Guidance Note on the Use of Oral Cholera Vaccines

International Medical Corps (IMC) & International Rescue Committee (IRC)
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# ACRONYM LIST

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEFI</td>
<td>Adverse events following immunization</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control (U.S.)</td>
</tr>
<tr>
<td>CFR</td>
<td>Case fatality rate</td>
</tr>
<tr>
<td>DOVE</td>
<td>Delivering Oral Vaccines Effectively (project)</td>
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<tr>
<td>DR Congo</td>
<td>Democratic Republic of Congo</td>
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<tr>
<td>EPI</td>
<td>Expanded Programme on Immunization</td>
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<tr>
<td>GAVI</td>
<td>Global Alliance for Vaccines and Immunization</td>
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<td>GTFCC</td>
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<td>ICG</td>
<td>International Coordinating Group</td>
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<td>IDP</td>
<td>Internally-displaced person</td>
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<td>IMC</td>
<td>International Medical Corps</td>
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<td>IRC</td>
<td>International Rescue Committee</td>
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<tr>
<td>KAP</td>
<td>Knowledge, attitudes and practice (surveys)</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and evaluation</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>MSF</td>
<td>Médecins Sans Frontières</td>
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<tr>
<td>NGO</td>
<td>Non-governmental organization</td>
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<tr>
<td>OCV</td>
<td>Oral cholera vaccine</td>
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<tr>
<td>OPV</td>
<td>Oral polio vaccine</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children Fund</td>
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<tr>
<td>WASH</td>
<td>Water, sanitation and hygiene</td>
</tr>
<tr>
<td>WC</td>
<td>Whole-cell (vaccine)</td>
</tr>
<tr>
<td>WC-rBS</td>
<td>Whole-cell vaccine with recombinant B subunit of the cholera toxin</td>
</tr>
<tr>
<td>WCA</td>
<td>West and Central Africa (UNICEF region)</td>
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<td>WHO</td>
<td>World Health Organization</td>
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</table>
SUMMARY

Oral cholera vaccines are increasingly being used in cholera-affected countries as an additional tool to prevent and control the disease, along with water and sanitation improvements and hygiene education. This increase is due in large part to the development of a lower-cost killed whole-cell vaccine designed for use in developing countries and pre-qualified by WHO in 2011, and the establishment of a global emergency cholera vaccine stockpile in 2013. A non-emergency vaccine reserve – managed by the Global Task Force for Cholera Control – has also recently been established to assist countries in controlling endemic disease in cholera “hotspots”. OCV has been used in recent years to pre-empt outbreaks in endemic areas following natural or man-made disasters (e.g., in refugee camps), to stop outbreaks from spreading (reactive vaccination), and to control endemic disease (preventive vaccination). Cholera vaccination differs from many others in that it usually targets specific high-risk areas or populations; all ages one year and above are vaccinated in most situations; the vaccine is delivered through mass vaccination campaigns (not through routine vaccination sessions); and two rounds are required (one for each dose), separated by two or more weeks.

The recent experiences with OCV use – including those gained by IMC and IRC in implementing the pilot OCV project – have generated a series of lessons learned on how to approach governments about the use of OCVs and incorporate them in their cholera control and outbreak response strategies, deciding if and when to conduct OCV campaigns, and how best to plan for and conduct campaigns that achieve high coverage and that integrate OCV with other cholera control and health interventions. There now exists a number of tools and other resources to assist NGOs and their host countries with decision-making and risk assessments, planning, implementing and evaluating the use of OCVs.

PURPOSE OF THIS DOCUMENT

The aim of this guidance note is to provide a basic orientation to technical staff and managers in IMC and IRC offices in cholera-affected countries about oral cholera vaccines (OCVs), their use, and key resources and tools to assist them and their counterparts in health ministries in making decisions about planning and implementing OCV campaigns as part of an integrated approach towards cholera prevention and control. This is not a comprehensive “how-to” guide (links are given to these and other tools), but rather a summary of the lessons learned from the experiences of IMC and IRC in implementing a pilot OCV project with UNICEF in four West and Central African countries (see box), as well as other field experiences with OCV. This note focuses on what is unique about planning and implementing cholera vaccination campaigns as compared to other vaccinations.

This document comes at a critical time when the availability of and access to oral cholera vaccines is increasing – including through a global emergency vaccine stockpile. Cholera outbreaks appear to be increasing in frequency, intensity and duration; and more and more countries are expressing interest in using the vaccine as part of their cholera control efforts.

BACKGROUND

The disease

Cholera is a dehydrating diarrheal disease usually caused by ingesting water or food contaminated with one of two serogroups (O1 and O139) of the bacterium, Vibrio cholerae. While most infections are asymptomatic or mild, around 20% of cases suffer from watery diarrhea and vomiting, which in severe cases (around 5%) can lead to death from severe dehydration in as little as four hours from the onset of symptoms, if untreated. Appropriate case management – consisting of rehydration with IV fluids or oral rehydration solution, along with antibiotic therapy in severe cases – can reduce the case fatality rate (CFR) from 30-50% to less than 1%. However, CFRs of 4-7% are still often seen, especially in Africa and especially during outbreaks [1].

THE UNICEF/IMC/IRC PROJECT: “Piloting the use of oral cholera vaccines in emergency settings through an integrated strategy”

This project, funded by the Bill & Melinda Gates Foundation, was implemented in four African countries – the Democratic Republic of Congo (“DR Congo”), Cameroon (both led by IMC), Chad and Niger (both led by IRC) from November 2013 to December 2015. Its objectives were to: 1) build country capacity related to cholera vaccination; 2) support emergency vaccination campaigns, as appropriate; and 3) document lessons learned and results to expand the evidence base regarding OCV use in an integrated approach. During the 25 months of implementation, the project:

- Increased awareness and knowledge of OCVs among ministries of health and other key policymakers and stakeholders in the four countries;
- Assisted three countries in revising their national or provincial cholera response strategies and plans to incorporate the use of OCVs;
- Assisted three countries in conducting cholera risk assessments in endemic areas and during outbreaks;
- Helped three countries with all or parts of the process of applying for vaccine from the global emergency stockpile and with planning all aspects of a vaccination campaign;
- Led the social mobilization campaigns for an OCV campaign implemented in a refugee setting;
- Developed or adapted a series of tools to assist in planning, training for, implementing and evaluating OCV campaigns.
Cholera is a disease of poverty, with much of the disease burden concentrated in two regions of the world – South Asia and Sub-Saharan Africa – and more recently in Haiti. Entire countries are rarely affected; instead the disease proliferates in high-risk areas where water and sanitation systems and general living conditions are poor. A recent analysis estimates that, on average, there are 2.9 million clinical cases of cholera and around 95,000 deaths per year [2]. There are distinct patterns of cholera epidemiology. In some “hotspots”, including Bangladesh, parts of India and Eastern DR Congo, cholera is ever present, but has predictable annual or semi-annual peaks in incidence. In other countries, including much of Africa, it occurs in unpredictable cycles of 2–5 or more years, with few cases between these epidemic periods (see Figure 1).

**Figure 1. Contrasting patterns of cholera epidemiology**

*Endemic cholera with seasonal peaks, Goma, DR Congo*

Preventing and controlling cholera

The main means of preventing cholera – and how it was eliminated in developed countries – is by building water purification and sanitation systems. Areas prone to cholera are those where people use contaminated surface water and where sanitation systems are inadequate (e.g., open defecation is practiced) or have broken down (e.g., during floods or conflicts) – thus contributing to contamination of drinking water sources. The mainstays of cholera prevention, including during outbreaks, are improving access to safe drinking water (e.g., by distributing water from safe sources or water purification tablets) and sanitation (e.g., by building pit latrines) and promoting good health and hygiene practices (e.g., handwashing with soap, boiling or treating water). These strategies are commonly referred to as “WASH” (water, sanitation and hygiene).

Some WASH experts and proponents have viewed vaccination against cholera negatively, believing it will detract from and compete with WASH interventions for attention and funding, as well as reduce communities’ interest in WASH improvements. Increasingly, however, policymakers are viewing vaccination as an additional, shorter-term measure that is part of a comprehensive approach towards cholera control that also includes improving access to clean water and adequate sanitation, good case management, enhanced disease surveillance and health education. Instead of reducing good hygiene practices, vaccination campaigns (See Figure 2) and accompanying social mobilization and communications efforts – if done well – can actually increase knowledge about preventing cholera and improve hygiene practices, as shown in a study conducted in Haiti [3].

**Figure 2. Integrated approach towards cholera control**

*OCV*  
*IEC/BCC*  
*WASH*  
*Surveillance*  
*Case Management*

**Oral cholera vaccines**

There are two main types of oral cholera vaccines currently available. The first is a two-dose vaccine made up of killed whole cells of different strains of *V. cholerae* O1, plus a recombinant component (B subunit) of the cholera toxin (WC-rBS), sold under the name, Dukoral®. This vaccine, first
licensed in 1991 and pre-qualified by WHO in 2001, is used mainly as a travelers’ vaccine for people from Europe and other industrialized countries. It is relatively expensive (US $5-7/dose to public sector agencies) and requires mixing with a buffer and clean water (due to the cholera toxin B subunit). This makes it challenging to use in cholera-affected countries under field conditions.

The second type of cholera vaccine was developed specifically for use in cholera-affected countries. It consists of killed whole cells of both O1 and O139 serogroups, but without the cholera toxin component, making it less expensive to manufacture and considerably easier to use, since no buffer solution is needed for administration. The first bivalent whole-cell only (WC) vaccine was licensed in India in 2009 under the name, Shanchol™ and pre-qualified by WHO in 2011. The second vaccine of this type – identical in composition to Shanchol™ – was licensed in Korea under the name Euvichol® and pre-qualified by WHO in 2015. Because of their ease-of-use under field conditions and their lower prices, developing countries have exclusively used this vaccine since Shanchol™ was pre-qualified. This document thus focuses on the use of the bivalent WC vaccine.

The bivalent WC vaccine requires two doses, separated by two or more weeks, for full protection, and can be given to all ages one year and above (see Table 1). The vaccine has a strong safety profile – with about 2% of vaccinees in past studies reporting mild to moderate symptoms (diarrhea, nausea, upset stomach) that lasted only a few hours and did not require hospitalization [4-7]. It provides around 87% direct protection at six months [8], 67% over two years [9], and 65% over five years [10], and is thus considered to last for at least five years.

The impact of the vaccine is greater, however, since it has been shown in studies to confer substantial herd protection (to those not vaccinated) if a certain proportion of the target population (e.g., 50%) is vaccinated [11-12]. Thus, the vaccine both protects the individual who receives it and reduces transmission, thereby protecting the overall community. The impact of vaccination was clearly shown in Juba, South Sudan, where an outbreak occurred in 2015. Pre-emptive vaccination had taken place in 2014 in U.N. camps of internally-displaced persons (IDPs), but not in the surrounding community. As shown in Figure 3, the camps experienced few cholera cases during the outbreak, as compared to the rest of Juba. In contrast, the attack rate in a non-vaccinated camp in another area of the country was especially high [13].

Besides the need for two vaccination rounds, a key operational issue in using this vaccine is the relatively large volume of cold storage required, since both Shanchol™ and Euvichol® are available only in single-dose vials. Shanchol™, for instance, takes up 16.8 cm$^3$ of space per dose, as compared to 2 cm$^3$ per dose for multi-dose vials of OPV and 2.5 cm$^3$ per dose for multi-dose vials of measles vaccine. Another issue is the fact that OCV cannot be given within two weeks of oral polio vaccination until studies show no interference in immune responses between the two vaccines.

### Table 1. Characteristics of the bivalent, whole-cell only oral cholera vaccine (Shanchol™ and Euvichol®)

<table>
<thead>
<tr>
<th>Contents</th>
<th>Five strains of killed whole cells of <em>V. cholerae</em> (4 strains of O1 and O139)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer: Shanchol™</td>
<td>Shantha Biotechnics, India (now a subsidiary of Sanofi Pasteur)</td>
</tr>
<tr>
<td>Euvichol®</td>
<td>EuBiological Co., Ltd</td>
</tr>
<tr>
<td>Pre-qualified by WHO?</td>
<td>Yes</td>
</tr>
<tr>
<td>Eligible ages</td>
<td>1 year old and above</td>
</tr>
<tr>
<td>Number of doses and schedule</td>
<td>2 doses given 2 weeks apart for all age groups (or longer if necessary)</td>
</tr>
<tr>
<td>Dose size and formulation</td>
<td>1.5 ml liquid vaccine</td>
</tr>
<tr>
<td>Efficacy</td>
<td>65% over 5 years for &gt;5 year olds</td>
</tr>
<tr>
<td></td>
<td>43% over 5 years for 1–5 year olds</td>
</tr>
<tr>
<td>Duration of protection</td>
<td>At least 5 years</td>
</tr>
<tr>
<td>Time required for protection after 2nd dose</td>
<td>7-10 days</td>
</tr>
<tr>
<td>Buffer required?</td>
<td>No</td>
</tr>
<tr>
<td>Presentation and packaging: Shanchol™</td>
<td>Single-dose vials. 35 vials to a box. Requires pliers or forceps to remove aluminum cap</td>
</tr>
<tr>
<td>Euvichol®</td>
<td>Single-dose vials. 10 vials to a box. Tear-off lid</td>
</tr>
<tr>
<td>Cold storage volume per dose</td>
<td>16.8 cm$^3$ (Shanchol)</td>
</tr>
<tr>
<td>Cold chain requirements</td>
<td>2° - 8° C</td>
</tr>
<tr>
<td>VVM type</td>
<td>14 days</td>
</tr>
<tr>
<td>Shelf life: Shanchol™</td>
<td>30 months</td>
</tr>
<tr>
<td>Euvichol®</td>
<td>24 months</td>
</tr>
</tbody>
</table>
USES OF ORAL CHOLERA VACCINES

When to consider using OCV

There are three main uses of cholera vaccine in cholera-affected countries:

1) Pre-emptive vaccination to prevent cholera from occurring during an emergency caused by natural disasters (floods, earthquakes) or man-made crises, such as armed conflict. In these situations, cholera cases have not yet occurred, but the area has had cholera in the past and the population is living in conditions that put them at high risk of getting the disease. In addition, the health system in these settings has often collapsed or deteriorated. The target population is often refugees or internally-displaced persons (IDPs) living in newly-established camps where water and sanitation systems are not yet in place, as well as the surrounding (host) communities.

2) Reactive vaccination to stop the spread of a cholera outbreak that has already started. Since epidemics often consist of a succession of local outbreaks as the disease spreads through the country or across national borders, the goal of reactive vaccination is to limit its spread to new areas, including across borders. Areas targeted for vaccination are those where few cases have occurred but which are considered at high-risk (e.g., with poor water and sanitation conditions, where outbreaks have occurred in the past, or where there has been considerable population movement). It usually is not effective to vaccinate in areas where the outbreak has already taken its toll, since most residents will have already become infected (Replace what’s in the parentheses with (often with few or no symptoms).

3) Preventive vaccination to control the regular occurrence of cholera in endemic areas. WHO defines an endemic area, such as a region or district, as one where the transmission of cholera diarrhea has taken place in three out of the past five years. Typical endemic areas or “hotspots” are coastal areas or regions bordering lakes with poor water and sanitation (such as the Lakes region of East Africa and the Lake Chad basin), and urban slums.
Since 2012, a series of OCV campaigns using Shanchol™ have taken place. These include pre-emptive vaccination during humanitarian crises (S. Sudan, Ethiopia), reactive vaccination during cholera outbreaks (Guinea in 2012, Nepal, Tanzania, Malawi and Iraq), and campaigns to reduce endemic disease (in the DR Congo, Haiti and Guinea in 2014).

Table 1. Main situations in which OCV is used

<table>
<thead>
<tr>
<th>Situation</th>
<th>Humanitarian crisis due to man-made or natural disaster (e.g., floods)</th>
<th>Outbreak has begun in one or a few areas of the country or just across the border</th>
<th>Cholera-endemic areas (hotspots) with annual peaks/outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of OCV campaign</td>
<td>Preemptive</td>
<td>Reactive</td>
<td>Preventive</td>
</tr>
<tr>
<td>Target Populations</td>
<td>Refugees, IDPs in camps and host communities (ages 1+)</td>
<td>Residents in areas at risk of spread of outbreak (ages 1+)</td>
<td>People living in hotspots (all ages 1+ or children (e.g., 1-14) only if resources limited)</td>
</tr>
<tr>
<td>Vaccine source</td>
<td>ICG stockpile</td>
<td>ICG stockpile</td>
<td>Few cases to date in targeted areas, but cholera known to occur in the past</td>
</tr>
<tr>
<td>Circumstances/conditions most appropriate for vaccination</td>
<td>Area is cholera-endemic and water and sanitation conditions are very poor. No cholera cases have yet occurred</td>
<td>Few cases to date in targeted areas, but cholera known to occur in the past</td>
<td>Poor water and sanitation infrastructure. Vaccination should occur before cholera season.</td>
</tr>
</tbody>
</table>

Where and who to target for vaccination

Cholera vaccination should target only geographic areas that are considered at high-risk, such as new refugee and IDP camps; urban slums and other communities lacking access to safe water, sanitation and health services. Any use of the vaccine requires a thorough analysis of cholera risk to determine if vaccination is warranted and to identify areas and populations to target. Vaccinating an entire country will hardly ever be warranted and will constitute a waste of vaccine and other resources.

For reactive and preemptive vaccination, all persons one year and older are normally targeted in order to reduce the number of vulnerable people as quickly as possible, and – in the case of an outbreak – to rapidly cut the transmission rate. For control of endemic cholera, WHO recommends that specific groups considered the most vulnerable to severe disease or death, such as children, pregnant women and HIV+ persons, can be targeted if resources are limited [14].

Cholera vaccine is usually delivered through mass vaccination campaigns in order to reach both adults and children and to ensure rapid delivery of the vaccine. In endemic settings, school-based campaigns targeting children could be considered.

KEY RESOURCES FOR CHOLERA VACCINE AND TECHNICAL ASSISTANCE

The global OCV emergency stockpile

This stockpile, created in 2013 in response to the cholera epidemic in Haiti. It is managed by the OCV International Coordinating Group (ICG), consisting of representatives from MSF, the International Federation of the Red Cross (IFRC), UNICEF and WHO (which serves as the Secretariat). The stockpile – a two-million dose reserve procured through UNICEF and kept by the producer – allows countries experiencing an outbreak or humanitarian crisis to procure vaccine in a matter of days after submitting a request, instead of the many weeks that it would normally take countries to obtain financing for and procure the vaccine. The ICG makes a decision within 48 hours of receiving the request, based on: 1) an assessment of the potential severity and growth of the outbreak; 2) the potential impact of vaccination; 3) the country’s ability to contain the outbreak through traditional means (e.g., WASH interventions); 4) the feasibility of the country to conduct a successful immunization campaign; and 5) the availability of vaccine.

The application requires countries to provide detailed information on cholera epidemiology and laboratory confirmation (in the case of an outbreak), a thorough risk assessment of an outbreak and its growth, and a detailed vaccination plan. The form also provides spreadsheets to calculate the vaccine needs for the proposed vaccination campaign, the costs of the campaign, and cold chain storage and transport requirements. The vaccine is provided for free to GAVI-eligible countries (other countries must reimburse the stockpile), but all countries must find funding for the operational costs of the vaccination campaigns. The application form, annexes consisting of templates and forms, and guidelines for completing the application can be found at
The Global Task Force for Cholera Control (GTFCC)
This task force, revitalized in 2014, serves as a global forum for technical exchange, coordination and the development of strategies to improve countries’ capacity to control cholera. It is the main resource countries often turn to for assistance in identifying and controlling cholera outbreaks. The GTFCC is made up of several organizations involved in cholera control (WHO, UNICEF, Médecins sans Frontières (MSF), Johns Hopkins University, U.S. Centers for Disease Control and Prevention (CDC), GAVI, among others) and has its Secretariat at WHO/Geneva. The Task Force has several Working Groups focusing on specific aspects of cholera control, including Epidemiology and Surveillance, Water and Sanitation, OCV, Advocacy and Social Mobilization. Relevant websites are http://who.int/cholera/vaccines/en/ and http://www.who.int/cholera/task_force/en/.

The non-emergency OCV reserve
The purpose of this reserve stock, created in 2015, is to help countries accelerate the reduction of cholera in hotspots, along with longer-term improvements, such as WASH, improved cholera surveillance and improved case management. Decisions about the use of this reserve are made by the OCV Working Group of the GTFCC, with coordination by the GTFCC Secretariat. The first use of the reserve has taken place in Haiti. Information about the non-emergency reserve can be obtained from the GTFCC.1

Regional cholera projects and platforms in Africa
As part of its WASH programming, UNICEF’s West and Central Africa (WCA) regional office has included cholera prevention and control as one of its priorities for the 15 at-risk countries in the region. One initiative is the development and implementation of the ‘Sword and Shield’ strategy, consisting of cholera prevention activities (such as surveillance and WASH) (the “shield”) and outbreak response (the “sword”) (see Annex 2). It also publishes weekly cholera updates as well as country-specific factsheets on Cholera Epidemiology and Response (see: www.unicef.org/wcaro/english). A WCA Cholera Platform – coordinated by UNICEF and consisting of many aid agencies and NGOs – was created in 2012 as a coordinating mechanism for partners responding to cholera outbreaks using a multi-sectoral approach. The Cholera Platform also serves as a forum for advocacy for better preparedness and response to cholera outbreaks; and as a means of sharing resources for training, information and tools. Work is currently underway to re-establish a similar platform for East and Southern Africa.

KEY LESSONS LEARNED AND RESOURCES FOR DECISION-MAKING, PLANNING, IMPLEMENTING AND EVALUATING OCV CAMPAIGNS

This section provides key pointers and lessons learned from the UNICEF/IMC/IRC OCV project and other field experiences in planning and implementing OCV campaigns. It does not cover all steps or aspects involved in each stage of the process; refer to the guides and other tools listed (with links) in each sub-section. A summary of the lessons learned is shown in Annex 1.

Decision-making about the use of OCV and coordination with key stakeholders
Developing national cholera control plans
The use of cholera vaccines should always be part of a comprehensive strategy of preventing and controlling cholera. Providing vaccine while doing nothing to prevent the continual contamination of drinking water sources either in the short- or long-term is less likely to have the support of governments or the population. It will also be less effective in controlling the disease, since WASH and vaccination act synergistically to reduce disease incidence [15]. Plans for the use of OCV should therefore be part of national cholera control plans and not stand-alone documents. The plans should be prepared with representatives of key sectors—such as ministries involved with water and sanitation infrastructure improvements, planning, education—in addition to the health sector, to ensure a truly integrated approach.

Ownership by the government (e.g., the Ministry of Health) in developing or revising a national cholera control plan to include OCV is critical to ensure that the plan is completed and approved at the highest levels of the ministry. This sense of ownership was accomplished in Cameroon through the establishment of a multisector working group – consisting of government representatives from health, WASH, communications/health promotion and education sectors – which revised the National Cholera Contingency Plan during two workshops.2 Countries with national cholera control plans that include well-defined plans for OCV use are more likely to submit a stockpile request in a timely manner and to implement OCV campaigns.

Engaging key stakeholders
A successful strategy of cholera control that includes vaccination requires the buy-in of and collaboration with a broad set of actors both within and outside of the Ministry of Health. This can best be accomplished by conducting a stakeholder analysis or mapping exercise to identify all persons involved in making or influencing decisions or possibly derailing them (see box on the next page). One

1 At: cholera@who.int

2 The revised plan is now awaiting the endorsement of an inter-ministerial committee.
can start by determining if a National Cholera Task Force or Cholera Coordinating Committee exists and approaching its officers.

Country representatives from WHO and UNICEF should be involved in efforts to include OCV in controlling cholera and be invited to all key meetings. The participation and approval of these highly-regarded organizations can be critical in influencing the political leaders of the MOH regarding the use of OCV.

The importance of identifying all key stakeholders and defining their roles in OCV-related decision-making

Conducting a thorough stakeholder mapping exercise early on in the process of discussing the inclusion of OCV into a national cholera control plan or as part of a response to a cholera outbreak can be critical to the successful introduction of OCV. This is true even if IMC or IRC has a presence in country and thinks they are familiar with the key stakeholders. This exercise should be conducted jointly with – and preferably led by – the MOH to ensure that all key groups and staff members that make or influence decisions regarding cholera control and vaccination are identified.

Such an analysis also helps the government to assign specific roles and responsibilities early on in the planning process to different partners interested in supporting OCV campaigns. This is critical since many partners will not commit to a specific contribution until the MOH clarifies its needs and the contribution of the various partners and requests their help. It also avoids last minute MOH requests to fill in gaps in funding or technical assistance.

The Ministry of Health should lead – and be perceived as leading – the entire process, starting with the decision on whether or not to vaccinate. Campaigns that are purely NGO-driven, with little involvement of the MOH, are less likely to be successfully executed or to lead to the further use of the vaccine. An OCV campaign in the refugee camp that was implemented by an international NGO, that submitted an application for use of the stockpile and managed the campaign funds and budget, was nearly derailed by the MOH, since it had little ownership in the activity. This lack of local ownership and perception of an externally-driven process can occur if, for example, external partners draft the risk analysis and other required documents for the stockpile application (in an effort to speed up the process) and only then meet with the MOH and other partners to finalize the application. Thus, engaging key government stakeholders from the very beginning – that is, at the stage of detecting cases – is essential. Proceeding with a stockpile application or otherwise planning the use of OCV before there is evidence of a strong commitment on the part of MOH decision-makers is less likely to result in government approval and can even be counterproductive. If donors require that funds be managed by the NGO, being as transparent as possible in developing the budget and in accounting for expenditures can help increase government cooperation and reduce its resistance.

Achieving local ownership in decision-making about the use of OCV as part of an integrated approach towards cholera control can be a gradual process that requires convincing data and numerous meetings with different stakeholders. Participation in regular disease surveillance meetings has been shown to be one way to effectively increase awareness within the MOH about cholera and OCV (see box).

Putting cholera in the disease control agenda

A best practice is to engage a national-level surveillance committee or group, such as an Epidemic Prevention and Response Technical Committee or the MOH Department of Disease Control, to introduce discussions of cholera and OCV. Putting cholera on the agenda of the routine (often weekly) surveillance meetings, which review data on all diseases, can help build awareness and support for OCV as part of overall cholera response. This can also ensure that cholera is considered in the context of other disease outbreaks and responses, and in planning other vaccination campaigns.

Within the MOH, departments of disease control and surveillance are normally the lead group responsible for detecting and responding to cholera outbreaks. NGOs and aid agencies often approach them first to discuss a potential or ongoing cholera outbreak, the possibility of conducting an OCV campaign and applying for vaccine from the global emergency stockpile. Experience shows, however, that other relevant departments – especially the immunization program, but also WASH and behavioral change communications units – need to be brought into the process early on. Not doing so can slow down the decision-making and require additional sets of meetings with these departments. This occurred in one country where the vaccination sub-directorate was brought into the stockpile application process quite late, slowing down the process. The end result was that the application was not submitted to the ICG in time to catch the cholera season.

The stakeholder analysis should also identify how decisions within the government and the MOH are made and by whom, especially regarding the introduction of new vaccines. In some countries, it may be important to approach top
echelons of the MOH – including the Health Minister – early in the process, to avoid major delays in decisions about using OCV and applying for the vaccine from the emergency stockpile or non-emergency reserve. In one country, top policymakers were not approached until quite late in the process of preparing the ICG application form, which was done with technical staff within the ministry, under the assumption that they would convey the information to higher-ups. This communication did not occur and the result was a delay in approval of the planned OCV campaign and its eventual cancellation.

Who will fund the OCV campaigns?

The emergency cholera stockpile run by the ICG covers the cost of vaccine for all GAVI-eligible countries, but not the operational costs of planning and implementing a vaccination campaign. In some countries, decisions not to use OCV during outbreaks have been due in part to MOH concerns about how to pay for these costs. Thus, the issue of financing should be raised upfront during discussions about the potential use of OCV. Possible funding sources for OCV campaigns are external donors, such as ECHO (European Commission’s Humanitarian Aid and Civil Protection Department) and CERF (the U.N. Central Emergency Response Fund), and the MOH budget. In some cases, the MOH will be reluctant to fund OCV from its annual budget since in many countries an outbreak is not certain to occur in any given year. However, most MOHs have an emergency funding envelope set aside annually that could be a possible source of funding for an OCV campaign.

Decisions about whether to use OCV – either in emergency or non-emergency situations – should always be based upon a thorough analysis of the risk of a cholera outbreak occurring or expanding (for pre-emptive or reactive vaccination) or the continual risk of endemic disease (for preventive campaigns in known hotspots). This in turn requires solid epidemiological data, including laboratory confirmation of cholera. NGOs and other partners have proven to be critical in helping countries conduct cholera risk assessments in many countries. The ICG stockpile application contains forms for conducting a risk analysis, along with instructions, for both reactive and pre-emptive vaccination.

The timing of a campaign can also be a critical factor in deciding whether to go ahead with plans to vaccinate and whether a request to the ICG will be accepted. If during an outbreak the number of cases is already decreasing, the outbreak may be waning and thus vaccination could have little impact. For reactive vaccination to be effective, countries must be able to complete an ICG application form and plan a campaign in three or four weeks after starting the risk assessment. Countries that already have in place contingency plans and procedures for OCV vaccination will be in a stronger position to successfully mount a campaign than those that do not. After floods caused a cholera outbreak in a region of Africa, one country that had already made plans for preventive OCV campaigns, was able to rapidly submit and receive approval for a request for use of the emergency stockpile. However, a neighboring country also affected by the floods, but which was unfamiliar about the new OCVs, was not able to prepare a request until the outbreak was already waning, and its request was denied.

In setting the dates of the two vaccination rounds, the schedule for other major health activities should be considered. Some OCV campaigns can possibly be integrated or incorporated into other health events, such as Child Health Days, tetanus toxoid or measles vaccination campaigns taking place in targeted areas, which could boost coverage of the vaccine. However, as noted above, OCV cannot be given within two weeks of administration of OPV, until studies have taken place that show no interference in immune response for either vaccine.

Determining the need for vaccination

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Tools and other resources for decision-making

- OCV request form for ICG support, annexes and guidance document found at: http://www.who.int/cholera/vaccines/ocv_stockpile_2013/en/ (includes guidance and forms for conducting a risk assessment)
- Risk assessment resources:
  - Sample risk assessment reports (in French):
    - Chad
    - North Kivu Province of DR Congo
- WHO cholera vaccine website – GFTCC is placing documents (tools, guides, recommendations, videos, etc…) on this site found at: http://www.who.int/cholera/vaccines/en/.
- Factsheet on examining the feasibility of an OCV campaign (found in Module 3 of the stopcholera toolkit) https://www.stopcholera.org/toolkits/stopcholera-toolkit)
**Planning and implementing mass OCV campaigns**

Many of the steps involved in planning and implementing OCV campaigns are similar to those required for other vaccination campaigns (e.g., polio, measles, rubella, meningitis) and other vaccine introductions. Therefore, many of the existing strategies and tools used for other vaccines can be adapted for OCV. Modifications are needed to account for the broad age range targeted by most OCV campaigns, the need for two vaccination rounds, and the desired integration of OCV with other cholera control measures or maternal and child health interventions.

**Efforts to ensure high immunization coverage**

OCV campaigns have typically achieved overall coverage rates of around 50-75% for the second vaccine dose, though coverage as high as 93% (in refugee camps) has been achieved. The rates are often dragged down by low coverage among adults, especially men, who are not used to getting vaccinations and often need to miss work to attend a vaccination session. Often, they may be willing to miss one day or part of a day of work, but not two, so their drop-out rates (between doses) are especially high. Program planners therefore need to be creative in finding ways to provide the vaccination at times and venues convenient for working adults, that is, beyond the typical weekday morning and early afternoon sessions held at health facilities and other fixed sites that are used for infant vaccinations. Once the campaign is underway, it is also important to monitor and then adjust the strategies – for example, by setting up new vaccine sites in under-served areas or additional sites in the same areas – in order to achieve as high coverage as possible.

In addition to making the vaccination more convenient for adults, drop-out rates can be reduced by emphasizing the need for the second dose to vaccinees and providing them with clear instructions on when and where to go for the second round. In some places, the unpleasant taste of the vaccine may have contributed to some people not returning for the second dose. Providing clean drinking water, biscuits or candy to vaccinees after the vaccination is a strategy that several campaigns have used to address this issue.

**Integrating OCV with other cholera control and health interventions**

Combining cholera vaccination with other strategies to prevent and control cholera – such as providing hygiene education during social mobilization campaigns and vaccination sessions and distributing soap and chlorine tablets to treat water – can both boost vaccination coverage and help reduce cholera transmission. The distribution of soap has been found to be a strong incentive in getting vaccinated in some places, especially in refugee and IDP camps where soap can be a rare commodity. However, it may also have unintentional consequences, such as providing an incentive for people to get themselves or their children revaccinated to obtain additional soap.

OCV planners have creatively used the opportunity of OCV campaigns to provide other maternal and child health services at the vaccination sites. In one campaign targeting refugees, tetanus toxoid vaccination of women and malnutrition screening of children were also provided, along with soap distribution. In another campaign, OCV was combined with the distribution of deworming medicine and vaccination against measles and meningitis.

**Decisions to be made at the country level**

Clear global guidance is lacking on certain issues in implementing OCV campaigns. Decisions about these issues should be made in collaboration with in-county policymakers and cholera vaccine experts. These issues include:

- **Whether to include pregnant women in OCV campaigns.** Vaccine product inserts state that the vaccine is not recommended during pregnancy (though pregnancy is not contra-indicated), due to a lack of clinical data on its safety in pregnant women. A recent study from Guinea has shown no increased risk of pregnancy loss or fetal malformation from pregnant women taking the vaccine, and additional studies are underway [16]. Countries are increasingly including pregnant women in campaigns due to their greater vulnerability to severe disease and the lack of evidence of any harm caused by OCVs in pregnant women. It is important that country-specific guidelines or training manuals for OCV campaigns clearly state whether pregnant women are eligible to take the vaccine and why or why not.

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**Vaccine delivery strategies used to maximize vaccination coverage in past OCV campaigns**

- Extend hours to include evenings and early mornings
- Include vaccination sessions on weekends
- Set up vaccination sites at workplaces, motor taxi stands, fishing villages, marketplaces, food distribution centers (in refugee camps) and other places where adults can be easily found
- Provide the vaccine door-to-door at homes and/or shops
- Provide clear information about the need for the second dose, when and where to obtain it, and the need to **BRING THEIR VACCINATION CARD WITH THEM** to the second round
- To reduce drop-out rates between doses:
  - Continue social mobilization/communication activities after the first round
Whether to exclude people in Round 2 who have not received the first dose. While persons who did not receive OCV in the first round have been excluded from Round 2 in some campaigns (especially pilot studies), other campaigns have included them and have made the second dose available at health centers after the campaigns.

Social mobilization and communications for OCV campaigns
As with any vaccination campaign, mass OCV campaigns require a well-designed communication and social mobilization component, developed in close collaboration with community leaders and other local partners familiar with the local culture, political structure and languages. This is usually conducted by the MOH department responsible for health promotion and communications, in collaboration with local-level community representatives. UNICEF has developed a communication guide specifically for OCV campaigns (Framework for Developing an Integrated Communication Strategy for the Introduction of Oral Cholera Vaccine in Cholera Prevention and Control Programmes)\(^3\) to assist program managers in planning all aspects of a communication strategy.

A comprehensive approach toward social mobilization for an OCV campaign in IDP camps in Juba, South Sudan

To ensure high vaccination coverage during an OCV campaign conducted in three IDP camps in South Sudan in 2015, a four-pronged approach was used to raise awareness about the campaign:

- **A series of meetings with community leaders** that started weeks before the campaign and continued during and between each round. The meetings were used to sensitize them about the benefits of the vaccine and importance of mass participation, to answer their questions, and to encourage them to inform residents in their respective areas of the camp. The meetings held during the campaign also provided an opportunity to update the leaders about the campaign and its progress.

- **Use of community radio.** Public service announcements in the local Nuer language about the OCV campaign and the benefits and importance of the vaccine were broadcast on a camp radio station for an entire week prior to each vaccination round.

- **Deployment of community health promoters.** Starting one week before the first round, 35 IMC health promoters, along with promoters employed by other partner organizations working in the camps on WASH and other activities, used megaphones and went door-to-door to inform residents about the campaign, the benefits of being vaccinated and cholera prevention measures. This work continued throughout and between both vaccination rounds.

- **Mobilization by the vaccination teams.** The designated community mobilizer on each vaccination team also announced the campaign while it was underway by megaphone and through door-to-door visits in his or her respective area of responsibility.

Vaccination coverage in the camps for two doses was 84%, as determined by a post-vaccination coverage survey.

Conducting a rapid assessment of the attitudes, beliefs and practices of the target communities regarding cholera,

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diarrhea and immunization; effective communications channels; and enabling factors and barriers to people getting vaccinated can help to develop effective messages and communication strategies. This does not necessarily require a population-representative knowledge, attitude and practices (KAP) survey, which can entail considerable time, expense and expertise, but instead this information can be obtained by reviewing existing data from other relevant surveys or conducting several interviews or focus group discussions with community leaders, health workers and community members. An analysis of the barriers to vaccination has been found to be especially helpful in anticipating and addressing potential problems, such as rumors and misinformation about the vaccination. Well-trained social mobilizers can also serve as “ears on the ground” to detect and report such misinformation, so that it can be quickly dealt with.

All communications activities and materials about the OCV campaign, including health promotion conducted during the vaccination sessions, should include information on how to prevent cholera and where and when to seek treatment. One innovation is to include educational messages with pictures on the back of the vaccination card handed out during the first round.

It should be noted that the optimal channels of communication to inform the public about an OCV campaign may differ from that of other vaccination campaigns or health interventions. In particular, mass media – such as television, radio and mass SMS messaging – may not always be appropriate, since most OCV campaigns target a specific population or area, such as an urban slum or a part of a district. Unless messages via these media can be limited to the particular target population, they may draw people from non-targeted areas to get the vaccine, potentially leading to vaccine shortages, lower coverage of the target population, and reduced impact of the campaign.

**Training**

As with any new vaccine, all those involved in the OCV campaigns should receive direct training on the vaccine and campaign, including vaccinators, program managers, supervisors, social mobilizers and logisticians. The training – typically one-day long – should cover the topics of cholera disease, cholera prevention and control strategies, OCVs and strategies for using them; justification for the OCV campaign, how to plan and conduct OCV campaigns, handling and administration of the vaccine (including the cold chain), communicating key messages with the public and vaccinees about the disease and vaccination, AEFI reporting, and data collection. Planners may want to consider a separate training for social mobilizers. Training that is participatory and hands-

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**Hands-on training for OCV campaigns in Juba, South Sudan, 2015**

Trainees received practice in:
- Setting up a mock vaccination site and practicing patient flow (through role playing)
- Opening up the Shanchol™ vials (requires pliers or forceps)
- Administering the vaccine – all trainees were vaccinated during the mock vaccination session
- Filling out the vaccination cards, tally sheets and other data collection forms
- Handling potential AEFIs (through role playing in communicating with vaccinees or their parents about the possibility of side effects, referring patients to a health facility and arranging transportation)
- Waste disposal

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**Tools and other resources for social mobilization and communications**

- Materials developed by IRC and IMC
  - **Sample key messages from prior campaigns (in French)**
  - **Sample vaccination card with educational messages on back**
  - **Sample Leaflet About Cholera for OCV Campaigns (French)**

**Tools and other resources for training**

- Materials developed by IRC and IMC
  - **Sample curriculum for training of social mobilizers (from Chad)**
  - **Guide de formation des acteurs (from Chad) (Training guide in French)**
  - **Job aid on OCV and training presentations from S. Sudan (in English) and Chad (in French)**
on is considered to be most effective for adult learners (see box).

Although there are usually only two or so weeks between the two vaccination rounds, several persons who have experience with OCV campaigns recommend a short refresher training a few days before the second round. The refresher training provides an opportunity for vaccinators and other staff to discuss lessons learned from the first round (e.g., what strategies for finding people and delivering the vaccine worked and didn’t work), to suggest changes, and to discuss remaining issues and questions.

Data collection, monitoring and evaluation (M&E) and research

All M&E and research activities need to be planned in detail during the preparation stage of the campaigns. As for any vaccination campaigns, a minimum set of information should be collected for OCV campaigns, as outlined by the ICG (see “Minimum M&E information” on the stockpile Website) (Figure 4). These include routine data on the logistics of the campaign (e.g., number of vaccination sites and teams, dates of arrival of vaccine and of each round, resources used and total costs) and AEFI monitoring and reporting. To measure immunization coverage and the impact of vaccination, it is also critical to collect administrative coverage data for each dose and cholera surveillance data in vaccinated and surrounding areas. If time, expertise and resources are available, a population-representative vaccination coverage survey is also recommended, since population data used to estimate administrative coverage are often inaccurate, especially in areas with considerable population movement.

Tools and other resources for M&E and research

- Information to be collected for the purpose of Monitoring & Evaluation of the OCV mass vaccination campaign (“Minimum M&E information” table on the cholera stockpile Website (http://www.who.int/cholera/vaccines/ocv_stockpile_2013/en/))
- Series of M&E guidelines and generic protocols developed for the cholera vaccine stockpile (available at http://www.who.int/cholera/vaccines/ocv_stockpile_2013/en/), including:
  - KAP Surveys during cholera vaccination campaigns
  - Monitoring and evaluation of AEFI during OCV mass vaccination campaigns
  - Cholera surveillance to inform OCV vaccination campaigns
  - Generic protocol for vaccine coverage post implementation of a mass vaccination campaign with oral cholera vaccine
  - Generic protocol for vaccine effectiveness post implementation of a reactive mass vaccination campaign with oral cholera vaccine

Figure 4. Information to be collected to monitor and evaluate OCV mass vaccination campaigns

Source: “Minimum M&E Information” document from the global cholera vaccine stockpile (http://www.who.int/cholera/vaccines/ocv_stockpile_2013/en/).
REFERENCES


USEFUL WEBSITES

16. World Health Organization main cholera Website (http://www.who.int/topics/cholera/en/): provides information on the disease, cholera prevention and control, cholera vaccines, cholera outbreaks and statistics and updates on outbreaks, and diarrheal disease treatment.

17. WHO cholera vaccine website http://who.int/cholera/vaccines/en/: provides tools, guides, recommendations, and videos.

18. The global cholera vaccine stockpile Website (http://www.who.int/cholera/vaccines/ocv_stockpile_2013/en/): provides application form and annexes and guidance document for accessing vaccine from the stockpile

19. The UNICEF cholera Website (http://www.unicef.org/cholera/): provides information and resources concerning cholera control and the UNICEF Cholera Toolkit, case management, WASH, vaccines, communications for development, and information from the WCA region, including country-specific cholera factsheets and weekly cholera epidemiological updates for the region.

20. The Global Task Force for Cholera Control Website (http://www.who.int/cholera/task_force/en/): Provides information on the task force and meeting reports

21. The U.S. Centers for Disease Control and Prevention (CDC) Cholera Webpage (http://www.cdc.gov/cholera/index.html): A key resource for information concerning the disease; diagnosis, detection and treatment; prevention and control, including vaccines; policies and recommendations; and cholera data and references by region (and country in the case of Africa). Provides materials and resources concerning health promotion, cholera outbreak response, and training and education.

22. Stopcholera.org (Website of the Delivering Oral Vaccines Effectively (DOVE) project of the Johns Hopkins University School of Public Health. Includes information, resources and tools on cholera and cholera epidemiology, cholera prevention, and cholera vaccines, including a Stopcholera toolkit for use of OCV.

23. MSF/Doctors without Borders Cholera page (http://www.msf.org/diseases/cholera): provides information on the disease, diagnosis and treatment and updates on cholera outbreaks and MSF’s work.

ANNEX 1. SUMMARY OF LESSONS LEARNED FROM EXPERIENCES WITH INTEGRATING ORAL CHOLERA VACCINATION INTO CHOLERA PREVENTION AND RESPONSE PROGRAMMING IN AFRICA

Who to involve in advocacy and decision-making about the use of oral cholera vaccines:

- Identify all key stakeholders from the very beginning – ideally by conducting a stakeholder mapping exercise – and engage them from the start in developing or adapting an existing cholera control plan and in decision-making about the use of OCV in response to an outbreak or humanitarian crisis;
- The Ministry of Health should lead the process of decision-making, planning and organizing an OCV campaign, which should not be viewed as NGO-led. If funding for the campaign is controlled by an NGO, the NGO should be as transparent as possible with the MOH about the budget, costs and expenditures;
- While the department responding to cholera outbreaks is usually the disease control unit of the health ministry, be sure to involve the immunization program (or EPI) from the very beginning to ensure a well-planned and executed vaccination campaign;
- Approach top health officials and policymakers from the beginning – and not just technical staff – to ensure their buy-in and support, and do not assume that information within the MOH will flow upwards or downwards;
- Groups involved in cholera and diarrheal disease control outside of the MOH, such as the ministry responsible for water and sanitation improvements and the education ministry, are also key stakeholders that should be engaged in making decisions about, planning and implementing OCV campaigns using an integrated approach.

Development of national cholera control plans:

- Plans for the use of OCV should be incorporated into national cholera control plans – and not written as separate documents – to encourage the integration of cholera vaccination within the country’s overall strategy for controlling cholera and the incorporation of other cholera control and health interventions in OCV campaigns.

Assessing the risk of cholera:

- Approval for use of the ICG emergency stockpile, as well as the development of a well-conceived vaccination plan, depends on an analysis of the risk of cholera in a country or area of a country, which in turn is based on solid epidemiological data and appropriate laboratory confirmation;
- Technical assistance from partners has been critical in conducting cholera risk assessments in a number of African countries that have requested vaccine from the stockpile or have developed national cholera control plans that include the use of cholera vaccines.

Planning and implementing OCV campaigns:

- Reactive vaccination to stop the spread of a cholera outbreak requires acting quickly before the outbreak begins to wane or move elsewhere in the country. Countries that have already prepared a strategy or action plan for the use of the vaccine are more likely to be in a position to successfully apply for vaccine through the stockpile and to mount a successful campaign than those that do not already have such plans;
- When scheduling a campaign, be aware of other major health activities or other community events that may interfere with the two OCV rounds. OCV campaigns cannot be held within two weeks of oral polio vaccination campaigns until studies show no interference with the immune responses of these two oral vaccines.
- To achieve high vaccination coverage rates for two doses, especially among men, program planners should adapt vaccine delivery strategies designed for infant vaccinations and think “outside of the box”. Examples include extending vaccination hours and days, and setting up vaccination sites at workplaces and other outreach sites where adults congregate;
- Having clear lines of communications and reporting and seeking feedback from vaccination teams before and during the campaigns can pre-empt or address problems as they arise;
- Distributing commodities, such as soap, during vaccination sessions can provide a strong incentive for community members to obtain the vaccination (especially in refugee camps where soap is scarce), while also promoting good hygiene. However, it may also have unintentional consequences, such as encouraging people to try to get themselves or their children revaccinated.
Communications and social mobilization:

- Discussing the upcoming campaign with community leaders and members and conducting a rapid communications assessment is essential to develop effective communication messages and social mobilization strategies; identify the best channels of communication to use; and identify barriers and other unanticipated problems that can potentially derail a campaign as well as provide possible solutions.
- Well-trained social mobilizers can serve as “ears on the ground” to detect and report any rumors or misinformation about the vaccination, which need to be dealt with promptly;
- Since OCV campaigns usually target a specific, limited population (e.g., one area of a city or a few sub-districts of a province), be careful to select channels of communication that could draw large numbers of non-targeted people to the vaccination campaign. Thus, broadcast media, such as radio or mass SMS messages, may not always be an optimal means of informing the public about the OCV campaign.
- Training:
- To ensure smooth implementation of vaccination sessions, training of campaign workers should be as hands-on as possible, to include, for example, setting up a mock vaccination site, practicing control of patient flow, opening up the vaccine vials, and filling out the data collection forms.
Summary:
Based on best practice in the region, the recommended approach for managing Cholera is the “Sword and Shield”. This approach highlights the need for ongoing, cross-sectorial activities throughout the year, as opposed to sectorial approaches that are implemented once the caseload starts to go up, which is too late.

The Sword and Shield is characterized by its targeting both on inter epidemic and epidemic periods respectively similar to a shield (prevention, containment and protection of population) and sword (attacking and breaking the spread of the epidemic). It focuses on individual practices and collective events, in rural or urban cholera high-risk spaces with pools of standing water, epicenters or corridors of propagation. In line with this approach, UNICEF response should incorporate WASH, Health and C4D sectors for effective results for children. Principles of the approach are Preparedness (action needs to be taken before cholera cases are reported), Knowledge (of the disease’s patterns and vulnerable locations), Mobility (in prevention and response), Anticipation and Reactivity (towards suspected outbreaks and spread of the disease), and continuous Targeting and Realignment of the response.

**ACTIONS TO BE TAKEN BEFORE THE OUTBREAK**

- Emergency Programme Cooperation Agreements: Allow for rapidity and flexibility in geographical targeting and nature of activities (see UNICEF Intranet).
- Standby/dormant Agreements: at signature, they are $1 agreements which allow you to preposition items with partners, agree on rapid assessment and supply distribution modalities and can trigger activities automatically when humanitarian situations occur. (see WCARO intranet)
- Meet with key partners, and update the Cholera contingency plan. Make sure everybody is familiar with the plan, replenishing and pre-positioning stocks and relevant refresher training undertaken.

**Prepare and implement the Shield (Primary prevention)**

- Where: Endemic, diarrheal and high-risk areas.
- When: Inter season, but can also be done flexibly during epidemic season aiming for mid + long term
- Who: Starting with the most vulnerable, high-risk populations, then moving to the entire population
- What: Support improved surveillance system/ Improve WASH coverage through CLTS, HWTS, hand washing promotion, and information on how to prevent cholera transmission/ Support procurement and storage of contingency stocks of cholera related WASH and health supplies/Identify suitable and trained Human resources (WASH, C4D and Health)
- How: Identification and implementation of priorities in terms of risk and feasibilities

  ➔ Sustainable interventions outside epidemic periods/in high-risk but not yet affected areas.

**Prepare the Sword (Secondary prevention)**

- Where: CTC – Community propagation axis (neighborhoods, health areas, households)
- When: During the epidemic season
West and Central Africa: The ‘Sword and Shield’ Approach to Cholera Response

- Who: Starting with the affected population, and progressively including the whole population
- What: Set-up a disease early warning system for acute water diarrhea in affected areas and areas at risk that is directly linked to integrated response/ Procure, distribute or pre-position supplies/ Train staff on early detection, active case finding, case management, management of CTC/CTU/ORPs and data collection/ Support case management in facilities and communities/ WASH Cholera package, depending on assessment of practices and events: HWTS, Disinfection, Key messages, community mobilization/ Develop and support effective M&E systems in affected areas.
- How: Preparation and mobilization of communities through health district intervention teams

➔ Prepared beforehand, a powerful response that is implemented once the first cases of Diarrhea +Vomiting (D+V) are reported.

### ACTIONS TO BE TAKEN ONCE CASES OF CHOLERA OR D+V ARE REPORTED

#### Information gathering and analysis
- Timely identification of areas with outbreaks of cholera or D+V. Quick response is key.
- Identify neighboring areas or areas where the disease is likely to spread. Include these areas in the Shield response.
- Inform neighboring districts, countries and the Regional Office of Cholera/D+V outbreaks, even if cholera is not confirmed. Spreading the message save lives.
- Visit the outbreak areas and make a rapid assessment of disease-spread patterns and anomalies on cholera cases investigation: Are men, women or children more at risk? If yes, why? Take into consideration local practices regarding food, hygiene, gatherings such as funerals, markets etc. Rapid assessments are very effective and time-efficient, as they can be done in 2 hours’ time.

**Example 1:** If locals report that a high proportion of cholera cases are children (or women), this might be due to eating habits, with children finishing the adult’s plates, processing of fresh fish, etc.
- **Highlight or adjust these causes in easy to understand C4D messages.**

**Example 2:** If many cholera patients indicate having eaten at the same place, or the same food (e.g. fish), this might equally be an important indication to inform hygiene campaigns and WASH interventions.
- **Find out what is the likely source of cholera transmission.**
- **Use common sense.**
- **Contact your Regional Office to discuss findings.**

#### Trans-border information sharing
- Weekly transmission of epidemiological reporting and analysis to Regional Office and neighboring countries
- Where the epidemic is sub-regional, participate in cross-border conference calls with WCARO as required

#### Request Regional Office assistance if needed
The Regional Office Cholera Team is happy to assist, remotely or through country missions.

- Focal Point WCARO: Selassie Atadika (satadika@unicef.org)
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