GLOBAL TASK FORCE ON CHOLERA CONTROL

GLOBAL TASK FORCE ON CHOLERA CONTROL

10th ANNUAL MEETING REPORT

26-28 JUNE 2023 | LES PENSIÈRES CONFERENCE CENTRE, VEYRIER-DU-LAC, FRANCE

GTFCC – 2030 Roadmap

IMPLEMENTING THE GLOBAL ROADMAP

IMPACT

90% Reduction in Cholera Deaths by 2030

- 20 Countries Eliminate Cholera by 2030
- No More Uncontrolled Outbreaks
- Accelerated Achievement of the Sustainable Development Goals Especially 2, 3, 6 & 10

GOALS

AXIS 1	AXIS 2	AXIS 3
Countries detect outbreaks early and respond immediately to contain them	Countries prevent disease occurrence by targeting multi-sectoral interventions in cholera hotspots	Technical support, resource mobilization, and partnership are coordinated at local and global levels

OBJECTIVES

AXIS 1	AXIS 2	AXIS 3
Cholera-affected Countries: **1a.** Implement an early warning surveillance system in all hotspots **1b.** Ensure and maintain workforce capacities to detect, confirm, and respond to outbreaks **1c.** Stock and pre-position essential supplies; plan for contingencies **1d.** Establish WASH and Health Rapid Response Teams **1e.** In the event of a cholera alert, immediately implement emergency WASH, health, and community-based interventions to prevent disease spread, including large scale OCV campaigns.	**Cholera-affected Countries:** **2a.** Identify and prioritize cholera hotspots **2b.** Implement adapted long-term sustainable WASH interventions **2c.** Utilize OCV effectively at scale in conjunction with other long-term strategies **2d.** Implement hygiene promotion, risk communication and social mobilization strategies for strong community engagement **2e.** Collaborate across borders to implement a strong sub-regional control strategy	**The GTFCC:** **3a.** Establishes and maintains an effective coordination mechanism (including a steering committee, operative platforms and funding mechanism) that: **3b.** Galvanizes political commitment to cholera control and raises the profile of cholera as a public heath threat **3c.** Coordinates technical support and guidance to countries **3d.** Harmonizes a research agenda **3e.** Supports the financing of Roadmap implementation in countries

INDICATORS

AXIS 1	AXIS 2	AXIS 3
Reduction in cholera deaths in large uncontrolled outbreaks	Number of currently endemic countries that have eliminated cholera; Countries achieving at least 80% WASH coverage in all hot spots	Number of countries implementing a fully funded multi-sectoral cholera control plan aligned to the Global Roadmap

TARGETS

	AXIS 1	AXIS 2	AXIS 3
2030	90% reduction in outbreak deaths [7]	20 countries have eliminated cholera; 41 countries have achieved 80% WASH coverage in cholera hotspots[8]	All 47 countries with cholera hotspots are implementing fully-funded multi-sectoral cholera control plans[9]
2025	50% reduction in outbreak deaths	4 countries have eliminated cholera, 25 countries have achieved 80% WASH coverage in hotspots	37 countries are implementing fully funded plans
2020	20% reduction in outbreak deaths	1 country has eliminated cholera	12 countries are implementing fully funded plans
BASELINE (2017)	Uncontrolled cholera outbreaks in Yemen (estimated 2,000 deaths) and the Horn of Africa (estimated 800 deaths)	47 countries remain affected by cholera	Not applicable

ENABLING FACTORS

Strong ongoing commitment from countries, partners, and donors
New and existing health and WASH resources are aligned to the Global Roadmap
Sufficient global supply of Oral Cholera Vaccines

PRINCIPLES

- Country-driven
- Multi-sectoral & Coordinated
- Bridging Emergency & Development
- Targeted to Most-affected Population
- Community Engagement

Executive summary

The 10th Annual GTFCC Meeting, held on June 26-28, 2023, brought together key stakeholders in person at *Les Pensières* (Annecy, France) and virtually, reflecting a world where cholera control has become increasingly challenging due to a changing landscape marked by emerging risks. The meeting focused on evaluating progress, challenges, and planning towards achieving the goals set out in the Global Roadmap to ending cholera in 2030.

As the climate emergency worsens, human displacement will intensify, along with droughts and flooding – all conditions that give rise to cholera outbreaks. Unless investments are made for systems that build preparedness and resilience among at-risk populations, the cholera burden will continue to rise. These adverse factors are compounded by the shortages of oral cholera vaccines and other critical supplies. The resurgence has not only introduced cholera in new regions but has also exacerbated it in existing hotspots.

However, the meeting also spotlighted significant successes in cutting-edge response strategies, vaccine deployment, and Water, Sanitation, and Hygiene (WASH) initiatives, demonstrated through country-specific presentations. Key takeaways include the critical need for improved data quality for more informed decision-making and advocacy purposes, the integration of advanced technological tools in monitoring and surveillance, and a notable shift towards multisectoral approaches integrating health, environmental, and infrastructural responses.

This year's meeting reinforces our commitment to adapt and respond to the global health challenges of cholera through innovative strategies, resilient health systems, and broad-based partnerships spanning multiple sectors and disciplines. The dynamics of global health security have necessitated an urgent strategic shift towards prevention and rapid response readiness, embedding robustness into our collective pursuit of a cholera-free world.

Halfway through the Roadmap, a midterm review will be held to provide a comprehensive assessment of progress towards the Roadmap goals, offering insights into addressing current challenges and optimizing the likelihood of success by 2030. Key priorities identified for the coming year, with a view to implement the roadmap objectives are the following:

- **Strategic Coordination :**
    - Enhance robust financing models for National Cholera Plans (NCPs) through high-level political commitment and strategic donor engagement.
    - Align national policies with the roadmap objectives, with an integrated, multisectoral approach (WaSH, RCCE, Education, etc.).
    - Strengthen enforcement mechanisms at country-level and within the GTFCC to ensure effective implementation of strategies, avoid missed opportunities. This includes the review of existing monitoring and evaluation frameworks.
    - Integrate data transparency and timely dissemination into strategic coordination efforts for effective planning and decision-making.

- **Strengthening health systems capacities through WaSH integration:**

    - Ensure timely dissemination of health system strengthening and WaSH in health initiatives for effective collaboration, resource allocation, and sustained progress tracking.
    - Support the development of a WaSH data repository, to support the identification and prioritization of activities in cholera hotspots through WaSH indicators (level of access to services, vulnerability, severity, etc.)
    - Prioritize the development and testing of methodologies/tools supporting the development of the WaSH pillars of National Cholera Plans (including M&E framework).
    - Water Quality Management and Water Safety Planning: Review existing guidance for cholera control and outbreak risks management

- **Climate Change Mainstreaming:**

    - Integrate climate change preparedness into cholera control strategies for sustainable progress amid environmental challenges.
    - Recognize the impact of climate change on disease control efforts and ensure timely dissemination of climate-related data to inform strategic decisions.

- **Addressing OCV shortages**

    - Support countries liaising with ICG and Gavi for the development of response and preventive OCV campaigns. Develop tools and guidance documents, where needed, to ensure standardized M&E of OCV campaigns and to improve campaign quality.
    - Maintain transparent and fair process to prioritize OCV shipments due to supply constraints (OCV allocation framework).
    - Continue to implement OCV request and campaign planning workshops. Planned for the Eastern Mediterranean Region in Q4 2023.
    - Continue to support more countries to determine their 2022-2026 OCV forecast.

- **Case Management:**

    - Improve early access to treatment by reviewing community treatment models and leveraging existing mechanisms to enhance access to treatment for suspected cholera cases in the community.
    - Enhance clinical management of cholera by improving data collection procedures during outbreaks and collaborating with the Surveillance Working Group to enhance guidance on data collection and analysis, especially within outbreak scenarios.
    - Streamline antibiotics use by modeling the impact of expanded antibiotic usage, particularly in case area targeted interventions during outbreaks, and considering potential antimicrobial resistance implications.
    - Submit findings of the Scoping Review on cholera mortality risk for peer-reviewed publication and enhance data collection and understanding through a dedicated Case Report Form for cholera to improve data collection and provide insights into clinical factors.

- **Surveillance Pillar:**

    - Finalize and publish comprehensive guidance for public health surveillance for cholera to strengthen surveillance at the country level.

- Formulate and publish recommendations for minimum laboratory capacity standards and refine capacity assessment tools for improved outbreak detection.
- Develop a comprehensive training plan for diagnostics, focusing on enhancing cholera diagnostics capacity in priority countries.
- Support the review and development of target product profiles for diagnostic tests to strengthen laboratory capacities and early outbreak detection.
- Provide technical recommendations for efficient cholera reporting at regional and global levels to enhance surveillance mechanisms.

Acronyms and abbreviations

AMR	antimicrobial resistance
AST	antimicrobial susceptibility testing
AWD	acute watery diarrhoea
CATI	case-area targeted intervention
CFE	contingency fund for emergencies
CFR	case fatality rate
CHV	community health volunteer
CHW	community health worker
CSP	Country Support Platform
DRC	Democratic Republic of Congo
EIOS	Epidemic Intelligence from Open Sources
EOC	emergency operations centre
EPI	Expanded Programme on Immunization
EU	European Union
EWARS	Early Warning and Response System
GHV	Global Health Visions
GTFCC	Global Task Force on Cholera Control
HEPR	Global Architecture For Health Emergency Prevention, Preparedness, Response And Resilience
HQ	headquarters
HTH	High Test Hypochlorite
HWWS	handwashing with soap
icddr,b	International Centre for Diarrhoeal Disease Research, Bangladesh
ICG	International Coordinating Group
IDSR	integrated disease surveillance and response
IEC	information, education and communication
IFRC	International Federation of Red Cross and Red Crescent Societies
IGAD	East African Intergovernmental Authority on Development
IHR (2005)	International Health Regulations (2005)IHR NFP IHR national focal point
IMS	Incident Management System
IMST	Incident Management System Team
IPC	infection prevention and control
IRP	Independent Review Panel
IVI	International Vaccine Institute

LSHTM	London School of Hygiene and Tropical Medicine
M&E	monitoring and evaluation
MOH	ministry of health
MSF	Médécins Sans Frontières
MYP	multiyear (preventive vaccination) plan
NCCP	national cholera control plan
NCP	national cholera plan
NIH	US National Institutes of Health
OCV	oral cholera vaccine
ODF	open defecation free
ORP	oral rehydration point
ORS	oral rehydration solution/salts
ORT	oral rehydration treatment
PAMI	priority area for multisectoral interventions
PCR	polymerase chain reaction
PHEM	public health emergency management
PPE	personal protective equipment
PQ	WHO prequalification
QA	quality assurance
RCCE	risk communication and community engagement
RCT	randomized controlled trial
RDT	rapid diagnostic test
RRT	rapid response team
SAM	severe acute malnutrition
SDGs	Sustainable Development Goals
SOP	standard operating procedure
SPRRP	Global Cholera Strategic Preparedness Readiness and Response Plan
TPP	target product profile
UNICEF	United Nations Children's Fund
UNOCHA	United Nation Office for the Coordination of Humanitarian Affairs
US CDCD	United States of America Centers for Disease Control and Prevention
WASH	water, sanitation and hygiene
WHO	World Health Organization


Thank you
Together we can
#endcholera
GLOBAL TASK FORCE ON
CHOLERA CONTROL

Table of Contents

Foreword ..... **Error! Bookmark not defined.**

GTFCC – 2030 Roadmap 2

Executive summary 3

Acronyms and abbreviations 5

Table of Contents 8

Towards the 2030 Roadmap Goals: Achievements, successes and perspectives 10

GTFCC Secretariat: Working Groups Updates 14

Case Management Working Group 14

Epidemiology Working Group 17

Laboratory Working Group 20

Oral Cholera Vaccine (OCV) Working Group 23

WASH Working Group 26

GTFCC Country Support Platform (CSP) updates 28

2030 Roadmap: GTFCC monitoring and evaluation tools 31

Recent developments in cholera research 33

Cholera roadmap research agenda & research tracker 34

Targeted WASH interventions to reduce cholera in Bangladesh and DRC: CHoBI7 & PICHA7 35

OCV studies in eastern DRC 36

Single dose azithromycin to prevent cholera in children 38

Case-area targeted interventions (CATI) for rapid containment of cholera 38

Making cholera diagnostics more resilient to the negative effects of antibiotics and lytic phages 39

Country updates summary 41

Strategic planning for the next period of roadmap implementation 42

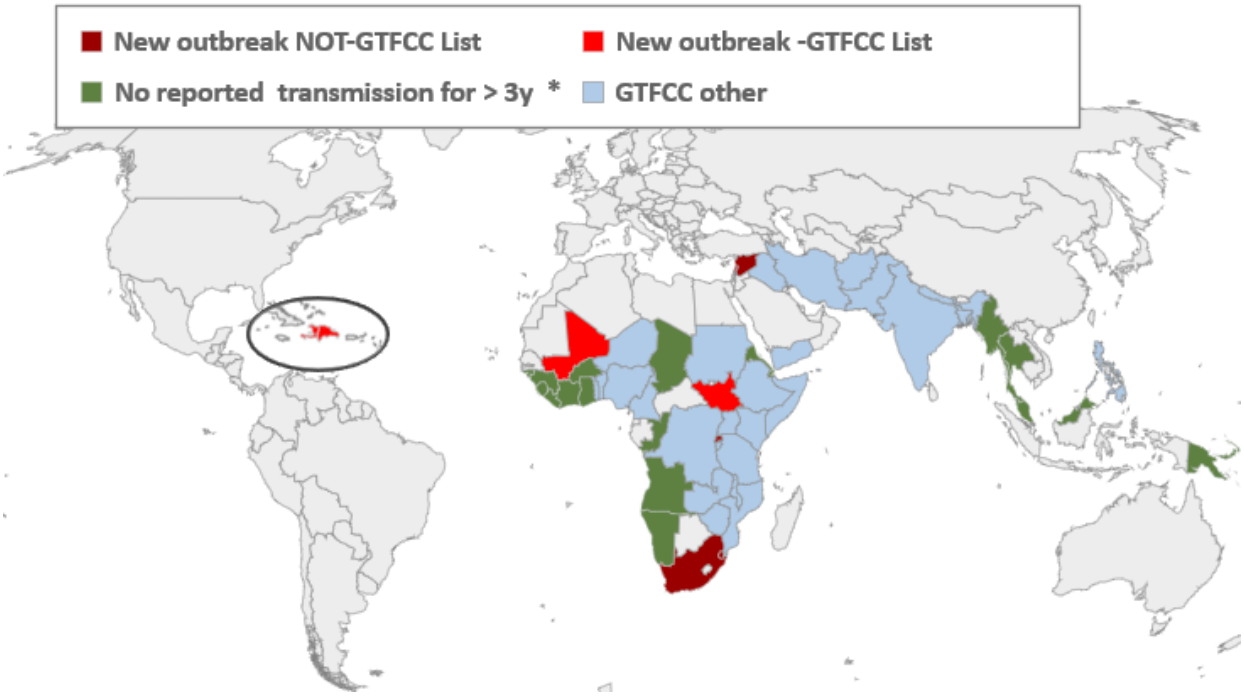
Annex 1: Agenda 45
Annex 2: List of participants 53
Annex 3 : Meeting of the GTFCC Steering Committee 59
Action items 59
Votes 59
Annex 4: Detailed country updates 60
Bangladesh 60
Benin 62
Democratic Republic of Congo 65
Ethiopia 66
Haiti 68
Kenya 71
Lebanon 73
Malawi 74
Mozambique 77
Nepal 78
Nigeria 79
Pakistan 81
Somalia 83
South Africa 85
Togo 86
Uganda 87
Zambia 88
Annex 5 : Side events 90
Focus on the global cholera situation and coordination mechanism (cholera IMST) 90
Side-meeting: Engaging the WASH sector 92
CSP side-meeting: Country successes and lessons 92
Coordinating a multisectoral task force 97

Towards the 2030 Roadmap Goals: Achievements, successes and perspectives

Detailed presentation delivered by **Dr. Barboza**, Head of the GTFCC Secretariat, available on this link.

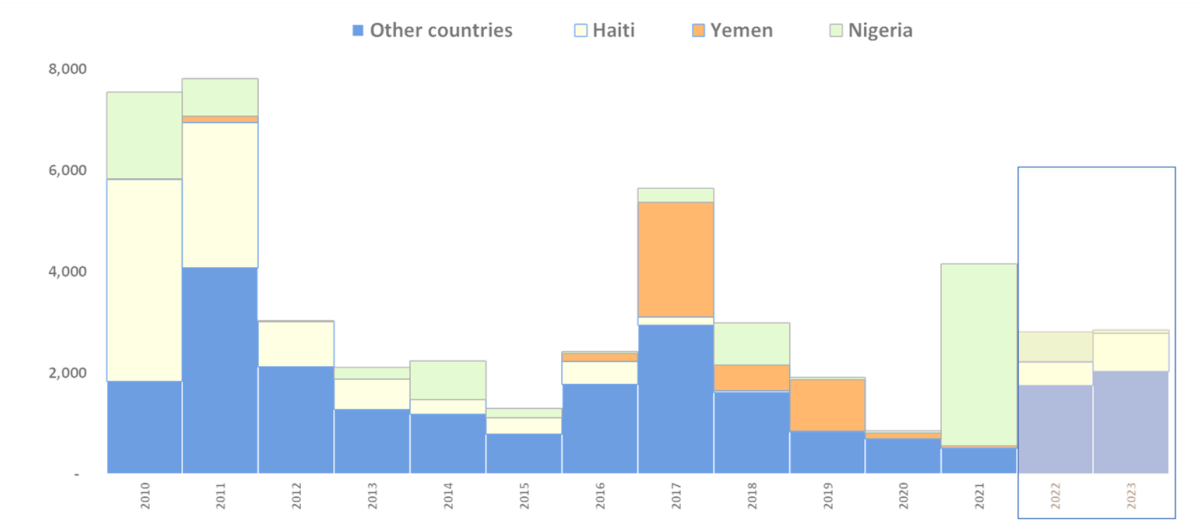
Following a period of advancement in cholera control, the situation has regressed since mid-2021, with the seventh cholera pandemic intensifying. The current epidemiological landscape is characterized by an elevated case fatality rate (CFR), an increase in the frequency and magnitude of outbreaks, and the emergence of new countries experiencing cases after years of cholera absence. Perennial drivers such as poverty, conflict, and migration persist, compounded by worsening climate conditions, all contributing to a significant rise in cholera-related fatalities reported to WHO.

Figure 1: Cholera outbreaks reported by countries in the past three years



Addressing ongoing data quality issue is of paramount importance for the effectiveness and efficiency of outbreak responses. Furthermore, the concerning issue of under reporting needs to be addressed as a mere 4 000 documented deaths annually were reported to donors. Ethiopia can be quoted as an example of progress, as the country reinforced its coordination with the World Health Organization (WHO) on data dissemination.

Figure 2: Cholera deaths reported to WHO (2010-2021 & preliminary data for 2022-2023)



The scarcity of Oral Cholera Vaccine (OCV) continues to be severe, necessitating the continuation of a single-dose administration strategy. During the first half of 2023, the ICG processed 11 requests for vaccine doses to manage outbreaks. Of these, five requests were fully approved, five received partial approval, and one was declined. The requests were generally conservative in number, reflecting the ongoing vaccine shortage. Additionally, 17 million doses that had been approved for preventive vaccination purposes remained undelivered due to the unavailability of vaccines. This shortage led to no new requests being submitted in 2022 and 2023. To streamline the process, Gavi has recently assumed responsibility for the application procedure for preventive doses.

For the entirety of 2023, cholera vaccine production is projected to total 37 million doses, with a maximum production capacity of 3 million doses per month. By mid-June, approximately 15 million doses have either been shipped or are in the process of shipment, against a background of 41 million doses having been requested. This creates an estimated shortfall of 50 million doses solely for outbreak response. Additionally, 17 million doses approved for preventive vaccinations are yet to be distributed due to these constraints.

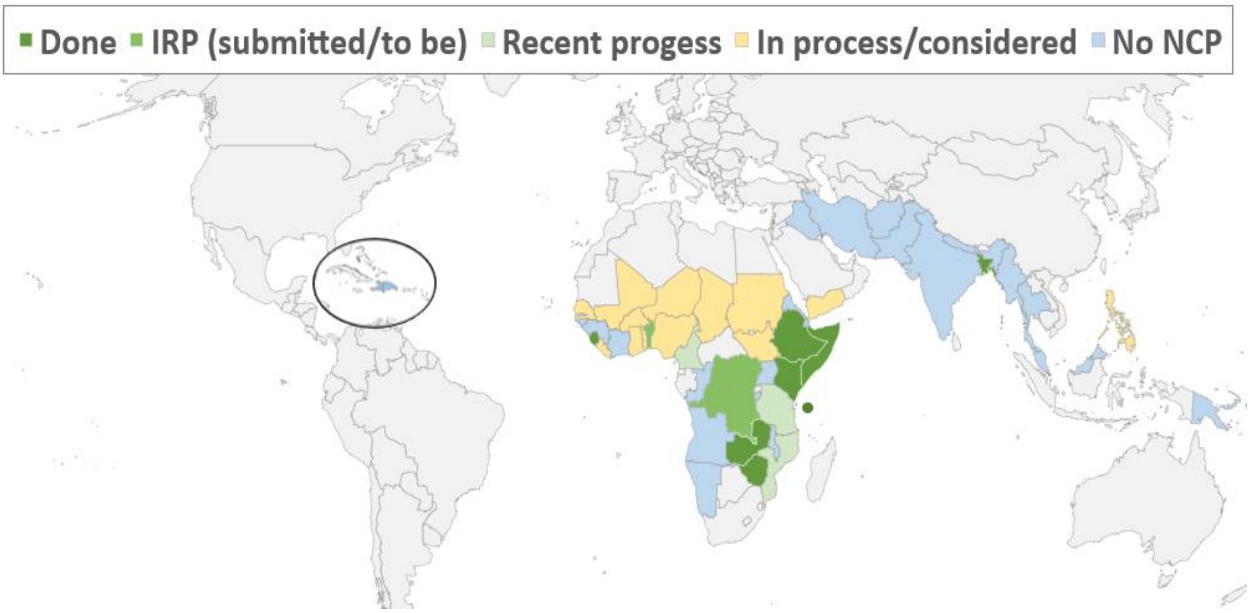
The vaccine shortage is mirrored by deficits in other essential cholera supplies, including intravenous fluids, oral rehydration solutions (ORS), laboratory supplies, and cholera kits, further complicating the response efforts to manage and prevent cholera outbreaks effectively.

Regarding the implementation of the National Cholera Control Plan (NCP) process, progress since 2018, as reported to the Global Task Force on Cholera Control (GTFCC), is outlined below:

- Eight countries/territories have successfully finalized their National Cholera Control Plans (NCPs) following the guidelines of the post-Roadmap.
- Two countries have submitted their NCPs for evaluation to the Independent Review Panel (IRP).
- Three countries have shown documented advancements in developing their NCP.
- Twelve countries are either considering or actively drafting their NCP.

Despite these efforts, significant gap remain: 23 priority countries, representing 50% of those targeted, have neither established a post-Roadmap NCP nor indicated plans to develop one. This highlights a critical area where intensified efforts are needed to ensure global progress in cholera control and prevention.

Figure 3: GTFCC countries NCP status (2018-2023)



Twenty-three countries – again, 50 % of the GTFCC target countries – have completed mapping of priority areas for multisectoral interventions (PAMIs). Fourteen of those countries completed the mapping exercise in the year since June 2022. Tanzania is currently in the mapping process.

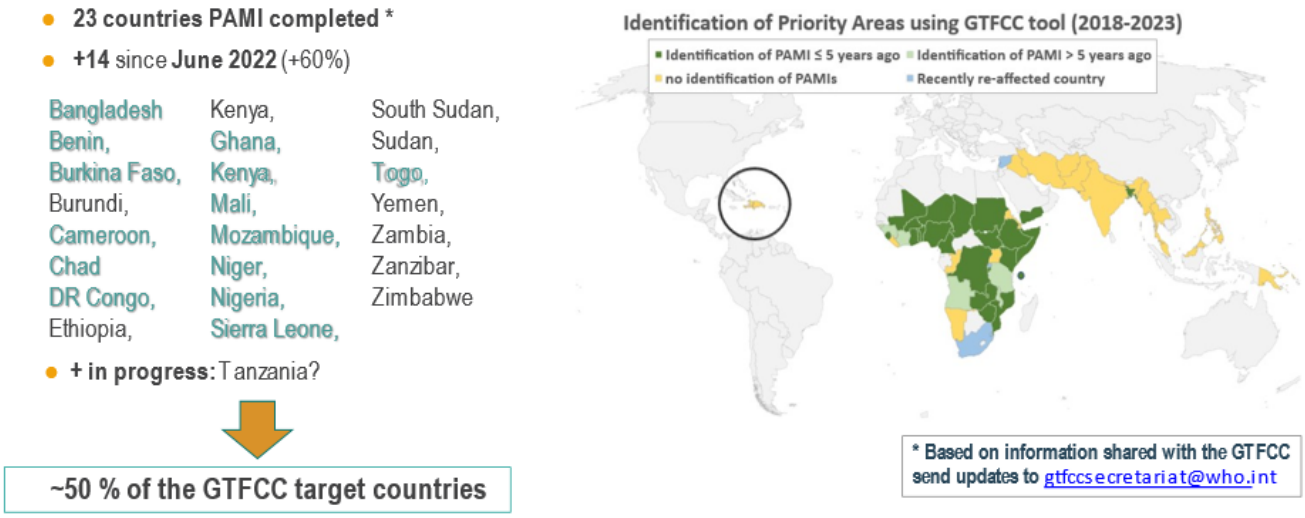
The dynamic and rapidly evolving nature of the cholera landscape requires that response strategies and support mechanisms adapt accordingly. Approximately one-third of the countries supported by the Global Task Force on Cholera Control (GTFCC) continue to need substantial support at various stages of their cholera control efforts. Similarly, another third of these countries require active engagement or re-engagement, especially those facing the reemergence of cholera after prolonged periods of inactivity. The remaining third necessitate close monitoring and enhanced support to ensure their commitment to the cholera control initiatives remains steadfast.

Since its inception, the GTFCC secretariat and CSP have fostered a robust and distinctive partnership designed to bolster these efforts, featuring an array of technical working groups, an advocacy task team, country leadership roles, and a broad network of committed partners. Despite the shifting challenges associated with cholera and other influencing factors since the Roadmap's initiation, the strength and unique nature of the GTFCC's partnerships remain unchanged. This solid foundation is pivotal for advancing toward a cholera-free world. The extensive and committed partnership network under the GTFCC is vital for the continued success of this initiative. As Dr. Barboza aptly stated, "everyone here today in person or online has a critical role to play," emphasizing the collective and crucial contributions of all participants towards achieving cholera control and elimination objectives.

After summarizing the key moments of the Global Task Force for Cholera Control (GTFCC) since 2017, Dr. Barboza provided an overview of the forthcoming steps. The Secretariat has collaborated with Global Health Visions (GHV) on a comprehensive planning exercise and review that evaluates five years of roadmap implementation.

As a result of this review, a detailed narrative outlining the progress towards the Roadmap's objectives will be generated, along with a substantial strategic planning initiative. Recognizing a need for developing strategic planning, the GTFCC Secretariat raised this issue during discussions with the Steering Committee in June 2022 and is actively collaborating with GHV to formulate a strategic framework and operational plan. Dr. Barboza emphasized the importance of engaging all partners in this initiative and introduced a "zero draft" logical framework for the implementation of axis 3 of the Global Roadmap, which will be publicly displayed during the meeting. This public display aims to gather feedback and suggestions from attendees to help shape and prioritize efforts for the upcoming seven years of Roadmap implementation.

Figure 4: **GTFCC countries PAMI status (2018-2023)**



GTFCC Secretariat: Working Groups Updates

Case Management Working Group

Working group focus – The principal objective of the Case Management Working Group (WG) is to contribute to the goals of the *Ending Cholera* global roadmap, including a reduction in cholera deaths by 90% by 2030. This work has two operational objectives: 1) improving clinical management of patients with cholera and 2) improving access to care for patients with cholera.

GTFCC Secretariat focal point: Dr Kathryn Alberti

Chair Organization: Iza Ciglenecki, Médecins Sans Frontières

The detailed presentation delivered by Dr. Iza Ciglenecki (MSF) is accessible on the following link.

2022-23 priorities (as per June 2022 GTFCC Annual Meeting)

- Improve early access to treatment through the review of community treatment models (community health workers, community volunteers, national or Red Cross/Red Crescent national societies, pharmacies, home treatment). The objective is to look at existing mechanisms that can be leveraged to treat suspected cholera in the community and build on them to improve access to treatment.
- Enhance the clinical management of cholera. The scoping review highlighted the necessity of enhancing data collection procedures during cholera outbreaks. Collaborative efforts with the Surveillance Working Group are planned to enhance both guidance regarding data collection and analysis, particularly within outbreak scenarios. Additionally, the scoping review reaffirmed the importance of enhancing clinical care for elderly individuals. To address this, a specialized working group will be created to enhance clinical guidelines, with a focus on optimizing antibiotic usage recommendations.
- Streamline antibiotics use. This is a broad topic and partners are working on multiple aspects of antibiotic use, including modelling the potential impact on transmission of wider use of antibiotics and the use of antibiotics as part of case area targeted interventions (CATI) during outbreaks. Potential antimicrobial resistance is a critical component of any project broadening the use of antibiotics
- Cross cutting objectives. Submit an article on the findings of the Scoping Review on cholera mortality risk for peer reviewed publication.

Update on main work streams

Achievements

Scoping review on cholera mortality risk factors: The results of the completed scoping review, which contribute to both priority foci above, presents a framework for work to be carried out over the next years; a manuscript has been submitted for peer-reviewed publication.

Clinical management of cholera:

- Recognizing Elderly Individuals as a High-Risk Cohort in Cholera Management: The GTFCC guidance on antibiotic use in cholera treatment now includes elderly individuals as a high-risk population.
- Engaging with Collaborative Groups: Preliminary dialogues were conducted with organizations concentrating on enhancing clinical care for the elderly.
- Antibiotic Use Review and Research: Ongoing reviews on antibiotic utilization in cholera control include partner projects focusing on modeling expanded antibiotic usage, clinical trials on prophylactic antibiotic use in children, and integration of antibiotics in Case Area Targeted Interventions. Monitoring antibiotic resistance is a pivotal component across these studies.
- Development of Tools to Augment Cholera Case Management: Efforts are underway to compile and review a suite of tools to bolster cholera case management in affected regions, encompassing training resources for healthcare providers.
- Enhancing Data Collection and Understanding through a Cholera Case Report Form: A dedicated Case Report Form for cholera has been formulated to enhance data collection, providing insights into the impact of comorbidities and other clinical factors.
- Literature Review Initiated on Rehydration in Children with Severe Acute Malnutrition (SAM): Actions have been taken to conduct a comprehensive literature review on rehydration protocols for children affected by Severe Acute Malnutrition.
- Cultivating Partnerships with Innovative Cholera Treatment Advocates: Strategic partnerships have been established with organizations focusing on pioneering treatments for cholera.

Community interventions

- Improving patient care aspect of Case Area Targeted Multisectoral Interventions – a partner study was completed this year which included antibiotics as part of the package of interventions.

Challenges

- Sustaining Partner Engagement amidst Resource Constraints: Limited resources make it challenging to maintain partner engagement and sustain momentum. Despite various partners contributing substantially to global outbreaks, finding a balance between immediate outbreak responses and long-term initiatives remains arduous.
- Impact of COVID-19 on Field Research and Project Continuity: Field research activities were hampered during the pandemic, causing disruption and delays in certain areas of work like CATI, usually necessary during epidemics. Resuming suspended research work will require time and effort.
- Funding Shortfalls in Case Management and Cholera Initiatives: Insufficient funding poses a challenge for implementing effective case management strategies and addressing cholera-related initiatives adequately.
- Upholding Working Group Dynamics: Amid a lack of face-to-face meetings since 2020, virtual webinars have been well-received, ensuring a sustained working group momentum. Key priorities for 2022, such as community intervention models, are slated for discussion at a larger in-person meeting scheduled for September 2023.

Key documents

- Minor revisions to the job aid Treatment of children with cholera and Severe Acute Malnutrition (SAM). The revisions, based on feedback from the field, were carried out with the WHO Nutrition team, improve clarity of guidance around breastfeeding.
- Guided by the results of the Scoping Review, revisions made to include the elderly as a high-risk group in the Technical note on the use of antibiotic for the treatment and control of cholera.
- Manuscript for peer reviewed publication on the Scoping Review on cholera mortality risk factors submitted for publication (May 2023).

2023-24 priorities:

- Improving early access to treatment: Present models of treatment of diarrhoea in the community (community health workers, community volunteers (national volunteers and/or Red Cross/Red Crescent national societies), pharmacies, home treatment) used in different countries. Strengths and weaknesses to be reviewed including bottlenecks to late implementation of these interventions.
  Guidance for Oral Rehydration Points (ORPs) including clinical evaluation, basic commodities, training and monitoring to be developed and made available for countries. It has been seen during recent outbreaks that ORPs are implemented late in responses. Discussions will be held during the September 2023 meeting to identify barriers and ways to support early implementation.
- Clinical management of cholera: The scoping review demonstrated the need to improve data collection during cholera outbreaks. Work is being carried out with the Surveillance WG to improve guidance on data collection to improve and harmonize data collection on cases and deaths. Work on improved clinical data collection is also ongoing to enhance clinical management.
  Work has been initiated on a literature review on rehydration of children with SAM. Findings will be used to improve clinical guidance.
  The need to improve clinical care of the elderly was confirmed by the scoping review. A literature review is planned to help guide revisions to clinical guidance.
- Use of antibiotics: Continue work on use of antibiotics including potential impact on cholera transmission and the effectiveness of chemoprophylaxis in children. All studies must also take into consideration potential antimicrobial resistance as a result of the intervention.
- Review of recent outbreak management: Following large cholera outbreaks over the past two years, many with high reported CFR, multiple evaluations are planned. These will include After Action Reviews and retrospective mortality surveys. Results of these reviews and studies will be used to identify bottlenecks and improve guidance for countries.

Surveillance Pillar
Epidemiology Working Group

Working group focus – The Epidemiology Working Group focuses on developing technical recommendations, guidance, and tools in support of the strengthening of cholera surveillance. Ultimately, this is for adequate information on the cholera situation to be made available in a timely manner at all levels (local, national, regional, global) to guide targeted multisectoral cholera prevention and control strategies.

GTFCC Secretariat focal point: Morgane Dominguez

Chair Organization: Flavio Finger, Epicentre

The detailed presentation delivered by Mr. Flavio Finger (Epicentre) is accessible on the following link.

2022-23 priorities (as per June 2022 GTFCC Annual Meeting)

Priorities were articulated around the following thematic areas:

- Country level surveillance**:** Continue to develop technical recommendations for cholera surveillance.
- Identification of priority areas for multisectoral interventions (PAMIs): Continue to refine technical recommendations for the identification of PAMIs.
- Regional and global surveillance: Develop a strategy for regional and global cholera surveillance.
- Cholera-free status: Pilot operational mechanisms to formalize the recognition (and maintenance) of cholera-free status by the GTFCC.

Update on main work streams

Achievements

Country level surveillance:

- An interim guidance for public health surveillance for cholera was published to provide interim recommendations for strengthening cholera surveillance in-country in the context of the numerous cholera outbreaks in 2022/2023. In particular, this guidance provides updated recommendations on: i) case and outbreak definitions, ii) testing, including to expand the use of Rapid Diagnostic Tests (RDTs), iii) minimum case-based data to be collected on suspected cholera cases. Strengthening cholera surveillance in accordance with this interim guidance aims to better inform timely and targeted multisectoral interventions to limit the spread of cholera and reduce morbidity and mortality.
- A comprehensive guidance for public health surveillance for cholera is under develolment. It will enrich the interim guidance, including by: i) considering additional transmission settings -building on

the principles of 'adaptive cholera surveillance' according to the prevailing epidemiological situation at the local level, ii) providing additional guidance and tools for data collection, reporting, and analysis, iii) providing recommendations for the monitoring and evaluation of surveillance performance.

Identification of priority areas for multisectoral interventions (PAMIs):

- The identification of PAMIs (sometimes referred to as 'hotspots') is among the first steps for a cholera-affected country to develop or revise a National Cholera Plan (NCP) for cholera control or cholera elimination. PAMI identification is critical to maximize the potential impact of NCP implementation on cholera control.
- A new method was published for the identification of PAMIs for the development of an NCP for cholera control. It relies on the assessment of a numeric cholera priority index which represents multiple dimensions of cholera burden and is calculated from the sum of four scored indicators: incidence, mortality, persistence, and cholera test positivity. This new method puts an emphasis on consensus building among country stakeholders on the list of PAMIs and gives an opportunity for contextual local knowledge on vulnerability to cholera transmission to be considered -further to the priority index. This new method comes along with an Excel-based tool and a step-by-step user guide.
- A new method for the identification of PAMIs for the development of an NCP for cholera elimination is being developed.

Regional and Global surveillance: Cholera surveillance at the regional and global levels were strengthened in the context of the global cholera situation, including through activities implemented by the WHO cholera IMSTs. The Epidemiology Working Group supported the strengthening of regional and global surveillance by publishing interim recommendations on standard data and metadata sets for cholera reporting to the regional and global levels.

Challenges

For the outcomes of the Working Group to effectively translate into the strengthening of cholera surveillance to better inform cholera prevention and control strategies, considerations should be given to the expansion of GTFCC mechanisms to promote and support the implementation the Working Group technical recommendations developed by the Working Group, including by leveraging on the Country Support Platform as well as on the network of GTFCC partners.

Key documents

Country level surveillance

- English: Public health surveillance for cholera, interim guidance
- French: Surveillance du choléra, lignes directrices provisoires

Identification of priority areas for multisectoral interventions (PAMIs) for cholera control

- Package of resources
- Guidance document
- Excel-based tool

- User guide
- Input dataset template
- Training datasets: [1], [2], [3]

Regional and Global surveillance

- GTFCC interim technical recommendations on standard data and metadata sets for cholera reporting to the regional and global levels
- GTFCC interim Excel-based template for reporting of cholera data and metadata to the regional and global levels

2023-24 priorities

Country level surveillance:

- Finalize and publish comprehensive guidance for public health surveillance for cholera and develop technical resources to facilitate uptake in-country. This may include training and communication material, consideration for electronic reporting.

Identification of priority areas for multisectoral interventions (PAMIs)

- Finalize and publish method for the identification of PAMIs for the development of an NCP for cholera elimination and develop technical resources to facilitate uptake in-country of the new methods for the identification of PAMIs (for cholera control and for cholera elimination).
- Develop guidance for assessing the surveillance pillar as part of the NCP development process following PAMIs identification.

Regional and Global surveillance

- Provide technical recommendations to foster cholera reporting to the regional and global levels. This may include technical advises on data sharing agreements, data flows, analysis products.

Cholera-free status

- Provided a pilot country is identified, pilot operational mechanisms to formalize the recognition (and maintenance) of cholera-free status by the GTFCC.

Surveillance Pillar
Laboratory Working Group

Working group focus – The Laboratory Working Group, in coordination with the Epidemiology Working Group, supports the objectives of the Roadmap for global cholera control, through the strengthening of surveillance. Increasing laboratory capacities and reinforcing cohesion and coordination between laboratories –including through the development of an adapted long-term surveillance strategy – are essential for early outbreak detection and implementation of appropriate prevention and control measures to drive progress toward cholera elimination. The Laboratory Working Group continues to assess how best to technically support countries and develop practical ways to address gaps and needs.

GTFCC Secretariat focal point: Nadia Wauquiez

Chair Organization: Dr Quilici, Institut Pasteur

The detailed presentation delivered by Dr. Marie-Laure Quilici (Institut Pasteur) is accessible on the following link.

2022-23 priorities as per April 2022 GTFCC Surveillance Annual Meeting	2023 Update on main work streams Achievements
Laboratory testing strategy	
Finalize development of a draft framework for an adaptive testing strategy, integrating the use of Rapid Diagnostic Tests (RDTs), culture and Polymerase Chain Reaction (PCR) diagnostic tools and considering the different epidemiological contexts.	Surveillance guidelines for cholera were published and included a testing strategy that compiled the strategic use of RDTs, culture and PCR for outbreak detection and outbreak monitoring, taking into account two epidemiological settings: absence or presence of cholera.
Environmental Surveillance Technical Note	
Finalize the GTFCC recommendations on the testing of environmental samples and drinking water.	A *Technical Note on Environmental Surveillance of VC* was finalized with both Laboratory WG and WASH WG and published in French and English.
Laboratory job aids and fact sheets	
Continue to develop tools for laboratories performing cholera diagnostics. Assess the need for additional technical guidance.	The job aid and fact sheet for *Culture of VC* were finalized and published. A fact sheet for *Antimicrobial Susceptibility Testing* (AST) and a job aid *Stool Specimen Collection* are being drafted. Initial drafts of new tools including a *Laboratory Reporting Form*, a *Laboratory Referral Form* and a *Form to Accompany Shipment of Isolates* were developed and are under revision.

Minimum laboratory capacity standards and laboratory capacity assessments	
Formalize recommendations for minimum laboratory capacity standards. Refine the capacity assessment tool considering feedback received following first piloting of the tool in countries.	A CDC-funded project was developed and initiated in May 2023 with the recruitment of a consultant dedicated to the development of necessary tools and associated guidance.
General technical guidance for PCR and a Standardized Operating Procedure (SOP)	
Finalize existing document presenting guidance for use of PCR. Continue to promote sharing of in-house PCR SOPs.	This activity is on hold due to competing priorities and will resume in 2023-2024. A Gavi-led programme to strengthen diagnostics for cholera was expanded to include molecular diagnostics and therefore also support TPP development for cholera PCR.

Challenges

- Towards the end of 2022 and early 2023, the steady worsening of the global context of cholera outbreaks led the LWG to focus efforts on activities deemed of high priority such as the updating of the surveillance guidelines and the testing strategy for cholera. Timelines for publication of priority documents were drastically shortened, bringing other activities to a near halt.
- Additionally, new challenges in laboratory confirmation of cholera were identified. To address these challenges the LWG plans to develop comprehensive training materials for cholera diagnostics to serve in several training of trainer activities.

Key documents

- Public Health Surveillance Guidelines for Cholera
- Technical Note for Environmental Surveillance for Cholera Control,
- the job aid and fact sheet Culture of VC published on the GTFCC website and distributed broadly (EN and FR versions).

2023 priorities

Laboratory Testing Strategy:

- Update the *February 2023 Surveillance Guidelines for Cholera* and develop a standalone document to present the testing strategy to laboratories, taking into account the different epidemiological contexts.

Minimum laboratory capacity standards and laboratory capacity assessments:

- Formalize and publish recommendations for minimum laboratory capacity standards.
- Refine the capacity assessment tools taking into account feedback received following first piloting of the tools in countries and resume execution of assessments in at least 4 priority countries.

Diagnostics training for cholera:

- Develop a comprehensive training plan and package, for training of trainers (ToT) on diagnostics for cholera.
- Develop associated online training modules and execute ToT with WHO in at least 4 priority countries.

Target product profiles for cholera diagnostic tests and evaluation protocol:

- Support the work of WHO, GAVI and others to strengthen diagnostics through the review of the target product profile (TPP) for RDT, the development of TPP for cholera molecular diagnostics and the development of an evaluation protocol for cholera molecular diagnostics.

General Technical Guidance for PCR:

- Develop guidance for use of PCR in parallel of the development of TPP for cholera molecular diagnostics.

Laboratory job aids and fact sheets:

- Finalize identified tools for laboratories performing cholera diagnostics: job aid *Stool Specimen Collection*, fact sheet *Antimicrobial Susceptibility Testing*, *Laboratory Referral Form*, *Laboratory Reporting Form* and *Form to Accompany Shipment of Isolates*.

Oral Cholera Vaccine (OCV) Working Group

Preliminary remarks - OCV serves as a vital tool alongside water, sanitation, and hygiene interventions, timely case management, and community mobilization in controlling and preventing cholera outbreaks, particularly in low- and middle-income countries. However, challenges persist regarding how to ensure the effective and impactful utilization of OCV. Since the establishment of the stockpile in 2013, over 140 million doses have been deployed across 27 countries, with 65% allocated for outbreak response and prevention in high-risk cholera areas. As of 2023, approximately 42 million doses have been requested, out of which 16 million doses (39%) have been approved, and 14 million doses have been dispatched to 10 countries. Notably, Nigeria and Ethiopia have submitted preventive OCV requests since December 2021, prompting engagement with five countries (DRC, Mozambique, Kenya, Bangladesh, Cameroon) in 2023 to develop their preventive OCV strategies. Additionally, the introduction of OCV in the Dominican Republic has been initiated in 2023. Several significant challenges impact OCV deployment, such as the limited vaccine stockpile resulting in the temporary provision of 1 dose instead of 2 for outbreak response. Delays in emergency campaign implementation and insufficient involvement from the Expanded Program on Immunization (EPI) pose further challenges. The restricted availability of OCV continues to impede cholera outbreak responses and the commencement of OCV preventive programs. However, it is anticipated that OCV supply will gradually increase within the next 12-24 months, addressing some of the current limitations in deploying OCV effectively.

Working group focus – The role of the OCV technical working group (TWG) is to develop cholera-specific normative and programmatic guidance to countries and stakeholders to support the planning, implementation, and monitoring of OCV activities in accordance with the *Ending Cholera* Global Roadmap. Since January 2023, the requests for preventive use of OCV are submitted by countries to Gavi. The OCV WG also identifies research needs around OCV and supports the development of the GTFCC research agenda. The WG defines its priorities and develops its workplan at the beginning of each year and then meets every two months to review progress against planned activities.

GTFCC Secretariat focal point: Malika Bouhenia

Chair Organization: Lucy Breakwell, US CDC

The detailed presentation delivered by Dr. Lucy Breakwell (US CDC) is accessible on the following link.

2023 priorities (as per OCV WG 2022 Annual Meeting)

- Strengthen support for planned OCV campaigns: (i) the WG aimed to support 5 priority countries during 2023 to develop the MYPOA (DRC, Kenya, Cameroon, Mozambique, Bangladesh). (ii) Collaborate with the Country Support Platform (CSP) to develop a pool of potential OCV deployers to support application development.

- Guidelines for supply allocation framework: develop guidance for how to allocate OCV supply in a supply constrained situation between countries for use in preventative campaigns, including the allocation criteria &
  decision making map.
- Address issue of poor quality OCV requests and campaigns: Trainings on OCV request preparation and campaign planning, implementation, and monitoring for representatives from countries with endemic cholera and CSP consultants.
- Support revision of ICG country guidance on reactive use of OCV.
- Document OCV deployment/campaigns and make this information available to all partners.
- Develop webinar to build awareness of new OCV request process through Gavi.
- Develop technical documents to support MoH of endemic countries with multi-year planning for OCV campaigns: Prioritization of PAMIs for OCV (part of MYP).
- Develop tools for countries to improve campaign quality (report, M&E, campaign readiness).
- Review of OCV use 2013-2022.

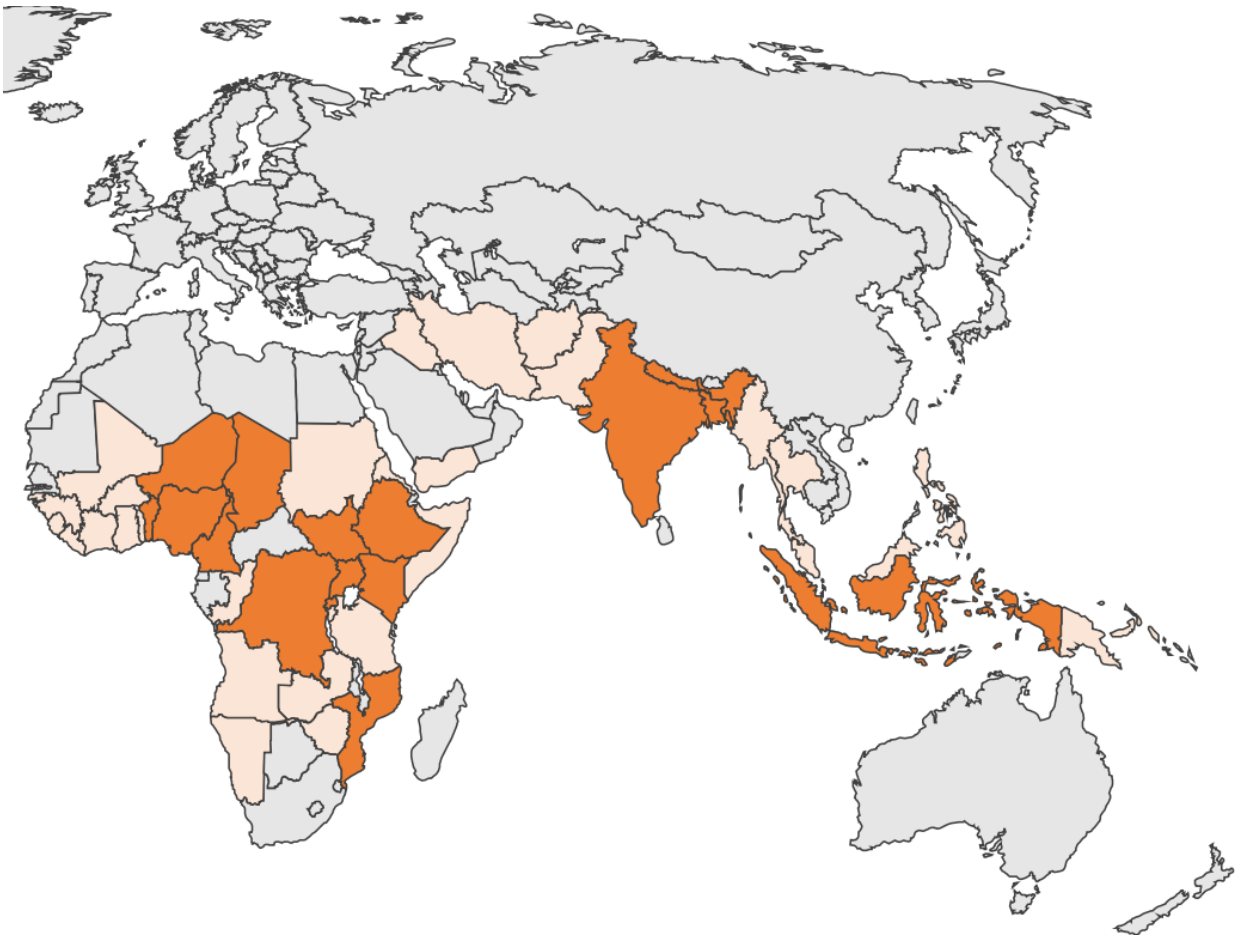
Update on main work streams

Achievements and progress

- Strengthen support for planned OCV campaigns: CSP consultant deployed to support DRC. DRC submitted their application in April, but it was rejected. Partners are working closely to identify support to address feedback. Experience provided many learning opportunities which are being documented and incorporated into the support provided to the other countries.
- Guidelines for supply allocation framework: A sub-Working Group has been set up and has started to develop the guidelines, anticipate draft guidance by OCV annual meeting in October 2023.
- Address issue of poor quality OCV requests and campaigns: Materials and practical exercises developed for the 5-day workshop. Three regional workshops completed in Africa and South-East Asia, resulting in 16 countries trained. Attendees included Ministries of Health (the expanded programme on immunization [EPI] and the national cholera/surveillance programmes), WHO country office, EPI and emergencies (WHE) programme representatives, CSP consultants, and partners (IFRC, CSP, Gavi, US CDC, UNICEF, MSF, WHO). GTFCC has seen an improvement in the quality of submitted applications among attendees. National-level training materials being developed and were be piloted in Ethiopia Q4 2022.
- Support revision of ICG country guidance on reactive use of OCV: Current country guidance are 10 years old and do not reflect current practices. Countries requested clearer guidance and support on determining where to target OCV for outbreak control during 2022 OCV annual meeting. Need for evidence to inform update. Gavi has provided funding to the Vaccine Impact Modeling Consortium to analyze available outbreak data to inform questions around timeliness and targeting of OCV for outbreak response. OCV WG working with VIMC partners to inform analysis proposal.
- Document OCV deployment/campaigns and make this information available to all partners: Interactive dashboard to document OCV deployment and campaign indicators developed and in pilot phase. Country profile for OCV use by district in process.
- Develop webinar to build awareness of new OCV request process through Gavi: No update.
- Develop technical documents to support MoH of endemic countries with multi-year planning for OCV campaigns: Prioritization of PAMIs for OCV (part of MYP): Sub-WG developed guidance and tool to help countries select cholera PAMIS for OCV use and then prioritize these selected PAMIs over a multi-year plan. The tool was piloted in DRC and during Nepal workshop, further pilots and revisions in process.

- Develop tools for countries to improve campaign quality (report, M&E, campaign readiness): Partners have been supporting this area independently.
- Review of OCV use 2013-2022: article in development describing OCV use during 2013-2022

Figure 5: Cholera endemic countries trained on OCV requests and campaigns (2022-2023)



Key documents developed

- Guidance on process to review oral cholera vaccine multi-year plan of action (OCV MY-POAs).
- Prioritizing cholera PAMIs for OCV use as part of the OCV multi-year plan of action (OCV MY-POAs).
- 2022-2026 OCV forecast submitted from 8 countries.

2023-24 priorities:

- Support countries on the pathway to implement the OCV component of their NCP (preventive campaigns).
- Develop tools and guidance documents, where needed, to ensure standardized M&E of OCV campaigns and to improve campaign quality.
- Develop transparent and fair process to prioritize OCV shipments due to supply constraints (OCV allocation framework).
- Continue to implement OCV request and campaign planning workshops. Planned for the Eastern Mediterranean Region in Q4 2023.
- Continue to support more countries to determine their 2022-2026 OCV forecast.

WASH Working Group

Working group focus – To fulfill the strategic objectives outlined in the 2030 Roadmap, the GTFCC working groups (WGs) offer cholera-specific normative and programmatic guidance within their respective areas of expertise. Specifically, the responsibilities of the WASH WG include:

- Offering a platform for technical exchange concerning WASH-related endeavours in cholera-affected settings
- Developing WASH-specific normative and programmatic directives for countries and stakeholders to aid in executing the Ending Cholera global roadmap
- Identifying WASH-specific requirements to bolster the formulation of comprehensive initiatives, encompassing research, advocacy, training, and collaborative efforts across various areas (e.g., WASH integration with OCV, linkage of WASH practices with environmental surveillance in laboratories, establishment of a data repository amalgamating epidemiological and WASH indicators, etc.)

GTFCC Secretariat focal point: Laurent SAX

Chair Organization: WaterAid

The detailed presentation delivered by Ms. Arielle Nylander (WaterAid) is accessible on the following link.

Since 2020, the GTFCC WASH WG has been chaired by WaterAid, succeeding UNICEF's initial tenure. WG members are chosen based on their technical proficiency and the relevance of their work in WASH interventions that contribute to cholera preparedness, control, and elimination. The composition includes representatives from UN and international agencies, academic and research institutions, NGOs, donors, and other pertinent partners. These members serve as technical experts and do not officially represent their respective organizations. Active engagement in the WG's ongoing initiatives is a core expectation. Encouraging the involvement of experts residing and/or working in cholera-endemic regions is strongly advocated, with external expertise in specific topics being enlisted as needed for additional capacity and expertise.

Acknowledging the limitations in available resources and capacities, a significant task of the WASH WG entails prioritizing activities from the work plan based on their potential long-term impact. While immediate life-saving interventions during active cholera outbreaks are crucial for curtailing transmission and fatalities, the primary focus of the WG should center on providing pertinent guidance rather than serving solely as a frontline humanitarian responder. Emphasizing activities that contribute to sustainable cholera control and elimination is paramount, given that WASH intervention stands as the enduring solution against the transmission of cholera and other water-borne diseases.

Priorities 2022-2023

Over the past year, the WASH Working Group has endeavored to achieve ambitious goals through no more than 10 Sub Working Groups (workstreams). Despite the significance of all thematic areas, members of the WWG convened in March 2023 at the annual meeting in New York reached a consensus to streamline their focus by consolidating various themes like Advocacy, Case Studies, and Research into the

primary workstreams. Although the annual WWG meeting concluded without a finalized work plan, key priorities for the upcoming year were pinpointed, including WASH Data Management, Water Quality Monitoring, and WASH in Non-Camp settings, the latter encompassing OCV, IPC, and RCCE. The forthcoming weeks will see the consolidation and validation of the new work plan.

Achievements

For WASH, the key achievements during the 2022-2023 reporting period include:

- Publication of the Environmental Surveillance (WASH and LAB) technical guideline
- Co-hosting a joint side event with the UN Water Conference featuring a Call to Action
- Increased visibility of WASH at the AU High-Level Emergency Ministerial Meeting on Cholera Epidemics
- Provision of partner resources on testing and treatment strategies in varied settings
- Enhanced the evidence base on WASH for cholera control through collaborative action research
- Development of an accessible WASH-oriented resource to support NCP development (ongoing)

Challenges

For WASH, the main challenges during the 2022-2023 reporting period are the following:

- Decline in partners' capacity and engagement in the TWG – necessitating revitalization and expansion of membership
- Increasing influence of climate change on cholera and WASH strategies
- Discrepancy between political commitment and allocation of funds for WASH initiatives at the national level
- Lack of alignment between emergency response strategies and long-term development methods among partners, governments, and donors

Main WASH guiding documents

- Technical Note: Environmental Surveillance for Cholera Control (English and French)

Priorities 2023-2024

Focus on Specific Work Streams

- Water Quality Monitoring
- WASH Data
- WASH in NCP including other pillars (OCV, RCCE, Advocacy)

Integration of Evidence based, case study, advocacy

- Identify gaps of evidence-based strategy and implement related Research studies

WASH integration into the system at national level

- Build the investment case around WASH for cholera prevention and control

- Integrate WASH into national budget cycles, with other ministries involved in cholera control
- Engage MDBs and other donors around cholera-sensitive investment

Considering the elements listed above, the following thematic areas will be prioritized by the WASH WG throughout the coming year:

- WASH Data: The constitution of a WASH data repository to be fed with existing data and new data, with assessments leading to a strong evidence base, in turn prioritizing activities in cholera hotspots according to the WASH conditions (level of access to services, vulnerability, severity, etc.)
- WASH in NCPs: Development and testing of methodologies and tools supporting the development of the WASH pillars of NCPs (including M&E framework) and definition of SOPs to select context-appropriate WASH interventions
- Water Quality Management and Water Safety Planning: Identify gaps and adapt existing guidance for cholera control and outbreak risks management

Other needs identified on field by Countries or Partners will be added if necessary. Other sub-working group will be integrated: Advocacy, Case Study, Research. OCV will be part of the NCP work stream. Additional effort will be done to improve cross-cutting needs and guidelines.

GTFCC Country Support Platform (CSP) updates

***The detailed presentation of Dr. Adive Seriki**, Acting CSP Coordinator and Programme Manager in Zambia, is available on this link.*

The GTFCC Country Support Platform (CSP) operates in close collaboration with countries, adapting to national contexts, offering operational support, advocacy and technical guidance throughout the development, implementation and monitoring of NCPs. This commitment aligns with three key outcomes:

- Outcome 1: Countries develop and implement NCPs through a multisectoral coordination mechanism
- Outcome 2: Countries mobilize resources towards the funding needs identified in their NCPs
- Outcome 3: Countries receive multisectoral technical support and capacity building.

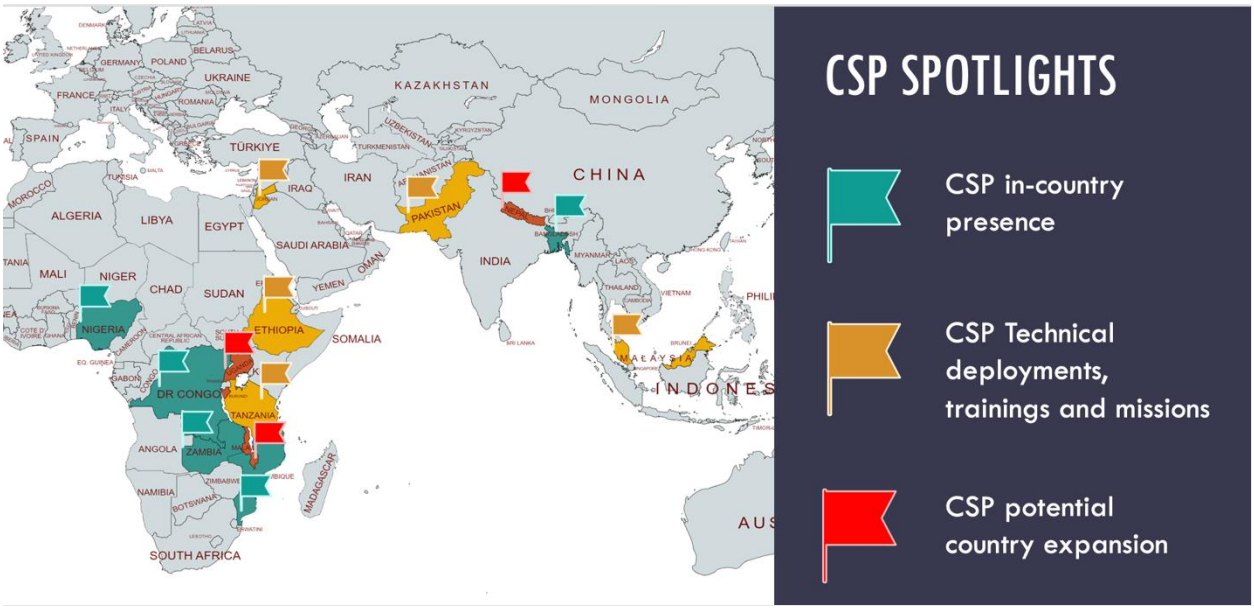
The meeting served as an opportunity to receive a concise overview of the CSP's evolution and achievements since its inception in 2020, a period unavoidably marked by the COVID-19 pandemic. The pandemic diverted resources and attention away from cholera, while leaving a lasting economic strain on health systems worldwide, particularly in resource-constrained countries.

Initially, the CSP targeted support to four countries, with their governments' endorsement in May 2021 and subsequent funding acquisition from the Bill and Melinda Gates Foundation (BMGF) and the Swiss Agency for Development and Cooperation (SDC). By December 2021, CSP Programme Managers were actively involved in supporting the NCP process in the Democratic Republic of Congo (DRC), Zambia,

Nigeria, and, in March 2022, Bangladesh. Since then, the CSP has been instrumental in developing tools and processes to operationalize GTFCC guidance on NCP development, contributing to cholera preparedness and response training, and supporting the Oral Cholera Vaccine (OCV) workshops conducted by WHO.

Presently, the CSP comprises of nine people, including Programme Managers stationed in five countries (an additional Programme Manager has been seconded to Mozambique by SDC) and a core team at the IFRC offices oversees and coordinates deployments of technical consultants for global interventions. The platform has extended its reach well beyond its original mandate due to unforeseen circumstances and governmental expectations, often necessitating emergency cholera outbreak interventions.

Figure 6 : Global presence of the CSP



The total amount pledged to the CSP at the time of the meeting was US $ 8.6 million; the total amount received was US $ 5.3 million; and the total amount spent was US $ 4.2 million. This funding has been used to support development of NCPs in five countries; the development and implementation of advocacy plans in four countries, and the execution of Oral Cholera Vaccine (OCV) campaigns in five countries. Additionally, it has enabled the contracting and deployment of 36 technical experts specialized in NCP development, WASH, OCV, and advocacy. Furthermore, it has helped facilitated 18 cholera-focused training sessions and workshops.Dr. Seriki elaborated specific achievements in Nigeria, Bangladesh, DRC, Zambia and Mozambique, and explained how the CSP has scaled up global efforts by expanding capacity building and technical guidance; strengthening allyship with regions and national societies; increasing multisectoral coordination with partners; and increasing advocacy efforts. As part of its on-going intervention, the CSP is working with a consultant to develop a WASH costing tool that can be used for stakeholder and donor advocacy, which should be ready by the end of 2023. Additionally, the CSP team is working on a guidance document to support NCP development in countries through a stepwise flow for the development process.

These achievements by the CSP were credited to the host, the International Federation of Red Cross and Red Crescent Societies (IFRC), which has played a pivotal role by providing various enabling functions,

including a truly global presence that facilitates collaboration with host governments, fostering synergy between the CSP and a range of IFRC initiatives such as immunization, WASH, and risk communication and community engagement (RCCE). Furthermore, the IFRC offers leadership in global health and WASH coordination mechanisms, as well as robust advocacy and communications capacity and platforms.

The key strengths of the CSP were summarized as follows:

- the country project managers serve as interlocutors for multisectoral coordination in countries;
- the country project managers contirbute to global knowledge by gaining valuable experience through NCP development, thereby sharing insights and best practices;
- the CSP team's multisectoral expertise supports the IFRC operations, GTFCC operations and technical working group initiatives; and the coordination team can be leveraged to support expansion and establishment of the CSP in additional countries, further advancing the fight against cholera on a global scale.

In future, the CSP expects to launch and implement comprehensive NCPs in target countries; expand the reach of this support into new countries; explore wider opportunities with GTFCC partners to enhance the CSP's impact on WASH; and sustain and improve its operations to achieve the Global Roadmap goals. Key takeaways from the open discussion are summarized as follows:

- A representative from Bangladesh expressed gratitude to the CSP, describing it as instrumental for Bangladesh and a valuable source of support where needed. Lessons drawn from NCP development in Bangladesh included the recognition that fostering collaboration between the WASH and health sectors remains a significant national challenge, and an awareness of the necessity to enhance mechanisms for swiftly mobilizing funds, especially through WHO.
- The GTFCC does not have an advocacy strategy down to country level, but does encourage countries to use all the advocacy opportunities they have in their respective contexts, which will be much more effective than any global campaign.
- CSP training materials are available either publicly or on request. The GTFCC documents have all been approved by the working groups; other institutions can develop or adapt their tools for GTFCC use and all will be acknowledged. Attention is required to avoid situations where multiple documents are in circulation and nobody knows what is endorsed.
- The CSP's capacity is somewhat limited by language barriers, with occasional difficulties reported when operating in French. While there's a general perception of underrepresentation of Francophone countries in the cholera landscape, it was clarified that CSP country selection is based on objective criteria unrelated to language..
- Country representation on the GTFCC steering committee is organized according to a similar system, meetings are bilingual, and for three years all documentation has been translated into French, with this practice set to continue. However, reviews of NCPs in French remain challenging due to a shortage of Francophone experts available for this purpose.
- The most important take message here may be that there are not enough Francophone experts in the cholera world. A French language training session was held in November 2022 in Kinshasa for representatives from Benin, Cameroon, Niger, Chad and other Francophone countries.

2030 Roadmap: GTFCC monitoring and evaluation tools

***The detailed presentation delivered by Mrs. Marion Martinez Valiente**, GTFCC Secretariat, is available on this link.*

This brief talk was an overview of the existing monitoring framework for the Roadmap and the two key tools developed since the GTFCC was launched:

- Global Monitoring Framework laid out in the Roadmap, for which the GTFCC Secretariat reports on behalf of the task force;
- Set of 16 M&E indicators listed in the interim guidance document for NCP development.

The GTFCC is committed to systematize these tools and – while noting the diversity of situations faced across different countries – formally requests that countries start reporting against these 16 indicators.

Figure 7: Draft 0.0: logical framework for the implementation of axis 3 of the Global Roadmap (refer to the section on strategic planning - page 42)

Axis 3 Objectives		Outcomes	Activities
3a. Coordination Mechanism	**Objective 3a:** Establish and maintain an effective coordination mechanism (including a Steering Committee, operative platforms and funding mechanism), with each body carrying out the responsibilities outlined its terms of reference (TOR) in service to the strategic objectives of the Roadmap Axis 3 logical framework.	**Outcome 3a:** The work of the partnership is fully coordinated at all levels, with each GTFCC operative body (including the Steering Committee, GTFCC Secretariat, WHO cholera program, Country Support Platform, Working Groups, Advocacy Task Team, and Independent Review Panel) are fully staffed/resourced to fulfill their respective objectives in the Axis 3 logical framework in alignment with their terms of reference.	**Activity 3a.1:** Conduct a baseline assessment of the functioning of the partnership and its operative bodies in preparation for drafting of the logical framework. (In progress) **Activity 3a.2:** The GTFCC Secretariat develops and hones a Logical Framework (in progress) and works with the GTFCC partners and operative bodies to coordinate its fulfillment. **Activity 3a.3:** Each of the operative bodies develop and hone their respective contributions to the Logical Framework. (In progress)
3b. Financing	**Objective 3b:** Clarify the mechanism or pathway for financing to support countries to secure domestic and donor funding for their National Cholera Plans (NCPs) by cultivating new sources of funding and ensuring existing mechanisms prioritize cholera hotspots.	**Outcome 3b:** A mechanism or pathway is established and articulated to countries and donors to support the financing of Roadmap implementation in countries. Countries are supported to navigate this mechanism or pathway, resulting in increased funding for cholera control and prevention activities.	**Activity 3b.1:** Conduct a landscape analysis to understand the key donors and financing mechanisms for cholera control and prevention and how they might contribute to financing for cholera control and prevention. **Activity 3b.2:** Develop an articulation of the pathway/mechanism for countries along with guidance documentation on how to navigate this process. **Activity 3b.3:** Develop and execute an engagement plan for sharing the financing model with donors and other key stakeholders.
3c. High-level political engagement	**Objective 3c:** Facilitate and coordinate engagement of high-level political and governmental officers by leaders within the GTFCC partnership to ensure strong commitment at country level to creation, financing, and implementation of NCPs.	**Outcome 3c.** Ministerial and executive-level political commitment to cholera control achieved in focus countries, cultivating strong commitment at country level (and/or subnational level where needed) for the creation, financing, and implementation of NCPs.	**Activity 3c.1:** Develop a mechanism for coordination of high-level political engagement by GTFCC partners and champions, including policy asks and key messages. **Activity 3c.2:** Develop an annual political engagement workplan based on country prioritization. **Activity 3c.3:** Develop metrics for measuring political engagement.
3d. Country-level advocacy support	**Objective 3d:** Provide support to personnel from ministries and national cholera task forces as well as country-level partners to raise the profile of cholera in their country, mobilize domestic and donor resources, and cultivate strong commitment for the creation and implementation of NCPs and timely implementation of Axis 1 and Axis 2 activities.	**Outcome 3d.** Relevant ministries and country cholera task forces as well as country-level partners are supported and equipped to conduct domestic advocacy and resource mobilization, resulting in strong commitment for the creation and implementation of NCPs and timely implementation of Axis 1 and Axis 2 activities.	**Activity 3d.1:** Support countries in conducting country investment case exercises and capturing the results in a package of communications tools. **Activity 3d.2:** Following the launch of a country's costed NCP, facilitate a meeting or event to socialize the plan with key donors at national and regional level in accordance with the established financing pathway.
3e. Country-level technical support	**Objective 3e:** Provide technical support and guidance to personnel from ministries and national cholera task forces to carry out objectives under Axis 1 and Axis 2 of the Roadmap across all pillars.	**Outcome 3e.** Ministries and country cholera task forces receive timely, high-quality technical support aligned to their needs and requests, facilitating the achievement the objectives of Axis 1 and Axis 2.	**Activity 3e.1:** Hold annual consultations with country representatives from each focus country to understand their needs and requests for technical support. (In progress) **Activity 3e.2:** Hold a coordination session in which partners commit to technical assistance for specific activities in specific countries for a given time period in collaboration with the Country Support Platform.
3f. NCP development	**Objective 3f:** Provide support and guidance to personnel from ministries and national cholera task forces to draft and revise their NCPs and establish a feedback mechanism through the Independent Review Panel (IRP) to ensure timely and transparent review of NCPs.	**Outcome 3f.** Ministries and country cholera task forces receive the technical support needed to develop and launch high-quality NCPs within a reasonable timeframe, with pillar-specific expert review and feedback conducted by the IRP, resulting in rigorous, complete, costed, and actionable NCPs.	**Activity 3f.1:** Conduct an assessment of the current NCP development process and IRP review process to determine where efficiencies can be gained. **Activity 3f.2:** For each country embarking on the NCP development process, appoint a focal point from the CSP or a partner agency to help support the process.
3g. Guidance development	**Objective 3g:** Develop technical guidance documents that are responsive to the needs of personnel from ministries and national cholera task forces to support the implementation of Axis 1 and Axis 2 of the Roadmap across all pillars.	**Outcome 3g.** Country cholera task forces and ministries have access to written guidance materials that establish norms and standards for cholera control and prevention activities that are responsive to their needs and facilitate optimal implementation of Axis 1 and Axis 2 of the Roadmap across all pillars.	**Activity 3g.1:** Hold consultations with country representatives from each focus country to understand their needs and requests for guidance documentation. **Activity 3g.2:** Conduct an assessment to determine what guidance materials exist, which need to be created or improved, and ensure they are accessible to countries and partners. **Activity 3g.3:** Coordinate across WGs to produce and disseminate guidance.
3h. Research	**Objective 3h:** Establish, update, and execute a Research Agenda to improve the effectiveness of Roadmap implementation across Axis 1 and Axis in countries.	**Outcome 3h.** A research agenda is established, updated and executed to support Roadmap implementation in countries, resulting in new data and understanding that enhance implementation of Axis 1 and Axis 2 activities in countries.	**Activity 3h.1:** Conduct an interim evaluation of the implementation of the Research Agenda to understand use, uptake, and execution against the identified priorities. **Activity 3h.2:** Identify sources of funding and technical support aligning to country requests for support in carrying out research.

Recent developments in cholera research

Moderator: ***Flavio Finger***

The critical role of research in controlling and preventing cholera was underscored in a recent session that highlighted the progress of various cholera research initiatives. The session began with an overview of the current research agenda and the progress tracked via the Global Task Force on Cholera Control (GTFCC) research tracker. This set the stage for an engaging discussion among GTFCC research partners and country representatives, aimed at shaping future research to support evidence-based policy-making.

Cholera Roadmap Research Agenda & Research Tracker

Helen Groves, Wellcome Trust, addressed the necessity of ongoing cholera research despite the existence of tools and strategies to control the disease. The value of research lies in generating the data needed to enhance these tools' effectiveness, efficiency, and sustainability. The GTFCC Cholera Research Agenda identifies 20 high-priority needs across five pillars, driving targeted investment. The Cholera Research Tracker, an interactive platform, supports collaboration and highlights funding and knowledge gaps. Although invaluable, the tracker requires complete project data from all partners to maximize its potential. Thus, a call to action was issued for research partners to share their project details.

Targeted WASH Interventions: CHoBI7 & PICHA7

Christine Marie George from Johns Hopkins School of Public Health presented on the CHoBI7 and PICHA7 programs, which implement Water, Sanitation, and Hygiene (WASH) interventions in Bangladesh and the Democratic Republic of the Congo (DRC), respectively. These programs align with the Global Roadmap for cholera control, engaging local communities and strengthening healthcare systems. CHoBI7 deploys health promoters to deliver WASH communications and follow-up home visits, significantly reducing diarrheal incidence and improving water quality and hygiene practices. The mobile health (mHealth) adaptation further extends CHoBI7's reach. Similarly, PICHA7 delivers bedside WASH modules and home visits in Bukavu, DRC, yielding marked improvements in hygiene practices. Community engagement and feedback have been crucial to the success of these interventions, highlighting the importance of adaptive program design.

OCV Studies in Eastern DRC

A joint presentation by **Epicentre, Johns Hopkins University, and the London School of Hygiene and Tropical Medicine** examined the impact of mass oral cholera vaccination (OCV) in endemic regions of the DRC. Key initiatives include enhancing cholera surveillance in Uvira, Goma, and Bukama; conducting serosurveys; and investigating household transmission. Preliminary findings indicate challenges like decreased vaccination coverage due to population movement and pandemic fears. Nevertheless, single-dose vaccine effectiveness was around 45%, with ongoing analysis expected to provide deeper insights into long-term vaccine impact and household transmission dynamics. The study emphasizes the need for comprehensive surveillance and adaptive strategies in diverse contexts.

Single-Dose Azithromycin to Prevent Cholera in Children

Jason Harris from Mass General Harvard presented an ongoing study on the use of single-dose azithromycin in children from cholera-endemic households. With children facing a high infection risk, the study aims to evaluate the antibiotic's effectiveness in reducing *V. cholerae* infection and shedding, its impact on the use of other antibiotics, and its effect on antibiotic resistance. Designed as a double-blind, cluster-randomized trial, the study seeks to contribute to broader goals such as increasing antibiotic

equity and understanding the influence of daily antibiotic use on antimicrobial resistance.

Case-Area Targeted Interventions (CATI) for Rapid Containment of Cholera

Ruwan Ratnayake from Epicentre provided an update on CATIs, which target cholera containment within 50-250 meters of a reported case. These multi-pillar interventions, coordinated by MSF, include vaccination, hygiene kits, health promotion, and chemoprophylaxis. Preliminary results show high vaccine coverage and effective containment, although challenges remain in dynamic epidemic settings. The study highlights the necessity of flexibility and clear guidelines for CATI implementation. The GTFCC could enhance global response strategies by developing formal guidelines and considering a dedicated vaccine stockpile for CATIs.

Making Cholera Diagnostics More Resilient

Eric Jorge Nelson from the University of Florida explored the need for more resilient cholera diagnostics. Rapid diagnostic tests (RDTs) often yield inconsistent results due to antibiotic exposure and lytic phages. Current diagnostics require new standards, leading to an in silico gold standard. Future steps include building decision support systems and developing new diagnostics that detect phages, ensuring effective cholera detection and management.

Cholera roadmap research agenda & research tracker

Helen Groves, Wellcome Trust - Link

A frequently asked question is why there is a need for ongoing cholera research when existing tools and strategies are already available to control the disease. The straightforward answer is that research generates the data and evidence necessary to enhance the effectiveness, efficiency, and sustainability of these tools and strategies. Investment in research support accelerates progress towards cholera control at a reduced cost.

The GTFCC Cholera Research Agenda was established with this objective, identifying 20 high-priority research needs organized around five pillars, with five research needs per pillar.

To present an overview of current investments in cholera research, a summary of the research funding landscape was provided. The outlook indicates that, despite several caveats regarding the availability of comprehensive and granular data, several donors are committed to investing in cholera research.

The GTFCC has also developed the Cholera Research Tracker, an interactive, searchable online platform for ongoing and recently completed cholera research projects. This tracker is designed to support collaboration and to highlight trends, knowledge gaps, and funding gaps, ensuring resources are utilized most effectively. It allows searches by country, pillar, and keyword, and includes information on research summaries, investigators and collaborators, funding sources, and the potential impact on public health decision-making.

However, for the tracker to be used to its full potential, it is essential to fully capture ongoing research projects. Currently, the tracker includes a portion of ongoing cholera research, but more information is needed to achieve comprehensive visibility of the cholera research landscape. We strongly urge all research partners to upload the details of their work using the instructions below.

Call to Partners Involved in Research Studies:

- Submit details to the Cholera Research Tracker: Submit Your Project
- Email: cholera-research-tracker@gtfcc.org to update your project details

With robust engagement from GTFCC partners, both the research agenda and the tracker will serve as pivotal advocacy tools. Collectively, we can leverage them to elevate the prominence of cholera research and demonstrate how the collective efforts in this research space can be greater than the sum of its parts. The GTFCC research tools showcase the momentum and significance of cholera research, while providing strategic direction, actionable recommendations, and streamlined monitoring.

Targeted WASH interventions to reduce cholera in Bangladesh and DRC: CHoBI7 & PICHA7

Christine Marie George, Johns Hopkins School of Public Health - Link

The CHoBI7 and PICHA7 programs were established to develop and evaluate evidence-based WASH (Water, Sanitation, and Hygiene) interventions aimed at reducing cholera in Bangladesh and the Democratic Republic of the Congo (DRC) respectively. These programs align with the objectives of the Global Roadmap and include partnerships with ministries of health to build local laboratory capacity for cholera surveillance, engage communities to enhance control strategies, and strengthen healthcare systems.

When cholera patients seek treatment at healthcare facilities, their household members are at 100 times higher risk for cholera infections compared to the general population. The highest risk period is the seven days following the patient's admission to the facility, yet interventions targeting this high-risk period are limited.

The Cholera Hospital-Based Intervention for 7 Days, or CHoBI7, was developed in collaboration with the International Centre for Diarrheal Disease Research, Bangladesh (icddr,b) to address this gap. This intervention features a health promoter delivering a WASH communications module on water treatment, handwashing with soap (HWWS), and safe water storage directly at the patient's bedside in the healthcare facility, followed by home visits to reinforce these messages. A randomized controlled trial (RCT) of CHoBI7 in Bangladesh demonstrated a significant reduction in diarrheal incidence among household members of cholera patients and sustained improvements in household stored drinking water quality and HWWS practices 12 months post intervention. To develop scalable approaches for delivering CHoBI7 across Bangladesh, a mobile health (mHealth) program was also created, eliminating the need for home visits. Instead, patient households received weekly voice and text message reminders promoting WASH behaviors over a 12-month period. Further evaluation of rapid response teams (RRTs) in Dhaka expanded the CHoBI7 program to include individuals living close to cholera patients' households, who are also at very high risk. This RCT was the first of its kind in this context and demonstrated significantly higher levels of HWWS and reductions in diarrheal prevalence.

The Preventative Intervention for Cholera for 7 Days (PICHA7) program in DRC is a sister initiative to CHoBI7. Located in Bukavu, PICHA7 serves both rural and urban cohorts. The intervention is administered in both health facilities and households, with a promoter delivering a bedside WASH module to cholera patients and their household members, followed by home visits to reinforce the conveyed behavioral recommendations and provide the same hygiene kit used in Bangladesh. An RCT of PICHA7 showed significant increases in HWWS and improved water treatment practices.

In February 2020, the PICHA7 enteric microbiology laboratory was established in partnership with the DRC Ministry of Health and the Catholic University of Bukavu to build local capacity for cholera surveillance.

Discussion:

Community involvement is vital for developing effective interventions. Research often operates on assumptions about communities that may not be accurate. Allocating time for community workshops has been crucial to the success of both CHOBI7 and PICHA7. These workshops provided opportunities for feedback, leading to adjustments in program design and tailored communications based on community input, ensuring that the content met local needs and preferences.
Overall, both CHoBI7 and PICHA7 highlight the importance of community engagement and adaptive program design in successfully reducing cholera incidence through targeted WASH interventions.

OCV studies in eastern DRC

Joint Presentation on Projects by Epicentre, Johns Hopkins University, and the London School of Hygiene and Tropical Medicine (LSHTM)

Espoir Malembaka, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore and Center for Tropical Diseases and Global Health (CTDGH), Université Catholique de Bukavu, Bukavu, Democratic Republic of the Congo
Emily Briskin, Epicentre Paris

This work aimed to examine the epidemiological impacts of mass oral cholera vaccination (OCV) in endemic settings through three primary initiatives:

1. Enhancing the cholera surveillance system in Uvira, Goma, and Bukama in eastern DRC to estimate vaccine effectiveness and the impact of mass vaccination on lab-confirmed cholera incidence and mortality.
2. Conducting serial cross-sectional serosurveys after mass vaccination to estimate the seroprevalence of *V. cholerae* and contextualize clinical incidence estimates.
3. Quantifying household transmission of *V. cholerae* and identifying environmental and WASH-related risk factors for transmission and symptomatic cholera in Uvira and Goma.

Data was collected through enhanced clinical surveillance utilizing rapid diagnostic tests (RDTs), cultures, questionnaires, regular serosurveys, and home follow-up of cases with stool samples, environmental samples, and questionnaires. There are three key results from this study.

Key Result 1: Decreasing Vaccination Coverage Over Time

One driver for decreased coverage is population movement, for various reasons, in this part of DRC. This finding underscores the importance of assessing the impact of population movement on coverage over time when planning vaccination campaigns. The study also revealed that the COVID-19 pandemic influenced coverage; nearly half of those who refused OCV cited fear of receiving a COVID vaccine instead.

Key Result 2: Rapid Diagnostic Test (RDT) Performance

RDT performance was assessed using direct and enriched RDT compared against culture alone or culture and PCR. The sensitivity and specificity were as follows:

Comparison Type	Sensitivity (%)	Specificity (%)
Direct RDT vs Culture (Gold Standard: Culture)	84.1 (80.3–87.5)	46.5 (44.2–48.9)

Enriched RDT vs Culture (Gold Standard: Enriched Stool Sample)	84.2 (72.1–92.5)	54.1 (47.8–60.4)
Direct RDT vs Culture (Gold Standard: Culture or PCR)	89.1 (80.1–98.1)	73.1 (65.1–81.1)
Enriched RDT vs Culture (Gold Standard: Enriched Rectal Swab)	81.7 (73.9–89.6)	91.7 (87.2–96.2)

Key Result 3: Single-Dose Vaccine Effectiveness

The effectiveness of a single-dose OCV over different time periods was evaluated, revealing the following results:

Time Since Vaccination	Population Group	Cases	Controls	Adjusted VE (95% CI)
12-31 months	Overall	380	1,353	45% (28.2–57.8)
12-31 months	Under 5 years	77	320	45.5% (6.1–68.3)
12-31 months	5 and older	303	1,033	44.8% (25.7–59)
12-17 months	Overall	240	794	50.6% (30–65.1)
12-17 months	Under 5 years	41	153	48.3% (-17.2–77.2)
12-17 months	5 and older	199	641	51.1% (28.4–66.5)
24-31 months	Overall	140	559	40.8% (8.6–61.7)
24-31 months	Under 5 years	36	167	44.7% (-17.3–74)
24-31 months	5 and older	104	392	39.2% (-1.3–63.5)

Combined data from Uvira estimate that overall single-dose vaccine effectiveness is approximately 45% across all ages, with no significant difference between older individuals and children under five. Effectiveness was around 51% for the 12-17 months post-vaccination group, versus 41% for the 24-31 months post-vaccination group.

Expected Future Results and Next Steps

Future results from this work are anticipated to provide insights into vaccine effectiveness up to five years post-vaccination (including young children), the population-level impact of OCV (through statistical and computational modeling), the association of seroincidence with clinical admission rates, further assessment of RDT performance, and insight into household cholera transmission dynamics.

The complementarity of these three study sites continues to provide real-time information for decision-makers in DRC. Further integration of study results into policy and decision-making should help assess whether, when, and how to revaccinate the population in these high-priority areas.

The project has also enhanced capacity in several local laboratories. It is hoped these sites will remain operational for future assessments of vaccine effectiveness and impact, as revaccination is planned in the DRC national strategy.

Discussion

- **Decreasing Coverage Over Time:** Understanding the decline in coverage after vaccination clarifies when to revaccinate, especially in areas with high population movement.
- **Vaccine Effectiveness Controls:** Controls for the vaccine effectiveness study were established by visiting homes and recruiting controls from nearby neighborhoods matched by age, sex, and household size, who had not contracted cholera and did not reside in households with cholera cases.

Overall, these studies underscore the importance of comprehensive surveillance, effective intervention strategies, and continuous evaluation for effective cholera control in endemic regions.

Single dose azithromycin to prevent cholera in children

Dr. Fahima Chowdhury - Link

This presentation covered ongoing work with no results currently available. Children in cholera-endemic households face a significantly higher risk of infection, with those under 15 having up to a 30% infection rate. Antibiotics are sometimes used for close contacts of patients in these settings, but the benefits of such an approach remain unclear. This study aims to address this gap by investigating the following objectives:

1. Determine whether single-dose azithromycin reduces the risk of *V. cholerae* infection.
2. Assess if single-dose azithromycin reduces the duration and quantity of *V. cholerae* shedding.
3. Evaluate the impact of single-dose azithromycin on the use of other antibiotics.
4. Examine the effect of single-dose azithromycin on the acquisition and persistence of antibiotic resistance.

The study is designed as a double-blind, cluster-randomized trial comparing azithromycin and a placebo. In this trial, all children aged 1 to 15 in 400 study households, where an index case has a positive rapid test result, receive a baseline rectal swab and either a placebo or azithromycin within 12 hours of the index case's positive result. This intervention is followed by daily rectal swabs for seven days, with additional follow-ups at one and six months to test for persistent resistance.

The broader aims of this study include:

- Increasing antibiotic equity.
- Helping to avoid a post-antibiotic era.
- Prioritizing the use of diagnostic testing.
- Aiding in the prevention and treatment of serious illness in children and the most vulnerable populations.
- Understanding the impact of this type of antibiotic use on antimicrobial resistance (AMR).

By addressing these aims, the study seeks to provide valuable insights into the effectiveness of single-dose azithromycin in preventing cholera in children and its broader implications on antibiotic use and resistance.

Case-area targeted interventions (CATI) for rapid containment of cholera

Ruwan Ratnayake, Epicentre - Link

This presentation provided an update on an ongoing study in the Democratic Republic of the Congo (DRC) focusing on Case Area Targeted Interventions (CATIs) for the rapid containment of cholera. CATIs are based on the concept that the highest risk of cholera infection occurs within a radius of 50—250 meters of a case during the initial days following the case's presentation for care. The primary objective of CATI is to react swiftly within this radius through a multi-pillar intervention. Existing literature suggests that CATIs are feasible

and effective, offering significant potential to address cholera flare-ups at the beginning and end stages of epidemics.

This project employs a CATI strategy developed by experts in vaccination, WASH (Water, Sanitation, and Hygiene), antibiotic prophylaxis, health promotion, and epidemiology. Coordinated by Médecins Sans Frontières (MSF), the CATI package includes a single dose of oral cholera vaccine (OCV), a hygiene kit, health promotion activities, and chemoprophylaxis for primary and neighboring households.

This prospective observational study aims to fill evidence gaps regarding the implementation of CATI with vaccination, support operational efforts, and evaluate the strategy's feasibility and effectiveness. The study is designed to adapt to varying implementation scenarios. Operational teams supported by Epicentre gather data on the number of secondary cases within each intervention ring, assess coverage within rings, and document the resources required.

Preliminary Results:

- **Implementation Speed:** CATIs were initiated with a median time of two days, and vaccination commenced with a median time of 3.5 days.
- **Vaccine Coverage:** Administrative coverage for the first vaccine dose was 89%.
- **Variation in Turnaround Times:** There were significant differences in turnaround times across various sites and rings, reflecting diverse contexts and delivery approaches.
- **Effectiveness:** Over 75% of the intervention rings reported no secondary cases. Further analysis of effectiveness and coverage was ongoing at the time of the presentation.

Operational Challenges:

An outbreak in the Bulengo camp for displaced people, near the study areas, led to a sharp increase in cases at the Buhimba cholera treatment unit—from fewer than 10 to 140 cases per week. Under these circumstances, it became difficult to trace the origin of each patient and implement CATI systematically, necessitating a switch to a different response strategy. This scenario highlighted the need to define criteria and procedures for adapting strategy under such circumstances.

Wider Implications:

- There are broader questions for the Global Task Force on Cholera Control (GTFCC) regarding the continuation of CATI in the DRC and elsewhere.
- The strategy's future implementation, particularly with vaccination, needs clear guidelines.
- Internationally, there is a growing trend towards using CATIs in epidemics, yet there are no formal GTFCC recommendations or guidance on this approach.
- Given the current shortage of cholera vaccines, the GTFCC might consider maintaining a dedicated vaccine stockpile for CATIs, as these interventions use a relatively small number of vaccines, can quickly reach high-risk populations, and may represent an efficient response strategy.

In summary, CATIs show promise for rapid cholera containment, but their implementation requires flexibility, clear operational guidelines, and adequate resources, especially in diverse and dynamic epidemic contexts.

Making cholera diagnostics more resilient to the negative effects of antibiotics and lytic phages

Eric Jorge Nelson, University of Florida - Link

This presentation explored an innovative approach to making cholera diagnostics more resilient to the negative effects of antibiotics and lytic phages while addressing the needs and preferences of stakeholders. Rapid Diagnostic Tests (RDTs) can yield inconsistent results, but the underlying reasons for this variability are not fully understood.

One contributing factor may be antibiotic exposure. A 2020 study found that in diarrheal samples positive for *V. cholerae* by nanoliter quantitative PCR (qPCR), the likelihood of an RDT producing a positive result was reduced by more than 99% when azithromycin was detected (Nelson and Khan et al., 2020, JCM). Another potential reason is the presence of lytic phages. The same study observed that the likelihood of RDT positivity dropped by 89% when lytic phages were present.

A 2021 cluster randomized controlled trial (RCT) investigating the use of electronic decision support and adherence to diarrheal disease guidelines compared RDT results against culture results, utilizing qPCR (tcpA) as the reference standard. Contrary to expectations, the results did not overlap.

Here are the findings:

RDT with qPCR (tcpA) as the Reference Standard:

- Sensitivity: 48% (44-53%)
- Specificity: 85% (83-86%)
- Positive Predictive Value (PPV): 42% (38-47%)
- Negative Predictive Value (NPV): 88% (86-89%)

Culture with qPCR (tcpA) as the Reference Standard:

- Sensitivity: 30% (26-35%)
- Specificity: 97% (96-98%)
- Positive Predictive Value (PPV): 72% (64-78%)
- Negative Predictive Value (NPV): 86% (84-87%)

Note: These analyses did not account for antibiotic exposure, and the cycle threshold (Ct) cutoffs were set at 28.

Key Takeaways:

- Antibiotics can reduce the odds of RDT positivity by over 90%.
- Lytic phages can reduce the odds of RDT positivity by over 80%.

These findings suggest that current diagnostic standards may be inadequate; in fact, there is no existing gold standard for cholera diagnostics. This indicates a need for an in silico gold standard.

Next Steps in Innovation:

1. Develop decision support systems to determine when to use RDTs and how to interpret RDT results to predict true positives and negatives.
2. Investigate the biological mechanisms behind diagnostic failures.
3. Develop new diagnostics that include phage detection.

Ultimately, perfect diagnostics do not exist. The quality and limitations of RDTs must be considered when designing surveillance guidelines to ensure more accurate and reliable cholera detection and management. The goal is to advance diagnostics to better withstand the impact of antibiotics and lytic phages, thereby improving their overall effectiveness in the field.

Country updates summary

Note: The paragraphs below aim at providing a summary of the key elements highlighted during the country updates – details can be accessed in Annex 4.

Representatives of Bangladesh, Benin, Democratic Republic of Congo, Ethiopia, Haiti, Kenya, Lebanon, Malawi, Mozambique, Nepal, Nigeria, Pakistan, Somalia, South Africa, Togo, Uganda, and Zambia presented a comprehensive overview of their achievements, challenges, needs, and upcoming objectives as regards to cholera prevention, detection, and response.

The cornerstone of robust leadership, characterized by clear directives and decisive decision-making, emerges as a common attribute among countries demonstrating success in cholera control. Bangladesh's finalization of national clinical management guidelines and Lebanon's rapid response strategies exemplify proactive leadership that has steered countries towards effective containment and management of cholera outbreaks. Multisectoral coordination has been highlighted as essential for comprehensive and cohesive response efforts, demonstrated through well-coordinated response teams and strong community engagement, fostering a harmonious synergy in tackling the disease.

However, a significant challenge overshadowing these achievements is the persistent issue of insufficient funding. This financial shortfall hinders the implementation of comprehensive cholera control plans, as emphasized across several member states. The strains of other prominent outbreaks, notably the COVID-19 pandemic, further exacerbate resource allocation challenges, diverting attention and funding from cholera response initiatives. The implications of inadequate financial resources are evident in the limitations faced in fortifying critical WASH infrastructure, procuring essential supplies, and sustaining vital vaccination campaigns, ultimately compromising the efficacy of cholera control mechanisms.

A strong emphasis on early detection and rapid response has been central to successful cholera control strategies among member states. Proactive vaccination campaigns in outbreak hotspots, coupled with the implementation of community surveillance systems, serve as foundational pillars in mitigating the spread of cholera. Key enabling factors, such as strategic pre-positioning of diagnostic tests and treatment kits, meticulous mapping exercises, and capacity building in laboratories, play vital roles in enhancing response capabilities and curtailing the amplification of cholera outbreaks.

Regional trends underscore the critical importance of cross-border collaboration in the discourse on cholera control. Effective communication and coordinated efforts with neighboring countries are fundamental in curbing the proliferation of cholera and fostering a unified regional response. Strengthening surveillance systems, enhancing laboratory capacities for rapid confirmation of cases, and promoting seamless information exchange across borders are essential components of a successful regional approach to cholera control.

In conclusion, this comprehensive analysis underscores the urgent need for sustained investment in cholera control and prevention efforts to protect global public health. Despite notable progress made through proactive interventions and strategic maneuvers, the persistent challenges of inadequate funding, complex outbreak scenarios, and resource constraints remain significant. Member states are urged to prioritize efforts towards strengthening healthcare systems, increasing investments in WASH infrastructure, and fostering

cross-sectoral collaboration as critical measures to safeguard against cholera outbreaks and minimize their adverse impact on public health.

Strategic planning for the next period of roadmap implementation

Following the SC meeting of June 2022, an external support was provided to the secretariat to start a strategic planning exercise ahead of the completion of the 2030 Roadmap. The summary presented below recapitulates the preliminary findings compiled by GHV.

***Kristen Cox**, Global Health Visions (GHV)*

There is a broad consensus on the need to develop a logical framework for achieving the Roadmap goals. Effective coordination, particularly across various intervention pillars, is critical and must be systematically planned rather than just discussed. To address these needs, advocacy efforts must be intensified to secure high-level political engagement with national executive branches and ministries. This engagement should be strategically complemented by enhanced technical collaboration.

The absence of robust financing models for National Cholera Plans (NCPs) remains a significant gap. High-level political commitment and strategic technical engagement are essential to bridge this gap. Effective advocacy is crucial to align national priorities with the Roadmap's objectives and to ensure the necessary political and financial support.

A key suggestion was that the GTFCC should have stronger mechanisms ("the teeth to bite") to enforce the implementation of its strategies. While the Task Force includes many highly skilled and dedicated technical organizations, the lack of enforcement mechanisms leads to missed opportunities for effective implementation. It is imperative to establish mechanisms that ensure GTFCC agreements and resolutions are acted upon.

There are significant expectations from the GTFCC at the country level, where many nations lack a domestic cholera control program. Although Water, Sanitation, and Hygiene (WASH) interventions are crucial, there is a strong demand for oral cholera vaccines (OCV), often perceived as a more cost-effective solution. It is essential for the GTFCC to facilitate high-level government engagement to integrate health systems with WASH and other relevant sectors, ensuring a comprehensive approach to cholera control.

While improving the supply of OCV is urgent and currently being addressed by the GTFCC, there is substantial scope for advancing WASH initiatives. This includes research, cost-effective water quality testing, making water safe, and exploring local chlorine manufacturing possibilities. However, some meeting participants argued that the focus should be on overcoming implementation barriers rather than new WASH research, as the basic interventions are already well-understood.

Roadmap goals requires a unified effort from every partner, contributing to every process involved in cholera control.

Finally, cholera control efforts must not overlook the impact of climate change. Integrating climate change preparedness and response into cholera control strategies is essential for sustainable progress.

Conclusions

1. An established pathway for NCP financing

- Need to prioritize financing for long -term WASH development.
- No clear funding mechanism as guidance for countries; need for coordinated donor asks.
- Explore innovative financing mechanisms with MDBs and private sector on long -term WASH and integrate into national health systems, climate change and other sectors.
- Improve links between Roadmap targets and the Sanitation and Water for All (SWA) initiative and UN -SDC plans which channel national -level financing and budgets.

2. High-level political engagement

- There are gaps in political engagement. (GTFCC secretariat, CSP, and partners are mandated to engage on technical aspects, whereas the major challenges are political, financial and economic in nature.) One possible solution could be developing a mechanism for coordination to facilitate political engagement by partners.
- Work to establish governance of cholera control bodies at the Presidency or PM's office as NCPs are multi -sectoral across line ministries

3. Mechanism for country support

- The role and workplan of the CSP is not well understood in the partnership.
- The CSP has resources to support only a few countries with its current model/mandate.
- Country perspectives are inadequately reflected, and agenda is driven by partners. (Most meetings held in the global North instead of cholera -affected countries/regions.)
- Regional platforms not fully leveraged for cross -border knowledge sharing/engagement.
- The IRP process is not well understood, is not linked to a clear outcome (e.g. funding).

4. Monitoring and evaluation

- Need an annual reporting mechanism led by the Secretariat, with formal reporting at the Annual meeting and country -level data made available.
- Need a monitoring tool to track country progress along with forecasting and modelling projections.

5. Partnership coordination and information sharing

- Need to develop a knowledge library by sector and pillar.
- Strengthen coordination between partners and pillars.
- Some partners are not aware of any requests for country support; there is no mechanism for matching country support requests with partner capacities.

6. Overwhelming workload and staff burnout

- GTFCC secretariat and CSP are understaffed; there is a need for additional full -time staff to focus on resource mobilization. CSP staff would benefit from admin support and a remit that focuses exclusively on GTFCC country support rather than other programs.
- Too few TWG members take on too much of the workload, resulting in too much burden on relatively few partners/individuals.

7. Strategic direction and leadership

- Perceived uncertainty about the partnership's strategic vision.
- Some partners feel BMGF and Gavi as main donors lead to over -prioritization of OCV.
- Need to shift focus from emergency response to long -term development.
- Lack of clarity on roles and responsibilities of GTFCC bodies.
- SC does not play a role in day -to-day leadership; SC is sometimes inadequately prepared to take decisions. They sometimes delay decisions.

8. Pillar integration

- TWGs operate in silos without coordinating on shared contribution to overall goals.
- Need to integrate OCV campaigns with WASH.
- Need to strengthen linkages between pillars through the focal points.
- Effective translation of vocabulary, jargon and processes between TWGs is a challenge.

GLOBAL TASK FORCE ON
CHOLERA CONTROL

This report has been drafted by the GTFCC Secretariat.

For any external use, please contact GTFCCsecretariat@who.int.

Annex 1: Agenda

Monday, 26 June 2023

Morning side-meetings (In-Person only)

Session	Content
9:00-10:00	**I. Welcome and introductions of the participants** Informal welcome around coffee and tea – please join us at 9am! Coordinated by: Marion and Philippe Room: Breakfast room (TBC by Fondation Merieux)
10:00 -12:00	**II. Side-meeting: Engaging the Wash sector to reach the Roadmap targets and ultimately eliminate Cholera (where do we stand, challenges and perspectives)** Experience sharing from Country representatives – open discussion with partners and donors also sharing their perspectives and plans Coordinated by: Laurent Sax and Arielle Nylander Room: Charles Mérieux

Afternoon Plenary (In-Person and Virtual)

Session	Content
13:30-13:45	**I. Welcome remarks** **II. Critical SC update to be brought to the General Assembly** (Annual Meeting) Coordinated by: Marion **Chair of the Day: Dr Firdausi Qadri, Icddr,b [confirmed]** Room: Charles Mérieux
13:45-14:30	**III. Focus on the current Cholera global situation and coordination mechanism** (Cholera IMST) *Following presentations, participants will engage in a Q&A session.* Coordinated by: Marion, Philippe, Henry Gray

	Moderator: Chair of the Day **Speaker: Henry Gray (Cholera Incident Manager)** Documents/Resources: One presentation Room: Charles Mérieux
14:30-15:45	**IV. The global cholera control effort: Overview and updates from the GTFCC Secretariat and Country Support Platform** (GTFCC) *Following presentations, participants will engage in a Q&A session.* Coordinated by: Marion, Philippe, Joseph/Jayne **Moderator: Chair of the Day** **Speakers: Philippe Barboza, Joseph Adive Seriki** Documents/Resources: Two presentations (one Secretariat, one CSP) Room: Charles Mérieux
15:45-16:15	**Coffee Break**
16:15-17:25	**V. Looking Across the GTFCC Working Groups: achievements, challenges and identified priorities** Coordinated by: Marion and WHO focal points **Moderator: Raoul Kamadjeu, Unicef [confirmed]** **Speaker: TWG Chairs** • **Case Management –** Iza Ciglenecki, MSF • **Epidemiology –** Flavio Finger, Epicentre • **Laboratory –** Marie-Laure Quilici, Institut Pasteur • **OCV –** Lucy Breakwell, US CDC • **WASH –** Arielle Nylander, WaterAid **16:15 - 16:20** Introduction of the session - Moderator **16:20 - 16:25** Case Management - Iza **16:25 - 16:30** Epidemiology - Flavio **16:30 - 16:35** Laboratory - Marie-Laure **16:35 - 16:40** OCV - Lucy **16:40 - 16:45** Wash - Arielle **16:45 - 17:20** Open discussion (35 min) - Q&A **17:20 - 17:25** Wrap up - Moderator

	Presentation (3-4 slides for each Chair/Technical Working Group – coordinated by Marion) Open discussion => MENTIMETER to be used to pose questions to the Audience. Documents/Resources: 2-pagers to be printed and made available in the room + sent by email at the end of the day to the whole audience (on-site and remote). Room: Charles Mérieux
17:25-17:30	**VI. Daily Conclusions/Wrap Up**
18:00-19:30	**Cholera Exhibition and networking time during Cocktail** Coordinated by: Francine and Marion with WHO OSL colleagues
17:30-18:30	**TWGs' Chairs meeting - *[in person – by invitation only]*** *TWGs' Chairs members, WHO/GTFCC Focal points, GTFCC Secretariat*

After consultations, the Poster session is cancelled (updates on Cholera Research will be shared during a dedicated session on Day 2 and countries will highlight ongoing work during 4 panel sessions on days 2 and 3).

Tuesday, 27 June 2023

Morning side-meetings (In-Person only)

Session	Content
8:30-10:00	**I. GTFCC Country Support Platform Side-meeting: Highlights of success stories and lessons learned in Bangladesh, Democratic Republic of Congo, Mozambique, Nigeria and Zambia** • *Session One - Beyond Borders: Sharing lessons learned from the CSP for a cholera free community in DRC, Mozambique and Nigeria.* • *Session Two - From Challenges to Solutions: Empowering affected cholera communities in Zambia and Bangladesh.* • *Advocacy Spotlight: Launch of the Nigeria Cholera Documentary trailer.* Coordinated by: Jayne Palani, CSP **Moderator: Emmett Kearney (CSP)** **Speakers: TBC by CSP** Room: Charles Mérieux
10:00 -10:30	**Coffee Break**
10:30-12:00	**II. Open discussion: Experience sharing from Countries and Partners - lessons learned, expectations and perspectives for the GTFCC** *Among the selected topics for experience sharing will be coordination (global and at country level) and support to countries – Participation of country representatives present on site as well as partners/donors, will be key. The session will be structured as an open discussion (no slides expected).* Coordinated by: Marion Room: Charles Mérieux

Afternoon Plenary (In-Person and Virtual)

Session	Content
13:30-13:35	**I. Welcome back** Coordinated by: Marion **Chair of the Day: Joseph Adive Seriki, GTFCC CSP - IFRC [confirmed]** Room: Charles Mérieux

13:35-13.45	**II. Measuring progress against the Roadmap: GTFCC monitoring and evaluation tools? Introduction to Country Updates.** Coordinated by: Marion and Philippe **Speaker/Moderator: Marion/Philippe** Documents/Resources: one presentation (3 slides) Room: Charles Mérieux
13:45-15:00	**III. Panel 1: Country Updates towards 2030 targets [part 1] *** *Note for speakers: please refer to the template and elements of guidance provided by the GTFCC Secretariat. Deadline to share presentations is June 21st.* **Moderator: Chair of the Day** **Speakers:** • Bangladesh [13:45-13:55] – Aninda Rahman • Lebanon [13:55-14:05] – Madona Matar • Nepal [14:05-14:15] – Krishna Paudel • Pakistan [14:15-14:25] – Baseer Khan Achakzai ➢ Discussion [14:25-14:55] ** Documents/Resources: One presentation for each speaker. *Discussion will be focused on a set of preselected topics – attendees are invited to share questions during the presentations to be addressed during the discussion part as far as time allows.*
14:55-15:20	**Coffee Break**
15:20-16:30	**IV. Panel 2: Country Updates towards 2030 targets [part 2] *** *Note for speakers: please refer to the template and elements of guidance provided by the GTFCC Secretariat. Deadline to share presentations is June 21st.* **Moderator: Chair of the Day** **Speakers:** • Ethiopia [15:20-15:30] – Worku Yeshambel • Kenya [15:30-15:40] – Emmanuel Okunga • Malawi [15:40-15:50] – Wilfred Chalamira Nkhoma • Mozambique [15:50-16:00] – Jose Paulo Langa ➢ Discussion [16:00-16:30]** Documents/Resources: One presentation for each speaker.
16:30-17:55	**V. Plenary Discussion: Cholera Research efforts and recent developments**

	Research plays a critical role in cholera control and prevention efforts. Following an overview of the cholera research agenda as it currently stands, a few research partners will be invited to present ongoing projects and results in the form of lightening talks, showcasing the evolution of research projects and priorities in the field. Country representatives will then join partners in group discussions to reflect upon key questions to further shape the future of cholera research to best support informed and evidence-based policy making. Coordinated by: Nadia Wauquier (WHO, GTFCC Secretariat), Tonia Thomas (CSP) + Marion **Moderator: Flavio Finger** **Speakers:** • Helen Groves • Flavio Finger • Christine Marie George • Andrew Azman • Espoir Bwenge Malembaka / Anais • Firdausi Qadri / Jason Harris • Eric Nelson Documents/Resources: One presentation for each speaker. Room: Charles Mérieux
17:55-18:00	**VI. Daily Conclusions/Wrap-Up** **Chair of the Day: Joseph Adive Seriki, GTFCC CSP - IFRC**
18:00-19:30	**Cocktail Hour (in person)**

*For any Country not appearing in the list, please do get in touch with GTFCC Secretariat GTFCCsec@who.int and martinezmar@who.int as soon as possible. Many thanks.

** Any Country, Partner, Donor keen on being part of the panel on stage to discuss the mentioned topics is requested to please get in touch with the GTFCC Secretariat by June 9.

Wednesday, 28 June 2023

Morning side-meetings (In-Person only)

Session	Content
8:30-12:00	**I. Free time for bilateral side-meetings and discussions (rooms will be available)** Rooms: TBC
10.30-12:00	**II. Gavi Applications Q&A (OCV and RDT)** Representatives from the Gavi Vaccine Programs team will provide a brief overview of the process for OCV and RDT diagnostics applications and be available to answer questions. It will be an informal session for information sharing. The session is encouraged for countries that may be submitting applications in the next 12 months who have questions on the processes, and for partner organization staff who are interested to learn more to be able to support country teams. Coordinated by: Allyson Russel (Gavi) and Beth Evans (Gavi) **Speaker: Gavi Vaccines and Diagnostics Team** Room: TBC
9:00-12:00	**II. GTFCC Steering Committee - *[in person – by invitation only]*** *Steering Committee members, GTFCC Secretariat, GTFCC Country Support Platform Coordinator* Coordinated by: Marion **Speaker: Secretariat, CSP, SC Members** Room: Simone Merieux (approx. 15 people) – IT requirements (have one computer and one technician to support)

Afternoon Plenary (In-Person and Virtual)

Session	Content
13:15-13:35	**I. Welcome back** **II. Conclusions and key decisions from the SC meeting**

	Coordinated by: Marion **Chair of the Day: Jérome Pfaffman, Unicef [confirmed]** Room: Charles Mérieux
13:35-14:45	**III. Panel 3: Country Updates towards 2030 targets [part 3] *** *Note for speakers: please refer to the template and elements of guidance provided by the GTFCC Secretariat the week of May 29.* **Moderator: Chair of the Day** **Speakers:** • Somalia [13:35-13:45] - Dr. Mohamed Mohamud Derow • South Africa [13:45 -13:55] – Tsakani Furumele • Zambia [13:55 -14:05] – Professor Roma Chilengi • Benin [14:05-14:15] – Rodrigue Glele-Aho • Democratic Republic of the Congo [14:15-14:25] – Placide Welo Okitayemba • Togo [14:25-14:35] – Julie Azanman • Discussion [14:35-14:55] *Following updates from the country representatives', participants will engage in a Q&A session alongside all country representatives present.* **Remote participation* Coordinated by: Marion **Moderator: Chair of the Day** Room: Charles Mérieux Documents/Resources: One presentation for each speaker.
14:55-15:25	**Coffee Break**
15:25-16:15	**IV. Panel 4: Country Updates towards 2030 targets [part 4] *** *Note for speakers: please refer to the template and elements of guidance provided by the GTFCC Secretariat the week of May 29.* **Moderator: Chair of the Day** **Speakers:** • Nigeria [15:25-15:35] – Sebastian Yennan • South Sudan [15:35-15:45] – Joseph Lasu • Uganda [15:45-15:55] – Kintu Bonny • Zanzibar [15:55-16:05] – Mohamed Nassor Saleh • Haiti [16:05-16:15] – Katilla Pierre • Discussion [16:15-16:45]

	Following updates from the country representatives', participants will engage in a Q&A session alongside all country representatives present. ***Remote participation*** Coordinated by: Marion **Moderator: Chair of the Day** Room: Charles Mérieux Documents/Resources: One presentation for each speaker.
16:45-17:15	**V. Discussion - Setting up a multisectoral national Task Force: focus on challenges and discussion on identified needs for a strengthened implementation of the Roadmap** *A panel of Health and Wash country representatives will share experience to highlight successes and challenges in engaging multiple line Ministries and identifying critical multisectoral activities to be implemented to reach the Roadmap targets. The final objective of this session is to identify and highlight actions to be implemented for an improved multisectoral engagement.* Coordinated by: Secretariat **Moderator/Speaker: TBC** Room: Charles Mérieux
17:15-17:30	**VI. Annual Meeting Conclusions and action points identified** Coordinated by: Marion **Speaker: Chair of the Day, Jérome Pfaffman, Unicef + Philippe Barboza** Room: Charles Mérieux
17:30	**End of the 2023 Annual Meeting**

Annex 2: List of participants

GLOBAL TASK FORCE ON CHOLERA CONTROL

10th GTFCC ANNUAL MEETING
26 to 28 JUNE 2023, LES PENSIERES
LIST OF PARTICIPANTS ON-SITE

REPRESENTATIVES FROM COUNTRIES

BANGLADESH
Md shibbir Ahmed Osmani, Joint Secretary, MOHFW
Aninda Rahman, Deputy Program Manager, CDC, DGHS, MOHFW

BENIN
Kuessi Achille Aymard Kangni, Wastewater Sanitation Manager, DGDU/MCVT
Letonhan Rodrigue Grâce Glele Aho, Coordinator PHEOC, Ministry of Health

DEMOCRATIC REPUBLIC OF CONGO
Placide Welo Okitayemba, Director, PNECHOL-MD

ETHIOPIA
Mohamed Derow, Head of Public Health Emergency and Response, Ministry of Health
Yeshambel Worku De, Director, Public Health Institute

LIBAN
Madona Mattar, President of the Lebanese Society of Infectious Diseases, Notre Dame des Secours University Hospital

KENYA
Eunice Mugera, WASH Coordinator, Ministry of Water Sanitation and Irrigation

MALAWI
Wilfred Chalamira- Nkhoma, Co-Chairperson, Presidential Taskforce on Coronavirus and Cholera, Office of the President and Cabinet

MOZAMBIQUE
José Langa, Head of Department, National Institute of Health

NEPAL
Krishna Prasad Paudel, Chief of Policy Planning and Monitoring Division, Ministry of Health

PAKISTAN
Muhammad Kazi, Director General, Federal Directorate of Immunization, Ministry of National Health Services Regulations and Coordination
Iftikhar Ali Shallwani, Secretery, Ministry of Health

UGANDA
Bonny Kintu, Senior Medical Officer, Ministry of Health

GTFCC PARTNER INSTITUTIONS AND DONOR AGENCIES

Action Contre la Faim
Jean Lapegue, Senior WASH Advisor

Bill and Melinda Gates Foundation
Kang Gagandeep, Director, Edge
Tanya Shewchuk, Senior Program Officer
Duncan Steele, Deputy Director and Strategic Lead, Enteric Vaccines

British Red Cross
Tonia Thomas, Senior Officer Cholera Research

Fondation Mérieux
Annick Gnakri, Assistant Public Health Initiatives Pole
Marianne Gojon-Gerbelot, Public Health Initiatives Management Officer
Valentina Picot, Head of Clinical Research and Interventions, Public Health Initiatives Lead

Freelance
Sandy Moore, Epidemiologist Consultant

Gavi, the Vaccine Alliance
Beth Evans, Senior Programme Manager, Diagnostics
Francisco Javier Luquero Alcalde, Senior Technical Advisor - Outbreaks and Global Health
Allyson Russell, Programme Manager - OCV & TCV

Global Health Visions
Kristen Cox, Managing Director
James Fishon, engagement Manager
Mehreen Shahid, Consultant

icddr'b
Firdausi Qadri, Senior Scientist

Institut Pasteur de Paris
Marie Laure Quilici, Head of the French National Reference Centre for Vibrios and Cholera

International Red Cross and Red Crescent Society (IFRC)
Dyrckx Dushime Gana, CSP Corporate Services Coordinator
Catherine Makwe, CSP Technical Support, NCP-OCV
Bonome Nturo, Country Support Plat form Manager
Jayanthi Palani, RM & Advocacy Sr Officer
Jason Peat, Team Lead, Community and Emergency Health
Adive Seriki, CSP Cholera Country Support Manager, Zambia
Barbara Wildi, CSP Project Manager

International Vaccine Institute (IVI)
Julia Lynch, Deputy Director General
Se Eun Park, Research Scientist

Johns Hopkins University
Christine Marie George, Associate Professor
Elizabeth Lee, Research Associate
Sonia Hedge, Research Assiociate
David Sack, Professor, Department of International Health

Médecins Sans Frontières (MSF)
Iza Ciglenecki, Research coordinator
Daniela Garone, International Medical Coordinator

Médecins Sans Frontières, Epicentre
Flavio Finger, Epidemiologist

PAHO
Alain Brice Pare, Advisor Epidemiology an Health Emergency

Solidarités International
Baptiste Lecuyot, Senior WASH Advisor

UNICEF HQ
Sanjay Bhardwaj, Health Specialist
Dounia Dekhili, Cholera cell coordinator
Lucas Deroo, Program Specialist
Raoul Kamadjeu, Health specialist
Jenny Lamb, Health specialist
Pierre-Yves Oger, WASH Specialist

University of Cambridge
Ankur Mutreja, Senior Fellow

University of Florida
Eric Nelson, Assistant Professor

USAID
Albert Reichert, WASH Technical Advisor
Katherine Owens, Health Science Specialist

U.S. Center for Disease Control and Prevention
Christopher Braden, Deputy Director, National Center for Emerging and Zoonotic Infections Diseases
Lucy Breakwell, Typhoid and Cholera Vaccine Activity lead
Thomas Handzel, Epidemiologist
Kristen Heitzinger, Epidemiologist
David Shih, Medical Epidemiologist

John Adams, Consultant

Wateraid
Arielle Nylander, Senior Policy Analyst

Wellcome Trust
Pierre Balard, Senior Research Manager, Vaccines
Helen Groves, Vaccines Senior Research Manager
Charlie Weller, Head of Prevention, Infectious Diseases

Zanmi Lasante/Partners in health
Ralph Ternier, Chief Medical Officer

WORLD HEALTH ORGANIZATION

COUNTRY OFFICES

BENIN
Sonia Viviane Bedie Kossou, Country Readiness and Preparedness

NEPAL
Gautam Dipendra, NPO

TOGO
Sèlomè Julie Emma Azanman, Infectious Hazard Management

HEADQUARTERS

Bruce Gordon, Unit Head, WASH
Henry Gray, Incident Manager Cholera (IMST)
Yurie Izawa, Technical Officer (IMST)
Carol Tevi Benissan, Medical Officer, Vaccination
Craig Schultz, Data Management Officer (IMST)

GTFCC Secretariat
Kathryn Alberti, Technical Officer
Philippe Barboza, Head of Unit
Morgane Dominguez, Technical Officer
Nathalie Fischer, Technical Officer
Marion Martinez Valiente, Technical Officer
Francine Neyroud, Administrative Assistant
Laurent Sax, WASH officer
Nadia Wauquier, Laboratory Focal Point

Vincent Mendiboure, Consultant (OCV Support)
Betrand Sudre, Consultant, Medecin (Surveillance Support)

RAPPORTEUR
Mark Nunn, Independant

Annex 3 : Meeting of the GTFCC Steering Committee

The GTFCC Steering Committee met in a closed side-meeting on the morning of the third day. A lively discussion led to conclusions and decisions including the following.

Action items

- The GTFCC Secretariat will draft TOR for a mid-term review of GTFCC Roadmap progress, aiming to make results available before June 2024.
- The potential future roles of the CSP will be clarified.
- The OCV Temporary Commission will prioritize the action items in its recent draft report and name persons/organizations responsible for their completion. It is hoped that the Commission report will be publicly available early in the fourth quarter of 2023.

Votes

The steering committee approved motions to take the following actions:

- Modification and expansion of the IRP to increase capacity
- Increasing the frequency and regularity of (informal) cholera side-events at the annual World Health Assembly
- Attempting to add cholera to the World Health Assembly agenda with the goal of achieving a World Health Assembly Resolution on cholera within two years, involving GTFCC partners in this initiative and assigning responsibility to lead on each sub-task (this motion was unanimously approved with a strong recommendation to have side-events every year)
- Increasing the frequency of Steering Committee meetings to quarterly or more frequently.

Annex 4: Detailed country updates

Bangladesh

Dr. Shibbir Ahmed Osmani and Dr. Aninda Rahman

Detailed presentation available on this link

Key Achievements	Enabling factors for success
The national food and waterborne diseases clinical management guideline and flowchart have been finalized and printed. These guidelines are being distributed to all health facilities across Bangladesh.	Technical support from experts
PAMI mapping, based on GTFCC guideline, is completed. All PAMIs have been mapped.	• Updated GTFCC guidelines • Support from partners like icddr,b and IFRC
RDT testing protocol has been developed based on the GTFCC guideline	Collaboration from partners (IFRC and icddr,b)
Nationwide training for statisticians and medical officers on the updated acute watery diarrhoea/cholera testing protocol and updated diarrhoeal reporting template. More than 1295 health care workers (1065 male and 230 female) were trained in 34 batches across the country	Collaboration with various departments and provision of support for local health authorities and partners
An OCV campaign was conducted at Bhasan Char island, reaching more than 28 000 people	Availability of doses from previous campaign
Hygiene promotion was held for members of the WASH cluster with the aim of strengthening the capacity of relevant WASH sector specialists in Bangladesh	Close collaboration with the WASH cluster
Periodic updates on progress and challenges in the implementation of the NCCP were provided to the core working group	Participation of stakeholders
A stakeholder dashboard has been developed in close coordination with WASH Cluster. More than 40 organizations responded	Close collaboration with WASH cluster

Challenges	Solutions	Remaining obstacles
Lack of adequate financing	• Increase budget allocation for the next 5-year plan for cholera control • Fundraising initiatives with partners and donors	There is still a major gap in resources for building adequate WASH services
Insufficient quantity of available OCV doses	Multiyear plan for preventive OCV campaigns	No WHO prequalification for existing locally-manufactured vaccine
Establishing and maintaining strong collaboration with WASH sector representatives	Advocacy at highest level for better integration of WASH services	N/A

Priorities June 2023-2024

Vaccines

- Development of MYP for preventive OCV campaigns
- Vaccinate migrant workers and pilgrims travelling during peak cholera season

Surveillance

- Implementing RDT testing protocol and newly updated daily diarrhoea surveillance system
- Carry out a case study on the updated surveillance system

Case management

- Support local health authorities in identified PAMIs to establish functional Oral Rehydration Points

WASH

- WASH partners to use PAMIs to target WASH investment
- Increase collaboration with the DPHE and WASA around PAMIs

Establish a separate operational plan for diarrheal diseases in the 5th Health Nutrition and Population Sector Programme, with increased allocation of funds

Organize a partners meeting in Bangladesh focusing on priorities in line with NCCP.

Benin

GLELE AHO L. Rodrigue Grâce Coordinator - COUSP

Detailed presentation available on this link.

Achievements	Enabling Factors for Success
Pre-positioning of moments for the management of cholera throughout the country and especially in hot spots	• WHO support for the management of the epidemic through funding for the WHO cholera preparedness and response plan • National budget
Capacity building of actors from all pillars of the fight against cholera	• WHO support for the management of the epidemic through funding for the WHO cholera preparedness and response plan • National budget
Development and submission of the National Cholera Elimination Plan to the GTFCC	• WHO funding • Involvement of the GTFCC (Validation by GTFCC in progress)
Development of the national multi-risk plan for health emergency response operations in Benin to facilitate multi-sector coordination and following the incident management system.	• Willingness of the health sector to implement this plan • Support from partners (REDISSE and WHO)

Challenges	Solutions	Remaining obstacles
Insufficient capacity of SONEB and ANAEPMR (National Agency for Rural Drinking Water Supply) to meet all demands	• Build new drinking water supply infrastructure in rural areas in accordance with the water investment plan in municipalities at risk, which are not taken into account in the PIP • Strengthen drinking water distribution networks in urban areas, urban peripheries and in municipalities at risk (extending the network and maintaining good pressure)	

Low proportion of households with improved toilets Persistence of open defecation	• Build blocks of four public latrines per municipality hotspot per year • Establish a management mechanism for public toilets built and rehabilitated in public places (markets, stations, etc.)	
Non-existence of community groups to strengthen awareness and community engagement, especially in cholera hotspots	Recruit and train groups on community-based surveillance in 71 municipalities, prioritizing cholera hotspots	
Some providers at all levels are not trained in IDSR Insufficient cross-border collaboration (border with endemic Nigeria)	• Training 750 health workers from health facilities on cholera surveillance, including the collection, storage and transport of stool samples, once every two years • Strengthening surveillance and cross-border collaboration	
Lack of capacity at the peripheral level to perform cultures and standardized AST tests	- Capacity building of laboratory technicians on bacteriological diagnosis of *Vibrio cholerae* (isolation, identification and sensitivity testing) - Transport of *Vibrio cholerae* strains to central labs for sequencing (confirmation)	
Non-compliance of Health Centre infrastructure with cholera treatment units	Build at least one cholera treatment unit per cholera hotspot commune	Lack of resources
Absence of ORPs in the response strategy to recent outbreaks	Establishment of ORPs in villages during outbreak responses	
Inexistence of cross-border collaboration in the management of the cholera epidemic	• Promote coordination meetings between countries of the sub-region • Exchange information in the event of an outbreak in a neighbouring country	English/French language barrier

Insufficient multisectoral coordination	• Organize multisectoral annual meetings • Support the organization of biennial simulation exercises in cholera hotspots	Poor availability of stakeholders
Validation of the National Cholera Elimination Plan by the GTFCC		
Establish an interoperable and interconnected real-time electronic notification system	Migration of monitoring data to DHIS2	Lack of resources
Lack of a physical PHEOC framework to strengthen the coordination of the response	Construction and equipment of the Public Health Emergency Operations Centre (COUSP)	Lack of resources

Priorities June 2023-24

- Implementation of community surveillance as per the new community health policy
- Validation and dissemination of the National Plan for the Elimination of Cholera (PNEC) 2022-2026 (feedback is expected from the GTFCC panel)
- Organization of regular annual multisectoral meetings on cholera management
- Organization of simulation exercises at cholera hotspots
- Regular virtual meetings with neighbouring countries on the fight against cholera
- Exchange of information in the event of an outbreak in a neighbouring country
- Construction and equipment of the COUSP.

Democratic Republic of Congo

Placide Welo Okitayemba, Pnechol

Detailed presentation available on this link.

Key Achievements	Enabling Factors for Success
Finalization and technical validation of NCP/PMSEC 2023-2027	• Involvement of all sectors and partners • Establishment of the NCP M&E framework, which includes other health-related indicators • Mobilization of partners through the CSP
Development of NCP communication and advocacy strategy	• Established/ongoing risk communication within provinces
Development of response plans for provinces	• Regional capacity building on cholera preparation/response
Elaboration of the OCV preventative plan (2024-2026)	• Reactive OCV campaign in IDP sites in Nyiragongo in January 2023 in which 355 074 people were vaccinated (coverage of 97.5%). • OCV Preventative Plan now in its final stage, ready for submission to GAVI
Research to guide/orient responses (analysis of cholera persistence factors in Tanganyika, RDT studies, case area targeted interventions (CATI) effectiveness study, CATI-OCV study, WASH assessment in cholera hotspots, etc.).	• Integration of RDTs into routine surveillance • Implementation of a multisectoral cholera control project in Moba, based on the results of the CAI study on cholera persistence factors.
In-depth investigation of suspected cases; cross-analysis of socio-economic and health indicators by the Integrated Analytics Cell of the Ministry of Health's Directorate General for Disease Control (CAI-DGLM).	• Holistic support for community problems and families who have experienced cholera • Empowering the community and helping them to take responsibility for solving their own problems.

Challenges	Solutions	Remaining obstacles

Follow up of NCP (PMSEC) implementation, especially by other sectors (and ministries)	Setting up indicators to monitor NCP/PMSEC implementation in other sectors	• Monitoring and evaluation of these indicators across the sectors • Political validation of the NCP/PMSEC
Mobilization of government resources	Inclusion of an executive order from the Ministry of Budget in the development of the NCP/PMSEC 2023-2027, in order to integrate the plan budget into the national budget for 2023	
Coordination of all technical and financial partners involved in cholera response activities in DRC	Meeting with all partners every Wednesday by videoconference	
NCP/PMSEC political validation		

Priorities June 2023-24

- Dissemination of the NCP 2023-2027 at national, provincial, health zone and health authority levels
- Advocacy for mobilization of government and non-government resources for NCP implementation
- Preventative vaccination campaigns
- Apply to GAVI for TDR
- Setting up laboratories in Tanganyika and Haut Lomami for testing samples
- Monitoring water quality in endemic provinces.

Ethiopia

Dr. Eshambel Worku

Detailed presentation available on this link.

Key Achievements	Enabling Factors for Success
National NCP endorsement	Commitment of senior leadership
Completion of implementation plan for hotspot woredas	Strong national cholera task force
Guideline updated	• Roadmap endorsement • Good coordination
Established RRT at each hotspot woreda	Trained field epidemiologists
Outbreak detection within 24 hrs in 69 woredas	• Capacity building • Distribution of printed guidelines • 24/7 functional call centre • Partnership • RRT deployment
CFR < 1% in 60% of affected woredas	• Capacity building • Availability of treatment kits/logistic support from partners • Centralized RRT deployment
Over 1 997 326 doses administered in a reactive OCV campaign	• Submission of ICG application during early phase of outbreak • Well-coordinated national task force • Good coordination with partners (ICG, WHO, UNICEF)
Cross-border meetings	Support from the WHO Health Cluster and national technical working group

Challenges	Solutions	Remaining obstacles

Five years data	Contacted WHO, Health (Regional, zonal & Woreda Bureau)	Solved
NCP Operational Plan not done for Tigray	Do the plan ASAP	Security situation a barrier to visiting implementing woredas
NCP Operational budget not mobilized	Partial implementation (i.e. outbreak response)	Implementation of developmental activities not started
Preventive OCV campaign not implemented for approved 6.8 million doses	Responding to outbreaks in hotspot woredas	Preventive campaign not implemented
CFR reduction from baseline 26%	• It should have been 30% • ORPs opened at all kebeles , along with capacity building and deployment of MSF teams	CFR reduction from baseline remains below 30%

Priorities June 2023-24

- Outbreak control beyond response
- Implementation of a preventive OCV Campaign (6.8 million doses)
- Preparing operational plan for year 2
- Mobilization of the operational budget for the NCP
- Implementation of developmental activities in prioritized hotspots
- Revision of hotspot/PAMI woredas
- Annual review meeting on cholera outbreak response performance
- Strengthen cross-border meeting (through IGAD and other mechanisms)
- Build capacity in regional and subregional labs for V. cholerae confirmatory testing
- Interventional research.

Haiti

Katilla Pierre, Head of Alerts and Response

Detailed presentation available on this link.

Key Achievements	Enabling Factors for Success
Regular coordination meetings between the MSPP and its partners, including DINEPA	Analysis of major trends and (re)orientation of interventions accordingly
Regular publication of national and departmental situation reports	Staff training and motivation
Alignment of partners with national priorities	Availability of the integrated cholera action framework (CAI) 2022
Stool culture capacity building	Decentralization of culture capacity through the national network of laboratories
Reactive and consolidated cholera response	• Establishment of response teams (EDIR) accompanied by EMIRAs • Use of ASCPs at the community level

Challenges	Solutions	Remaining obstacles
Critical security situation	Mobilization and use of air transport to supply health care facilities	Critical security situation
Difficulties mounting an epidemiological response	• Facilitate the movement of staff • Ensure availability of materials and inputs	• Security situation • Lack of intra-departmental transport options
Case management support	Mobilization of medical equipment and other inputs required to ensure care	Supply of health institutions in hard-to-reach areas
Lack of access to safe drinking water and sanitation and poor hygiene in precarious communities	Short-term solution: installation of hand washing points, distribution of hygiene kits and provision of IPC training	Lack of financing for reinforcement of the drinking water distribution network
Low levels of awareness	• Strengthen and multiply awareness-raising messages • Use of ASCPs for social mobilization	The beliefs of the people
Difficulty performing vaccinations	• Use local NGOs to carry out vaccination in areas controlled by armed gangs • Community mobilization	Insufficient OCV stock globally

Priorities June 2023-24

- Strengthening coordination
- Consolidation of surveillance/laboratory achievements
- Strengthening of response activities: finalization of the establishment of EDIRs
- Continuity of training sessions and/or retraining of staff at all levels
- Continue vaccinations
- Revision of the National Cholera Elimination Plan.

Kenya

.

Dr. Emmanuel Okunga, Division Of Disease Surveillance & Response Ministry Of Health

Detailed presentation available on this link

Key Achievements	Enabling Factors for Success
Kenya implemented its first ever OCV campaign during a cholera outbreak in Feb 2023, with high acceptability and good coverage	Good coordination from the OCV planning team
Kenya revised and validated the technical guidelines for cholera management	Good coordination and support from partners – WHO, WSU, US CDC
Intra-action review meetings with high burden counties	Financial support from partners – US CDC, WSU
National RRTs provided support to cholera affected counties, including evaluation of cholera treatment facilities	Financial support from the partners – WHO, KRCS
Engagement of the Ministry of Water and Sanitation in outbreak response activities	Multisectoral engagement

Challenges	Solutions
Lack of resources to implement the activities within the NCP	Advocacy for funding
Lack of sufficient OCV doses to implement reactive campaigns as desired	Mechanism to increase emergency supply to match country needs
Other public health emergencies, including COVID-19 preparedness & response and immunization activities	• Cholera-related activities to be integrated in the MOH calendar • Coordination structures to ensure cholera related activities are prioritized • Establishment of a National Cholera Advisor to give cholera special focus
Difficulties in engaging relevant sectors and actors in the various steps	• Hosting NCP at a higher political office • Establishing proposed county coordination structures, especially in hotspot areas

Priorities June 2023-24

Leadership & coordination pillar

- Official launch of strategic documents (NCP, response plan, cholera technical guide)
- Sensitize and support counties to adopt the cholera elimination plan and finalize county-specific preparedness and response plans
- Advocacy to the presidency, governors and partners for budget support for implementation of NCP
- Establish and convene a technical working group for cholera and other enteric pathogens
- Develop cholera prevention strategies for institutions (schools, prisons, food establishments, camps/ settlements) and roadside food handlers

Surveillance and labs

- Strengthen capacity for lab staff to do stool cultures and antimicrobial susceptibility testing (AST)
- Print and distribute laboratory SOPs to all county and sub county laboratories
- Train RRTs at the national and subnational levels on IDSR and a comprehensive cholera training package
- Hold quarterly national and subnational surveillance review meetings

Case management and infection prevention and control (IPC)

- Print and disseminate the national guidelines on cholera clinical case management
- Train health care workers on case management and IPC, covering at least 60% of health care workers in hotspot areas
- Train Community Health Volunteers (CHVs) on community cholera management in community units identified as hotspots
- Procure and distribute case management commodities (e.g. IV fluids, cholera cots, tents, etc.).

RCCE

- Produce IEC materials
- Integrate risk reduction messaging during OCV campaigns
- Engage Community Own Resource Persons
- Continue messaging in cholera affected counties.

WASH

- Improve enforcement of the Public health, Water and EMCA Acts in hotspot areas
- Implement community water quality surveillance in areas without conventional water treatment
- Water treatment of all water treatment works, boreholes, protected dams
- Implement community-led total sanitation (CLTS) activities in all hotspot areas
- Establish household water treatment and safe storage in hotspot areas

OCV

- Reactivate MYP and OCV requests to GTFCC for preventive campaigns
- Carry out reactive OCV vaccination campaigns, including in the Mandera Triangle.

Lebanon

Madonna Matar, MD, MPH Cholera Taskforce, MOPH

Detailed presentation available on this link.

Key Achievements	Enabling factors for success
Rapid response and containment of the outbreak	Communication and multi-collaborative tasks
Empowerment of healthcare facilities	Case management and strong IPC coaching
Providing for people's basic needs	WASH
Enhancement of laboratory capacity building	Diagnostics and surveillance
Diffusion of knowledge and education	Trusted public health teams and media
Establishing an OCV strategy	WHO and external funding

Challenges	Solutions	Remaining obstacles
WASH in refugee camps	Multitasking teams and effort	Continuous monitoring
IPC deficiencies in remote areas	Coaching teams/ provision of IPC material	Ensuring continuity
Lack of knowledge in medical cholera management	Empowering medical teams / providing case management and oral rehydration solutions	Continuous education and provision of medical needs
Lack of diagnostics	Rapid testing and culture media	Monitoring and ensuring availability of diagnostics
Involvement of different ministries and stakeholders	Communication	Continuous engagement and provision of funds

Malawi

.

Wilfred Nkhoma, MPH, PHD, FRSPH

Detailed presentation available on this link

The alarming number of deaths has caused the Case Fatality Rate (CFR) to skyrocket, far exceeding the critical 1% threshold—the benchmark for indicating the severity of a crisis—in many communities.The Malawi presentation provided a brief summary of Malawi's work battling an intractable cholera outbreak following extensive cyclone damage and flooding and a national State of Public Health Emergency.

Achievements	Enabling Factors for Success
Enhanced multisectoral collaboration and coordination	• Presidential declaration of a public Health Emergency and launch of an End Cholera Campaign • Supra ministerial and departmental oversight body: PTF, EOCs, • Activation of cross-ministry and cross-departmental response clusters at central level, and EOCs at district level (existing decentralization structure)
Improving community awareness and community participation	Community engagement meetings with block, community and religious leaders; engagement and mentoring of public and private media
Improved quality of treatment and care	• Decentralization of care infrastructure • Donor and private sector support with human, material and infrastructure resources
Declined case incidence and case fatality rate	• Decentralization of care infrastructure • Donor and private sector support with human, material and infrastructure resources • Rollout of WASH initiatives focusing on increasing access to safe water and sanitation facilities, including house-to-house water chlorination • Intensified contact tracing
Contained case incidence despite Cyclone Freddy and establishment of IDP (internally displaced persons) camps	• Existence of effective countrywide disaster preparedness and response structure and plan • Mobilization and disbursement of government and partner resources

Challenges	Solutions	Remaining obstacles
Case management and IPC: • Inadequate staffing; diagnoses, care and treatment infrastructure and equipment; personal protective equipment (PPE); and supplies of OCV • High cost of managing admitted cases [estimated at 50 million kwacha a day]	• Capacity building: infrastructure development; mentorship/ supervision; setup of mobile clinics in districts affected by Cyclone Freddy; set p of ORP in cholera hotspots and cyclone-affected districts/IDP camps; recruitment of additional staff to meet rising demand; cross border initiatives	• High CFR • Shortage of supplies and commodities • Inadequate human resources • Lack of permanent infrastructure • Inadequate coverage of diagnostic services (RDTs, culture and PCR) • Low OCV stocks • Difficulties serving mobile populations (e.g. fishing communities)
WASH: • Low coverage of safe water sources and latrines • Widespread poor sanitation and hygiene practices • Shortages of HTH for chlorination • High cost of WASH equipment and investment • Averse social cultural and religious beliefs related to some WASH practices	• Engagement of water and sanitation sector including ministry in PTF, local water boards and WASH services NGOs • RCCE on WASH initiatives • Establishment and/or enforcement of relevant national laws and subnational bylaws	• Low coverage of safe water and adequate sanitation • WASH infrastructure destroyed by Cyclone Freddy
Risk communication & community engagement: • Low community awareness • Inadequate coverage with community engagement and interpersonal communication initiatives • Averse social cultural and religious beliefs related to some cholera causes and control strategies	• RCCE on cholera: production and disseminations of IEC materials • Media engagement • Community engagement: working with block, community and religious leaders on cholera prevention in hotspots and at health facilities	• Averse traditional beliefs and practices • Averse religious beliefs • Inadequate public media coverage
Supplies and logistics: • Inadequate essential supplies and commodities for cholera prevention and management (e.g. intravenous fluids, IV sets and accessories, oral rehydration salts etc.) • High freight costs and long lead times for pipeline supplies	• Supply monitoring initiatives at service delivery levels • Subnational storage depots • Pre-stocking initiatives • Engagement of donor partners	• A background of inadequate financial and material resources • Rising cost of supplies and commodities due to global economic challenges

• Inadequate storage capacity at subnational and service delivery levels		• High freight costs and long lead times for pipeline supplies
SURVEILLANCE: • Inadequate technical and geographical diagnostic capacity and supplies (RDTs and culture and sensitivity and genomic sequencing supplies). • Inadequate human and logistic resources for contact tracing and follow up. • Inadequate recording and reporting equipment and human resources.	• Integrated recording and reporting by service delivery facilities • Mentorship and data quality assessment initiatives	• Low coverage of capacity to confirm cases • Low geographical coverage • Low levels and coverage of digitized surveillance systems
Effects of environmental degradation and climate change: Increased risk of floods and cyclones	• Promoting environmental initiatives that protect natural world: leveraging sustainable, eco-friendly, and environmentally safe practices and alternatives such as water conservation and shifting to renewable energy	• Still high levels of global pollution and waste, global warming, and poorly planned urbanization in cities and towns

Priorities June 2023-December 24

Addressing factors driving the high impact of infection and disease (i.e. weak health systems, lack of access to timely diagnosis; late diagnosis and delayed entry into clinical care pathway; lack of access to life-saving supplies and commodities such as OCV, IV fluids, ORS, and other therapeutics; etc.).

- Potential issues include an inadequate human resources base; inadequate resilient infrastructure and equipment for diagnosis, treatment, care and elimination; averse community mindsets and engagement for prevention and case management; inadequate supplies of OCV; inadequate resources to sustain essential health services; and limited stockpiles and operational support.

Addressing factors driving high transmission of infection; working towards universal access to safe drinking water and adequate sanitation; other WASH initiatives

- Potential issues include low background coverage of safe water sources and adequate sanitation; destruction of WASH infrastructure by Cyclone Freddy; high cost of WASH equipment and infrastructure and repairs; inadequate financial resources.
- Establishing multisectoral national capacity to prevent, prepare for, detect and respond to cholera outbreaks, and systems to deliver integrated and cross border preparedness and response
- Potential issues include difficulties with coordination and a lack of resources.

Mozambique

Dr. Jose Paulo Langa

Detailed presentation available on this link.

Key Achievements	Enabling Factors for Success
High level engagement of key decision-makers	Organized multisectoral cholera group
Internal endorsement of the NCP in high level meetings	Clear vision on the need for cholera elimination and strong advocacy from the global level
Hotspot mapping finalized	Availability of national and internal expertise to conduct the mapping.

Challenges	Solutions	Remaining obstacles
Engagement of technical, political and administrative actors with cholera	Creation of Technical Working Groups in all provinces and advocacy at all levels	Competing priorities and funds for some key activities at provincial level
Cholera surveillance systems in routine health services have low sensitivity for capturing cholera cases, leading to underestimation of cases	• Implementation of community-based surveillance and inclusion of moderate and non-severe cases in screening routine at health facilities • Implementation of an enhanced surveillance programme in the most important hotspots (Nampula, Zambezia, Niassa and Cabo Delgado)	Dedicated human resources and prioritization of investment

Priorities June 2023-24

- Internal endorsement of the NCP
- Updating PAMIs
- Preparing and submitting pre-emptive OCV requests to Gavi
- Obtaining global approval for the NCP.

Nepal

Dr. Krishna Prasad Paudel, MoHP

Detailed presentation available on this link.

Key Achievements	Enabling factors for success
Community Led Water Safe Planning (CLWSP) program	Joint pilot with UNICEF communities for water safe communities
Water safe certification	• Open Defecation free status is maintained • Water User Committee is inclusive (according to gender, caste, ethnicity and location of taps) as per government criteria. Communities are aware/knowledgeable regarding household water treatment. Community satisfaction scored a minimum of 80%. • Water Safety Plan is fully implemented, water supply scheme is functional. Regular water quality monitoring is taking place and a database system is established. Water quality surveillance is in place (provided by a third party)
Water quality surveillance	Water quality testing: municipal level committees monitoring water quality
RCCE	Community participation approaches have been taken to addressing water quality and supply issues
Surveillance	• Indicator-based surveillance in Hospitals for acute gastroenteritis • Event-based surveillance through a call centre (established in 2021) and media monitoring via Epidemic Intelligence from Open Sources • Targeted surveillance in a few districts through the Enhancing Cholera Control (ECHO) project in Nepal
Laboratory capacity	Strengthening of district level laboratory capacity for detection of cholera is ongoing
Outbreak response	• Health workers have been trained through a Field Epidemiology Training Programme • Rapid Response Teams (RRTs) have been institutionalized at municipality level, supported by RRT Committees • Response activation done by the Health Emergency Operations Centre and the National Emergency Operations Centre.

Challenges and ways forward

- Updated structures are coming into place: a surveillance mechanism has been developed, RRTs are forming and water quality surveillance is gearing up
- A new national multisectoral NCP is in development
- Initial discussions have been completed (as part of a GTFCC meeting in Kathmandu)
- The new plan will include high-level commitment from multiple sectors.

Nigeria

Dr. Sebastian Yennan, IM

Detailed presentation available on this link.

Achievements	Enabling Factors for Success
• Successfully held the NCP validation workshop • Ongoing development of cholera case management and diagnostic guidelines	• CSP and WHO support
• Developed the 2023 cholera response commodities quantification • Conducted reactive OCV campaigns in 3 local government areas (LGAs) of Kano State	• WHO support • Existing GTFCC approval
• Conducted public health emergency management (PHEM) trainings in 20 states • Supporting states with cholera response commodities	• Existence of state level PHEOCs • Continuous engagement of states through the cholera technical WG
• Developed the national WASH guideline in HFs • 102 LGAs now ODF	• Improved ministerial commitment to disease prevention • Enhanced states' engagement with WASH

Challenges	Solutions	Remaining obstacles
Inadequate subnational engagement with NCP development	High level advocacy to states	Funding
Poor existing WASH infrastructure	Increase investment in WASH	Funding
Inadequate global OCV stockpile	Increase supply of OCV	Availability
Continuous cholera outbreaks	Readiness and preparedness capacity	Funding
Open defecation	Increase investment in WASH	Funding

Priorities June 2023-24

- Launching the NCP and commence implementation with high level advocacy visits to hotspot states

- Printing and distributing cholera case management and diagnostic guidelines
- Increasing OCV preventive and reactive campaigns
- Increasing ODF LGAs
- Establishment of multisectoral emergency coordination mechanism in hotspot LGAs
- Training RRTs and adequately equipping them with logistics to enable deployment within 24 hours of notification of cholera alert
- Involvement of private health facilities in cholera surveillance in at least 80% of hotspots
- Training community volunteers on cholera surveillance and reporting in at least 80% of hotspots
- Ensuring that at least 80% of high-risk LGAs have key messages on cholera in local languages
- Training staff on safety and IPC procedures in the field for sample collection, packaging, labelling, transfer and transport
- Ensuring that at least 80% of high-risk LGAs have staff trained and available for managing cholera cases
- Ensuring that 100% of high-risk LGAs have guidelines, protocols and other monitoring tools for cholera case management
- Procurement and prepositioning of cholera supplies.

Pakistan

Detailed presentation available on this link.

Dr. Baseer Khan Achakzai, Director General Health MO NHSR&C

Detailed presentation available on this link.

Key Achievements	Enabling Factors for Success
Enhanced surveillance capacity for preparedness, early detection and response	Integrated Disease Surveillance and Response (IDSR) implementation in more than 125 districts
Alert generation, weekly epidemiological report and SAAL	• Surveillance team and national data centre at CDC NIH • Regular meetings with provinces and partners
Captured data for 33 priority diseases, including cholera, during flooding	• Establishment of emergency-based disease surveillance system (EDSS) using existing IDSR system • Flexibility of existing platform (DHIS2) around data capture and frequency of reporting
Dissemination of information/guidelines	Timely sharing of advisories, guidelines for prevention and control
Enhanced diagnostics capacity for detection (routine and advanced)	Expansion of public health lab network and support from WHO to ensure smooth supplies for sentinel labs
Workforce development in disease surveillance, outbreak investigation, diagnostics and response	FELTP program, IDSR trainings, lab trainings, RRT trainings and other short trainings
Strengthen multisectoral coordination	International Health Regulations (IHR (2005)) & IDSR focal points, NPHI and national PHEOC
Establishment and strengthening of IDSR and acute watery diarrhoea (AWD) sentinel surveillance (813 sites)	Government commitment and collaboration with partners
Enhanced cholera lab testing capacity, increasing from four to 38 capable labs in the public & private sectors	Partner support (WHO supported national response with human resources, reagents and supplies for culture)
716 health care workers trained on cholera case management	Government and partner commitment and partnership
Establishment of cholera treatment units and “ORT corners”	Government and partner commitment and partnership

Provision of safe water and water purification tablets	Government commitment to WASH implementation
AWD and cholera information desks established at health facilities	Partner support (from WHO) for designing and printing AWD/cholera information, education and communication (IEC) material
2.9 million people aged one year and above vaccinated in in targeted UCs/areas	Timely coordination and support from of ICG and WHO headquarters, regional and country offices

Challenges	Solutions	Remaining obstacles
Lack of a formal national cholera control and prevention strategy	Development and endorsement of national cholera control and prevention strategy	Alignment of national cholera control and prevention strategy with Global Roadmap
No formal coordination, implementation and monitoring mechanism	Establishment of national taskforce or steering body with defined TOR for cholera prevention and control	Identifying appropriate taskforce members and convening regular/periodic or needs-based meetings
No case-based data for cholera	Collect case-based data for cholera as a priority disease	Integration of event-based surveillance and sentinel laboratories with existing IDSR system
Limited testing sites	Expansion of testing sites for implementation of testing algorithm	Logistics, HR and financial constraints
Partial implementation of WASH	WASH should be implemented in all identified hotspots/PAMIs	Targeted and focused risk communication and community engagement interventions with M&E component
Weak environmental surveillance	Strengthen environmental surveillance, in collaboration with the polio programme	HR and coordination issues
Relying on donor support	Dedicated and sustainable regular funding for cholera control	Financial constraints

Priorities June 2023-24

- Sensitization and advocacy for ownership and governance of cholera at the highest level
- Development of cholera prevention and control strategy aligned with the Global Roadmap
- Constitution of a national task force or steering body with defined TOR
- Expansion of testing sites, supplied with the necessary resources
- Initiation of case-based and lab-based surveillance and integration with the existing surveillance system
- Strengthening of environmental surveillance.

Somalia

Dr. Md Derow, MoH

Detailed presentation available on this link.

Key Achievements	Enabling Factors for Success
Implementation of preventive OCV campaigns in 10 districts	Vaccines and operational cost provided for by GAVI
Establishment of community-based surveillance for epidemic-prone diseases including cholera	• COVID-19 funding was used to scale up laboratory capacity for confirmation of COVID-19 and other epidemic-prone diseases
Building bacteriology testing capacity in seven state laboratories, three of which also have genomic sequencing capacity. Establishment of a Frontline Field Epidemiology training Programme (FETP)	
Establishment of IMST and public health emergency operations centres (PHEOCs) in seven states to coordinate emergency responses, including for cholera	• COVID-19 funding was used to establish seven PHEOCs across the country
Activation of cholera task force committees at national and state level, including a WASH/Health Cluster technical working group for acute diarrhoea	Support from WASH and Health Cluster
Rolling out IDSR for effective and efficient implementation of cholera surveillance and response	
Updating the National Cholera Plan 2022-2027	

Challenges	Solutions	Remaining obstacles
Competing priorities for drought, flood and COVID-19 response	Develop resource mobilization strategy for cholera	Strengthening multisectoral collaboration

Lack of funding for cholera response activities	Advocacy approach to resource mobilization from the government and integrated approaches for all hazard response	Competing government priorities (the highest priority is always security); this necessitates more advocacy for pandemic preparedness and response
NCP needs to be updated using the latest tools from GTFCC	Consult to support this activity	No funds
No intra-action review were conducted for cholera response	National task force to communicate review dates to partners	MOH to communicate dates
WASH interventions to implemented in tandem with developed plans	Strengthen coordination with WASH	Engage the UN Office for the Coordination of Humanitarian Affairs (UNOCHA) in cluster coordination
Cross-border surveillance and coordination with Kenya and Ethiopia was not well structured	Coordinate cross-border surveillance through the IHR national focal point (IHR NFP), IGAD and the polio team	MOH to activate IHR NFP and bring polio and IGAD on board

Priorities June 2023-24

- Anticipatory planning for the next expected outbreak (in October-December 2023)
- Procurement and prepositioning of supplies
- Capacity building for frontline health workers
- Reactive OCV campaigns in border districts with Kenya and Ethiopia (July 2023)
- Implementing home-based management of AWD by community health workers using ORS
- Enhanced RCCE in hotspot areas
- Implementing community-based WASH interventions
- Integration of cholera surveillance with nutrition screening
- Rotavirus surveillance in hotspot areas.

Bottlenecks affecting these priorities include:

- Multiple hazards occurring at the same time, including drought, floods, other disease outbreaks and conflict
- Understaffing due to competing priorities
- Lack of funding for cholera response
- Implementation of WASH activities up to speed with the required responses
- Fragmentation of planning and responses in hot spot areas

- Detection of signals for cholera can be too slow
- Global shortage of cholera supplies including vaccines.

South Africa

Ms. TE Furumele

Detailed presentation available on this link.

South Africa has no cholera plan in place and has never previously been a part of the GTFCC.

While there is no national cholera control and prevention task force in the country, there is a multisectoral national outbreak response team that fulfils that function, an Incident Management Team that coordinates responses, and a system for reporting notifiable medical conditions.

Given the recency of its engagement with the GTFCC, South Africa has no progress to report against the Roadmap.

Cholera priorities for the coming years are as follows:

- Review national cholera case management guidelines by March 2024
- Finalise provincial readiness assessments by July 2023
- Review the national response plan by end of September 2023
- Conduct an after-action review on a cholera treatment facility that was decommissioned on 21 June 2023, and use the documentation and SOPs for future treatment units.

Togo

.

Dr. Julie Azanman, Infectious Hazard Management

Detailed presentation available on this link

Key Achievements	Enabling Factors for Success
Updating the strategic plan and operational plan	• Multisectoral coordination
200 cholera rapid diagnostic tests pre-positioned in cholera hotspots and four cholera kits pre-positioned in Grand-Lomé hotspots	• Support of the Cholera Hub • Use of kits obtained after the 2021 outbreak
100% of districts are supplied with chlorine (tablets, granules) by the national civil protection agency	• Preparing for the floods • Multisectoral coordination
Establishment of a detection system for diseases with epidemic potential, including cholera	• Use of TASS funds
Training/availability of surge teams and emergency medical teams for deployment within 24 to 48 hours of an outbreak.	• Use of surge funds. Political will
Periodic updating of cholera risk maps	• Good planning. Political will
Assessing the risk of cholera outbreaks given the heavy rainfall	• Political will

Challenges	Solutions	Obstacles
Ensuring early community detection	• Training community health workers in community surveillance • Training teachers and community leaders in CREC and WASH	Availability of financial resources
Biological diagnosis of cholera in hotspots	Decentralization of the laboratory network for case confirmation	Availability of financial resources
Collaboration with neighbouring countries	Hold regular meetings with Benin and Ghana	Leadership problems
There is no cholera elimination plan for Togo	Elaboration of a cholera elimination plan for Togo	Technical and financial support

Priorities June 2023-2024

- Draw up a draft cholera elimination plan
- Mobilization of resources for an environmental study on cholera
- Setting up a warning mechanism for early detection to improve responses
- Training community health workers, opinion leaders and teachers in community surveillance and CREC
- Identification of priority areas and development of an NCP using the new GTFCC tool
- Controlling the quality of drinking water to reduce the risk of cholera outbreaks.

Uganda

Dr. Bonny Kintu, MoH

Detailed presentation available on this link.

Key Achievements	Enabling Factors for Success
No outbreak reported in-country despite outbreaks in surrounding countries	• Having an NCP • Coordinating resource mobilization activities • Good leadership and political will • Supportive partners (e.g. GTFCC and WHO)
OCV campaigns carried out in hotspot areas with over 2 million people vaccinated	Partner support
New hotspot mapping exercise completed	• Reliable data • Capacity building support from GTFCC

Challenges	Solutions	Remaining obstacles
Inadequate funding	Finalize new plan for resource mobilization	Work in progress; draft plan to be ready by August 2023
Competing pressures from prolonged COVID-19 outbreak and other outbreaks (e.g. Ebola)	Shift of focus to cholera as these have waned	N/A

Priorities June 2023-24

- Finalization of NCP by December 2023 (or earlier)
- Implementation of the NCP (resource mobilization, application for OCV)
- Updating of operational guidelines.

Zambia

Detailed presentation available on this link.

Key Achievements	Enabling Factors for Success
Surveillance and reporting	Cholera tracker incorporated as part of eIDSR in a comprehensive package recognising cholera as a notifiable disease
Investments in WASH services	US $ 30 million committed by the government (e.g. on the Kafue bulk project to improve water supply in Kanyama). Other projects are ongoing in cholera hotspot areas: boreholes are planned for 20 facilities in hotspot districts using COVID-19 funds
Community engagement	A national community engagement plan has been developed with ongoing sensitization interventions delivering cholera-specific messages to target audiences
Leadership and coordination	IMS training was done in January 2023 in 25 targeted districts at risk of cross-border spread, prior to the onset of the outbreak. This was done to enhancing country coordination during outbreaks. Provincial RRTs were trained in advance and provided surge capacity.
Research collaborations	Innovative research to characterise genomic surveillance of cholera cases and immunogenicity of vaccinated individuals

Challenges	Solutions	Remaining obstacles
Cross-border collaboration needs to be sustained	There is a need for sustained and deliberate interaction; this can be done by inclusion of cholera in the NMEC strategy	Language barrier with French-speaking neighbours

A national crisis in human resources for health and the poor mobility of existing trained cadres	Developing a training plan outlining minimum requirements at district level	
Competing outbreaks (e.g. COVID-19, mumps and measles)	Integration of cholera control activities in District Epidemic Committees	Constant messaging to ensure pre-eminence of cholera
Dependence on donors for safe water (e.g. chlorine distribution only during outbreaks)	Fast-tracking an MCEP (Zambia's NCP equivalent) implementation plan including costing for chlorine distribution at district level included as per CDF requests and provision of safe water	
Low motivation on the part of the community-based volunteers needed to enhance surveillance and community management	Working with partners like the IFRC, including engaging them in CDF empowerment strategies	Low mobility of community based volunteers continued low motivation
Lack of cholera vaccines	• Increased production, with a preference for local production • Faster response from global distributors	Insufficient global stocks

Priorities June 2023-24

- Cross-border collaborative meetings in hotspot districts
- Cross-border simulation exercise with Malawi
- Establishment of provincial and district Cholera Elimination Task Forces
- Conducting capacity building in all thematic areas of the MCEP (AWD, case management, IPC, community management)
- Enhanced monitoring and evaluation of ongoing rehabilitation and expansion of WASH and solid waste services in cholera hotspots
- Establishing surveillance of WASH and solid waste management and preparedness and emergency response capacity in cholera hotspots
- Strengthening laboratory capacity for cholera confirmation in 50% of cholera hotspot districts
- Prepositioning of basic cholera supplies in all hotspots
- Advocating for budgetary allocation for the MCEP in the national budget, through engaging the Parliamentary Budget Committee, MPs and other partners, etc.)
- Launch of the "Fast Track MCEP Implementation Strategy"

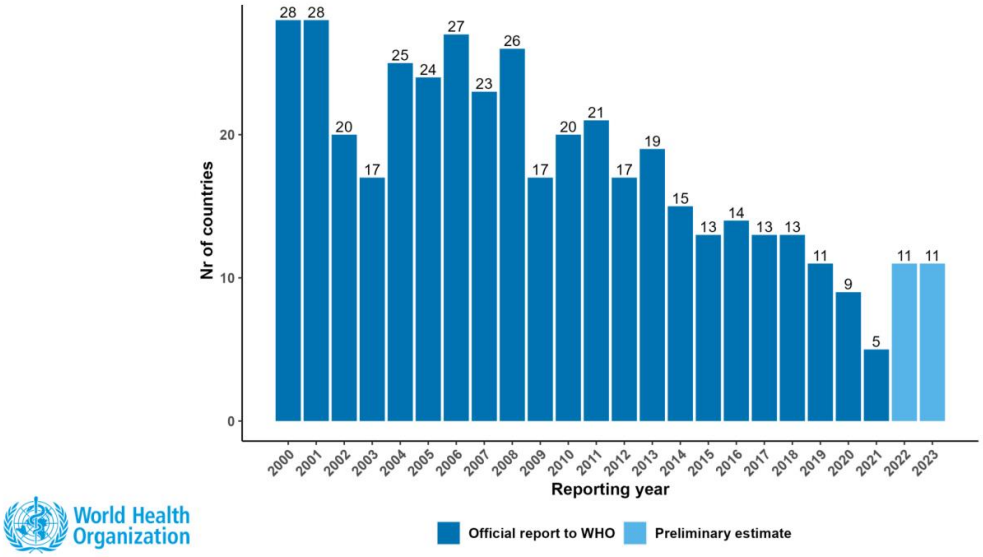
Annex 5 : Side events

Focus on the global cholera situation and coordination mechanism (cholera IMST)

The detailed presentation delivered by Henry Gray, WHO IM, is available on this link.

Recent years have witnessed an alarming resurgence of cholera globally, with significant outbreaks occurring in new and unexpected regions. As of June 2023, cholera cases have been reported from 25 countries, a substantial increase from 15 during the previous year. Trends and predictions for both cases and case fatality rates (CfR) are alarming, although the reliability of cholera data remains a significant challenge, with underreporting and gaps in data quality making it difficult to gauge the true scale of outbreaks. These challenges are exacerbated by global climate change, socio-political instabilities, and heightened global mobility, contributing to an increase in both the spread and severity of outbreaks.

Figure 8: Number of countries with over 50 autochthonous cholera cases and CFR >1% (2000-2023



The current situation demands a strong coordinated response. In response, cholera has been classified as a Grade 3 emergency under WHO's Emergency Response Framework (ERF), reaffirmed on May 17, 2023. This classification has activated an array of emergency response mechanisms, including the Incident Management System (IMS) and the Incident Management Support Team (IMST), the latter having been established on January 13, 2023, to align and enhance global efforts towards cholera control.

Key Activities of the Cholera IMST:

- **Resource Allocation:** Increase in epidemiological and technical resources, enhancing the analysis and development of response strategies. Provide additional resources for surge deployments to countries and regions that need

support for outbreak response, including by leveraging partner networks and WHO levels. Coordinate access to WHO's contingency fund for emergencies (CFE) to allow rapid outbreak responses.

- **Strategic Coordination:** Development and publication of the Global Cholera Strategic Preparedness Readiness and Response Plan (SPRRP) for April 2023-April 2024.
- **Development of Tools:** Aimed at empowering countries in planning and resource mobilization tailored to their specific needs.
- **Support to Partners' Operational Response:** Focused efforts on substantial outbreak regions like Southern Africa and the Horn of Africa, stressed by natural calamities like cyclones and droughts, anticipating further challenges with the imminent El Niño towards the end of 2023. A persistent theme has been the acute shortage of Oral Cholera Vaccines (OCV) and critical response supplies, complicating preventive campaigns and immediate response efforts.

While effective cholera control demands robust preparedness and proactive prevention, the financial and resource constraints pose substantial barriers, limiting the ability to undertake extensive groundwork needed to pre-empt outbreaks. The ongoing global shortage of OCV and the logistical challenges in the supply chain underscore the necessity for a strategic pivot towards more sustainable and integrated cholera control efforts.

Challenges and Discussion Points:

- **Data Inconsistency:** Data flows and quality lack uniformity. Ensuring reliable and timely cholera data from all affected countries remains an ongoing challenge.
- **Resource Allocation:** Balancing acute response needs with long-term prevention and preparedness strategies in the face of limited resources. Supply shortages and/or delays in manufacturing certain supplies, particularly WHO pre-qualified pharmaceuticals and kits are frequent.
- **System Integration:** Countries are encouraged to adapt WHO's frameworks locally, aligning with national health system structures where possible to ensure coherent response strategies. IMST is an internal WHO structure, but it is there to support national ministries. Some countries have adopted the IMS system nationally, but it is not a perfect solution; other approaches and tools (such as the cluster system, line ministries, etc.) will not map perfectly against IMST.
- **IMST Review and Future Planning:** Regular assessments to determine the continuity of the IMST and its resource allocations are crucial, aiming to maintain support mechanisms even post de-escalation of the emergency status. The Incident Management Support Team (IMST) undergoes a comprehensive review every three months, structured primarily to facilitate prompt responses to acute emergencies and then demobilized when its immediate service is no longer required. During these periodic assessments, discussions are held in collaboration with all WHO regional offices and headquarters to collectively determine the necessity of continuing the grade 3 emergency status and whether the IMST should remain active. Although extended engagements by the IMST are occasional—cholera being a potential case in point—the support mechanisms can be downscaled in subsequent reviews based on situational demands. Even if the decision is to deactivate the IMST, the team is dedicated to continuing its support for cholera control efforts by transferring essential tools and resources to ensure ongoing cholera management activities. Post deactivation, sustaining the IMST's initiatives becomes contingent upon the availability of dedicated funding as IMST operations are typically funded for definite durations meant to cover short-term needs.

Side-meeting: Engaging the WASH sector

Where we stand: challenges and perspectives

Coordinators: ***Laurent Sax*** *and* ***Arielle Nylander***

As cholera persists globally, the long-term solution centers on WASH (Water, Sanitation, and Hygiene) integration, reinforcing the importance of engaging this sector not just as an emergency response but as a foundational prevention strategy. This meeting highlighted the challenges and current position of WASH in the broader context of cholera control efforts.

Key Observations:

- **Multisectoral Coordination:** Effective cholera control requires the confluence of efforts from health ministries and WASH sectors. This meeting distinguished the necessity for an integrated approach, advocating for coordinated leadership between health and WASH sectors within national cholera strategies.
- **Engagement Challenges:** Despite WASH's critical role, it remains marginally engaged in some regions, perceived primarily as a responsibility of health ministries. This perception needs recalibration towards a more inclusive, overarching engagement strategy.
- **Scaling Public-Private Partnerships:** The discourse emphasized extending partnerships beyond the traditional public sector, advocating for robust public-private partnerships to leverage private sector efficiencies and innovations in WASH infrastructure development and management.
- **Climate Resilience and WASH:** The imperative to integrate climate change adaptation into WASH planning was clear, with recommendations aimed at enhancing climate resilience in WASH infrastructure to anticipate and mitigate cholera outbreaks linked to extreme weather events and shifting climate patterns.

Discussions and Conclusions: Participants acknowledged substantial gaps in documentation and real-life testing of water quality initiatives which are crucial for evidence-based scaling of interventions. The conversations concluded by recognizing the need for innovative funding strategies and more vigorous advocacy to elevate the role of WASH in national and international cholera elimination agendas. The Secretariat called for more comprehensive feedback on ongoing WASH initiatives and the impacts observed, aiming to refine strategies and enhance engagement continually.

CSP side-meeting: Country successes and lessons

Moderator: ***Emmett Kearney****, CSP NCP Senior Officer*

Session one

Theme: ***Beyond Borders: Sharing lessons from the CSP for a cholera free community in DRC, Mozambique and Nigeria***

Panellists: ***Placide Welo****, National Cholera Programme Director, DRC*

***Jose Langa**, Director of Surveillance, Mozambique Ministry of Health*
***Bonome Desire Nturo**, CSP Programme Manager for DRC*
***Barbara Wildi**, CSP Programme Manager for Mozambique*

During this session, panelists addressed questions from the moderator and the audience, shedding light on successes, challenges, and opportunities within CSP countries. The discussion provided participants with direct insight from CSP country program managers and government representatives. The panelists' responses are organized by country in the following sections.

Democratic Republic of Congo

The National Cholera Program (NCP) development experience in DRC posed challenges due to attempts to adhere to the GTFCC guidelines during an outbreak. The CSP extended valuable support by employing numerous consultants specializing in WASH, epidemiology, and other relevant fields to formulate a comprehensive multisectoral plan. The PAMI analysis process facilitated the creation of a document with a genuine national perspective, further endorsed by in-country CSP/GTFCC technical validation. This plan served as the foundation for mobilizing partners, with the World Bank committing to align WASH efforts with the plan. As a result of CSP intervention, significant changes have been observed in DRC.

Moreover, DRC has made notable strides in prevention efforts. The national OCV Multi-Year Plan of Action (MYPOA) builds upon the country's extensive experience with cholera vaccination, including significant campaigns conducted in recent years. A new plan for 2024-2028, refined following feedback from Gavi, is nearing completion and will support five years of preventive vaccination within PAMIs. This blueprint includes reinforcing 62 targeted health zones through a blend of OCV and enhanced cholera surveillance using innovative RDTs. Collaboration with partners such as UNICEF, WHO, MSF, and others, under the CSP's guidance, will facilitate the implementation of this preventive strategy. Notably, the development of this plan marked the first occasion where all national partners concerted their efforts towards OCV integration.

Acknowledging the logistical challenges of implementing WASH interventions nationwide, DRC's plan recognizes the complexities posed by rugged terrain, remote areas, and densely populated regions residing near water bodies used for multiple purposes. Although advances in metropolitan water supply significantly reduced cholera cases in Kinshasa, challenges persist in eastern regions. Consequently, the primary WASH focus is to ensure safe drinking water access for these populations. EU-backed projects are underway to enhance clean water provision, particularly to refugee populations. WASH infrastructure investment remains a priority, emphasizing the necessity of incorporating sustainable changes into interventions for lasting impact. The coordination of multiple stakeholders is vital, especially in regions where WASH represents a critical challenge and long-term priority.

Mozambique

In Mozambique, the development of the National Cholera Program (NCP) was underway at the time of the meeting and progressing positively. Continuous adaptations to the tools to suit the Mozambique context were vital, including the translation of documents into various languages to enhance country-wide implementation. Throughout these processes, the CSP provided varied support, encompassing PAMI mapping, NCP narrative drafting, and internal guidance reviews. Mozambique anticipates the sustained cooperation and support from the CSP through the plan's approval and implementation phase.

Mozambique's unique trajectory of commencing NCP development, addressing a significant outbreak, and seamlessly returning to the plan has been particularly instructive. The outbreak experience facilitated the integration of practical insights and learnings into the NCP design, especially concerning partnership mapping and community engagement strategies. The NCP drafting process allowed for a rigorous examination of community reengagement requirements, incorporating a diverse range of lessons learned from the outbreak response.

Regarding the data quality and availability challenges highlighted earlier, Mozambique encountered difficulties in procuring data from various provinces and districts. Acknowledging these hurdles, the NCP plan was structured around two focal points: Prioritized Action and Implementation Areas (PAMIs) and high-risk areas with unreported cholera cases. The latter were designated as "high-risk areas" and subject to heightened surveillance. The outbreak validation of these high-risk areas emphasized the imperative to bolster interventions in these regions, culminating in a forthcoming preventive vaccination strategy slated for submission to Gavi.

It is crucial to emphasize the arduous nature of crafting an NCP during an outbreak period, characterized by fatigue, workload strain, and overall challenges. Mozambique, akin to many regions, faces staffing shortages and burnout issues, underscoring the necessity for comprehensive and sustainable strategies to sustain operational efficacy.

Mozambique's draft NCP budget notably prioritizes a robust Water, Sanitation, and Hygiene (WASH) framework. This year has been instrumental in garnering critical WASH insights, highlighting the proactive planning acumen of WASH experts in contrast to health professionals. The outbreak experience provided valuable exposure for health practitioners to the contributions of engineers in the field, fostering mutual learning opportunities that subsequently influenced NCP strategy enhancements. Notably, Mozambique's most pressing WASH issues have been with providers rather than communities, streamlining intervention strategies and solutions. These experiences have catalyzed a paradigm shift in the NCP approach towards WASH, broadening the scope of solutions beyond conventional practices to encompass more innovative and effective strategies. Collaborations with external stakeholders, such as engineers from US CDC and MSF, have yielded valuable insights and enhanced government buy-in for revised strategies.

Several partners commended the effective cooperation observed during the outbreak, with all participants engaging supportively with the Incident Management System (IMS). Mozambique's adept response has provided a robust foundation for discussions on preparedness and response strategies for future outbreaks. However, these efforts are substantially challenged by the growing impacts of climate change, notably the escalating frequency and intensity of extreme weather events like cyclones.

Session two

Theme: ***From challenges to solutions: empowering affected cholera communities in Zambia and Bangladesh***

Panellists: ***Firdausi Qadri****, International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b)*
Aninda Rahman*, Bangladesh Directorate General of Health Services*
Nyuma Mbewe*, National Cholera Elimination Coordinator, Zambia National Public Health Institute*
Nachombe Nangamba*, Zambia Ministry of Local Government and Rural Development;*
Fred Kapaya*, Regional Cholera Focal Point, WHO Regional Office for Africa*

Zambia

Zambia was among the initial countries to be assigned a CSP programme manager. A key advantage of the CSP has been its provision of continuity: since the launch of the NCP, Zambia has undergone significant transitions both nationally and within the cholera control program. The presence of the program manager was instrumental in helping Zambia align with NCP objectives and make strides in areas like the investment case and mid-term review. The invaluable support from the CSP prevented substantial time loss.

One of Zambia's primary hurdles, particularly post-outbreak, stems from the perception that many government ministries view cholera solely as a Ministry of Health (MOH) concern. Overcoming the laissez-faire approach towards cholera control has proved to be a considerable challenge when attempting to engage other ministries, who often rely on the well-funded MOH to address cholera independently. Diligent efforts and tactful diplomacy have fostered constructive dialogues, largely facilitated by the presence of national and provincial epidemic preparedness committees. These committees, attended by permanent secretaries of all line ministries, have played a critical role in reshaping attitudes and providing biannual platforms for high-level stakeholders to commit to initiatives and update progress across various sectors. While past responses saw other ministries remaining passive during outbreaks as the MOH took the lead, recent efforts have shifted towards a more collective response.

Identified PAMI districts have initiated IMS training and enhanced collaboration with WASH professionals and communities, bolstering their readiness for cholera outbreaks. Zambia's strategy of pinpointing different response clusters and engaging them beforehand has proven to be beneficial, with increased involvement leading to more efficient outcomes. The mid-term review has highlighted the positive alignment of WASH activities with the PAMIs, reflecting effective progress within the cholera control framework.

Zambia's persistent cholera challenges have been exacerbated by governmental transitions and changes in leadership, necessitating continuous engagement to secure ongoing support and participation. Leveraging Zambia's status as a global cholera elimination champion, along with the insights from the upcoming mid-term review, can aid in sustaining engagement and influencing ministries. Personalized persuasion techniques have been pivotal, involving direct interactions with technical officers in line ministries to garner support and eventually mobilize decision-makers, including secretaries and ministers, aligning government priorities with the elimination plan during budget allocations.

Progress in enhancing collaboration in Zambia has been significant, including:

- A US$30 million government investment in WASH initiatives in PAMIs
- Targeted efforts around the Copperbelt dams
- Integration of local staff and local government development plans in cholera control, embracing initiatives like the Clean Towns Masterplan to ensure WASH provision across municipal authorities
- Utilization of central policy frameworks to empower constituencies, advocating across different pillars to secure commitments from the Constituency Development Fund for cholera control
- Engagement with the Ministry of Local Government to prioritize cholera activities
- Exploration of evidence-based advocacy opportunities with local authorities to underscore the importance of WASH prioritization through the Constituency Development Fund allocation.

Bangladesh

In Bangladesh, early adoption of an NCP has underscored the country's dedicated engagement in vaccination and WASH initiatives. The active involvement of the CSP

has proven instrumental, particularly in fostering seamless coordination with the GTFCC and ICG, thus establishing itself as a cornerstone of success.

Given the extensive scope of responsibilities, effective coordination has been indispensable. Concurrent activities include devising NCP plans for 2030, alongside executing preventive vaccinations in Dhaka, organizing campaigns for the Rohingya refugee population, and more. Managing these multifaceted responsibilities with a compact team has underscored the indispensable role of the CSP in providing technical support and sustained motivation.

Recent initiatives have greatly benefitted from PAMI mapping, an exercise completed shortly before the meeting. It is noteworthy that while mapping principally focuses on diarrhoeal diseases rather than cholera, aligned with clinical guidelines followed by hospitals in Bangladesh. The country's cholera surveillance spans 16 sentinel sites nationwide, with PAMI mapping integrating data from this network alongside inputs from a national diarrhoea survey ongoing since 2017. Continuous efforts to enhance surveillance and data quality are underscored by ongoing trials of a new dataset incorporating dehydration status and cholera RDT outcomes, overseen by a trained cohort of healthcare professionals. The meticulous processing and transmission of data through DHIS2, backed by thorough statistical analysis, ensures data accuracy and robust monitoring. The ongoing refinement of data management processes bodes well for heightened awareness and responsiveness.

Beyond the established 16 sentinel sites, additional surveillance activities were previously operational in Cox's Bazar, housing the Rohingya population, highlighting the critical significance of sustaining this surveillance network amid ongoing funding challenges in this crucial area.

The monumental task of improving WASH infrastructure in Bangladesh, owing to its vast landscape and diverse terrain, elicits excitement for potential progress achievable through focused PAMI initiatives.

Key success strategies in Bangladesh have centered on:

- Unifying stakeholders through the NCP, fostering a shared common objective amongst diverse entities including the MOH, Director General of Health, research bodies, academic institutions, development partners, and WASH stakeholders.
- Establishing cohesive working groups and technical committees to streamline information sharing, collaborative activities, and the demonstration of findings.
- Embracing a multisectoral approach, significantly facilitated by the NCP.
- Conducting biannual meetings, with increased frequency during outbreak situations, reinforcing a supportive familial environment through shared learning experiences.

Bangladesh is currently immersed in crafting a sustainable five-year multiyear preventive vaccination plan (MYP), a substantial endeavor demanding concerted efforts to align with the Roadmap objectives. Despite facing mounting challenges amid escalating outbreaks and water-related issues at the local level, strategic advocacy approaches and targeted campaign interventions are being explored to bridge existing gaps and bolster progress towards the 2030 objectives.

As the country navigates complex challenges amidst increasing outbreaks and economic strains post-COVID, Bangladesh's steadfast commitment to effective case management and low mortality rates, attributable to simple yet impactful interventions like oral rehydration solution, symbolizes remarkable achievements in saving countless lives. A consolidated global effort is paramount to drive collective action as a unified GTFCC entity, supporting national endeavors and realizing the shared 2030 goals. This juncture serves as a decisive moment to forge stronger bonds and synergies towards achieving transformative outcomes.

The moderator summed up the session with two main, overarching themes:

1. There is a need to clarify how countries should first share their needs.
2. There is a need to examine how, when a request for help is received, the GTFCC can best share it broadly across the partnership to see who can help. This could mean improving leverage of partners at country level.

Coordinating a multisectoral task force

Moderator: ***Abhishek Rimal***

In this session, health and WASH country representatives shared their successes and challenges in engaging multiple line ministries and identifying those multisectoral activities critical to achieving the Roadmap targets.

Achieving successful coordination and multisectoral collaboration is a difficult challenge, but it is also the key to progress. WASH is the solution to eliminating cholera in the long term; OCV and other implementations buy the time to build it. While it might prove expensive in the short term, it is crucially important that every NCP is implemented in the best way possible to engage the WASH sector. Leveraging the SDG agenda, in particular SDG 6 ("clean water and sanitation for all"), is one potentially effective way to do this.

To move forward along this road, the GTFCC needs operational plans for:

- engaging the WASH sector;
- engaging multilateral development banks (which should be represented in meetings like this);
- regional and cross-border engagement to facilitate early responses to outbreaks – perhaps through the establishment of regional hubs for outbreak information;
- fostering South-South collaboration to ensure the best use of a wealth of expertise in different contexts (many countries excel at particular aspects of cholera response and control, and that knowledge can be shared more effectively);
- monitoring and reporting GTFCC indicators (currently, despite the presence of very clear indicators, the GTFCC struggles to map progress); and
- establishing a mechanism for submitting and fulfilling requests for technical support.