GLOBAL TASK FORCE ON CHOLERA CONTROL

REPORT OF THE

8TH ANNUAL MEETING OF THE GLOBAL TASK FORCE ON CHOLERA CONTROL

8-10 June 2021 | VIRTUAL

Acronyms and abbreviations

AMR	AntimicrobialR
CATI	Case-Area Targeted Intervention
CFR	Case Fatality Rate
CSP	Country Support Platform
DRC	Democratic Republic of Congo
EPHI	Ethiopian Public Health Institute
EPI	WHO Expanded Programme on Immunization
GTFCC	Global Task Force on Cholera Control
GTM	Mozambican Multisectoral Cholera Elimination Plan Group
ICG	International Coordinating Group
IFRC	International Federation of Red Cross and Red Crescent societies
IPC	Infection Prevention and Control
IRP	Independent Review Panel
M&E	Monitoring and Evaluation
MSF	Médécins Sans Frontières
NCP	National Cholera Plan
NMCEP	Kenya national multisectoral cholera elimination plan
OCV	Oral Cholera Vaccine
ORS	Oral Rehydration Salts
PCR	Polymerase Chain Reaction
RDTs	Rapid Diagnostic Tests
SAM	Severe Acute Malnutrition
SDC	Swiss Agency for Development and Cooperation
SDGs	Sustainable Development Goals
SOPs	Standard Operating Procedures
US CDC	US Centers for Disease Control and Prevention
WASH	Water, Sanitation and Hygiene
ZNPHI	Zambia National Public Health Institute

Executive summary

The eighth annual meeting of the Global Task Force on Cholera Control (GTFCC) took place on 8-10 June 2021. Due to the continued restrictions imposed by the COVID-10 pandemic, the meeting was held virtually, with three to three-hour sessions conducted over three days. Although everyone in the GTFCC community has been affected by the pandemic, members have remained committed to cholera control and elimination throughout the pandemic period, and the meeting was well-attended and productive.

The objectives of the meeting were to:

- Review the activities of the GTFCC and its working groups;
- Share updates on the establishment of the Country Support Platform;
- Provide an update on the development of the Cholera Research Agenda;
- Share country perspectives on the development of National Cholera Control Plans;
- Discuss the key role of mutualization in the implementation of the Global Roadmap.

The GTFCC Secretariat provided participants with updates on work since the 2020 annual meeting, and the leaders of each of the GTFCC's technical working groups updated the gathering on achievements in their respective areas: surveillance; laboratories; oral cholera vaccine; water, sanitation and hygiene (WASH); and cholera case management. An update was also provided from the group currently working on community engagement; given the crucial nature of this cross-cutting field in the work of all other groups, it was decided that community engagement would become an official working group.

While eight months is a short period, there were nonetheless some major GTFCC developments to share, including the official launch of the GTFCC cholera research agenda and the development of a cholera research tracker. A GTFCC focal point for WASH has been recruited. The GTFCC Independent Review Panel has conducted two reviews of national cholera plans (NCPs) and is currently in the process of reviewing a third one. Discussions have been held on how to integrate community engagement into the work of the GTFCC, given its essential role in the activities of all working groups. An easy-to-use online tool for NCPs will be operational soon. The inception phase of the GTFCC's operational arm, the Country Support Platform, is coming to an end, and permanent staff have been appointed centrally and recruitments are ongoing at country level.

On the third day, the conference split out into three breakout groups that gave participants the opportunity to exchange ideas about the best ways in which to improve mutualization of expertise, specialties, experiences and opportunities for financing to support countries trying to end cholera. These sub-groups respectively discussed technical cooperation and coordination; integration of monitoring and evaluation mechanisms; and how to tailor financial mechanisms and advocacy goals to countries' needs.

Each group identified a set of key recommendations. Progress towards the implementation of these recommendations will be assessed and presented in the next annual meeting.

The meeting closed with a round of thanks to donors and partners for their continued support of work to achieve the goals of the GTFCC core document, *Ending cholera: a global roadmap to 2030.*

Welcome remarks

Frew Benson, GTFCC Steering Committee Chairperson

The COVID-19 pandemic continues to affect all aspects of life and work, including the continuation of virtual meetings of the Global Task Force for Cholera Control (GTFCC). It is also to blame for the odd scheduling of this meeting only eight months after the last one in October 2020.

While eight months is a short period, there are nonetheless some major GTFCC developments to share, including the official launch of the GTFCC cholera research agenda and the development of a cholera research tracker. A GTFCC focal point for water, sanitation and hygiene (WASH) has been recruited. The Independent Review panel has conducted two reviews of national cholera plans (NCPs) and is currently in the process of reviewing a third one. Discussions have been held on how to integrate community engagement into the work of the GTFCC, given its essential role in the activities of all working groups. An easy-to-use online tool for NCPs will be operational soon.

The inception phase of the GTFCC's operational arm, the Country Support Platform (CSP), is coming to an end, and permanent staff have been appointed centrally and will soon be appointed at country level.

This meeting will also see updates on national work in Mozambique, Kenya and Ethiopia, sharing achievements in the last year and national perspectives and experiences of the NCP development process.

It is important to express the GTFCC's thanks and appreciation for what countries have been able to achieve in the last year under very difficult circumstances; and for the solidarity shown by donors in that time. Only with their assistance has it been possible to launch the CSP.

Working together, the GTFCC will get closer to its target of eliminating cholera by 2030. To get there will require increased effort and mutualizing of members' complementary expertise and strengths.

GTFCC updates

Update from the GTFCC Secretariat

***Philippe Barboza**, GTFCC Secretariat*

Three contextual examples showcase some of the challenges for cholera control in 2021.

The first is northern Mozambique, suffering the consequences of a major conflict in the northern province of Cabo Delgado. More than 700 000 people have been displaced by violent conflict with Islamic fundamentalist insurgents who regularly attack the population. More than 36% of healthcare facilities in the region have been destroyed, with no functional clinics at all in at least four districts. In this difficult context for public health, a cholera outbreak began in early 2019 and has continued ever since, spreading to neighbouring provinces.

The second example is the ongoing crisis in Tigray, where already over two million people have been displaced – a major portion of a total population of around 7 000 000. Only 500 000 of those displaced are living in camps, with most of the rest living with families, degrading living conditions in an already extremely volatile security environment. Most of the area is inaccessible to health services: 87% of healthcare facilities in the region are damaged and 70% have been destroyed, with huge negative impacts on surveillance capacity. Major damage to WASH infrastructure has created a high-risk environment for waterborne diseases, both in camps and in communities. This difficult situation is compounded by many other public health issues, including COVID-19, measles and malaria, and the risk of cholera in the region is very high. An OCV campaign is about to start targeting 2 million people, with an integrated WASH emergency package.

The third example is Democratic Republic of Congo (DRC), which has suffered recently from volcanic eruption and earthquakes that displaced over 400 000 people in North and South Kivu. There has been major damage to WASH infrastructure that was already inadequate in places where people are seeking asylum or refuge. Vaccination campaigns took place in the region in 2019 and 2020 and achieved good coverage (86% and 92% respectively), reducing the risk of cholera, but some risk remains.

The GTFCC has made progress in the eight months prior to this meeting. Key highlights include the fact that reporting has increased: reporting of cholera cases to WHO almost doubled in 2019 while the reported number of deaths decreased by 36%. Africa is seeing its lowest number of cases in the 21st century to date, and the Americas the lowest number of cases and deaths since 2010, when there was a major outbreak in Haiti. 93% of the world's reported cases are in a single country, Yemen. A small caveat is that there are some limits to this reporting, and 2020 data are still being collected.

Between 2013 and 2021, more than 87 million doses of oral cholera vaccine (OCV) have been shipped to 22 countries. In 2019, 14.5 million doses were shipped for outbreak responses and 9 million for preventive campaigns.

Of course, COVID-19 has had a major impact on cholera control activities. All around the world, staff working on cholera-relevant tasks have been repurposed; the pandemic has reduced community engagement, surveillance and access to WASH and health care. Under the pressure of the pandemic response, countries' abilities to plan and implement OCV preventive campaigns have been reduced, and COVID-19 vaccination has taken a higher priority. There have, however, been some cholera-specific positives to the pandemic. COVID-19 containment and mitigation measures are likely to have reduced cholera transmission, and investment in community engagement and hygiene promotion for COVID control is likely to pay dividends in reducing cholera. Countries have also shown that they are able to

maintain reactive OCV campaigns: 13.5 million doses have already been shipped in 2021, more than in 2020. Cholera hotspot identification and NCP development processes are resuming fast.

Between Q4 of 2020 and 2021, 20 million doses of OCV were shipped to six countries, the maximum ever sent in a nine-month period. 68% of these doses were for preventive campaigns in five countries. There was a strong reduction in shipments in 2020 due to the pandemic, but a very strong resumption in 2021. Unfortunately, OCV shortages continue. Shanchol has already completed its 2021 production plan: around 4.9 million doses were shipped in the first quarter of 2021, with a remaining stock of only 56 000. The planned availability of Euvichol is 28 million doses, but projected use is 32 million. 14 million (44%) OCV doses are already shipped, , 6 million (19 %) are already allocated to confirmed campaigns and 9 million (28%) are for planned campaigns not yet approved and 3 million (9 %) normally constitute the emergency stockpile. This has resulted in very low availability of OCV (highlighting the fact that those figures do not include potential requests to the International Coordinating Group (ICG) that could be submitted in the 7 months of 2021 to come.

For surveillance, epidemiology and laboratory work, better data is needed to inform decision making. This crosscutting need affects all pillars. Major work is ongoing in all GTFCC working groups (see working group summaries). Community engagement, too often a neglected area of work, should be at the centre of all strategies, particularly in less developed areas, and the GTFCC is to consider the establishment of a dedicated new working group to address this.

Further highlights of the past eight months include the identification of a range of hotspots using the GTFCC tool, including in Burundi, Ethiopia, Kenya, Sudan, Yemen, Zambia, Zanzibar, Zimbabwe. Post-Roadmap NCPs have been launched in Bangladesh, Somalia, Zambia and Zanzibar, and draft NCPs have been submitted to the GTFCC Independent Review Panel (IRP) for Ethiopia, Kenya, Zimbabwe. More NCP work is in progress in Cameroon, DRC, Mozambique, Sudan and mainland Tanzania.

There have been myriad other developments. The GTFCC's operational arm, the Country Support Platform, has now been launched, with staffing processes well advanced, four countries shortlisted for phase one, and ad hoc country support already rolled out. Partner engagement remains a crucial part of GTFCC activity. Virtual meetings have continued across all working groups, in the hope of resuming face to face meetings when this becomes possible again. The development of technical guidance continues, including the launch of an online NCP tool. Advocacy and communication activities have continued. A research agenda has been developed and launched. Work has been done across all GTFCC material to improve accessibility for French speakers, including through translation of the GTFCC website, technical guidance including the cholera outbreak response manual and the cholera app, and the provision of simultaneous translation at meetings.

The way forward for the GTFCC is likely to rest on familiar foundations. Supporting countries as they implement the Roadmap and monitor implementation remains a priority. Technical focus will be on reinforcing national surveillance capacities; further support for hotspot analysis and targeted multisectoral interventions; ensuring appropriate and strategic use of OCV; targeting hotspots for sustainable WASH interventions; and promoting a community role in cholera control. The GTFCC as a whole will work to integrate the different pillars of work more effectively and implement more operational research following the priorities of the research agenda. Potential synergies will be sought with other programmes, and advocacy and partner and donor engagement work will continue.

Presentation of the Independent Review Panel mechanism

***Daniele Lantagne**, Tufts University and Chair of the most recent IRP review (Kenya NCP)*

The Independent Review Panel, or IRP, supports the GTFCC secretariat across its work on country support and norms and standards. When a NCP is developed, it is drafted and submitted to the GTFCC. The IRP

then reviews the NCP and, where necessary, oversees joint work to improve it, with as much back and forth discussion and as many iterations as required. The NCP is then endorsed, implemented and monitored.

Once a country submits its NCP to the IRP the review process begins. A kick-off teleconference takes place between IRP members within a week, followed by a desk review in which each member reviews the plan within 2-4 weeks, coming together to provide expertise and input from several sectors. The initial findings are presented to the Secretariat, the conclusions and recommendations are finalized in a report, and then discussions begin between the secretariat, the IRP members and the country, in a further process that takes about six weeks. It is possible to carry out multiple reviews when required, addressing specific areas that need to be resolved before the NCP can be fully validated.

The primary criteria for NCP endorsement are engagement of all actors in the multisectoral approach of *Ending cholera: a global roadmap to 2030* ("the roadmap") and a joint situational analysis following GTFCC guidance, looking at hotspots, trends and operational plans with activities and budgets for the core components of surveillance, patient care, OCV, WASH and community engagement. The secondary criteria are detailed considerations of a multisectoral approach to coordination, situational analysis, surveillance, and management, addressing the specifics within each pillar.

The benefits for countries of this process are increased visibility and credibility, improved coordination, access to the OCV stockpile, technical and implementation support and guidance.

Two reviews have been completed since the launch of the IRP mechanism, for Zimbabwe's multisectoral cholera elimination plan and Kenya's national multisectoral cholera elimination plan. A review of the cholera elimination plan for Ethiopia is beginning at the time of this meeting.

There has been clear evolution in the stage of development at which the countries are submitting plans to the IRP. The two most recent examples have been contrasting – one was at an advanced early stage for which inputs were easy, while the other was near-finalized, submitted more for endorsement. This illustrates the scope of different needs that the IRP must address: some countries prefer to submit near-complete plans, while others wisely prefer a preliminary step to avoid lost time later. The IRP must address how countries can be more effectively oriented on what to submit and how the review process works, and how to make them comfortable submitting draft plans. Countries are very much encouraged to submit plans early and engage in back and forth feedback.

Latest developments of the Country Support Platform

Update on the development of the CSP: from inception to operation

***Annika Wendland**, CSP / International Federation of the Red Cross and Red Crescent Societies (IFRC)*

Following a call from countries for additional technical support in the development and implementation of NCPs, the GTFCC established and launched the Country Support Platform as its new operational arm. The International Federation of the Red Cross and Red Crescent Societies (IFRC) was selected to host and manage the CSP in close consultation with the GTFCC. The primary donor for the establishment and launch of the CSP over a three-year period is the Bill and Melinda Gates Foundation. Other donors, including the Swiss Development and Cooperation Agency (SDC), have entered or are entering into similar grant agreements with the IFRC to support the CSP. A further grant agreement with Wellcome Trust is under negotiation, to be awarded to British Red Cross to support GTFCC-led cholera research.

Country support is the CSP's mission. The majority of CSP staff will be located in the 47 cholera affected countries targeted by the roadmap, organized around 11 proposed regional CSP hubs. A step by step rollout will allow sharing of country experience and adjustments to the operational model. The selection of the first four countries to be supported were made in the previous annual meeting with the criteria that they should have reported cholera to WHO in the past three years (as a proxy for burden); they should have a NCP and hotspot mapping or engagement in process (as a proxy for commitment to the roadmap); they should have implemented an OCV campaign in the past (as a proxy for practical implementation of control activities); and they should be selected in consideration of any contextual issues that might hamper implementation of the roadmap goals. The first four countries selected were Bangladesh, DRC, Nigeria and Zambia. A CSP country manager will be based in each country, coordinating support to other countries through the respective hubs. Over the next few years country support will be expanded through establishment of additional hubs, deployments in countries and remote support. Recruitment of the CSP team is progressing well both in the Geneva headquarters and in countries.

In the current handover, the CSP's management will pass from the inception team to the ongoing implementation CSP team. IFRC's work to provide internal support and backstopping to the CSP team will continue as part of its commitment to the cholera roadmap goals. In the implementation phase, the CSP team will continue to engage with the GTFCC technical working groups.

The CSP will work to achieve three outcomes:

- Outcome 1: Countries develop and implement NCPs through multisectoral coordination mechanisms
- Outcome 2: Countries mobilize resources towards the funding needs identified in their NCPs
- Outcome 3: Multisectoral technical support and capacity building is provided to countries.

In service of these goals the CSP will provide global support to include exchanging country experiences on NCP development; supporting the NCP process from inception through submission to the IRP to implementation; providing expertise on advocacy and resource mobilization; and providing technical expertise from GTFCC partners, including through a pool of experts for short- or medium-term deployments on request from countries. The CSP will work closely with countries, partners and donors to develop and implement multisectoral NCPs coordinated by national cholera platforms or mechanisms; support resource mobilization and advocacy for NCP implementation; facilitate coordination of technical assistance from GTFCC members and other stakeholders; provide support for monitoring and evaluation of NCPs and implementation of priority operational research; and provide ad-hoc support for countries' needs.

A number of quantitative milestones and targets have been set to achieve by the end of 2023. Outcome 1, on coordination and planning, will be measured by the number of national cholera platforms created and supported and the number of countries engaged in the NCP process. All cholera partners and donors can help the CSP in supporting national coordination by sharing information on activities and projects implemented in cholera affected countries. Outcome 2 will be measured by the number of countries with costed NCP and investment cases, the number of resource mobilization and advocacy plans developed, and the global and domestic resources raised for NCP implementation. GTFCC members and donors can help by aligning behind NCPs and supporting governments engaged in cholera elimination in a structured, coordinated way. Outcome 3 will be measured by the number of countries supported with technical assistance and the number of OCV requests receiving support from the CSP. GTFCC members and donors can support the CSP by providing technical expertise and responding directly to country requests or indirectly through expert loans and/or through the GTFCC/CSP pool of experts.

Key achievements of the GTFCC working groups

Surveillance

***Marc Gastellu-Etchegorry**, Epicentre*

The key achievement of the surveillance working group since the last annual meeting has been the launch of a range of subgroups. Four priority thematic areas were established in October 2020, resulting in the creation of four dedicated subgroups on surveillance and global monitoring; outbreak detection, investigation and response; hotspots; and regional approaches to surveillance.

Each subgroup has 16-20 participants. Twenty subgroup meetings have taken place since launch, coordinated through two wider surveillance working group webinars. This work has generated a high level of engagement in challenging circumstances, including the need for frequent sub-group meetings in a virtual format and extensive requests for contributions. The groups have managed to capture a diversity of opinions and find paths for consensus and decision building. In future, efforts will be made to keep subgroup systems simple and efficient while adding research components and testing the use of innovative IT tools to come up with more engaging formats to sustain engagement.

Surveillance and monitoring subgroup

Robust routine monitoring based on indicators is crucial in order that hotspots can be identified reliably and interventions effectively targeted. It is needed to monitor progress implementing NCPs and the roadmap, and to document the absence of local transmission. This subgroup has nearly completed work on minimum standards for indicator-based surveillance, reviewing case definitions for suspected cases, confirmed cases and probable cases. Efforts are ongoing to refine definitions of epidemiological settings (including outbreaks), to facilitate the recommendation of testing strategies and surveillance methods for each type of setting. The group is also working to develop minimum standards for indicator-based surveillance for cholera including a core dataset, reporting requirements and templates for epidemiological situation reports, and linelists. Future projects will include reviewing data sources for the GTFCC Global Cholera Database, developing templates for cholera profiles and developing a long-term vision and action plan; and recommending minimum surveillance and documentation standards to document absence of local transmission.

Outbreak subgroup

Early detection, rapid confirmation, and quick response to outbreaks make up Axis 1 of the roadmap and are critical in mitigating the impact of outbreaks. The subgroup has nearly completed work on revising GTFCC definitions and criteria in different epidemiological settings for suspected cholera outbreaks; cholera outbreaks; and the ends of outbreaks. Other ongoing projects include development of minimum standards and guidance for event-based surveillance and community-based surveillance; development of criteria to evaluate sensitivity of cholera surveillance for timely detection and notification of cholera outbreaks; and continued efforts to foster innovation in cholera outbreak detection and forecasting. Future work on outbreak investigation will include the development of standard operating procedures (SOPs) and case investigation forms and an evaluation of the timeliness of cholera outbreak investigations. Work on outbreak response and case-area targeted interventions (CATIs) will include defining criteria for where to implement CATIs; defining the nature and purpose of CATIs in different epidemiological settings; and defining minimum surveillance standards for where CATIs are implemented, including for monitoring and evaluation (M&E).

Hotspot subgroup

Identification of hotspots is critical in order to target interventions accurately across all roadmap pillars and maximize their impact. This subgroup is working to revise the GTFCC hotspot methodology. A review of 22 hotspot identification exercises has been conducted, based on the findings of which guiding principles for a revised methodology have been identified and a general framework is being developed

for a draft revised methodology. Representatives of all GTFCC working groups are being consulted. Future work will include continued revision and refinement of the hotspot methodology, including data reviews and exercises/simulations and supporting the development of principles and criteria for the strategic use of OCV. This latter stream will facilitate more extensive use of OCV, and therefore implies a need to increase the stockpile of doses for preventive vaccination (in partnership with the OCV working group). The subgroup will also support development of minimum standards for cholera surveillance in hotspots (in partnership with the surveillance and monitoring and outbreak subgroups).

Regional approaches subgroup

Regional approaches are important because cholera does not recognise borders. Outbreaks are fuelled by migration, political instability, environmental conditions, socioeconomic factors and climate change. Cholera control or elimination in one country is unlikely to be stable unless all countries in connected regions aim to prevent cross-border or regional spread. Strong collaboration and coordination between countries and within sub-regions and regions is essential to cholera control and elimination. This subgroup is working on a landscape analysis of regional platforms in order to provide more evidence for regional platform stakeholders, the GTFCC and the CSP to use in developing, strengthening, and streamlining regional activities. This will inform the development of a framework for cross-border coordination and cholera surveillance. In addition, the group has drafted a harmonized set of surveillance, preparedness and response activities to be covered by regional platforms. The activities of regional platforms are described through targeted discussions with platform focal points. Current platforms include WHO regional offices, regional cholera platforms and the CSP. Future work will include finishing the landscape analysis; developing a GTFCC regional surveillance framework; identifying research questions to indicate cross-border or regional cholera connectivity; studying the role of whole-genome sequencing to demonstrate cross-border spread; and trying to identify the factors that inform prevention of importation.

Involvement of the laboratory group in the four surveillance sub-working groups

***Marie Laure Quilici**, Institut Pasteur*

Laboratory data is essential for strong surveillance in all epidemiological settings. Closing the gap between the laboratory and epidemiology groups will help determine how lab capacities can be better used to identify the true burden of cholera during and between outbreaks. Data on the proportion of suspected cases tested by rapid diagnostic tests (RDTs), the proportion of RDT positive cases lab tested and the proportion of lab confirmed cases aid hotspot identification, detection, confirmation and investigation of outbreaks and determination of their end, and long-term surveillance in all settings. This work can also help demonstrate cross-border spread of cholera.

With the ambition that countries' laboratory capacities should not be a limiting factor, a great deal of work has been done on laboratory capacity building. Job aids have completed (and are available via the GTFCC website) for domestic transportation of samples; international transportation of samples; and antimicrobial susceptibility testing. All are available in both English and French. The WHO cholera lab kit has been updated. To generate an overview of laboratory capacities in countries developing NCPs, a cholera lab questionnaire has been developed. This defines minimum country lab standards and facilitates situational analysis of NCP-engaged countries' capacities and needs. These tools are being evaluated in Mozambique. Actions in progress for capacity building include development of a *V. cholerae* culture procedure job-aid and SOPs for polymerase chain reaction (PCR) testing. To aid understanding and development of country diagnostic capacity, a cholera RDT performance review has been done and a synthesis document prepared with a proposed process for interpreting collective cholera RDT results as part of overall diagnostic strategy.

Future work will include further activity on developing methodologies and guidance for RDT use, in collaboration with the epidemiology and surveillance working groups, and completion of an overall testing strategy for different phases of an outbreak. Further work will be done to investigate countries' laboratory capacities on other pathogens and attempt to synergize laboratory activities.

Update on the Cholera Database

***Elizabeth Lee**, Johns Hopkins University*

Monitoring progress towards the roadmap goals requires mapping the geographic burden of disease, monitoring GTFCC indicators and hotspots over time, and tracking information on WASH and vaccination interventions.

The GTFCC cholera database is a new centralized repository for cholera surveillance data designed to help with all these tasks. It is designed around a flexible structure that supports any kind of cholera relevant data that can be linked to locations and time periods (such as incidence, deaths, hotspots, documents, OCV use, seroincidence data, etc.). It hosts both raw data and visualizations of modelled output, and can develop country and regional profiles that summarize key cholera data and risk factors. Data of many types is indexed according to location (which may contain other locations) and defined time periods. The database is "weakly typed," meaning that there are few restrictions on the types of data that can be associated with location periods.

Dr Lee screened a short video demonstration of how the database works for users.

Future plans for the database include expanded features related to "unified data sets," including automated cleaning of key datasets and displays of epidemic curve figures. Visualizations and layout will be improved to render them more intuitive, and the printable versions of country profiles will be refined. The database will be piloted with the aim of opening up broader access for ministries and GTFCC partners towards the end of 2021.

Oral cholera vaccine

***Malika Bouhenia,** GTFCC OCV focal point*

The 2020 annual meeting set out a clear workplan for the OCV working group. This included work on aligning OCV prioritization criteria with hotspot mapping; integrating OCV use into NCPs; implementing more preventive campaigns; continuing close engagement with Gavi; collaborating with the CSP and other GTFCC working groups; and building adequate monitoring, evaluation and ongoing research plans in line with the research agenda.

Key achievements since that meeting have included the shipment of 13.5 Million doses. With the current plan of production, and if all pending requests for OCV are approved and implemented, there will be a shortfall in vaccines. The situation is therefore as it has been in previous years – and given that 2021 is still only half done, it is to be expected that outbreaks in the latter half of the year will also require OCV.

Vaccination campaigns have been implemented in 2021 in eight countries, with Zanzibar to start soon. Co-vaccination has taken place in Sudan and Cameroon. OCV coverage surveys and assessments of WASH inclusion have been done in DRC, Zanzibar, Cameroon and Zambia. The integration of a minimum package of WASH and community engagement has also been done in an emergency campaign in Ethiopia (Tigray). First deployments of the CSP approach have happened in Zanzibar and Mozambique, and an impact study has been run in DRC.

Hotspots have been identified using the GTFCC hotspot method (2019-2020) in Ethiopia, Kenya, Sudan, Yemen, Zambia, Zanzibar, Zimbabwe and Burundi. Further countries preparing hotspot identification

include Cameroon, Mozambique, Nigeria and Togo. A country profile for OCV has been produced by Johns Hopkins University and a job aid for OCV administration in a COVID-19 context has been prepared. Throughout the year, OCV working group meetings have taken place every two months.

There have been many challenges to OCV work in this period, not least from the effects of the pandemic. COVID-19-related issues have included limitations in OCV production, the repurposing of staff to the COVID response, the effects of containment measures on vaccination campaigns (including the postponement of preventive campaigns), delays to NCPs and the effects of travel restrictions on onsite support. Non-pandemic related challenges have included the fact that hotspot prioritization guidance is still not ready; a number of studies and campaign evaluations have been delayed; a new GTFCC request has been in progress; the quality of vaccine requests has been poor; political insecurity has affected campaigns in Mozambique, DRC, South Sudan and Ethiopia; integrating OCV use with the WHO Expanded Programme on Immunization (EPI) has been difficult; and there has been insufficient communication with producers.

Priorities for 2021-22 include setting and meeting objectives for OCV deployments for planned campaigns in the priority countries of Nigeria, Ethiopia, Sudan, Mozambique and Bangladesh. An OCV training package will be prepared for consultants and technical documents will be provided to ministries of health in endemic countries that clarify how to make OCV requests, how best to prepare, organize and monitor campaigns, and how to evaluate results – including impact – in a simple way. OCV from the stockpile will be allocated to cholera hotspots, and work will be done to address OCV-relevant questions in the research agenda. The composition of the working group will be expanded accordingly.

Water, sanitation and hygiene (WASH)

Nurullah Awal

Since the last annual meeting the chairmanship of the WASH working group has been handed over from UNICEF to WaterAid. WaterAid has assigned an internal team to coordinate the group and provide technical advice. A full time WASH focal point joined the GTFCC in March 2021 to support the coordination of the working group, develop specific WASH guidance for cholera, and support partners' cholera control activities. Subsequent to these changes the WASH work plan will be revisited with members of the working group.

Between October 2020 and June 2021, the working group has held country focused webinars showcasing Zanzibar's progress implementing the WASH pillar of their NCP and the scope of WASH integration in Zambia and its impact on NCP implementation. Upcoming webinars will provide an update on research impacting WASH for cholera control (in July 2021) and an update on bottlenecks and/or opportunities for WASH interventions for cholera control to ensure proper links between the work of different GTFCC working groups (in September).

Since the last annual meeting key achievements of the working group have included maintaining momentum throughout the handover and the pandemic; identifying key WASH indicators for the hotspot identification methodology; piloting a WASH minimum package alongside an emergency OCV campaign in Tigray, Ethiopia; and, with the support of the newly appointed CSP team, reviewing a number of NCPs to include a stronger WASH focus.

Challenges have included the administrative and logistical tasks of instituting a new WASH working group chair and GTFCC focal point, and the work associated with the push to integrate WASH with the activities of other working groups and subgroups. Specific technical guidance for WASH has been required for NCP development and implementation; data collection in hotspots (including WASH baselines), whether standalone or coupled with OCV campaigns; a data repository/database; M&E for progress against the global roadmap and towards Sustainable Development Goal 6 (SDG6: clean water and sanitation), ; and

the push to include WASH activities in other workstreams (particularly through advocacy, resource mobilisation and capacity building).

Priorities for the coming year include work on technical guidance. WASH indicators will be finalized for the updated GTFCC hotspot methodology; a structured format will be developed for the inclusion of WASH information/activities in GTFCC OCV requests; and the implementation of WASH activities in parallel to OCV campaigns will be documented. The group will promote the GTFCC research agenda and foster collaboration on priority research areas; contribute to the GTFCC Research Tracker; and focus on priority research for WASH and cholera. On the advocacy front, work will take place with national governments and donors to prioritize WASH investment in cholera hotspots; ensure WASH representation at country and regional meetings and key events; and promote and support links with *Hand Hygiene for All* national roadmaps.

Case management

***Iza Ciglenecki**, MSF*

Since the 2020 meeting the case management working group has published an interim technical note on the treatment of cholera in pregnant women; updated the cholera app; worked on a multisectoral approach to targeting cholera through CATIs; and launched a review of community and facility-based risk factors for cholera mortality.

The work of the group has been challenged by delays due to other priorities and restrictions. Work on the role of community health workers in cholera control had to be suspended due to the pandemic. Field research in other areas was similarly affected, with recruitment for a randomized control trial on rehydration of children with severe acute malnutrition (SAM) also temporarily suspended. Planned revision of guidance on rehydration in SAM was postponed. In-person group meetings have been impossible, and the most recent virtual meetings were in October 2020.

Priorities for 2021-2022 include improving early access to treatment and prevention; taking advantage of the GTFCC's new focus on community engagement; working to improve early access to treatment in communities, including by reactivating the subgroup on the role and integration of community health workers in cholera response; and carrying out targeted interventions in communities, including multisectoral CATIs incorporating antibiotics and provision of early access to treatment. Further work will be done to improve case management by revising guidance on high risk groups for cholera mortality and updating GTFCC guidance on antibiotic use, starting with indications for treatment and targeted prophylaxis. Because there has not been a working group meeting since the research agenda was published, discussions on how best to align this activity to the agenda are still to come.

Community engagement

***Kate Alberti**, GTFCC Secretariat*

In March 2021, a group discussion was held on the key role of community engagement and how best to integrate this cross-cutting aspect into the activities of all the GTFCC working groups. Activities in all the cholera control pillars require community action: providing services alone is not enough for the roadmap to succeed. For this to happen, communities must drive cholera control. One of the biggest challenges in achieving this will be ensuring that the cholera community understands that community activities are only one part of full community engagement. Real engagement makes communities integral to the process, with a voice in decision making and programme design. This requires meaningful participation from the outset, taking communities' capacities and vulnerabilities into account, shaping sustainable change, acting on community feedback, and protecting rights and dignity. It also means accountability to communities.

Creating this understanding of community engagement and making it common to all actors in cholera control will be a principle challenge.

Priorities for 2021-2022 include a landscape analysis of existing guidance and tools to identify gaps; creating, populating and maintaining an accessible repository for those tools and guidance materials; identifying unmet community engagement needs and relevant projects across the GTFCC working groups; developing baseline community engagement questionnaires and checklists for use by all pillars; and identifying research gaps.

One of the biggest steps of all will be establishing an official technical working group for community engagement. It is hoped that at least one community engagement partner will work with each of the existing groups, but there is also a need for a coordinating body through which partners can develop guidance and tools and to ensure that community engagement is represented at Secretariat level and with other group leads. The GTFCC Steering Group has recognized this need and the creation of a new working group will be on the agenda at the next steering committee meeting.

Update on the Cholera Research Agenda

Recent developments of the Cholera Research Agenda

***Elizabeth Klemm**, Wellcome Trust*

Research can make cholera control faster, better and cheaper. The GTFCC research agenda was developed to identify the research most needed to help countries meet the goals of the roadmap. It is an essential tool to identify research needs based on the perspectives of the implementation, policy and research communities and resolve competing priorities; prioritize research to help meet the roadmap goals; optimize donor funding; and communicate how addressing research priorities addresses the needs of field work. It is both a strategic guide for the work of the technical groups and a "to-do" list enabling research projects to be designed according to the priorities. It helps donors evaluate the importance of different proposals according to the roadmap goals and its helps countries and implementers incorporate monitoring and evaluation into health programmes. Now that it has been launched, though, what matters most is implementing it, through advocacy, action and M&E.

To create the agenda 177 contributors representing a range of sectors and places captured the research needs of cholera-affected countries and outlined the 20 top research priorities across all types of cholera research and all GTFCC pillars. These can be seen in Fig 1 (with cross-cutting research questions highlighted in yellow). From these, five top questions have been chosen to guide the work of each pillar.

Fig 1: top priorities of the research agenda

Three overarching discovery research priorities have been identified, all focussed on the development of new tools and databases. Though these priorities have a longer timescale to impact, they are critical to the elimination of cholera. They are as follows:

- Research for the discovery of novel and innovative diagnostic tests to increase speed, efficiency and quality of detecting and confirming cholera;
- Research for the discovery and development of new or improved vaccines to strengthen the bridge between emergency response and long-term cholera control and prevention;
- Research to contribute to the collection of genomic data to create a global *V cholerae* sequences database to map and understand long range transmission routes.

Advocacy is important in achieving all of these goals, creating awareness, fostering wider and better understanding of what is required for cholera control and elimination, and building engagement that leads to action. The research agenda can raise the profile of cholera research, showing the context of individual projects, emphasizing the momentum and importance of research to the cholera community and providing direction, strategy and actionable recommendations. It should be shared as widely as possible with funders (including by referencing it in grant applications), policymakers, NGOs (with the goal of connecting research with implementation goals) and researchers.

Demonstration of the research projects tracker

To accompany the agenda, a cholera research tracker will be launched in July 2021. This is an interactive, searchable online platform for ongoing and recently completed cholera research projects that was developed to monitor progress against the research agenda by collecting information on cholera research projects and displaying it on a user-friendly, interactive platform.

The tracker will enable searching for research projects by pillar, country, or keywords to reveal information on individual projects including project summaries, lead investigators, collaborating partners and funding sources. This tool will increase awareness of the breadth of cholera-related research, supporting collaboration and avoiding duplication. It will also be an important aid to overall analysis of research trends to identify gaps and monitor progress against the agenda. Additional projects to be included in the tracker (as well as comments, feedback and/or questions) can be submitted to:

- Helen Groves (h.groves@wellcome.org)
- cholera-research-tracker@gtfcc.org
- gtfcc@fondation-merieux.org

Dr Klemm then played a short video demonstration of the tracker in use.

Assessing progress

***Marion Martinez Valiente**, GTFCC Secretariat*

The Global Roadmap has the overall objective of a 90% reduction in cholera-related mortality by 2030. In 2021, one third of the global roadmap timeline has already passed. The GTFCC has developed a high-level monitoring framework to assess progress against key milestones of the roadmap.

The M&E described in the framework addresses two key areas: (i) implementation of the roadmap and (ii) progress against its goals. The M&E framework is organized around the roadmap's three axes, with a series of impacts, goals, objectives, indicators and targets identified for each axis. All are guided by principles and enabling factors. The three axes are:

1. Early detection and quick response to contain outbreaks
2. A targeted prevention strategy in cholera hotspots
3. GTFCC support and coordination of human, technical and financial resources.

The overarching principles are that actions in service of these axes should be country-driven, multisectoral and coordinated, bridging emergency and development work, targeted to the most-affected populations and guided by full community engagement. Enabling factors to achieve this are strong commitment from countries, partners and donors; provision of existing and new health and WASH resources aligned to the roadmap; and a sufficient supply of OCV.

The GTFCC Secretariat is responsible for monitoring and reporting progress on the roadmap, collecting annual updates from countries and reporting back at the GTFCC annual meeting. To aid in this process, there is a need for GTFCC to discuss how best to operationalize the framework. A number of challenges have already been identified, mainly through the conclusions of the 2020 Forum session on M&E and the results of the pre-meeting survey. These underline the importance of learning from the M&E work of other platforms and initiatives related not only to cholera but also to other diseases with an eradication goal. Foremost among these challenges is a widespread absence of M&E mechanisms and/or of coordination of existing mechanisms. Where possible, existing systems for data collection and monitoring frameworks should be used, including national M&E frameworks, WHO regional frameworks and existing partner mechanisms. There are further issues around harmonizing M&E across programmes and departments, the centralization of data, the proper use of data already collected, and the collection, analysis and use of new data. These issues are compounded by a lack of human resources to manage the monitoring system, and a wider lack of funding to support M&E activities.

Recommended next steps in this area include a re-engagement with countries to launch and implement the roadmap monitoring framework. Initial assessments of existing cholera M&E mechanisms should be conducted to provide a clearer basis for action, both in countries and at partner level. The first results of these assessments should be presented at the 2022 annual meeting.

Countries Speak out

Developing the National Cholera Elimination Plan in Mozambique

***Jose Paulo Langa**, INS Mozambique*

Mozambique is a country prone to natural emergencies and disasters that lead to public health emergencies and large displacement of populations. There is also currently a humanitarian crisis caused by insurgency in the north of the country. Mozambique experiences regular outbreaks of diarrhoeal diseases, including cholera, exacerbated by socio-economic, cultural and nutritional practices including open defecation. Acute diarrhoeal diseases and cholera outbreaks are linked to the rainy season. The two most recent cholera outbreaks in Mozambique occurred simultaneously due to humanitarian crises in the provinces of Nampula and Cabo Delgado respectively. The crisis in Cabo-Delgado caused population movements to different parts of Mozambique that have placed great pressure on health and WASH systems and degraded access to essential health care.

In this context Mozambique has worked on a national cholera control strategy that includes support of the CSP. When the CSP deployment to Mozambique was conceptualized in March 2021, the goal was to support and advise the Ministry of Health and multisectoral partners on cholera control strategies for the outbreak in Nampula province, and to support authorities and partners developing the NCP. Later, in coordination with the GTFCC, the deployment was refocused on re-initiating the NCP development process in alignment with the roadmap. This work is done by a technical group at Instituto Nacional de Saúde and the Ministry of Health.

The objectives of the finalised workplan were to define the NCP development approach; assign roles and responsibilities for the inception phase at national level; and agree on the process. The outcomes were an outline of the NCP development process aligned with the roadmap but adapted to the Mozambican context, and a timeline. Phase 1, inception, includes identification of cholera hotspots, situational analyses and establishment of a national coordination mechanism for cholera elimination that sets national goals. Phase 2 covers planning of activities – including budgeting – by pillar. Phase 3 is the M&E phase. Coordination is measured through effectiveness of the coordination and financing mechanism. Surveillance is assessed through the number of prompt alerts and investigations, laboratory coverage and

reduction of incidence. Case management is assessed via reductions in mortality, health systems strengthening, campaigns conducted and coverage. WASH is measured through coverage. Engagement is measured through coverage, increased community education and awareness.

The government's commitment to cholera elimination in Mozambique is guided by lessons from previous outbreaks and disasters. It is based on combined interventions (e.g. immunization and WASH); upgraded WASH infrastructure and capacity; engaging communities through social mobilization and risk communication; reinforcing systems for surveillance, epidemic preparedness and response so that they are sufficiently robust to detect epidemics; evaluating cholera hotspots; and strengthening multisectoral coordination. These actions are coordinated through the Mozambican Multisectoral Cholera Elimination Plan Group (GTM), the objective of which is to ensure strong commitment and effective inter-governmental, inter-ministerial and inter-institutional coordination so that all relevant actors are involved in elaborating and implementing the NCP and mobilizing resources. A number of different ministries, national institutes and cooperation partners are included in the group. Government partners were chosen according to analysis based on various pillars that impact cholera control. Mozambique remains open to support from further external partners, including MSF and other organizations that have historically supported cholera control.

Dr Langa outlined the methodologies to be used for the identification of cholera hotspots and the ways in which GTFCC tools have been adapted to the Mozambican context for this exercise, which will be done province-by-province following a standardized investigative protocol currently being developed. Situational analysis will be based on three components to maximize the chance of obtaining information useful for planning: a SWOT analysis of cholera control and prevention capacity at national level; assessment of capacity for cholera prevention and control by pillar in cholera hotspots; and mapping of partners and resources. The information from the hotspot identification exercise will be used to identify priorities for the NCP. By adopting the 71st WHA resolution, Mozambique has in principle committed to cholera elimination by 2030, but the official national goal and interim milestones will be determined according to the results of the situational analysis.

A national coordination mechanism for cholera elimination will be established, and multisectoral groups set up in identified provinces and districts, mirroring the structure of the GTM. These groups will facilitate situational analysis, planning of the NCP, and implementation at local level in coordination with the GTM. The situational analysis will provide the foundation to build the NCP pillar by pillar.

Planning will be conducted by the multisectoral teams established in provinces and districts for the situational analysis, coordinated centrally. Depending on the number of districts with cholera hotspots identified, this phase could be conducted through a single exercise at central level (a multisectoral workshop held in one location); with multiple exercises at provincial level that are centrally supported; or, most likely, a mix of both. Budgeting will be crucial in this phase. For this a standard tool will be developed following GTFCC guidance adapted Mozambique. After planning, the draft NCP will be presented for official validation.

The same multisectoral teams at country, province and district level will then implement the plan. Monitoring and evaluation will be a central part of implementation. The schedule for M&E is likely to include regular progress reviews in technical areas, conducted at least quarterly; ad hoc in-depth reviews, at least annually; a progress review by the coordinating body at national level at least annually; and annual progress reporting to the GTFCC.

Throughout this process, regular activities for cholera prevention and control will happen as usual while the NCP is developed.

Kenya National Multi-sectoral Cholera Elimination Plan

***Okunga Emmanuel**, Kenya Ministry of Health*

After the World Health Assembly resolution in May 2018 to implement the roadmap, Kenya held its first multisectoral cholera meeting in July the same year. Hotspot mapping was done in between March and September 2019, and in early 2021 Kenya submitted a draft of a national multisectoral cholera elimination plan (NMCEP) to the IRP. Between May and June 2021, the comments of the IRP were addressed in a new draft and the hotspot analysis was revised using more recent data.

Cholera is a priority disease in Kenya. First reported in Kenya in 1971, it has caused widespread outbreaks in 1997-1999, 2007-2010 & 2015-2020, mainly in refugee camps and informal settlements, linked to mass gatherings, or in areas bordering neighbouring countries. The most recent outbreak happened in May 2021 in Dagahaley Refugee Camp. Kenya's elimination goals for 2030 are to reduce the cholera incidence rate (excluding imported cases) to zero; to reduce the number of deaths by 90%; and to reduce the case fatality rate to 0.4%.

The NMCEP has a multisectoral coordination mechanism. The plan will be hosted by the Office of The President, with a national steering committee comprising key ministry heads, a council of governors and a number of partner representatives. A cholera advisor will advocate for funding, oversee implementation and ensure elimination targets are met. The Ministry of Health will host the secretariat for the national cholera elimination task force. Regionally, counties will implement similar structures.

Cholera hotspot mapping was revised following IRP recommendations to include recent data and apply the hotspot definition proposed by the GTFCC surveillance working group, using five-year surveillance linelist data (2015-2019). Subcounties were used as the unit of analysis in step 1, and WASH indicators then applied to reclassify subcounties classified as Low or Medium priority. A ministerial division is responsible for collecting routine WASH data, a lot of which was used in this process. 28 (10%) of sub counties were classified as hotspots, with a combined total population of 6 million.

Implementation plans are in place with set objectives and activities for all six pillars, including the following highlights. Key indicators for each pillar will be monitored and evaluated.

- **Leadership and coordination:** political commitment is required for successful NCP implementation and continued funding, so the NMCEP will be hosted in the Office of The President.
- **Surveillance and laboratory services:** surveillance will be heightened to predict outbreaks.
- **Case management:** commodities and laboratory supplies will be prepositioned in hotspots.
- **OCV:** Kenya is working on the introduction of OCV for both preventive and reactive vaccination campaigns.
- **WASH:** activities are initially focussed on the need for investment in WASH infrastructure.
- **Risk communication and community engagement:** this area is focused on engaging community actors in cholera elimination in hotspots.

A number of challenges have emerged to date. Other health emergencies are competing for attention, including the needs for preparedness and response work for Ebola and COVID-19, and broader immunization activities. These competing priorities are also reflected in surveillance bias, with surveillance officers focussed on other emergencies and cholera cases often poorly followed up. Funding to implement cholera control measures is inadequate, and human resources and technical capacity are lacking, leaving Kenya reliant on external support to bridge human resources gaps. The country lacks comprehensive and up-to-date WASH data. Crucially, OCV is not yet approved for cholera control in public hospitals and communities and is only currently available in private facilities and pharmacies. It

has also proven difficult to engage all the relevant sectors and actors during the various steps of NMCEP development.

These challenges have made it possible to identify a number of lessons. Moving coordination of the NMCEP to the Office of The President – a higher office – will supply the political leverage necessary to achieve multisectoral engagement in implementation and give cholera the national focus it requires. Other coordination structures are required at all levels of government, especially given Kenya's devolved governance structure. Up-to-date WASH data is also essential in order to reclassify hotspots properly.

More funding is needed and so further advocacy is necessary, prioritizing the cholera elimination agenda. External partners like WHO and US CDC have been crucial in providing the technical and financial support needed to move the NMCEP revision process forward, with the GTFCC tool and guidance in particular making the mapping process straightforward and reproducible without reliance on external input.

Future plans for the NMCEP are as follows. In July 2021 the NMCEP document will be validated by the wider stakeholder group, and national regulatory approval sought for OCV use in Kenya. In August 2021, the plan will be adopted and officially launched. An expert will be engaged to make a case for cholera elimination, and advocacy for domestic and external funding will begin. A strong M&E unit will be established and a multiyear plan will be drawn up for OCV introduction. All OCV requests have to go through Kenya's EPI programme, then on to the national technical advisory group on immunization. The process of pulling together this group to provide advice on the introduction of OCV has already begun. This will include advice on integration of OCV with wider EPI programmes, considering that a number of hotspot counties also have challenges with routine immunization. Integration may take priority in these contexts.

The development of the Ethiopia Multi-Sectorial Cholera Elimination Plan 2021-2028

***Mesfin Wossen Getaneh**, Ethiopia Public Health Institute*

On July 2019, Ethiopia held a high level governmental meeting that concluded with a call for the development of a National Cholera Elimination Plan to cover the period of 2021 – 2028.

This strategic document, the National Cholera Plan, was developed with the goal of a 90% reduction in mortality from cholera by 2028. The roadmap-derived multisectoral elimination strategy is organized around the six GTFCC pillars. It will be implemented in hotspot woredas (local administrative areas), which were identified using data on mean annual incidence and mean annual persistence of cholera between 2015 and 2020. Any incidence rate above 100 cases per 100 000 population was considered high, and the occurrence of cases in 5% or more of weeks in the period under consideration was considered high persistence. Using this methodology a total of 118 woredas with a combined total population of over 15 938 575 were identified.

Situation analyses and corresponding plans have been drawn up for each pillar. Baseline assessments across all intervention pillars will be conducted in the first year of the plan's implementation.

Leadership and coordination

Coordination activities for cholera preparedness and response are currently coordinated by the Public Health Emergency Centre at the Ethiopian Public Health Institute (EPHI), which provides technical and material support before, during, and after public health emergencies.

Surveillance and Reporting

Cholera is a reportable disease in Ethiopia. Reports are sent upwards from local level within 30 minutes of detection and are supposed to be with EPHI within two hours. Cholera is currently detected using both indicator- and community-based surveillance. Surveillance of climate sensitive diseases is being initiated as a supplementary measure. Rapid response teams are established at national down to woreda level.

Ten laboratories across six regions are capable of doing stool culture, polymerase chain reaction (PCR) testing and antimicrobial sensitivity tests for cholera. The National Laboratory at EPHI serves as the reference lab for all regions. EPHI also hosts a National Environmental Laboratory that tests all environmental samples.

Under the new plan surveillance will continue using the existing system, but with two new strategic objectives. The first will be to enhance early detection, confirmation, reporting, and timely response to cholera outbreaks and monitor the impact of the cholera control programme. The second will be to enhance laboratory capacity for confirmation of cholera cases, assessment of antibiotic susceptibility, and tracking strains.

Case management and infection prevention and control (IPC)

The national goal for cholera case management is to decrease case fatality rate (CFR) to under 1% and improve infection prevention and control at all levels. In 2019 CFR was 1.9% and 2020 it was 1.8%. These high levels compared to the target are due to poor infrastructure leading to substandard case management, poor health-seeking behaviours and inadequate supplies.

The goal of the new plan is to reduce CFR by 90% and ensure that no local transmission is reported. This will be done through three strategic objectives: increasing the accessibility of early treatment; strengthening health care systems; and strengthening capacity for cholera case management.

Use of OCV

Three rounds of OCV campaigns have been conducted in Ethiopia since 2019, with 97% coverage. A total of 5 328 282 OCV doses have been received from ICG over the last three years, and a total number of 5 185 220 people have been vaccinated across 45 woreda in six regions. A campaign in Tigray Region was in preparation at the time of this meeting.

The new plan has three strategic objectives for OCV: to implement reactive large-scale mass vaccination with coverage of over 90%; to implement large-scale preventive vaccination with coverage of over 90%; and to establish contingency agreements with governments, agencies and suppliers.

In service of these objectives administration of OCV will be conducted in cholera hot spot woredas for both preventive and reactive purposes, and always in conjunction with other preventive and treatment methods. Everybody over one year old will be eligible, accounting for 80% of hotspot woreda populations.

Water, sanitation, and hygiene

The general population has poor access to safe and adequate water and basic sanitation facilities. Only 7% of people have access to clean water and 6% of people have access to improved sanitation. This situation is worse in rural areas.

Future plans will be guided by three strategic objectives: strengthening emergency WASH preparedness and response; improving access to sustainable, adequate and safe water supply and sanitation services; and increasing the availability and utilization of sanitation facilities. This will be done with a combination of short, medium and long-term actions focussed on: WASH during OCV campaigns; production and implementation of a WASH emergency preparedness and response plan; WASH provision in affected communities; WASH provision in specific strategic sites; WASH provision in healthcare facilities and schools; and development of appropriate water quality monitoring.

The targets of the new plan by 2028 are to increase basic water supply from 65% to 90% and increase coverage of improved sanitation and hygiene from 6% to 80%.

Community engagement

Cholera information is communicated to people through mainstream media outlets, use of megaphones in public spaces, FM radio campaigns, outreach through religious places, and banners and brochures. Despite a great deal of work in this area it is still impossible to reach the majority of rural communities where active outbreaks are repeatedly reported.

The new plan has three strategic objectives for community engagement: mainstreaming community engagement perspectives and work into all pillars; increasing risk communication activities around mass gatherings; and increasing community engagement and community participation for early diarrheal disease detection, notification, and cooperation during OCV campaigns.

A word from the Bill and Melinda Gates Foundation

***Duncan Steele**, Bill and Melinda Gates Foundation*

The updates from the working groups and country representatives are exciting and represent important progress in the face of incredible challenges. Many countries are responding to the threat of cholera at the same time as COVID-19, outbreaks of other epidemic prone diseases, natural disasters, conflict and other issues. Their hard work and resolve in the face of adversity is commendable.

The use of OCV is an integral part of this work. But the vaccine supply is fragile, and it is important to recognize that without regular, well thought out preventative campaigns lined up by countries, it will be impossible to achieve stable demand for vaccine suppliers. Countries therefore need to ahead and set up preventive campaigns anywhere they make sense. After many years of using OCV, it is evident that this can serve as a window to heightened political and technical engagement in cholera prevention, including case management and WASH strategies.

Looking to the future, and hopefully to an imminent period time for discussion, consensus building and shaping the next steps for the GTFCC, the country-driven, country-focused approach to cholera control must be championed. With the CSP the world is closer today than it ever has been to having a mechanism to scale up that kind of support and provide the necessary services. This could be a pivotal moment for cholera control. To achieve the objectives of the roadmap a flexible, well-resourced country support mechanism is essential, and the progress on the inception and development of the CSP is highly encouraging.

However: the world needs more. Each partner of the GTFCC should consider what additional human or financial resources they can provide to the CSP as this next phase of country-focused commitment to cholera control begins. Community engagement will be crucial. It is also important also to take on board the comments and needs of country representatives: the GTFCC exists to serve their roles and bring together partners to help countries control cholera in their specific environments. Candid feedback is therefore critically important.

Forum: the key role of mutualization in implementing the Global Roadmap

This session set out to identify ways to improve mutualization of expertise, specialties, experiences and financing opportunities to support countries trying to end cholera. It was organized around three key sub-topics discussed in separate "breakout rooms" on Zoom:

1. Technical cooperation and coordination
2. Integrating monitoring and evaluation mechanisms
3. Financial mechanisms and advocacy goals tailored to countries' needs.

Each group identified a number of key recommendations. Progress towards the implementation of these recommendations will be assessed and presented in the next annual meeting.

Group 1: technical cooperation and coordination

There are clear challenges coordinating between health and WASH provision – though perhaps less so in emergencies. Different sectors tend to have very different planning and implementation timelines. To begin to solve this, high level political leadership is key. National efforts are needed to continue "selling" the NCP approach, not only during inception and development of each country's plan, but also during its implementation. NCPs are a means for coordination and information sharing. It is important to emphasise that without a strong office for national coordinators, everything else is much more difficult. Coordinators should sit in a high office, at the level of the President of Vice-President. Now that the CSP is in place, it will be important to look at strategies for financing and supporting coordinators so that they can be strong and active, coordinating and supporting line ministries and partners. The CSP can provide similar coordination at regional and global levels.

It is important to recognize that cholera is linked to many other community challenges, including education and poverty, and that ending cholera means addressing these factors as well. Multisectoral cholera working groups are a common and effective way to bring sectors together to address these problems. Another is the use of shared M&E frameworks with common indicators, expected mechanisms for action and theories of change. The intermittent nature of cholera in many places leads to clear challenges for all sectors keeping cholera on the agenda. Broader integration with other standard programmes (e.g. for diarrhoeal disease, or with the EPI) can help with this continued integration.

Three main recommendations emerged from this group:

1. Countries' NCPs should be managed above the level of a single ministry. The indicator for this could be the number of NCPs managed by supra ministerial authorities.
2. During development of NCPs, theories of change and related indicators should be aligned.
3. Systematic efforts to document multisectoral success stories are key to improving future technical collaboration and cooperation. The indicator here could be the number of related new case studies for next year.

Group 2: Integrating monitoring and evaluation mechanisms

There are various technical challenges specific to cholera, which include not only those related directly to disease, but also a range of development issues. This makes effective monitoring more complex. There are often structural funding gaps for M&E activities – for example, when funding streams are available to implement OCV campaigns but not coverage surveys. These are both linked to and exacerbated by a lack

of clarity on roles and responsibilities and a lack of M&E guidance for each pillar of cholera control. It is often not clear who is responsible for M&E at country level, and there is a need for more dedicated human resources and systems to exert effective control in this area. If planning is done around the future evaluation questions, this can help provide structure to M&E later.

A number of recommendations emerged.

- The objectives of M&E should be clarified – primarily so that countries can assess progress and impact, but also to build up a global dossier of evidence for roadmap progress.
- The M&E process should be flexible enough both to achieve adaptability to country contexts (e.g. for use in conflict and fragile settings) and to ensure standardization for global level.
- Pillar-by-pillar M&E guidance should be developed.
- An M&E framework should be included in the NCP development process from the very start – i.e. at the planning stage – and should specify implementing partners, roles and responsibilities, and the resources required.
- The M&E toolbox must be accompanied by implementation support for countries.

Group 3: Financial mechanisms and advocacy goals tailored to countries' needs

Strong and more structured cholera advocacy is urgently needed in light of post-COVID 19 funding limitations. Approaches are needed that are anchored in sustainability and supported by improved communication and collaboration between different stakeholders. "Deverticalized" approaches to cholera control are required, including for advocacy and financing. Strengthened national coordination offices are very important.

Country-level support with fundraising will be needed to ensure operationalization of NCPs and strong articulation of existing country mechanisms and resources. It will also be crucially important to include community engagement in country-level strategy to ensure that finances also contribute to this component.

Research would be useful to clarify what is lacking, and what is not being implemented once NCPs have been developed. This would help in identifying the problems and hurdles preventing implementation, resource mobilization and advocacy. If the US/Japan conference series is not to continue, the GTFCC and Wellcome will have important roles to play in filling this important gap. Coordination between different research meetings can be strengthened further, including by having delegates moving between different meetings. Partner countries should be encouraged to communicate their research needs: it is hard for researchers to know how to engage with countries in order to find research partners and ensure their work meets those countries' needs.

Three recommendations emerged:

- More structured approaches to collaboration should be developed to advance advocacy.
- Mapping should be done of existing financing mechanisms and types of support provided by partners.
- Advocacy should engage relevant ministries beyond those of health and finance.

Closing

Country engagement in cholera control is crucial. Without the full participation of countries, cholera will not be brought to an end.

2030 is now only eight years away, but clearly a great deal of work still lies ahead. If the GTFCC targets are to be met, inputs will need to be maximized and mutualized.

Thanks are due again to the IFRC for the progress on the CSP over the last year. A great deal of advocacy at regional and global level will be needed around this platform in the coming year, looking at how best to harness the abilities and capacities of GTFCC partners through the CSP mechanism. A powerful tool has been created within the GTFCC framework, and work is now needed to establish how best to use it to strengthen programmes in countries.

Agenda

Tuesday, 8 June 2021

Session	Content
14.00 – 14.10	**Welcome remarks** – Frew Benson, GTFCC Chairperson
14.10 – 15.00	**Update from the GTFCC** *During this session the GTFCC secretariat will present the progress made over the past year.* • **Update from the GTFCC Secretariat –** Philippe Barboza, GTFCC Secretariat • **Presentation of the *Independent Review Panel* mechanism –** Daniele Lantagne, Tufts University and Chair of the most recent IRP review (Kenya NCP) Questions & Answers
15.00 – 15.45	**Latest developments of the Country Support Platform** *During this session up to date information on the progresses made in the establishment of the Country Support Platform officially launched in October 2020 will be presented and the first four countries hosting a CSP representation will be introduced. We will also hear from the recent experience of CSP deployment to support Mozambique.* • **Update on the development of the CSP: from the inception to the operational phase** – Annika Wendland, CSP / IFRC • **Countries speak out: Developing the National Cholera Elimination Plan in Mozambique** – Dr. Jose Paulo Langa, INS Mozambique Questions & Answers
15.45 – 16.50	**Pre-meeting survey – Progress survey**
15.50 – 16.00	**Coffee Break**
16.00 – 16.45	**Key achievements of the Working Groups** *During this session the chairs of the working group will present the progress made since the last meeting in October 2020, the challenges and the programme of work for the coming months. The session will be the occasion to discuss cross cutting topics.* • Surveillance – Marc Gastellu-Etchegorry, Epicentre & Marie Laure Quilici, Institut Pasteur • Update on the Cholera database – Elizabeth Lee, JHU Questions & Answers
16.45 –17.00	**Wrap up & Conclusions**
17.00	**End of Day 1**

WEDNESDAY, 9 June 2021

Session	Content
14.00 - 14.05	**Welcome back** – Frew Benson, GTFCC Chairperson
14.05 – 14.50	**Key achievements of the Working Groups (cont.)** • Oral Cholera Vaccine – Malika Bouhenia, GTFCC OCV focal point (10 minutes) Questions & Answers (5 minutes) • Water, sanitation and hygiene – Dr Nurullah Awal, WaterAid (10 minutes) Questions & Answers (5 minutes) • Case management - Iza Ciglenecki, MSF (10 minutes) Questions & Answers (5 minutes)
14.50 – 15.00	**Community Engagement** – Kate Alberti, GTFCC Secretariat *In March 2021, a first group discussion on the key role of CE and how to integrate this crosscutting aspect into the work carried out by the GTFCC Working Groups was held. This session will present the first conclusions and identified next steps.* Questions & Answers
15.00 – 15.20	**Update on the Cholera Research Agenda** *This session will be an opportunity to share progress made on the Cholera Research Agenda and the development of a research projects tracker.* • Recent developments of the Cholera Research Agenda – Elizabeth Klemm, Wellcome Trust • Demonstration of the *Research Projects Tracker* - Video Questions & Answers
15.20 – 15.30	**Coffee Break**
15.30 – 15.45	**Assessing progress** – Marion Martinez Valiente, GTFCC Secretariat *The GTFCC has developed a high-level monitoring framework to assess progress against key milestones, which is aligned with SDG milestones. Where do we stand today to operationalize and implement this framework?*
15.45 – 16.15	**Countries Speak out – Zoom on Kenya National Multi-sectoral Cholera Elimination Plan** – Dr Okunga Emmanuel, Kenya Ministry of Health Questions & Answers
16.15– 16.45	**Countries Speak out – The development of Ethiopia Multi-Sectorial Cholera Elimination Plan 2021-2028** – Mr. Mesfin Wossen Getaneh, Ethiopia Public Health Institute Questions & Answers
16.45 –17.00	**Wrap up & Conclusions**
17.00	**End of Day 2**

THURSDAY, 10 June 2021

Session	Content
14.00 - 14.15	**Forum: the key role of mutualization in the implementation of the Global Roadmap** *This session aims to identify ways to better mutualise our respective expertise, specialties, experiences and opportunities for financing, to support countries to achieve our final common goal to End Cholera.* *This "Forum" session is organized around three key sub-topics that will be discussed in separate "breakout rooms".* 1. *Technical cooperation and coordination* 2. *Integrating monitoring and evaluation mechanisms* 3. *Financial mechanisms and advocacy goals tailored to countries' needs* *At the end of the discussion, we aim at having identified one to three key recommendations per break out group. Progress made towards the implementation of this set of key recommendations will be assessed and presented during the next Annual Meeting.*
14.15 – 15.30	**Breakout groups: the key role of mutualization in the implementation of the Global Roadmap** 1. **Break-out Room 1: Technical cooperation and coordination** • *Moderator: Nick Thomson, Sanger* • *Rapporteur: Andrew Azman* 2. **Break-out Room 2: Integrating monitoring and evaluation mechanisms** • *Moderator: Louise Ivers, Harvard Medical School* • *Rapporteur: Lorenzo Pezzoli* 3. **Break-out Room 3: Financial cooperation aligned with countries needs and advocacy** • *Moderator: Francis Bwalya, Zambia* • *Rapporteur: Kerstin Hanson*
15.30 – 15.45	**Coffee Break**
15.45 – 16.15	**Plenary session: key outcomes and recommendations from the breakout groups** *Reporting to plenary session*
16.15 – 16.30	**Meeting Summary & Closing remarks –** Philippe Barboza, GTFCC Secretariat & Frew Benson, GTFCC Chairperson
16.30	**End of Meeting**