



**INTRA ACTION REVIEW (IAR) REPORT ON MULTI-SECTORAL ACUTE WATERY DIARRHOEA (AWD) RESPONSE 2021 AMONG FORCIBLY DISPLACED MYANMAR NATIONALS (FDMN) & HOST POPULATION IN COX'S BAZAR**

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## List of Abbreviations

ARI: Acute Respiratory Infections  
AWD: Acute Watery Diarrhoea  
IAR: Intra Action Review  
C4D: Communication for Development  
CHDSO: Camp Health Disease Surveillance Officers  
CHFP: Camp Health Focal Points  
CWC: Communicating with Communities  
CHW: Community Health Worker  
DCSO: District Civil Surgeon Office  
ECHO: European Commission Directorate General of Humanitarian Aid and Civil Protection  
DHEOC: District Public Emergency Operation Center  
DTC: Diarrhoea Treatment Center  
EWARS: Early Warning and Alert Response System  
FDMN: Forcibly Displaced Myanmar Nationals  
IAR: Intra Action Review  
ICDDR,B: International Centre for Diarrhoeal Disease Research, Bangladesh  
ISCG: Inter-Sectoral Coordination Group  
IEDCR: Institute of Epidemiology, Disease Control and Research  
IHR: International Health Regulations  
INGO: International Non-Governmental Organizations  
IOM-International Organization for Migration  
ITC-Isolation and Treatment Center  
IVD-Immunization and Vaccination Development  
JAT-Joint Assessment Team  
MSF: Médecins sans Frontières  
NNGO: National Non-Government Organization  
OCV: Oral Cholera Vaccine  
ORS: Oral Rehydration Solution  
PPE: Personal Protective Equipment  
RCCE: Risk Communication and Community Engagement  
RCCE WG: Risk Communication and Community Engagement Working Group  
RDT: Rapid Diagnostic Test  
RIRT: Rapid Investigation and Response Team  
RRRC: Office of the Refugee Relief and Repatriation Commissioner  
SAG: Strategic Advisory Group  
SARI: Severe Acute Respiratory Infection  
TCBS: Thiosulfate citrate bile salts sucrose agar

TWB: Translators Without Borders  
WASH: Water, Sanitation and Hygiene  
WHO: World Health Organization

## 1.0 Background

Cholera is a severe form of diarrheal disease caused by the bacterium *Vibrio cholerae*, either type O1 or O139. In its extreme manifestation, it is one of the most virulent and rapidly fatal illnesses known. Over 80% of people infected with *cholerae* do not develop any symptoms, although the bacteria are present in their fecal excretions for weeks and sometimes months after infection and are thus shed back into the environment, potentially infecting other people. The short incubation period of two hours to five days, enhances the potentially explosive pattern of outbreaks. Among people who develop symptoms, between 80-90% have mild or moderate symptoms, while around 10% develop acute watery diarrhea with severe dehydration. Left untreated, cholera can be fatal in up to 50% of those with severe symptoms. But with proper treatment that include aggressive and early rehydration, electrolyte replacement and in some cases, administration of antibiotics to diminish duration of the diarrheal episodes, can further shorten the duration of *V. cholerae* excretion and ensure that case fatality ratio (CFR) is minimized to less than 1%, a level that World Health Organization (WHO) determines an outbreak to be considered as an emergency.

The true global burden of cholera is unknown as the passively acquired surveillance data underreports its cases. Other causes of underreporting include weak national surveillance systems and laboratory diagnostic capacities, low social, political, and economic incentives for reporting in many cholera endemic countries. In consistent with this finding, the World Health Organization estimates that only 5–10% of the cholera cases occurring annually are officially reported by member countries. The 2015's global burden of Cholera report estimates that there have been 1,264,311,192 people who are at risk for cholera worldwide, with an estimated 2,855,714 cases and 95,284 deaths of cholera occurring annually, with most of the burden in Sub-Saharan Africa.

According to global burden of Cholera in endemic countries report published in PLOS in 2015. it is estimated that Bangladesh has 66,495,209 population at risk of cholera with an estimated 109,052 cases and 3,272 deaths occurring annually, representing incidence rate of 1.64 cases per 1,000 populations and case fatality rate of 3% (Mohamed et al 2015).<sup>1</sup>

Despite many years of cholera research, little is known about the magnitude and spatial distribution of *Vibrio Cholera* transmission across the country given the limited surveillance system which has focused on a few sentinel sites across the country including sentinel International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) hospital and the demographic health and surveillance site in Matlab.

The Ministry of Health and Family Welfare has developed a National Cholera Control Plan 2019-2030 aimed at ensuring substantial reduction of morbidity and mortality due to cholera and targeting high-risk populations. With most AWD patients not systematically tested for cholera

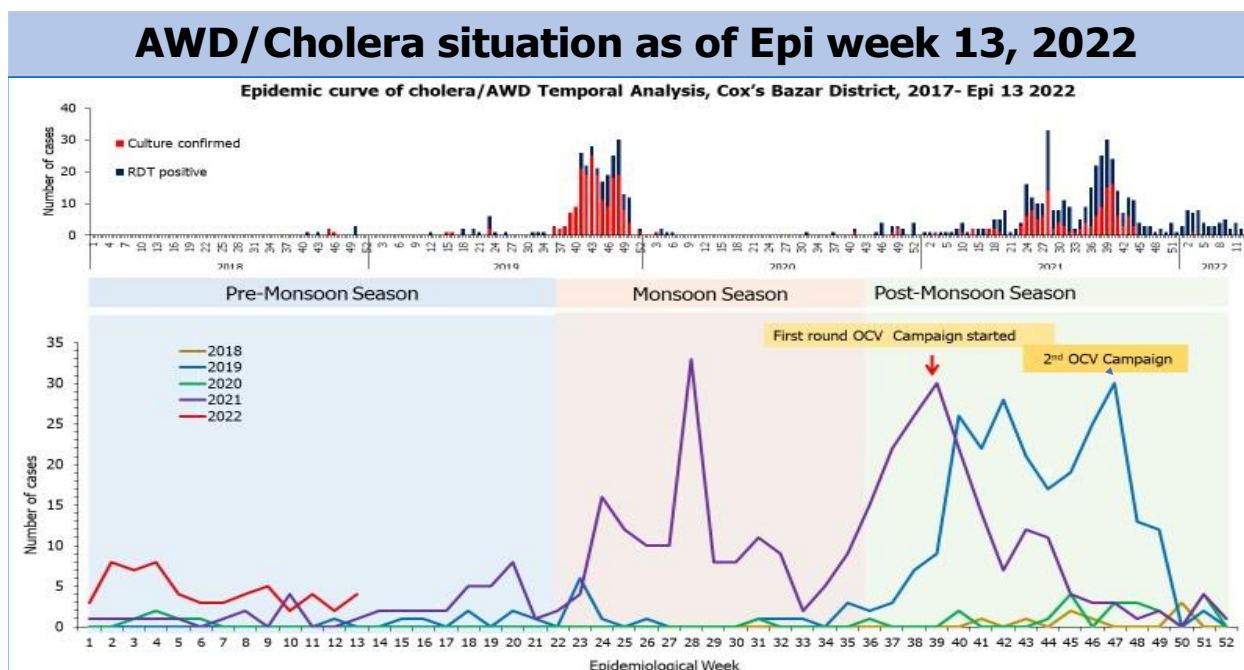
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<sup>1</sup> PLOS Neglected Tropical Diseases, DOI: 10.1371/journal.pntd.0003832 June 4, 2015

and inadequate reporting of suspected cholera cases across the country, there is limited data to monitor progress and guide decision making.

Bangladesh remains an endemic country for cholera which experiences bimodal transmission seasonality or biyearly outbreaks with additional epidemics during floods, cyclones and monsoon seasons and affects all age groups with majority of fatal cases occurring in children.<sup>2</sup>

In Cox's Bazar, the syndromic surveillance undertaken on weekly basis through the WHO Early Warning and Response System (EWARS) which reported more than 300,000 cases in 2021. In addition to this, the sentinel surveillance data shows that there were 278 Rapid Diagnostic Tests (RDT) Positive AWD/Cholera suspected cases reported in 2019 and in the second largest upsurge in 2021 with 357 RDT positive AWD/ suspected cholera cases and 137 Culture confirmed Cholera cases among 7,016 tested samples.



In 2021, its notable that 61% of the 357 RDT Positive AWD/Cholera suspected cases were reported among FDMN populations.

The Health and WASH Sectors in collaboration with local authorities (District Civil Surgeon and RRRC), developed the Multi-Sector AWD Response Plan in 2018 which was revised in 2020 to guide the response to AWD and Cholera. In 2021, working group/sector specific actions were fleshed out from the Multi-Sector AWD Response Plan for targeted interventions in the Rohingya community. Despite concerted efforts to implement this response plan, AWD and cholera transmission continue to persist.

<sup>2</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6188567/>

In 2021 there has been a new evidence of increased transmission in-dwellings compared to external water sources by 17<sup>th</sup> water quality survey undertaken by WASH Sector in 2021, in addition to this, there has been improved population wide immunity through two rounds of Oral Cholera Vaccine (OCV) Campaigns in October and November 2021 and enhanced hygiene and sanitation due to COVID-19 pandemic during this period. This justifies the need for IAR for the multi-sectoral AWD response for 2021 to document the lessons learned, and best practices undertaken to incorporate into the new multi-sectoral AWD/Cholera preparedness and response plan for 2022-23.

## **2.0 Introduction**

Since 2020 to date, WHO led Health Sector under the guidance of MoHFW in collaboration with WASH Sector and Community Health Working Groups, have been coordinating the joint implementation of Multi-Sectoral Acute Watery Diarrhoea (AWD) Response Plan 2020 in FDMN Camps and surrounding Host population in Ukhia and Teknaf Upazilas (sub-districts) located in Cox's Bazar District. The plan which was initially developed in 2018 was first revised in 2020 to consolidate the gains made during the response to 2019 upsurge and aligned it to global strategies under Global Taskforce for Cholera Control (GTFCC).

The year 2021 witnessed the implementation of integrated Health, WASH and Risk Communication and Community Engagement (RCCE) interventions complemented by two rounds of OCV campaigns targeting 896,095 FDMN population with 86% coverage achieved. These interventions resulted to momentary attainment of zero caseloads of AWD and Cholera caseloads in Epi week 50, 2021. However, transmission continued in the beginning of 2022 with 66 RDT Positive AWD/Cholera suspected cases and five culture confirmed cholera cases by end of April 2022.

## **3.0 Planning for Intra Action Review (IAR)**

Under International Health Regulations (IHR 2005) monitoring and evaluation framework, WHO recommends Intra-Action Review in the mid-way of response to key public health events such as outbreaks to review and guide the formulation and consolidation of best practices and lessons learned to help improve and refocus response based on new evidence and best practices so far consolidated in initial phase of the ongoing response.

At the request of the Office of District Civil Surgeon, Health Sector through the WHO Epidemiology unit in collaboration with WASH Sector and CHWG partners coordinated the IAR for AWD/Cholera response to review the functional capacities across response pillars and identify preparedness, response gaps and mitigation plans for future upsurges and outbreaks.

The general purpose of this IAR is to (1) Share experiences and collectively review and analyze the ongoing AWD Multi-Sectoral Response for 2021 (2) Facilitate objective consensus among

stakeholders on lessons learned and best practices (3) to document and incorporate the best practices into the new Multi-Sector AWD/Cholera Preparedness and response plan for 2022-23 to ensure effective and evidence-based preparedness and response.

The IAR focused on six pillars of the Multi-Sector AWD Response 2021 as follows:

- Pillar 1: Leadership and Coordination, planning, and monitoring
- Pillar 2: Epidemiological Surveillance and Laboratory
- Pillar 3: Case Management and Infection Prevention and Control
- Pillar 4: Risk Communication and Community Engagement (RCCE)
- Pillar 5: Water Hygiene and Sanitation (WASH) and Environmental Health
- Pillar 6: Logistics management

## 4.0 Methodology

**4.1 Preparation Phase:** In April 2022, the Epidemiology Unit under the guidance of Head of Sub-Office WHO Cox's Bazar, commenced the process for IAR by undertaking systematic analysis and compilation of AWD/Cholera response report for 2021 in close collaboration with Health and WASH partners. This report outlined the situational updates and multi-sector response strategies deployed and notable gaps that required action. These updates were presented at Bi-weekly Epidemiology TWG and Health Sector meetings for further inputs and then internally reviewed by response pillar before the draft was shared with Health, WASH and CHWG partners for further inputs.

**4.2 Desk Review Phase:** To consolidate new evidence from historical data, latest national and global guidelines, a desk review process was undertaken in which WHO Epi team reviewed previous AAR and Multi-Sector Response Plan for AWD for 2020, Weekly situational updates for 2017-21, National Cholera Control Plan 2019-30 and global technical strategies and Road Map 2030 to build a common understanding on what worked well, what did not work and recommendations.

**4.3 Framework Development and Workshop Phase:** WHO Epidemiology unit prepared an IAR framework to guide the workshop and was internally submitted to Sub-Office and three levels of WHO (Country Office, Southeast Asia Regional Office and Headquarter) for further review and concurrence.

The framework proposed one day workshop with one hour slotted for AWD Response Pillar/Group meetings to enable adequate deliberations on best practices (what worked well) by multi-sector team members, this was then followed by one and half hour plenary session where pillar/group representatives made presentations for review and discussions of pillar findings. The second round of group meetings enabled response pillar teams to incorporate plenary comments and then proceeded to another one-hour meeting to outline and discuss lessons learned (what did not work well and how it could work better). Like the earlier session, the findings were presented at the plenary with feedback from all the pillar teams. The summarized reports were



then shared with the IAR secretariat team for their feedback on the draft report and its finalization.

## 5.0 Findings: Group Exercises and Plenary Sessions

### Pillar 1: Leadership, Coordination, Planning and Monitoring

WHO in collaboration with Health and WASH Sector prepared the first Multi-Sectoral AWD Response plan in 2018 which has undergone two reviews before and during the first AAR in 2020. This plan among other considerations, has guided the establishment and operationalization of Joint



*Fig 1: Epidemiology team Interviews a clinician during cholera case investigation*

Assessment and Response Teams (JARTs) in all the 33 camps co-led by Health and WASH Sectors to coordinate camp level multi-sector response to AWD. The JARTs core functions as per Terms of Reference developed, included undertaking timely response to AWD alerts in the field through thorough joint investigations, rapid assessments whose outcomes inform camp level response.

To ensure stronger leadership and coordination of AWD/Cholera response, Epidemiology Technical Working Group (TWG) has continued to provide technical leadership and guidance in AWD/Cholera surveillance, epidemic preparedness, and response. The TWG further established AWD Sub-TWG that is activated on adhoc basis to steer AWD/Cholera response in case of an upsurge or outbreak.

At the district level, WHO in partnership with District Civil Surgeon Office (CSO) has established and continued to equip the Public Health Emergency Operation Center (PHEOC) to strengthen the capacity of Cox's Bazar District to prepare and effectively respond readiness to AWD/Cholera upsurges among other epidemic and pandemic prone diseases. A dedicated national technical consultant has been deployed at the CSO to support functionality of the PHEOC which has gradually and significantly been equipped with digital facilities to aid epidemic intelligence.

The WASH sector has a separate Intra-Sector WASH response plan whose content is adopted from the Multi-Sector AWD Response plan 2021 but with specific detailed WASH and Hygiene contents that continue to steer its routine water quality surveillance, preparedness, and response interventions.

Successes	Challenges	Recommendations
<ul style="list-style-type: none"> <li>Health and WASH Sector and relevant Technical Working Group, TWG (Epidemiology, Hygiene Promotion) apart have a functional coordination mechanism for the respective component of AWD responses and coordinate weekly and ad-hoc implementation and monitoring meetings.</li> </ul>	<ul style="list-style-type: none"> <li>There have been inconsistent routine/periodic integrated WASH and Health Sector coordination meetings to jointly review and coordinate the AWD/Cholera response as recommended in the Multi-Sectoral AWD response plan 2020.</li> </ul>	<ul style="list-style-type: none"> <li>There is a need to establish and institutionalize a Multi-Sector AWD/Cholera Prevention, Preparedness, and Response Coordination meeting to be held after every two months to review and act on sector-wide implementation updates of the new plan, identify gaps, and put in place joint mitigation measures.</li> </ul>
<ul style="list-style-type: none"> <li>Epidemiology TWG has been able to effectively prepare and disseminate standard case definition, data collection, and reporting tools and set up of ad-hoc AWD Sub-Technical Working Group to guide the coordination of AWD upsurges and outbreaks in 2021.</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistent data sharing between WASH and with Health Sector has hampered effective multi-sectoral response.</li> </ul>	<ul style="list-style-type: none"> <li>There is a need to establish monthly Intra-sectoral (WASH, Health, and CHWG) meetings to steer the implementation of Prevention, Preparedness and Response activities in the new Multi-Sectoral AWD/Cholera Preparedness and Response plan 2022/23.</li> </ul>
<ul style="list-style-type: none"> <li>Epidemiology TWG continues to effectively coordinate AWD/Cholera alert investigation and response.</li> </ul>	<ul style="list-style-type: none"> <li>The Rapid Assessment Component of the JARTs' functions is too cumbersome and fragmented from the response component hence strenuous to implement by WASH partners and this is further aggravated by inconsistent or lag in the implementation of response interventions.</li> </ul>	<ul style="list-style-type: none"> <li>Joint assessment process be simplified and tightly integrated with response interventions to encourage WASH partner's participation and ensure that the assessment findings inform immediate response interventions.</li> </ul>
<ul style="list-style-type: none"> <li>Multi-Sectoral Acute Watery Diarrhoea Outbreak Preparedness and Response Plan was developed and has undergone two reviews in 2019 and 2020 to guide response to ongoing AWD/Cholera transmission in the FDMN Camps and surrounding host population.</li> <li>The newly revised Multi-sectoral Acute Watery</li> </ul>	<ul style="list-style-type: none"> <li>National Cholera Control Plan 2019/30 had taken a while to be finalized to enable its timely adoption by Cox's Bazar Health Sector.</li> </ul>	

Diarrhoea/Cholera Preparedness and Response 2022/23 has now been closely integrated and harmonized with National Cholera Control Plan 2019-30		
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## Pillar 2: Epidemiological Surveillance and Laboratory

In August 2017, WHO in collaboration with the Office of District Civil Surgeon and Health Sector partners, established Early Warning Alert and Response System (EWARS) in -the-box to support timely detection of infectious disease (including AWD) upsurges and outbreaks to prevent avoidable morbidity and mortality within the crowded FDMN camps.



*Fig 2: Laboratory personnel conduct RDT test on AWD Stool Sample during Joint Investigation and response investigation at a Sentinel site*

Secondly, the Epidemiology unit in collaboration with Laboratory section within Health Operations and icddr, b established 23 sentinel surveillance sites to aid timely detection of AWD cases across the FDMN camps and assist with sample collection, testing, and transportation for culture. In addition to the above, epidemiology established case-based surveillance for admitted AWD patients with moderate to severe dehydrations with its data captured through EWARS.

Successes	Challenges	Recommendations
<ul style="list-style-type: none"> <li>WHO Epidemiology team and WASH Sector have been able to undertake continuous Joint Assessments Response Team training for approximately 100 members drawn from all the 33 camps. This has enhanced their capacity to effectively respond to AWD/Cholera upsurges and outbreaks in the camp.</li> </ul>	<ul style="list-style-type: none"> <li>JART membership is composed of part-time staff from partner agencies with competing core employment tasks hence inadequate dedicated support for JAT duties.</li> </ul>	

<ul style="list-style-type: none"> <li>• WHO Epi team in collaboration with iccdr,b reviewed, updated, and disseminated on a timely basis the surveillance protocols for AWD/Cholera surveillance and response.</li> </ul>		
<ul style="list-style-type: none"> <li>• There has been timely dissemination of situational reports at the Health Sector and technical partners' level and the three levels of WHO (Country Office, Regional, and Headquarters including Global Taskforce for Cholera Coordination) to update on the transmission pattern and control interventions.</li> </ul>		
<ul style="list-style-type: none"> <li>• The quality of AWD/Cholera data has improved over time and surveillance/epidemic intelligence data for 2021 remain timely and reflect the evolving epidemic situation</li> </ul>	<p>There has been huge data volume from diverse sources and increased variables that requires larger data management capacity</p>	<ul style="list-style-type: none"> <li>• Need to transition AWD data into Go.Data for adequate data management capacity</li> </ul>
<ul style="list-style-type: none"> <li>• There has been an increase in the number of sentinel surveillance sites to 23 (16 by iccdr, one IDTC b and 10 seven supported by WHO) to enhance geographical distribution in the detection and management of AWD cases. Additionally, there are existing efforts to increase the sentinel surveillance sites to 35.</li> </ul>		<ul style="list-style-type: none"> <li>• There is a need to increase the sentinel surveillance sites to ensure optimal detection of AWD cases across the camps</li> </ul>

<ul style="list-style-type: none"> <li>The strategy of submitting all RDT Tested AWD Samples regardless of test outcomes for culture has further enhanced capacity for detection of Cholera among FDMNs and the surrounding host population.</li> </ul>	<ul style="list-style-type: none"> <li>Delay in turnaround time for processing and release of the results of culture-confirmed cases with almost 14 days lag due to delayed shipment of negative RDT tested samples to Iccdr,b reference laboratory in Dhaka.</li> </ul>	<ul style="list-style-type: none"> <li>Improve the frequency of AWD sample shipment to national icddr,b Reference Laboratory in Dhaka to help shorten the turnaround time for relay of culture-confirmed Cholera results.</li> <li>Need for partners to procure standardized RDT kits for AWD/Cholera for uniformity in diagnosis and quality assurance.</li> </ul>
<ul style="list-style-type: none"> <li>Early Warning alerts, thresholds, and triggers have been well defined and utilized through epidemic intelligence, climate, and hazard mapping data that capture the seasonality of transmission. This has guided planning for upsurges and outbreaks of AWD and Cholera (pre- and post-monsoon).</li> </ul>	<ul style="list-style-type: none"> <li>There is currently no existing district-wide or national early warning system for AWD/Cholera that is linked or integrated with FDMNs and surrounding host population plans.</li> </ul>	
<ul style="list-style-type: none"> <li>The Health Sector through Epi TWG, IVD Unit, and in collaboration with WASH, CHWG and local authorities (CSO and RRRC) have been able to roll out eight rounds of OCV campaigns in both host and FDMNs with the last two rounds held targeting FDMNs in October and November 2021. This further enhanced vaccine-acquired immunity among FDMNs and noted the decline of AWD/Cholera cases to zero caseloads by late 2021.</li> </ul>	<ul style="list-style-type: none"> <li>Host population missed out on OCV Campaign for 2021 due to the ongoing COVID-19 Vaccination campaign then, this has been rescheduled to 2022 by the IVD unit and other partners.</li> </ul>	
<ul style="list-style-type: none"> <li>Improved disease mapping of AWD hotspots has provided useful data for targeted multi-sectoral interventions within the camps.</li> </ul>	<ul style="list-style-type: none"> <li>No contact tracing but an active case search for additional case detection has been done for AWD/Cholera response.</li> </ul>	<ul style="list-style-type: none"> <li>Need analytical investigation to enhance the capacity to understand AWD/Cholera transmission dynamics in &amp; outside the households.</li> </ul>

<ul style="list-style-type: none"> <li>The reported AWD caseload for 2021 has informed the new projections of existing surveillance in 2022 though transmission pattern is usually shifting from the usual pattern based on changing climatic patterns. Transmission remains bimodal but commences prior to the expected period and high spikes of cases were noted during low transmission seasons during monsoon for the 2021 AWD/Cholera outbreak.</li> </ul>	<ul style="list-style-type: none"> <li>Sub-optimal meteorological and climate data to integrate and triangulate disease and WASH surveillance data.</li> </ul>	
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### Pillar 3: Case Management and Infection Prevention and Control (IPC)

The case management and Infection Prevention Control TWG was initially domiciled within Epi TWG before it was formally made one of the key COVID-19 response pillars to coordinate the case management of COVID-19 since the commencement of the pandemic on 24<sup>th</sup> March 2020 in Cox’s Bazar. With gradual capacity to coordinate case management partners, it has been able to coordinate



*Fig 3: Clinicians interview a parent of Cholera patient during Joint Assessment and Response investigation*

AWD/Cholera case management through setting up of 19 Isolation and one Cholera DTC facilities with 72 active beds and 400 standby bed capacity within the camps. The case management team has developed case management Referral pathway for AWD/Cholera for use by healthcare workers.

The current AWD case management system is organized in three level tier system that are sequentially triggered by health sector in collaboration with CSO based on thresholds of occupation that overwhelming the existing AWD Isolation bed capacity. The first tier is composed of one Cholera DTC and 19 AWD Isolation facilities with capacity for 72 active beds and 400 standby beds dedicated for AWD/Cholera case management. In the event the first-tier system is overwhelmed, then second tier composed of standby and readily available SARI ITC Beds are activated through engagement with Health Sector and notification by CSO who then directs the activation of stand by beds by case management partners. The third tier is subsequently triggered when tiers one and two are overwhelmed by AWD/Cholera caseloads and similar trigger process

is done to activate the remaining SARI ITC beds dedicated for ARI and COVID-19 taking into consideration the prevailing needs in isolation of other severe disease conditions. The 4<sup>th</sup> Tier which initially composed of ORS Posts has been phased out and replaced by Community Based Surveillance System where 1500 dedicated CHWs have now been engaged to make weekly visits to households to detect and refer and provide ORS to stabilize AWD cases at household level before referral to relevant health facilities.

Infection Prevention and Control (IPC) gaps in health facilities were identified by Health Sector in November 2019 as part of efforts to minimize health facility acquired infections. WHO subsequently recruited an IPC Consultant in January 2020 to provide technical leadership and guidance to health sector on infection prevention and control at health facility level. WHO immediately embarked on baseline health facility IPC assessment using standardized tools in February 2020 and training for healthcare workers in May 2020. During this same period, IPC was consolidated with case management component of Epidemiology Technical Working Group to create Case Management and IPC TWG to support COVID-19 Pandemic response within FDMN camps.

The Case management and IPC TWG has been able to provide technical guidance on case management SOP development and essential medicines recommended for treatment of WD/Cholera at the health facilities. WHO through its IPC Technical Consultant, has been able to provide IPC training for case management staff to enhance their capacity to prevent disease transmission at health facility levels and decontamination of patient beddings, clothing and ensuring effective use of PPEs during management of AWD and Cholera cases.

Successes	Challenges	Recommendations
<ul style="list-style-type: none"> <li>There exist harmonized cholera detection and treatment protocols available and distributed to case management partners</li> </ul>	<ul style="list-style-type: none"> <li>There were no deliberate efforts to provide hard copies of the protocols to HFs for effective use by HCWs</li> </ul>	<ul style="list-style-type: none"> <li>The health sector should make a deliberate effort to provide hard copies of the protocols to HFs</li> </ul>
<ul style="list-style-type: none"> <li>Case Management TWG has identified and harmonized the use of the National Cholera Control Program protocol with AWD treatment protocol from icddr,b, and MSF Cholera guidelines</li> </ul>		
<ul style="list-style-type: none"> <li>Standard case definitions widely available &amp; utilized by frontline Healthcare Workers (HCWs)</li> </ul>		

<ul style="list-style-type: none"> <li>• Training of HCWs undertaken continuously to enhance their capacity for case management and IPC practices towards AWD/Cholera cases in Isolation and Cholera DTC facilities</li> </ul>		
<ul style="list-style-type: none"> <li>• Medical Supplies (ORS sachets, 1 Ringer lactate of 120 bags each for 20 patients, Antibiotics, Normal Saline, Nutritional Supplements and Zinc) have been pipelined and made available as appropriately required</li> </ul>	<ul style="list-style-type: none"> <li>• Importation of medicines and supplies has been lengthy resulting to lost opportunity to avail all required medicines and diagnostics in timely manner.</li> <li>• Supply chain was affected by COVID-19 affecting stock SD Bioline/Crystal BC</li> <li>• The response did not have the vision of the total stock available for case management</li> </ul>	<ul style="list-style-type: none"> <li>• Constant engagement of Director General of Drug Administration (DGDA) on waivers on medicines and supplies importation</li> <li>• Strengthen preposition and encourage of local procurement for quality medicines and supplies whenever possible</li> </ul>
<ul style="list-style-type: none"> <li>• Medical supplies and non-food items prepositioned in the different health facilities (HFs) and WHO prepositioned warehouses in the camps</li> </ul>	<ul style="list-style-type: none"> <li>• Challenges with temperature control for storage of medicines and supply</li> </ul>	<ul style="list-style-type: none"> <li>• The Health Sector partners should provide temperature control rooms for long time storage</li> </ul>
<ul style="list-style-type: none"> <li>• All patients were provided with appropriate treatment from admission to discharge point</li> </ul>		
<ul style="list-style-type: none"> <li>• All AWD/Cholera patients referred to health facilities utilize the required Cholera patient bedding facilities without straining the healthcare system pointing to an assurance of adequate bedding capacity at DTCs</li> </ul>		
<ul style="list-style-type: none"> <li>• The AWD referral system has been well established from Community to Cholera DTC levels</li> </ul>		
<ul style="list-style-type: none"> <li>• Although not needed, the dead body management guidelines are available</li> </ul>		
<ul style="list-style-type: none"> <li>• CHWs also have access to ORS to stabilize AWD Cases in the</li> </ul>		



process of referral to health facilities		
<ul style="list-style-type: none"> <li>One (1) active DTC and 19 AWD isolation units are available with 72 Active bed capacity and 400 standby beds</li> </ul>		
<ul style="list-style-type: none"> <li>IPC guidelines, tools provided to healthcare workers for effective use in AWD Sentinel Sites, Isolation facilities and Cholera DTC</li> </ul>		
<ul style="list-style-type: none"> <li>AWD/Cholera IPC Training has been done for all case management HCWs in camp</li> </ul>		
<ul style="list-style-type: none"> <li>PPE and other IPC supplies are available for case management in all the relevant AWD Sentinel, Isolation and Cholera DTC facilities</li> </ul>		
<ul style="list-style-type: none"> <li>Screening and triage implemented in all HFs</li> </ul>		
<ul style="list-style-type: none"> <li>Continuous monitoring of IPC in all facilities done by using a checklist</li> </ul>		
<ul style="list-style-type: none"> <li>Adequate water for environmental decontamination and personal hygiene</li> </ul>		
<ul style="list-style-type: none"> <li>EWARS case patient details information collected</li> </ul>		

#### **Pillar 4: Risk Communication and Community Engagement**

The Community Health Working Group and the Communication For Development teams made elaborate efforts to consistently scale up community appropriate AWD/Cholera risk communication and behavior change communication messages through diverse communication media.

This includes the utilization of 1500 trained, supervised, and incentivized Community Health Workers (CHW) who make weekly visits to households to identify AWD/Cholera cases, sensitized households on hygiene promotion and risky behaviors that enhance cross-contamination of water in and outside household level, hygiene and sanitation and food hygiene and safety.



**Fig 4: Camp Based Joint Assessment and Investigation Team (JART) conducting hygiene promotion towards prevention of AWD and Cholera session with Community Volunteers and the Rohingya Refugees**

The RCCE messages have been developed into English, Bangla and Rohingya language for better understanding by Rohingya Refugees and surrounding host Bangladeshi population.

The RCCE team further engaged the Majhis, elected leaders, religious

and other local opinion leaders at camp level to share the RCCE messages with the targeted populations in diverse forums.

RCCE in collaboration with Epidemiology Team developed and disseminated community-based case definition for AWD and Cholera with communities and ensured prioritization and targeting the RCCE messages to the right audiences with culturally appropriate easy understanding language.

Successes	Challenges	Recommendations
<ul style="list-style-type: none"> <li>Readily available RCCE package adapted for Cox’s Bazar setting for expected behavioral change for both Host and FDMN community</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistent community engagement sessions through IPC and courtyard and house-to-house sessions</li> </ul>	<ul style="list-style-type: none"> <li>Conduct regular community engagement sessions through IPC and courtyard and house-to-house sessions</li> </ul>
<ul style="list-style-type: none"> <li>Dissemination of multi-language messages in the community through different channels</li> </ul>	<ul style="list-style-type: none"> <li>Risk communication printed products are not inclusive with vulnerable groups such as the old aged and people with disabilities</li> </ul>	<ul style="list-style-type: none"> <li>Increase inclusive AV materials for community awareness and engagement for all beneficiaries considering the age, education, and other barriers</li> </ul>
<ul style="list-style-type: none"> <li>Effective mobilization of Community Health Workers (CHWs), Communication for Development (C4D) Volunteer Network, and Hygiene Promoters</li> </ul>	<ul style="list-style-type: none"> <li>Irregular monitoring support supervision of community mobilization efforts by Community Health Workers(CHWs) hampers optimal community engagement with AWD/Cholera awareness creation</li> </ul>	<ul style="list-style-type: none"> <li>Ensure regular follow-up and monitoring through field visits and meetings in risk communication TWG, CWC, and Health Sector</li> </ul>

<ul style="list-style-type: none"> <li>Mixed media methods (loudspeakers, audio, AV, cartoons, banner, poster, leaflet, sticker) used for community awareness and engagement</li> </ul>	<ul style="list-style-type: none"> <li>Public health messages are more skewed to audio content; rather than, audiovisual content to have more impact</li> </ul>	<ul style="list-style-type: none"> <li>Need for RCCE team to prepare more audiovisual public health messages for better impact</li> </ul>
<ul style="list-style-type: none"> <li>Harmonized joint message dissemination by WASH and RCCE in Teknaf AWD outbreak</li> </ul>	<ul style="list-style-type: none"> <li>Findings by Joint Assessment and Response Teams were not reflected in the PH/Hygiene messages due to COVID-19 transmission and movement restriction</li> </ul>	
<ul style="list-style-type: none"> <li>Rumour tracking mechanism in place for AWD alert response</li> </ul>	<ul style="list-style-type: none"> <li>Rumor tracking mechanism overwhelmed by COVID-19 response; hence, from 2020 onwards this mechanism was more focused on COVID-19 infodemics management</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate Media monitoring and rumor tracking and counter those rumors immediately</li> </ul>
<ul style="list-style-type: none"> <li>Dissemination of hygiene messages coupled with a demonstration by CHWs and Hygiene Promoters under the WASH Sector leveraged effective engagement and compliance</li> </ul>	<ul style="list-style-type: none"> <li>Limited engagement/interaction with implementing partners in the RCCE TWG, since, implementing partners do not represent in the RCCE TWG</li> </ul>	
<ul style="list-style-type: none"> <li>Engage community leaders/majhis/faith-based leaders to enforce compliance to RCCE messages</li> </ul>		<ul style="list-style-type: none"> <li>Proactively communicate and promote a two-way dialogue with communities, the public, and other stakeholders to understand risk perceptions, behaviors, and existing barriers, specific needs, and knowledge gaps and provide the identified communities/groups with accurate information tailored to their circumstances.</li> </ul>
<ul style="list-style-type: none"> <li>Better accessibility to women and girls through female CHWs and C4D volunteers</li> </ul>		
<ul style="list-style-type: none"> <li>RCCE messages have been reviewed and finalized by the CwC &amp; RCCE partners and approved and owned by CS Office</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate information on at risk population and other stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Conduct an early assessment to identify essential information about at-risk populations and other stakeholders.</li> </ul>

<ul style="list-style-type: none"> <li>• RCCE Strategy for AWD in place and developed critical operational modality by the CwC &amp; RCCE working group</li> </ul>	<ul style="list-style-type: none"> <li>• No scientific approaches and mechanisms to assess the impact of RCCE interventions to calibrate/navigate the actions</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinate and plan with authorities and partners to strengthen preparedness, ensure effectiveness and avoid duplication.</li> </ul>
<ul style="list-style-type: none"> <li>• AWD/Cholera Preparedness &amp; Response Plan 2022/23 has a community engagement element</li> </ul>		
<ul style="list-style-type: none"> <li>• Availability of 1400 community health workers (70% of them are female), 800 communications for development volunteers, 1,832 Hygiene Promoters (819 female volunteers)</li> </ul>	<ul style="list-style-type: none"> <li>• 2020 onwards, the AWD surge response was overwhelmed by COVID-19 priorities &amp; Dengue upsurge</li> </ul>	
<ul style="list-style-type: none"> <li>• RCCE TWG with representatives of Hygiene Promoters WG, CHWG, and C4D network served as the nerve center for the dissemination of RCCE products</li> </ul>	<ul style="list-style-type: none"> <li>• RCCE TWG representatives are seldom part of the technical meetings to actively identify the dates for mega public events</li> </ul>	
<ul style="list-style-type: none"> <li>• Availability of TWB in the RCCE TWG enabled fast-tracking translation of the messages</li> </ul>		

### Pillar 5: WASH and Environmental Health

The WASH Sector is one of the critical drivers in AWD/cholera prevention, preparedness, and response within FDMNs and surrounding host population in Cox’s Bazar district.

Through its collaboration with Health Sector and government’s Department of Public Health Engineering (DPHE), it’s been able to roll out elaborate and impactful long term WASH infrastructures, waste management, hygiene promotion activities, procurement, and distribution of water treatment chemicals (Aquatabs), regular treatment of water at source i.e., in tap stands (that provide chlorinated water) and sampling of water for biochemical water quality assessment in targeted hotspots and across the camps.



**Fig 6: Rohingya Community member collecting water from a tap water**

As of 2021, the WASH Sector in collaboration with Health Sector and DPHE, coordinated 17<sup>th</sup> Water quality Surveys whose results continue to shape the strategies for interrupting cholera transmission. In addition to this, the two sectors continue to coordinate Joint Assessment and Response Teams (JARTs) in all the 33 camps and do undertake joint trainings for WASH and Health Sector personnel to enhance their capacity for prevention, preparedness, and response to AWD or possible Cholera outbreaks.

UNICEF leads WASH Sector, co led by BRAC while IOM is supporting the position of PHP Officer who oversee the day-to-day coordination of WASH activities among WASH Sector partners. WASH Sector partners which include UN agencies as well as several International and National Non-Governmental Organizations that are working to scale up AWD/Cholera prevention, preparedness, and response in all the 33 FDMN camps.

Successes	Challenges	Recommendations
<ul style="list-style-type: none"> <li>The WASH agencies take part in JAT assessments and response</li> </ul>	<ul style="list-style-type: none"> <li>Minimal triangulation of WASH and Epidemic intelligence data results in missed opportunities for integrated Prevention, preparedness, and response activities. However, in 2021 WASH Sector has mapped AWD cases (using WHO &amp; JART response kobo data) regarding the existing water networks in the camps.<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>The need for regular Joint Health, WASH, and CHWG coordination meetings held every two months to update on the progress of AWD/Cholera preparedness and response activities.</li> </ul>
<ul style="list-style-type: none"> <li>AWD and waterborne disease assessment outcomes are discussed, and action is taken in both WASH Sector and HP TWiG monthly meetings, for details please visit the WASH Sector Website, DPHE, Area Focal Agencies (AFA) &amp; WASH Implementing Partners (Ips).</li> </ul>	<ul style="list-style-type: none"> <li>There have been no frequent Joint Health, WASH Sectors, and Community Working group meetings to monitor the progress in the implementation of AWD/Cholera prevention, preparedness, and response interventions.</li> </ul>	<ul style="list-style-type: none"> <li>The need to comprehensively implement the findings of the Water Quality and Supply Survey report during the revision of Multi-Sector AWD response plan 2020 to inform the breaking of transmission at the household level in the new preparedness and response plan for 2022/23 that is currently under review.</li> </ul>
<ul style="list-style-type: none"> <li>The Sector has developed, disseminated, and operationalized the WASH Sector AWD Response action plan and DPHE guidelines in Implementation Partners</li> </ul>	<ul style="list-style-type: none"> <li>Joint Assessment process is cumbersome and overburdening to implementation partners, this is further aggravated by occasional delays to ensure</li> </ul>	<ul style="list-style-type: none"> <li>Need for review of Joint assessment scope and close linkage with response interventions to reduce size, refine the content for</li> </ul>

<sup>3</sup> <https://www.humanitarianresponse.info/en/operations/bangladesh/water-sanitation-hygiene>

meetings, Action Plan, Water Quality Survey, and hotspot assessment guide to implementation partners.	timely investigations and response to AWD/Cholera	simplicity in use by implementation partners.
<ul style="list-style-type: none"> <li>The sector through AFA has developed and shared guidelines, capacity development &amp; operationalization of guidelines</li> </ul>		<ul style="list-style-type: none"> <li>WASH Sector has been working to simplify the existing JAT that has now been refined to JART (joint assessment and response team). This tool will now be reviewed by partners and shared with WHO before finalization. It shall ensure that response shall not precede assessment.</li> </ul>
<ul style="list-style-type: none"> <li>The Implementing partners have continued to Implement WASH activities as per WASH sector guidelines &amp; standards</li> </ul>		
<ul style="list-style-type: none"> <li>WASH Sector has dedicated focal personnel for Joint Assessments and Response Teams (JARTs) who is responsible for assigning personnel for undertaking investigations that includes assessment and response interventions in timely sequential manner</li> </ul>		
<ul style="list-style-type: none"> <li>The Sector continues to share interactive water quality monitoring<sup>4</sup> on its website which is accessible to all. This has enabled technical partners, government, and donors to interact with WASH sector work on AWD/Cholera surveillance and response.</li> </ul>		
<ul style="list-style-type: none"> <li>The WASH Sector through Public Health Officer (PHO) officer attends and participate in Epidemiology TWG meetings</li> </ul>	<ul style="list-style-type: none"> <li>Exclusion of representative of WHO Epidemiology units is a notable gap in enhancing information sharing and coordination of intersectoral (WASH and Health)</li> </ul>	<ul style="list-style-type: none"> <li>WASH sector to include representative Of WHO Epidemiology unit to attend and participate in its WASH Sector meetings as a way of enhancing WASH and Health</li> </ul>

<sup>4</sup> <https://www.humanitarianresponse.info/en/operations/bangladesh/water-sanitation-hygiene>

	AWD/Cholera surveillance and response activities	Sectors' joint coordination of AWD/Cholera Surveillance and response.
<ul style="list-style-type: none"> <li>The Sector has operationalized WASH response plan for Cholera &amp; AWD with specific Routine HP activities including AWD specific messages, community engagement &amp; consultation drawn from the multi-sectoral AWD/Cholera Response Plan 2020.</li> </ul>		
<ul style="list-style-type: none"> <li>WASH Sector in collaboration with Health Sector provided orientation to Implementation partners and often coordinated integrated WASH and Health Sector trainings for AWD/Cholera Surveillance and response to personnel involved in AWD/Cholera surveillance and response. This has enhanced their capacity to undertake joint assessments and response, ad-hoc and routine water quality assessment</li> </ul>		
<ul style="list-style-type: none"> <li>WASH Sector has continued to ensure AFA IP capacity development to ensure harmonized implementation of WASH activities as per guidelines</li> </ul>		
<ul style="list-style-type: none"> <li>There sector has updated health hygiene and sanitation messages that have been shared with all households regarding Cholera transmission and prevention, these have contributed to improved community awareness regarding AWD/Cholera risk behaviors that enhance cross-contamination at in and outside the household.</li> </ul>		

<ul style="list-style-type: none"> <li>• There has been improved leadership &amp; capacity of local community &amp; CHP through consistent and continuous community engagement by different community groups like Water User Groups, WASH Committee, Latrine User Groups, etc. Rather than going to households, community members are brought together in forums where they themselves lead hygiene promotion discussions regarding AWD where Hygiene Promotion volunteers support them in forming these groups or giving appropriate messages.</li> </ul>		
<ul style="list-style-type: none"> <li>• Different studies (KAP survey etc.) by different Implementation Partners have been undertaken as well as Behavior change communication (BCC) approaches &amp; community engagement studies adopted by different agencies (UNICEF) like RANAS (Risk, Attitude, Norms, Ability &amp; Self-regulation) &amp; CCC-PLTH (clean camp campaign-people lead total hygiene)</li> </ul>		
<ul style="list-style-type: none"> <li>• The Sector continue to undertake regular water quality monitoring by IPs (Ad Hoc based on AWD cases) which have provided useful evidence on risks for cross-contamination and guided appropriate response strategies. So far 17 Water Quality Survey reports have been finalized and utilized in decision making by various</li> </ul>		



sectors towards AWD/Cholera surveillance and response.		
<ul style="list-style-type: none"> <li>There is an existing updated maps of water networks (last updated on 2021)<sup>5</sup> within FDMN camps that are continuously monitored for water quality compliance by the sector</li> </ul>		

## Pillar 6: Medical Logistics and Supplies



**Fig 5: Picture of a camp-based emergency logistic supplies hub in the FDMN Camps**

For effective delivery of AWD/Cholera preparedness and response interventions, the Health and WASH Sector requires timely procurement, prepositioning or delivery of Water Treatment Chemicals, diagnostics, therapeutics and OCV vaccines. This can best be achieved through availability for valid and reliable Health and WASH data to guide forecasting and projections of

commodities. During the 2021 period, there has not been major gaps in supply of AWD/Cholera commodities though international procurement process has been noted to be cumbersome and time consuming for most partners. This has resulted to occasional delays in the delivery of drugs, RDT kits and Vaccines when they are required.

Successes	Challenges	Recommendations
<ul style="list-style-type: none"> <li>There have been adequate supplies of AWD/Cholera commodities (Drugs, ORS, Ringer Lactate, Antibiotics, Saline solutions, Aqua tabs, and OCV vaccines) due to timely procurement plans by all partners during the 2021 period.</li> </ul>	<ul style="list-style-type: none"> <li>The long and cumbersome international procurement process for commodities does delay the availability of drugs, and diagnostics.</li> </ul>	<ul style="list-style-type: none"> <li>Partners to provide periodical diagnostic, therapeutic, and water treatment stock for effective calculation of commodity gaps to aid procurement planning.</li> </ul>

<sup>5</sup> [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/wash\\_infra\\_water\\_network\\_location\\_map\\_april\\_2022\\_0.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/wash_infra_water_network_location_map_april_2022_0.pdf)

<ul style="list-style-type: none"> <li>• WHO has procured and prepositioned Cholera Emergency Kit (containing three modules) that each has the capacity to cater to 100 Cholera patients.</li> </ul>		<ul style="list-style-type: none"> <li>• Need to explore local procurement of WASH and Health AWD/Cholera commodities for timely access to these commodities.</li> </ul>
<ul style="list-style-type: none"> <li>• Timely commodities updates by WHO logistics office to guide planning and projections</li> </ul>	<ul style="list-style-type: none"> <li>• Challenge in getting commodity updates from Health and WASH partners on timely basis which delays planning and projection of needs</li> </ul>	<ul style="list-style-type: none"> <li>• Need for coordinated updates for logistics every two months by WASH and Health partners to guide Solid planning and projects</li> </ul>