bottom of shoes) must be disinfected with a 0.2% solution (with a sponge or by spray). Hands must be washed in a 0.05% chlorine solution 	<ul style="list-style-type: none"> Every time they leave the centre they have to wash their hands in a 0.05% solution. Their feet (bottom of shoes) must be disinfected with a 0.02% solution (with a sponge or by spray). If food has come from outside, the plates and all utensils should be washed in a 0.05% solution before being allowed out from the centre. 	<ul style="list-style-type: none"> Every time they leave the centre they must wash their hands in a 0.05% solution. Their feet (bottom of shoes) must be disinfected with a 0.2% solution (with a sponge or by spray).

Refer also to **Section 8.5** – Information for and dialogue with patients and their caregivers.

B. Outline layout of a cholera treatment centre (adapted from MSF, 2004)



Refer also to the 3D layout of a CTC by MSF: [MSF 3-D CTC layout from MSF](#)

C. Chlorine mixing^{iv}

Mixing chlorine

	0.05%	0.2%	2%	Stability of chlorine
Uses	Hands, showering, washing clothes, utensils and dishes	Disinfection of shoes, floors, walls, beds, and footbaths	Faeces, vomit (the resultant fluid will not be 2% - see the note below) Dead bodies (2% used neat)	
How often to make solutions?	Make daily	Make daily	Stable for one week if stored properly	
Calcium hypochlorite (HTH) at 70% active chlorine	0.7g/litre Half (0.5) soupspoons/10 litres	3g/litre 30g/10litre 2 level soupspoons/10 litres	30g/litre 2 level soupspoons/1 litres	Looses about 2% of active chlorine per year
Chlorinated lime at 30% active chlorine	1.5g/litre 1 level soupspoon/10 litres	6g/litre 60g/10 litres 4 level soupspoons/10 litres	60g/litre 4 level soupspoons/1 litre	Unstable and should be used within 3 months of manufacture if stored in good conditions
Sodium dichloro-isocyanurate (NaDCC) at 1g active chlorine per tablet	5 tablets/10 litres	2 tablets/litre	20 tablets/litre	The most stable product
Sodium hypochlorite (bleach) at 5% active chlorine	10 ml/litre	40 ml/litre	400 ml/litre	Unstable and should be used within 3 months of manufacture if stored in good conditions
Sodium hypochlorite concentrate at 15% active chlorine	3.3 ml/litre 33 ml/10 litres	16 ml / litre	166 ml / litre	Unstable and should be used within 3 months of manufacture if stored in good conditions

D. Chlorine addition to faeces fluids or vomit

MSF currently recommend adding 1cm of 2% into the faeces bucket (approx. half a cup or 100-125ml) and then another 100-125 ml before disposal. This will result in an estimated final concentration of chlorine in the order of 100mg/l or 0.01% chlorine in an average sized bucket if the bucket is almost full (the resultant concentration being less than that recommended for washing hands at 0.05%, but higher than in drinking water). WHO recommend using a 0.5% solution, but does not note how much of the 0.5% solution should be added to the faeces fluids or vomit. To have a resulting concentration of 2% (20,000 mg/l) or to have a resulting solution of 0.5% - as per WHO (5,000 mg/l), then the equivalent volume of 2% solution would be needed to be added to the fluid faeces. It is not currently known how much active chlorine would be needed to kill of the vibrio, and chlorinating liquids with solids, is going to be difficult because of the shielding effects of the particles.

However, in discussion with MSF and WHO it has been confirmed that the addition of chlorine is currently only recommended to provide some degree of reduction of risk as the fluid faeces will be disposed of as soon as possible into a pit latrine or other location, and it is not known if this level of chlorine will kill off all of the vibrios.^v More research is needed to refine the practice of adding chlorine to faeces fluids or vomit or otherwise.

MSF are currently investigating the possibility of treating the faeces fluid with lime (calcium oxide or hydroxide) to sediment the solids and raise the pH to a level which will kill off the vibrio. See the following video link for more information. www.youtube.com/watch?v=mdlQ4spFvGU.

Making a 1% solution

Alternatively a 1% stock solution of chlorine can be made up which can be used for dosing drinking water. For information on making a 1% chlorine stock solution refer to [WHO \(2004\) Appendix 7, p80](#) and the Modified Horrocks' method, WEDC ([WELL technical brief #46 page 56](#)).

Checking the concentration of the available chlorine

Chlorine loses its strength over time. It is therefore important to check the strength of your chlorine compound before mixing it. The following table identifies:

- The amount of active chlorine by weight in specified volumes for different strengths of chlorine solution.
- The weight of two types of chlorine compound (HTH and bleaching powder) which would be needed per litre of water if each chlorine compound has retained its full strength.

Amount of chlorine in specified volumes

	1% solution	2% solution	0.5% solution	0.2% solution	0.05% solution
g of active chlorine in 100ml	1 g	2g	0.5 g	0.2 g	0.05 g
g of active chlorine in 1000ml (1 litre)	10 g	20 g	5 g	2 g	0.5 g
mg of active chlorine in 1000 ml (1 litre)	10,000 mg	20,000 mg	5,000 mg	2,000 mg	500 mg
mg of active chlorine in 1 ml	10 mg	20 mg	5 mg	2 mg	0.5 mg
mg of HTH (assuming 65% active chlorine) required for 1000 ml fluid	15,385 mg	30,770 mg	7,690 mg	3,077 mg	770 mg
mg of bleaching powder (assuming 30% active chlorine) required in 1000 ml of fluid	33,330 mg	66,670 mg	16,670 mg	6,670 mg	1,667 mg

In order to check the strength of the chlorine compound, undertake a [Modified Horrocks' method test](#).

- The test should be undertaken using bottled water (which has very low levels of contamination and no chlorine residual).
- To find out how much chlorine has lost from the compound, the test should be undertaken so that the resulting chlorine residual in the water can be measured using a pooltester (which usually has a range of 0-2 mg/l in 0.2 mg/l intervals).
- A sensitive electronic balance would be needed for the test, capable of weighing down to at least 0.1 mg.

For example the target concentration for a chlorine solution could be 1 mg/l (1 mg of active chlorine per litre, which is in the middle of the range for the pooltester):

- This would therefore be the 1% concentration solution (10,000 mg/l) divided by 10,000 = 0.0001%
- For HTH (containing 65% active chlorine) the amount which would need to be added to the water to make a 0.0001% solution would be 15,385 / 10,000 = 1.54 mg/ litre

- For the Modified Horrocks' method, therefore use 10 litre beakers and add:
 - Beaker 1 = 10 mg of HTH
 - Beaker 2 = 15 mg of HTH
 - Beaker 3 = 20 mg of HTH
 - Beaker 4 = 25 mg of HTH
 - Beaker 5 = 30 mg of HTH
- For example, when measuring the chlorine residual in the beakers:
 - If beaker 2 gives a chlorine residual of near to 1 mg/l, then the HTH will have shown that it is near to its full strength (containing about 65% active chlorine).
 - If however beaker 5 gives a chlorine residual of 1 mg/l, then it can be assumed that the HTH has lost approximately half of its strength (i.e. now containing about 32% active chlorine).

Once it is known how much strength the chlorine compound has lost, the volumes to be added to make the required strength of solution should be adapted. For example if the HTH has lost half of its chlorine strength then the dose to be added (as shown in the table above) should be doubled.

Note that care will be needed because the strength may vary with each container of chlorine compound, and hence the test should be repeated for each batch of chlorine compound purchased.

KEY RESOURCES

Water, sanitation and hygiene in cholera treatment centres, [MSF \(2004\) Cholera guidelines, Annex 9](#) 

WASH Cluster Somalia, [Guidelines for water, sanitation and hygiene in cholera treatment centres](#), 2009. 

A shorter simple guide for CTCs, Ethiopia which also has associated photographs as a training aide  

On chlorine and making up 0.05, 0.2 and 2% chlorine solutions – [MSF \(2004\) Cholera Guidelines Annex 10](#) 

For making up a 1% stock solution of chlorine – [WHO \(2004\) Cholera Outbreak, Appendix 7](#) 

Modified Horrocks' Method, WEDC [\(WELL technical brief #46 page 56\)](#) 

ⁱ Adapted from: MSF (2004) Cholera Guidelines, Annex 7, page 98-99; and Sphere, Appendix 2, page 129, and the recommendation for washing clothes from the WHO (2004) guidelines, p73

ⁱⁱ This figure is from the MSF (2004) cholera guideline and hence considers that for faeces fluids only 1cm of 2% solution is put into the bucket (pg107), and then to add an extra 100-125 ml (1/2 cup) just before final disposal (p119). If larger amounts of chlorine are to be added then the amount of chlorine to be ordered will increase.

ⁱⁱⁱ The 0.05% is based on the WHO guideline (2004). The 0.2% as per the MSF guideline (2004) has not been included because of the risks for staining of clothes.

^{iv} Adapted from MSF (2004) Cholera Guidelines, Annex 10, page 114

^v Personal communication with both Jean-Francois Fesselet, MSF and Margaret Montgomery, WHO, June 2012.

Oral Rehydration Points (ORPs): Planning and Guidance

Preface: Community Hydration Strategies

A comprehensive strategy for cholera treatment includes not only establishment of Cholera Treatment Centers (CTCs) and Cholera Treatment Units (CTUs) but also support of community services to provide early rehydration when distance, safety, or other barriers limit immediate access to a hospital or cholera treatment facility. Community health workers (CHWs) or nurse auxiliaries trained in important aspects of cholera treatment can play a crucial role in increasing access to early rehydration, which is critical for preventing the progression to moderate and severe dehydration and, thus, saving lives. The following CHW activities should be developed depending on resource availability:

1. Distribution of commodities:

CHWs can distribute sachets of oral rehydration salts (ORS) and water treatment supplies to community members from any fixed point in the community.

2. Mobile Community Rehydration and Education:

CHWs can visit the homes of ill community members, assist with the proper water treatment and preparation of ORS solution, and provide education on sanitation, rehydration, and the importance of promptly seeking treatment from a treatment facility.

3. Establish an Oral Rehydration Point (ORP):

One to two CHWs or nurse auxiliaries can staff a fixed ORP established and overseen by the referral cholera treatment facility or the facility's managing non-governmental organization (NGO) partner in coordination with the local or departmental Ministry of Health (MoH). The CHW(s) or nurse auxiliaries initiate hydration, carry out infection control, refer patients for treatment (including procurement of transport if available), and provide cholera education to patients and community members.

The necessary training for these activities is included in the CDC *Haiti Cholera Training Resources: Community Health Worker Materials*.

The following document will provide additional guidance to organizations operating cholera treatment facilities for setting up ORPs in their catchment area.

Introduction

Oral Rehydration Points (ORP) are community level sites that provide rapid access to oral rehydration salts (ORS) solution in communities. ORPs are usually staffed by community health workers (CHWs) or nurse auxiliaries who are trained on important aspects of cholera management, have access to a water source, and are provided regularly with supplies for making water safe to drink, ORS sachets, and other commodities. ORPs should refer all ill patients to a nearby cholera treatment facility: Cholera Treatment Centers (CTCs), Cholera Treatment Unit (CTUs), or any health facility capable of providing IV hydration. Training, coordination, and restocking of supplies should be done by the referral cholera treatment facility or the implementing partner organization. To ensure rapid access to oral rehydration, ORPs should be established in locations that are easily accessed by all persons (for example within one hour walking). A successful model in a rural area may be to establish a cholera treatment facility centrally with ORPs in each of the villages in the facility's catchment area. ORPs should be open at least 12 hours per day; rural ORPs without a nearby cholera treatment facility may need to be open overnight. If circumstances require, ORP staff may need to visit ill patients in the home if travel to a distant cholera treatment facility is not feasible (night time or poor security) or impossible (handicapped patient, bad weather, or flooding).

A. Objectives

ORP objectives:

1. To distribute ORS sachets and water treatment products to make water safe for mixing ORS
2. To educate patients on the proper preparation of ORS solution
3. To initiate hydration of patients and to refer them to the nearest cholera treatment facility for treatment

B. Setting up an ORP Network

Any area without easy access to a health facility or designated cholera treatment facility should have an ORP. ORPs should be set up depending upon the population density and needs:

- Cities/dense populations:
 - 5-10 ORPs per cholera treatment facility are recommended
- Rural/scattered populations:
 - One ORP per village is recommended
 - Each person should have access to an ORP **or** to a CHW distributing supplies within one hour of walking

Choice of ORP Locations

The location of an ORP should be chosen by community members and could be an existing dispensary (outpatient clinic), a local shop, school, church, or other community space.

Other considerations include:

- The ORP should have access to a nearby water source (which can provide a minimum of 10L/patient/day)
- The ORP should have a latrine or an area where a latrine could be constructed
- If outdoors, the ORP should have a tarp shelter
- If the ORP is part of or adjacent to an existing dispensary, the ORP should be separated from other patient care areas
- The ORP should have a sign or colored flag which clearly indicates that the place is an ORP

Flexibility of Locations and Reassessment of Needs

Ideally, the cholera treatment facility will help determine the locations of the ORPs within its respective catchment area in collaboration with MoH and other partners. As the outbreak progresses, ORP locations should be adjusted depending on the needs of affected communities as determined by MoH and their partners. For example, if a cholera treatment facility notes that a disproportionately large number of patients from a particular area are dying within the community or soon after arrival to the cholera treatment facility, this could indicate inadequate access to care. In such a situation, the cholera treatment facility should establish or shift ORPs to provide better coverage of that area.

Flow of Communication and Supplies

The central cholera treatment facility or implementing partner organization should oversee the ORPs that refer patients to them and should coordinate communication with MSPP. Each ORP should have a designated cholera treatment facility to which they refer patients. Case count and supply needs should be reported to the central cholera treatment facility daily. The cholera treatment facility is responsible for ensuring that the ORPs it oversees have adequate supplies and are resupplied regularly.

Mobile ORPs

In extremely rural areas, mobile ORPs may be useful. The objectives of mobile ORPs would be limited to distributing ORS sachets or household water treatment products to ill persons, preparing ORS solution for ill persons, and providing education to ill persons and community members. These CHWs may travel on foot, motorcycle, bicycle, or by other means to carry out household visits for ORS distribution.

C. Requirements for ORP Set-up

Logistical Considerations

Every ORP should have trained personnel, designated space, supplies, a latrine, areas for disposal of liquid and solid waste, established infection control and waste management procedures, and a mechanism for patient record keeping and monitoring and evaluation.

Personnel and Supplies

Personnel

- 1 or 2 CHWs or nurse auxiliaries

Supplies

Safe Water and ORS Solution Preparation

- ORS Sachets
- Chlorine tablets or other products for water treatment
- 20-liter closed containers with taps
- 1-liter containers for measuring
- Cups and spoons
- Table

Cleaning and Disinfection

- Soap
- Non-latex disposable gloves and rubber gloves
- Chlorine bleach and/or chlorine granules
- Rubber boots
- Mop and bucket
- Separate basins for handwashing and dishwashing
- Cloths for cleaning

Patient Care Materials

- Chairs
- Buckets to collect faeces and vomit

Other Materials

- Tarp, poles, and rope (if the site is outdoors)
- Cell phone and airtime
- Logbook
- Pens
- CDC Haiti Cholera Training Resources: *Community Health Worker Materials*
- Educational materials

When creating the layout of an ORP, separate areas for water treatment, ORS preparation and patient observation with adequate sanitation, hygiene and waste disposal should be maintained. A suggested layout for an ORP is included in the Annex.

Infection Control and Waste Management Procedures

Infection Control

- Wash hands with soap or chlorine solution (0.05%) before and after each patient interaction
- Wear rubber gloves when making chlorine solutions and when handling vomit or faeces
- Fill buckets used to collect faeces or vomit with 2% chlorine solution to the depth of 1cm
- Disinfect the ORP shelters, chairs, and floor at least twice each day with 0.5% chlorine solution

Waste Management

- Vomit and faeces should be discarded in a latrine or pit dedicated for this purpose
- Disinfect the area surrounding the latrine or pit with 2% chlorine solution twice each day

Record Keeping and Reporting

Each ORP should record the following information (listed in order of priority) about each patient in the logbook:

1. Patient name
2. Village, locality, section, commune
3. Age (<5 years, ≥5 years, 2 years may also be used)
4. Time travelled and by what mode of transportation

5. Number of ORS packets and chlorine tablets provided
6. Action staff took (for example: provided ORS sachets, provided prepared ORS solution)
7. Outcome (for example: patient went to cholera treatment facility, went home, or died at the ORP)

Ideally, these data should be reported to the referral cholera treatment facility on a daily basis.

D. Staff Responsibilities and Training

CHW responsibilities at the ORP site will include patient and family education, preparation of safe water, safe water storage, preparation of ORS, initiation of hydration, referral for treatment, and cleaning and disinfection. While the complete *CDC Haiti Cholera Training Resources: Community Health Worker Materials* (referenced below) should be used for CHW training, the following modules are pertinent to ORP operation specifically:

Module 2: What You Need to Know about Cholera

Module 3: Decision Making Guide for Taking Care of People with Watery Diarrhea

Module 4: Proper Hand Washing Techniques

Module 5: Preparing ORS

Module 6: Preparing Safe Water with Aquatabs®

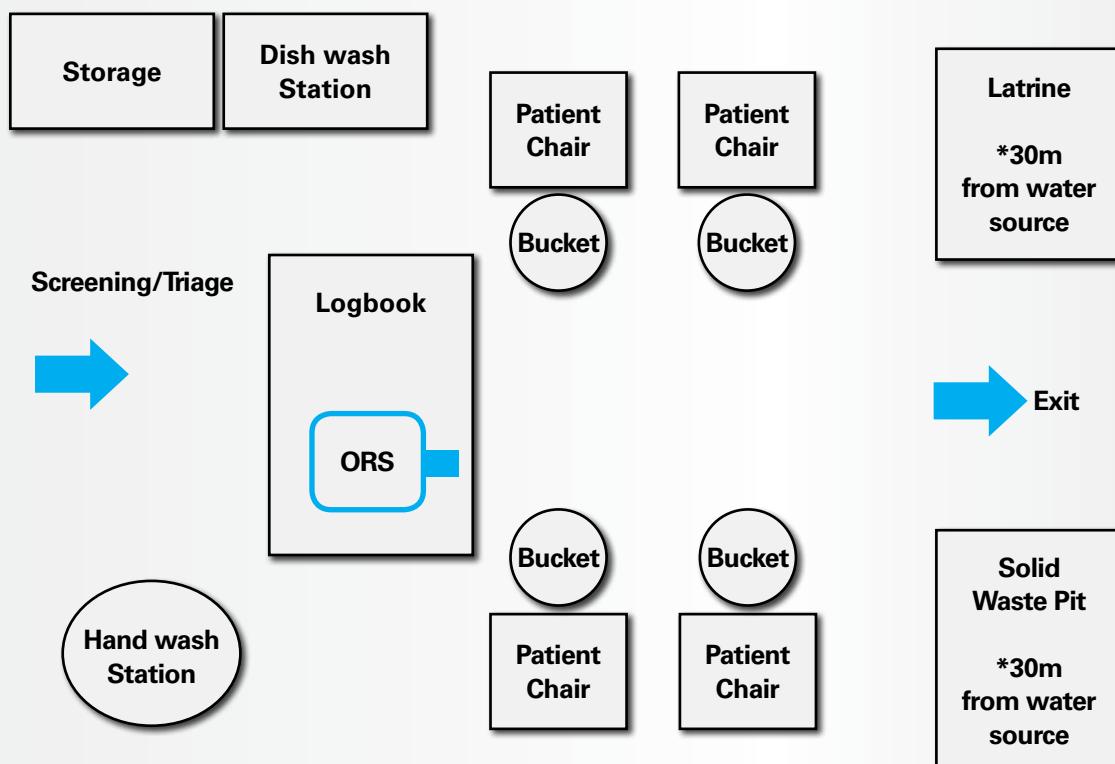
Module 9: Safe Water Storage

Module 11: Safe Sanitation and Cleaning

Reference

Centers for Disease Control and Prevention 2010. *Haiti Cholera Training Resources: Community Health Worker Materials.* 

Appendix: Suggested ORP Floor Plan



The following sections identify staffing requirements for cholera-related health facilities and associated structures.

Staffing for ORPs in communities

ORPs can be staffed by a community health worker, community leader or other respected person at community level who has had appropriate training. It is helpful to train more than one person so that coverage is available if people are sick, away or need time off. It is also useful to train community leaders so that they can add legitimacy to interventions proposed by the person running the ORP. The ORP can reside in someone's house, a public location or a standalone structure in the community.

Staffing for small health facilities with ORCs and 1-5 beds

A small health facility will usually be staffed by one or more health professionals, often a nurse or auxiliary nurse. The health facility may already have staff such as cleaners, guards or a laboratory technician, depending on its size and location.

Such facilities are normally likely to see only out-patients, but may need to accommodate in-patients and provide 24-hour cover during a cholera outbreak, which will require allocating additional health and support staff to ensure that this is possible.

The relocation of health staff from other areas may also mean that additional accommodation will need to be found, e.g., converting existing rooms or providing tents. In addition, cooking equipment, camp beds, blankets and utensils may also be needed.

Staffing for CTUs up to 20 beds and for CTCs up to 200 beds

Staff required for a CTU or CTC must include health professionals (doctors, nurses, medical ward helpers, pharmacists), as well as administrative staff and a range of support staff (logistics / WASH specialist, store keeper, watchman, cleaner, chlorine sprayer, hygiene educator, water carrier, cook, laundry worker, handler of corpses) working on a shift basis ensuring time off and 24-hour cover. Most support staff should be recruited from the affected community and able to implement their roles with basic training.

Staffing for mobile teams for supportive supervision and monitoring

Where staffing is not adequate but the existing staff members are trying their best with limited resources, it is useful to establish a mobile support, supervision and monitoring team. This team can move from health facility to health facility monitoring the situation and providing on the job training and supportive supervision. In addition to helping to build both capacity and the morale of the staff working in the resource-poor contexts, their overview perspective can also contribute to identifying key gaps in resource allocation and to making requests for additional resources to respond to the gaps.

A mobile team should ideally have both health and WASH professionals as part of the team. Both should be experienced and knowledgeable in cholera prevention, preparedness and particularly response, and be able to adapt their knowledge to differing contexts and circumstances.

Staffing numbers

The following table provides an overview of a reasonable level of staffing for different sized health-related facilities that take into consideration:

- Shifts and time off for staff in order to prevent burnout during prolonged outbreaks
- Staff can be moved among facilities as the outbreak's dynamics and locations change, but staff movements do require that care is provided to ensure the staff has adequate access to accommodation and means to rest and to prepare food during time off.

Refer to the [MSF Cholera Guidelines](#) (pp39-41) for further details for staffing for CTCs and CTUs.

Human Resources – identified roles	At a hospital facility or similar level (CTC) 100-200 beds	At a hospital facility or similar level (CTC) 25 – 50 beds	At a medium-size in-patient health patient facility (CTU) 10-20 beds	Small health facility with ORC (occasional use of 1-5 beds)
CTC co-ordinator / supervisor	1	1		
Administrator (also includes the roles of statistician/recorder/ reporter)	1	1		
Doctor	5	1-2		
Nurse	45	15-30	6-12 nurses (1 per 5 beds per 8 hour shift, undertaking screening, pharmacy, treatment, registration)	3
Medical ward helper	45	5-10	6 ward helpers (2 per shift and one off, assisting with ORS and information for patients)	3
Pharmacist	2	1		
Logistics and WASH specialist	1	1		
WASH officer	2	1		
Logistic officer	2	1		
Storekeeper	3	1		
Watchman / entry guard	18	3-6	6 watchman / entry guard (2 per shift – controlling movements, follow up of hygiene procedures before exit)	3 watchman / entry guard
Cook	2	1		
Cook assistant	8	4		
Laundry worker	6	3	3 cleaner / chlorine maker / laundry (1 per shift – cleaning, making chlorine solutions, spraying, disinfecting patients buckets)	2 cleaner / chlorine maker / laundry
Cleaner	7	3		
Chlorine solution preparer	3	1		
Hygiene educator	2	1		
Water carrier	6	2		
Stretcher carrier	6	2		
Total	165	48-72	21-27	11

Note that in some contexts, these numbers of staffing will not be available. In these cases use the option of bringing in staff from outside the area in order to sustain a basic level of care and allow staff to have time off.

For an editable version of this template, click [here](#)



Date _____ / _____ / _____

FACILITY INFORMATION

Name _____

Address _____

Administrative level _____

Type (Public, NGO, mix...) _____

Supporting NGO _____

Facility capacity _____

EVALUATION INFORMATION

Name of evaluators _____

Person from facility participating in evaluation _____

Notes _____

ACCESS TO FACILITY / ENTRY POINT _____

The entrance of the facility is clearly identified

Handwashing stations are available at point of entry with chlorine solution 0.05%

Foot bath or spraying of shoes are available at the point of entry with chlorine solution 0.2%

A staff is posted at the entry to ensure washing of hands and shoes 24 hours a day

Excellent	Average	Poor	Comments

ORGANIZATION OF THE SPACE _____

The layout and access to different spaces is organized in a logical fashion (see [Annex 8E](#))

Patients are separated according to severity of illness (see [Annex 8E](#))

All areas are maintained properly ordered, clean and tidy

Handwashing stations with chlorine solution 0.05% at the entry and exit to the wards

Excellent	Average	Poor	Comments

SCREENING/ADMISSION AND OBSERVATION AREAS (MILD TO MODERATE)

Patients are greeted well

The time of arrival of patients is clearly noted

Information is correctly filled in and the address of the patient noted

The age range < 5 years, < 2 years and >5 years is clearly noted

Patients are evaluated and their level of severity defined according to protocol

Severe cases are immediately given IV fluids and transferred to the hospitalisation area

The condition of patients is evaluated every 30 minutes

Excellent	Average	Poor	Comments

All staff uniforms are kept and cleaned at the center

All bed linen and gowns are washed at the center

The clothes that belong to the patient are washed (as indicated above) and given back when they reach the recovery area

Immerse 10 min in chlorine solution 0,05% rinse then wash as normal (drying lines are available near to the laundry area).

Comments		

KITCHEN AND MEALS

Food is provided at the center and there is designated area for food preparation

Only kitchen staff are allowed to enter the kitchen and handle food

If food is brought by carers it should be evaluated and preferably transferred to a new container at the gate (the new container should be washed and kept at the centre).

Handwashing stations are available with chlorine solution 0,05%

Excellent	Average	Poor	Comments

DISHES

There is a designated area to wash dishes

Cups used for ORS are washed with a chlorine solution 0,05%

Dishes are washed with a chlorine solution 0,05%

Excellent	Average	Poor	Comments

WATER

Water is available at all times and in all critical locations (for cooking and preparation of ORS, handwashing, bathing and cleaning purposes).

Water for consumption has turbidity less than 5NTU and chlorine residual of 0.5 - 1.0 mg/l and is tested regularly

The quantity of water stored is enough for at least 3 days (based on 60 litres/patient/day + 15 litres/carer/day)

Excellent	Average	Poor	Comments

HYGIENE

Handwashing stations have drainage into a covered soakpit or buckets. If buckets are used they are emptied when they are full into a soakpit/latrine.

Health staff and relatives wash hands after each manipulation of the patient

The center has 1 private/shower room per 50 patients or caregivers (minimum 2, male/female)

The center has minimum 2 private/shower room (male/female) for staff in the neutral area

There are cleaners employed 24 hours a day in the facility

Excellent	Average	Poor	Comments

DISINFECTION

Chlorine solutions 0.2% and 0.05% are prepared daily
The foot bath is regularly soaked with the appropriate solution
The floor of each tent is cleaned with chlorine solution 0.2% 3 times per day and each time it is necessary
Beds are disinfected after each use with chlorine solution 0.2% and then sun dried

Excellent	Average	Poor	Comments

LATRINES

The center has 1 latrine per 20 patients or caregiver in the observation/screening and recovery area (min. 2 latrines, male/female)
The center has 1 latrine per 50 patients in the hospitalization area (min. 2 latrines, male/female)
The center has at least 2 latrines (male/female) for staff in the Neutral area
The center has at least 2 latrines (male/female) for visitors outside of the centre
Latrines are easy to clean and are cleaned several times a day with chlorine solution 0.2% (this includes the slabs and the walls up to 1m or height of splashes).
Handwashing stations with chlorine solution 0.05% are provided at all latrines (separate for men and women)

Excellent	Average	Poor	Comments

WASTE MANAGEMENT

The dustbins are emptied and cleaned regularly
The center has an designated area to bury the faeces and vomit of the severe cases (or another safe disposal method such as pit latrine)
Waste management is ensured in an optimal manner (incinerator/ septic tank)
Latrines are desludged at a regular basis by specialised and sludge is disposed safely
The area for the disposal of faeces is in an isolated area
Handwashing stations with chlorine solution 0.05% are available

Excellent	Average	Poor	Comments

DEAD BODIES MANAGEMENT

The center has a designated isolated area for the dead bodies
Handwashing stations with chlorine solution 0.05% are available
Designated staff are trained to prepare and disinfect dead bodies
Dead bodies are disinfected with chlorine solution 2% (see **Annex 9D** for details on management of dead bodies)
There are enough body bags available in the center

Excellent	Average	Poor	Comments

The space has plastic chairs, buckets, basins and 1-2 cholera cots (with central hole)

The center has a stretcher available

The preparation of ORS is ready, prepared with treated water and available at the location

Cups for ORS are disinfected (see below) and available

Comments

HOSPITALISATION AREA

A staff is stationed 24 hours a day at the entry of the space to ensure hands and shoes are washed

The patient's file is correctly filled in and the admission time is registered

The empty bags of Ringer's lactate are kept close to the bed of the patient for a quick evaluation and the number of liters of Ringer already used is clearly registered

All the beds are cholera beds (with a hole in the middle) without pillow

The patients are provided with a gown by the center for the duration of their stay

The patients clothes are sent to laundry services (see below on how they should be washed)

There is a plastic chair besides each bed

Only one relative per patient is authorized

Approx. 1 cm (half a cup <> 100-125 ml) of chlorine solution 2% is put into the buckets for faces and vomit before placement

Another half a cup (100-125 ml) of chlorine solution 2% is poured in the buckets that are 2/3 filled with faeces and vomits, covered for 30 minutes and disposed into a pit/latrine.

The empty buckets and basins are cleaned with chlorine solution 2%

The condition of the patient is evaluated and registered every 30 minutes

Each patient has ORS available and is encouraged to drink

UNIFORMS OF STAFF, BED LINEN AND LAUNDRY

Staff in charge of disinfection activities use mask, googles, gloves and rubber boots

There is a designated area for laundry

Excellent	Average	Poor	Comments

STOCKS _____

HTH
Gloves
ORS
Ringer Lactate
Catheter IV
Chlorine
Doxycycline
Erythromycin

1 month	15 days	7 days	Comments

DATA MANAGEMENT _____

The number of cases received in the center are correctly registered
The number of ill perfused is correctly registered
The number of deaths is registered and the day and hour are noted
The data of the center are regularly transmitted to the MoH and the provincial/district level

Excellent	Average	Poor	Comments

IEC AND COMMUNITY SERVICES _____

The ill leaving with their families are informed of follow-up and management at home
A follow-up of the patient at home is organized
For severe cases, the center has the means to ensure the house of the patient is disinfected
The center has an ambulance available or other means to transfer the ill
The center has an updated list of CTC in the departments publicly available
The center has a phone number for ambulance services
The center has a phone number for the dead body transport services

Excellent	Average	Poor	Comments

EXIT AREA _____

The center has a designated recovery area
The exit point is different and separated from the entry point
A staff is stationed at the exit point 24 hours a day to make sure hands and shoes are washed

Excellent	Average	Poor	Comments

EVALUATION OF INSTITUTIONAL CFR _____

Registration of deaths and if they occur before or after the first 4 hours that follow admission

None	<4 hours	>4 hours	Comments

Recommendations from the visit for improvement

Recommendations for immediate improvement

1. _____
2. _____
3. _____
4. _____
5. _____

Subject	Key message(s)	Comment
On arrival and during the patient's stay		
Washing of hands with disinfectant water	Wash your hands frequently with the disinfectant water provided, especially after going to the toilet, being in contact with faeces or vomit and before preparing food, eating, or feeding someone else.	<ul style="list-style-type: none"> • Show the patient and their caregiver where they can wash their hands. • Provide reminder posters at all handwashing stations.
Why drinking ORS is important	<ul style="list-style-type: none"> • Drink the ORS provided as directed. • The ORS or IV fluid is a vital part of your treatment and is just as important as any antibiotics you may be given. • You will not always need antibiotic treatment. 	<ul style="list-style-type: none"> • At the facility, someone should be in charge of giving directions to patients as to how much to drink. ORS needs to be assertively promoted – people should not be left on their own to drink. Inadequate fluid replacement is extremely dangerous. • Provide a specific target amount to consume over a specific time. • If unsupervised, or at home, a good rule of thumb is to drink one glass of ORS (200ml) after each diarrhoeal stool. Children should drink as much as they can, but at least 100ml after each episode of diarrhoea. • Provide a chart for the patient or caregiver to tick this off.
Use of toilets	<ul style="list-style-type: none"> • Only use the toilets designated for you – these will be marked. • Always wash your hands with disinfectant water after using the toilet. 	<ul style="list-style-type: none"> • Make sure that all toilets are clearly marked for patients, carers and staff. • Show them where the toilets are.
Breastfeeding babies	Continue to breastfeed where possible – cholera is not transmitted in breastmilk and the nutritional value to children is great.	<ul style="list-style-type: none"> • Encourage the mother to continue to breastfeed. • Make sure that any babies or infants admitted with their mothers have identification with contact details of an extra next of kin. • For further information see Annex 8D - Infant and Young Child Feeding and cholera
Psychosocial support	<ul style="list-style-type: none"> • Cholera can be easily treated and you are in the best place for that treatment • Anyone can get cholera and it is not your fault. • The nurses and doctors are here to support you and care for you. Please ask them if you have any questions. • Please let us know if there are things we can do to improve the care you receive. 	Both patients and carers may be frightened, ashamed and/or angry. Listening carefully to their fears and emotions can help to resolve them.
Subject	Key message(s)	Comment
On discharge		
Staying well	Return to the centre if you: <ul style="list-style-type: none"> • Start to have more frequent loose stools • Lose your appetite • Start to vomit again • Feel unwell or have a fever 	Written/visual information on discharge may also be helpful

Subject	Key message(s)	Comment
Prevention of cholera for other members of the family or community	<ul style="list-style-type: none"> • Drink safe water • Dispose of faeces safely • Wash hands with soap and water at key times • Prepare food safely 	<p>Where possible, these messages should be made specific to each patient by discussing the home situation.</p> <p>See Annex 7E for key messages.</p>
How to make ORS and when to use it	<ol style="list-style-type: none"> 1. Wash your hands with soap (or ash) and water before preparing the mixture. 2. Put the contents of the ORS packet in a clean covered container. Add one litre of clean water and stir. Too little water could make the diarrhoea worse. 3. Add water only. Do not add ORS to milk, soup, fruit juice or soft drinks. Do not add sugar or salt or other things. 4. Stir well, and drink it/feed it to the child from a clean cup. Do not use a bottle. 5. You can use this mixture for up to 24 hours after you have made it, then any unused mixture must be thrown away. 	<p>Written instructions on preparing and using ORS can also be given.</p> <p>Provide enough ORS for two more days after discharge for use at home.</p> <p>See Annex 8C for more information.</p>
Infant feeding	<ul style="list-style-type: none"> • Exclusively breastfeed babies under 6 months old. • Continue breastfeeding older infants as well as providing complementary food prepared hygienically. • Where formula milk is used, make sure that it is prepared hygienically using boiled water that remains hot enough to kill bacteria in the formula feed. • Wash hands with soap and water before feeding your children. 	<p>If breastfeeding has been temporarily interrupted during the time the mother is unconscious or otherwise incapacitated, it should be resumed as soon as possible. If a mother is alert and able to breastfeed without compromising her condition, she should.</p>
Nutrition	<ul style="list-style-type: none"> • It is important to keep eating a balanced diet. Normal foods and eating habits should be resumed as soon as possible. • Zinc tablets are provided for all children. • Vitamin A supplements during the first day or two of rehydration therapy may be required for moderately malnourished children. 	<ul style="list-style-type: none"> • Provide information on good sources of protein, fats and carbohydrates for the specific context. • 10-20mg of zinc tablets or syrup for 10-14 days is the appropriate dose. • 10mg zinc per day for infants under 6 months old, although cholera is unusual in children of this age.

Two key points to stress to partners engaged in the cholera response relate to particularly vulnerable groups and to the need for protection-sensitive response activities, as follows:

1. Particularly vulnerable groups

Prevention and response activities should take into account the specific needs of to engage particularly vulnerable and 'hard-to-reach' groups. Such groups include, but are not limited to: children, women (in particular female-headed households), the elderly, the disabled, refugees and asylum seekers (urban-based), persons in institutions (including prisons). This point applies also to the design and distribution of IEC materials.

2. Protection-sensitive responses

Agencies should ensure that their response activities do not create, but at least mitigate, protection risks for beneficiaries. For example, the inappropriate design and location of water and sanitation facilities can provoke serious protection risks for women and girls. There is also a risk of accidental family separation when, for example, a parent is taken to a cholera treatment centre (CTC) for treatment without adequate care provision being made for the child(ren) left behind.

Conducting a protection assessment of your agency's cholera response plans will help to identify potential gaps and risks. The disaggregation of data by age and sex¹ is crucial to help identify those most at risk.

More detailed guidance on how to minimize protection risks to children, women and urban-based refugees and incorporate their specific needs, is presented in the following sections.

Children and the cholera response

Children's special developmental needs should not be overlooked in the design and implementation of interventions.

Age and sex data disaggregation of cholera patients

- Disaggregated data on the age and sex of children is needed so we better understand who are affected and how we can better protect them. Currently there are no such statistics. Ideally, the age groups should be disaggregated by periods of (0-5), (6-12), (13-17) years, or at a minimum (0-5) and (6-17).

Awareness and Prevention of Accidental Family Separation

In a medical emergency, children can become separated from their parents depending on how the response is being implemented. Separation can be devastating to children and can be permanent, especially if the child is young. To prevent such occurrences:

- If a sick mother is admitted to the clinic accompanied by a young child/baby, obtain identity and next-of-kin information, so that if she dies, the baby's family can be traced;
- Never remove a sick child from a community / family without documenting next-of-kin information and keeping it with the child, so that the child can be traced back to his/her family when he/she is discharged;
- Do not remove a sick mother from her young children without ensuring that the children are left under the care of adult relatives / neighbours. Make sure the temporary caregiver knows where you are taking the mother;
- When an adult is admitted, check to see whether she/he has left children behind without having been able to make adequate care-giving arrangements. If children have been left, contact a child-focused NGO or Ministry of Social Welfare to provide follow up attention;
- If you become aware of any child who has become separated from his/her parent or caregiver, urgently notify an agency that can provide immediate assistance, such as the Ministry of Social Welfare, a child protection-focused NGO or UNICEF. Babies and very young children in this situation should be given the highest priority.

¹The concept of vulnerability is important in identifying which groups are most at risk in crisis situations and involves an assessment of an individual's internal capacity to respond to external events. Certain persons or groups can be considered to be more vulnerable than others based on their own internal characteristics or because of society's perception / treatment of them.

Health and hygiene education around cholera (signs, symptoms, prevention)

- **Children need first-hand information about health and hygiene** – this means providing information in places where children congregate: schools, churches, play areas, crèches, children's clubs, children's institutions (places of safety, remand homes, orphanages), as well as during house-to-house visits;
- Raise awareness of health and hygiene among children under the age of 5 at Early Childhood Development (ECD) centres and crèches, through play, demonstration, role playing. These children will automatically take the learning home to their mothers or other caregivers;
- Train / involve adolescents in peer-to-peer education and information dissemination; they are much more successful than adults at reaching other children;
- **Don't forget about hard-to-reach children**, such as child caregivers, child-headed households, children living in households with disabled household heads, adolescent wives, or out-of-school children, including street and working children;
- IEC materials need to be child friendly (appealing, attractive, easy for children to read and understand, developed in all languages).

Children at Cholera Treatment Centres / Hospitals / Clinics

- Hospitalised children need psycho-social support to help their recovery. Exposure to sick and dying people, or the absence of their usual caregiver will provoke fear and anxiety that could have lasting effects;
- To help support children's emotional recovery, identify personnel (consider calling on volunteers from child-focused NGOs) who can spend time reassuring them, and helping them understand what is going on. Providing children with play items such as crayons, paper, washable toys will also help them to cope with their negative experience;
- Ideally, place children in a ward separate from adults, with separate nursing care.

Distribution of water purification tablets

- Distribute water purification tablets to institutions housing children (schools, orphanages, etc.);
- Ensure child caregivers understand how to use the tablets.

Access to treated and reticulated water

- Ensure children who are fetching water have age-appropriate buckets and jerry cans;
- Women and children can be sexually abused or exploited in the process of collecting water or firewood. This threat needs to be factored into the programming response.

Assessment questions to identify child protection and family separation Issues

When carrying out cholera response assessments, remember to explore child-related issues:

- Who is caring for children left behind when the caregiver is hospitalized? The survival of these children may be at stake and they may be at risk of abuse or other harm.
- How are child-headed households coping when the head of their household is admitted, i.e., who is caring for the siblings, especially younger children?
- Are there any children being admitted who don't know where their parents are? Or who don't have parents? What happens to these children when discharged?
- Do sick parents ever arrive at the CTC accompanied by babies or young children? If yes, what happens to these children? While on the one hand, admitting them with their mothers can put them at risk of cholera exposure, they also cannot be left without care. Is any provision in place at the community level to care for such children? Or at clinic level to prevent the baby's exposure to cholera?
- What are the concerns for hospitalized children – in terms of their medical/physical care (food, etc.) and emotional support? What needs to be done?
- Is anything putting children at risk of harm or exclusion in the way that the cholera prevention and response is being undertaken? What ideas do children have for improved cholera response to address their particular needs?

Consider calling on child-focused NGO staff/volunteers to support health clinics in carrying out tasks such as child protection screening and providing support to children who are hospitalized or otherwise seriously affected by the cholera epidemic (family death, separation, etc).

Women and cholera response

Women are more vulnerable to cholera than men due to the gender roles ascribed to them.

- **Women have less access to resources:** Social networks and influence; transportation; economic resources; personal mobility; control over decision-making or resources that are extremely critical to being able to save oneself from the morbidity and mortality of cholera;
- **Women are victims of the gendered division of labour:** Women are primarily responsible for domestic duties such as fetching water, preparing food and coming into contact with raw food stuff, cleaning toilets, and caring for sick, disabled and elderly in the family. All of their daily chores expose them to the risk of acquiring cholera;
- **Women-headed households bear a double burden:** As widowhood due to HIV and migration among men is a common phenomenon in some countries, there are many women- headed households in the country. Women are therefore forced to play the dual role of being economically productive as well as performing domestic duties. The added responsibilities diminish women's willingness and ability to access health care. Furthermore, due to the lack of male family members, women are often forced to take on funeral responsibilities that expose them to the risk of cholera;
- **Women are primary caregivers:** Gender roles dictate that women become the primary caretakers for those affected by cholera in the family, a reality that substantially increases their emotional stress and material work load as well as their susceptibility;
- **Pregnant women and girls face greater marginalization:** Due to their physical and emotional condition, pregnant women and girls have limited mobility and depend on the support of husbands and other family members. During a crisis, family disruption can occur and support mechanisms may disappear. Pregnant women and girls face greater marginalization when their dietary intake is deficient and when both ante- and post-natal clinics and supplementary feeding programmes are not in place. As a result, their likelihood of giving birth to physically and mentally underdeveloped infants increases. Cholera also has a direct impact on pregnant women's predisposition to fetal deaths and complications arising out of retained placenta.

Incorporating gender issues in cholera response

- Ensure gender sensitive preventive messages are provided to the community which would help women to take adequate measures to prevent themselves from acquiring cholera;
- Engage women as full and equal partners in community-based social mobilization campaigns, integrate women at the highest levels of planning and decision making in community (particularly with respect to the health needs of women, including reproductive health services) and employ women as primary distributors of emergency rations and medical supplies. Women should also be actively consulted in location of boreholes, water distribution points and distribution of hygiene supplies;
- Give special attention to pregnant women and girls in CTCs and health workers trained to handle obstetric emergencies;
- Take cognizance of the health sector collapse and the sexual and reproductive health concerns of women and girls and support sexual and reproductive health programmes for the most vulnerable.

Urban-based refugees and cholera response

Refugees in an urban context need to rely on the safety net provided by the ongoing response mechanisms and facilities. In this respect, the following basic points should be borne in mind:

- Refugees and asylum-seekers may not be in possession of identity documentation like that of nationals. However, they are documented with ID cards issued jointly by UNHCR and the Government confirming their identity, legal status and ID number. **This difference in ID documentation should not hamper refugees' or asylum seekers' access to the medical assistance their condition may require.** The validity of identity documentation issued to refugees and asylum-seekers is recognised by authorities;
- While refugees and asylum-seekers may reside in camp settings – where their medical needs are addressed through the onsite clinic – they should not be denied emergency medical treatment, in accordance with international human rights standards, when they find themselves in other parts of the country. **Refugees and asylum seekers should be rendered services and assistance on the same basis as nationals.**

Rendering protection and assistance to refugees and asylum-seekers is the responsibility of the host Government, in accordance with the 1983 Refugees Act. Should any cases of identified cholera involve refugees, the Department of Social Welfare, the Office of the Commissioner for Refugees and UNHCR may be notified for information sharing and any special assistance-related purposes, such as addressing family reunion needs, providing assistance to unaccompanied and separated children, women-headed households, and other vulnerable cases.

For an editable version of this template, click here 

Facility ID: _____ Facility Name _____ Type Hospital Field Clinic Other
Province _____ District _____

Tick if malaria RDTs are in use

Name and contact info of the Reporting Officer _____

Report for Week _____ beginning [Monday] d_____/m_____/y____ and ending [Sunday] d_____/m_____/y____

Disease/Syndrome	Code	Alert	0-4 years old Cases	5 years and older Cases
Suspect Cholera/AWD	SC			
Bloody Diarrhoea	BD			
Other Acute Diarrhoea	AD			
Suspect Measles	MS			
Meningitis	MG			
Acute Jaundice Syndrome	AJS			
Acute Flaccid Paralysis	AFP			
Confirmed Malaria	MAL-C			
Acute Lower Respiratory Infection	ARI			
Unexplained fever	UF			
Total Consultations (All causes)	TC			

 **Report alert cases immediately to Tel: xxxxxxxxxxxx; do not wait for the end of the week.**

- Please include only those cases that were seen during the surveillance week. **Each case should be counted only once.**
- Write "0" (zero) if you had no case during the week for one of the syndromes listed in the form.
- Case definitions for surveillance are on the back of this form.

Yes	No	HIGHLIGHTS: If yes to a question, give details (what/when/where/how many) in space below
		Did this facility see an unexpectedly high number of deaths this week?
		Any reports or rumours of unusual diseases or possible outbreaks in your area? <i>If yes, notify immediately</i> 

NOTES AND DETAILS

Patient with acute watery diarrhoea

Assessment for dehydration

Look for other associated symptoms e.g., history of bloody stools, signs of malnutrition, swelling of feet/legs, history of cough with rapid breathing, abnormally sleepy, pallor etc.

Full medical assessment

Assess	Condition	Normal	Irritable/Less active*	Lethargic / Comatose*
Eyes	Normal	Sunken	Sunken	
Tongue	Normal	Dry	Dry	
Thirst	Normal	Thirsty (drinks eagerly)	Unable to drink*	
Skin pinch	Normal	Goes back slowly*	Goes back very slowly*	
Radial pulse	Normal	Reduced*	Uncountable or absent*	
Diagnosis	No sign of dehydration	If at least 2 signs including one (*) sign is present, diagnose Some Dehydration	If some dehydration plus one of the (*) signs are present, diagnose Severe Dehydration	
Management	A	B	C	

A. No sign of dehydration – ORS

- 50 ml ORS per kg body weight *plus* ongoing losses
- Send patient home with 4 packets of ORS
- Continue feeding, including breastmilk for infants and young children

B. Some dehydration – ORS

- 80 ml ORS per kg body weight over 4 – 6 hours *plus* ongoing losses
- Observe patient for 6 - 12 hours
- Continue feeding, including breastmilk for infants and young children
- Reassess patient and dehydration status hourly.
- In case of frequent vomiting (>3 times in 1 hour): Treat with I/V fluid

C. Severe dehydration – Start I/V fluid immediately (100 ml / kg)

I/V solution containing sodium, potassium, chloride and bicarbonate (e.g. Ringer's Lactate)

Children < 1 year or malnourished

30 ml / kg in first 1 hour
70 ml / kg in next 5 hours

Adults and Children > 1 year

30 ml / kg in first $1\frac{1}{2}$ hour
70 ml / kg in next $2\frac{1}{2}$ hours

- Encourage the patient to take ORS solution as soon as he/she is able to drink
- Antibiotic, if needed, after rehydration
- Zinc-20 mg/day for 10 days in children 6 months-5 yr old

Clear, well communicated strategies are required to provide and improve access to safe and adequate water supplies that are critical to effective cholera response. Therefore, investment in water supplies should seek to achieve sustainability of the supplies and complementarity with existing infrastructure and service providers. The table that follows describes the residual chlorine requirements for various distribution channels during a cholera outbreak or high-risk period.

Free chlorine residuals required in distribution systems during a cholera outbreak or when there is a risk of an outbreakⁱ

Location in the distribution system	Residual (after 30 min contact time)
At all points in a piped system	0.5 mg/l
At all standpipes in systems with standpipes	1.0 mg/l
In tanker trucks, at filling	2.0 mg/l

NOTE:

- During a cholera outbreak, there should be a chlorine residual of 0.2 to 0.5mg/l at all points in the supply, which means that a chlorine residual of about 1 mg/l will be needed when the water leaves the treatment plant.
- For tankers the chlorine levels need to be checked near the point of discharge. If they are below 0.2 mg/l, additional chlorine should be added. Chlorination in a tanker will help prevent build-up of organic matter in the tank as well as make the water safe to drink.
- Chlorine levels can be tasted at about 0.8 mg/l and therefore, unless higher levels are vital for health reasons such as cholera outbreaks (see the note below for standpipes), it is recommended that such high levels, while still safe for health, are avoided at the point of consumption.
- The higher chlorine levels at standpipes are included because of the higher risk of contamination between standpipe, home and point of consumption, leading to a reduced chlorine level by the time the water has been drunk.

Chlorination of wells

The aim of chlorinating wells is to keep residual chlorine at a minimum of 0.5 mg/l to 1.0 mg/l at the point of water collection during the cholera outbreak.

The options for chlorinating wells include:

- Use of pot chlorinators with slow release chlorine tablets.
- Adding a solution made from powdered chlorine on a regular basis (see WHO Technical Notes 1 and 2, under **Key resources** below, for details)

Both involving regular monitoring of the resultant chlorine residuals.

Using pot chlorinators for wells

The use of pot chlorinators (floating containers into which a slow release chlorine tablet is added) in wells has been shown to have variable resultsⁱⁱ.

In general, it is recommended that pot chlorinators should not be used for high-risk, lined wells during a cholera outbreak. Instead, these wells can be chlorinated directly using HTH chlorine on a regular basis. Residual chlorine testing should be done several times a day.

It is not recommended to chlorinate unlined wells because the chlorine will be used up by the organic materials of the well walls, so it will be difficult to establish or maintain the target levels of free chlorine residual. Instead, when a well is unlined, point-of-use water treatment and safe storage should be promoted.

The decision to chlorinate wells is also complicated when some people may be using household chlorination and others are not using any form of household treatment. A decision will have to be made based on the perceived risks and what alternatives are available, including whether point-of-use treatment is being taken up and practiced correctly and consistently by a significant proportion of the population. See the note below on the health impacts of chlorine, which confirms that even if water is treated with chlorine twice, the result is unlikely to present a health hazard. However, it is possible that people will not want to drink double-treated water if the chlorine taste is too strong.

WHO guidance on the health impacts of chlorine

The [WHO guidelines for drinking water quality](#) (2011, p334-5) note that, at 5 mg/l, 'The guideline value is conservative, as *no adverse effect level was identified* in the critical study'. It also notes that most people are able to taste chlorine in water at the guideline level, which means that people will reject drinking water because of a strong chlorine taste before it becomes a hazard to health. **Annex 9B** provides further detail on point-of-use water treatment and safe storage (PoUWT&SS).

Water supply standard 1: Water supply: 'All people have safe and equitable access to a sufficient quantity of water for drinking, cooking and personal and domestic hygiene. Public water points are sufficiently close to households to enable use of the minimum water requirement'.

Water supply standard 2: Water quality: 'Water is palatable and of sufficient quality to be drunk and used for cooking and personal and domestic hygiene without causing risk to health'.

Water supply standard 3: Water facilities: 'People have adequate facilities to collect, store and use sufficient quantities of water for drinking, cooking and personal hygiene, and to ensure that drinking water remains safe until it is consumed'

Although cholera does not constitute a humanitarian situation by itself, [Sphere Minimum Standards for Humanitarian Response](#) (The Sphere Project, 2011) can serve as a reference an initial point of discussion when no additional standards are available at national level.

Water needs for basic survival:

- Survival needs: water intake (drinking and food) – 2.5-3 litres per day (depends on the climate and individual physiology)
- Basic hygiene practices – 2-6 litres per day (depends on social and cultural norms)
- Basic cooking needs – 3-6 litres per day (depends on food type and social and cultural norms)
- Total basic water needs – 7.5-15 litres per day

Maximum numbers of people per water source:

- 250 people per tap (based on a flow of 7.5 litres/minute)
- 500 people per hand pump (based on a flow of 17 litres/minute)
- 400 people per single-user open well (based on a flow of 12.5 litres/minute)

For further information (key actions, indicators and guidance notes) on water supply and quality refer to [Sphere Minimum Standards](#) (pp97-104).

TIP

Urban and rural water supplies

- Work with epidemiologists to map and identify the hotspot areas where outbreaks are occurring and prioritise these areas, neighbouring areas and other high-risk areas to ensure an adequate water supply with associated sanitation and hygiene.
- Undertake assessments and sanitary surveys in the affected area and/or the area most vulnerable to new outbreaks in order to identify the source of the outbreak or the potential source of new outbreaks (where possible); check sanitary conditions, including integrity of sewage systems; assess water quality at point of supply.
- Identify key gaps in the water supply or distribution system, and which actions could have the greatest effect on supply in a short time frame, such as:
 - Repairing strategic distribution or borehole pumps;
 - Repairing major leaks;
 - Tankering to temporary tanks in poor high density underserved areas;
 - Assisting community management committees to repair broken down pumps;
 - Mending broken sewerage pipes and reducing other opportunities for contamination of the source (mending cracked well heads, improving drainage etc);
 - Chlorination of improved water sources which have been repaired but may have previously been contaminated
 - Use bucket chlorination at the source as a **last resort temporary measure** during a period of repair, where it is not possible to repair improved sources, where improved sources do not exist, or where it is not possible to ensure effective household water treatment in a short time frame;
 - Closing off contaminated or high risk water points, providing temporary alternatives (such as trucking to storage tanks with tapstands) and planning for future actions to repair or improve high risk sources after the outbreak;
 - Increasing supply times in the most vulnerable areas (high density, overcrowded areas, those with least access to safe water supply and sanitation, those next to lakes and on transport routes);
 - Temporarily reducing or removing financial charges for water at tapstands in the most vulnerable areas;
- Increase storage capacity for bulk supplies to allow for gaps in supply, and also assess the need for increased household storage. Refer to **Section 9.3 & 9.9** on supplies/NFIs for further discussion on household storage.
- Borehole drilling takes time to set up and complete (from the development of contracts, the hydrogeological surveys, drilling, well development, construction of platform and handover). Unless the hydrogeological surveys are ready and contracts already are established, or the hydrogeology of the area means that boreholes drilled in any location are likely to be successful, borehole drilling **should only be used as a last resort** during a cholera outbreak. If boreholes or the construction of other new water points are undertaken, associated support should also be provided for the longer-term ownership and operation and maintenance.
- Increase staffing to undertake actions to improve water services in the most vulnerable areas.
- Ensure all urban water treatment works have an adequate supply of coagulants and chlorine (gas or HTH depending on the dosing mechanism).
- Increase chlorine dosing to ensure increased residuals.
- Increase monitoring of faecal contamination and chlorine residual at abstraction points in cities.
- Undertaking community mobilisation and awareness-raising on the protection of water sources and the importance of safely storing water in the home;
- Work with private water vendors and tanker owners and drivers to increase awareness on cholera and their role in cholera prevention.
- If the water authorities have prepared water safety plans for urban water services, these can be a useful tool for the identification of key risks in the system allowing actions to respond to the risks.

Refer to **Annex 9B** below for information and tips on point-of-use water treatment & safe storage.

KEY RESOURCES

WHO Technical Notes on Drinking Water and Sanitation and Hygiene in Emergencies, 2011

Note 1 – *Cleaning and disinfecting wells* 

Note 2 – *Cleaning and disinfecting boreholes* 

Note 3 – *Cleaning and disinfecting water storage tanks and tankers* 

Note 4 – *Rehabilitating small-scale piped water distribution systems* 

Note 6 – *Rehabilitating water treatment works after an emergency* 

Note 12 – *Delivering safe water by tanker* 

Garandeau, R (2004) *Chlorination of hand-dug wells in peri-urban Monrovia, Liberia*, MSc, Cranfield University 

IEC materials to use for training water vendors in Tanzania (Swahili version) and the associated translation 

WHO (2011) *Guidelines for drinking-water quality*, fourth edition, pp 45-76 (Water Safety Plans), and pp 96-104 (vended water, bulk water supply, emergencies and disaster and temporary water supplied). 

i WHO (no date) *Chlorine monitoring at point sources and in piped distribution systems* , Environmental Health Fact Sheet 2.30

ii The following references provide varying success rates for the use of pot chlorinators of different forms:

- A.P.Sobel, J (2011) *Evaluation of pot-chlorination of wells during a cholera outbreak*, Bissau, Guinea-Bissau, 2008;
- Guevert E, Van Hecke C, Noeske J, Solle J, Bita Fouda A, Manga B. (2008) Diffuseur artisanal de chlore pour desinfecter les puits lors de l'épidémie de choléra de Douala, Cameroun (hand-made devices for continuous delivery of hypochlorite for well disinfection during the cholera outbreak in Duala, Cameroon), *Medecine Tropicale*, 2008;68(5):507-513;
- Libessart, Y & Hammache, Y (2000) *Integrated chlorination campaign in Mogadishu* , 26th WEDC Conference, Water, sanitation and hygiene: Challenges of the Millennium, Dhaka, Bangladesh
- Régis Garandeau (2004) Chlorination for hand-dug wells in peri-urban Monrovia, Liberia, MSc Water Management, Community Water Supply, Cranfield University, UK

The following box provides a discussion of the challenges, controversies and potential of PoUWT&SS in cholera response.

Point-of-use water treatment in cholera outbreaks –challenges, controversies and potential

Point-of-use water treatment and safe storage (PoUWT&SS) has recently gained much attention, notably in emergency contexts. Chlorine tablets are often selected as the first PoUWT product of choice and distributed in non-food item packages or as part of social marketing campaigns extended from the development context. Assumptions are often, and mistakenly, made that once products, e.g., often chlorine tablets, have been distributed, water quality has effectively been addressed, which is often not the case.

Challenges and controversies of PoUWT in emergencies:

- There have been limited evaluations of interventions regarding chlorine tablet distribution and other products in emergenciesⁱ. The evaluations that have been done have shown that correct and effective use of products varies from 20% to over 30%. Though higher effectiveness of the use of PoUWT&SS in emergencies have been observed in places where these programmes were already in country and have provided training, follow up and provision of safe storage container; as this is not the usually the default situation, it is recommended not to assume it as a normⁱⁱ.
- PoUWT products are often distributed in an emergency, without considering what households will do when the supply runs out or when parts need replacing. Studies in the development context on the scaling up of PoUWT have shown significant challenges relating to ensuring the correct and consistent use of products and sustaining their use over the longer term as well as challenges relating to the supply chainⁱⁱⁱ.
- The recommendation to filter and double dose chlorinate water which is turbid is still a controversial action between a) those who believe evidence shows that it is effective, b) those who believe that chlorination is only effective for waters less than 10 NTU and evidence is still inadequate for this process to be considered effective and c) those who question the higher chlorine residuals which can result from some products.

The potential for PoUWT in cholera outbreaks:

Whilst considering the above challenges and controversies, it should also be noted that:

- In many contexts, including in particular dispersed rural contexts; the supply of safe water is still limited and is likely to remain so for some time. Whilst progress is being made, human resources, logistics and sustainability all continue to challenge the concept of universal access to safe water supply.
- Water will continue to be contaminated between the water source and the point of drinking until everyone practices safe excreta disposal and good hygiene or until all water supplies have an effective chlorine residual at the point of supply to overcome contamination that is well documented during collection, handling and storage.
- PoUWT&SS provides the potential for the family to have control over the provision of safe water, reducing reliance on others. This control is particularly valuable in an outbreak situation and where provision of safe water is likely to be some time away.

Rationally considering the use of PoUWT&SS options in cholera outbreaks:

When considering the use of PoUWT&SS products, the following should be considered:

- What are the alternatives to the promotion of PoUWT&SS? Are they any more feasible or likely way to improve the percentage of people who are drinking safe water than the PoUWT&SS option?
- If the promotion of PoUWT&SS options means that a reasonable proportion of people start using safe water, then it is still valuable for a cholera outbreak response – a reasonable proportion, such as 30% is better than none. This should be balanced with the consideration of the time, effort and resources required to put PoUWT&SS in operation, and whether these could be used elsewhere.
- Unless water supplies have a chlorine residual, the risk of contamination will still be present in the household (although it can be reduced by safe handling and storage). Most other supply options do not respond to the issue of post-supply contamination.

Selection of a PoUWT&SS option to use in a cholera outbreak

Considerations which need to be made on the selection and promotion of PoUWT&SS option in a cholera outbreak include:

- Which PoUWT&SS options sufficiently reduce contaminants and protect health?
- Which PoUWT&SS options are the affected population familiar with?
- Which equipment and consumables are already available in the local shops?
- Can support be prioritised for PoUWT&SS systems that are already known and used by households?
- Who is already promoting PoUWT&SS in the area, what methods they are supporting and do they have the capacity to increase their efforts?
- Which PoUWT&SS options have proven to be the most effective in the particular context?

See the following table for a comparison of PoUWT&SS options

Comparison of PoUWT options^{iv}

	Benefits	Drawbacks	Appropriateness
Household chlorination	<ul style="list-style-type: none"> • Documented reduction of most bacteria (including cholera) and viruses in water • Residual protection against contamination • Acceptability to some users because of ease of use • Documented health impact • Scalability • Low cost 	<ul style="list-style-type: none"> • Relatively low protection against parasitic cysts • Lower disinfection effectiveness in turbid waters contaminated with organic and some organic compounds • Potential user taste and odour objections • Necessity of ensuring quality control of solution • Misunderstandings about the effects of chlorination by-products 	Most appropriate in areas with a consistent water supply chain, with relatively lower turbidity water, and situations where educational messages can reach a target population to encourage correct and consistent use.
Flocculent / disinfectant products	<ul style="list-style-type: none"> • Documented reduction of bacteria, viruses, and protozoa in water • Reduction of some heavy metals and pesticides • Residual protection against contamination; • Documented health impact • Acceptability to users because of visual improvement in the water • Sachets are easily transported due to their small size • Long shelf life • Classification as non-hazardous material for air shipment 	<ul style="list-style-type: none"> • The need for multiple steps to use the product, which requires a demonstration to teach new users • The need for users to have, employ, and maintain two buckets, a cloth, and a stirring device • The higher relative cost per litre of water treated compared to other household water treatment options 	Most appropriate in areas with very turbid water or a consistent supply chain, and in situations where product can actually be demonstrated and educational messages can reach a target population to encourage correct and consistent use.

	Benefits	Drawbacks	Appropriateness
Solar disinfection	<ul style="list-style-type: none"> Documented reduction of viruses, bacteria, and protozoa in water Documented reduction of diarrheal disease in users Acceptability to some users because of the simplicity of use No cost to the user after obtaining the plastic bottles Minimal change in taste of the water Minimal likelihood of recontamination due to safe storage. 	<ul style="list-style-type: none"> The need for pre-treatment (filtration or flocculation) of waters of higher turbidity User acceptability concerns because of the limited volume of water that can be treated at once The lack of visual improvement in water aesthetics to reinforce benefits of treatment The length of time required to treat water The large supply of intact, clean, suitable plastic bottles required. 	Most appropriate in areas where there is availability of bottles and repeated community motivation and training for users on how to correctly and consistently use solar disinfection for treating household drinking water. Effectiveness is reduced in very turbid water
Ceramic filtration (candle, bucket etc)	<ul style="list-style-type: none"> Documented reduction of bacteria and protozoa in water Acceptability to users because of the simplicity of use and the aesthetic improvement in treated water Documented reduction of diarrheal disease among users Potentially long life if the filter remains unbroken One-time cost 	<ul style="list-style-type: none"> Low effectiveness against viruses Lack of residual protection can lead to recontamination if treated water is stored unsafely Variability in quality control of locally produced filters Filter breakage and need for spare parts Filters and receptacles that need to be regularly cleaned, especially when using turbid source waters A low flow rate of 1-3 litres per hour (slower in turbid waters) 	Most appropriate in areas where there is capacity for quality ceramics filter production, a distribution network for replacement of broken parts, and user training on how to correctly maintain and use the filter. It might not be feasible in emergency contexts,
Biosand filtration	<ul style="list-style-type: none"> Documented removal of protozoa and bacteria Acceptability to users because of high flow rate (~20 litres/hour), ease-of-use, and visual improvement in the water Production from locally available materials; One-time installation with low maintenance requirements Long life. 	<ul style="list-style-type: none"> The <i>biosand film</i> where the biological processes happen takes some time to build up and hence unless they are already running would not be appropriate for an outbreak Comparatively low inactivation of viruses Absence of post-filtration residual protection so that if water is filtered into an open or unclean bucket there is potential for contamination The difficulty in producing and transporting a 100-350 pound filter housing and the high initial cost that make scalability more challenging. Filtering media (appropriate sand) might not be available in all contexts. 	Most appropriate in areas where there is external funding to subsidize the initial cost of the filter, education for users, locally available sand, and a transportation network capable of moving the buckets and sand. It might not be feasible in emergency contexts.

	Benefits	Drawbacks	Appropriateness
Boiling	<ul style="list-style-type: none"> Existing presence in many households of materials needed to boil Documented inactivation of bacteria, viruses and protozoa, even in turbid or contaminated water (almost all bacteria and viruses are killed after 12 seconds by the time water reaches 65°C)^v Socio-cultural acceptance of boiling for water treatment in some cultures. 	<ul style="list-style-type: none"> Lack of residual protection against contamination Lack of epidemiologically confirmed health impact Potential for burn injuries and increased risk of respiratory infections from indoor stoves or fires Potentially high cost of carbon based fuel source (with concurrent deforestation risk) and the opportunity cost of collecting fuel Potential user taste objections Potential for incomplete water treatment if users do not bring water to full boiling temperature. 	Most appropriate in areas with an affordable and accessible supply of cooking fuel, a cultural tradition of boiling, and where water is stored safely after boiling.

Comparison of safe storage options

Container type	Benefits	Drawbacks
Narrow-necked container	Less opportunity for contamination because of difficulty for hands or implements to be put inside the container	More difficult to clean inside the container More bulky to transport (unless collapsible)
Covered container with tap	Reduces opportunity for contamination because the user does not need to put hands or implements inside the container.	Tap can become damaged or may leak Additional cost for the tap and its replacement More difficult to transport unless taps are fixed at the point of distribution Easier to clean inside the container (than a narrow necked container)
Container with a lid and dedicated implement for abstracting the water	A lid reduces opportunities for contamination and a dedicated implement also reduces opportunity for contamination (versus an uncovered container and no dedicated implement for abstracting the water)	Risk of some users using the abstraction implement for other uses (drinking, eating etc). Easier to clean inside the container (than a narrow necked container)

Point of use water treatment and safe storage

- Private sector organisations^{vi} or others using social or commercial marketing approaches might have established supply chains which are active in the area. They can be useful resources to provide information on PoUWT&SS and ensure products are available and accessible through local outlets.
- Training in the use of household water treatment products should be always provided, together with monitoring and support to users. Instructions on the use of products must be available and distributed in local language.
- Distribution of PoUWT&SS products requires special logistics arrangements which can take considerable time to become operational, especially for sparsely populated areas. Consider this when including PoUWT&SS as part of the cholera response plan.
- Turbidity of water will affect the efficiency of chlorine products. Double dosing is often recommended but this can also lead to a strong chlorine taste which can lead to people rejecting the water for drinking.
- Co-ordinate with all other actors to ensure products being supported are the same and have the same instructions; otherwise this can cause confusion by the users (some products are used with 10 litres of water, some with 20 litres of water).

TIP

For information on the log removal of bacteria, viruses and protozoa for different PoUWT options, refer to the [WHO Guidelines for Water Quality](#) , 2011, pp145-146.

For further information and views on the different options including alternative views on comparable prices refer to the [SMART disinfection solutions](#) (Netherlands Water Partnership), p25 , and the [IFRC household water treatment and safe storage publications](#) .

Although cholera does not constitute a humanitarian situation by itself, [Sphere Minimum Standards for Humanitarian Response](#)  (The Sphere Project, 2011) can serve as a reference an initial point of discussion when no additional standards are available at national level.

Water supply standard 2: Water quality: 'Water is palatable and of sufficient quality to be drunk and used for cooking and personal and domestic hygiene without causing risk to health'.

For further information on water quality including on PoUWT&SS refer to [Sphere Minimum Standards](#) pp100-103 (key actions, indicators and guidance notes) .

KEY RESOURCES

Decision making tree for household water treatment and storage options in [Sphere](#) (2011), *Humanitarian Charter and Minimum Standards in Humanitarian Response*, p133 .

[IFRC Household water treatment and safe storage in emergencies](#) (2008) .

[Lantagne, D and Clasen, T Point of use water treatment in emergency response](#), LSHTM, London, UK (2009) .

[Cairncross, S, Ensink, J and Kahawita, T Evaluation of the WASH activities undertaken to prevent and control cholera outbreaks in Guinea-Conakry and Guinea-Bissau](#), London School of Hygiene and Tropical Medicine, ECHO, UNICEF and USAID (2009)  – this paper also summarises a number of other studies looking at different water treatment and safe storage strategies as well as sanitation and hygiene in emergencies and cholera outbreaks.

The HWTSS Network site www.who.int/household_water/en/

[Netherlands Water Partnership Smart disinfection solutions, Examples of small-scale disinfection products for drinking water](#), KIT Publishers (2010) .

Overview document on scaling up of HWTS prepared for WHO  and a training module from UNICEF .

[UNICEF policy note on the promotion of household water treatment and safe storage in UNICEF WASH programmes](#), (2008) .

[WHO Guidelines for drinking water quality](#) , 4th edition, pp140-147 (2011) including tabulated comparisons of the reductions in different pathogens achieved by different technologies.

[WHO Evaluating household water treatment options: Health-based targets and microbiological performance specifications](#) (2011) .

i Lantagne, D and Clasen, T (2009) *Point of use water treatment in emergency response*, LSHTM, London, UK.

ii For example a study in Guinea-Conakry (2009) of a cholera outbreak response where chlorination products were distributed, showed that although disinfection products were found in 60% of visited households, less than 30% of households were found to have free traces of chlorine in their drinking water; and a review of HWTS use in emergencies noted that 'no study identified in the literature review documented greater than 20% uptake of PoUWT in the acute emergency situation'. Refs: Cairncross, S, Ensink, J and Kahawita, T (2009) *Evaluation of the WASH activities undertaken to prevent and control cholera outbreaks in Guinea-Conakry and Guinea-Bissau*, London School of Hygiene and Tropical Medicine, ECHO, UNICEF and USAID; and Lantagne, D and Clasen, T (2009) *Point of use water treatment in emergency response*, LSHTM, London, UK.

iii Clasen, T (2009) *Scaling up household water treatment among low income populations*, World Health Organisation.

iv Taken from Lantagne, D and Clasen, T (2009) *Point of use water treatment in emergency response*, LSHTM, London, UK , pp29-31 and WHO guidelines.

v WHO (2011) *Drinking Water Quality Guidelines 2011*, 4th edition (p143) recommends that water is brought to a rolling boil. As nearly all pathogens are killed at 65°C for 12 seconds even in turbid water (Metcalf, R.H. (2005) The microbiology of solar water pasteurization with applications in Kenya and Tanzania, 2005 Solar World Congress, Orlando, Florida), WHO no longer places a time limit nor a modification for altitude on its recommendation for boiling (personal communication: Maggie Montgomery and Bruce Gordon, 8 May 2012).

vi For UNICEF staff, before entering in any partnership or joint activity with private sector or companies, check with your Communications section on how to engage with them to avoid misuse of UNICEF replace with image, branding and logo. In case any engagement is proposed for in-kind-assistance/donation-in-kind (IKA/DIK), ask for support from your Private Fund-raising and Partnerships (PFP) and Supply focal point. See [chapter 10](#) for more details on (IKA/DIK)

Although cholera does not constitute a humanitarian situation by itself, [Sphere Minimum Standards for Humanitarian Response](#) (The Sphere Project, 2011) can serve as a reference an initial point of discussion when no additional standards are available at national level. If there is a cholera outbreak during a humanitarian crisis, the response will also need to take the Sphere standards into account.

Excreta disposal standard 1: Environment free of human faeces: 'The living environment in general and specifically the habitat, food production areas, public centres and surroundings of drinking water sources are free from human fecal contamination'.

Excreta disposal standard 2: Appropriate and adequate toilet facilities: 'People have adequate, appropriate and acceptable toilet facilities, sufficiently close to their dwellings, to allow rapid, safe and secure access at all times, day and night'.

[Sphere Minimum Standards](#) (p109), provides a listing of alternatives for safe excreta disposal:

1. **Demarcated defecation area (with sheeted off segments)** – first phase: the first two to three days when a huge number of people need immediate facilities
2. **Trench latrines** – first phase: up to two months
3. **Simple pit latrines** – plan from the start through to long-term use
4. **Ventilated improved pit latrines (VIP)** – context-based for middle-to-long term exposure
5. **Ecological sanitation (Ecosan) with urine diversion** – Context based, in response to high water table and flood situations, right from the start or middle- to long-term
6. **Septic tanks** – middle to long-term phase

It also points out (Guidance Note 11) that in flood or urban disasters, the provision of appropriate excreta disposal facilities is particularly difficult, and in such situations, various alternative human waste containment mechanisms can be used such as:

1. Raised toilets
2. Urine diversion toilets
3. Sewage containment tanks
4. Use of disposable plastic bags with appropriate collection and disposal mechanisms.

For further information (key actions, indicators and guidance notes) on excreta disposal, refer to [Sphere Minimum Standards](#) (pp105-110)

Excreta disposal in cholera outbreaks

- Focus on what is achievable in a short time frame, for example burying faeces versus constructing a new latrine if a person does not already have access to one, and on keeping existing latrines clean and with functioning hand-washing facilities with soap.
- A cholera outbreak can however be a good motivator to construct latrines, so when human resources are available to build on this opportunity, it should be utilised.
- Where possible identify common barriers to use and what factors might motivate people to use a latrine and wash hands with soap at critical times – which will be useful for designing programme interventions which will help overcome the barriers to action.
- If key psychological motivations have been used successfully in a development context in a particular area, elements of the approach might also be useful during the outbreak response.


 TIP

GOOD PRACTICE FOR FUNERALS OF PEOPLE WHO HAVE DIED OF CHOLERA

Communicating the risks of funerals during cholera outbreaks:

- Work with religious and community leaders to understand the health risks during funerals and what can be done to prevent transmission of cholera at these ceremonies.
- Health professionals and religious and community leaders should discuss cholera risks with community members and help to identify acceptable strategies to address them. Imposing restrictions without consultation can often be counterproductive and can lead to reluctance to report deaths.

Preparing the body and burial:

- Do not empty the intestines of the deceased.
- Disinfect the body of a person who has died of cholera with a 2% chlorine solution and plug all orifices (mouth, anus) with cotton soaked in a 2% chlorine solution.ⁱ
- Undertake preparation of the body in a well-ventilated area.
- Bandage the head so that the mouth remains shut (the face can be left showing).
- Wrap the body in a plastic sheet, to catch any fluids when transporting it.
- Bury the body as soon as possible, preferably within 24 hours of death.
- The body should be buried as close as possible to the location where the person died, to limit risks of transport.
- Disinfect clothing, bedding and all surfaces that have been in contact with the body with a 0.2% chlorine solution. Clothes and bedding can alternatively be boiled and dried in direct sunlight.
- People who are preparing or carrying the corpse should wear rubber gloves and the rubber gloves should then be disposed of through burning, burial or disposal in a pit latrine.
- After finishing the process wash hands thoroughly with 0.05% chlorine solution or soap.
- The body should be buried at least 50m from a water source and at least 1.5m deep.

Hygiene at the funeral:

- Although funerals should not be banned, eating at funerals should be discouraged, or the funeral feast should be postponed until after the outbreak has finished.
- If food is served at a funeral, ensure that:
 - All food is served hot.
 - People who handle the body are not involved in preparing the food.
 - People who prepare food pay particular attention to hygienic food handling practices and drinking water safety.
 - Handwashing with running water and soap is enforced before eating.
- Involve religious leaders and community leaders to promote hygiene.
- Provide hand-washing facilities with soap for mourners to use.

Examples of modified practices that have been undertaken for funerals during cholera outbreaks

In the United Republic of Tanzania, all funerals during cholera outbreaks must be supervised by a health professional.

In West Papua, where the practice of touching the body of the deceased during the ceremony is an important part of the bereavement process, a system for washing hands with running water and soap was set up.

Sometimes communities agree to bury a cholera victim without the gathering, which is held after the outbreak has been declared ended

i The practice of disinfecting and wrapping dead bodies is questioned by some due to there being only limited scientific evidence supporting the need for the practice and possible psychosocial implications for the wrapping process particularly if the face is covered. However there is also no scientific evidence to suggest it is not a good practice. Evidence for the practice exists in: a) A case control study in Guinea-Bissau relating to the 1994 cholera epidemic, identified that cholera was strongly associated with eating at a funeral with a non-disinfected corpse, and with touching (ie transporting, washing) the body; b) in: Gunnlaugsson, Einarsdóttir, J. Angulo, F.J., Mentambanan, S.A., Passa, A. and Tauxe, R.V. (1998) Funerals during the 1994 cholera epidemic in Guinea-Bissau, West Africa: The need for disinfection of bodies of persons dying of cholera, *Epidemiol. Infect.* 120, pp7-15. The recommendation noted here is currently in line with MSF and WHO guidelines, but more research is needed.

The following sheets provide a checklist and additional information about the key actions to be taken for cholera prevention, preparedness and response which should be implemented in key institutional settings and public places.

Key cholera response actions in institutional settings or public places

Action	Description	Schools, colleges and other educational settings	Care homes or child protection centres	Feeding centres	Refugee or internally displaced persons (IDP) camps	Prisons
Prevention and preparedness						
Preparedness and response plan	Have a plan ready so that everyone, including staff and users of the institution, know what to do to prevent and prepare for cholera and what to do when someone becomes sick.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Co-ordination and responsibilities	Make one staff member responsible for co-ordinating and ensuring the institution is prepared and for ensuring that effective responses are co-ordinated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Make sure that all staff are aware of their responsibilities relating to cholera prevention and preparedness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education	Educate all users/visitors: <ul style="list-style-type: none"> • What is cholera and what are the symptoms? • How you can get it? • How you can prevent it? • What to do if you get it? 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safe drinking water	Provide safe drinking water from an improved source or by treatment at point of use for staff and users of the institution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safe excreta disposal	Provide access for staff and users of the institution to clean, accessible, gender segregated latrines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Establish responsibilities for cleaning. Provide equipment (buckets, cloths, mops, gloves) and monitor the premises.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hand-washing stations at toilets and in kitchens	Provide functional hand-washing facilities with soap and water at all toilets and in kitchen and dining areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safe food hygiene	Train staff that prepare and serve food in food hygiene and safety.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Make sure the kitchen and dining area are hygienic and easy to clean.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Avoid the provision of raw food and only use treated water for drinking and cooking purposes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Action	Description	Checklist				
		Schools, colleges and other educational settings	Care homes or child protection centres	Feeding centres	Refugee or internally displaced persons (IDP) camps	Prisons
Safe infant feeding	Train caregivers of infants on how to prepare infant bottle feeds and foods as well as how to encourage infants to wash their hands and practice good hygiene. If mothers are the caregivers of infants, encourage exclusive breastfeeding for infants under 6 months old.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ORS availability	Maintain a supply of ORS in the institution, a way of measuring 1 litre of water and a dedicated container with treated water ready so that ORS can be prepared quickly if needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Response						
Implement plan and intensify education and monitoring	Implement the preparedness and response plan as noted above and intensify education and monitoring.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ensure availability of supplies: soap, ORS, gloves, disinfectant	Re-evaluate what supplies are needed and what is available. Increase critical supplies such as soap, ORS, water containers, cleaning implements and disinfectants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide ORS and seek medical help quickly	Provide ORS to any staff member or institution user who starts to have diarrhoea and vomiting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Take people who have become sick to the nearest health facility for assessment and further treatment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Disinfection	Any areas or materials soiled with faeces or vomit (and children's potties) must be disinfected with a 0.2% chlorine solution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTE: Refer to the table on the following pages for additional setting-specific information and guidance

Setting-specific additional information on cholera prevention, preparedness and response

Setting	Additional information	Further information
Schools, colleges and other educational settings 	<ul style="list-style-type: none"> Schools, colleges and other educational settings should be part of the overall communications and community interventions, strategies and plans. Contact a family member or caretaker of the child / student / staff member and inform them that their relative is being taken to a health facility and provide them with information on the basics of cholera and its prevention and what to do when someone becomes sick. Encourage children to share information on cholera with their families, friends and neighbours and encourage people who become sick to go to a health facility. When and where possible, hold awareness sessions for parents and family members on cholera prevention and preparedness and what to do if someone becomes sick. If resources allow, distribute soap to all children for using at home. 	<p>See example of guidance provided on preparedness for schools, daycares and child friendly spaces in Somalia  and on food and cooking recommendations for schools and children's centres </p> <p>See example of IEC leaflet for children from Tanzania </p> <p>See example of cartoon books for children from Zimbabwe </p>
Care homes or child protection centres 	<ul style="list-style-type: none"> Young children in care homes or protection centres will need extra support to be able to undertake good hygiene practices. Ensure that caregivers of small children understand and practice good hygiene and encourage children to wash their hands with soap at key times. Use children's potties for small children, emptying the faeces into a pit latrine, and washing the potty with a 0.2% chlorine solution after use. If small children defecate on the floor or have an accident at night, dispose of the faeces in a latrine and disinfect the area with a 0.2% chlorine solution. Be particularly vigilant at all times to check for children who are feeling unwell during a cholera outbreak. Make sure that new children who arrive at the centres have the opportunity to learn about and practice good hygiene, i.e., provide particular support for washing their hands before eating and after using the toilet, soon after they arrive. 	Refer also to the Protection Sector Working Group, Zimbabwe, note on mainstreaming protection into the cholera response 
Feeding centres 	<ul style="list-style-type: none"> A child who is malnourished is particularly vulnerable to cholera because they have less capacity to respond to illness. A child who is malnourished needs special medical care different from others who get cholera. Give hygiene information and cholera awareness to all patients and caretakers. Where possible provide a WASH kit to all children in feeding centres. The kit should contain soap, household water treatment equipment or consumables and a safe water storage container with lid. Use children's potties for small children, emptying the faeces into a pit latrine, and washing the potty with a 0.2% chlorine solution after use. If small children defecate on the floor or have an accident at night, dispose of the faeces in a latrine and disinfect the soiled area with a 0.2% chlorine solution. 	<p>Refer to Section 8.3.9 for guidance on nutrition related considerations for cholera treatment.</p> <p>See example guidance sheets for cholera preparedness and response for health facilities and feeding centres from Somalia </p>

Setting	Additional information	Further information
Refugee or internally displaced persons (IDP) camps 	<ul style="list-style-type: none"> Refugee or IDP camps can be particularly vulnerable during cholera outbreaks because large numbers of people live in close proximity. The people in the camps may also have a different level of immunity from the host population if cholera is endemic in the area. The water, sanitation and hygiene situation in the host community can negatively impact the cholera risks to the population in the camp and vice versa as cholera does not respect camp boundaries. It is important that the authorities responsible for the host population and those responsible for the camp population work collaboratively, which includes: <ul style="list-style-type: none"> Development of inter-sectoral preparedness and response plans which are coordinated between those responsible for both camp and host populations. Establishment of a surveillance system in the camp and host population. Improvement of the WASH situation in the camp and host communities. Monitoring of the WASH situation in the camp and host communities. All households must have adequate stocks of non-food items to be able to practice good hygiene - such as water containers for collection and storage of water, soap, ORS sachets, washing bowls, cooking and eating equipment, drinking cups, and where chlorinated water is not provided, water treatment equipment or consumables. If the risk of cholera is high, health facilities within and outside the camp must be prepared for possible cases, including capacity to separate the patients with cholera from other patients and infection control procedures. Vaccination may also be considered in certain cases as a preventative measure. 	<p>Refer to Section 4.3 for information on the use of vaccines.</p> <p>Refer to Chapter 8 for information on service delivery: case management and infection control in health facilities and treatment sites.</p>
Prisons	<ul style="list-style-type: none"> Prisons provide particular risks for the spread of cholera because often they have poor water, sanitation or hygiene facilities, and inmates often live in cramped conditions with many other people. Prison staff must take responsibility for cholera prevention, preparedness and response actions. Plans between the authorities responsible for the prison and those responsible for the population in the surrounding areas must be discussed and co-ordinated. Surveillance systems should be established in the prison and host population with collaboration between the prison authorities and the local authorities The prisoners must have adequate non-food items to be able to practice good water, food and personal hygiene - such as water containers for collection and storage of water, soap and washing bowls. Monitoring of the water, sanitation and hygiene situation in the prison should be increased, along with the volume of water made available for drinking and personal hygiene if appropriate. Prison health facilities must be prepared for possible cases of cholera, including capacity to separate the patients with cholera from other patients and infection control procedures. Vaccination may also be considered in certain cases as a preventative measure. 	<p>Refer to Section 4.3 for information on the use of vaccines.</p> <p>Refer to Chapter 8 for information on service delivery: case management and infection control in health facilities and treatment sites.</p>

TIP

Food safety and hygiene in food outlets, markets and in the household

Food outlets and markets:

- Ensure that food providers and market holders receive information and training on cholera, and their roles in prevention, preparedness and response.
- Develop publicly available information on minimum standards to be undertaken at food outlets and markets and encourage the public to demand such measures or to avoid stall or shop holders that do not meet the standards.
- Particular attention should be given to ensuring that clean and well-maintained latrines with functional hand-washing facilities with water and soap are available at markets and food outlets and that they are regularly monitored.
- Environmental health officers may face verbal threats and physical violence whilst implementing instructions to improve food hygiene during a cholera outbreak – they may need support from community leaders and the general community to help persuade adoption of safety measures.
- Environmental health officers may be very under-resourced and may not have access to transport for monitoring and food hygiene related activities. Hence consider increasing support for their work in prevention, preparedness and response.
- As food outlets including street vendors are income generating activities the closing down food outlets can lead to the owners going 'under-ground' and finding other outlets for their products. It is better to work with the owners of food outlets, street vendors and market holders to improve food hygiene standards wherever possible.

In the household, institutions and at social gatherings:

- Integrate information on how to practice good food hygiene into general behaviour change communication and hygiene promotion.
- Pay particular attention to educating those responsible for food preparation in institutions and community or religious leaders who may be responsible for overseeing social gatherings on the importance of and processes for food safety and hygiene.
- Institutions (such as schools, prisons, care centres, feeding centres, workplaces etc) may require support to improve their food preparation, storage or pot and utensils washing and drying facilities.

KEY RESOURCES

Somalia WASH cluster Cholera preparedness and response for health facilities and feeding centres. (2011) 

Somalia WASH cluster Preparedness for schools, day-cares and child friendly spaces. (2011) 

Somalia WASH cluster Food and cooking recommendations for schools and children centres. (2011) 

UNICEF [Water, Sanitation and Hygiene for Schoolchildren in Emergencies. A guidebook for teachers](#)  and associated [Flashcards for Africa](#) , [Latin America](#)  and [Afghanistan/Pakistan](#)  (2012)

9F Community based surveillance form (weekly)

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Province/district _____ Commune/community _____ Name of community health worker _____

Day	# new cases		Total # new cases	Deaths		Total deaths	Management O (ORS), R (referral)	Comments Supply needs
	<5	≥5		<5	≥5			
Day 1								
Day 2								
Day 3								
Day 4								
Day 5								
Day 6								
Day 7								
Total								



TIP

Non-food items (NFIs)

- Strategic targeting will be needed to make the most impact of NFI distributions.
- Do not under-estimate the logistics required for the allocation, transport, distribution and monitoring of NFIs.
- Be careful to consider whether local markets may be undermined through such distributions – where possible utilise local markets for the procurement of such items or consider alternative forms of distribution such as the provision of vouchers which can be exchanged for specific items.
- Consider the mechanism of distribution and how to make sure that the items get to their intended destination. It may be appropriate to involve existing women's groups or other community groups, but checks and monitoring will be required for all distribution methods.
- Where feasible, procure items locally but make sure that the quality is good and that items such as jerry cans or buckets will last.
- Make sure that information is provided on why the items are being distributed and how they can help to mitigate cholera. Provide information also on the criteria for targeting, the quantities people can expect and the fact that they are provided free of charge. A process for dealing with complaints during and after the distribution should also be set up.
- Depending on the length of the cholera outbreak, it may be necessary to organise a repeat distribution of consumables such as soap. A balance will need to be struck between distributing large quantities that people are more likely to trade for other items and having to organise frequent distributions.
- Keep clear records of what was distributed, when and to whom and reconcile stock levels after each distribution. Also record any faulty items and the nature of the defect.
- Monitor the use of items as soon as possible after distribution by randomly selecting a percentage of the households or organising focus group discussions. Identify any problems with the distribution process, goods provided or if items have not been used for their intended purpose.
- Refer to **Section 9.2** for further information on PoUWT&SS if considering including associated NFIs.

Sphere, 2011

Hygiene promotion standard 2: Identification and use of hygiene items

'The disaster-affected population has access to and is involved in identifying and promoting the use of hygiene items to ensure personal hygiene, health, dignity and well-being'.

Water supply standard 3: Water facilities

'People have adequate facilities to collect, store and use sufficient quantities of water for drinking, cooking and personal hygiene, and to ensure that drinking water remains safe until it is consumed'.

List of basic hygiene items for emergency contexts as identified in Sphere, p95 include:

1. 10-20 litre capacity water container for transportation – one per household
2. 10-20 litre capacity water container for storage – one per household
3. 250g bathing soap – one per person per month
4. 200g laundry soap – one per person per month
5. Acceptable material for menstrual hygiene e.g. washable cotton cloth

The first four remain priority items for cholera prevention, preparedness and response, but others may be added such as washing bowls and PoUWT options.

For further information (key actions, indicators and guidance notes) on hygiene non-food items refer to [Sphere](#)  pp94-96 and pages 103-4

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TERMS OF REFERENCE FOR EMERGENCY (SURGE) MISSIONS

Title: WASH Specialist (Cholera Response) – Sectoral Coordination

Reports to: WASH Chief

Duration: Three month deployment with a possibility to extend to six months

Location: _____

BACKGROUND

In the 2010 update of the Core Commitments for Children (CCCs) is the explicit commitment that *appropriate and experienced staff and personnel with relevant deployment training are provided and rapidly deployed, that focus on action in the first eight critical weeks of humanitarian response and provide guidance for action beyond that, moving towards defined benchmarks.*

PURPOSE

Under the supervision and direction of the WASH Chief and in coordination with other sectoral coordinators and communication for development (C4D) specialists, support the government leads to co-ordinate and assist WASH sector partners in the process of compiling, implementing and monitoring a WASH strategy and plan for cholera, based on a comprehensive assessment, mapping and analysis of the cholera situation.

MAIN RESPONSIBILITIES AND TASKS

- Support the government lead to co-ordinate WASH partners working on the cholera response.
- Support the assessment, mapping and analysis of cholera-specific needs, priorities and responses for the WASH sector.
- In collaboration with partners, identify strategies to ensure that people have information to protect their health and dignity and the means to maintain safe water, sanitation and hygiene practices and that they are mobilised to take action to mitigate cholera risks.
- Assess the capacity of humanitarian WASH partners and stakeholders to cover identified needs, develop capacity-building plans to overcome the existing gaps and support implementation of the plans.
- Facilitate the sector in identifying needs, distributing WASH supplies / NFIs to support protective WASH practices such as handwashing with soap, water storage, or point of use water treatment and assisting partners with developing plans to implement and monitor these distributions.
- Based on the local context, promote the inclusion of menstrual hygiene management (MHM) in interventions, ensuring that women's and girls' special needs are considered and reflected in the response. Support partners to develop plans to achieve this goal.
- Facilitate the development of monitoring plans and ensure that regular gender- and age-disaggregated data is collected, analysed and used to adapt the cholera response, in co-ordination and collaboration with other WASH actors.
- In close collaboration with other coordination platforms - particularly Health, Nutrition, Education and Protection - support partners to identify priority WASH actions that are feasible for different target groups, establish mechanisms for integration and provide advice where needed to mobilise action.

- Contribute to the reporting of WASH sectoral outcomes through the provision of consolidated up-to-date information and reports.
- Coordinate with other technical working groups to ensure that the provision of a cholera response in institutions is properly covered, e.g., in schools, health centres, prisons, etc.
- Facilitate partners' consideration of gender, equity and diversity in all elements of cholera prevention, preparedness and response.
- Encourage sector actors to consider gender, equity and diversity in all elements of cholera prevention, preparedness and response.
- Where necessary, highlight specific WASH issues for the attention of the WASH Chief to ensure priority and corrective measures are taken.
- Support the national authorities and WASH partners in incorporating cholera prevention and preparedness activities in their long-term development programmes.

MINIMUM QUALIFICATIONS AND COMPETENCIES

- Advanced university degree or equivalent experience in Public Health Engineering; Environmental Health; Water, Sanitation & Hygiene (WASH); or other relevant course.
- Knowledge of water, sanitation and hygiene, public health engineering and C4D, including the use of participatory methodologies.
- Experience co-ordinating government agencies, local authorities, international organizations and NGOs, and capacity to provide formal and informal training.
- A minimum of five years of experience in emergency or development contexts.
- Experience working on cholera programmes an advantage.
- Demonstrated experience integrating gender and diversity issues into water, sanitation and hygiene.
- Assessment, analysis, planning and personnel management skills.
- Good communication, networking and organizational skills and ability to work well on a team.
- Ability to work well under pressure and in response to rapidly changing needs.
- Ability to travel at short notice and to work in difficult circumstances.
- Fluency in English/French/Spanish/Arabic¹ (verbal and written). Good written and spoken skills in the language of the humanitarian operation and knowledge of another UN language an asset.

¹ Dependent on the international language spoken at the duty station

TERMS OF REFERENCE FOR EMERGENCY (SURGE) MISSIONS

Title: WASH Specialist (Cholera Response) – Hygiene Promotion

Reports to: Chief of WASH / Deputy Representative / Head of Office

Duration: Three month deployment with a possibility to extend to six months

Location: _____

BACKGROUND

In the 2010 update of the Core Commitments for Children (CCCs) is the explicit commitment that *appropriate and experienced staff and personnel with relevant deployment training are provided and rapidly deployed, that focus on action in the first eight critical weeks of humanitarian response and provide guidance for action beyond that, moving towards defined benchmarks.*

PURPOSE

Under the supervision and direction of the Chief of WASH (or Deputy Representative / Head of Office) and in coordination with other WASH technical coordinators and communication for development specialists, support WASH partners to carry out hygiene communication in relation to cholera prevention, preparedness and response. Take responsibility for development, planning, implementation, monitoring and evaluation of hygiene promotion and communication in relation to cholera control and response and promote the integration of water, sanitation, health and hygiene aspects of all interventions.

MAIN RESPONSIBILITIES AND TASKS

- Support the overall analysis of sectoral needs and priorities and the definition of strategies and standards to address WASH-related hygiene communication needs and activities to reduce the risk of cholera transmission, in collaboration with other WASH actors, within the national WASH co-ordination structures.
- Define and elaborate UNICEF's preparedness and response activities in hygiene communication as part of the overall national cholera response, based on an understanding of epidemiological information and a formative assessment of the situation.
- In coordination with other UNICEF sections and divisions (particularly Health and communications for development (C4D), as well as Nutrition, Protection and Education) and implementing partners, develop integrated strategies, plans, capacities and programmes to:
 - Communicate with and mobilise affected populations in relation to the management and prevention of cholera (including seeking treatment early, the use of ORS, the importance of handwashing with soap, food hygiene, precautions required at mass gatherings, household water treatment and storage, etc.) using both interpersonal and mass media channels of communication.
 - Communicate with and mobilise other target groups that can influence or support the prevention and control of cholera, e.g., journalists, teachers, government authorities, etc.
 - Support the effective implementation of WASH-related interventions in Cholera Treatment Centres, other institutions (schools, prisons etc) and communities as required.
- Based on information provided by UNICEF Health Section and health partners, support WASH interventions at household/community level, including the provision of handwashing with soap, safe excreta disposal (sanitation facilities) and household water treatment and storage where required.

- Based on the local context, promote the inclusion of menstrual hygiene management (MHM) in interventions, ensuring that women's and girls' special needs are considered and reflected in the response. Support partners to develop plans to achieve this goal.
- Collaborate on the design and effective implementation of a monitoring plan incorporating required changes into planned activities with special attention to the specific needs of women, children and people with disabilities.
- Contribute to UNICEF reporting, in accordance with UNICEF's CCC based Humanitarian Performance Monitoring criteria, allowing visibility of WASH-specific achievements and needs.
- Interact with government and partners (including UN, Donors, NGOs, CSOs, etc.) in the different stages of the emergency programme implementation following up on cooperation agreements, recommendations and other UNICEF commitments for the emergency response, including the development of national partners' capacity.
- In coordination with members of the WASH team and other sections, support the development of medium- / long-term strategies to address the risk of cholera transmission as part of UNICEF's WASH longer-term programme.

MINIMUM QUALIFICATIONS AND COMPETENCIES

- Advanced university degree or equivalent experience in Public Health, Environmental Public Health, Programme Communication or other field related to behaviour change and communication.
- Knowledge of public health and one or more other relevant areas, e.g., behaviour change, health promotion, community development, education, etc.
- Experience with and understanding of hygiene promotion and community mobilisation in relation to water, sanitation and hygiene activities – including the use of participatory methodologies.
- Experience working with government agencies, local authorities, international organizations and NGOs.
- A minimum of 2-5 years of experience with either the UN and/or NGO.
- Fluency in English/French/Spanish/Arabic² (verbal and written). Good written and spoken skills in the language of the humanitarian operation and knowledge of another UN language an asset.

² Dependant on the international language spoken at the duty station

TERMS OF REFERENCE FOR EMERGENCY (SURGE) MISSIONS

Title: WASH Specialist (Cholera Response) – Sanitation

Reports to: Chief of WASH / Deputy Representative / Head of Office

Duration: Three month deployment with a possibility to extend to six months

Location: _____

BACKGROUND

In the 2010 update of the Core Commitments for Children (CCCs) is the explicit commitment that *appropriate and experienced staff and personnel with relevant deployment training are provided and rapidly deployed, that focus on action in the first eight critical weeks of humanitarian response and provide guidance for action beyond that, moving towards defined benchmarks.*

PURPOSE

Under the supervision and direction of the Chief of WASH (or Deputy Representative / Head of Office) and in coordination with other WASH technical team members, support WASH partners to carry out sanitation in relation to cholera prevention, preparedness and response. Take responsibility for development, planning, implementation, monitoring and evaluation of sanitation and communication in relation to cholera control and response and promote the integration of water, sanitation, health and hygiene aspects of all interventions.

MAIN RESPONSIBILITIES AND TASKS

- Support the government and other partners in implementing effective sanitation elements of the cholera response.
- Support the assessment, mapping and analysis of cholera-specific needs, priorities and responses related to sanitation.
- In collaboration with partners, identify strategies to ensure that people have information to protect their health and dignity and the means to maintain sanitation and hygiene practices and that they are mobilised to take action to mitigate cholera risks.
- Consider different sanitation design options and operation and maintenance mechanisms appropriate to the local context and cultural norms, and ensure that sanitation facilities are accessible to people with limited mobility.
- Assess the capacity of WASH partners and stakeholders to cover identified sanitation needs, develop capacity-building plans to overcome the existing gaps and support implementation of the plans.
- Facilitate the sector in identifying needs, distributing sanitation-related supplies to promote safe excreta disposal and supporting partners to develop plans to implement and monitor these distributions.
- Based on the local context, promote the inclusion of menstrual hygiene management (MHM) in interventions, ensuring that women's and girls' special needs are considered and are reflected in the response. Support partners in developing plans to achieve this goal.
- Facilitate the development of monitoring plans and ensure that regular gender- and age-disaggregated data is collected, analysed and used to adapt the cholera response, co-ordinating and collaborating with other WASH actors.

- In close collaboration with other coordination platforms - particularly Health, Nutrition, Education and Protection - support partners in identifying priority sanitation actions that are feasible for different target groups, establishing mechanisms for integration and providing advice where needed to mobilise action.
- Contribute to the reporting of WASH sectoral outcomes through the provision of consolidated, up-to-date information and reports.
- Coordinate with other technical working groups to ensure that the provision of a cholera response in institutions is properly covered, e.g., in schools, health centres, prisons, etc.
- Facilitate partners' consideration of gender, equity and diversity in all elements of cholera prevention, preparedness and response.
- Where necessary, highlight specific WASH issues for the attention of the WASH Chief to ensure priority and corrective measures are taken.
- Support the national authorities and WASH partners in incorporating cholera prevention and preparedness activities in their long-term development programmes.

MINIMUM QUALIFICATIONS AND COMPETENCIES

- Advanced university degree or equivalent experience in Public Health Engineering; Environmental Health: Water, Sanitation & Hygiene (WASH); or other relevant course.
- Knowledge of water, sanitation and hygiene, public health engineering and communications for development (C4D), including the use of participatory methodologies.
- Experience working in partnership with government agencies, local authorities, international organizations and NGOs, and capacity to provide formal and informal training.
- A minimum of two years of experience in emergency or development contexts.
- Experience working on cholera programmes an advantage.
- Demonstrated experience integrating gender and diversity issues into water, sanitation and hygiene programmes.
- Assessment, analysis, planning and personnel management skills.
- Good communication, networking and organisational skills, and ability to work well on a team.
- Ability to work well under pressure and in response to rapidly changing needs.
- Ability to travel at short notice and to work in difficult circumstances.
- Fluency in English/French/Spanish/Arabic³ (verbal and written). Good written and spoken skills in the language of the humanitarian operation and knowledge of another UN language an asset.

³ Dependent on the international language spoken at the duty station

TERMS OF REFERENCE FOR EMERGENCY (SURGE) MISSIONS

Title: WASH Specialist (Cholera Response) – Water Quality

Reports to: Chief of WASH / Deputy Representative / Head of Office

Duration: Three month deployment with a possibility to extend to six months

Location: _____

BACKGROUND

In the 2010 update of the Core Commitments for Children (CCCs) is the explicit commitment that *appropriate and experienced staff and personnel with relevant deployment training are provided and rapidly deployed, that focus on action in the first eight critical weeks of humanitarian response and provide guidance for action beyond that, moving towards defined benchmarks.*

PURPOSE

Under the supervision and direction of the Chief of WASH (or Deputy Representative / Head of Office) and in coordination with other WASH technical team members, support WASH partners in carrying out water quality-related interventions in relation to cholera prevention, preparedness and response. Take responsibility for development, planning, implementation, monitoring and evaluation of water quality-related interventions for cholera control and response and promote the integration of water, sanitation, health and hygiene aspects of all interventions.

MAIN RESPONSIBILITIES AND TASKS

- Support the government and other partners to implement effective water quality-related elements of the cholera response. Work closely with the WASH specialists for water supply, sanitation and hygiene promotion as an integrated team.
- Support the assessment, mapping and analysis of cholera-specific needs, priorities and responses related to water supply with a specific focus on water quality.
- In collaboration with partners, identify strategies to ensure that people have information to protect their health and dignity and the means to maintain their water supply, sanitation and hygiene practices, and that they are mobilised to take action to mitigate cholera risks.
- Support partners in considering different water treatment options (both bulk and point of use, and safe storage) and operation and maintenance mechanisms appropriate to the local context and cultural norms.
- Assess the capacity of WASH partners and stakeholders to meet identified water treatment-related needs, develop capacity-building plans to overcome the existing gaps and support implementation of the plans.
- Facilitate the sector in identifying needs and in distributing water treatment and safe storage-related supplies to promote access to safe water sources and to support partners in developing plans to implement and monitor these distributions.
- Based on the local context, promote the inclusion of menstrual hygiene management (MHM) in interventions, ensuring that women's and girls' special needs are considered and reflected in the response. Support partners to develop plans to achieve this goal.
- Facilitate the development of monitoring plans and ensure that regular gender- and age-disaggregated data is collected, analysed and used to adapt the cholera response, in co-ordination and collaboration with other WASH actors.

- In close collaboration with other coordination platforms - particularly Health, Nutrition, Education and Protection - support partners to identify priority water treatment and safe storage actions that are feasible for different target groups, establish mechanisms for integration and provide advice where needed to mobilise action.
- Contribute to the reporting of WASH sectoral outcomes through the provision of consolidated, up-to-date information and reports.
- Coordinate with other technical working groups to ensure that the provision of a cholera response in institutions is properly covered, e.g., in schools, health centres, prisons, etc.
- Facilitate partners' consideration of gender, equity and diversity in all elements of cholera prevention, preparedness and response.
- Where necessary, highlight specific WASH issues for the attention of the WASH Chief to ensure priority and corrective measures are taken.
- Support the national authorities and WASH partners in incorporating cholera prevention and preparedness activities in their long-term development programmes.

MINIMUM QUALIFICATIONS AND COMPETENCIES

- Advanced university degree or equivalent experience in Public Health Engineering; Environmental Health; Water, Sanitation & Hygiene (WASH); or other relevant course.
- Knowledge of water, sanitation and hygiene, public health engineering and communications for development (C4D), including the use of participatory methodologies.
- Specific knowledge and experience on water treatment (bulk and point of use, and safe storage)
- Experience working in partnership with government agencies, local authorities, international organizations and NGOs and capacity to provide formal and informal training.
- A minimum of two years of experience in emergency or development contexts.
- Experience working on cholera programmes an advantage.
- Demonstrated experience integrating gender and diversity issues into water, sanitation and hygiene (WASH) programmes.
- Assessment, analysis, planning and personnel management skills.
- Good communication, networking and organisational skills and ability to work well on a team.
- Ability to work well under pressure and in response to rapidly changing needs.
- Ability to travel at short notice and to work in difficult circumstances.
- Fluency in English/French/Spanish/Arabic⁴ (verbal and written). Good written and spoken skills in the language of the humanitarian operation and knowledge of another UN language an asset.

⁴ Dependent on the international language spoken at the duty station

TERMS OF REFERENCE FOR EMERGENCY (SURGE) MISSIONS

Title: WASH Specialist (Cholera Response) – Water Supply

Reports to: Chief of WASH / Deputy Representative / Head of Office

Duration: Three month deployment with a possibility to extend to six months

Location: _____

BACKGROUND

In the 2010 update of the Core Commitments for Children (CCCs) is the explicit commitment that *appropriate and experienced staff and personnel with relevant deployment training are provided and rapidly deployed, that focus on action in the first eight critical weeks of humanitarian response and provide guidance for action beyond that, moving towards defined benchmarks.*

PURPOSE

Under the supervision and direction of the Chief of WASH (or Deputy Representative / Head of Office) and in coordination with other WASH technical team members, support WASH partners to carry out water supply strategies in relation to cholera prevention, preparedness and response. Take responsibility for development, planning, implementation, monitoring and evaluation of water supply in relation to cholera control and response and promote the integration of water, sanitation, health and hygiene aspects of all interventions.

MAIN RESPONSIBILITIES AND TASKS

- Support the government and other partners to implement effective water supply elements of the cholera response. Work closely with other WASH specialists ensuring water quality, sanitation and hygiene promotion as an integrated team.
- Support the assessment, mapping and analysis of cholera specific needs, priorities and responses related to water supply (water quantity and quality).
- In collaboration with partners, identify strategies to ensure that people have information to protect their health and dignity and the means to maintain their water supply, sanitation and hygiene practices and that they are mobilised to take action to mitigate cholera risks.
- Support partners in considering different water supply options and operation and maintenance mechanisms appropriate to the local context and cultural norms and in making sure that water supplies are accessible to people with limited mobility.
- Assess the capacity of WASH partners and stakeholders to meet identified water supply-related needs, develop capacity-building plans to overcome the existing gaps and support implementation of the plans.
- Facilitate the sector in identifying needs and in distributing water supply-related provisions to promote safe excreta disposal and support partners in developing plans to implement and monitor these distributions.
- Based on the local context, promote the inclusion of menstrual hygiene management (MHM) in interventions, ensuring that women's and girls' special needs are considered and are reflected in the response. Support partners to develop plans to achieve this goal.
- Facilitate the development of monitoring plans and ensure that regular gender- and age-disaggregated data is collected, analysed and used to adapt the cholera response, co-ordinating and collaborating with other WASH actors.

- In close collaboration with other coordination platforms - particularly Health, Nutrition, Education and Protection - support partners to identify priority sanitation actions that are feasible for different target groups, establish mechanisms for integration and provide advice where needed to mobilise action.
- Contribute to the reporting of WASH sectoral outcomes through the provision of consolidated, up-to-date information and reports.
- Coordinate with other technical working groups to ensure that the provision of a cholera response in institutions is properly covered, e.g., in schools, health centres, prisons, etc.
- Facilitate partners' consideration of gender, equity and diversity in all elements of cholera prevention, preparedness and response.
- Where necessary, highlight specific WASH issues for the attention of the WASH Chief, to ensure priority and corrective measures are taken.
- Support national authorities and WASH partners to incorporate cholera prevention and preparedness activities in their long-term development programmes.

MINIMUM QUALIFICATIONS AND COMPETENCIES

- Advanced university degree or equivalent experience in Public Health Engineering; Environmental Health; Water, Sanitation & Hygiene (WASH) or other relevant course.
- Knowledge of water, sanitation and hygiene, public health engineering and communication for development (C4D), including the use of participatory methodologies.
- Experience working in partnership with government agencies, local authorities, international organizations and NGOs and capacity to provide formal and informal training.
- A minimum of two years of experience in emergency or development contexts.
- Experience working on cholera programmes an advantage.
- Demonstrated experience integrating gender and diversity issues into water, sanitation and hygiene (WASH) programmes.
- Assessment, analysis, planning and personnel management skills.
- Good communication, networking and organisational skills and ability to work well within a team.
- Ability to work well under pressure and in response to rapidly changing needs.
- Ability to travel at short notice and to work in difficult circumstances.
- Fluency in English/French/Spanish/Arabic⁵ (verbal and written). Good written and spoken skills in the language of the humanitarian operation and knowledge of another UN language an asset.

⁵ Dependent on the international language spoken at the duty station

TERMS OF REFERENCE FOR EMERGENCY (SURGE) MISSIONS

Title: Cholera Specialist

Reports to: Chief of Health

Duration: Three month deployment with a possibility to extend to six months

Location: _____

BACKGROUND

In the 2010 update of the Core Commitments for Children (CCCs) is the explicit commitment that *appropriate and experienced staff and personnel with relevant deployment training are provided and rapidly deployed, that focus on action in the first eight critical weeks of humanitarian response and provide guidance for action beyond that, moving towards defined benchmarks.*

PURPOSE

Under the supervision of the Chief of Health, responsible for the planning, implementation, monitoring and evaluation of UNICEF's preparedness and response to acute watery diarrhea (AWD)/cholera.

MAIN RESPONSIBILITIES AND TASKS

- Support UNICEF's cholera preparedness and response activities internally and with the health and other relevant sectors/clusters, such as WASH coordination mechanisms.
- Participate in rapid needs assessments for cholera with WHO and partners.
- Contribute to UNICEF's and the health cluster's/sector's cholera response strategy and action planning processes in collaboration with WASH and other key sectors.
- Provide technical support to UNICEF and partners, including the development/sharing of protocols, guidelines and training materials for surveillance, early warning and alert systems, case management, establishment of cholera treatment centres, community-based interventions, communications, social mobilization and forecasting, procurement and distribution of supplies.
- Develop behaviour change communication materials for cholera prevention and care with WASH, communications for development (C4D) and other relevant sectors.
- Provide technical support for the use of oral cholera vaccines (OCV) - if the government goes forward with a campaign - in close collaboration with WHO, CDC and other technical agencies.
- Support enhancement of a sustainable cholera control program at community and health facility level.
- Manage UNICEF's relations with its partners, taking administrative actions such as renewing PCAs.
- Oversee project supply chain in coordination with UNICEF operations staff to provide diarrheal disease essential drugs and materials to government and NGO partners.
- Monitor the coverage of cholera interventions among the beneficiary population and share information for internal communication and external coordination.
- Contribute to information systems and products related to the cholera response.
- Contribute to resource mobilization efforts including preparation of emergency funding appeals for UNICEF and health cluster/sector mechanisms.

MINIMUM QUALIFICATIONS AND COMPETENCIES

- Advanced university degree in public health (MD, nursing or other relevant health discipline) and/or a Master's, MSc, PhD in public health or related field.
- A minimum of 5-8 years of experience in planning and implementing cholera control programs.
- Fluency in English (verbal and written). Good written and spoken skills in the language of the humanitarian operation and knowledge of another UN language an asset.

TERMS OF REFERENCE FOR EMERGENCY (SURGE) MISSIONS

Title: WASH Specialist - Cholera

Reports to: Chief of WASH / Deputy Representative / Head of Office

Duration: Three month deployment with a possibility to extend to six months

Location: _____

BACKGROUND

In the 2010 update of the Core Commitments for Children (CCCs) is the explicit commitment that *appropriate and experienced staff and personnel with relevant deployment training are provided and rapidly deployed, that focus on action in the first eight critical weeks of humanitarian response and provide guidance for action beyond that, moving towards defined benchmarks.*

PURPOSE

Under the direction of the WASH Manager / Chief of WASH, work in close co-ordination with other members and technical specialists of the WASH, Health and other sections, as appropriate. Be responsible for / support the development, planning, implementation, monitoring and evaluation of UNICEF's preparedness and response to acute watery diarrhea (AWD) / cholera activities and results related to safeguarding and improving public health of the affected population. Ensure access to safe drinking water, excreta disposal; promote safe hygiene practices; and ensure overall efficiency, effectiveness and delivery of results in accordance with UNICEF's CCCs and with national and international humanitarian standards.

MAIN RESPONSIBILITIES AND TASKS

- Within the framework of the national WASH coordination platform/sectoral cluster, in conjunction with other WASH stakeholders and on behalf of UNICEF, support the overall analysis of sectoral needs and priorities and the definition of strategies and standards to address WASH-related needs and activities. Contribute to reducing the risk of AWD and cholera transmission, with special emphasis on the identification of key hygiene practices and messages, and of population sectors with whom engage, in accordance with national and international humanitarian standards.
- Be responsible for/support the definition of UNICEF's preparedness and response activities in the WASH sector (strategies, outcomes, target population) as part of the overall national AWD/cholera response, based on the understanding of the epidemiological information.
- In coordination with UNICEF's other relevant sections and divisions, (particularly Health and Programme Communications/C4D) and implementing partners, develop strategies, plans and capacities to:
 - Reach target populations with culturally appropriate messages related to home-based management, including the use of ORS, handling of faeces and other safe hygiene practices such as handwashing with soap and household water treatment and storage
 - Implement WASH-related interventions in Cholera Treatment Centres and other health facilities as required,
- Based on information provided by UNICEF Health Section/health partners, support tracing of cholera cases with focussed WASH interventions at household/community level, including the provision of means for hygiene/handwashing (soap), safe excreta disposal (sanitation facilities) and household water treatment and storage.

- Collaborate with the design and effective implementation of a monitoring plan to assess UNICEF's response in the WASH sector, incorporating required changes into planned activities with special attention to the specific needs of women, children and people with disabilities, as well as other cross-cutting areas.
- Contribute to UNICEF reporting, in accordance with UNICEF's CCC-based Humanitarian Performance Monitoring criteria, allowing visibility of WASH-specific achievements and needs.
- Interact with government and partners (including UN, Donors, NGOs, CSOs, etc.) in the different stages of the emergency programme implementation, following up on cooperation agreements, recommendations and other UNICEF commitments with respect to the emergency response, including the development of national partners' capacity.
- In coordination with members of the WASH team and other sections, support the development of medium-/long-term strategies to address the risk of cholera transmission as part of the UNICEF's regular WASH programme.

MINIMUM QUALIFICATIONS AND COMPETENCIES

- Advanced university degree or equivalent experience in Environmental Public Health, Civil Engineering, Programme Communication, Sanitation Engineering, or other field related to behaviour change communication.
- Knowledge of public health and one or more other relevant area, e.g., behaviour change, health promotion, community development, education, etc.
- Experience working with government agencies, local authorities, international organizations, NGOs and communities in the fields of water, sanitation and participatory approaches to health and hygiene promotion.
- A minimum of 2-5 years of experience with either the UN and/or NGOs.
- Fluency in English (verbal and written). Good written and spoken skills in the language of the humanitarian operation and knowledge of another UN language are assets.

TERMS OF REFERENCE FOR EMERGENCY (SURGE) MISSIONS

Title: Hygiene Promotion Specialist (Cholera Response) – Sectoral Coordination

Reports to: WASH Chief (or WASH Cluster Coordinator)

Duration: Three month deployment with a possibility to extend to six months

Location: _____

BACKGROUND

In the 2010 update of the Core Commitments for Children (CCCs) is the explicit commitment that *appropriate and experienced staff and personnel with relevant deployment training are provided and rapidly deployed, that focus on action in the first eight critical weeks of humanitarian response and provide guidance for action beyond that, moving towards defined benchmarks.*

PURPOSE

Under the supervision and direction of the WASH Cluster Coordinator / Deputy WASH Cluster Coordinator and in coordination with other WASH cluster technical coordinators and communication for development (C4D) specialists, co-ordinate and support WASH cluster or sector partners in compiling, implementing and monitoring a hygiene communication strategy and plan for cholera based on a comprehensive assessment and analysis of the cholera situation.

MAIN RESPONSIBILITIES AND TASKS

- Support the government lead on hygiene promotion to co-ordinate WASH partners and communication specialists working in hygiene promotion and communication for the cholera response.
- Support the assessment and analysis of cholera specific needs and priorities for the WASH sector.
- In collaboration with partners, identify strategies to ensure that people have information to protect their health and the means to maintain hygiene, and are mobilize them to take action to mitigate cholera risks.
- Assess the capacity of humanitarian WASH partners and stakeholders to cover identified needs and develop capacity-building plans to overcome the existing gaps.
- Support the development of sectoral communication plans to achieve the agreed outcomes on hygiene communication. Communication plans must take account of different target audiences and how to enable improved hygiene practices and should NOT focus only on message dissemination.
- Ensure that communication plans encompass outbreak communication and collaboration with the mass media.
- Identify the need to distribute WASH non-food items to support protective hygiene practices such as handwashing with soap, and support partners to develop plans to implement and monitor these distributions.
- Based on the local context, promote the inclusion of menstrual hygiene management (MHM) in interventions, ensuring that women's and girls' special needs are considered and reflected in the response. Support partners to develop plans to achieve this goal.
- Facilitate the development of monitoring plans and ensure that regular gender- and age-disaggregated data is collected, analyzed and used to adapt the cholera response, co-ordinating and collaborating with other WASH actors.

- In close coordination with other clusters/coordination platforms - particularly Health, Education and Protection -support partners to identify priority hygiene actions that are feasible for different target groups and provide advice where needed to mobilize action.
- Contribute to the reporting of WASH sectoral outcomes through the provision of consolidated, up-to-date information and reports.
- Coordinate with other technical working groups to ensure that the provision of a cholera response in institutions is properly covered, e.g., in schools, health centres, prisons, etc.
- Where necessary, highlight specific hygiene communication issues for the attention of the WASH Chief or WASH Cluster Coordinator to ensure that they are prioritized and that corrective measures are taken.
- Support humanitarian WASH partners and national authorities to incorporate cholera preparedness activities in their long-term implementation plans.

MINIMUM QUALIFICATIONS AND COMPETENCIES

- Advanced university degree or equivalent experience in Public Health, Environmental Public Health, Programme Communication or other field related to behaviour change and communication.
- Knowledge of public health and one or more other relevant areas, e.g., behaviour change, health promotion, community development, education, etc.
- Experience with and understanding of hygiene promotion and community mobilisation in relation to water, sanitation and hygiene (WASH) activities – including the use of participatory methodologies.
- Experience co-ordinating government agencies, local authorities, international organizations and NGOs.
- A minimum of 2-5 years of experience with either the UN and/or an international NGO.
- Fluency in English/French/Spanish/Arabic⁶ (verbal and written). Good written and spoken skills in the language of the humanitarian operation and knowledge of another UN language an asset.
- Experience working on cholera programmes an advantage.

⁶ Dependent on the international language spoken at the duty station

TERMS OF REFERENCE: Field Hygiene Promoter⁷

Purpose:

As part of the WASH cholera intervention, safeguard and improve the public health of the affected population by:

- Implementing effective communication strategies and activities in response to the cholera outbreak
- Promoting the appropriate use and maintenance of any WASH facilities and services provided as part of the response
- Ensuring community participation and accountability in the delivery of the programme.

Reports to: Hygiene Promotion Co-ordinator

Manages: Community mobilisers

Key tasks and responsibilities:

- Help plan, carry out and analyse needs assessments, baseline studies and periodic studies, and provide feedback of findings to stakeholders.
- Help plan and implement activities to reduce cholera-related WASH risks.
- Help involve community members in the design of WASH facilities and promote their appropriate use and maintenance.
- Enable effective dialogue with the affected community to facilitate agency accountability for the quality of the WASH cholera programme.
- Help identify needs for non-food items (NFIs) relevant to hygiene and participate in the choice of NFIs, targeting strategy, promotion of effective use and post-distribution monitoring.
- Collate data from the community mobilisers and communities and prepare regular reports on activities and conditions for monitoring purposes.
- Coordinate with water supply and sanitation field staff to ensure that the various aspects of the WASH cholera response are integrated.
- Liaise with community leaders and other sectors and agencies working locally across Health, Nutrition, Shelter, Education and Logistics. Attend co-ordination meetings as required.
- Recruit, train, and manage community mobilisers or other hygiene outreach workers.
- Supervise hygiene promotion activities in line with relevant standards, codes of conduct and humanitarian principles.
- Use participatory approaches to the extent possible throughout the programme cycle, in training and in the use of toolkits and other materials.
- Take account of gender, protection, HIV, the environment, and other important cross-cutting concerns in programme design, implementation and reporting; carry out activities in a way that reflects the needs of specific groups and individuals, e.g., elderly people, children and people with disabilities.
- Keep accurate records of field expenditures and report them to the Hygiene Promotion Co-ordinator.

⁷ Adapted from WASH Cluster HP Project materials

Qualifications and competencies:

- Knowledge of one or more of the following fields: public health, health or hygiene promotion, community development, education or community water supply and sanitation.
- At least two years of practical experience in the affected country, in relevant community development, health, WASH or similar programmes.
- Working knowledge and experience with local partner agencies.
- Experience with and understanding of hygiene promotion and community mobilisation in relation to water and sanitation activities.
- Sensitivity to the needs and priorities of different community sectors.
- Familiarity with the culture of the affected population, ability to develop respect from a wide range of people and strong ability to communicate effectively on hygiene matters.
- Fluency in the language of the affected population and the international language used in the humanitarian operation.
- Assessment, analysis and planning skills.
- Good oral and written reporting skills.
- Diplomacy, tact and negotiating skills.
- Training/counterpart development skills.
- Personnel management skills.
- Ability to work well within a team in difficult circumstances.

TERMS OF REFERENCE: WASH Trainer

Purpose:

To safeguard and improve the public health of the affected population by:

- Identifying and prioritising all WASH training needs in relation to cholera preparedness and response
- Designing and implementing an effective and practical training programme to develop the skills required by staff for effective cholera interventions.

Reports to:

WASH Programme Manager

Manages: No direct management responsibilities but supervision of any support trainers as required

Key tasks and responsibilities:

- In co-ordination with the WASH team and other WASH agencies, identify training needs and priorities with respect to cholera preparedness and response for agency staff and partner organisations.
- Design a programme of training and skills development using a variety of methods (workshops, mentoring, coaching, etc.) and ensure that training priorities are identified and that training provision is budgeted.
- Ensure that skills training for greater community participation and accountability in preparedness and response is integrated into all training provision.
- Identify potential co-trainers and facilitators to help deliver the training programme and provide support as required.
- Monitor the effectiveness of the training provided and adapt training provision as required (effectiveness must be determined by assessments of practical skills as well as other evaluation methods).
- Provide regular narrative and financial reports to the WASH programme manager as required.
- Plan and manage the WASH training budget and control/authorize expenditure.
- Co-ordinate with the WASH and other sectors/coordination platforms – particularly Health, Nutrition, Education and Protection – to ensure that the duplication of training is avoided and that resources are shared where possible.
- Ensure that training provision is in line with relevant standards, codes of conduct, and humanitarian principles.

Qualifications and competencies:

- University degree or equivalent-level experience in a WASH-related field (public health, hygiene promotion, community development, public health engineering, etc.)
- Knowledge of and significant experience in providing adult education and training to a variety of audiences
- Experience and understanding of hygiene promotion and community mobilisation in relation to water, sanitation and hygiene (WASH) activities (the use of participatory methodologies an advantage).
- Working knowledge and experience with local partner agencies and the provision of formal and informal training.
- Experience working in cholera response an advantage
- Demonstrated experience integrating community participation, gender and diversity issues into training provision.
- A firm understanding of accountability to affected populations
- Assessment, analytical, and planning skills
- Good communication skills and ability to work well within a team.
- Ability to work well under pressure and in response to rapidly changing needs.
- Ability to travel at short notice and to work in difficult circumstances
- A minimum of 2-5 years of experience with either the UN and/or and international NGO
- Good written and spoken skills in the language of the humanitarian operation; knowledge of another language an asset.

TERMS OF REFERENCE: Water and Sanitation Engineer⁸

Purpose:

As part of the WASH cholera intervention, safeguard and improve the public health of the affected population by:

- Implementing effective WASH strategies and activities in response to the cholera outbreak
- Promoting the appropriate use and maintenance of any WASH facilities and services provided as part of the response
- Ensuring community participation and accountability in the delivery of the programme.

Reports to: WASH Co-ordinator

Manages: Water and sanitation technicians

Key tasks and responsibilities:

- Help plan, carry out and analyse needs assessments, baseline studies and periodic studies, and provide feedback on findings to stakeholders.
- Help plan, design and implement water and sanitation related activities to reduce WASH- related cholera risks.
- Work closely with the hygiene promotion staff on a daily basis co-ordinating and integrating all activities.
- Consider the on-going operation and maintenance of WASH facilities and involve community members in their design, appropriate use and maintenance.
- Enable effective dialogue with the affected community to allow the agency to be held to account for the quality of the cholera WASH programme.
- Help identify needs for non-food items (NFIs) relevant to water, sanitation and hygiene (WASH) programming in collaboration with the hygiene promotion team members, and participate in the choice of those NFIs, targeting strategy, promotion of effective use, and post-distribution monitoring.
- Monitor, collate data and prepare regular reports on activities, outputs and outcomes
- Liaise with community leaders and other sectors and agencies working locally such as Health, Nutrition, Shelter, Education and Logistics. Attend co-ordination meetings as required.
- Recruit, train, and manage water and sanitation related technicians.
- Supervise WASH activities in line with relevant standards, codes of conduct and humanitarian principles.
- Use participatory approaches to the extent possible throughout the programme cycle and in training and monitoring.
- Take account of gender, protection, HIV, the environment, and other important cross-cutting concerns in programme design, implementation, and reporting; carry out activities in a way that reflects the needs of specific groups and individuals, e.g., elderly people, children, and people with disabilities.
- Keep accurate records of field expenditures and report them to the WASH Coordinator.

⁸ Adapted from WASH Cluster HP Project materials

Qualifications and competencies:

- Degree-level qualification in one or more of the following: public health engineering, civil engineering or community water supply and sanitation or equivalent.
- At least two years of practical experience in relevant emergency WASH, or similar programmes.
- Experience working in cholera programmes would be an advantage.
- Knowledge of and experience with local partner agencies.
- Experience and understanding of water and sanitation and hygiene.
- Sensitivity to the needs and priorities of different community sectors.
- Familiarity with the culture of the affected population, ability to develop respect from a wide range of people and strong ability to communicate effectively on water and sanitation matters.
- Fluency in the language of the affected population and the international language used in the humanitarian operation.
- Assessment, analysis and planning skills.
- Good oral and written reporting skills.
- Diplomacy, tact, and negotiating skills.
- Training/counterpart development skills.
- Personnel management skills.
- Ability to work well within a team in difficult circumstances.

Simple job description – Cleaner for a cholera related health facility (CTC, CTU)

A cleaner is a person responsible for cleaning, making the chlorine solutions and handling laundry in a cholera-related health facility should be able to undertake the following duties:

Responsible actions	Remarks
Cleaning bed pans every hour	Soak with a 2% chlorine solution for 10 minutes, then empty them into a covered pit latrine
Clean toilets and showers 2 to 4 times per day	Use 0.2% solution
Cleaning beds and floors 2 times a day or when they become dirty	Clean or spray using 0.2% solution
Prepare 2 types of disinfecting solutions (0.2% and 0.05% solutions) daily	Follow solution table This job could be done by the Medical Helper if available
Prepare the 2% solution weekly	Follow solution table
Clean clothing when people leave (patients, relatives and staffs)	Boil them or soak them in 0.2% solution for 10 minutes then rinse with clean water
Refill hand washing containers when empty	Use 0.05% solution
Refill drinking water containers	Use PUR or WaterMaker prepared by the nurses
Refill sprayers and foot bath	Use 0.2% solution
Collect waste in bins with lids	Burn in an open pit
Dispose buckets with excreta	Put half a cup 2% chlorine solution in the empty buckets
Use personal hygiene	Use separate toilets Wear gloves, apron or overall and boots in the center area Wash hands and gloves after work

Key skills:

- Strong sense of responsibility
- Ability to work cooperatively within a team
- Reliability
- Literacy

Simple job description – Cleaner for a cholera related health facility (CTC, CTU)

A cleaner is a person responsible for cleaning, making the chlorine solutions and handling laundry in a cholera-related health facility should be able to undertake the following duties:

Responsible actions	Remarks
Cleaning bed pans every hour	Soak with a 2% chlorine solution for 10 minutes, then empty them into a covered pit latrine
Clean toilets and showers 2 to 4 times per day	Use 0.2% solution
Cleaning beds and floors 2 times a day or when they become dirty	Clean or spray using 0.2% solution
Prepare 2 types of disinfecting solutions (0.2% and 0.05% solutions) daily	Follow solution table This job could be done by the Medical Helper if available
Prepare the 2% solution weekly	Follow solution table
Clean clothing when people leave (patients, relatives and staffs)	Boil them or soak them in 0.2% solution for 10 minutes then rinse with clean water
Refill hand washing containers when empty	Use 0.05% solution
Refill drinking water containers	Use PUR or WaterMaker prepared by the nurses
Refill sprayers and foot bath	Use 0.2% solution
Collect waste in bins with lids	Burn in an open pit
Dispose buckets with excreta	Put half a cup 2% chlorine solution in the empty buckets
Use personal hygiene	Use separate toilets Wear gloves, apron or overall and boots in the center area Wash hands and gloves after work

Key skills:

- Strong sense of responsibility
- Ability to work cooperatively within a team
- Reliability
- Literacy