

Cholera surveillance for health authorities

Module 2



GLOBAL TASK FORCE ON
CHOLERA CONTROL

Cholera surveillance for health authorities

Core functions
& definitions



What will you learn?

- **Core functions of health authorities** in cholera surveillance
- Cholera **case definitions**
- Cholera **outbreak definitions**



Health
authorities'
core functions

Core functions

**Core surveillance functions are performed by health authorities
at all times in all surveillance units independent of the cholera situation**

Oversee
reporting
and testing



Transmit,
analyze,
interpret data



Investigate
(case investigation
& field investigation)



Disseminate
outcomes



Guide
prevention and
response



A photograph showing a temporary medical facility. In the foreground, a person lies on a green metal cot, wearing a light blue shirt and white pants. A white cloth is draped over their head. To the left, another person is partially visible on a similar cot, wearing a red shirt. The background shows more cots and a white tent-like structure. A red bucket is on the ground in the lower right. A teal text box is overlaid on the left side of the image.

Reporting and testing

Detection & reporting

Health facility-based, community-based, event-based surveillance

Health facility-based surveillance reporting sites

Any institution with **outpatient and/or inpatient facilities**

- **Health centres, hospitals, clinics, private practices**
- Cholera treatment centres (**CTCs**), cholera treatment units (**CTUs**)
- Oral rehydration points (**ORPs**)
- Etc

Reporting by health facilities

Standard case-based data is reported by health facility-based surveillance

► Case-based data

- **Individual information** on each suspected cholera case
- Recorded in a **case report form** or a **line list**

► Standard data

- **Same information** is collected on each suspected cholera case
 - **Patient information:** age, sex, place of residence
 - **Clinical information:** symptom onset, inpatient/outpatient, dehydration, outcome
 - **Tests:** tests performed, results



Learn where to access data collection tools in Module 6

Reporting at community level

Standard aggregate data is recorded and reported by community-based surveillance

➡ Aggregate data

- **Number** of suspected cholera cases and cholera deaths **in a day**
- Recorded in a **summary table**

➡ Standard data

- The **same information** is recorded every day
- Number of suspected cholera cases and cholera deaths
 - By **sex and age group**



Learn where to access data collection tools in Module 6

Testing

Why to test

► For surveillance

- AWD can be caused by different diseases
- Testing is to **characterize the cholera situation**

► But not for treatment

- Test results **do not influence treatment**
- Treatment depends on dehydration level

Who to test

- Suspected cholera cases
- Among those, **which one to test depends on the cholera situation**



**Learn about testing strategies
in Modules 3, 4, 5**

Screening by RDT

Rapid Diagnostic Tests (RDTs) are useful screening tools but **CANNOT be used to confirm cholera**



► RDTs

- Can be **used** at health facility level
- To triage **samples** to send for laboratory confirmation

► RDT results

- **Sufficient to rule out cholera** if negative
- **Recorded** as part of standard information
 - Positive and negative results



**Learn where to access resources
on testing in Module 6**

Laboratory confirmation

Laboratory confirmation of cholera is by **culture or PCR**



Photo adapted from: WHO / Fid Thompson

➡ Samples collected

- Within the **first 4 days of illness**
- **Before antibiotic** therapy

➡ **No need to wait for the results to initiate treatment**

Reporting

Health facility-based & community-based surveillance data
and tests results are reported to health authorities

► Reporting of suspected cholera cases

- **Case-based** reporting reporting by **health facilities**
- **Aggregate** reporting by **community** health workers / volunteers

► Zero reporting

- Reporting of **absence of suspected cholera cases**
- Health facility-based and community-based surveillance

► Reporting of test results

- **Positive** and **negative**

An illustration of two Black women in an office. One woman is seated at a desk, wearing a dark blazer over a patterned top, and is writing on a document with a blue pen. The other woman is standing behind her, wearing a striped button-down shirt, a pearl necklace, and glasses, and is holding a large sheet of paper. They are both looking at the paper. The desk is cluttered with papers, a multi-line office phone, and a computer monitor. In the background, there are shelves with binders and a window with a view of a building.

Oversight
by health
authorities

Awareness

Health authorities ensure that **all reporting sites and laboratories are aware** of what to report when and how, and who to test when and how



- Health authorities regularly inform
 - **Health facility workers**
 - **Community health workers / volunteers**
 - **Laboratories**
- Ongoing **cholera situation** in their surveillance unit
- **Applicable strategies** for reporting and testing

Capacity building

Health authorities ensure that **all reporting sites and laboratories are in capacity to implement reporting and testing according to applicable strategies**



► Health facility workers & community health workers / volunteers

- Are trained on **case definitions** and on **how to report**
- Have **reporting tools** and are trained to use them

► Health facility workers

- Are trained and have supplies to **perform RDTs** (if applicable)
- Are trained and have supplies to **collect and send samples** for laboratory testing

► Laboratories

- Are trained and have supplies and reagents to **perform testing** for cholera
- Are trained on how to **report results**

Monitoring

Health authorities **monitor on a weekly basis** that reporting and testing are implemented according to applicable strategies, and **take supportive measures** as needed



► Monitoring of performance indicators

- Completeness and timeliness of **reporting**
- Adherence to **testing** strategies

► Feedback and recommendations

- Reporting sites and laboratories receive **feedback**
- **Recommendations/support** for improvement as needed



Transmission, analysis and interpretation

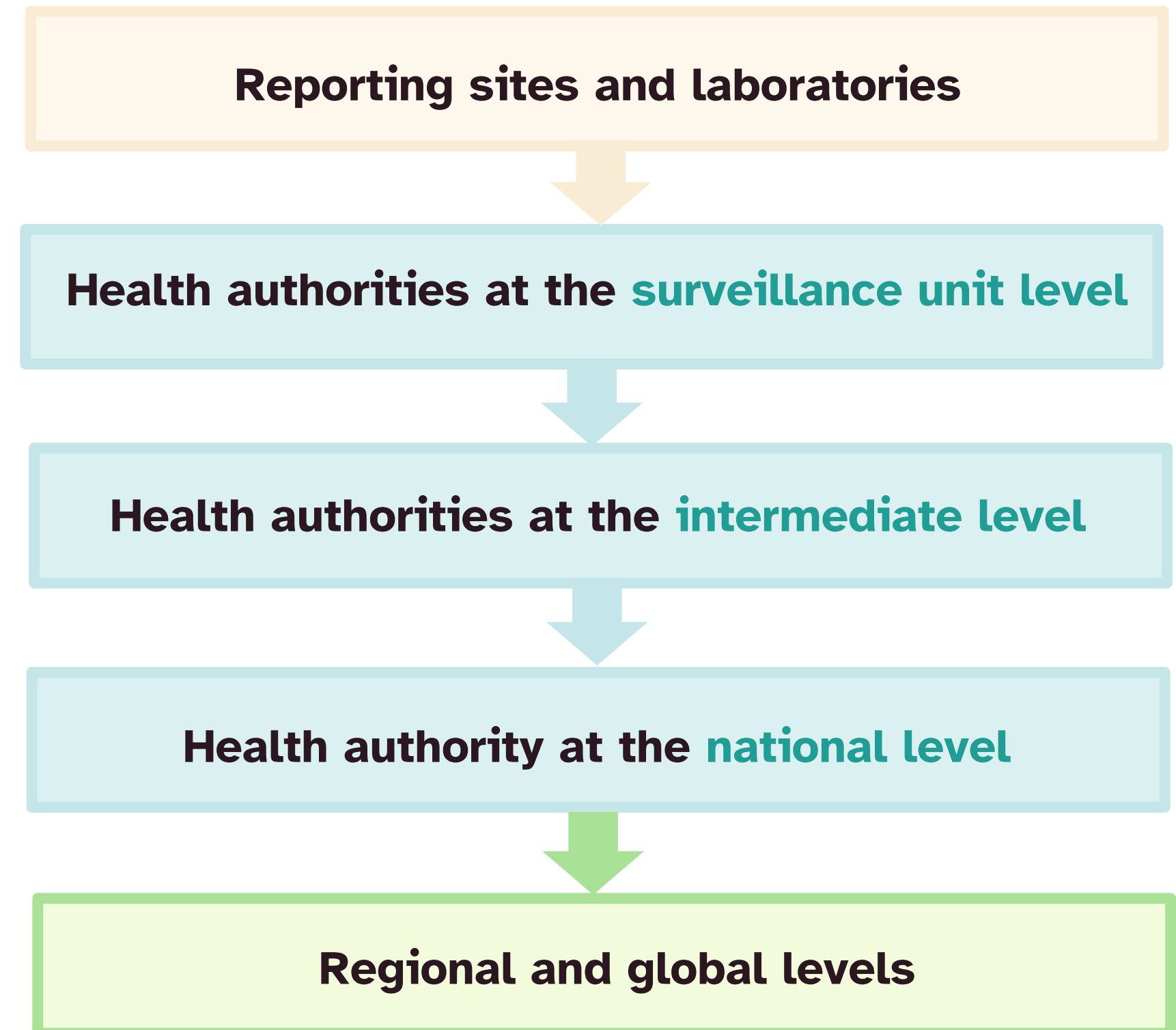
Data transmission

► Local health authorities

- **Compile and clean** the data reported by
 - Health facility-based surveillance
 - Community-based surveillance
 - Laboratories
- **Report it to the next level**
 - Up to the national level

► National level health authority

- **Report aggregate data** to the regional and global levels



Analysis & interpretation

Health authorities analyse and interpret the data to **describe and assess** the situation

► Interpretation



- Data from **health facility-based** and **community-based** surveillance
 - Analysed separately
 - But **interpreted jointly**
- Surveillance **performance indicators** are duly considered



Investigation

Investigations

Collection of additional information to **supplement standard surveillance data** to better interpret the cholera situation



- **Verification** of reported information
- **Case investigation**
- **Field investigation**

Verification

Performed by **contacting reporting source(s)** to check that the information is accurate and reliable



➡ For example

- Check whether a case meets the **case definition**
- Clarify laboratory **test(s)** performed or result(s)

Case investigation

Performed by **interviewing suspected cholera case(s)**



- Classify case(s) by **geographic origin of infection**
 - Locally acquired or imported
- Generate **hypotheses on exposure** and context of transmission
 - Orientation for field investigation
- Identify **epidemiological links** between cases
 - Clustered or community transmission



Learn where to access a cholera case investigation form in Module 6

Field investigation

Onsite assessment performed in an outbreak area



➤ Assess

- **Source(s) of contamination**
- **Context of transmission**
- **Risk factors for spread**

➤ Oriented by the findings of case investigations

➤ Combined with risk and needs assessments & immediate measures

➤ Used to guide effective response measures

Dissemination of outcomes and response



Dissemination

Information on the cholera situation is **disseminated in a timely manner to all stakeholders** involved in cholera prevention and control

➡ Epidemiological reports



- Disseminated to
 - Health professionals
 - Community health workers / volunteers
 - Stakeholders representing all cholera pillars
 - Operational partners and international organizations
 - Etc
- Discussed in a multisectoral manner
 - **Guide prevention and response strategies**

Definitions



Acute Watery Diarrhoea

A sign of cholera is **Acute Watery Diarrhoea (AWD)**

AWD is not any type of diarrhoea

- ➡ **Acute** if it lasts for **less than 7 days**
- ➡ **Watery** if stools are **non-bloody and liquid** (and may contain mucous)
- ➡ **Diarrhoea** if there are **≥3 loose stools within a 24-hour period**

AWD & dehydration

AWD may cause dehydration

SEVERE dehydration

➡ One or more danger sign(s)

- Lethargic or unconscious
- Absent or weak pulse
- Respiratory distress

Or

➡ At least two of the following

- Sunken eyes
- Not able to drink or drinks poorly
- Skin pinch goes back very slowly

Treatment guided by dehydration level

➡ Severe dehydration

- Intravenous rehydration

➡ Other dehydration levels

- Oral rehydration solution

Cholera case definitions

Depending on the cholera situation, **different cholera case definitions** apply

Where there is **NO** probable or confirmed cholera outbreak

- ➡ Person **aged ≥ 2 with AWD and severe dehydration**
or
- ➡ Person **aged ≥ 2 who died** from AWD

Criteria on age and severe dehydration

- **Limit false suspected cholera outbreaks**
- **Avoid overwhelming early detection systems**

Where there is an **ONGOING** probable or confirmed cholera outbreak

- ➡ Person with **AWD** (or who died from AWD)

NO criteria on age and severe dehydration

- **For sensitive monitoring**

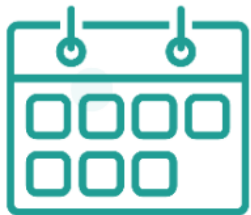
Confirmed cholera case

**Any person infected with *Vibrio cholerae* O1 or O139
as confirmed by culture (including seroagglutination) or PCR**



- ➡ Strain should be demonstrated as **toxigenic** if
- No confirmed cholera outbreak in another surveillance unit
 - and**
 - No established epidemiological link to a confirmed cholera case or source of exposure in another country

Suspected cholera outbreak



≥ 2 suspected cholera cases

or

1 suspected cholera case RDT+

Reported in a surveillance unit **within 7 days**

**Public health measures for acute diarrheal diseases
(not specific to cholera) implemented immediately**

Probable cholera outbreak

► Number of suspected cholera cases tested **positive by RDT** \geq threshold within 14 days

Threshold

Number of
cases tested

3 to 7

8 to 10

11 to 14

15 to 17

18 to 21

Number of
RDT+

≥ 3 RDT+

≥ 4 RDT+

≥ 5 RDT+

≥ 6 RDT+

≥ 7 RDT+

High confidence that a cholera
outbreak is occurring

Cholera outbreak response measures
rapidly implemented **without waiting** for laboratory confirmation

Confirmed cholera outbreak

≥ 1 locally acquired confirmed cholera case



➡ Locally acquired

- Infected in the surveillance unit
- Not an imported case

Cholera outbreak response measures rapidly implemented

Wrap up

Oversee
reporting
and testing



Transmit,
analyze,
interpret data



Investigate
(case investigation &
field investigation)



Disseminate
outcomes



Guide
prevention and
response



Continuously monitor
and ensure that
**stakeholders
detect, report, and
test suspected
cases** in accordance
with applicable
strategies

Regularly analyze
and interpret
epidemiological data
and test results to
**characterize the
cholera situation**

**Collect additional
information** as
needed with case
and field
investigations to
better assess the
cholera situation

Inform all
relevant
stakeholders of
the cholera
situation in a
timely manner

Contribute to
coordinated
multisectoral
**prevention and
control strategies**
against cholera



Question 1



► **Cholera health-facility based surveillance relies on the reporting of:**

- a) Individual ("case based") data on suspected cholera cases
- b) Data aggregated by day on suspected cholera cases
- c) Data aggregated by week on suspected cholera cases

Question 1 – Answer



- **Cholera health-facility based surveillance relies on the reporting of:**
- a) Individual ("case based") data on suspected cholera cases**
 - b) Data aggregated by day on suspected cholera cases
 - c) Data aggregated by week on suspected cholera cases

Question 2



■ **Cholera community-based surveillance relies on the reporting of:**

- a) Individual ("case based") data on suspected cholera cases
- b) Data aggregated by day on suspected cholera cases
- c) Data aggregated by week on suspected cholera cases

Question 2 – Answer



► **Cholera community-based surveillance relies on the reporting of:**

- a) Individual ("case based") data on suspected cholera cases
- b) Data aggregated by day on suspected cholera cases**
- c) Data aggregated by week on suspected cholera cases

Question 3



➡ **Rapid Diagnostic Test (RDTs) can be used to:**

Select all that apply

- a) Confirm cholera
- b) Rule out cholera
- c) Screen samples for laboratory confirmation

Question 3 – Answers



■ **Rapid Diagnostic Test (RDTs) can be used to:**

a) Confirm cholera

b) Rule out cholera

c) Screen samples for laboratory confirmation

Question 4



► **The surveillance unit level corresponds to:**

Select all that apply

- a) The spatial level at which the cholera situation is monitored to determine applicable surveillance objectives and strategies
- b) The supervisory level at which the implementation of cholera surveillance is coordinated and monitored
- c) The operational level at which cholera prevention and control measures are implemented

Question 4 – Answers



■ **The surveillance unit level corresponds to:**

- a) The spatial level at which the cholera situation is monitored to determine applicable surveillance objectives and strategies
- b) The supervisory level at which the implementation of cholera surveillance is coordinated and monitored
- c) The operational level at which cholera prevention and control measures are implemented

Together we can
#Endcholera



GLOBAL TASK FORCE ON
CHOLERA CONTROL