
Cholera Surveillance: Perspectives from the Eastern Mediterranean Region

EPI-WIN Webinar

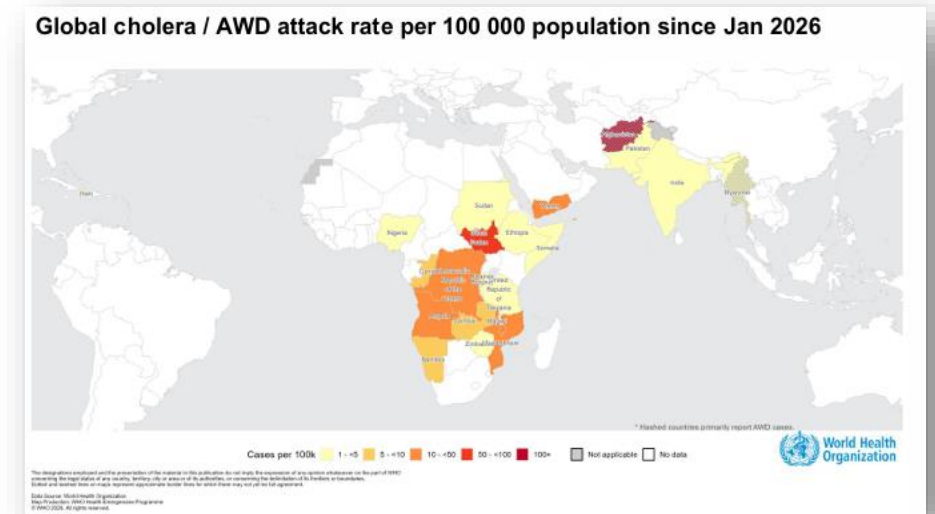
3 June 2026



World Health
Organization

Presentation Outline

- Regional situation
- Cholera in EMR
- Cholera surveillance in EMR
- Data summaries: reporting to RO
- EMRO Support to Strengthen Cholera Surveillance
- CFR guideline tool
- Challenges
- Key Takeaways



Regional Situation

▪ **Half** (117 M) of global humanitarian burden (241 M);

- 9 out of the 22 countries: classified as FCV
- Significantly weakened or disrupted health systems.

▪ **14 graded** emergencies:

- **1 in 3** global graded emergencies is in EMR;
- 7 level-3 ; 7 complex crisis;
- Gaza and Sudan – worst humanitarian crisis;

▪ Source of **50%** of refugees and host **40%** of global IDP burden;

▪ **560** attacks on Healthcare (1792 deaths) in 2025;

- 40% of all attacks and 90% of all deaths documented globally;

▪ **44** active outbreaks in 2026; 60+ public health events;

- Affecting **13 MS (Cholera, Dengue, Measles, Malaria)**

Record needs, increasing vulnerabilities and plummeting funding;



Cholera Situation in the Eastern Mediterranean Region

6 Countries officially reporting cases in the **2025**

- Afghanistan, Djibouti, Pakistan, Somalia, Sudan, Yemen (also imported cases)

5 Countries officially reporting cases in the **2026**

- Afghanistan, Pakistan, Somalia, Sudan, Yemen

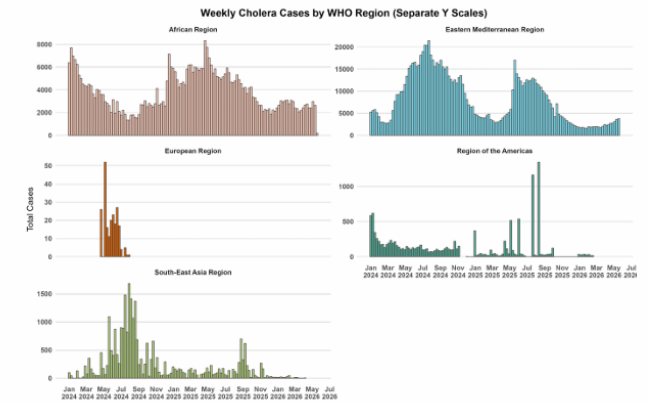
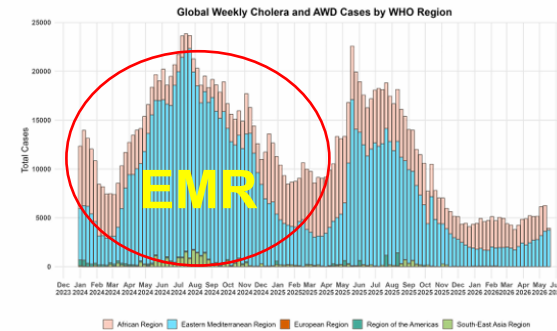
1 Country with CFR >1%

47,289 cases reported in 2026 (47% of the global cases)

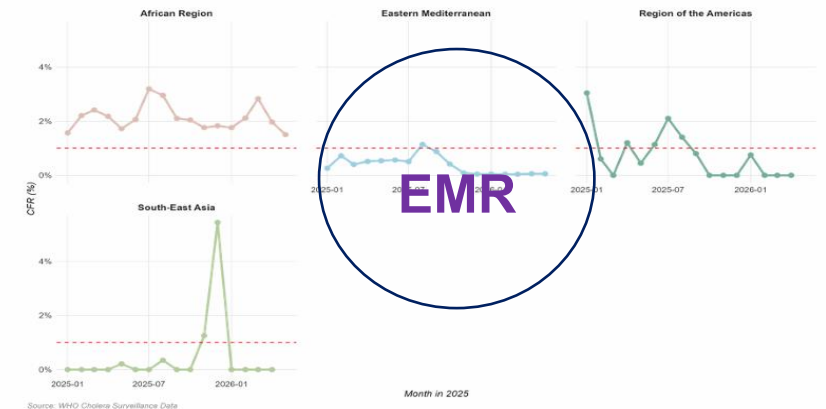
↓ decreasing trends in 2026



1 January to 24 May 2026 (W21)



Monthly CFR, 1 January 2025 to 24 May 2026. The red dashed line marks WHO's 1% emergency threshold.



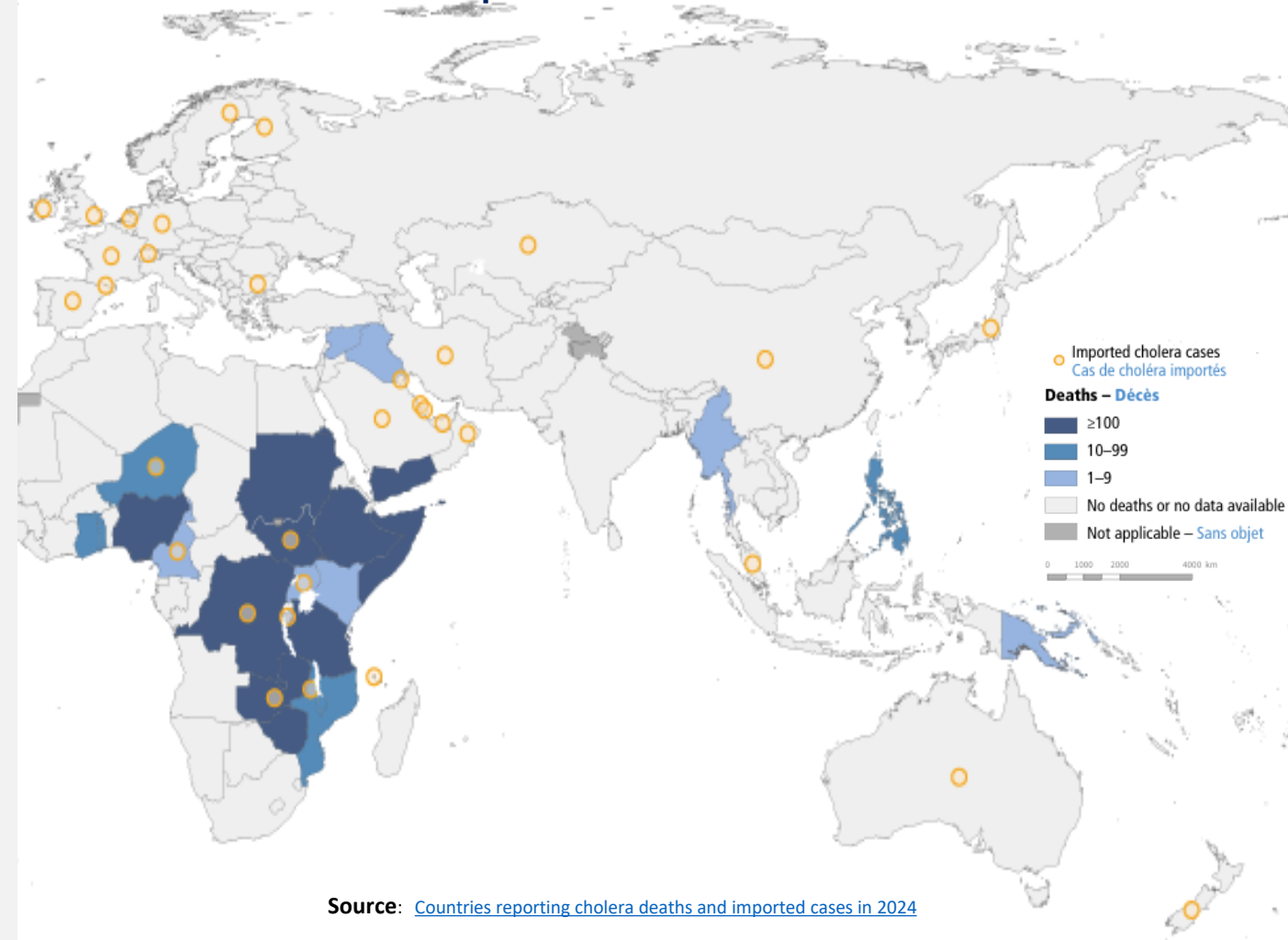
Please interpret the data presented here with caution due to reporting delays in several countries, especially for the most recent weeks. Figures may also vary based on data availability.

*The figure of the Western Pacific Region is not included due to limited availability of monthly data

Cholera surveillance in EMR

- All 22 countries categorize cholera as '**immediately reportable**' as part of routine surveillance.
- **EWARN/EWARS/IDSR** systems are implemented in Afghanistan, Djibouti, Iraq, Libya, Pakistan, Somalia, Sudan, Syria, and Yemen, serving as the main platform for cholera/AWD surveillance and reporting in several high-risk countries; however, their functionality and performance require assessment.
 - Data is collected at **sub-national** level and is based on sentinel sites, and the aggregated data is collected by **sex and age**.
- **Stable countries:** case-based reporting as it is considered as outbreak.
 - Other countries in the region also report very few numbers, and most are categorized as **imported cases**.
- **Confirmation:** Through; RDTs, culture and PCR is being conducted according to the "surveillance testing strategy" who met the case definition.
 - Sample collection, transport and testing is affected by **accessibility/security** conditions, as well as availability of resources, supplies, reagents.

Imported cases and deaths



Source: [Countries reporting cholera deaths and imported cases in 2024](#)

Data summaries: reporting to RO

- Weekly epidemiological bulletins reporting suspected/confirmed cases, deaths, CFR, and geographic spread.
- EWARS/EWARN/IDSR reports summarizing AWD/cholera alerts, verification status, and response actions.
- Laboratory reports providing testing results and confirmation rates.
- Case-based surveillance data and line lists for detailed epidemiological analysis.
- Event-based surveillance notifications for unusual clusters and emerging outbreaks.
- Outbreak investigation reports documenting risk assessments and response measures.
- Regional updates consolidating country data, trends, risks, and operational challenges (if available) presented.

Different ways of sharing cholera data

Somalia summary data for Cholera from December 20

Region	District	21-Dec		22-Dec		23-Dec		24-Dec		25-Dec		26-Dec		27-Dec		28-Dec		29-Dec		30-Dec		Total	
		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
TOTAL																							

Excel sheets

Ministry of Health & Welfare
Federal Government of Somalia

Weekly Cholera Situation Report
Epidemiological Week 4 (17th - 23rd January, 2021)

KEY FIGURES

- A total of 89 new suspected cases of cholera were reported in week 4 (from Day 15) and Somalia (78 cases) regions.
- No deaths were reported in the during this week.
- A cumulative total of 220 cases including 1 death were reported from 29th December 2020 until 23rd January 2021 in 2 regions.
- All cholera cases reported during this outbreak have never received Oral Cholera Vaccine (OCV).
- 89 new suspected cases with no deaths.
- 84% of the new cases are female.
- 34% of the cases are aged <2 years.
- 0.5% cholera deaths are <2 years.
- 17 local affected districts affected by cholera outbreak.
- Cumulatively, 220 cases and 1 death (CFR 0.5%) reported since 29th December 2020 - 23rd January 2021.

Weekly epidemiological bulletins

Weekly epidemiological bulletins

Ministry of Health & Welfare
Federal Government of Somalia

Cholera cases in Somalia Week
Report No. 49 - 23 Aug up to 19 Nov 2020

Cholera cases in Somalia week 49
Week 49
238 cases
16.6% of total population

Cholera cases in Somalia week 49
Week 49
238 cases
16.6% of total population

PPTs

PPTs

The RO relies on a combination of weekly bulletins, EWARS/EWARN/IDSR reports, laboratory data, and outbreak notifications, to monitor cholera trends, assess risks, and guide regional preparedness and response efforts.



EMRO Support to Strengthen Cholera Surveillance

- Strengthening **Surveillance Coordination**: Facilitated countries, regular coordination mechanisms to improve cholera surveillance performance, data sharing, alert verification, and cross-border information exchange.
- Guiding **Surveillance System Enhancement**: Supported countries in reviewing and strengthening cholera surveillance frameworks, integrating surveillance priorities into national preparedness and response plans, and aligning with regional and global standards.
- Building **Surveillance Capacity**: Trained surveillance officers, epidemiologists, Rapid Response Teams (RRTs), and laboratory personnel on case detection, reporting, outbreak investigation, data analysis, and information sharing.
- Promoting **Surveillance Innovation**: Encouraged the adoption of electronic reporting systems, digital surveillance tools, standardized data collection methods, and real-time monitoring platforms to improve timeliness and data quality.
- Strengthening **Early Warning and Risk Intelligence**: Supported countries in conducting cholera risk assessments, hotspot mapping (PAMIs), surveillance capacity assessments, and strengthening event-based and indicator-based surveillance systems.
- Enhancing **Data Management** and Analytics: Standardized surveillance data collection and reporting, initiated the development of a regional cholera surveillance data hub, and promoted the use of surveillance data for evidence-based decision-making.
- Improving **Laboratory-Surveillance Linkages**: Supported countries in strengthening laboratory confirmation capacity, expanding the use of Rapid Diagnostic Tests (RDTs), and improving integration between epidemiological and laboratory surveillance.
- Supporting **Surveillance Preparedness and Performance Monitoring**: Conducted simulation exercises, after-action reviews, and surveillance assessments to identify gaps, test detection and reporting mechanisms, and improve system readiness.
- Facilitating **Knowledge Sharing** and Best Practices: Convened regional technical platforms and GTFCC meetings to promote exchange of experiences, innovations, lessons learned, and successful surveillance approaches across countries.

The Regional Office supports and encourages countries in building sensitive, timely, integrated, and data-driven cholera surveillance systems, enabling earlier detection of outbreaks, improved monitoring of transmission patterns and hotspots, stronger risk assessment, and more effective public health action.

Cholera CFR Guideline Tool

cholera_cfr_epidemiology_tool-5.html

DEMO

Cholera CFR Investigation Guide

A structured clinical and epidemiological assessment tool aligned with GTFCC 2024 guidelines. Identify root causes of high Case Fatality Rates and receive AI-powered recommendations.

- 6-step structured assessment
- GTFCC 2024 aligned benchmarks
- AI interpretation & guidance
- Real-time suggested questions
- Comprehensive summary report
- Cited sources & links

Begin Assessment

LEVEL 1 — ISSUE CONFIRMATION
 What is the current weekly Case Fatality Rate (CFR)?
 The WHO/GTFCC alert threshold is >1% per week in cholera treatment facilities. A CFR above this threshold requires a structured root-cause investigation.

1.1 % / week

CFR 1.1% — Exceeds the 1% threshold. Full investigation required. This report guides the systematic root-cause analysis.

LEVEL 2 — DEATH TIMING INDICATOR
 When are deaths primarily occurring relative to admission?
 Select one or both death timing patterns. This determines which direct causes and measurement indicators apply to your investigation. Deaths within 4 hours typically indicate access/presentation issues; deaths after 4 hours indicate quality-of-care issues.

Death within 4 hours of admission
 Measures: Late presentation — % severe dehydration; % brought-in-dead (BID) **Early death**

Death more than 4 hours of admission
 Measures: Quality of care — % receiving treatment within 30 mins-1 hr **Late death**

LEVEL 3 — MEASUREMENT DATA
 Enter measurement data for selected indicator(s)
 These measurements quantify the severity of late presentation and/or quality-of-care failures. Use data from CTC registers and patient records.

INDICATOR — Late death
 Quality of care: % receiving treatment within 30 mins-1 hr
 % receiving appropriate treatment within 30 mins-1 hour
 60 %

LEVEL 4 — DIRECT CAUSES
 Identify direct causes contributing to the high CFR
 Check all causes you have identified or strongly suspect. Each selected cause will generate specific indicator data collection in the next step. You can select multiple causes.

LATE DEATH:

- Shortage of staff
- Shortage of essential supplies
- Limited facility capacity
- Ineffective triage system
- Poor case monitoring
- Poor providers' clinical skills

LEVEL 5 — CAUSE-SPECIFIC INDICATOR DATA
 Enter data for each identified cause
 Provide quantitative values where available. Use field records, registers, and direct observation. This data feeds the AI interpretation at the summary stage.

Shortage of staff
 Provider-to-patient ratio
 1:10

View Summary →

Assessment Summary

Complete overview of your CFR investigation inputs

Weekly CFR: 2.0% / week — Above threshold. Immediate investigation required.

INDICATORS & MEASUREMENTS

Category	Value
Death timing — Death more than 4 hours of admission	Late death
% receiving appropriate treatment within 30 mins-1 hour	10%

IDENTIFIED DIRECT CAUSES (3)

Cause	Status
Shortage of staff	Action needed
Limited facility capacity	Action needed
Poor providers' clinical skills	Action needed

Get AI Interpretation & Recommendations **New Assessment**

AI suggested questions — click to ask

- What percentage of staff are trained in cholera case management protocols?
- What is the average patient-to-staff ratio during peak cholera admission hours?
- How many cholera treatment beds are available versus the number of patients admitted daily?
- What specific clinical skills gaps were identified among providers managing cholera cases?



Challenges

- **Timely access** to cholera data remains a challenge, with surveillance information not always shared regularly or rapidly enough to support early warning, regional risk assessment, and coordinated action.
- Cholera outbreaks are **not always officially reported or declared** at an early stage, often due to concerns about potential impacts on trade, tourism, travel, and the national economy. This can delay public health interventions and resource mobilization.
- Cholera surveillance is often **not prioritized** during non-outbreak periods, resulting in limited investments in preparedness, routine surveillance, and system strengthening before outbreaks occur.
- Surveillance **coverage remains uneven**, particularly in remote, underserved, and conflict-affected areas, leading to missed cases and an incomplete understanding of the true burden of disease.
- **Underreporting** of suspected cholera cases continues to be a concern, driven by limited healthcare access, weak reporting mechanisms, and variable implementation of surveillance standards.
- **Laboratory capacity** for cholera confirmation remains insufficient in some settings, with challenges related to specimen collection, transportation, testing capacity, and timely reporting of results.
- Surveillance systems are often **fragmented**, with epidemiological, laboratory, and environmental data managed through separate platforms, limiting comprehensive analysis and interpretation.
- **Data quality**, completeness, and consistency vary across countries and reporting levels, making it difficult to compare trends and generate a coherent regional picture.
- **Conflict, insecurity, population displacement**, and restricted access continue to affect surveillance performance, particularly in humanitarian settings where cholera risks are highest.
- **Cross-border information** sharing remains limited, despite the increasing role of population movement in the spread of cholera across countries and regions.
- Surveillance data are **not always fully utilized** for action, including hotspot identification (PAMIs), risk prediction, preparedness planning, and anticipatory response measures.

Key Takeaways

- **Cholera remains a significant public health and health security threat** across the EMR, particularly in countries affected by conflict, displacement, and weak health systems.
- **Surveillance is the cornerstone of cholera preparedness and response**, enabling early detection, rapid outbreak investigation, and timely public health action.
- **Humanitarian crises continue to challenge surveillance performance**, leading to underreporting, delayed detection, and gaps in geographical coverage.
- **Early Warning Alert and Response Systems (EWARS/EWARN/ IDSR)** play a critical role in detecting cholera outbreaks, particularly in fragile and emergency settings.
- **Laboratory confirmation capacity remains uneven across the region**, highlighting the need for stronger diagnostic networks and specimen referral systems.
- **Timely data sharing and cross-border collaboration are essential** to identify and mitigate the risk of regional spread and imported outbreaks.
- **Digital surveillance innovations**, including real-time reporting, automated dashboards, GIS mapping, and integrated data platforms, are improving outbreak monitoring and decision-making.
- **Risk-based and predictive surveillance approaches** are increasingly important to address the growing impact of climate change, population movements, and environmental vulnerabilities.
- **Integration of epidemiological, laboratory, and environmental surveillance data** is needed to strengthen situational awareness and support targeted interventions.
- **Sustained investment in surveillance systems, workforce capacity, laboratory networks, and data governance** is critical to achieving cholera control and elimination goals in the region.

Thank you

posters

The image displays three informational posters for cholera, each with a white background and blue accents. The posters are arranged horizontally. The leftmost poster is titled 'Cholera Information for the general public on oral rehydration solution'. The middle poster is titled 'Cholera Information for health workers'. The rightmost poster is titled 'Cholera Information for food handlers'. Each poster contains the following sections: 'Sources of infection' with a diagram of a person and a magnifying glass; 'Types of exposure & prevention' with a list of bullet points and small icons; 'Symptoms' with five small illustrations of people showing different symptoms; and 'Actions to take in case of symptoms' with a list of instructions and a small icon of a person. The World Health Organization logo is visible in the bottom right corner of each poster.

Information for the general public about oral rehydration solution

Information for health workers

Information for food handlers

Resources:

- **Cholera:** <https://www.emro.who.int/health-topics/cholera-outbreak/index.html>
- **Information & resources:** <https://www.emro.who.int/health-topics/cholera-outbreak/resources.html>