



# **The Climate Crisis and Cholera: Integrating Data and Research to Inform Decision Making**

**22 February 2023 – Technical workshop  
on research and surveillance needs**

**23 February 2023 – Open discussion  
forum with GTFCC partners**



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# Concept note

## The current cholera crisis

The World Health Organization (WHO) has recently raised the cholera crisis to a grade 3 emergency – the highest within WHO’s internal grading system – due to high case fatality rates, severe OCV supply limitations, and an increased likelihood for further spread. The current situation has led global partners and stakeholders to rightly funnel resources toward outbreak response. Alongside this, we can also use this time to identify what we can do to prepare for the future and help reduce the chance of this crisis continuing or repeating.

The Steering Committee of the Global Task Force on Cholera Control (GTFCC) identified climate as a key issue of concern in a recent statement, which was published in response to the ongoing crisis. As such, members of the GTFCC partnership – led by Wellcome – are holding a virtual event focused on understanding climate change’s role in cholera transmission and outbreaks. This event will be divided into two days of separate programming:

- a closed, technical workshop aimed at identifying key research themes, data challenges, and best practices, and;
- an open advocacy and communications forum, focusing on information-sharing and updates from countries and partners, followed by brainstorming around a call for stronger research and data on the connection between climate and cholera.

## Connecting cholera & climate

There is existing and ongoing research examining the link between climate and cholera which is now beginning to expand out to include climate change; however, some of the evidence is missing, contradictory or is not as useful as it could be for people making decisions about cholera prevention and control. Anecdotal observations have suggested that many recent cholera outbreaks have been started by (or amplified by) climate emergencies, and that the incidence, prevalence, and transmission of cholera is multiplied as climate change progresses. As such – to ensure that cholera prevention and response efforts are pursued with accuracy and timeliness – there is a need to integrate knowledge and data on climate within pre-existing cholera control systems so that is a robust evidence base for messaging and action. These systems include strengthening: surveillance (including laboratory and epidemiologic capacity); supporting water, sanitation, and hygiene (WASH) services and infrastructure, and planning for both preventive and reactive oral cholera vaccination (OCV) campaigns.

Climate has potential to influence cholera in numerous ways. For example, incidence rates are often correlated with seasonal trends, particularly in cholera-endemic countries where rainfall, temperature changes, varying levels of sunlight, and variations caused by El Niño-Southern Oscillation can impact water access and accelerate the spread of the disease. Although these variations are known to influence the epidemiology of cholera, they can also affect the implementation of cholera prevention strategies, with wet seasons and/or monsoons requiring carefully-timed vaccination campaigns to ensure effectiveness in advance of significant rainfall. These weather conditions also prevent health care workers from reaching isolated, rural communities, where vaccine administration and delivery of hygiene kits are critical. Alongside routine seasonality, climate change is leading to more extreme weather events – including droughts, flooding, cyclones, etc. – all of which increase the risk of enteric diseases for example through affecting water and food access, damaging WASH and other critical infrastructure, and contaminating the water supply. This reality has highlighted a need to connect climate scientists with cholera stakeholders in endemic countries, thus creating a

better understanding of the interrelationship between climate and cholera, in turn helping to identify trends and areas for collaboration.

## **This event**

While the severity of the current situation cannot be overstated, the global community must continue looking towards the future with discernment –as reactive responses continue to outpace preventive efforts, the ability to achieve the goals set forth in the Ending Cholera by 2030 global roadmap becomes challenging. Given the prominence of climate change as a driver of cholera within global discourse, an opportunity has arisen to evaluate current knowledge, understand gaps, and improve our understanding of this interrelationship. This will mean that, once the current crisis is brought under control, the global community will be better positioned to include climate change in their focus when they pivot back towards longer-term prevention efforts.

The event will also be leveraged to inform an in-person side event which is expected to occur on the side lines of the UN Water Conference in March 2023 which will feature interactive dialogues focusing on water for health, development, climate, resilience, and environment.

## **Meeting objectives**

- Examine the interconnectedness between climate and cholera, including the role of gradual climate changes and extreme climate events in driving recent outbreaks;
- Discuss the value of bringing climate and cholera surveillance data together
- Identify and discuss gaps and opportunities for improvement, for example how to operationalise the use of climate information to inform real-time cholera decision making
- Identify key climate and cholera research themes and potential research priorities, including connections with the Cholera Roadmap Research Agenda and the broader GTFCC strategy;
- Discuss methods for enabling greater collaboration between cholera stakeholders and climate scientists;
- Share perspectives on current advocacy efforts and brainstorm ideas for integrating climate into future planning.

## **Outputs**

- Meeting report outlining key overlapping research themes, to be used in developing a climate-focused annex to the GTFCC Research Agenda
- Working connections made between climate scientists and cholera stakeholders, including policymakers.

# Agenda

**Day 1 – 22 February 2023**

**Technical research workshop (invite-only session)**

**Run-time: 4 hours, 12:00 – 16:00 GMT / 13:00 – 17:00 CET**

Time GMT / CET	Session	Speaker/format
12:00 GMT 13:00 CET	<b>Session 1: Where we are now: Overview of the Cholera Roadmap Research Agenda &amp; a selection of research and evidence on the impact of climate on cholera</b> <ul style="list-style-type: none"> <li>Cholera Roadmap &amp; Research Agenda (5 minutes)</li> <li>Current evidence and ongoing studies on the impacts of climate and cholera (10–15-minute talks from researchers)</li> <li>Questions (15mins)</li> </ul>	<p><i>Format: Presentations</i></p> <p>Introduction to the event: Philippe Barboza (GTFCC) Wellcome</p> <p>Research presentations:</p> <ul style="list-style-type: none"> <li>Andrew Azman and Javier Perez-Saez, Johns Hopkins School of Public Health</li> <li>Alyce Taylor Brown, Wellcome Sanger Institute</li> <li>Sam Kariuki, KEMRI</li> <li>Ben Zaitchik, Earth and Planetary Sciences, Johns Hopkins University</li> </ul> <p>Q&amp;A facilitator: Becky Knowles, Wellcome</p>
13:00 GMT 14:00 CET	<b>Session 2: Panel discussion: How can climate and surveillance data be utilized to better inform decision making?</b> <p>Panel discussion focusing on solution-oriented approaches to enable climate information to be used in the future for cholera prevention &amp; control. Topics covered will include:</p> <ol style="list-style-type: none"> <li>Decisions at the country-level would benefit from having climate &amp; cholera information</li> <li>The opportunities &amp; challenges of using climate information to inform decisions around cholera</li> </ol>	<p><i>Format: Round-table discussion with different decision-makers and/or implementers.</i></p> <p>Facilitator: Madeleine Thomson, Wellcome</p> <ul style="list-style-type: none"> <li>Dr Catherine Kiama, Kenyan Ministry of Health</li> <li>Rachel Goodermote, IFRC</li> <li>Dr Hannah Nissan, Willis Towers Watson</li> <li>Dr Flavio Finger, Epicentre MSF</li> </ul>

	<p>forecasting, prevention and interventions</p> <p>3. What “good” could look like when it comes to using climate information for predicting and preparing for cholera</p>	
<p>13:45 GMT</p> <p>14:45 CET</p>	<b>Break</b>	
<p>14:00 GMT</p> <p>15:00 CET</p>	<p><b>Session 3: Integrating climate and surveillance data</b></p> <p>This breakout discussion session will aim to identify the key research themes and some exemplar topics/questions that could be used to form a framework and guide the development of a climate-focused annex to the Cholera Roadmap Research Agenda.</p> <p>Some suggested themes to discuss:</p> <ul style="list-style-type: none"> <li>• Scientific understanding of associations</li> <li>• Technical &amp; methodological challenges</li> <li>• Application to decision making and public health interventions</li> </ul>	<p><i>Format: Breakouts groups</i></p> <p>Introduction and instructions: 5mins</p> <p>Breakouts rooms: 45 – 50 mins.</p> <p>There will be a moderator and rapporteur from Wellcome in each virtual room.</p>
<p>15:00 GMT</p> <p>16:00 CET</p>	<p><b>Session 4: Next steps for shaping an annex to the Cholera Roadmap Research Agenda</b></p> <ul style="list-style-type: none"> <li>• The context for developing an annex to the cholera agenda - how should/could we incorporate different timelines and geographies</li> <li>• Who are we missing from these conversations?</li> <li>• Are there any meetings or upcoming opportunities we could utilise to continue the discussion?</li> <li>• How can we enable better collaborations going forward, particularly between climate &amp; cholera scientists?</li> </ul>	<p>Facilitator: Becky Knowles, Wellcome</p>
<p>16:00 GMT</p> <p>17:00 CET</p>	<b>Close</b>	

## Day 2 – 23 February 2023

### Open discussion forum with GTFCC partners

Run-time: 3 hours, 13:00 – 16:00 GMT / 14:00 – 17:00 CET

Time GMT / CET	Session	Speaker/format
13:00 GMT 14:00 CET	GTFCC Advocacy and Communications Overview <ul style="list-style-type: none"> <li>– Recap of technical session, followed by an overview of GTFCC advocacy and communications</li> <li>– Highlighting the GTFCC Advocacy Task Team and the partnership-led approach</li> <li>– Leveraging the Cholera Roadmap Research Agenda</li> </ul>	<ul style="list-style-type: none"> <li>• Marion Martinez Valiente (GTFCC Secretariat)</li> <li>• Annika Wendland (GTFCC Country Support Platform)</li> <li>• Jayanthi Palani (GTFCC Country Support Platform)</li> <li>• James Fishon (GHV)</li> <li>• Helen Groves (Wellcome) and James Fishon (GHV)</li> </ul>
14:00 GMT 15:00 CET	Updates from cholera-affected countries	<ul style="list-style-type: none"> <li>• Dr Emmanuel Okunga, Epidemiologist, Kenyan Ministry of Health</li> <li>• Dr Placide Okitayemba Welo, Ministry of Health, Democratic Republic of the Congo</li> <li>• Dr Sebastian Yennan, Nigeria (TBC)</li> </ul>
15:00 GMT 16:00 CET	Updates from partners  Q&A	<ul style="list-style-type: none"> <li>• Global Wash Cluster (GWC) - Monica Ramos and Aliocha Salagnac</li> <li>• WaterAid – Arielle Nylander</li> <li>• Gavi – Allyson Russell</li> </ul>
16:00 GMT 17:00 CET	<b>Close</b>	<ul style="list-style-type: none"> <li>•</li> </ul>

# Delegate list

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# Virtual event guide

## Etiquette for attending a virtual event

### Pre-event:

- Make sure you have read the housekeeping slide at the beginning of the event
- Mute your microphone if you are not speaking
- Follow the chairs instructions on how to ask questions and the etiquette for the event.

### If you are invited to speak on video, please consider the following:

Lighting: light can play a major role in how others see you. Make sure the light source is not behind you and that your face is well lit.

Background: when joining remotely, your background is important as others can see what is happening behind you. Choose a spot with a neutral background, which doesn't distract your participants. Make sure you are comfortable sharing with friends, colleagues and guests.

### During the event:

- To gain access to the meeting, click the link you received via email or calendar invite. We recommend you join your live event via the programme's computer or phone application. If you do need to join via a web browser, please use Google Chrome. You will also have the option to join by phone
- Make sure to mute your microphone and video unless you are a presenter and about to speak
- If at any time you lose connection, please leave the call and re-join. If you are still experiencing connection issues, we will provide you with a recording of the event, where possible.

## System requirements

To ensure you have the best possible experience, the following system requirements and advice is recommended.

- Are you using public Wi-Fi or 4G?: check your download and upload speeds at speedtest.net. Are your download and upload speeds at the low end of the metre? If so, you are more likely to have problems with your call
- For a better connection: sit close to your Wi-Fi router or plug your computer directly into your router via an ethernet cable if possible
- Capping: some internet service providers cap usage during busy periods, even with unlimited packages, in an attempt to reduce a drop-in service. Potentially this means that your speeds are likely to vary more frequently, especially as there is an increased number of people working from home
- Check your household usage: are multiple people running a video conference or streaming content (online gaming, films, downloading data) at the same time? Try to co-ordinate your usage to limit the pressure on your home internet service, think about disconnecting other devices not in use
- Video quality low or jumpy: try switching to audio only but remember to consider your fellow participants. If someone is trying to lip-read or is looking to you for visual signals, try to improve your connection and only switch to audio as a last resort

- Laptop Battery: when using a laptop, make sure your computer isn't low on battery. Plug-in the power supply and if using a Windows machine, change your power settings to "high performance"
- Recommend use of a headset or headphones: Using headphones instead of your computer speakers will minimise feedback throughout your event.

## Code of Conduct and guidance

We are committed to providing a safe and welcoming environment for everyone regardless of their gender, race, religion sexuality, disability or socio-economic status. We are dedicated to creating an inclusive space where topics can be openly discussed by everyone who attends a Wellcome event, and the diversity of opinion is valued.

### At the event

- Be respectful of each other and of the confidential nature of some of our events, recognising that individuals may be sharing unpublished work
- Although the lead language for most of our events may be English, it may not be everyone's first language. Please be understanding and respectful of the audience that you are presenting to or participating with
- Cultural diversity can create situations where differences in approaches may cause misunderstanding. Please work together to respect each other's differences and make everyone feel a part of the group
- Act fairly, honestly, and in good faith with other participants
- Please keep mobile phones to silent during the event to minimise disruption
- Please remember to mute microphones during presentations
- There will be scheduled breaks during the event. If you need to leave the event for a break at any other time, please feel free to do so
- There may be opportunities during a Q&A session to ask questions, please follow the guidance of the chair/host on how to do this.

If you need any additional help during the event, please ask a Wellcome member of staff who will do their best to help you.