

CHOLERA OUTBREAK GUIDELINES



PREPAREDNESS, PREVENTION AND CONTROL

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OXFAM

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Preface

These guidelines were originally developed by Oxfam GB as an internal resource. We are now sharing with external audiences as a pilot publication, and are inviting feedback from users to inform later drafts. Please send any comments, corrections, or suggestions on content, structure or style to: policyandpractice@oxfam.org.uk.

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All the examples used in the guidelines are borrowed from Oxfam's cholera response programmes in Ethiopia, Sudan, Somalia, Haiti, Zimbabwe and the Democratic Republic of Congo. The authors are indebted to all the teams that worked on these programmes for documenting their experiences and sharing them for use in these guidelines.

Cover photo © Foyeke Tolani/Oxfam

Abbreviations

AWD	Acute watery diarrhoea
CC	Community committees
CFR	Case fatality rate
CTC	Cholera treatment centre
CTU	Cholera Treatment Units
DINEPA	<i>Direction Nationale de l'Eau Potable et la l'Assainissement</i> (Haiti)
DPD	Diethyl-p-phenylenediamine
DRR	Disaster risk reduction
FRC	Free residual chlorine
HTH	High-test hypochlorite
IDP	Internally displaced person
IEC	Information, education, and communication
IPHD	(Oxfam GB) Integrated Public Health Database
MoH	Ministry of Health
MSF	<i>Médecins sans Frontières</i>
NTU	Nephelometric Turbidity Units
ORP	Oral rehydration points
ORS	Oral rehydration solution
PHE	Public health engineer
PHP	Public health promoters
SSS	Salt-sugar solution
SWM	Solid waste management
WASH	Water, sanitation, and hygiene

1. Introduction

1.1 Overview

This practical field guide brings together lessons learned from Oxfam's past interventions in the prevention and control of cholera, and other related guidance.

The aim is to provide a quick, step-by-step guide to inform cholera outbreak interventions and ensure public health programmes that are rapid, community-based, well-tailored, and gender and diversity aware. The guidelines given here are not comprehensive – they have been designed to be used together with existing Oxfam and WASH (water, sanitation, and hygiene) cluster public health guidelines.

The guidelines will enable both public health teams and programme managers to undertake necessary preparations to prevent cholera outbreaks from occurring and to respond effectively when they have occurred. They have been specifically designed to fit the cholera outbreak curve, depicting key activities in each critical phase before, during and after outbreak. They can also be adapted to suit other water- and sanitation-related outbreaks, such as Typhoid, Hepatitis E, and dysentery, as well as other WASH-related diarrhoeal outbreaks.

The guide is divided into two main parts. The first part explains how to design phased, cholera-specific public health preparedness and response programmes. The second part comprises appendices showing tools for rapid assessment and monitoring, and examples of plans that have been used during past Oxfam GB interventions. Important aspects of different types of outbreaks – such as outbreaks in urban populations, rural dispersed populations, camp populations, and flood situations – have been flagged up.

1.2 About cholera and its transmission routes

Cholera is a diarrhoeal disease caused by a bacterial infection of the intestine. The bacterium is *Vibrio cholerae*, which can either be of type O1 or O139. It can infect both children and adults.

Only about 20 per cent of those infected develop acute, watery diarrhoea (AWD), and of these, between 10–20 per cent develop severe watery diarrhoea with vomiting. If people are not promptly and adequately treated, the loss of large amounts of fluid and salts through diarrhoea and vomiting can lead to severe dehydration and death within hours. The case fatality rate (CFR) if untreated may reach 30–50 per cent.

The typical presentation of cholera is a sudden onset of profuse, painless, watery stools, sometimes like rice-water, often accompanied by vomiting. Dehydration appears within 12–24 hours. The first 24 hours of cholera manifestation are the riskiest, and if the sufferer is not rehydrated, death can result.

Cholera is usually transmitted through faecally contaminated water, hands or food, and remains an ever-present risk in many countries. New outbreaks can occur sporadically where water supply, sanitation, food safety, and hygiene are inadequate. The greatest risk occurs in over-populated communities, displaced populations and refugee settings, which are characterized by poor sanitation, unsafe drinking water and increased person-

to-person contact. Because the incubation period is very short (two hours to five days), the number of cases can rise very rapidly (see [Box 1](#) and [Box 2](#)).

Treatment is straightforward (basically rehydration), and should keep the CFR below 1 per cent. In severe cases, an effective antibiotic can reduce the volume and duration of diarrhoea and the period of bacteria excretion. Vaccines are available to protect against type O1 cholera. However, emphasis should be on public health promotion, prevention through use of safe water and food, and through environmental sanitation.

Cholera not only affects health but also economies and livelihoods, through the directly incurred costs of curative and preventative care, and through indirect costs such as loss of production and potential embargoes on trade and tourism.¹

Box 1: How cholera is transmitted through the faecal-oral route

Contaminated water and/or food – although seafood has been blamed in the past, this is a less common problem than with raw/undercooked food.

Person-to-person transmission is the most common means of infection, mainly through direct contact with contaminated hands.

Corpses of cholera patients are highly infectious through body fluids – physical contact during funeral ceremonies is also a major medium.

Cholera treatment centres can serve as sources of contamination if hygiene/sanitation and isolation measures are inadequate.

1.3 Risk factors

- a) **Poor social and economic environment and unstable living conditions**, associated with:
 - insufficient water supply (quantity and quality);
 - poor sanitation and hygiene practices;
 - high population density – refugees/internally displaced persons (IDP) camps and urban slum populations are highly vulnerable;
 - vulnerability – pregnant women, children under five, and immune-compromised people (e.g. HIV & AIDS patients) have increased risk.
- b) **Underlying diseases and conditions:** For example, malnutrition and chronic diseases such as tuberculosis and AIDS can increase susceptibility to cholera.
- c) **Gender:** Women are often more at risk of cholera than men because they tend to be responsible for caring for those who are sick in the home, and may not be aware of the necessary precautions to prevent transmission.
- d) **Environmental and seasonal factors:** Cholera epidemics often start at the end of the dry season or the beginning of the rainy season, when water sources are limited and become brackish and/or highly polluted. Reductions in water resources often

¹ Investigations into the previous bans related to the large cholera outbreaks in 1991 and 1998 have led to the conclusion that it is unlikely that bans will be imposed, as long as agreed hygiene measures are in place. South Africa, for example, also faced a major outbreak, but faced no bans on tourism or trade (House 2008).

force people to concentrate at fewer water sources, thus increasing the risks of contamination and transmission. Heavy rain can also trigger a cholera outbreak, for example, when contaminated water from flooded sewage systems, latrines and septic tanks cross-contaminates shallow wells, leaky pipes or other unprotected water sources.

Box 2: Key points about cholera

Incubation

This takes few hours to five days, most commonly two or three days.

Period of communicability

Infected people (symptomatic or not) can carry and transmit bacteria during weeks 1–4; a small number of individuals can remain healthy carriers for several months.

Characteristics

- Cholera is extremely contagious; it can be picked up very easily. Communities in which people are moving about a lot, gathering, dispersing, etc, can import and export cases to new areas very rapidly.
- Cholera – of all types – is characterized by acute watery diarrhoea and vomiting.
- Dehydration occurs very rapidly and can kill if not treated quickly.
- Poor social and economic environment are risk factors for cholera outbreaks.
- Population displacement and refugee camps are high-risk situations.

Source: Adapted from Bauernfeind et al. (2004)

Figure 1: Example cholera curve depicting key programme focus

Endemic 1/pre-outbreak phase

Cholera reservoir present
Constant/sporadic few cases
Key programme focus:
preparedness and preventive activities

Epidemic upward phase

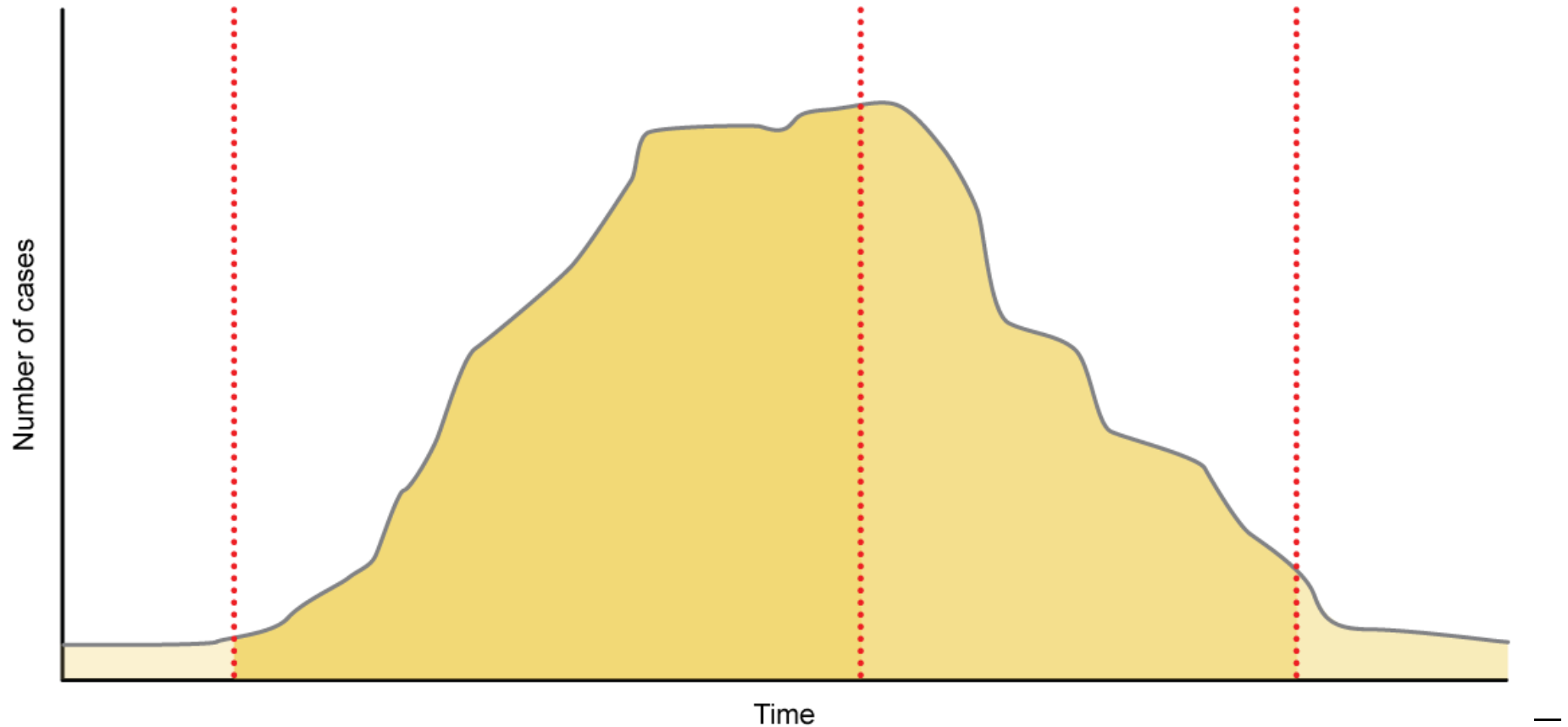
Cases on upward trend
Immediate target: reduction of case fatality rate
Key programme focus: outbreak containment in active areas and pre-emptive preventive activities in at-risk non-affected areas

Epidemic lag phase

Cases on downward trend
Immediate target: reduction of attack rate
Key programme focus: rehabilitation, recovery and community education activities

Endemic 2/post-outbreak phase

Levels higher than endemic 1 due to person-to-person transmission
Immediate target: reverting situation to pre-outbreak levels
Key programme focus: rehabilitation, recovery and community education activities



2. Non-endemic country (new) outbreaks

In recent years, cholera outbreaks have been recorded in countries with no history of such events, such as Haiti in October 2010. Cholera had not been recorded in Haiti since 1910, so the country was not believed to be at high risk. New outbreaks in non-endemic countries tend to be more explosive, with high fatality rates initially due to the lack of community resilience and knowledge about prevention.

When a cholera outbreak occurs in a new country, government ministries (health, water and education) are unprepared and have limited knowledge or understanding on how to deal with the situation. Many other agencies, such as UN bodies and NGOs, will also be unprepared, making control difficult in the early critical stages of the outbreak. This section outlines the basics that should be put in place as soon as an outbreak occurs in a non-endemic country.

2.1 Responding to non-endemic outbreaks

Once Oxfam GB has decided to respond to a new cholera outbreak, the following steps must be taken as soon as possible:

a) Deploy experienced cholera personnel to kick-start the initial response

Lessons learned from Haiti revealed that few emergency programme managers or public health staff had firsthand experience of starting and managing a cholera outbreak response. Therefore, where possible, at least one cholera-experienced public health worker should be brought in for the initial months of the scale-up. This will reduce the time it takes to set a clear strategy and will be a valuable asset for Oxfam GB in guiding national co-ordination and shaping the country cholera prevention strategy at WASH co-ordination meetings.

b) Draw up an initial organogram and human resources recruitment plan (including a cholera response team, where appropriate)

Cholera outbreaks require quick interventions. On many occasions, this is only possible if there are sufficient staff available rapidly on the ground to meet immediate needs. As with many rapid-onset emergencies, it takes time to recruit appropriately skilled male and female staff. Often, generalists are put in positions that require specific skill sets. It is essential that the correct skill set and actual numbers of staff are well thought out, and a proper human resources plan put into action as soon as possible. This will reduce the frustrations and burdens for country teams.

It is also important to have large numbers of public health promoters (PHPs) in the first few weeks of the response. Wherever possible, male and female staff should be recruited in equal numbers to ensure that female community members are also effectively targeted. Most cholera response programmes mainly focus on raising awareness and distributing essential non-food items, both of which are labour intensive. The number of PHPs can easily be reduced to be more in line with Oxfam GB staffing policies as the outbreak programme evolves, if appropriate.

It is essential that there is a small dedicated team of staff that are solely responsible for the blanket distribution of basic cholera prevention kits. These staff will permit the core PHP teams to: focus on selection and training of male and female community peer

educators, make links with and train Ministry of Health (MoH) outreach workers, and ensure that mass media campaigns commence rapidly.

[Resource 10.1](#) is an example organogram, adapted from one used in Haiti in 2010. Sample terms of reference for public health staff are included as [Resource 10.2](#).

c) Develop a basic cholera strategy

It is essential that there is a clear and effective strategy developed as soon as possible after the decision to intervene has been made. The strategy must be circulated to all staff involved in outbreak control. The aim of the strategy is to make clear what Oxfam GB will and will not do in order to reduce and control the cholera outbreak in their areas of operation. It should be concise and remain flexible enough to allow for changes in the ongoing outbreak.

[Resource 10.3](#) is an amended version of the Haiti cholera strategy.

d) Secure immediate funds to procure vital materials and additional staff

All cholera control programmes are expensive; therefore it is essential to secure immediate funds to procure vital materials such as household water treatment sachets; oral rehydration solution (ORS) and materials for oral rehydration points (ORPs) or corners; the printing of information, education and communication (IEC) materials; and the distribution of key hygiene messages on radio or similar mass media.

During the outbreak in Haiti, one of the most effective activities contributing towards the control of cholera was the monthly blanket distribution of cholera prevention kits. There should be flexibility over how many months this type of distribution will be carried out. In Haiti, monthly distributions were conducted for between three and five months, dependant on the analysis of cholera statistics in each province. It is advised that a **minimum** of three monthly distributions are budgeted for any outbreak, especially in non-endemic countries.

The Haiti cholera prevention kit (based on a family of five) consisted of one month's supply of hand washing soap, sufficient chlorine sachets to treat up to 40 litres of water for drinking, and two sachets of ORS. There is an example of quantities and costing for blanket cholera prevention kits in [Resource 10.4](#).

Please note that ORS sachets should only be provided in the first month's distribution, as local ORPs are more cost-effective for delivering rehydration materials. The first month's provision of ORS is intended to provide time for the procurement of materials, and the establishment of ORPs by PHP staff.

e) Where there has been no previous cholera outbreak, plan a six-month programme response

A six-month response is especially important if there is no ongoing/previous Oxfam GB public health programme in the areas affected by cholera. For further information, please refer to [Section 6](#) and [Resource 10.6](#).

3. Pre-outbreak phase

3.1 Cholera preparedness and action plans (endemic countries)

Lessons from recent interventions in cholera outbreaks have shown that most responses have adopted a reactive approach to cholera prevention and control. Often, where interventions have not been co-ordinated or where a multi-sectoral approach has not been used, they have failed to prevent the occurrence or recurrence of outbreaks; the result has been high morbidity and mortality rates.

In order to ensure a more proactive approach to cholera responses, these guidelines specify that in countries classified as 'cholera-endemic' by the World Health Organization (WHO), Oxfam GB programmes **must** have in place 'active' cholera preparedness and implementation plans.

Endemic cholera results when cholera bacteria exist in the environment, and infection of the human population is ongoing and long-term. WHO normally states that if a new outbreak occurs and is present constantly for over a year, then the country is classified as being 'endemic' for cholera. A map showing the countries where cholera is endemic is provided in [Resource 10.5](#).

Cholera preparedness plans should guide both technical and management staff on their roles and responsibilities. They should also set out what needs to be undertaken before the outbreak season occurs in order to avoid illness and death as much as possible in the event of an outbreak. In countries where cholera is not endemic, a preparedness plan should be put in place towards the end of the first outbreak response.

A good cholera preparedness plan should set out plans to implement heightened preventative activities at least two months prior to the expected cholera season. There is an example of such a plan, developed in Darfur, in [Resource 10.7](#).

3.2 Key components of a good cholera preparedness plan

a) Engaging stakeholders

- Engage key stakeholders, including MoH; UN bodies (UNICEF, WHO); donor agencies and implementing agencies; and, where possible, male and female community leaders to work on an all agreed cholera prevention and control preparedness plans. This can be done through existing forums, e.g. WASH co-ordination meetings. Where relevant structures do not exist for cholera co-ordination, Oxfam GB should persuade people to set them up and, where required, lead this process in co-ordination with government and UN stakeholders.
- Use the preparedness plan to map key 'hotspots' and define key steps to be taken. This could be based upon lessons learned from previous cholera outbreaks. It should include an implementation plan that specifies who does what and where, appoints a lead agency, and agrees reporting and monitoring mechanisms. The plan should also identify required resources and funding gaps, which should then be discussed with donors.

- In urban settings, engage with city authorities and take into account existing by-laws. This may involve discussing how some of the by-laws will be applied during an outbreak, e.g. not digging latrines in urban areas.

b) Understanding cholera sources and accelerators (both endemic and new countries)

- Use data to make sure decisions are based on specific evidence. Major challenges in making preparations include obtaining good surveillance data, obtaining political commitment, and ensuring that the community is involved in approaches to preventing cholera and responding to outbreaks.
- Justify the planned steps in prevention or response using evidence. Public health coordinators and staff need to know the entry point for cholera in a given context, the main transmission pathways when it arrives, and how successful previous prevention/response activities have been. This enables the cholera co-ordination group to advocate for the most appropriate prevention and response approaches.
- In order to build this understanding, agree mechanisms for collecting and analysing gender and age disaggregated data, including cholera case-mapping (location and public health practices), as well as environmental cholera mapping.

c) Identifying, ordering and putting in place essential contingency stock

- Order at least the equivalent of 10 per cent above the total normal needs of essential items (chlorine, soap, water jerry cans, ORS, water purification tablets, etc.) and locate them according to the preparedness plan.
- Check stock balances of essential items and make orders to fill the gaps (this should include what is available from the MoH and other agencies, for example, UNICEF).
- Place essential items in or near hotspots to ensure speedy delivery. Such items include:
 - cholera prevention kits (see [Box 3](#));
 - additional ORS sachets – at least 400 sachets per month for every ORP;
 - additional soap and Aquatabs for ORPs;
 - WASH equipment:
 - materials for emergency latrines (if required);
 - materials for cholera treatment centre (CTC) latrines;
 - hand-washing stations;
 - chlorinated lime;
 - high-test hypochlorite (HTH) chlorine granules;
 - large stock of 2ml syringes (for water point chlorination activity);
 - jerry cans (for 1 per cent stock solution storage for water point chlorination);
 - combined water treatment/chlorine tablets;
 - pool testers;
 - boxes of diethyl-p-phenylenediamine (DPD) No 1 tablets;
 - DelAgua consumables;
 - plastic disposable gloves and plastic aprons for water point chlorination activities;
 - masks, high grade/industrial rubber gloves and disposable plastic aprons for making up the 1 per cent stock solution for chlorinating water points.
 - jerry cans for household distribution (one can for every four households);
 - additional materials for ORPs – 1L jugs, spoons and 20L jerry cans;
 - solid-waste management tools (if appropriate);
 - pre-tested cholera-focused IEC posters and flyers.

- Consider in advance how these items will be distributed. Ideally, household materials should be provided to the main carer (usually a woman). Information on the use of unfamiliar items should also be provided. Strategies for post-distribution monitoring and feedback from both female and male recipients must also be included in the planning process.

Box 3: Cholera prevention kit contents

- 250g of hand soap per person per month (using standard of 5 people per household = 1.25kg of hand soap);
- 2 ORS sachets;
- Sufficient water treatment products to permit a minimum of 40L of drinking water per family per day (see below);
- Flyers instructing the correct number of Aquatabs to add to 20L of water:
17mg/l strength Aquatabs = 240 tabs (24 strips for 1 month supply) = 4 tabs/20 litres
3mg/L strength Aquatabs = 120 tabs (12 strips for 1 month supply) = 2 tabs/20 litres
67mg/L strength Aquatabs = 60 tabs (6 strips for 1 month supply) = 1 tab/20 litres

d) Raising awareness

- General cholera training should be hosted for Oxfam and its partners', focusing on the prevention measures that staff should take to protect themselves during an outbreak.
- All training must be correctly pitched at the intended audience and must not be a generalised 'one size fits all' format. Consideration must be given to how different groups can be effectively targeted.
- Make sure all PHP and public health engineer (PHE) teams receive induction and refresher training on cholera prevention and control.
- Redesign/repackage IEC materials/approaches where necessary, tailoring them to specific community-based activities aimed at diarrhoea disease prevention. Materials and activities should include key messages to raise awareness about reducing local potential cholera transmission routes, preparing different target groups to do what they can, with what they have at their disposal, to prevent and contain the spread of cholera. For example, mothers and traditional healers could learn how to prepare ORS using local materials (if acceptable to the MoH) and community leaders could learn about reporting cholera cases and the key prevention actions that community members can take. The reworked approaches must include strategies for engaging all groups at higher risk, including women and children.
- Undertake heightened community education to ensure that communities are informed about and engaged in preventing an outbreak of cholera. The education must be rapid and should employ all possible approaches to ensure the widest coverage. Existing community structures, such as religious leaders, women's groups and schools, should be involved.

e) Ensuring safe water supply

- Ensure that all domestic water contains 0.5mg/L free residual chlorine (FRC) at household level. Special attention should be paid to trucked water, bladders and large storage tanks, as well as network reservoirs, as the FRC may have to be as high as 0.8–1mg/L.

- Identify strategic water sources in cholera hotspots, and carry out sanitary surveys to help prioritise them in the rehabilitation process (if ongoing) or arrange to have them rehabilitated. See [Resource 10.18](#) for instructions on conducting sanitary surveys.
- Promote safe water handling practices; for example, organise mass campaigns for the cleaning of water storage pots and jerry cans.
- Increase the amount of clean water supplied to identified cholera hotspots (if appropriate), in coordination with local water providers and line ministries. To prevent false expectations, it is important to inform communities that Oxfam GB will not be solving long-term water issues or problems. As all water-related interventions during the cholera outbreak are temporary measures to help prevent the spread of cholera, it would not be appropriate to introduce large water network systems where there were none before. It is equally important to not set up emergency water systems such as water trucking or temporary water storage tanks/bladders without a proper exit strategy.
- Continue routine analysis of water quality at source and especially household levels.
- At hand pumps and/or boreholes, which are difficult to chlorinate directly, bucket chlorination and bucket-cleaning campaigns should be carried out if it is not suitable to distribute household water treatment sachets.
- Make sure that chlorine monitors are available for monitoring and support in each section of the communities or camps in hotspot areas. Where possible, identify equal numbers of male and female monitors.

f) Ensuring safe excreta disposal

Constructing latrines, although important in breaking faecal-oral transmission routes, is not always practical in the middle of an epidemic: it takes time, needs resources and has relatively limited impact in curtailing the immediate cholera outbreak. Therefore, care must be taken to ensure that latrine construction is an appropriate activity during the first three months of a cholera response before commencing work. If funding is available to continue programmes from outbreak control into a secondary/rehabilitation phase, improving latrine coverage would be appropriate to reduce the incidence of cholera, and assist in case of future outbreaks.

In Haiti in 2010/2011, semi-permanent shared household latrines were constructed in local villages where the population defecated in the river, which was their only source of drinking water. It was deemed that the high rates of cholera in these locations would not be controlled until there was a more appropriate method for the disposal of faeces.

The following recommendations are therefore only appropriate for camp/displacement settings:

- Conduct a rapid latrine coverage survey to ascertain the number and location of latrines, and identify areas with the biggest gaps in coverage.
- Accelerate work repairing/relocating latrines that are not working properly in hotspot areas.
- Increase the number of latrines in use, making sure that appropriate consideration is given to the dignity and safety requirements of men, women, girls and boys. Provision for older people and those with disabilities will also be important. Latrines can be temporary emergency facilities.

- Promote the nightly sprinkling of chlorinated lime and/or ash in latrines to neutralise smells and reduce flies.
- Add 1–2 scoops of chlorinated lime to old latrines before backfilling them.
- In urban settings, urge the city authorities to unblock or repair damaged sewers, particularly in concentrated settlements (e.g. slums).
- Communal emergency toilets can be constructed to increase the number of latrines. Where possible, especially in urban settings, toilets should be tapped into existing septic tanks or sewerage systems.
- Mobilise the camp community to maintain these facilities; there may be a case for paying male and female latrine attendants during the outbreak period to ensure cleanliness.
- Ensure that hand-washing stations are located next to communal latrines.

g) Activities in marketplaces and other communal gathering places

- Conduct campaigns promoting water/food hygiene and hand washing to stall owners and market workers, targeting food stalls in particular.
- Consider training food stallholders, market workers and canteen/community kitchen staff on general cholera prevention.
- Seek support from religious leaders, as well as other male and female leadership committees, in ensuring that communal areas, especially food vendors and food stalls, maintain hygienic conditions.
- Use locally acceptable means of communication to raise the community's awareness of the hygiene implications of sensitive issues, such as food provision at funeral gatherings (which may need to be temporarily banned).

h) Active case monitoring

Please refer to [Section 7](#) for more in-depth programme monitoring.

- PHP staff should collect disaggregated information from communities on diarrhoea cases and make contact regularly with health service providers to cross-check data from the community with data from clinics and hospitals at least two months ahead of the anticipated outbreak season. Charting the weekly incidence of diarrhoea cases (both bloody and acute watery diarrhoea) in this way will make it possible to spot increasing trends as soon as they happen.
- Assemble data into simple visual summaries that highlight the changing trends. The example in [Resource 10.19](#) shows how simple techniques can inform preparations and transition to full implementation of disease control.
- Use monitoring data to improve understanding of cholera sources and what makes outbreaks worse, as well as showing the effectiveness of specific interventions. Improved learning will help focus responses for future outbreaks.

-
- Share all monitoring data with PHE teams to ensure that they are prepared and aware of impending outbreaks.
 - Where possible, break down data into sectors or zones of the area. Public health programmes gather many different types of data weekly or even daily. This information often means little until it is linked to the 'bigger picture' and the results are visualised.
 - Link data to the broader picture and other data to help identify problem areas and show where specific activities need to be intensified. For example, if a sector has high bacterial failure rates in its stored drinking water within households, then it is important to identify from where these households collect their water. Analysis of all water points can be linked to the analysis of household water to see if there is correlation between failed sources, or if it is a hygiene issue (i.e. contamination after collection). Linking sets of different data is critical when there is an unexpected cluster of diarrhoeal cases emerging, or more importantly when there is an expected cholera outbreak season. The easiest way to make these links is to visualise the data, by simply adding charts to a map. The simpler the map and charts, the easier it is for everyone in the programme to understand and act upon the information.
 - To ensure adequate preparedness for cholera, make sure meetings between agencies happen more often as the expected outbreak season approaches. Aim for weekly meetings in the run-up to the 'usual' outbreak time, to share data, pool resources and identify gaps.

4. Transition from preparedness to focused intervention

4.1 Triggers to signal the start of a cholera outbreak

WHO's definition of a clinically confirmed cholera outbreak is when the CFR is 1 per cent. For example, if 1,000 people in a camp situation are diagnosed with cholera, then at least 10 people must die of the disease before the situation is considered an 'outbreak' and an emergency response is launched. However, **Oxfam GB must not wait for the CFR to reach the WHO definition levels before intensifying public health activities**, as this would mean too many people could or would die and the outbreak will be harder to control. See [Box 4](#) for definitions of cholera cases and [Section 4.2](#) for how to define an outbreak.

In order to ensure a quick and focused response, Oxfam GB will use any of the three pointers below as an indicator to undertake initial assessment and outbreak investigation with a view to launching a full intervention:

- **Attack rate² for diarrhoea cases in the defined area:** WHO states that if populations are living in cholera-endemic areas (see [Resource 10.5](#)), where there is poor sanitation, then an attack rate of 0.6 per cent should prompt public health activities to move from raising awareness to 'outbreak implementation mode'.
- **The number of diarrhoea cases presented and treated at clinics:** If the number of cases is constant, but the number of deaths attributed to diarrhoea increases, this may suggest that cholera is responsible. Please note that this information in itself does not indicate AWD or cholera outbreaks; diarrhoeal deaths would have to be investigated fully.
- **Death or severe dehydration from AWD:** If anyone five-years-old or over dies of AWD or develops severe dehydration, this could be the first indicator of cholera in the area, and therefore the potential start of an outbreak. Medical teams should send rectal swabs to the nearest laboratory for confirmation of *Vibrio cholerae* species (the cholera bacterium).

Box 4: Definitions of cholera cases currently used in the field

WHO standard case definition²	In an area where the disease is not known to be present	A patient aged five years or more develops severe dehydration or dies from acute watery diarrhoea
	In an area where there is a cholera epidemic	A patient aged five years or more develops acute watery diarrhoea, with or without vomiting
Médecins sans Frontières (MSF) definition³	In an area where there is a cholera epidemic	Any patient presenting three or more liquid stools and/or vomiting for the last 24 hours

² The attack rate is calculated by dividing the number of people with diarrhoea by the total population multiplied by 100.

² The World Health Organization's (WHO) policy and recommendations on cholera outbreaks can be found at <http://www.who.int/cholera/technical/prevention/control/en/index.html> (last accessed February 2012).

³ More information on Médecins Sans Frontières work on cholera can be found at <http://www.msf.org.uk/cholera.focus> (last accessed February 2012).

4.2 Initial assessment and investigation of an outbreak

Rapid public health assessment

As soon as a cholera outbreak is suspected, and a programme moves from preparedness to intervention mode, rapid assessments of public health should be carried out in order to verify if an epidemic is indeed in progress, and to respond. This assessment must be as quick and as focused as possible. To ensure standardisation of assessment tools and integration with other existing/future data, it is advisable to use the new Oxfam GB Integrated Public Health Database (IPHD) to design data collection tools, and then enter and analyse data. IPHD can be accessed from Oxfam GB's Intranet.⁴

In refugee camps or urban slums, there should be year-round vigilance, but especially when nearing the epidemic season (e.g. the end of the dry season, or the beginning of the wet period) or when populations are displaced.

How to define an outbreak

An outbreak is an unusual increase in new cases:

- If no data exist, a doubling of the number of cases over three consecutive weeks.
- If data from previous years is available (same period), it is possible to work out the average number of expected cases (per month or per week) in non-epidemic periods. A doubling of this average indicates the risk of an outbreak.

Important questions for rapid assessment

- Is it cholera?
- Has it been confirmed – how, by whom?
- What case definition is used or proposed?
- How many cases and how many deaths have been reported?
- Is it an outbreak?
- When was the last outbreak?
- Is this an endemic or non-endemic area?
- What is the geographic distribution of cases?
- What population is at risk?
- What are the weekly incidence rate, CFR and attack rate?
- What is the age and sex distribution of cases?⁵
- What does the epidemic curve look like? (See [Figure 1](#) for an example.)
- Is the outbreak spreading? How quickly is it likely to spread?
- What is the emerging transmission picture? Is it point-source or dispersed?
- Are there cultural practices taking place or coming soon, for example, community activities such as circumcision ceremonies?
- Which areas are at highest risk? Why?
- Is any response in place yet? Who are involved? Are there any co-ordination arrangements in place?
- Is the environment rural, urban or closed (refugee/IDP camp)?

⁴ At the time of publication (April 2012), this system was not yet available.

⁵ Data disaggregated by gender may not always be available, but where possible an attempt to access it should be made.

4.3 Making quick sense out of initial data

After initial assessment, all the data collected should be entered into the IPHD and summarized under the relevant headings – affected groups, time and place. This will help make sense of the evidence and decide what needs to be done first.

The pattern of the epidemic, shown by locating cases on a map and following their weekly evolution, can suggest whether the outbreak is most likely caused by problems with a common source, for example an unprotected well, a market, a slaughter slab or house, or linked with person-to-person transmission. When many cases are grouped in a specific area, find out what setting is potentially responsible. If cases are spread far apart (dispersed pattern), person-to-person transmission could be the cause: check communications, trade lines and routes.

Demographic data

While undertaking a rapid public health assessment, it is important to obtain demographic figures as precisely as possible. Population numbers – by age group, gender and location – are essential to be able to estimate the number of people at risk and the initial target groups, as well as to calculate rates and plan a public health response.

Using two age groups is sufficient: under-fives and those of five years of age or older. If you do not have this information, allow for under-fives to comprise 17 per cent of a normal population, and 20 per cent in a refugee/IDP camp.

It is important to get population figures at the most local level: district, village, refugee camp/section, city zone, quarter, and so on. Demographic data should be available from central/local authorities. If not, use the most recent population census. If the only available data is out-of-date, adjust according to the country's annual growth rate. In refugee/IDP camps, disaggregated population numbers are easier to obtain, because people undergo registration or are signed up for food distribution programmes.

Affected groups

The number of male and female cases and deaths per age group (<5 years, ≥ 5 years) are the only data needed at this level. Registers in each health facility will provide these essential numbers daily and for each location, so data can be arranged by time and place:

By time

Draw an epidemic curve (bars) to show the evolution and extent of the epidemic, with the number of cases and deaths each week. See [Figure 1](#) for an example of a cholera curve.

Case fatality rate (CFR) is an indicator of adequate case management. CFR can be high at the beginning of the outbreak due to limited community immunity, a particularly virulent strain (an 'explosive outbreak'), a lack of community knowledge on how to deal with cholera, or a time lag in setting up responses. It can also be high at the end of the epidemic due to staff exhaustion.

Weekly incidence rate indicates the extent of the epidemic and how quickly it is spreading or reducing. 'Point-source transmission', for example from a contaminated water source or food, is frequent at the beginning of an epidemic; in such cases, peak incidence is rapidly reached. Person-to-person transmission then takes over and progression slows down. Person-to-person infection can occur successively or simultaneously.

By place

It is easy to monitor the spread of an outbreak by using roughly drawn chronological maps. A map indicating settlements, gathering places (markets, schools), water sources, health facilities and major transport routes is an easy way for people to see where may be a specific risk. Draw the maps by hand; using computer software or geographical information systems can be very time-consuming, and is not recommended in the initial stages.

The map should indicate:

- the quantity of water sources and their quality (are they treated/protected?);
- the number of latrines there are per person;
- sewage systems and drainage facilities.

Box 5: Epidemic patterns

In **densely populated situations**, such as refugee camps (closed situations), urban areas or slums, when adequate response is provided, the epidemic is characterized by a *high* attack rate, a *short* outbreak duration, a *rapid* peaking and a *low* CFR. The attack rate tends to be higher in closed situations and urban areas/slums because of the high population density, which facilitates person-to-person transmission. CFR is low because access to medical care and rehydration is quicker.

In **open situations**, such as rural areas, epidemic patterns feature: *low* attack rates, *longer* outbreak durations, *higher* CFR, and a *later* peak.

If the weekly incidence rate is suddenly high in a specific area, investigate for any event involving **gatherings of people**, such as funerals, religious ceremonies, and so on. This can explain a sudden outbreak in a specific place, followed by person-to-person transmission and secondary dissemination of cholera when people go back to their homes. Contamination of point sources such as water supply would also show a clustering of cases in particular areas.

Table 1: Major cholera outbreak characteristics, according to environment

	Open situation: rural, large-scale	Urban setting: slum	Closed situation: refugee camp
Population density	Low	High	High to very high
Population number	High	High	Small
Population mobility,	Mobile, scattered	Mobile	Not very mobile
Attack rate (%)	0.1–2%	1–5%	1–5%*
Peak reached after	1.5–3 months	1–2 months	2–4 weeks
Proportion of cases seen before the peak	40%	40%	40%
Epidemic duration	3–6 months	2–4 months	1–3 months
CFR**	< 5%	2–5 %	< 2%

* Attack rates can be higher: for example, in the Goma refugee camps in DRC (in 1994), it was 7.8%.

** CFR figures are indicated when treatment is available.

Source: *Bauernfeind et al. (2004)*

5. Intervention

5.1 Identifying high-risk areas

After rapid assessment (see [Section 4.2](#)) it should be possible to identify areas at highest risk and prioritise interventions. The features of a high-risk area are:

- Epidemiological patterns:
 - total numbers of cases and deaths;
 - attack rate;
 - change in incidence curve;
 - case fatality rate.
- Population:
 - size;
 - density;
 - mobility;
 - displacement from endemic or non-endemic areas.
- Convergence zones/seasons:
 - region of intensive trading activities;
 - trade routes;
 - heavy rainy season;
 - poor sanitation;
 - poor access to safe water.
- Previous existence of cholera:
 - if none, then the population is not immune and is at higher risk;
 - displacement of people who are carriers (but have no symptoms) from endemic areas;
 - people displaced from non-endemic areas to endemic areas are more vulnerable.
- Impaired access to treatment centres:
 - distance;
 - floods;
 - security constraints.
- Available resources:
 - human resources, for example.
- Limited coping capacity of health authorities/facilities.
- Areas with high-risk practices:
 - low level of latrine coverage;
 - reliance on water trucking etc.

Priority areas can change, so monitoring should be both continuous and flexible. Select priority areas at the most local level – village, health zone, etc – but be prepared to make changes and relocate activities according to surveillance reports, new environmental factors, population displacements, and so on.

5.2 Reducing the epidemic spread

In general, Oxfam GB cholera interventions will focus on:

- **ensuring access to chlorinated drinking water in sufficient quantity;**
- **promoting and facilitating hygienic practices, especially hand washing before anything is placed in the mouth;⁶**
- **rehydration and early health-seeking behaviour at health facilities;**
- **mobilising different community groups and households to take action, based on the resources at their disposal.**

Cholera epidemics develop where access to clean water is limited, sanitation is inadequate and personal and domestic hygiene are compromised. It is essential to set priorities, basing decisions on epidemiological findings, assessment of risk factors, expected impact of each intervention and available resources.

Past experience has shown that providing access to safe water and promoting hygiene achieves the quickest and widest impact. Constructing latrines or focusing on solid waste and controlling vectors such as flies, as previously noted, are not always practicable in the middle of epidemics: these activities require time and resources, and have less immediate impact.

It is of utmost importance that the focus of any programme is aimed at the key objective at every critical stage of the outbreak curve. The four critical phases are outlined in [Figure 1](#).

Oxfam GB staff responding to cholera outbreaks should use the critical phases as benchmarks for programme design, work planning and implementation. In future, Oxfam GB cholera response programmes will follow this outbreak curve graphical summary.

Where attack rates have already reached a peak, preventive interventions are not likely to have much impact, although caution should be taken when analysing the end of the peak of cholera, especially in localised areas (see [Box 6](#) below). Pre-emptive targeting of at-risk areas through public health promotion and distribution of cholera prevention kits could be much more effective at reducing the spread of disease. At-risk areas include those neighbouring 'at-peak' areas or sharing the same water source, especially downstream.

Box 6: Importance of continued cholera prevention kit distribution – Haiti, 2010

A blanket distribution of cholera prevention kits containing ORS, soap and Aquatabs was carried out in October/November 2010 to 25,000 families in Petite Riviere, Artibonite, Haiti. Ongoing monitoring revealed a significant drop in the number of new cases seen in these villages. Due to logistical problems, further distributions were not carried out. Within six weeks of the initial distribution, there was a new significant peak in cholera cases, including five deaths in these villages.

Source: Internal Oxfam GB document (2010)

⁶ Assess local risk practices to define the specific messages. For example, in Haiti, people were used to purchasing plastic drinking water sachets which often required the user to pierce the sachet with dirty hands to open it. In other situations, children will put their hands into their mouths even when not eating.

5.3 Improving water quantity and quality

The following steps should be taken to improve the standard of available water:

- Depending on the situation, either distribute household water treatment sachets, have water point chlorinators and/or set up mass chlorination at water storage facilities/water tanker;
- Ensure good hygiene at water points;
- Hold regular campaigns about cleaning jerry cans, buckets and other water containers – it may be prudent to provide cleaning detergents and show people how to use them;
- Educate people about the importance of drinking chlorinated/treated water during the cholera outbreak, and ways of ensuring a safe water chain – from source to consumption (combine this with monitoring of free chlorine residual at household level where feasible);
- Set up monitoring of free chlorine residual at household level, and conduct daily tests at water sources where mass chlorination is being carried out;
- Ensure that people have enough water;
- Where clean water is in short supply, ensure that at least water for drinking is chlorinated.

Chlorination

Water from all sources (even seemingly safe ones, such as boreholes) should be chlorinated to ensure that FRC is at a minimum of 0.5mg/L at the point of use. Water can be contaminated anywhere along the transport, storage and handling chain. Increased FRC levels increases safety. The water will taste strongly of chlorine, and the community should therefore be educated about this unusual taste and why it is important.

Many water sources are without storage reservoirs, such as rivers, boreholes, open wells and wells operated by hand pumps, and therefore are difficult to chlorinate directly. Sometimes communities are forced to use unsafe water, perhaps as a result of sudden large population displacements or because of mechanical failures at the safe sources. In such instances, for the first few months of the outbreak, it is advisable to conduct blanket distribution of household water treatment sachets such as Aquatabs or PUR. In urban settings where the population have only a few water points, having community chlorinators and monitors chlorinate containers into which the water is being collected may be more cost-effective and quicker than blanket distributions. See [Resource 10.3](#) for a summary table on water treatment options.

Public health staff must train community chlorinators and monitors on bucket chlorination, showing both how it is done and how to record and monitor the use of chlorine on a daily basis.

Where the population access rivers, irrigation channels or other sources of highly turbid water, Oxfam GB advocates that a mix of flocculant and chlorine (e.g. PUR) be used, as chlorine alone will not be effective in water with a turbidity greater than 50NTU.

Summary of key water activities

- Ensure that all domestic water contains 0.5mg per litre residual chlorine at household level.
- Continue with routine water analysis at source and at household levels.
- Deploy at least one chlorine monitor for every block/cluster etc in a camp, or one monitor for every 200 households in community settings (ensuring equal numbers of male and female monitors where possible).
- Carry out a minimum of 50 spot checks at household level every week until the cholera outbreak is over. Data collected by chlorine monitors should be recorded and analysed every week. The results of such analysis will be used to guide the PHP team to target community education more intensively in areas where chlorine levels in households are falling below 0.2mg per litre.
- Use chlorine stock solution to ensure that required concentrations of available chlorine are reached and guarantee necessary FRC levels. See [Resource 10.12](#) for details of how to prepare chlorine stock solution.

Box 7: Hygiene messages about chlorination

Key messages to the community include:

- Water is a medium for carrying organisms that cause disease; chlorination helps to kill or reduce the bacteria in water.
- Chlorination can give water a different taste.
- After water has been chlorinated, wait half an hour before you use it, to allow the chlorine to work.
- Make sure water is kept safe throughout the whole supply chain, from the water source to consumption.

5.4 Cholera-focused community hygiene education

During fast-spreading outbreaks, efforts to undertake community public health education are often late and haphazard. With very little community engagement, all the efforts to combat the outbreak are left to participating organizations and governments.

Box 8: Example of community hygiene education in the Oromia region, Ethiopia

In Oromia, Ethiopia, despite all the efforts that were put into raising awareness in the first two infected zones, there were still cholera-related deaths occurring. The outbreak was spreading to neighbouring villages.

Discussions with community members in the two zones revealed that, although a lot of effort had been put into hygiene education and promotion, the community found some of the messages too 'heavy' to take in and put into effect immediately. People also thought that what they were hearing sounded little different to hygiene messages that they had heard for years. The only new thing was the rate at which cholera was spreading and killing; people were not engaging with the urgency of the messages.

Further discussions with zonal health representatives and participating organizations indicated that the community education had been based on routine hygiene education. What was urgently needed was community education specifically designed for cholera emergencies.

A team of public health specialists then developed and field-tested new cholera specific hygiene messages. In light of the field tests, adjustments were made before all actors involved with the cholera control activities were instructed to use the new education materials.

Source: Internal Oxfam GB document (2006)

Repackaging and development of new hygiene messages for cholera prevention and control

In order to engage the community, existing hygiene education and promotion should be repackaged into an emergency community education and engagement plan. This approach can also be used where there is no ongoing public health promotion programme. It should be:

- **Cholera-focused**
 - narrowed down to feasible and specific targets that would have a direct and immediate impact;
 - focused on both prevention by the community and reducing the severity of the outbreak;
 - including home-based oral rehydration with simple local formulations as part of community messages, training households on how to correctly chlorinate their drinking water with locally available liquid bleach.
- **Community-oriented**
 - based on practical actions that households and different male and female community groups can afford to take immediately with locally available materials;
 - pre-tested with communities to ensure that they understand the messages; therefore, they should be attractive, positive, and engaging.
- **Rapid**
 - able to be put into effect as quickly and as widely as possible.

- **Far-reaching**
 - designed to reach all the affected areas and those areas at risk.
- **Cost-effective**
 - ensuring a balance between coverage and cost-effectiveness, by working out the cost per person in the population of each form of communication and choosing a mix of communication channels;
 - ensuring maximum reach and maximum effectiveness through selected forms of communication.
- **Targeted messages**
 - easy to understand, attractive and provocative, using local idioms and examples;
 - incorporating cultural differences that are specific to the area and using locally available materials;
 - providing specific information on what different groups are able to do.

What everyone needs to know about cholera

Various community education and messaging tools based on these themes have been developed.

- **What is cholera?**
 - three or more watery diarrhoea episodes in a single day;
 - vomiting;
 - leg cramps.
- **Why is cholera a big concern for everyone?**
 - cholera leads to dehydration, and dehydration leads to death;
 - cholera spreads easily; it gets in through the mouth from dirty hands, contaminated water and uncooked food.

Box 9: Four key hygiene messages for communities

1. Before drinking water, treat it

- Chlorinate water using Aquatabs or locally available liquid chlorine (Clorox, Jif, Jik, PUR etc);
- Store drinking water in clean and covered containers after treatment.

Please note: Water chlorination is preferred. Boiling water should only be promoted as an option for water treatment where it is feasible and recommended by the MoH. Efforts must also be made to promote it properly, i.e. water should be brought to a rolling boil, cooled and stored in clean containers before use.

2. Clean your hands – rub off dirt from both hands

If you have soap and water, use it and wash by rubbing both of your hands. If soap is not available, rub dirt off using water and:

- ash;
- sand;
- leaves or other locally available and culturally acceptable cleansing materials.

Note that it is the **rubbing** process (with the aid of a cleansing agent) that is important.

When?

- before you eat or put anything into your mouth; (**primary message**)
- after helping someone with symptoms or cleaning up their excreta or vomit; (**secondary**)
- before you prepare food; (**secondary**)
- after cleaning a child's bottom; (**secondary**)
- after defecating or visiting the toilet. (**secondary**)

3. If someone is sick with cholera, replace liquid lost in diarrhoea or vomit

Give (or drink) the same amount of liquid as is lost in every diarrhoea or vomiting episode:

GIVE	DO NOT GIVE
Breast milk	Soft drinks
ORS	Sweetened tea
Coconut water	Sweetened fruit drinks
Salted rice/vegetable water	Coffee
Weak tea	Some local medicinal teas or infusions
Salt-sugar solution*	

*See example instructions for the management of diarrhoea using ORS and homemade salt-sugar solution (SSS) in [Resource 10.14](#) and [Resource 10.15](#), respectively.

4. Everyone that gets sick with cholera must seek treatment as soon as possible at a medical facility

While walking to the nearest CTC/health post/clinic/hospital, give (or drink) a glass of available fluid (as above) for each diarrhoea or vomiting episode.

Box 10: Two supplementary hygiene messages

Once monitoring indicates that communities have taken positive action on the four key messages in [Box 9](#), the following messages should be broadcast.

5. Dispose of excreta and vomit safely: contain it!

If possible, use a latrine to dispose of excreta and vomit. This applies to everyone, including children. If no latrine is available, discreetly wrap it with suitable available materials (e.g. plastic bags, banana leaves, etc.), and bury in an isolated area, away from water points and people. Make sure it is well covered.

Pay special attention to the disposal of excreta when someone in your household is sick.

6. No raw food

Please note: This is only relevant if the outbreak source is positively identified as being food-borne, or becomes food-borne in the course of the outbreak.

Boil it, cook it, or leave it:

- avoid undercooked or raw meat;
- cook all vegetables;
- clean and cover leftovers;
- use clean utensils and dishes.

Examples of community education materials for different target groups can be found in [Resource 10.8](#).

Rumours

During cholera outbreaks, especially in places where cholera is new, there are often rumours about where the disease comes from and how to protect against it. Public information should dispel such rumours and false stories with specific messages aimed both at those who might be spreading false information – such as local radio stations, religious leaders, and traditional healers – and those who may receive it.

5.5 Sanitation

When appropriate:

- Begin distribution of the emergency stock of chlorinated lime to ‘sanitise’ toilets and control flies.
- The PHP team should continue mapping the identified cholera cases and inform the PHE team to begin constructing emergency latrines where a need for these has been identified.
- Intensify construction of appropriate emergency latrines for men, women and children in areas identified by the PHP teams, ensuring discussion with users to ensure dignity and safety.
- On request and in co-ordination with the MoH and organizations providing medical care, provide temporary latrines at CTCs for patients, their relatives, and staff.
- Intensify the monitoring of cleanliness as well as use of chlorinated lime in latrines.

5.6 Burial of the dead

In many situations, the location of cemeteries or burial grounds can risk contaminating water tables. In the initial days of the cholera outbreak, there may be many fatalities, rendering existing burial grounds insufficient. This may force communities or local authorities to select unsuitable low-lying or flood-prone land for burial of cholera corpses, which can exacerbate the cholera outbreak.

It is essential that Oxfam GB cholera control programmes ensure that environmental conditions are taken in to account before communities select burial grounds. Communities and government authorities should be made aware of the risk of water-table contamination, which will prolong the outbreak. Preventative measures on burial should also be raised at the WASH cluster to ensure that minimum precautions are included in any national strategy.

As a preventative measure, include observations of burial grounds when conducting any rapid needs assessments and advise appropriately.

Key messages on the burial of cholera corpses:

- a grave must be at least 30m from a water point;
- the bottom of the grave must be at least 1.5m above the water table;
- no burial site should be in flood-prone or waterlogged areas;
- where possible, chlorinated lime should be placed in the bottom of the grave before the body is interred. There should also be a layer of chlorinated lime placed on top of the body before closing the grave.

5.7 Activities in marketplaces and other communal gathering places

- Encourage installation of proper hand washing facilities at eateries through intensive hygiene campaigns.
- Work closely with local health authorities to enforce public health rules on public eateries – in some places this could include ordering the closure of all eateries until the outbreak is over.
- Co-ordinate and support where possible with municipalities in collecting refuse and dumping it in designated areas.

Many cholera outbreaks are initially transmitted via contaminated drinking water. As the outbreak runs its course, many more sources of transmission develop, such as infected food handlers. The following activities **should not be prioritised at the start of an outbreak**, unless monitoring of transmission indicates that the source of the outbreak is from food and or market places:

- Intensify hygiene campaigns with messages about food hygiene, managing solid waste and hand washing to stall owners and workers, targeting the food stalls in particular.
- Provide tools and equipment to clean up refuse.

Oxfam GB **will not** implement, advocate for or support the following as an appropriate response to cholera control:

- spraying or disinfecting houses, latrines or household items with chlorine;
- spraying to reduce the number of flies;
- providing chlorine products when the population has already receive chlorinated drinking water either from tanker distributions or chlorinated piped water systems.

Oxfam GB does not support the use of chemicals to control flies. Instead, it tries to persuade communities and local authorities to manage disposal of solid waste thoroughly, cleaning latrines and ensuring that they are used properly and all have lids that close. Oxfam should provide chlorinated lime to disinfect latrines and reduce the breeding of flies during the outbreak. After the outbreak, ash should be used in latrines. (See the example log frame for an integrated cholera prevention and control programme in [Resource 10.16](#).)

Communal feasts and public gatherings

When people gather at marriages, religious festivals, funerals and other public gatherings, there is a significant risk that cholera will be transmitted (see [Box 9](#)). A key risk factor during communal meals, for example, is unhygienic hand washing, such as when attendees use the same water from a single container (as opposed to pouring clean water onto hands).

Box 11: Preventing transmission at funerals

Funeral gatherings have potential for transmission convergence. At funerals in West Papua, for example, everyone touches the dead bodies and feasts afterwards. People come long distances to attend burials, which may bring people from uninfected areas to an infected area. They may then carry cholera back to their home villages. This can spread the disease very fast over a wide area.

Preventive measures at funerals should focus on:

- preparing corpses – ensure proper disinfection and plugging of all body orifices;
- involving the key celebrants for such ceremonies (such as key community and religious leaders) to find ways of reducing the risks of the ceremony without damaging its cultural significance;
- discouraging food provision at funeral gatherings.

In West Papua, religious leaders were persuaded to include proper hand washing after touching the corpses as part of the ceremony. Because this innovation did not undermine the significance of the ceremonies, the religious authorities were quick to adopt and implement it. They were given training and hygiene kits (soap, water treatment tablets and hand wash buckets) to help ensure that people washed their hands.

6. Community engagement

6.1 Getting your message across

It is important to employ every communication channel available, to reach as many people as fast as possible, including schools, religious platforms and local authorities.

Table 2: Identifying target audiences and tailoring messages

Target audience	Who	Where	Channels of communication	Objective
<i>Primary</i>	Women (or those responsible for water collection and storage), mothers (or primary caretakers), youth and school age girls and boys, specific at-risk or marginalised groups.	Schools, home, markets, water points, fields, youth clubs.	National and local radio spots, school forums and interactive discussions. Communal gatherings, home visits, street theatre.	Get across information about the danger posed by cholera. Engage the community to take action.
<i>Secondary</i>	Teachers, religious leaders, male and female community leaders, health extension workers, agricultural extension workers, parent association leaders, students from medical colleges, volunteers, other captive audiences.	Organised forums, churches, mosques, temples, existing community structures, meeting places, bars, sports events.	Organised forums and 'training of trainers' events, seminars, national and regional radio spots and interactive discussions, TV, meetings, print media, leaflets, special events.	Support awareness- raising and act as agents of change in areas of jurisdiction.
<i>Tertiary</i>	Government, partner agencies, donors.	Interactive and co-ordination meetings.	Leaflets, radio, TV, meetings, seminars, ceremonies, print media, workshops, internet, special press.	Support the rapid result oriented hygiene education strategy and pool resources. Monitor progress and fine tune response.

6.1.1 The role of schools

Schools are frequently targeted, as school age girls and boys can convey health messages to catchment localities quickly and effectively. Schools can also be used as platforms to collect data and carry out surveillance. Universities, colleges and youth groups may also be keen to become involved in responses.

Box 12: Using schools to convey cholera messages in Oromia region, Ethiopia

In the Oromia region of Ethiopia, Oxfam and UNICEF were able to reach hundreds of thousands of people with cholera prevention and control messages through schools and religious leaders within just one week, in a place where few owned radio or television.

Health and Red Cross club patrons (one per school) and religious leaders (two per village) were given two days' training and equipped with cholera-specific IEC materials to help them pass their training on to students and congregations. Some schools closed down for one week and sent their pupils back to their villages to undertake outreach work. The schools also set up a central information board, where students recorded cholera cases from their villages. The health centre relied on this data for monitoring and targeting.

Care has to be taken with solely targeting schools, as schools are closed during the initial weeks of a cholera outbreak in some countries (as seen in Haiti 2010/2011). Where communities have a culture of listening to and having access to radios, this is an ideal way to get messages out, especially to more remote communities.

7. Monitoring

7.1 Monitoring programme activities

Several activities within cholera response programmes need to be carefully monitored. In the early stages of a cholera outbreak response, it is essential to monitor actual changes in the target populations' practices, to learn whether the target groups are doing what is necessary to break the cycle of cholera transmission. Evaluation of increasing understanding and/or awareness in different groups can be researched later in the project cycle and can contribute to the future response and preparedness plans.

Examples of monitoring forms and a baseline mini cholera survey can be found in [Resource 10.17](#).

7.2 Monitoring framework

The constantly changing spread of cholera requires monitoring frequencies that are initially at least at two week intervals until, when appropriate, moving onto a monthly cycle. This monitoring regime will allow the PHP team to spot areas where behaviour is not stopping the spread of cholera, so that the team can focus intensive activities there. It will also help the team assess whether hygiene activities are effective or not and, in line with project cycle management, change to more effective activities if necessary.

[Table 3](#) outlines a monitoring framework, which has been adapted from Oxfam GB's 2010 cholera response in Haiti. After the data is collected, it must be analysed. This ensures that all activities are relevant and having a positive impact on the control of cholera.

Table 3: Example of a cholera monitoring framework

	Initial mini cholera baseline survey	After distribution of cholera prevention kits	Household water chlorination monitoring	PHP household monitoring form	Latrine usage household	ORPs observation monitoring
Frequency of data collection	Within 2 weeks of starting the programme	After each distribution	Every week	Every 2 weeks	Every 2 weeks	Every 2 weeks
No. of households to survey	10% of total households	10% of total households	50 samples per location per week	10% of total households	100% of latrines	100% of ORPs
Deadline for 1st data collection	Within 3 weeks of the programme month	Within 2 weeks of original distribution	Every week	Within 2 weeks of original monitoring	Within 2 weeks of original baseline	Within 2 weeks of setting up ORP
Deadline for 1st data analysis	Within 4 weeks from the start of the programme	Within 1 week of start monitoring data collection	Every week	Within 1 week of start monitoring data collection	Within 1 week of start of monitoring data collection	Within 1 week of collecting monitoring data
Deadline for 2nd data collection	N/A	Within 2 weeks of the 2nd distribution	Every week	2 weeks after original monitoring date	Dependant on results of first analysis – may be every 2 weeks or monthly	Every 2 weeks
Deadline for 2nd data analysis	N/A	Within 1 week of start of monitoring data collection	Every week	Within 1 week of start of monitoring data collection	Within 1 week of start of monitoring data collection	Within 1 week of collecting monitoring data
Deadline for 3rd data collection	N/A	Within 2 weeks of the 3rd distribution	Every week	2 weeks after 2nd monitoring date	Dependant on results of 2nd analysis – may be every 2 weeks or monthly	Every 2 weeks
Deadline for 3rd data analysis	N/A	Within 1 week of start of monitoring data collection	Every week	Within 1 week of start of monitoring data collection	Within 1 week of start of monitoring data collection	Within 1 week of collecting monitoring data

Source: Adapted from the Oxfam GB cholera response in Haiti, 2010

8. Co-ordination

8.1 National and field co-ordination committees

During cholera outbreaks, intervention programmes have to be involved in many activities simultaneously. In order to achieve the intended impact quickly, there must be well planned co-ordination at the field level and, especially if the outbreak is widespread, at the national level.

Strong co-ordination/task force committees comprising various ministries and authorities – health, water/sanitation, education, etc. – together with international agencies and local community representatives need to be set up.

These committees should co-ordinate and share all information about resources, needs and strategic considerations. It is important that, if possible, the key participants in the committees remain the same throughout the epidemic, or at least for the first few weeks. The committees at all levels should ensure that men and women are represented. They should also try to ensure that the points of view of different groups are heard, e.g. minority groups and people with physical disabilities.

The committees' tasks should include:

- determining priority areas for interventions;
- developing a standard but flexible response strategy (protocols and guidelines);
- developing strategies to educate and engage the community;
- organising human resources, such as plans for training and schedules for supervising staff and volunteers;
- setting up surveillance systems, monitoring and evaluation;
- co-ordinating with all involved partners.

It is very important to maintain constant communication and co-ordination with the MoH and agencies providing medical services, such as *Médecins sans Frontières*. Information from CTCs can inform PHP teams on which geographical areas and age groups they need to target. For example, in Papua New Guinea, such co-ordination was used to identify overlooked hotspots and to launch immediate countermeasures.

Oxfam GB will work closely with the MoH and medical NGOs involved in setting up CTCs, and can if required:

- train other NGO staff to make the various chlorine solutions for the CTCs' key areas;
- help set up proper isolation and CTC sanitation infrastructure, such as chlorinated footbaths, chlorinated hand-washing areas, and facilities for the incineration of clinical waste;
- construct toilets and bath houses in CTCs for both patients and staff;
- set up independent water sources for the CTC, providing the recommended daily minimum of 40L per outpatient and 60L per inpatient;
- chlorinate the CTC water supply to 0.5mg/L at collection point;
- monitor FRC every time the tanks are filled;
- set up community ORPs where populations have long distances to travel to CTCs and cholera treatment units (CTUs).

See [Resource 10.10](#) for guidelines on hygiene, sanitation and isolation in CTCs and [Resource 10.11](#) for guidelines for setting up ORPs.

During a cholera outbreak, co-ordination meetings need to initially take place every day. The meetings should happen at every level of co-ordination – from national to the most locally affected area. Once the cholera outbreak stabilises, these meetings can become weekly and, later, fortnightly. Decisions on the frequency of meetings should depend on the needs of those attending.

9. Programme exit

As with all rapid onset emergency programmes, an appropriate exit strategy must be identified and built into the programme design from the very beginning.

Identifying a good solid exit strategy for a standalone cholera response programme can be challenging, especially where such a response is entrenched in an endemic context or longer-term project. A cholera response programme addresses different matters at community and national level, therefore an exit cannot purely be based on epidemiological indicators. An exit strategy needs to incorporate a more comprehensive approach. Effective exit strategies and activities must remain flexible, depending on individual context.

The following key aspects should be taken into consideration at the beginning of a cholera response programme.

9.1 Linking cholera response with country programming

Considering longer-term implications and linkages to current country programming, it is important to consolidate the cholera response to ensure more sustainable programme activities. In Zimbabwe, for example, cholera trends provided important information for longer-term work in ten districts. Hotspot areas received focus for programmes improving sanitation, hygiene practice, and access to clean water.

The decision to exit needs to be based on, or trying to influence, the respective country strategy, and should generally include a transitional phase. However, this may not always be possible. For instance, in Petite Riviere, Haiti (2010–11), a six-month transitional programme could not be realised, as it was not in line with the three-year strategic public health plan. It is important to consider longer-term programming, as seen in DRC (2011), where school parent committees of the long-term educational programme were trained, and action plans developed to prevent further cholera outbreaks.

9.2 Developing cholera preparedness plans for future cholera outbreaks

Where cholera programmes have been incorporated into country strategies, an essential part of an exit strategy is to ensure that community and country programme disaster risk reduction (DRR) plans aim to incorporate cholera. Appropriate training should be given to respond to future cholera outbreaks, and emergency response rosters developed. All cholera DRR plans should include a step-by-step guide for rapid response.

For example, in DRC (2011) the cholera programme exit plan included a two-day training of school teachers in 15 of the most vulnerable schools. With the support of local water and sanitation offices, action plans in the focus area were also critical for a sustainable exit, highlighting how to facilitate cholera prevention activities, and what to do in the case of outbreak.

However, unless monitoring and support is agreed and provided to the affected communities, even remotely, the communities may not be able to fully realise DRR plans due to a lack of essential materials and equipment.

9.3 Improving local capacity to manage public health activities

Assessing the capacity of local stakeholders is crucial when implementing programme activities in partnership with others. In many cholera response programmes, collaboration with the MoH is challenging, mainly due to slow implementation, insufficient technical capacities, and inadequate staffing and/or commitment.

One recommendation arising from the Haiti cholera response (2010/11) was to refrain from full partnership with the MoH where Oxfam GB has no long-term commitment or presence, and the response is not expected exceed six months. In DRC (2011), however, local health bureau staff in Lukolela were trained in the management of water chlorination points. In this case, Oxfam GB donated chlorine to the health bureau staff together with trained community volunteers, who continued to operate chlorination points after Oxfam GB departed.⁷

The decision on whether to build line ministries' capacity during a rapid onset or short duration programme has to be weighed against Oxfam GB's long-term commitments, the line ministries' commitment and staffing levels for implementing cholera prevention activities, and the urgent need to rapidly control the cholera outbreak directly.

9.4 Encouraging line ministries to improve water and sanitation

Continued hygiene promotion following notification of the last active cholera cases is recommended to prevent and manage future outbreaks. However, if basic water and sanitation facilities are not improved, the longer-term impact is likely to be limited. Therefore, any Oxfam GB work in countries where cholera is endemic must incorporate campaigns to lobby the government to take responsibility; improve access to safe water, sanitation, hygiene and health services; and ensure the proper planning and implementation of WASH programmes.

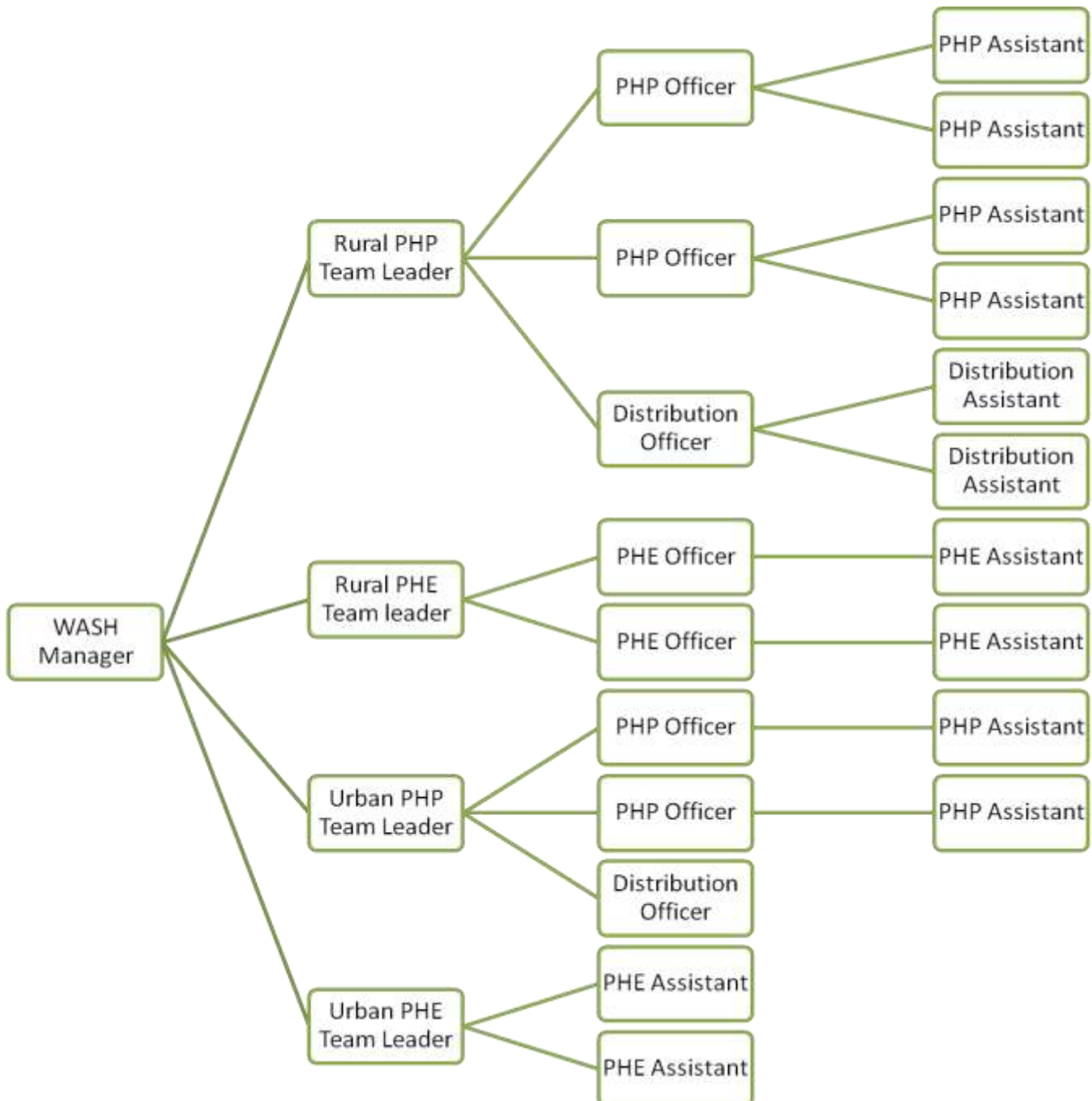
It should be noted that although lobbying can be effective at attaining universal coverage for WASH, it is unlikely to happen in the short term, and more emphasis must be put on country programmes to focus on DRR preparedness, as this will still be needed at various levels for some time in cholera-endemic countries.

⁷ It should be noted that DRC was, and continues to be, an endemic cholera country, whereas Haiti had not experienced cholera for almost a century at the time of the response. MoH staff in Haiti therefore had no experience or country policies to follow, which made working in partnership with them much more difficult initially.

10. Resources

Resource 10.1: Sample cholera response team staffing

Figure 2: Example organogram from Cap Haitien, Haiti, 2010



Source: Adapted from a 'Lessons Learned' workshop held with the Oxfam GB cholera response team in Cap Haitien, March 2011

Explanation of organogram

Where possible, equal numbers of men and women should be employed to ensure more balanced and effective programming.

As part of Oxfam GB's commitment to gender equality, there are also some non-negotiable standards that should be met:

- A requirement of recruitment is that candidates will need to demonstrate a willingness to treat men and women with equality in all aspects of life and, where relevant, to address inequalities between men and women within their area of work.
- In income earning activities, women should always be explicit targets.
- Oxfam GB staff should promote and support work practices that enable both men and women to participate fully in work and family life.

In the example organogram, the beneficiary number for the total response was 68,000 families (approximately 340,000 people). The Cap Haitien programme was split in to rural and urban areas. The rural programme covered 30,336 families in three large districts. The urban programme served 37,666 families covering only targeted high-risk slum areas within Cap Haitien Town.

Oxfam GB's cholera strategy, which was in line with the government's protocol, ensured that no blanket distribution of cholera prevention kits was carried out. However, Oxfam GB did carry out three monthly distributions of household water treatment sachets to 14,000 high-risk households (approximately 70,000 people). There were no new water sources developed; the main water activities were chlorination of existing water tankers and water collection points, and the installation of temporary water tanks from existing springs so that drinking water could be chlorinated at source.

In addition to this, the urban PHP programme activities worked with two local NGOs and MoH outreach workers to manage 50 ORPs in cholera hotspots. The partner staff also performed hygiene promotion activities.

Resource 10.2: Examples of job descriptions for cholera public health staff⁸

Box 13: Terms of reference – Cholera Response Team PHE/PHP Coordinator

(B/C level)

Key responsibilities

Technical

- In collaboration with the PHP (PHE) Coordinator, finalise the Haiti Cholera Strategy and Cholera Response Team Terms of Reference.
- Provide technical guidance to technical staff on PHE (PHP) activities directly related to cholera response activities, including design input; implementation strategies as well as monitoring of programme activities. **Often the comments will be based on Weekly Progress reports sent by the Programme Managers in each area.**
- Assist the PHE (PHP) Team Leaders in solving design and implementation problems related only to cholera activities in their programmes.
- Assist the PHE (PHP) Teams Leaders in clarifying and understanding PHE (PHP) cholera targets; work plans; reporting requirements; project schedules and accountability measures.
- Undertake reviews of technical programme activities and offer guidance on ways to improve quality and maximise opportunities for technical improvements.

Interaction with PHP (PHP) programmes

- In collaboration with the PHP (PHP) Coordinator, ensure full integration of cholera response activities as well as understanding community expectations and developing common strategies to address expectations within Oxfam's cholera strategy parameters.
- Ensure that all interventions promote community participation and recognise and respond to gender and diversity issues.

Training/learning

- Support Programme Managers, PHE (PHP) Team Leaders and, where in place, in-country WASH Coordinator on evaluating training needs of local PHE (PHP) staff in regards to cholera prevention.
- Documentation of PHE (PHP) lessons learned at each site; and facilitation of knowledge transfer through from project to project.

Co-ordination

- Liaise closely with the Monitoring Evaluation Accountability and Learning (MEAL) Coordinator in designing a monitoring framework. If there is no MEAL Coordinator, then the responsibility will fall directly to the PHP (PHE) Coordinators.
- Represent Oxfam GB at all National level WASH cluster meetings and technical working groups relating to cholera response.
- Collaborate and hold weekly meetings with the technical leads of Oxfam GB's country programme.

Management responsibilities

- TBC.

⁸ All examples of terms of reference are internal Oxfam GB job profiles.

Budget management and responsibilities

- TBC.

Other activities

Fully participate in writing technical aspects of donor concept notes, proposals and donor reports.

Outputs

- Finalised Cholera Response Strategy;
- When required, finalised Cholera Monitoring Framework;
- Finalised Terms of Reference for PHE (PHP) Team Leader(s);
- Finalised ToR for PHE (PHP) Officer and PHE (PHP) Assistants;
- Finalised Ways of Working document, with the in-country technical leads;
- Bi-weekly work plans with objectives;
- Monthly report of activities engaged in, challenges encountered, and follow-up work needed;
- Document PHE (PHP) staff matrix for all cholera programmes ensuring successions of C, and when required, D level public health staff;
- Documentation of any training programme;
- Document lessons learned and recommendations for future cholera programme response globally.

Box 14: Terms of reference – Cholera PHE Team Leader

(C level)

Key responsibilities:

Technical

- Fully participate in and/or facilitate technical assessments.
- Conduct selection, design and construction of water systems, using ground water or surface water, including abstraction, storage, treatment and distribution for new systems or rehabilitation of existing systems.
- Assess sanitation needs, and where it is deemed necessary in the cholera programme and in line with the Cholera Strategy, design and implement the most appropriate form of sanitation system, in consultation with male and female beneficiaries, which includes excreta disposal, refuse disposal, vector control and drainage.
- Continually assess emergency needs, as requested, especially taking in the broader perspective of public health.
- Ensure that work meets with SPHERE minimum standards.
- Assist and participate in community mobilisation.
- Ensure that all technical work reflects the needs and preferences of different target groups.

Training/learning

- Ensure that the PHE team members are fully aware of the Cholera Strategy and all PHE activities are in line with strategy activities.
- Periodically appraise the performance of the PHE Officers and Assistants in your team and identify areas where they require support and capacity building.
- Fully participate in lesson learning events in your geographical area.

Co-ordination

- Liaise closely with the PHP Team Leader throughout the planning, design and implementation stages of the PHE activities. Hygiene promotion is a vital element of such PHE programmes, especially in cholera responses.
- Represent Oxfam GB at all geographical level WASH cluster meetings and technical working groups relating to cholera response.
- Collaborate and hold weekly meetings with programme support staff such as logistics and finance.

Management responsibilities

- Recruit technical team in line with agreed organogram structure.
- Day-to-day management of technical staff directly under your responsibility.
- Set objectives with staff under your direct management.
- Ensure that your team co-ordinate and integrate with PHP team members.
- Ensure that gender issues are taken into account.
- Report regularly, verbally and in writing to the Programme Manager or Cholera PHE Coordinator and to represent Oxfam to other NGOs, agencies and Government authorities where requested.
- Order equipment from Oxfam's Purchasing Department as required, occasionally organising local purchasing and keeping accounts.

Budget management and responsibilities

- TBC

Box 15: Terms of Reference – Cholera PHP Team Leader

(C level)

Key responsibilities:

Technical

- If the programme is greater than three months, then adapt and ensure that a mini cholera baseline survey is carried out within four weeks of the start of activities.
- Identify various target groups in geographical area.
- In co-ordination with the PHP Coordinator, revise and adapt cholera training material to local context and in line with target groups to be trained.
- In co-ordination with the PHP Coordinator, revise and adapt all IEC materials in line with the local context. This should be drawn up as a communication plan.
- In co-ordination with the Monitoring Evaluation Accountability and Learning (MEAL) Coordinator, ensure that all monitoring is done in line with the agreed monitoring format. If there is no MEAL coordinator then refer to the PHP coordinator.
- Continually assess emergency needs, as requested, especially taking in the broader perspective of public health.
- Facilitate, and when required, participate in distributions of cholera prevention kits with the distribution team.
- Ensure that work meets with SPHERE minimum standards.
- Assist your PHP with, and where required participate in, community mobilisation.
- Ensure that all technical work reflects the needs and preferences of different target groups.

Training/learning

- Ensure that the PHP team members are fully aware of the Cholera Strategy and all PHP activities are in line with strategy activities.

- Periodically appraise the performance of the PHP officers and assistants in your team and identify areas where they require support and capacity building.
- Fully participate in lesson learning events in your geographical area.

Co-ordination

- Liaise closely with the PHE Team Leader throughout the planning, design and implementation stages of public health activities. Hygiene promotion is a vital element of such PHE programmes, especially in cholera responses.
- Represent Oxfam GB at all geographical level WASH cluster meetings and technical working groups relating to cholera response.
- Collaborate and hold weekly meetings with programme support staff, such as logistics and finance.

Management responsibilities

- Recruit technical team in line with agreed organogram structure.
- Day-to-day management of technical staff directly under your responsibility.
- Set objectives with staff under your direct management.
- Ensure that your team co-ordinate and integrate with PHE team members.
- Ensure that gender issues are taken into account.
- Report regularly, verbally and in writing to the Programme Manager or Cholera PHP Coordinator and represent Oxfam to other NGOs, agencies and Government authorities where requested.
- Order equipment from Oxfam's Purchasing Department as required, occasionally organising local purchasing and keeping accounts.

Budget management and responsibilities

- TBC

Resource 10.3: Example of cholera strategy – Haiti, December 2010⁹

Overall objective

Oxfam GB's response to cholera will contribute to the protection of the health of populations affected by cholera in or near the camps and communities of the Port-au-Prince Metropolitan area – in which we are already working – and in Artibonite and Cap Haitien. If extra funds become available, Oxfam GB will aspire to cover more people in Cap Haitien and Artibonite rather than move into new areas, while advocating that the gaps are filled by other humanitarian actors. Only in very exceptional circumstances would Oxfam GB consider moving to a new area.

Oxfam GB is not a health service provider and will therefore not engage in providing treatment to people affected. However, due to the nature of the epidemic, Oxfam GB will co-ordinate, cooperate and exchange information with medical NGOs and/or MoH in all the locations in which we are working, as well as at national level (WASH and health cluster).

Oxfam GB in Haiti has a strong position to advocate and influence others with the mandate and expertise to provide health services. Therefore, Oxfam GB will receive field-based information and analysis of how the epidemic is being managed, and will provide advice and raise issues suggesting ways of improving the health sector response as well as the coverage of the response to areas that are not receiving appropriate attention.

General 'Ways of Working' Principles

- All drinking water must be chlorinated within SPHERE's minimum indicator of 0.3-0.5mg/L for household stored drinking water¹⁰ for the duration of active cholera cases within programme areas. In programme proposals, it is assumed to be between three to five months, depending on the epidemiology data.
- Identify high-risk areas through the use of proxy indicators for water quality.
- Focus on the prevention of spread in high-risk areas. In urban areas, this is due to high population density combined with poor quality of drinking water; in rural areas, because of poor access to potable water in areas with poor access to health care and localities where cases appear to be increasing.
- Collaborate as much as possible with existing WASH and health structures – local authorities *Conseil d'Administration de la Section Communale, Direction Nationale de l'Eau Potable et la l'Assainissement* (the Haitian government's water and sanitation authority, DINEPA), *Societe Nationale d'Eau Potable, Ministère de la Santé Population, Direction de la Protection Civile*, and NGO partners.
- Conform to *Direction Nationale de l'Eau Potable et la l'Assainissement* and *Ministère de la Santé Population* policies as far as possible – adapting as appropriate for specific field contexts.
- Access (disaggregated where possible) epidemiological data, to monitor trends.
- Input to co-ordination mechanisms in order to advocate and influence.
- Deploy resources appropriately, according to an analysis of the risk and vulnerability of different target groups.

⁹ Adapted from *Oxfam GB Cholera Strategy, Haiti, 2010-11*, written by Elizabeth Lamond, Marion O'Reilly and Risaa Azzalani.

¹⁰ Due to various contamination levels throughout the programme areas, professional judgement will be required when deciding what residual level is required at chlorination point e.g. 1mg/l FR in reservoir of gravity fed systems, 0.7 to 0.8 mg/l at tank filling point etc.

Table 4: Water treatment guidelines

	Rural – Cap Haitien and Artibonite	Urban – Cap Haitien	Camp – Port-au- Prince	Satellite localities around camps
Aquatab continuous blanket distributions	YES – see below	Targeted to 10,000 households	NO, although there can be case-by-case decisions	NO
One-off one month distribution of Aquatabs	Targeted where Clorox and/or water sources protected (new and improved)	NO	NO And only under extreme circumstances	Only in emergency due to break down of normal provision (security)
PUR – continuous blanket distribution	Only where turbidity levels are above 50NTU	Only where turbidity levels are above 50NTU	NO	Only where turbidity levels are above 50NTU
Clorox or equivalent liquid chlorine at household level	Targeted to proportion of households after initial one month blanket distribution to encourage use of sustainable local products	Targeted to proportion of households after initial one month blanket distribution to encourage use of sustainable local products	NO although there can be case by case decision	Targeted to proportion of households after initial one month blanket distribution to encourage use of sustainable local products
Clorox or equivalent liquid chlorine at water points¹¹	NO	Where there is no alternative water treatment in place	NO	Where there is no alternative water treatment in place
Chlorinated tanker water	Only in existing camps	In Petite Anse only	YES	YES
Temporary water systems e.g. bladders etc.	NO	At piped spring systems only	NO, although there can be case-by-case decisions	NO

Priority cholera interventions in camp locations

Short-term improvements:

- chlorination of all tankered water;
- hygiene promotion and adaptation of information to focus on cholera prevention;
- soap distribution where there are proven cases of cholera.

Priority cholera interventions in non-camp locations

- Blanket distribution of DINEPA-approved cholera prevention kit in rural and semi-urban localities, in line with ways of working described above. However, Oxfam GB will not conduct

¹¹ It is essential that jar tests are done in every location where household level and water point bucket chlorination methods are being encouraged; this is to ensure the correct amount of chlorine is added to give a residual chlorine of 0.3 to 0.5 mg/L.

blanket distribution of soap or full cholera prevention kits in urban settings. Household water treatment materials must be appropriate for the turbidity level of drinking water, e.g. PUR where turbidity is high.

- In order to encourage the use of local products that will ultimately be more sustainable, household or bucket chlorination with liquid Clorox (or equivalent) of drinking water will be promoted in communities surrounding camps, in targeted rural areas, and specific areas in Cap Haitien town where long-term improvements to protect water sources will not be possible.
- Prioritise families/localities where no safe water sources¹² exist, providing training and materials to conduct household bucket chlorination (where it is feasible to cover no more than 10,000 households within a month of initial blanket distribution of cholera prevention kits).
- In localities where there are no alternative water sources, or there are more than 10,000 households without access to safe water sources, continue monthly blanket distributions of Aquatabs or PUR.
- Make quick-fix repairs to piped water systems¹³ and chlorination at reservoirs/break tanks.
- If there is no possibility of chlorinating piped water system reservoirs or break tanks, then install temporary water storage¹⁴ that can be chlorinated, space permitting.
- Where there is no possibility of installing temporary water storage for chlorination purposes, then community members must be trained how to carry out bucket chlorination at water points. Care must be taken with this activity, as it may be more practical to distribute Aquatabs at household level if there are more than 20 water collection points.
- Initial post-distribution monitoring of FRC of stored household drinking water (minimum of 20 samples per locality).
- Fortnightly monitoring of FRC of stored household drinking water – ten random household samples should be taken in each locality every other week, which could be conducted by community mobilisers, PHPs, *agents de sante*, bucket chlorinators, etc.
- Fortnightly monitoring can be conducted in conjunction with the improvement of knowledge about key cholera prevention messages, and the training of community water committees in how to monitor FRC levels.

All water quality analysis and monitoring results **must** be shared with the community via the PHP team.

Community mobilisation and hygiene promotion IEC strategy

Priority information communicated through IEC activities should focus on:

- hand washing with soap before putting anything in the mouth;
- correct use of water treatment methods and promotion of chlorinated water for drinking;
- preparation of ORS sachets or homemade solution to prevent dehydration;
- early identification of signs and symptoms, rehydration and referral.

Other issues to cover as appropriate:

- safer excreta disposal, such as burying;
- cleansing of shop-bought drinking water sachets with chlorinated water, and washing hands before opening them;
- hygienic food preparation and storage;
- safe handling practices for the vomit and excreta of people with cholera at home.

¹² Open lined or unlined wells, hand pumps in shallow water table areas, rivers, and irrigation channels.

¹³ Quick-fix repairs must be completed before the end of the programme.

¹⁴ Examples of temporary water storage tanks include be 10m³ bladders and 'tough tanks' that are all fitted with taps.

Although Oxfam will not actively participate in the burial of the dead, we will offer advice on the burial of cholera corpses to prevent contamination of the water table. However, in Port-au-Prince, there is a service provided to collect corpses for burial.

Communication media

- Using radio to disseminate key information according to Oxfam's cholera strategy may include radio spots and/or question-and-answer sessions.
- Other mass communication approaches can be identified according to the context, e.g. mobilisers with megaphones, mobile sound trucks, drama and songs.
- Leaflets, posters, stickers, flyers, T-shirts, banners, murals – these should be standardised in terms of content to reflect as far as possible guidance from DINEPA. Please seek advice from the Cholera Response Team to ensure quality and consistency. This is also important where partners are developing their own materials and are intending to use Oxfam's logo.

Distribution of cholera prevention kit in line with DINEPA guidelines

- Information for distribution with cholera prevention kits should include instructions on use of water treatment and ORS.
- During distribution, use community outreach workers to demonstrate hand washing, water treatment and the use of ORS sachets and the preparation of homemade salt and sugar solution.

Community outreach activities

- In Oxfam camps where hygiene promotion is established, adapt the key hygiene promotion activities to be cholera-specific. Campaigns; competitions; community discussion forums; clubs for mothers, fathers and street vendors can all be adapted for other environments as appropriate.
- Household visits are labour-intensive and not recommended as a general strategy for hygiene promotion, but if thought to be useful, should be discussed first with the Cholera Response Team.
- School-based activities, such as training teachers as 'peer educators' and providing them with IEC materials, should be organised.

A clear division of roles and responsibilities is crucial to the effective outcome of an activity, e.g. the repair/rehabilitation of water systems or the ongoing chlorination of water sources. Therefore, a memorandum of understanding between Oxfam and the community is important.

Training community outreach workers

Various male and female community members can be included in hygiene promotion and mobilisation activities. They will all require training, adapted to reflect their knowledge and skills and the role they will play in communicating cholera messages in their communities.

In order to harmonise and standardise the content of various training sessions, a training module for rapid orientation on cholera, adaptable for different target audiences, has been developed. This must be used as much as possible for consistency and in order to save time.

Payment

- Volunteers will not be paid in cash, but will receive a resource pack that may contain IEC and promotional materials such as caps and T-shirts. They should not be expected to work more than a limited number of hours a week
- *Agents de sante* are given financial incentives as per signed agreements with local *Ministère de la Santé Population* authorities.

- Existing community mobilisers will continue to be paid in camps. However, full discussion **must** be held with the Cholera Response Team prior to community discussion on hiring any new community mobilisers.

Oxfam GB will NOT implement, advocate for or support the following as an appropriate response to cholera control:

- spraying or disinfecting houses, latrines or household items;
- spraying for reduction in fly numbers;
- providing chlorine products when the population already receive chlorinated drinking water either from tankered distributions or chlorinated piped water systems.

Justification for not supporting disinfection practices stated above:

“[There is] no published study showing household [or latrine] disinfection is effective in cholera prevention – which is not surprising, as there is no priority reason why it should be. Vibrios are highly susceptible to desiccation (which means they don't last long on a dry surface) and infect people via the oral route (which means that unless you lick the floor and furniture, you're unlikely to be infected by it). The point is made eloquently by the silence of the publications which **do not** mention it as a preventive measure, such as the WHO (1993) Guidelines for Cholera Control.

On the other hand, there is plenty of evidence for the importance of hand washing, food hygiene and excreta disposal in cholera prevention”

Source: Sandy Cairncross, Professor of Environmental Health, London School of Hygiene and Tropical Medicine; Rick Bauer, PHE Advisor, Humanitarian Department, Oxfam GB. November 2010

Exit strategy

Discussions are ongoing with the emergency response team regarding the exit strategy for Port-au-Prince camps, especially where there are still active cases of cholera present. The cholera strategy will be updated by the end of December, when discussions will be held with the management of the Earthquake Response Team.

Resource 10.4: Costing and quantities of blanket cholera prevention kits

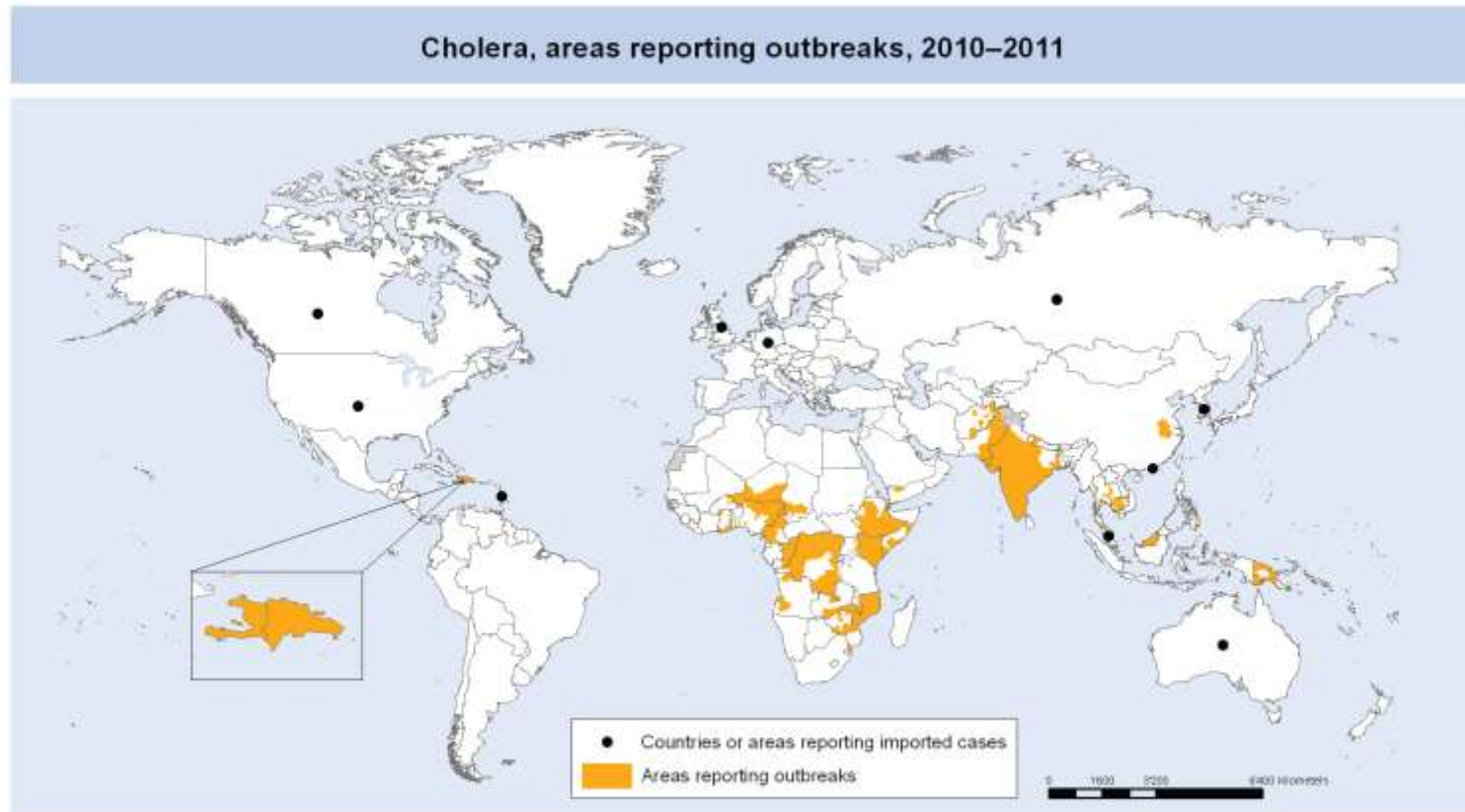
Table 5: Worked costing of blanket cholera prevention kits from Petite Rivier, Haiti (2010)¹⁵

Based on 30,000 families, five people per family for three monthly distributions, where 10,000 families will receive liquid bleach, instead of Aquatabs after the first month's distribution. An additional cost has been included for ORS required for the community ORPs.

Item	Unit	Unit Cost (US\$)	Quantity per family	Cost for (month 1) US \$	Cost for (month 2) US \$	Cost for (month 3) US \$	Total Cost US \$
Aquatabs (33mg/L)	Strip of 10 tablets	0.46	12 strips (120 tablets in total)	165,600	110,400	110,400	386,400
Soap	250g Bar	0.50	5 bars	75,000	75,000	75,000	225,000
ORS sachet	1 sachet	0.35	2 sachets	21,000	0	0	21,000
Liquid Bleach	500ml	1.1	1 bottle	0	11,000	0	11,000
Disposable syringe	1x 5ml syringe	0.3	1 syringe	0	3,000	0	3,000
ORS sachets for 30 ORPs	1 sachet	0.35	12,000 sachets (400 per ORP per month)	0	4,200	4,200	8,400
Total				261,600	213,600	189,600	654,800

¹⁵ Based on Oxfam GB actual cholera prevention kits during Haiti Cholera Scale up programme 2010-2011,

Resource 10.5: Map showing the world's cholera-endemic countries



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Public Health Information
and Geographic Information Systems (GIS)
World Health Organization



Source: WHO (2012)

Resource 10.6: Cholera outbreak checklist for Programme Managers¹⁶

Preparedness for cholera

1. Develop a cholera preparedness and implementation plan at least two months before the known outbreak season. Involve other agencies and MoH to develop a more widely agreed strategy.
2. Update the previous cholera outbreak strategy and circulate to the team. The main strategy should concentrate on:
 - ensuring a good supply of chlorinated drinking water;
 - provision of latrines and/or systems for the safe disposal of excreta where appropriate;
 - provision of soap for washing hands;
 - training staff;
 - ordering adequate essential supplies, such as soap, water containers, water purification equipment and chemicals, ORS, chlorine, and get them to the expected hotspot areas in good time;
 - planning with the MoH, other NGOs and community-based organisations;
 - working with communities and strengthening existing structures and systems in the response areas;
 - setting up systems for surveillance, monitoring and reporting, in collaboration with other agencies involved.
3. Co-ordinate regularly.

Resources you will need

- Additional staff, both male and female;
- water equipment: bladders/large storage tanks, tap-stands, chlorine;
- supplies: Aquatabs/PUR sachets, soap, ORS, water containers (jerry cans, buckets, basins), 1-litre jugs, drinking cups, water purifying tablets, megaphones, stationery;
- additional transport;
- materials to construct emergency latrines where appropriate, timber, plastic sheeting, digging tools, latrine slabs, hand-washing containers with taps, footbath containers, nails, string.

Early response to an outbreak

1. Work with other actors to agree a definition of a cholera case, if there is not one already.
2. Identify a lead organisation to confirm outbreak status – usually the MoH, WHO or organisations with laboratory testing facilities.
3. Recruit and train additional staff at programme and community levels – good preparedness can support this.
4. Plan a response strategy with programme teams.
5. Begin the implementation, supervision, monitoring and evaluation of control activities.
6. Organise or support co-ordination among players.
7. Establish with all players the epidemiological mode of the disease and, where possible, attempt to control it early.

Key actions

8. Provide adequate safe water supply (where possible).
9. Increase chlorination at all water levels, focusing initially on the distribution of household chlorine sachets to permit lead time for setting up mass chlorination, bucket chlorination at source and, where necessary, chlorination within households.
10. Ensure all water collection containers are cleaned.
11. Identify different target groups and compile a communication plan.

¹⁶ Internal Oxfam GB guidelines

12. Educate people about the safe water chain.
13. Where appropriate, establish community-managed ORS corners with simple monitoring systems.
14. Carry out hygiene campaigns at household level and in the community (e.g. at public places, markets etc).
15. Disinfect communal latrines with chlorinated lime and or ash.
16. Ensure hand-washing facilities are available and functional at all latrines and food stalls.
17. Provide soap for hand washing.
18. Where indicated, provide additional water containers.
19. Involve male and female community representatives, local authorities and leaders at every level.

Resource 10.7: Example of Oxfam GB cholera preparedness action plan

From Kebkabiya, Darfur June 2007

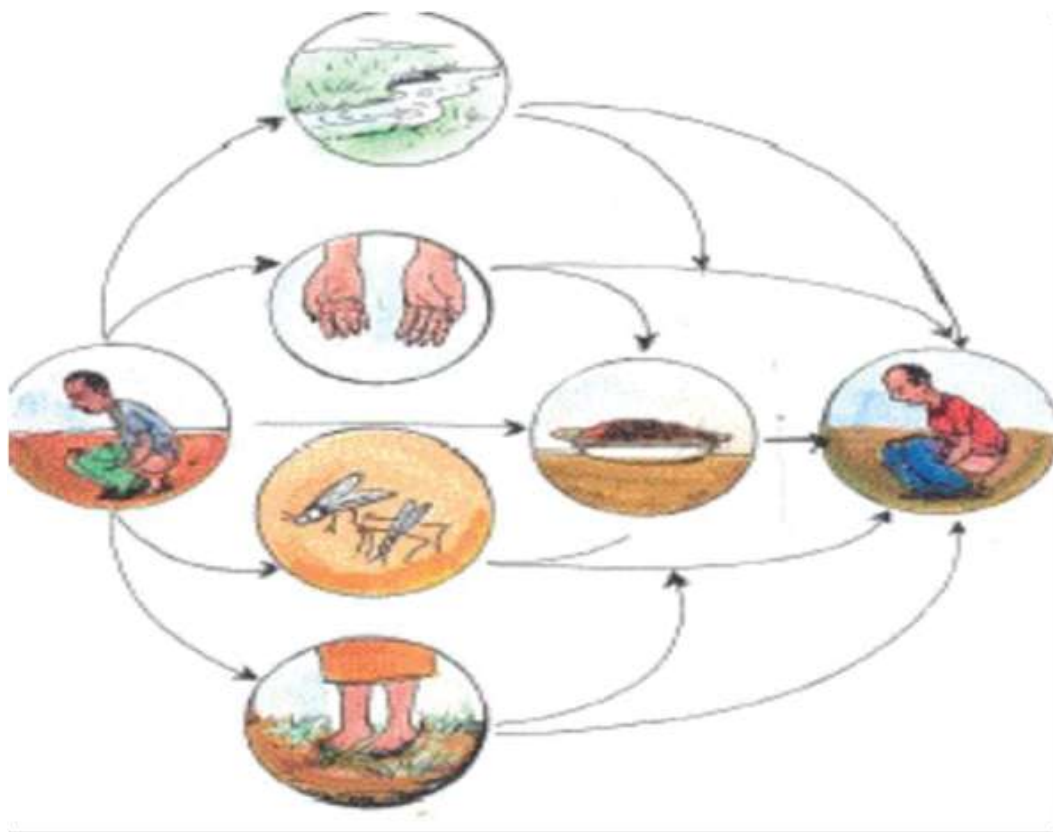
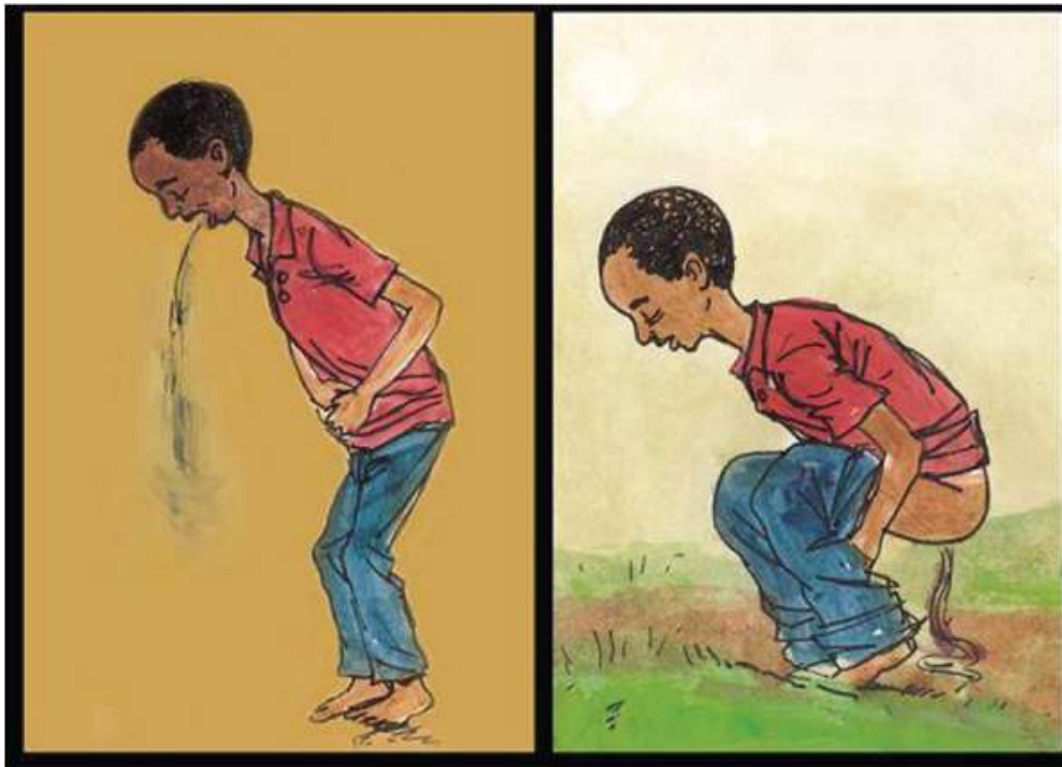
Activity	Date	Notes
Co-ordination/meetings with stakeholders		
Introductory meeting with HAC	19/06/2007	
Introductory meeting with MoH	19/06/2007	
Introductory meeting with Shieks, community leaders, local group leaders	20/06/2007	morning
Introductory meeting with women's society	20/06/2007	Done 19/06/07
Introductory meeting with MSF/discuss CTC needs	21/06/2007	
Sharing AWD plan with ICRC	22/06/2007	
Weekly NGO meeting - update on AWD	24/06/2007	
Info sharing with El Fasher through sitrep	21/06/2007	
UNICEF (WATSAN)	25/06/2007	Fortnightly
WHO/MoH (health co-ord meeting)	27/06/2007	Weekly
Logistics needs		
Delagua consumables	Ordered	
Powder soap (for jerry can cleaning)	Ordered	
Chlorine (HTH granules)	Ordered	
ORS focal point material	Ordered	
Chlorinated lime + plastic gloves	Ordered	
PUR or water-maker or chlorine sachets	Ordered	Should be rec. 18th
Team information sharing		
Informing the PH Team on no-fly spray policy	18/06/2007	Done 18/6/07
Share the finalised AWD plan with PH team	19/06/2007	
Staff training		
Share lime/latrine procedures with PH team	18/06/2007	Done 18/06/07
Data mapping training for PH staff	19/06/2007	Done 19/06/07
Revise training package for staff and community	19/06/2007	Training tools and handouts
2-hour session on AWD and cholera to ALL staff	24/06/2007	
Training PH Team, KCS and MSF on training methods for community groups	24/06/2007	
Staff employment		
Employ 4 KSCS PHP staff as 15 day daily labour	21/06/2007	To start work 24th. Check labour law issues.
KSCS PHP working as daily labour	15 days	
<i>Note - see also action on extra staff for slab construction</i>		
Community training		
Prepare training schedule	19/06/2007	
Community committees (CCs) and Women's Society	25/06/2007	25-27
School hygiene patrons	TBC	2*secondary school 45*primary (after 1 July)
PHP activities		
5 Key messages		
Identify key AWD messages	18/06/2007	Done 18/6/07
Review existing IEC materials	18/06/2007	Done 18/6/07
Produce trial IEC materials	19/06/2007	19-20
Field test IEC materials	25/06/2007	25-27 during CC training
Finalise materials/final design by artist	28/06/2007	Approx 6 days for design
Production	04/07/2007	Material must be ready by 7 July
Distribution of IEC material to CCs	08/07/2007	
Start using newly developed IEC materials on AWD	08/07/2007	
Share new IEC with MSF and others	08/07/2007	
Distributions		
Monthly soap distribution	28/06/2007	for July
Jerry can and Ibreek distribution 13 quarters	TBC	
Plastic sheet distribution in 16 quarters	TBC	
Sanitary cloths	TBC	
Focus activities on AWD key hygiene messages		
Routine Jerry can cleaning	27/06/2007	Weds

Weekly ongoing clean-ups	27/06/2007	Include/focus on market, food stalls and risk areas
Water point cleanliness monitoring	27/06/2007	Sun and Weds
Weekly latrine monitoring	27/06/2007	Weds
Health education at Madrasa schools	04/07/2007	Weds
ORS corners		
Selection of ORS focal points	25/06/2007	44 ORS FP during CC trainings 25-27 June
Training of ORS FPs	12/07/2007	
Receive ORS materials	08/07/2007	
Distribution of ORS FP material	12/07/2007	
Solid waste management (SWM) tools		
Oxfam requisition form for SWM tools (1000* rakes)	13/06/2007	Due by 21st
Distribution of tools	28/06/2007	With soap distrib.
HIS Data		
Weekly data collection from MoH, Hospital and MSF	Ongoing	
Set up of mapping for urban Kebkabiya	20/06/2007	
Input HIS data to database and map – PHE	20/06/2007	Ongoing
Input HIS data to database and map – PHP	21/06/2007	Ongoing
Latrine activities		
Latrine rehab		
SR for bamboo (*2000)	17/07/2007	
Release materials to beneficiaries	14/06/2007	
Rehab of 810 latrines	Ongoing	Total needed = 810, by end July
Latrine construction to fill gaps in coverage		
Registration of households for new latrines	13/06/2007	Ongoing
Latrine slabs		
Slab production	14/06/2007	
Increase casual labour to 10 workers + 1 supervisor	18/06/2007	Employed and ready to start by 24th
Casual labour working	Ongoing	15 days max
SR for 40 slab moulds	17/06/2007	
Increase slab construction	24/06/2007	
SR for latrine materials		
Fibre mats * 5,600	17/06/2007	Local. Needed by 3rd July
Bamboo poles * 8,000	17/06/2007	Needed by 3rd July
Locally available poles * 800	17/06/2007	Local. ASAP
Start distribution of superstructure materials (c. 1100)	19/06/2007	
Latrine lids		
SR for WES-design latrine lids * 700	17/06/2007	
SR for Oxfam-design latrine lids * 4,300	17/06/2007	
Receive lids (rolling activity)	24/06/2007	
Distribution of latrine lids	25/06/2007	At CC training, then ongoing
Adding lime to latrines		
SR for chlorinated lime	Done	Needed ASAP
Mix HTH with existing lime	19/06/2007	Done 19/6/07
Distribute and train CCs on adding to full latrines	25/06/2007	Community leaders to keep stock, toilet owners to rec.
Distribute and train CCs on adding to in-use latrines	25/06/2007	
Implement CTC latrine needs		
Water activities		
Oxfam chlorinated water sources		
Water supply coverage		
New water system at Amira Shamal	15/07/2007	Logs to prioritise purchase/transport
New water system at El Salaam	15/07/2007	Logs to prioritise purchase/transport
Supply Request for Amira Shamal/El Salaam pipes	21/07/2007	
Chlorination		
Increase FRC to min. of 0.5mg/L	17/06/2007	
Daily monitoring of FRC	19/06/2007	Daily ongoing after 19th
Un-chlorinated water sources		
Donkey cart stations		
Training of water-point attendants @ 12 * Donkey stations/calc chlorine needs	20/06/2007	20-21
Distribution chlorine/start chlorination of donkey cart containers	20/06/2007	Ongoing after 20th

Raising awareness of chlorination at 12 * donkey stations	01/07/2007	Ongoing by CCs after 1 July
Private well owners		
Arrange meeting with well owners	25/06/2007	14 well owners
Meeting with 14 open well owners at Oxfam GB office	26/06/2007	
Training on chlorination/calculation of chlorine needs @ wells	27/06/2007	27-30th for each open well
Distribution chlorine/start chlorination of jerry cans	27/06/2007	27-30 then ongoing
Handpumps		
Jerry can chlorination @ handpumps only in case of AWD outbreak	18/06/2007	Done 18/06/07
Monitoring of chlorination		
Donkey carts	24/06/2007	continues after 24th
Open wells	01/07/2007	continues after 1st
Bacterial analysis		
Check broken Delagua	18/06/2007	Done 18/06/07
Bacterial analysis 16 household samples per week	20/06/2007	Weekly after 20th. 32 samples/week if 2nd kit ok
Implement CTC latrine needs	TBC	
Access to rural areas		
Review security situation	06/07/2007	
Community-based organizations in rural areas - train/feedback on AWD cases	TBC	

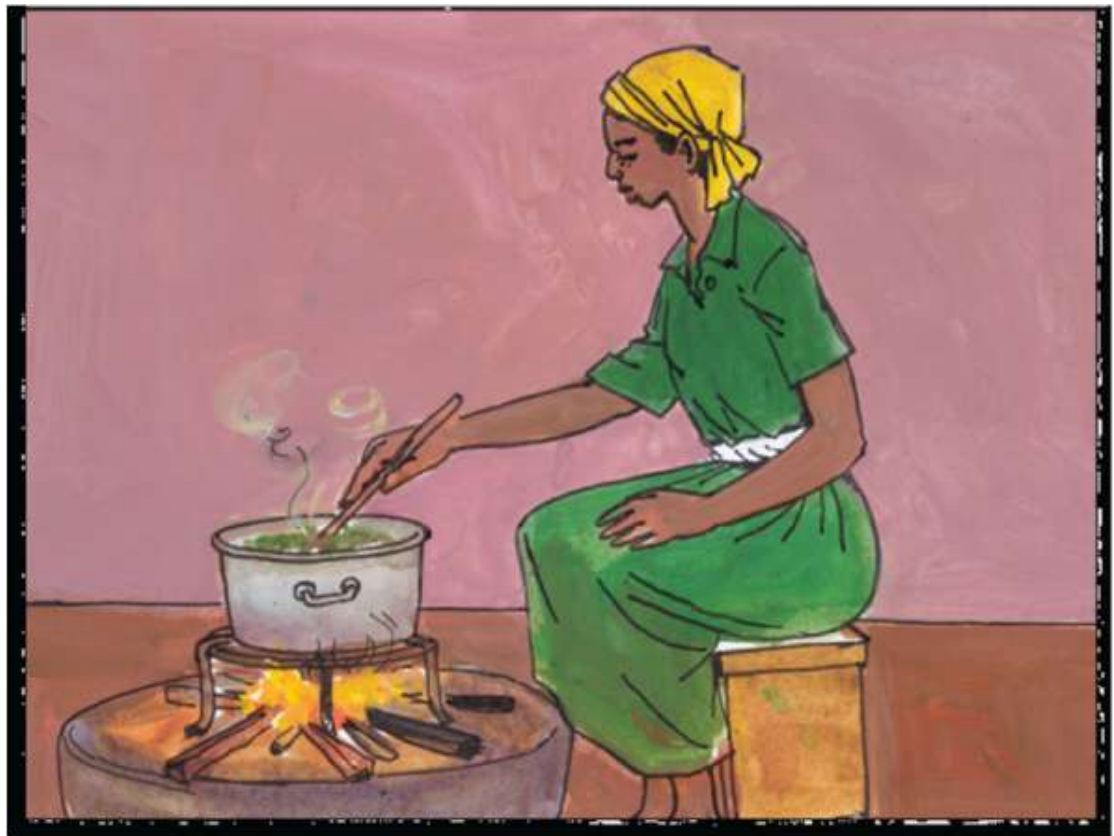
Resource 10.8: Example materials for community education and engagement

Cholera flash cards



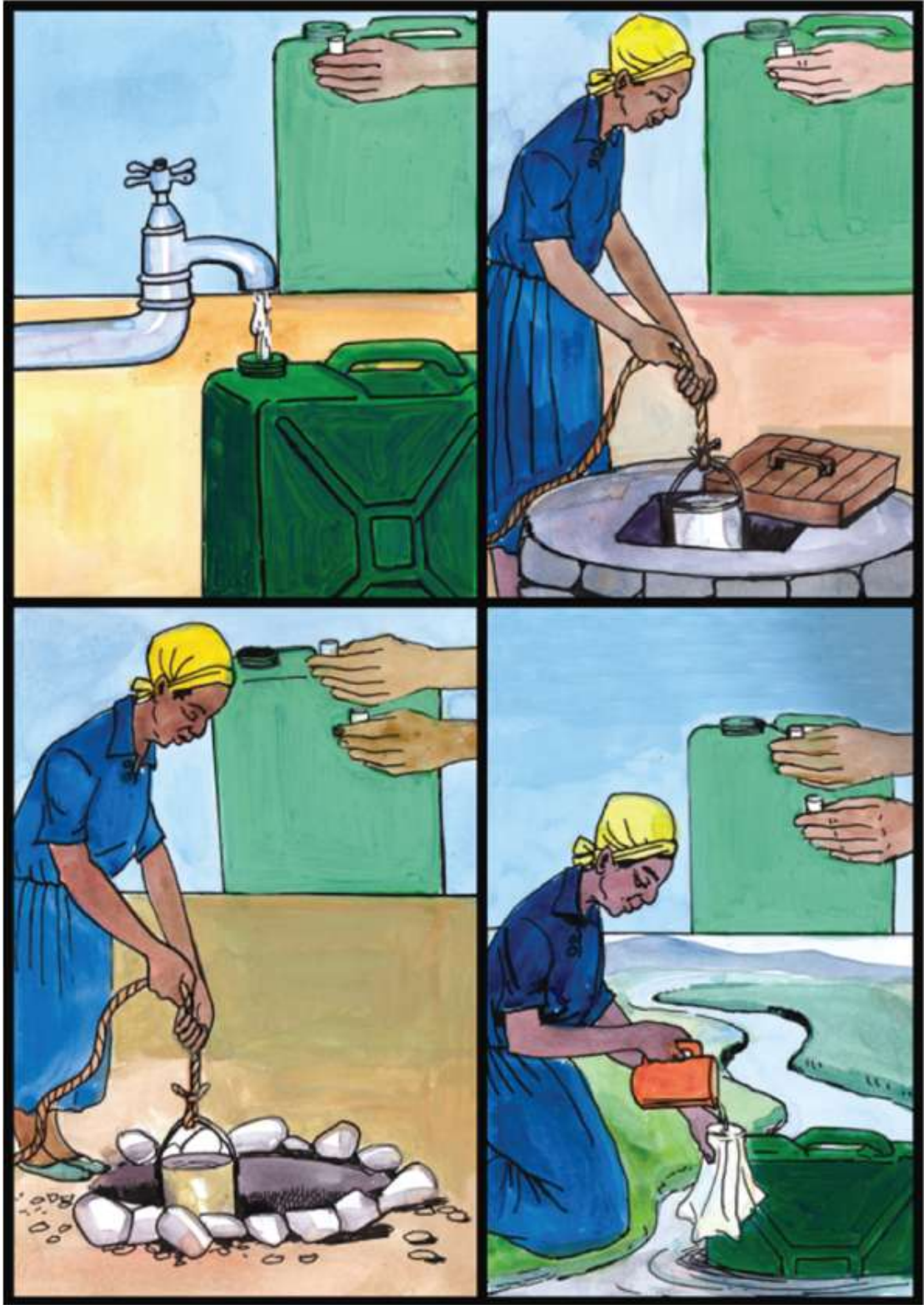


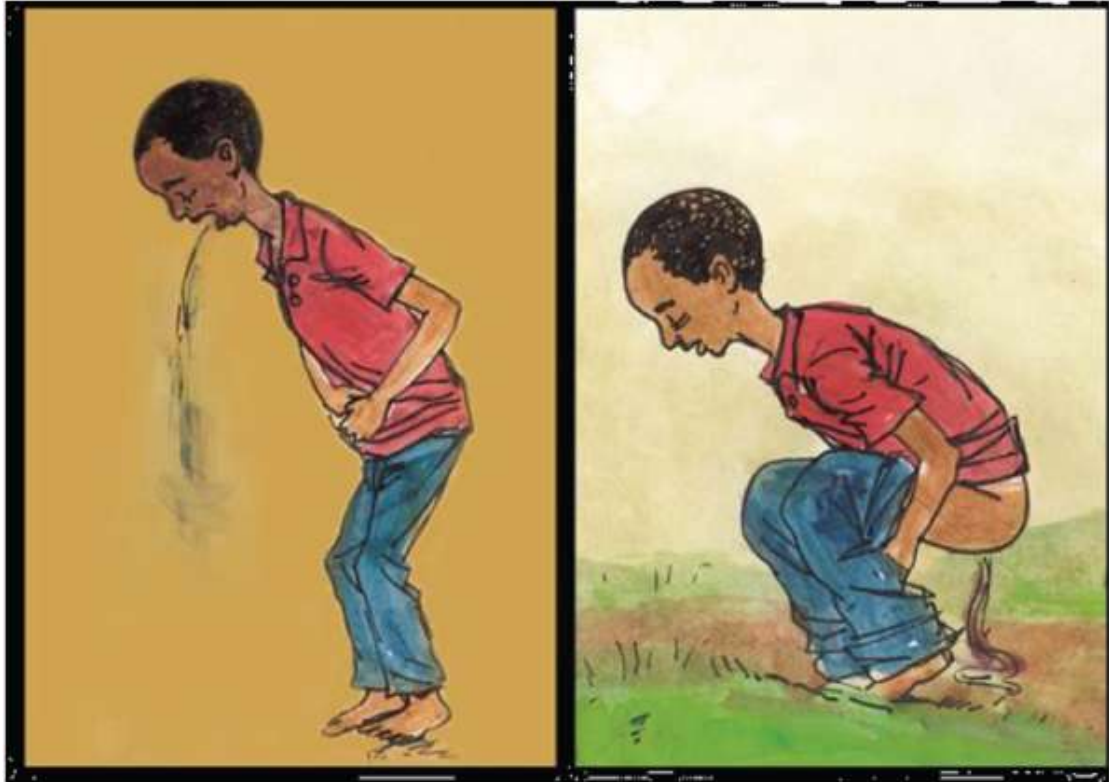












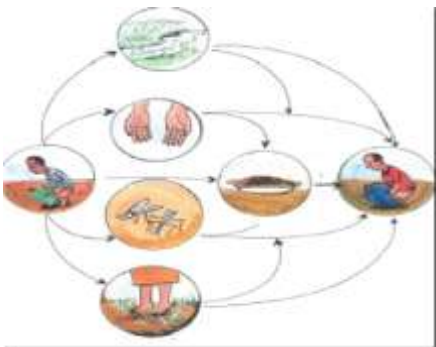
What is cholera?

Cholera is a disease that is currently affecting many places in Ethiopia, characterized by the following symptoms:

- three watery diarrhoea episodes in a single day;
- vomiting.



How is cholera transmitted?



Cholera spreads easily and quickly through the mouth from dirty hands, contaminated water and uncooked food.

Example cholera pamphlet from Ethiopia

Why is cholera a problem?

Cholera leads to dehydration and dehydration leads to death.

What should you do if you or anybody in your household experiences symptoms of cholera?

- Start drinking oral rehydration formulation available to you immediately.
- Continue drinking the rehydration fluid as you go to your nearest cholera treatment centre (CTC), health post or clinic.



- Report case to kabele leader.

What actions can you take to prevent or control cholera?

1. Dispose of excreta and vomit by containing it in a safe place to prevent it coming into contact with other people

- ◆ If available, use a latrine to dispose of excreta and vomit.
- ◆ If no latrine is available:
 - a) dig a hole and bury it;

- b) put it in plastic, banana leaves and bury away;
- c) go to an isolated area, away from water points and away from people, and cover with soil.

This applies to everyone, including children.

Pay special attention when someone in your household is sick.



2. Always wash or rub dirt from both of your hands

If you have soap and water, use it and rub both of your hands. If you do not have soap and water, rub the dirt off with water and:

- ash;
- sand;
- leaves.

When?

- after visiting the toilet;
- before you eat;
- before you prepare food;
- after cleaning a child's bottom.



3. Before drinking water, make it safe

Chlorinate the water using PUR, Waterguard/Wuha Agar. Store water in clean and covered containers after treatment.



4. Avoid eating raw or undercooked food

Boil it, cook it or leave it!

- Avoid undercooked or raw meat.
- Cook all vegetables.
- Clean and cover food leftovers.
- Use clean utensils and dishes.

5. If you or someone that you know gets cholera, the same amount that came out must go back in

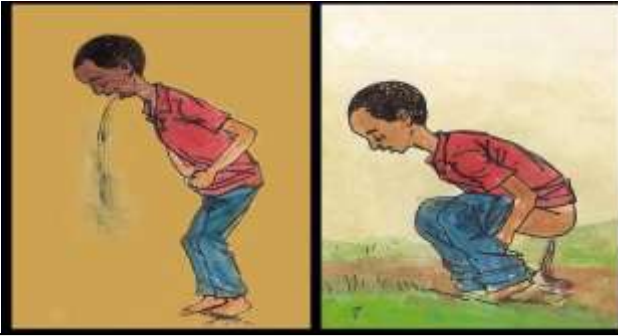
You can help prevent death by these simple acts:

- Replace lost fluids with recommended fluids and formulations at your disposal e.g.
 - Vegetable soup + salt;
 - Soup from cooked food + salt;
 - Bula kocho + salt;
 - SSS (sugar salt solution);
 - ORS if available.
- Drink a glass of available fluid for each diarrhoea or vomit episode as you walk to the nearest CTC/health post/clinic/hospital

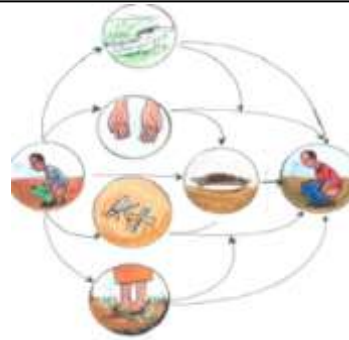


Example cholera posters

What everyone should know about cholera



The main signs and symptoms of cholera include watery diarrhoea and vomiting



Cholera can be transmitted through contaminated water, dirty hands and food



To prevent spread of cholera, ensure safe disposal of excreta, vomit, proper hand washing and home-based water treatment



Avoid eating raw food and ensure all food is properly cooked

If you or anyone in your family notices the above symptoms, give ORS or other available fluids e.g. local porridge at an interval of one glass per every vomiting or diarrhoea episode as you move to the nearest health facility

Resource 10.9: Oxfam GB WASH support kit for CTCs and ORPs¹⁷

Table 6: List of materials and equipment for hygiene, sanitation and isolation

This example is based on a 50-bed capacity CTC.

Item description	Quantity required for 1 CTC	Unit cost (USD)	Cost for 1 CTC	Cost for 20 CTCs (USD)
Water supply				
One month's supply of chlorine HTH 70% (1 kg per day)	30 kg	4	120	2400
Plastic tanks, 2,000 litres	1	200	200	4000
20 m hose pipe roll – ¾"	1	50	50	1000
Plastic buckets (with lids) – 10L	10	1.5	15	300
Plastic buckets (with lids) – 30L	5	4	20	400
Jerry cans – 20L	10	3	30	600
Sanitation				
Safety box (sharps)	4	2	8	160
Metal drum incinerator (or can use pit for burning)	1	4	4	80
Large dustbins with lids	5	2	10	200
Squatting slabs	4	40	160	3200
Plastic sheeting	1 roll	60	60	1200
Labour (latrine pit digging and construction)	4	15	60	1200
Hygiene and isolation				
Large water container (30-40 litres) with tap for hand washing	5	7	35	700
Powdered detergent – for cleaning, bags of 5kg	5	10	50	1000
Chlorine for disinfections – for cleaning, sterilising etc (HTH 70%)	60kg	4	240	4800
Heavy duty rubber gloves (not disposable)	10 pairs	1.8	18	360
Cleaning plastic brooms	4	1.50	6	120
Plastic apron (not disposable)	10	5	50	1000
Plastic trays for footbaths (large and wide)	4	10	40	800
Gum boots – mixed sizes	10 pairs	10	100	2000
Cleaning items – 1 set to include: <ul style="list-style-type: none"> • toilet brushes x 4; • cloths x 20; • mop and bucket x 3 	1 set	30	30	600
Large plastic containers/baths for soaking clothes	3	10	30	600
One month salary for 2 watchmen – enhanced isolation	2	50	100	2000
One month salary for 3 cleaners	3	50	150	3000
Approximate total cost (USD)			1586	31,720

¹⁷ Internal Oxfam GB guidelines

Table 7: List of materials and equipment for community ORP kit

Please note that quantities required will differ based on the size of the ORP.

Item Description	Quantity required for 1 ORP	Unit cost (USD)	Cost for 1 ORP	Cost for 50 ORPs (USD)
Hardback note book	1	0.5	0.5	25
Biro pen	5	1.0	5.0	250
ORS sachet	400	0.35	140	7,000
Sugar and salt – for demonstration	250g each	5.0	10	500
200ml cups	5	1.0	50	2,500
500ml cups	5	1.5	7.5	375
Disposable spoons	20	0.3	6.0	300
Plastic measure jug (1 litre)	1	4.0	4.0	200
Medium sized plastic basin	1	6.0	6.0	300
Jerry can with tap	1	10.0	10.0	500
Jerry Can without tap	3	8.0	24.0	1,200
Hand-washing device	4	10	40	2,000
250g hand washing soap – for demonstration	4 bars	0.5	2.0	100
Strip of 10 Aquatabs– for demonstration	12 strips (10 tablets each)	0.46	5.52	276
500ml of liquid chlorine bleach – for demonstration	1	1.1	1.1	55
Disposable 5ml plastic syringes	3	0.3	0.9	45
Cholera IEC posters and flyers				
Approximate total cost (USD)			272.52	13,626
Possible additional items				
Small plastic table	1	50.0		
Large umbrella	1	30.0		
PUR sachets – for demonstration	50	0.3		

The additional items are for ORPs where there is no office space or shade in rural communities.

Box 16: Oral rehydration points (ORPs)

Where these are set up, they should be organised according to a clear protocol that addresses:

- who receives ORS sachets, and how many;
- how many sachets are supplied to the ORS corner or focal point on a weekly basis;
- how activities will be monitored.

ORS sachets should **not** be given to sick people. Instead, they should be given to carers to take home and administer.

Leaflets, if available, can be given to reinforce the advice given to individuals using ORPs.

Resource 10.10: Guidelines for CTC hygiene, sanitation and isolation¹⁸

It is very important in health facilities where cholera patients are being treated that basic hygiene, sanitation and isolation procedures are followed at all times. Failure to do so could lead to cross-infection of other patients, and could infect caregivers or staff, who could in turn carry the infection back to their homes.

Oxfam programmes

It must be noted that Oxfam GB's main focus in controlling an outbreak by working in the community is to promote hygiene and mobilise and motivate communities. However, especially when CTCs are within communities, Oxfam GB should be available to provide sanitation and safe water at CTCs if requested. The same level of care should be observed where community ORPs are established.

Minimum hygiene, sanitation and isolation activities

All health facilities, CTCs and CTUs must follow these principles:

1. Isolate severe cases.
2. Contain all excreta (stool and vomit).
3. Only one carer per patient.
4. Always wash hands with chlorinated water (ensure correct concentration).
5. Disinfect feet when leaving the centre.
6. Provide toilets and bathing areas for patients, and separate facilities for staff according to Sphere indicators. Ensure that such facilities are clean and offer privacy.
7. Follow up families and relatives of the patient to ensure that: there are no other cases; they have the means to chlorinate their drinking water; they have soap available for hand washing; and they have information about cholera prevention measures.
8. If people arrive by public transport, the vehicles should be disinfected if the patient has vomited or contaminated the vehicle with faeces or faecally contaminated clothes.
9. Prepare laminated cards in different colours for the categories of essential hygiene rules – these are listed in Tables 8 to 10.

¹⁸ Internal Oxfam GB guidelines

Table 8: CTC hygiene rules for patients' relatives

When they arrive	<ul style="list-style-type: none"> only one relative allowed inside the CTC (unless the others are also sick)
During their stay	<ul style="list-style-type: none"> try to provide separate latrines and washing facilities for relatives; ensure that relatives wash their hands with a 0.05% chlorine solution after each time they use the toilet; relatives should try to minimise contact with the patient's waste.
Before they leave	<ul style="list-style-type: none"> every time relatives leave the CTC, they should wash hands in a 0.05% solution; spray relatives' shoes (especially the bottom) or feet with 0.2% solution, or make them walk through a footbath; if relatives bring in food, all plates and utensils should be washed in a 0.05% solution before being allowed out of the CTC; if relatives' clothes need washing, sterilise them in boiling water or soak in a 0.2% solution for 10 minutes, and then rinse with clean water (note: chlorine might bleach the clothes)
In case of death of a relative	<ul style="list-style-type: none"> tell relatives that funeral ceremonies can involve risky practices; everyone who handles the dead body should wash their hands, and not handle food before washing; educate relatives about hygiene before they return home.

Table 9: CTC hygiene rules for nursing staff

When staff arrive	<ul style="list-style-type: none"> staff should use gloves when treating patients.
During their duty time	<ul style="list-style-type: none"> staff should use separate latrines and washing facilities from patients and relatives, ideally in neutral areas; staff should use gloves when treating patients; after treating each patient, the staff member should wash their hands with 0.05% solution (and their gloves if they are reusable); staff should wear gowns and special outfits that will be disposed of or cleaned in the centre.
During the patient's stay	<ul style="list-style-type: none"> collect their waste (body liquids such as vomit and faeces) in bedpans or buckets; do not allow people to vomit on bare earth; before emptying any bedpans or buckets, pour a 2% solution into the containers and leave any waste for 10 minutes; empty waste into a designated pit.
Before the patient leaves	<ul style="list-style-type: none"> sterilise their clothes in boiling water, or soak in a 0.2% solution for 10 minutes and then rinse (attention: chlorine might bleach the clothes); spray their shoes (especially the bottom) or feet with 0.2% solution or make them walk through a footbath.
In case of the patient's death	<ul style="list-style-type: none"> disinfect the body with a 2% solution; close all body openings with cotton dipped in the same 2% solution; wrap the body in a plastic bag.

Table 10: CTC hygiene rules for cleaners

Actions	Notes
Cleaning bed pans every hour (soaking them in chlorine and emptying them into the pit)	Use a 2% solution for 10 minutes, then empty into a covered pit latrines
Clean toilets and showers 2–4 times per day	Use 0.2% solution
Cleaning beds and floors twice a day or when they become dirty	Clean or spray using 0.2% solution
Prepare every day two types of disinfecting solutions (0.2% and 0.05% solutions). This could be done by a medical assistant if available.	Follow solution instructions
Prepare the 2% solution every week	Follow solution instructions
Refill hand washing containers when empty	Use 0.05% solution
Refill drinking water containers	Use treated water
Refill footbath	Use 0.2% solution
Collect waste in bins with lids	Burn in an open pit
Safely dispose of excreta from buckets then sanitise	Put half a cup 2% chlorine solution in the empty buckets
Ensure personal hygiene	Use separate toilets Wear gloves, apron or overall and boots in the centre Wash hands and gloves after work with 0.05% solution

What to do with dead bodies:

- keep bodies separate from other patients;
- disinfect corpses and plug orifices with cotton soaked in a 2% chlorine solution (note: this is only effective for a short period);
- bury bodies as soon as possible;
- wrap bodies in plastic sheets during transit, in order to catch any body fluids;
- discourage (or limit the size of) funeral feasts until the end of the outbreak;
- undertake hygiene promotion at funerals.

Making chlorine mixes**Disinfecting solutions**

Depending on the concentration of the chlorine available, choose the appropriate table for mixing up the disinfectants. The most widely available concentrations are:

- 5% liquid yellow bottle;
- 10% liquid blue container;
- 65-70% HTH powder.

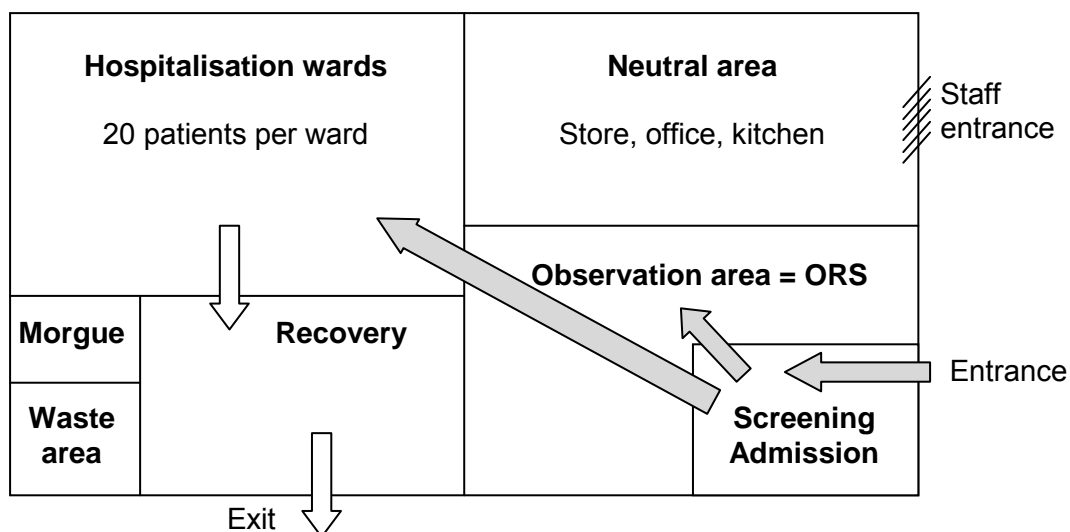
Solutions should be freshly prepared every day, since light and heat weaken the solution. If there is no chlorine available, normal bleach (5%) that is locally available in the market should be used. Chlorine solutions must never be mixed with detergent.

Table 11: Mixing chlorine solutions

	Waste and excreta; dead bodies	Floor objects; beds; footbaths; clothes	Hands; skin	Drinking water
Chlorine solution strength	2% solution	0.2% solution	0.05% solution	
Yellow bottle 5% solution	10L chlorine 10L water (1:1)	1L chlorine 19L water (1:25)	0.2L chlorine 19.8L water (1:100)	
Blue container 10% solution	5L chlorine 15L water (1:4)	0.5L chlorine 19.5L water (1:50)	0.1L chlorine 20L water (1:200)	
WaterGuard				1 cap (only low turbid water)
Water-maker Aquatab				according to instructions
PUR (mix of chlorine and iron sulphate)				according to instructions
HTH powder 65-70%	30g for 1 litre 300g for 10 litre	3g for 1 litre 30g for 10 litre	0.75g for 1 litre 7.5g for 10 litre	

Layout of CTCs and isolation areas in health facilities

Figure 3: A simple layout of a small health centre



The above layout is for a reasonably large CTC/treatment centre with 20 patients per ward, but the principle of patient flow and isolation is the same for smaller centres. Patients under observation should not be mixed with patients severely affected by cholera. Except for the patient, staff and one caretaker per patient, no other people should be allowed to be in the centre.

The latrines and bath places for infected patients should be cleaned regularly with 0.2% disinfectant, and should be in an enclosed space away from the ones used by any other patients (in case of a health centre) carers, and public.

Resource 10.11: Guidelines for setting up ORPs¹⁹

In the majority of cholera outbreaks, the geographical areas affected are large and often involve isolated rural communities far from population centres. In order to ensure isolated communities have life-saving access to ORS, it will be necessary to set up ORPs or oral rehydration corners in affected communities.

Many medical NGOs (and Ministries of Health) tend to focus on setting up CTCs or CTUs close to existing medical facilities. This often makes it necessary for more isolated rural and peri-urban communities to travel large distances to get access to ORS. In the initial stages of an outbreak, this can create significant risks including increased deaths and spreading cholera to non-affected areas, as seen in the Haiti outbreak in 2010/2011 and the DRC outbreak in 2011.

Oxfam GB cholera programmes must include the setting up of ORPs in communities in target areas within the first few weeks. The following steps describe how effective ORPs can be set up quickly:

1. Co-ordination with the MoH and medical NGOs

Initial meetings should be held with medical line ministries and medical NGOs in the target areas. This will help Oxfam programme staff identify where ORPs need to be set up. It will also open discussions on advised protocol for such facilities with the MoH. This is essential, especially if the ORPs will be managed by MoH staff.

As the MoH and medical NGOs collect data in the main CTCs/CTUs on the origins of patients, it will allow the PHP team to identify cholera hotspots and priority locations for ORPs.

Through co-ordination, Oxfam can also lobby the MoH or medical NGOs to set up CTUs where monitoring data from ORPs indicates that the number of cases is significantly increasing.

2. Map and identify isolated communities with active cases of cholera

As stated above, the most effective way to site ORPs is to identify the hotspot areas as early as possible. It is also recommended that ORPs be set up in satellite communities around the main hotspot areas. This will save lives and time, as shared water sources or communal market days can allow the rapid spread of cholera.

Mapping isolated communities helps prevent the duplication of CTC coverage with/between MoH and medical NGOs, and ensure maximum assistance is given to affected communities.

3. Agree on who will manage and operate the ORPs

If initial co-ordination meetings reveal that the MoH has rural extension health workers in isolated communities to be targeted for ORPs, then Oxfam is strongly encouraged to work with them. This helps ensure that the targeted communities have reliable semi-medical staff to assist them. More importantly, such staff can assist with overall exit strategies if they are trained and equipped to implement early warning monitoring of future cholera outbreaks.

If the MoH do not have rural extension health workers in targeted communities, then the PHP should identify volunteers in each target community.

¹⁹ Internal Oxfam GB guidelines

No matter who operates the ORP, terms of reference must be drawn up and discussed with facility managers. These terms of reference must include:

- opening times;
- how the number of people receiving assistance are to be recorded;
- information to be provided to the community about where they can access ORS when the ORP is closed.

If it is decided during discussions with the MoH to pay rural extension health workers a small remuneration, then Oxfam should draw up clear and specific terms of reference. Rural extension health workers are normally expected to actively participate in home visits to explain preventative measures, participate in the distribution of cholera prevention kits, and so on. If volunteers are used, Oxfam should reduce the activities included in the terms of reference and provide incentives in the form of materials and equipment rather than cash.

It is essential that whoever is identified to manage the ORP by the local health authority and/or NGOs is trained and supported in running it for the duration of its operation.

4. Monitoring and day-to-day management of ORPs

Once the ORP operators are identified, terms of reference agreed and training completed, it is essential that Oxfam PHP staff constantly monitor the situation. It is recommended that, in the initial weeks of the outbreak, ORPs are visited at least once a week until the PHP staff are confident that they are being managed without problems. After this has been achieved, fortnightly monitoring visits would be appropriate. All monitoring visits should be combined with the replenishment of stocks and the collection of data recording sheets.

ORP operators must ensure that, in addition to the four key cholera messages (see [Box 9](#)), the following messages are given to the community:

- a sick person **must not** come to the ORP, but instead their carer should visit;
- the carer should rehydrate the sick person and get them to a health facility as soon as possible while continuing to rehydrate the sick person;
- ORP staff will have a list of the closest medical facility and/or contacts for the carer to get transport.

On the latter point, for example, in Haiti (2010/11), MSF paid for the transportation of sick people from rural areas when carers arrived at the CTC/CTU. Oxfam GB ensured that this information was circulated through all ORPs.

For more information on the procurement needs of ORPs, see [Table 7](#). Please note that the number of sachets of ORS needed by ORPs will depend on how distant they are from a health facility, and how many people are using it. In general, two sachets per sick person should be sufficient; so initially provide 50 ORS sachets per week for each ORP until monitoring sheets are reviewed.

The following tasks must be included in the terms of reference for those operating ORPs:

- keep daily records of every person that comes to the ORP, including the name, age and location/address of sick people and the number of ORS sachets given;
- inform the community that ORS cannot be taken as a preventative method and that ORS will only be given to carers of people with symptoms of diarrhoea;
- use the ORP as a focal point for raising awareness of the four key cholera prevention messages;
- hold demonstration sessions on how to make SSS or a local alternative;
- inform the community of where and how they can access assistance when the ORP is closed, especially during the night.

Oxfam GB PHP staff must provide regular support and follow-up monitoring visits to ensure that operators are confident in managing facilities and addressing unforeseen problems with the ORP. In addition to such support visits, the PHP team leader must:

- analyse record sheets and map cholera cases twice a week;
- where necessary, lobby the MoH or medical NGOs about the need for a CTC/CTU in a specific area;
- make decisions on downsizing or moving ORPs when the number of cases starts to drop in a location;
- encourage operators of moved/closed ORPs to continue raising awareness on how to make SSS or local equivalent, the importance of chlorinating drinking water, and other health messages,

Resource 10.12: Guidelines on bucket chlorination²⁰

Emergency water treatment: how to chlorinate water in buckets

When chlorinating water in a container, it is critical to calculate the concentration of chlorine required to ensure 0.5mg FRC per litre. Before testing FRC levels, remember to wait at least 30 minutes for the chlorine you have added to make that water safe.

To work out how much chlorine is required:

1. Prepare a 1% stock solution of chlorine – see [Table 12](#).
2. Fill four non-metal buckets each with 20L of water to be treated.
3. Add an increasing volume of 1% stock solution of chlorine to each bucket, for example
 - 1st bucket: 1ml of 1% stock solution
 - 2nd bucket: 1.5ml of 1% stock solution
 - 3rd bucket: 2ml of 1% stock solution
 - 4th bucket: 2.5ml of 1% stock solution
4. Stir each bucket for 30 seconds to ensure the chlorine solution is properly mixed.
5. Wait at least 30 minutes.
6. Measure the levels of FRC in each bucket.
7. Choose the bucket that contains approximately 0.5mg per litre FRC.
8. Use this result to calculate the amount of 1% stock solution to add to the total volume of water in each water container.
9. Always recheck the FRC levels regularly when chlorinating in buckets, particularly when changing the source of the water.

Calculating the chlorine demand of water

The following example shows chlorination of water in a 5L jerry can or water container.

Follow steps 1–5 outlined above. The FRC levels of the water in the individual buckets after 30 minutes contact time should be as follows:

1st 20-litre bucket: 1ml of 1% stock solution = 0mg per litre
2nd 20-litre bucket: 1.5ml of 1% stock solution = 0.3 mg per litre
3rd 20-litre bucket: 2.0ml of 1% stock solution = 0.5 mg per litre
4th 20-litre bucket: 2.5ml of 1% stock solution = 0.8 mg per litre

The desired FRC level therefore will be that for bucket 3 (2.0ml of 1% stock solution in 20 litres = 0.5 mg per litre).

So if 2.0ml of 1% stock solution is added to 20 litres of water and this gives 0.5mg per litre FRC, then you need a quarter (1/4) times the amount of stock solution to correctly dose a 5-litre water container, for example 0.5ml of 1% SS in 5 litres.

²⁰ Adapted from UNICEF (2008) and WHO (2008).

Table 12: Quantities of chemical required to make 1L of 1% chlorine solution

Source of chlorine	Chlorine (%)	Quantity required
Bleaching powder	34	30-40g
HTH	70	14g (1 tablespoon)
Tropical bleach	34	25g
Stabilised bleach	25	40g
Sodium hypochlorite – liquid household bleach	5	250ml
Sodium hypochlorite – liquid bleach	10	110ml

Please note that these are only a few examples. In short, to prepare a 1% stock solution, you can determine the percentage of active/available chlorine in the source of chlorine, then dilute to get the active/available chlorine down to 1%.

Store the stock solution in a cool place in a closed container that is not exposed to light. The stock solution loses effectiveness with time, so must be used within 24hrs of production.

Safety precautions for chlorine use

Chlorine is a very volatile chemical, therefore is potentially dangerous if not handled properly.

Make sure you are wearing the following protective personal equipment before you begin working with chlorine:

- goggles;
- a pair of thick rubber gloves;
- rubber boots;
- a waterproof suit, overalls or a full-length apron.

Chlorine must be stored in a sealed container in a well-ventilated and cool dark store away from food, animal feed and water. Only work with chlorine in a well-ventilated area.

Accidents with chlorine

If any chlorine is swallowed:

- Do **not** make the person vomit;
- Make the person drink milk, if available;
- Seek immediate medical assistance. Bring the chlorine container to the medic, so they can work out its exact strength and the other ingredients swallowed.

If chlorine splashes into the eye:

- Wash out the eye with clean water for several minutes, then seek medical help.

If chlorine spills on clothes:

- Remove the clothes immediately, if possible;
- Rinse the affected area(s) with water;
- Seek medical help.

Resource 10.13: Treating high turbidity water

If the water is muddy or cloudy ('turbid'), with more than 50 Nephelometric Turbidity Units (NTU), water treatment chemicals that combine a flocculent (ferric or calcium sulphate) and chlorine, such as PUR (chlorine and ferric sulphate), should be used. Always follow the manufacturer's guidelines when using these products.

If you cannot obtain such water treatment chemicals, pass the turbid water through several cloth filters to bring the turbidity below 50 NTU. Filter the water **before** adding chlorine stock solution.

Resource 10.14: Instructions for managing diarrhoea using ORS²¹

The information below could be adapted for use in a leaflet to support the promotion of ORS in the management of diarrhoea. Before embarking on this, it is vital that you seek advice from the MoH and the Health Cluster.

- Diarrhoea usually cures itself in a few days. The real danger is the loss of water from the body, which can cause dehydration.
- A child with diarrhoea loses weight and can quickly become malnourished. Food can help stop diarrhoea and help the patient recover more quickly.
- A child with diarrhoea should never be given any antibiotics or other medicines unless prescribed by a trained health worker.
- The best treatment for diarrhoea is to drink lots of liquids and ORS properly mixed with clean water.
- Diarrhoea is the most common complication of measles. Immunising children against measles will help reduce their vulnerability to diarrhoea.

What is ORS?

ORS is a special combination of dry salts that, when properly mixed with safe water, can help rehydrate the body when a lot of fluid has been lost due to diarrhoea.

Where can I get ORS?

In most countries, ORS packets are available from health centres, pharmacies, markets and shops.

To make the ORS drink:

1. Wash your hands with soap (or ash etc.) and water before preparing the mixture.
2. Put the contents of the ORS packet in a clean container. Add one litre of 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 feed it to the patient from a clean cup. Do not use a bottle for children.
5. You can use this mixture for up to 24 hours after you have made it. After this, any unused mixture must be thrown away.

How much ORS drink to give:

- Encourage patients to drink as much as possible.
- A child under the age of two needs between a quarter and half a 500ml cup of the ORS drink after each watery stool.
- A child aged two or older needs at least half a large cup of the ORS drink after each watery stool.
- Older children and adults should drink as much as they want; even if a child vomits, continue to give small sips of ORS.
- Diarrhoea usually stops within three or four days.
- If diarrhoea does not stop after one week, consult a trained health worker.

Recent advice also recommends that children are given 20mg of zinc supplementation for 10–14 days (10mg per day for infants under six months old). This is available as tablets or syrup.

²¹ Adapted from The MOST Project (2005); WHO/UNICEF (2004); See also: <http://www.who.int/cholera/technical/en/index.html>

Rules for home treatment of children with diarrhoea

1. Give the child more fluids than usual

ORS or recommended homemade fluids should be given until the diarrhoea stops. This may last several days. See recommended amounts listed above.

2. Continue to feed the child

For example:

- breast milk;
- local porridge;
- soup;
- beans;
- mixes of cereal, meat and fish;
- fresh fruit juices and bananas are helpful because they contain potassium.

Avoid feeding:

- high fibre or bulky foods, such as coarse fruit and vegetables, peels and whole grain cereals (these are hard to digest);
- very dilute soups (these are recommended as fluids, but are not sufficient as foods because they fill up people without providing sufficient nutrients);
- foods with a lot of sugar (these can worsen diarrhoea).

Encourage the child to eat as much as they want. Offer food every three to four hours (six times each day) or more often for young child. Small frequent feedings are best because they are more easily digested and generally preferred by children.

3. Return to the clinic if necessary

Bring children to a health worker if they show any of the following symptoms:

- passes many stools;
- is very thirsty;
- sunken eyes (the above three signs suggest the child is dehydrated);
- seems not to be getting better after three days;
- has a fever;
- is not eating or drinking normally.

Resource 10.15: Management of diarrhoea with homemade SSS²²

ORS is always preferable for the management of diarrhoea. If it is unavailable, salt-sugar solution (SSS) may be promoted as an alternative. However, you must first seek advice from the MoH and the Health Cluster, as promotion of SSS varies by context.

“SSS has been promoted previously for home therapy but has not proven satisfactory in most countries. This is because mothers often forget the recipe or are unable to obtain sugar and salt. Moreover, mistakes in mixing SSS can cause the concentrations of sugar and salt to be dangerously high. In most countries SSS should not be promoted. However, if its use is already well established in a country and there is evidence that it is prepared safely and correctly, SSS may continue to be promoted for home therapy. In this case, ongoing training of mothers and monitoring of their performance is required to ensure that mothers continue to prepare SSS safely and use it correctly.”

Source: WHO/CDD (1993)

How to prepare homemade salt sugar solution, in the absence of ORS

1. Wash your hands with soap and water before preparing the solution.
2. In a clean container, mix:
 - 1 litre of safe water
 - ½ small spoon (3.5g) of salt
 - 4 big spoons (40g) of sugar
3. Stir the salt and sugar until they are dissolved in the water.
4. Give the sick child as much of the solution as it needs, in small amounts frequently, either using a cup or a spoon.
5. Alternately give child other fluids, such as breast milk, soup or yoghurt-based drinks.
6. Continue to give solids if the child is four months or older.
7. If the child still needs SSS after 24 hours, make a fresh solution.
8. If child vomits, wait 10 minutes and give SSS again. Usually vomiting will stop.
9. Banana or other non-sweetened mashed fruit can help provide potassium.
10. If diarrhoea increases and/or vomiting persists, take child to a health clinic.

²² Adapted from WHO/CDD (1993): The selection of fluids and food for home therapy to prevent dehydration from diarrhoea.

Resource 10.16: Example cholera prevention and control log frame – Somaliland²³

	Intervention logic	Measurable indicators	Means of verification	Important assumptions
Principal objective	To participate in the containment and reduction of the spread of cholera, and its related deaths, in Choleraal, Toghdeer and the Galbeed region in Borama, Burao and Hargeisa, respectively.	<ul style="list-style-type: none"> Integrated responses in place preventing excess mortality and morbidity. Improved data collection and sharing and co-ordination at all levels. 	<ul style="list-style-type: none"> Epidemiological data 	<ul style="list-style-type: none"> All key stakeholders collaborate, co-ordinate and are willing to draw learning and advocate for change.
Specific objective	70,000 men, women and children in Choleraal, Toghdeer and Galbeed regions have increased access to, and make optimal use of, water and sanitation facilities as well as take action to protect themselves against threats of cholera.	<ul style="list-style-type: none"> At least 75% of the target population have access to and use water that has a free residual chlorine level of not less than SPHERE minimum standards.²⁴ At least 75% of the target men, women and children wash their hands with soap before putting anything in their mouth. At least 80% of those with acute diarrhoea seek treatment (within two hours) from the ORPs or medical facility. 	<ul style="list-style-type: none"> Project records Epidemiological data Baseline reports Focus group discussions Water analysis survey and monitoring reports Monitoring reports End of project reports Partner and other NGO reports Observation 	<ul style="list-style-type: none"> The government and communities will maintain and sustain the hygiene and sanitation standards established by the project.

²³ Oxfam GB Somaliland ECHO funded programme 2007

²⁴ Outbreak SPHERE Project drinking standard of 0.5mg/L of free residual chlorine

<p style="text-align: center;">Outputs</p>	<p>Output 1</p> <p>Emergency support to CTCs In the first three months of the project, specific WASH preventative measures are implemented in CTCs set up in Choleraal, Toghdeer and Gabeed regions in collaboration with other players.</p>	<ul style="list-style-type: none"> • 75% of staff at CTCs/health centres trained and can state a minimum of five practical methods to reduce transmission of cholera in CTCs. • 100% of targeted health centres/CTCs supporting case treatment have access to and use Sphere minimum water quantities of safe water. • 100% of water provided in CTCs is chlorinated, and patients and their caregivers sensitised to using treated water for drinking. • 100% of targeted health facilities/CTCs²⁵ are equipped with basic sanitation facilities (hand washing, latrines, cleaning equipment and chemicals) and staff maintain good hygiene standards. 	<ul style="list-style-type: none"> • Partner reports and monitoring records • Community reports/information • Technical staff reports • Visit reports and observation • Situation reports • Disease surveillance records at health centres 	
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²⁵ Oxfam GB estimate/plan to target 46 key health centres (strategic for case management) plus up to eight CTCs set up away from health centres with water supply and sanitation facilities.

<p style="text-align: center;">Outputs</p>	<p>Output 2</p> <p>Improved community access to safe water</p> <p>Up to 70,000 men, women and children in the locations that have been targeted have access to improved water quality within the project period</p>	<ul style="list-style-type: none"> • 80% of targeted households use chlorine treated water for drinking purposes. • 100% of rehabilitated wells remain operational during the project period, with enhanced management and technical capacity to sustain operation. • 100% of all water chlorinators trained can state and demonstrate the correct amounts of chlorine needed for different conditions of water. • 80% of water truckers/vendors that we have talked to permit their water supplies to be chlorinated. • 100% of rehabilitated water points pass minimum sphere bacteriological quality standards prior to commissioning (0 faecal coliforms/100ml;). 	<ul style="list-style-type: none"> • Project monitoring and implementation reports • Baseline survey report • Water quality testing at sources, vendors, water trucks and at household levels • Water committees' selection records and training materials • Focus group discussions with women and girls held monthly with two groups of 12 people • Focus group discussions held monthly with water chlorinators • Partner reports and monitoring records • Technical staff reports • Visit reports and observations 	
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<p style="text-align: center;">Outputs</p>	<p>Output 3 Improved public health awareness 70,000 men, women and children in the targeted regions are enabled to practice safe hygiene in a dignified and culturally appropriate manner</p>	<ul style="list-style-type: none"> • At least 80% of trained PHP are holding at least two meetings and 10 household visits per week. • Households report the presence and use of soap during random weekly visits. • At least 80% of targeted households can demonstrate that at least three key hygiene practices are being implemented in their homes. 	<ul style="list-style-type: none"> • Project monitoring and implementation reports • Partner reports and monitoring records • Community reports/information • Technical staff reports • Visit reports and observation 																	
<p style="text-align: center;">Activities</p>	<ol style="list-style-type: none"> 1. Conduct a full baseline/knowledge, attitudes and practice survey in targeted communities. 2. Chlorinate water in all water points and shallow wells in the target areas. 3. Select, form and train water committees for the 20 newly rehabilitated wells. 4. Provide toolkits for the water committees. 5. Rehabilitate and cap 20 wells in Choleraal, Toghdeer and Galbeed regions. 6. Install hand pumps on 20 shallow wells. 7. Carry out training with 44 water chlorinators to cover all the affected areas and provide them with the pool testers and consumables necessary to monitor chlorine levels. 8. Design and construct emergency latrine, hand-washing and footbath facilities for CTCs. 	<p>Means International staff National staff Other staff cost and accommodation</p> <p>Supplies and materials</p> <ul style="list-style-type: none"> • Cholera prevention kits and replacement consumables • Footbath basins • Hand washing equipment for visitors and isolation centre staff • Water tanks for water storage in isolation centres • Latrines for CTCs • Cleaning equipment for CTCs • ORT equipment (buckets, cups and mats) • Fuel • Hand pumps • Cement, sand, gravel • Toolkits for water committees 	<p>Cost in USD</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td>International staff</td> <td style="text-align: right;">17,088</td> </tr> <tr> <td>National staff</td> <td style="text-align: right;">11,400</td> </tr> <tr> <td>Project inputs</td> <td style="text-align: right;">84,630</td> </tr> <tr> <td>Admin/operational costs</td> <td style="text-align: right;">20,570</td> </tr> <tr> <td>Transport and storage</td> <td style="text-align: right;">74,144</td> </tr> <tr> <td>Water sources management</td> <td style="text-align: right;">71,400</td> </tr> <tr> <td>Awareness campaign</td> <td style="text-align: right;">45,000</td> </tr> <tr> <td>Total project cost</td> <td style="text-align: right;"><u>324,232</u></td> </tr> </table>	International staff	17,088	National staff	11,400	Project inputs	84,630	Admin/operational costs	20,570	Transport and storage	74,144	Water sources management	71,400	Awareness campaign	45,000	Total project cost	<u>324,232</u>	
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Total project cost	<u>324,232</u>																			

	<ol style="list-style-type: none"> 9. Train CTC staff in cholera protocols and procedures. 10. Provide school hygiene and training sessions. 11. Select and distribute cholera prevention kits. 12. Design, produce and disseminate IEC materials for raising awareness. 13. Identify and contract women to clean the Hargeisa riverbed and Daami dam. 14. Support the relocation of the dumping site in Hargeisa. 15. Train and prepare young people to carry out drama and plays on the disease. 16. Develop and broadcast programmes on community awareness through TV and radio. 17. Design and produce posters and fliers, and disseminate widely in project areas. 18. Relocate the CTC in Burao project. 19. Carry out project monitoring and evaluation. 	<p>Training materials</p> <ul style="list-style-type: none"> • Delagua kit and consumables • Pool testers and consumables • Turbidity tubes • Chlorine and PUR sachets 		
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Resource 10.17: Field level cholera-specific monitoring forms²⁶

Form 1: Mini cholera survey for knowledge, attitude and practice baseline data

Please note: surveys should be based on the indicators in the approved log framework.

Households (10% of households picked randomly in each location)

Name of location:

Date:

Demographics				
1	Name of village			
2	Total number of people in household	adult male	<5 male	5-15 y/o male
		adult female	<5 female	5-15 y/o female
3	Female- or male-headed?	female		male
4	Number of people in family able to read and write	female		male
5	Date of interview			
6	Interviewer			

Water				
1	From where do you get your drinking water?	river	open well	gravity system
		hand pump	ponds on road	other
	How many containers for water collection do you have?			total litres
	How many containers do you use every day for your whole family?			total litres
2	Can you show me how you take water from that container if you want a drink?		uses a clean utensil	uses dirty utensil
			uses hand	container has tap
	Do you consider your drinking water to be safe for drinking?		yes	no
3	Explain answer			
4	Do you treat your drinking water?	yes	no	
	If no, why not?			
	If yes, what do you use?	Aquatabs	liquid bleach	
powder bleach		other		

²⁶ All monitoring forms and mini cholera survey adapted from internal Oxfam GB document: *Cholera Scale Programme, Haiti 2010-2011*, written by Elizabeth Lamond and Sophie Martin-Simpson.

Hygiene				
6	When do you think are the important times to wash your hands?	after using the toilet		before eating
		before preparing food		after handling children's excreta
		after feeding and watering animals		other:
7	With what do you wash your hands?	soap	ash	water only other:
Observations				
8	Are there faeces seen lying around the outhouse?	yes		no
9	Ask to wash your hands – were you offered soap?	yes		no
Latrine and sanitation				
10	Where do the adults in your family defecate:			
	during the day?	latrine	bushes	river other:
	at night?	latrine	bushes	river other:
11	Where do small children (<5) defecate:			
	during the day?	latrine	bushes	river other:
	at night?	latrine	bushes	river other:
12	Do women and girls have safety problems when defecating at night?	yes	no	If yes, explain:
13	What do you do with the faeces of small babies?	put in latrine	bury them	dog eats them other:

Household health				
14	Has anyone in your household had diarrhoea (three or more loose stools in 24 hours) over the past two weeks?	Yes		No
15	If yes, who was it?	Men	Women	Children < 5
16	Is anyone sick in your household at the moment?	Yes		No
17	If yes, list illness	Men	Women	Children < 5
18	Have you heard about cholera?	Yes		No
19	Do you know anyone that has cholera in this village?	Yes		No
20	What do you think causes cholera?	Dirty water		Other
		Dirty hands	Dirty food Evil sprits	

21	How do you prevent you and your family from getting cholera?	Treat water with chlorine	Cook food properly	Other
		Wash hands with soap	Clean water containers	
22	Have you heard of ORS?	Yes	No	
23	Have you heard of sugar and salt solution?	Yes	No	
24	Can you tell me how to make sugar and salt solution? (Record amounts, and whether correct.)			
	Do you know of other home-based rehydration methods?		Yes	No
	If yes – list them	1. 2. 3. 4.		
	When would you use these rehydration methods?	Cholera	Any diarrhoea	Other
25	Who in the family would not use them?	Adult male	Adult female	Child <5
		Child over 5	Other	
26	Why do these members of the family not use the rehydration method?			

Form 2: Monthly PHP household monitoring

Date: _____ Name of Researcher: _____
 Locality: _____ Number of people in Household: _____

For answers with , = Yes; X = No

1. Hygienic practices		
Question	Does the household currently practice?	Did the household practice before the cholera outbreak?
(a) Is soap present?	<input type="checkbox"/>	<input type="checkbox"/>
(b) Is soap used for washing hands?	<input type="checkbox"/>	<input type="checkbox"/>
(c) Do members drink water treated with Clorox/Aquatabs?	<input type="checkbox"/>	<input type="checkbox"/>
(d) If not, why not?		
(e) Do members have access to a sanitary latrine?	<input type="checkbox"/>	<input type="checkbox"/>
(f) Do members know how to prepare ORS? <i>[please check verbally or through demonstration]</i>	<input type="checkbox"/>	<input type="checkbox"/>
(g) Do members know how to prepare SSS? <i>[please check verbally or through demonstration]</i>	<input type="checkbox"/>	<input type="checkbox"/>

2. Knowledge of cholera symptoms		
Symptoms	Does the household know now?	Did the household know before the cholera outbreak?
Acute diarrhoea	<input type="checkbox"/>	<input type="checkbox"/>
Dehydration	<input type="checkbox"/>	<input type="checkbox"/>
Extreme weakness	<input type="checkbox"/>	<input type="checkbox"/>
Vomiting	<input type="checkbox"/>	<input type="checkbox"/>
Sweating	<input type="checkbox"/>	<input type="checkbox"/>
Total number of symptoms known <i>[please write a number]</i>		

3. Knowledge of cholera prevention		
Preventative action	Does the household know now?	Did the household know before the cholera outbreak?
Drink water treated with chlorine	<input type="checkbox"/>	<input type="checkbox"/>
Wash hands before putting anything in your mouth	<input type="checkbox"/>	<input type="checkbox"/>
Seek medical attention early if there are symptoms	<input type="checkbox"/>	<input type="checkbox"/>
Know how to prepare ORS/SSS	<input type="checkbox"/>	<input type="checkbox"/>
Total number of prevention methods known?		

4. ORPs	
(a) Is the household aware that the ORP/ORS corner exists?	<input type="checkbox"/>
(b) Do household members know what it is for?	<input type="checkbox"/>
(c) Has the household used it?	<input type="checkbox"/>
(d) Would the household use it?	<input type="checkbox"/>

Form 3: Post distribution of cholera prevention kits and water chlorination – household monitoring

Date:

Name of researcher:

Locality:

Communal section:

For answers with , = Yes; X = No

	HOUSEHOLDS VISITED				
	1	2	3	4	5
CHOLERA KITS					
1. Received a cholera prevention kit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Received kit from: a. Oxfam b. Unité Communale de Santé (UCS) c. Other (specify)					
3. Date received kit					
4a. Number of Aquatabs received					
4b. Number of bars of soap received					
4.c. Number of ORS sachet received					
AQUATABS					
5. Received training in use of Aquatabs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Use Aquatabs to treat drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6a. If yes, number of Aquatabs added per 5 gallons of water					
6b. If no, why not? (specify)					
7. Free residual chlorine level (mg/L)					
CHLOROX					
8. Quantity of Clorox received (l)					
9. Received Clorox from: a. Oxfam b. Other (specify)					
10. Date received Clorox					
11. Received training in use of Clorox	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Use Clorox to treat drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12a. If yes, amount of Clorox added to 5 gallons of water					
12b. If no, why not? (specify)					
13. Free residual chlorine level (mg/L)					
14. Only drinks treated water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Form 4: Latrine usage – Household level

Date:
Locality:

Name of Researcher:
Family Name:

For answers with , = Yes; X = No

1. Access to latrines – collect during first monitoring visit only	
1. Number of people with access to the household's latrine?	
2. Is the latrine used by:	Men <input type="checkbox"/>
	Women <input type="checkbox"/>
	Children <input type="checkbox"/>
3. Does the household share the latrine with other families?	<input type="checkbox"/>
4. If no, specify why not:	
5. Is the latrine being used?	<input type="checkbox"/>

2. Latrine usage – regular monitoring	
(a) Is the latrine correctly constructed?	<input type="checkbox"/>
(b) Being used?	<input type="checkbox"/>
(c) Clean?	<input type="checkbox"/>
(d) Are faeces present?	<input type="checkbox"/>
(e) Does it smell bad?	<input type="checkbox"/>
(f) Are flies present?	<input type="checkbox"/>

3. Hand washing –regular monitoring (after first monitoring visit)	
(a) Are hand-washing facilities being used? If not, specify why not.	<input type="checkbox"/>
(b) Is soap and water present at hand washing facility? If not, specify why not.	<input type="checkbox"/>
(c) Do the adults in your household wash their hands after using the latrine?	<input type="checkbox"/>
(d) Do the children in your household wash their hands after using the latrine?	<input type="checkbox"/>
(e) With what do you wash your hands?	

N.B. If a locality is found to have high usage of latrines in the analysis of first baseline monitoring, the frequency of monitoring can be reduced to monthly. Where low usage/heavy damage is reported, monitoring should remain fortnightly.

Form 5: Free residual chlorine monitoring form

Date:.....

Locality:

Source of drinking water:

	Family name	Number of people in the family	Volume of chlorine (or number of Aquatabs) added to water	Volume of water being chlorinated	Results (mg/L)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Resource 10.18: Surveys and ranking tables for water facility sanitary survey²⁷

Purpose of sanitary surveys of water facilities:

- to identify potential risks to water quality;
- to allow constructive criticism that leads to improvement;
- to interpret results from water quality analysis (find where contamination came from);
- to identify when there is a water-borne outbreak;
- as a routine exercise to monitor sanitary conditions.

Risk-ranking of sanitary survey results

On the survey form, each answer is marked or scored: No risk = 0; Risk = 1

If, for example, there is a proper seal between the hand pump and the well-head – write 0. If there is no proper seal, write 1. Add up the marks and use the ranking table to help prioritize work. All risk areas on all the surveyed water points should be dealt with.

Ranking table for sanitary survey results

Very high risk	9 points or more
High risk	6–8 points
Moderate risk	3–5 points
Low risk	0–2 points

Steps to take when a water sample fails a quality test:

- repeat water analysis;
- at the same time, conduct a sanitary survey;
- take steps to reduce risks identified in sanitary survey;
- carry out a further analysis of water quality to check that repairs or other actions have improved water quality.

Form 6: Sanitary survey form for open wells

Name of researcher:

Location of well:

Water point code:

Date of survey:

General questions for wells with or without hand pumps		
Is someone in charge of the well? <i>[ask a water user]</i>	Yes	No
If yes, who? <i>[contact name, how to find them]</i>		
Is the area around the well fenced?	Yes	No
If yes, does the fence have a closable door?	Yes	No
Are there any latrines within 30m of the well?	Yes	No

²⁷ Sanitary survey formats and ranking table adapted from: Smith and Shaw (1996) and WHO (1996).

Is there standing water within 2m of the well?	Yes	No	
Are there faeces within 10m of the well?	Yes	No	
Is there refuse within 10m of the well?	Yes	No	
Are people washing or bathing close to the well?	Yes	No	
Are there animals close to the well?	Yes	No	
Is there a concrete apron around the well?	Yes	No	
If yes:	Are there cracks in the concrete?	Yes	No
	If yes, is it deep / significant?	Yes	No
	Is there a concrete (or other technical designed) drainage channel?	Yes	No
Is the concrete apron of less than 2m in diameter around the well-head?	Yes	No	
Is there a drainage channel around the well?	Yes	No	
Is the drainage channel blocked?	Yes	No	
If the drainage channel is blocked, explain briefly why.			
Only complete if there is a hand pump present on well			
Is there a hand pump?	Yes	No	
If yes, is the hand pump working?	Yes	no	
If no – briefly explain the problems			
Is the well-head properly sealed around the hand pump?	Yes	No	
If no – briefly explain the problems			
How high is the hand pump outlet from the ground/concrete apron?	cm		

Open well – no hand pump		
How do people lift the water out of the well? [write observations]		
Is the well-head at least 80cm from the apron?	Yes	No
Is the seal between the well-head and the apron intact?	Yes	No
Is there a lid or cover to close to the well when not in use?	Yes	No
If yes, is it used?	Yes	No
If not used, why not?		
For wells with and without hand pumps		
Are people using funnels to direct water into the jerry can?	Yes	No
Do more than 10% of the jerry cans at the water point look clean inside?	Yes	No

Form 7: Sanitary survey form for boreholes with storage tank, pipe network and tap-stand

Name of researcher:
Water point code:

Location of well:
Date of survey:

General questions		
Is someone in charge of the water point? [ask a water user]	Yes	No
If yes, who? [contact name, how to find them]		
Is the tap-stand in a flood area?	Yes	No
Is the tap-stand area fenced?	Yes	No
If yes, does the fence have a door?	Yes	No
Is standing water present within 2m of the tap-stand?	Yes	No
Are faeces present within 10m of the tap-stand?	Yes	No
Are there animals in or close to the tap-stand?	Yes	No
Does the tap-stand sit on a concrete apron?	Yes	No
Are there children drinking or playing at the water point?	Yes	No
Are people washing clothes or bathing near the water point?	Yes	No

Is there a drainage channel from the concrete apron?	Yes	No
Is the drainage channel blocked?	Yes	No
If yes, why?		
Are the taps leaking?	Yes	No
Are people using funnels to direct water into the jerry can?	Yes	No
How high is the tap from the ground/concrete apron?	cm	
Do more than 10% of the jerry cans, at the water point, look clean inside?	Yes	No

Resource 10.19: Example of data summarization and mapping²⁸

Public health programmes gather many different types of data on a weekly or daily basis. This information often means little until it is linked to the ‘bigger picture’ and the results are visualised. To improve a project’s effectiveness, data should be disaggregated, where possible, into sectors or demarked zones within the locality. Linking data to a broader picture can help identify problem areas and show where specific steps may be needed.

If, for example, a particular sector has a high bacterial failure rate in stored drinking water within households, then it is important to know from where these households collect water. The routine analysis of all water points can be linked to household water analyses to discover if there is a correlation between failed sources, or if water is being contaminated after it has been collected.

Making links of this kind is critical when there is an unexpected cluster of diarrhoeal cases or, more importantly, when there is an expected cholera or AWD outbreak season. The easiest way to make the links between various sets of data is by adding charts to a ‘map’. The maps and charts should be as simple as possible, to make them easier for everyone to understand and act upon:

Step 1 Tabulate the weekly (daily at very beginning) results in a spreadsheet, as in the example below.

Table 13: Example weekly results for household stored drinking water chlorine level tests in Sector 1B

	wk1	wk2	wk3	wk4	wk5	wk6	wk7	wk8	wk9	wk10	wk11	wk12	wk13
0 - 0.2mg/l	2	4	5	3	6	1	4	0	0	0	0	0	0
0.3 - 0.4mg/l	3	0	2	1	0	1	1	2	3	4	2	3	2
0.5mg/l	0	0	1	1	0	2	0	1	7	5	5	5	6
0.6mg/l	0	0	2	3	0	0	3	1	0	2	2	2	3

A large number of rows of result parameters will lead to overcrowded charts and vital links may be missed – see below.

Step 2 Make a chart from the data. See [Figure 4](#) for an example.

Step 3 Repeat step 1 and 2 to cover the following data:

- source chlorine levels;
- source bacterial levels;
- AWD weekly data from medical NGOs.

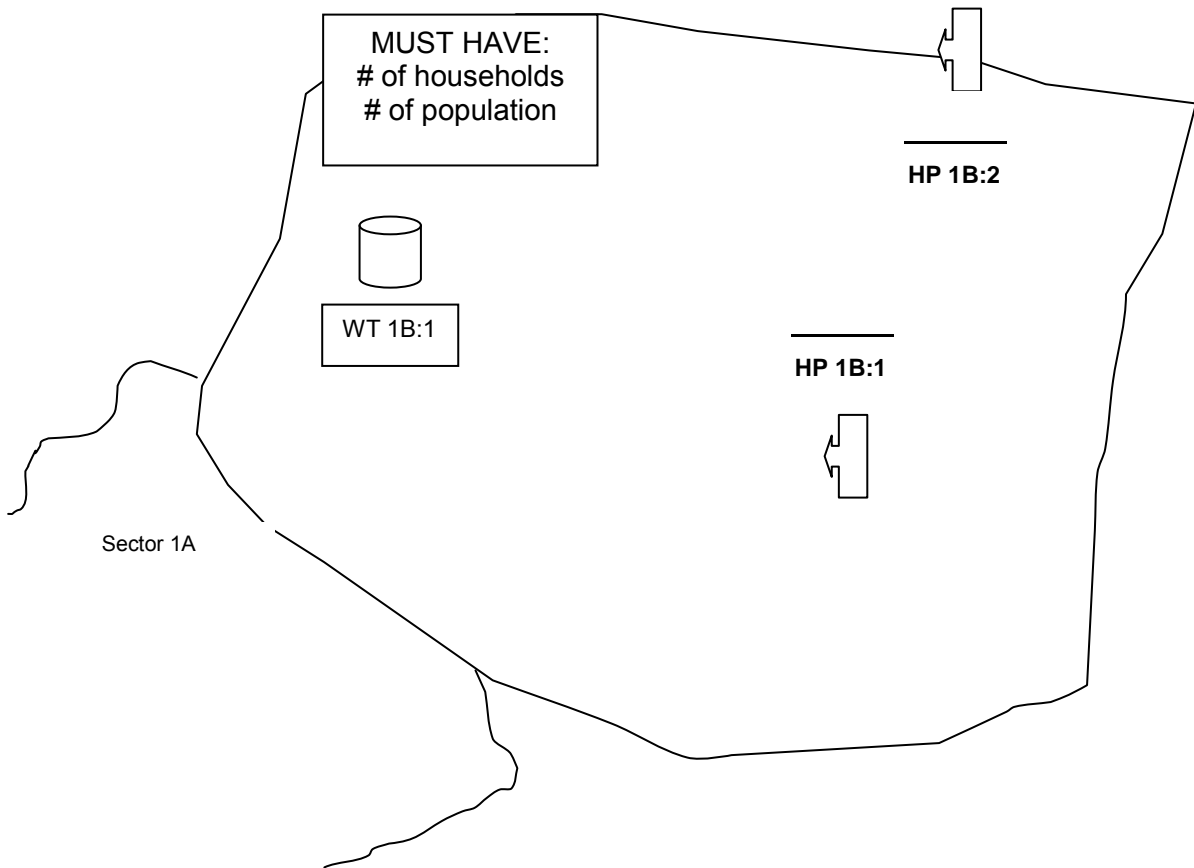
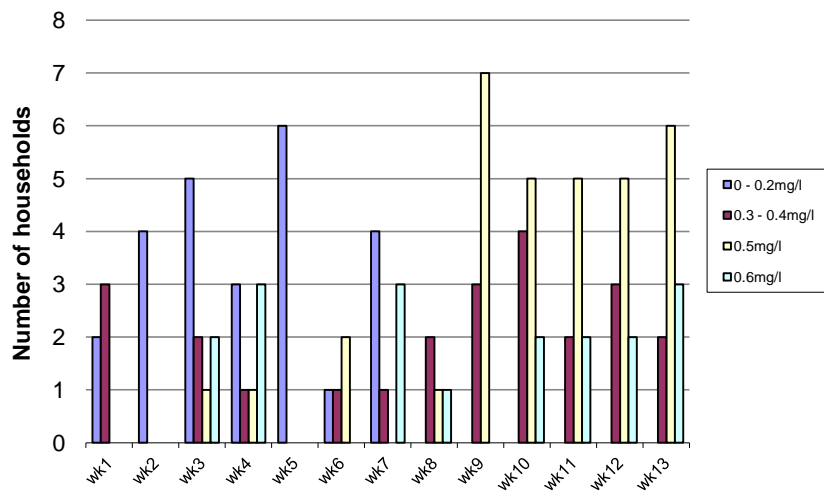
Step 4 Draw a rough map of each sector within the locality (camp/village etc.) and mark on the rough location of each type of available water point. Each water point should be numbered in an easily understood fashion.

Step 5 Place result charts next to their respective sectors, and link them with arrows. These maps must be displayed in local offices as well as the head office.

Step 6 Hard copies can be updated manually each week, but electronic versions must also be updated and stored each week, in preparation for writing reports.

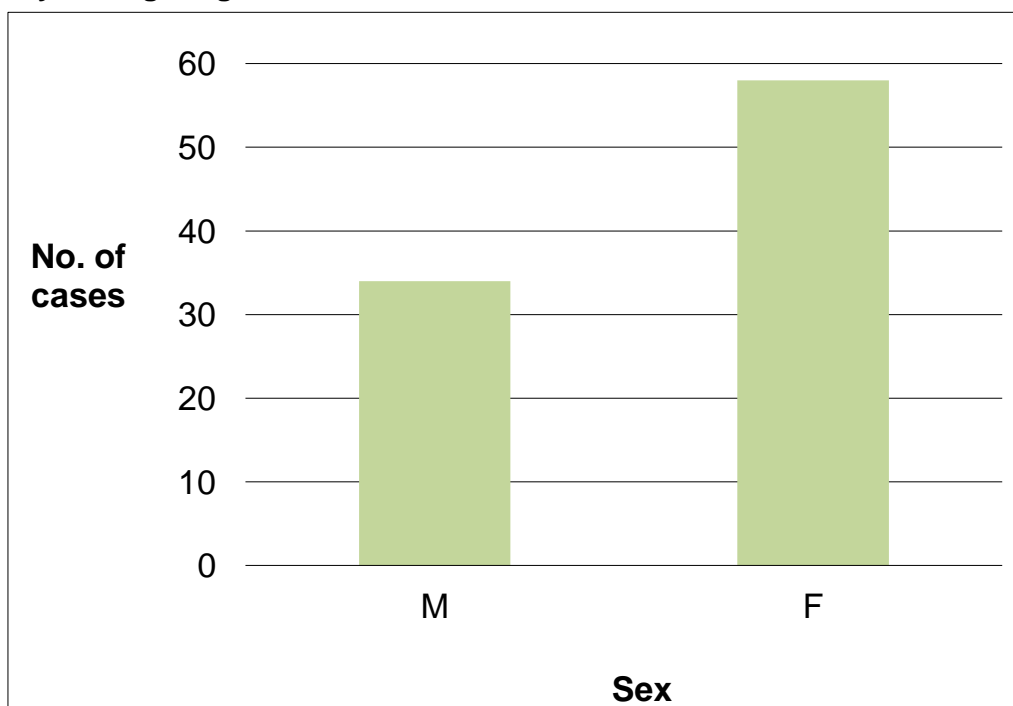
²⁸ Training materials adapted from *Oxfam GB Darfur emergency programme 2007*, written by Elizabeth Lamond. Internal Oxfam GB document.

Figure 4: Example weekly household chlorine levels for Sector 1B



In a similar way, if data is disaggregated according to age and sex, patterns of transmission may become more obvious and it is easier to target those most at risk: see the example in [Figure 5](#).

Figure 5: Cholera cases by gender in International Rescue Committee refugee camp, Kiryandongo, Uganda



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