

Summary report on the

Consultative meeting on a strategic approach for cholera preparedness and response in the Eastern Mediterranean Region

WHO-EM/CSR/102/E

Amman, Jordan
17–19 November 2015



**World Health
Organization**

Regional Office for the Eastern Mediterranean

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1. Introduction

Cholera remains a major public health problem in the Eastern Mediterranean Region, with endemicity in 9 countries. It is difficult to estimate the cholera burden and the actual number of cholera cases and deaths in the Region due to weak surveillance systems, inconsistencies in case definition and reporting methods, limited laboratory diagnosis capacity, underreporting of cases and fatalities, and denial to avoid travel and trade consequences. In 2014 over 54 000 cholera cases were reported to WHO from four countries in the Region: Afghanistan, Islamic Republic of Iran, Pakistan and Somalia. As of October 2015, two major cholera outbreaks were confirmed in Iraq and Somalia while imported cases were reported from Bahrain (8), Kuwait (5), Islamic Republic of Iran (60) and Oman (1). The sources of these two major outbreaks were traced to contaminated water and poor sanitation and hygiene practices. The humanitarian and security situation in Iraq and Somalia have complicated the preparedness and response interventions.

Despite the complex emergencies coupled with multiple risk factors prevalent in the region, countries in the region continued making remarkable progress of scaling up the preparedness and response interventions to prevent and control potential cholera outbreaks. In spite of this progress, several significant challenges remain. Some cholera endemic countries lack comprehensive and integrated cholera preparedness and response strategies to prevent cholera outbreaks from occurring and to respond effectively when they have occurred.

In response to the upsurge of cholera in the Region, WHO organized a three-day consultative meeting for discussions on a strategic approach to improve the cholera preparedness and response in the region through the development of comprehensive regional cholera preparedness and response framework. The consultative meeting was

held in Amman, Jordan from 17 to 19 November 2015. The objectives of the meeting were:

- to discuss the development of comprehensive strategic cholera preparedness and response framework in the Region;
- to present and discuss the findings and recommendations of the cholera risk assessment and mapping exercise conducted by Johns Hopkins University;
- to review and discuss the role of oral cholera vaccine in cholera prevention and control and the processes of accessing cholera vaccines; and
- to identify important lessons and best practices for prevention and control of cholera outbreaks in countries.

The meeting was attended by representatives from the ministries of health of Afghanistan, Jordan, Iraq, Islamic Republic of Iran, Pakistan, Syrian Arab Republic and Yemen including WHO and UNICEF staff members from headquarters, regional and country offices. In addition, cholera experts from key partner organizations including the U.S. Centers for Disease Prevention and Control (CDC), Agence de Médecine Préventive, Initiative against Diarrhoeal and Enteric Diseases in Africa, International Medical Corps and others attended.

The meeting was opened by Dr Maria Cristina Profili, WHO Representative in Jordan, who reminded the participants that cholera was a preventable and treatable disease but required a collective effort to scale up the implementation of a more aggressive, coordinated and action-oriented multisectoral approach to prevent the occurrence of cholera. She noted that preventing deaths and interrupting transmission was not difficult in the event of an outbreak, as proven and cost-effective public health interventions – such as hand washing and purifying water at the point of use – were readily available. WHO remained committed

to continue supporting the endemic and non-endemic countries in building national capacity to prevent and control the potential cholera outbreak, as well as implementing priority action points and recommendations identified as part of the outcome of the meeting.

2. Summary of discussions

Global and regional burden of cholera

Cholera remains a persistent public health problem throughout the Region, especially in countries that face enduring complex emergencies with significant population movement and displacement. According to the recent cholera data published by WHO, more countries reported cholera outbreaks in 2014 while the cumulative cholera cases recorded globally increased up to 47% as compared to the previous year. Likewise, the cholera cases recorded in the Region increased over 70% in 2014 as compared to the previous year. The occurrence and severity of cholera outbreaks globally are greatly enhanced by the deteriorating water and sanitation conditions compounded with poor living conditions and increased population movements. Political instability and the deteriorating humanitarian situation in the Region, which results in major population displacement, have impacted the prevention and control efforts of the large communicable disease outbreaks. For example, the influx of refugees and internally displaced persons in Iraq, Jordan, Lebanon, Somalia, Sudan and Yemen have put more pressure on already overstrained essential social services. This has had a negative impact on the available health services, safe drinking water and sanitation facilities. The Region is currently facing an extraordinary challenge to meet the basic needs of internally displaced persons and refugees living in the region. The risk of potential communicable disease epidemics, cholera in particular, is high.

Cholera burden and risk in the Region: Mapping exercise

The full extent of the burden and geographical distribution of cholera in the Region is not well characterized. Identifying hotspots of transmission and risk can aid in targeting cholera prevention and control efforts. The John Hopkins Bloomberg School of Public Health undertook a preliminary baseline assessment of the cholera burden and risk to provide evidence for developing a regional preparedness framework for preventing and controlling cholera and other diarrhoeal disease outbreaks. Eight cholera endemic countries in the Region were the focus of this exercise: Afghanistan, Islamic Republic of Iran, Iraq, Pakistan, Somalia, Sudan, Syrian Arab Republic and Yemen. Incidences of cholera and mortality surveillance data at the lowest available spatial and temporal level between 2005 and 2015 were collected from each of these eight endemic countries. To reduce limitations in data quality and availability, a literature review on cholera incidence and mortality was also undertaken. The risk mapping confirmed that cholera remains a major public health problem in the Region which requires collective effort among countries and stakeholders. The final report of the assessment and hotspot mapping will be shared with the health authorities and WHO country offices by the end of December 2015.

Recent experience of cholera outbreak response in Iraq

The historical background of cholera and the progress and challenges of responding to the current cholera outbreak in Iraq were discussed. The country is endemic for cholera and has been experiencing recurrent cholera outbreaks since 1966. There is a seasonal pattern of acute watery diarrhoea cases with the highest number of cases observed from July until September/October. Most of the previous cholera outbreaks started in the northern governorates with a pattern of

spreading to the central and southern regions. The outbreak was officially declared by the Iraqi Government on 15 September 2015 after cases were laboratory-confirmed in Alshamiya district in Diwaniya governorate. Within days, the outbreak had spread to other central, southern and northern governorates. The epidemic has spread largely along the banks of the Euphrates, where the population is using unsafe water directly from the river. This practice is fuelled by a lack of appropriate infrastructure to ensure access to clean water combined with emergency or crisis coping strategies that further exacerbate the risk of contamination. Despite the security challenges, the Ministry of Health together with key stakeholders had implemented different strategies to control the current cholera outbreak including heightened early warning disease surveillance systems; enhanced capabilities for timely investigation and response; timely laboratory confirmation; establishment of cholera treatment centres across all major referral hospitals in the affected governorates; increased availability and accessibility of safe drinking water and sanitation facilities; promoted hand washing practice to minimize the spread of infection; risk assessment and implementation of preparedness measures in areas not yet affected; and implementation of a reactive oral cholera vaccination campaign in camps for internally displaced persons (IDPs) and refugees to complement other preventive measures.

The role of surveillance to guide the cholera control

The primary objective of disease surveillance is to provide timely and complete information for specific events or diseases, so that prevention and control measures can be applied both effectively and efficiently to minimize the burden of illness. Timely, accurate, and complete data on disease occurrence are the foundation for effective, targeted prevention and control interventions. There are three phases of making use of surveillance data including; collection of relevant data for a specified

population, period and/or geographic area; meaningful analysis of data; and routine dissemination of data with accompanying interpretation. A surveillance system is an important tool for targeting, monitoring and evaluating many health risks and interventions associated with cholera. In the context of cholera, the collection of appropriate, reliable and timely data will contribute to early identification of the cholera outbreak, monitoring the trends of an outbreak over time, detection of “cholera hotspots”, and detection of high-risk groups and monitoring the effectiveness of cholera prevention interventions. Timely and reliable surveillance information will lead to efficient and targeted prevention and control measures that are critical to the success of cholera control or elimination. The plenary discussion concluded that health authorities and partners must reinforce the use of standardized clinical cholera case definition and reporting tools in order to collect reliable and complete data on suspected and confirmed cases as well as the deaths caused by cholera.

The role of the rapid diagnostic test for cholera

Early detection and confirmation of *Vibrio cholerae* is critical to rapidly implement essential interventions to control the potential cholera epidemic. The use of stool culture to confirm cholera outbreak remains the “gold standard” but requires laboratory facilities and trained personnel that may not be available in some of the cholera-affected countries. The cost of the stool culture and required time to get the result are also other major concerns. Polymerase chain reaction (PCR) is another advanced method that can quickly identify and confirm *V. cholerae*. Even so, it’s not widely available in the field laboratories due to the high cost of maintaining PCR machines. In recent years, a simple, practical and inexpensive method of diagnosing cholera has become available. This method enables frontline health care workers in remote facilities or high-risk areas – IDP and refugee

camps in particular – to diagnose cholera in a timely manner. The use of the rapid cholera dipstick tests can help trigger earlier public health interventions by indicating whether an outbreak of acute watery diarrhoea is likely to be cholera. The only downside of the cholera rapid diagnostic test (RDT) is low specificity (>70%) which allows for higher false positives but the sensitivity rate that allows higher true negatives is above 90%. However, the specificity of the rapid test can increase with the use of alkaline peptone water enrichment for cultures. Considering the low specificity, rapid diagnostic tests alone cannot confirm a cholera outbreak. The Global Cholera Task Force – under WHO leadership – is currently developing a protocol for using the cholera RTD in the field while WHO is in the process of validating the available rapid diagnostic tests in the commercial market.

The role of oral cholera vaccine in cholera prevention and control

The 64th World Health Assembly (2011) called for an integrated and comprehensive strategy for cholera prevention and control. Resolution WHA 64.15 included considering the use of oral cholera vaccines (OCV) where appropriate, in conjunction with other recommended prevention and control methods and not as a substitute for such methods. This consideration was taken forward as WHO established a global cholera vaccine stockpile in 2013 with its purpose being to create emergency reserves of cholera vaccine for use in humanitarian emergencies, endemic and epidemic settings. The stockpile has enabled the health authorities and partners to rapidly access and use OCV in settings where it can provide a valuable supplement to existing interventions to improve water, sanitation and hygiene practices. In the past two years, over 2.5 million doses of OCV have been released from the stockpile to respond to a number of emergencies while over nine countries in three continents used the vaccine as pre-emptive or reactive campaigns including the

Democratic Republic of the Congo, Ethiopia, Guinea, Haiti, Iraq, Malawi, Nepal, South Sudan and United Republic of Tanzania. During the most recent cholera outbreak in Iraq, the first cholera vaccine – through the global stockpile – was used in 62 IDP and refugee camps targeting over 247 000 people. Despite the growing demand for the vaccine, there is insufficient supply globally due to the limited production capacity of the Indian manufacturer.

Despite the proven efficacy, WHO strongly recommends that cholera vaccination be used in conjunction with other prevention and control strategies in areas where the disease is endemic and in areas at risk of outbreaks, water, sanitation and hygiene interventions in particular. Governments and international communities must continue to address the root causes of the spread of cholera infection and increase investment in sanitation, safe water and health education.

Strategic framework on cholera preparedness and response

Prevention and control of cholera is always a priority for the region but preparedness to recognize and manage an outbreak of cholera is critical. The Region has initiated a process of developing a comprehensive framework which outlines an operational plan to establish and maintain effective cholera epidemic preparedness and response in the Region. Cholera preparedness and response encompasses all actions taken to reduce the risk of cholera morbidity and mortality, and to decrease the extent and severity of a cholera epidemic. It is a series of commitments and processes performed by all sectors to achieve the same goal of ensuring effective prevention and control of cholera collectively. Member States and partners will use the regional framework for preparedness and response to cholera as a key reference document to guide them in the development of country-level preparedness and response action plans. The key

objectives of the preparedness and response framework would include:

- Creating a regional multisectoral framework for cholera preparedness and response;
- Being a resource from which each country may summarize priority activities under specific thematic areas given the varied contexts within each country; and
- Promoting standardization of planning and reporting for collaboration and sharing of experiences.

3. Recommendations

Coordination

1. Enhance and advocate multisectoral and decentralized cholera response coordination through the adaptation of Cholera Control and Command Centre (C4) approach within the umbrella of the existing national coordination mechanism. There is a need to engage all line ministries related to the cholera preparedness and response interventions including health, water, information, municipality and other stakeholders to work collectively and support each other to scale up the preparedness and control efforts.
2. Promote and support research agenda to identify and address the knowledge gaps in cholera preparedness and response in the Region. This will facilitate more evidence gathering to enhance and refine the existing cholera control interventions. Regional experts and researchers should be involved in designing and implementing specific research studies about the cholera interventions including oral cholera vaccine.

Surveillance/laboratory

3. Given the importance of surveillance data for monitoring the evolution of the epidemic and determining the effectiveness of the preparedness and control measures, strengthen the early warning surveillance systems for acute diarrhoea and cholera. Standardized case definitions and other reporting tools must be used properly in order to ensure that accurate, consistent and complete cholera surveillance data are collected, analysed and disseminated in a timely manner.
4. Ensure open, timely and transparent information sharing with all involved government institutions and partners regarding disease surveillance information with in-depth data analysis and interpretation including maps and epidemic curves for early detection, timely and targeted response interventions.
5. Sensitize the health authorities and partners on the role of laboratory diagnosis to screen and confirm *Vibrio cholerae*, and utilize the available standardized laboratory protocol so as to avoid overwhelming the reference laboratory for testing large quantities of stool specimens that may not be necessary. During the epidemic phase, it is highly recommended that 5% to 10% of stool samples be randomly collected and cultured in order to monitor the antimicrobial susceptibility pattern of the pathogen. In areas where cholera has not yet spread or been reported, the first 10 to 20 stool samples should only be tested for the confirmation and identification of *V. cholerae*.
6. Establish a pool of experienced and qualified experts in the Region that can support and provide technical assistance to Member States on risk assessment, outbreak response (surveillance, laboratory, case management, water and sanitation, and risk communication) and oral cholera vaccination campaigns. Additionally, the experts would monitor the implementation of

epidemic preparedness and response for cholera, and other epidemic diseases in the Region.

Oral cholera vaccine

7. Develop information and advocacy tools to promote the role of oral cholera vaccine (OCV) in cholera prevention and control. These tools will also ensure the inclusion of OCV as part of the regional and country-specific strategy for cholera prevention and control.
8. Ensure information and guidance documents on OCV and the stockpile, in general, are accessible to health authorities and stakeholders. Also, establish an online platform to disseminate new information on OCV to health authorities and other partners.

Water, sanitation and hygiene practices

9. Ensure effective monitoring and analysis of water quality and control measures in the public domain (source, production, distribution and household levels) and the private sector (private plants, water trucking, bottled water industry and ice factories).
10. Use disease and water surveillance data to conduct targeted campaigns for safe WASH practices promoting comprehensive environmental management. This is aimed at improving sanitation and sewage disposal, increasing access to and storage of safe drinking-water, enhancing food safety and improving personal and domestic hygiene e.g. hand-washing with soap.
11. Carry out systematic mapping of WASH response interventions regardless of outbreak status so as to identify potential gaps and overlaps as well as available stocks/supplies related to WASH including chlorine gas, chlorine tablets, etc.

Risk communication/social mobilization

12. Develop relevant, non-sensitive multimedia health education messages to change knowledge, attitudes, beliefs and practices among individuals, households and communities on diarrhoeal disease prevention. Such messages may encompass hygiene practices, safe drinking-water and water storage, safe food preparation, proper usage of oral rehydration solution and other important messages. The messages should be disseminated through different media channels across all countries in the Region.



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