Cholera surveillance for health authorities

Module 6

GLOBAL TASK FORCE ON
CHOLERA CONTROL

Cholera surveillance for health authorities

Supporting material

What will you learn?

- Where to find **supporting material** on cholera surveillance

GTFCC App

Photo adapted from: WHO / Genna Print

GTFCC App

- Phone-based application for health professionals
- **Free** of charge
- Compatible with Android and iOS
- Can be used **offline**
- Summary **guidance and practical tools** including:
  - Surveillance
  - Testing

https://www.gtfcc.org/cholera-app/

GTFCC website

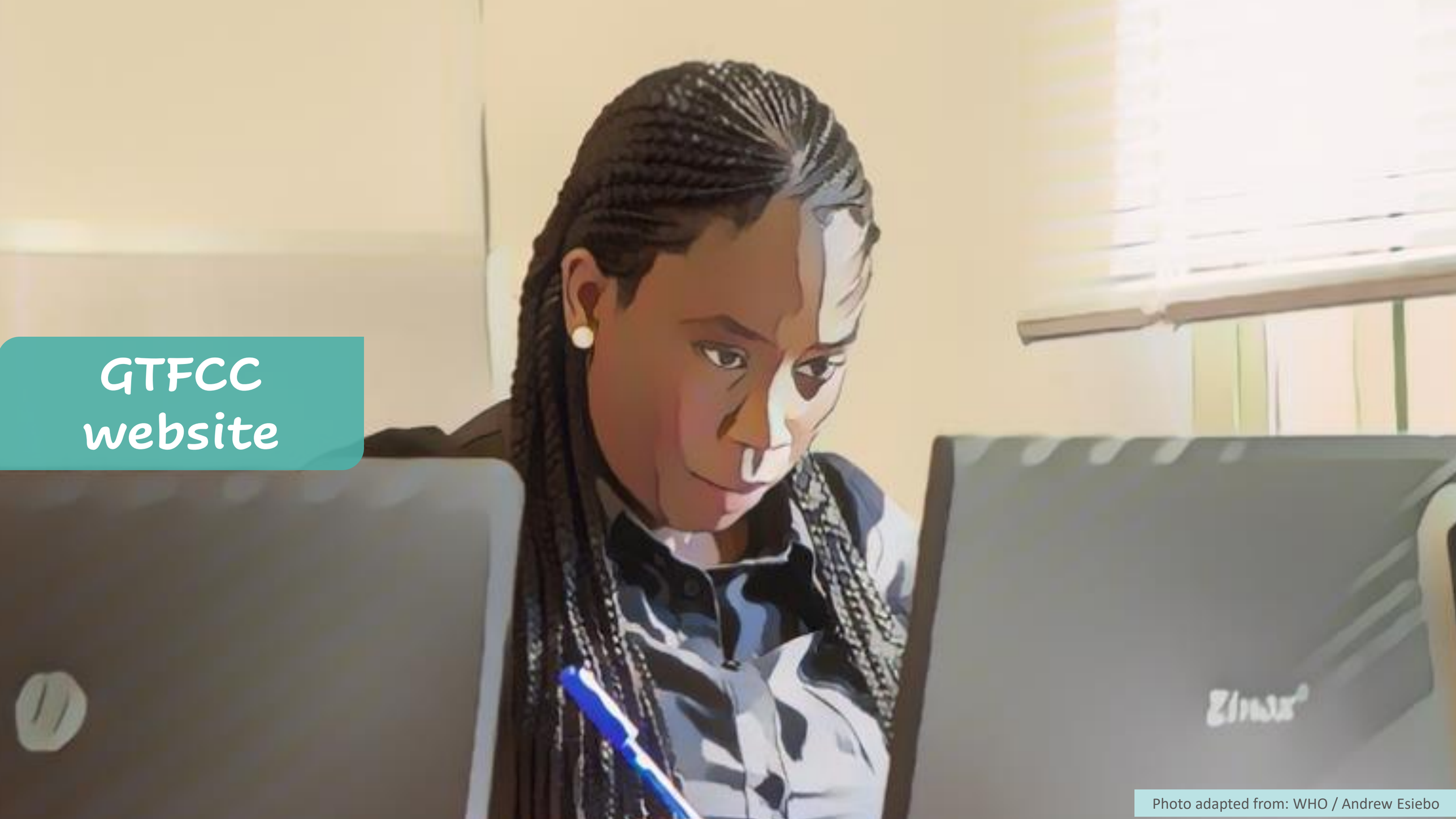
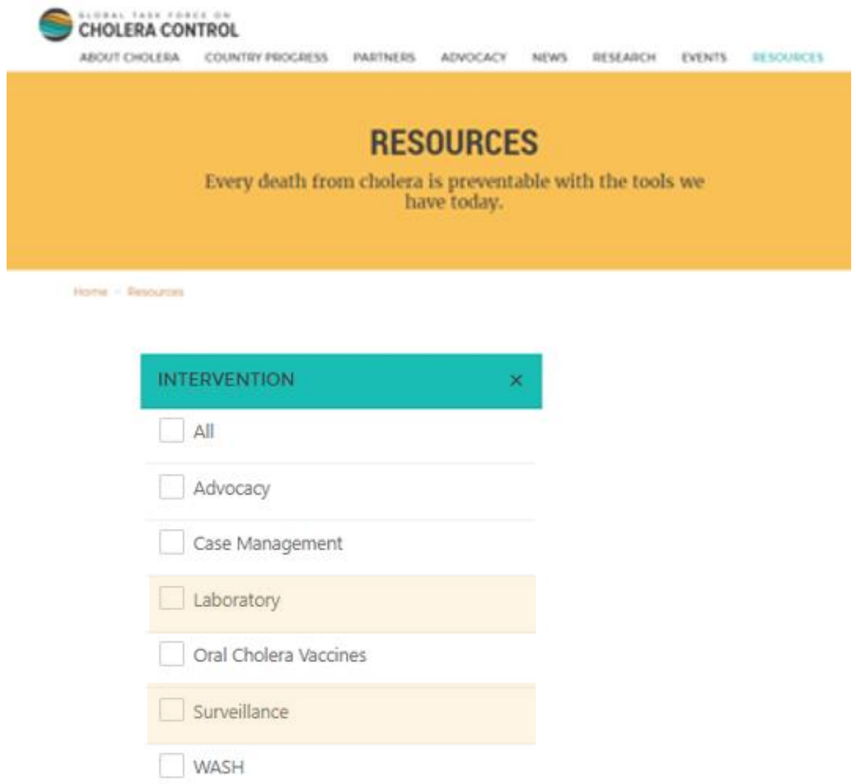


Photo adapted from: WHO / Andrew Esiebo

GTFCC website – Resources tab



https://www.gtfcc.org/resources

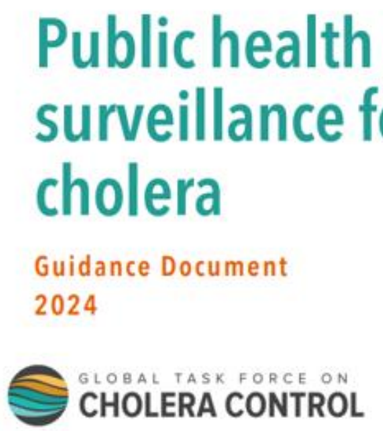
- Detailed technical guidance including on:
  - Surveillance
  - Testing

Cholera surveillance

https://tinyurl.com/CholeraSurveillance

Technical guidance

- Detailed technical **guidance on cholera surveillance**



Assessment of surveillance

- Standard method for countries to **self-assess cholera surveillance** system/strategy

Reporting tools

https://tinyurl.com/CholeraSurveillance

Case report form

General information		
Date of reporting by the health facility: [_Y_][_Y_][_Y_][_Y_] - [_M_][_M_] - [_D_][_D_]		
Name of the reporting health facility:		
1. Patient information		
Unique patient identifier		
First name(s) of the patient		
Last name(s) of the patient		
Age of the patient (in years) [if the patient is under 1 year, record 0]		_____ years
Patient's sex at birth		☐ Female ☐ Male
Place of residence	**Admin level 1** [e.g., region or province of residence of the patient]	
	Admin level 2 [e.g., district of residence of the patient]	
	Admin level 3 [e.g., health area or commune of residence of the patient]	
	Admin level 4 [e.g., ward, municipal sector or village of residence of the case]	
	Address of residence [neighbourhood, street, house]	

Excel linelist

Last name	Age (in years)	Date of symptom onset	Hospitalization	Level of dehydration
LASTNAME	AGE	DATEOFONSET	HOSPITALIZATION	DEHYDRATION
mmmm	22	2023-01-01	Inpatient	Unknown
oooo	35	2023-01-01	Inpatient	Severe dehydration
nnnnn	7	2023-01-02	Inpatient	Some dehydration
ppppp	45	2023-01-02	Inpatient	Severe dehydration
qqqqq	46	2023-01-03	Outpatient	Some dehydration
rrrrr	0	2023-01-03	Inpatient	Severe dehydration
ssss	17	2023-01-03	Outpatient	Some dehydration
ttttt	13	2023-01-03	Inpatient	Some dehydration
uuuuu	33	2023-01-04	Inpatient	Some dehydration
vvvvv	19	2023-01-10	Inpatient	Some dehydration
wwww	52	2023-01-15	Inpatient	Some dehydration
yyyy	20	2023-01-21	Inpatient	Severe dehydration

Community-based reporting form

Date (YYYY-MM-DD)	Number of suspected cholera cases per day												Number of community cholera deaths per day												Number of suspected cholera cases referred to health facilities per day
	Male Age groups						Female Age groups						Male Age groups						Female Age groups						
	<2	[2-4]	[5-14]	[15-44]	[45-59]	≥60	<2	[2-4]	[5-14]	[15-44]	[45-59]	≥60	<2	[2-4]	[5-14]	[15-44]	[45-59]	≥60	<2	[2-4]	[5-14]	[15-44]	[45-59]	≥60	
Total																									

If no suspected cholera cases or community cholera deaths were detected on a given date, mark "0".

- For **health facility-based surveillance**
- Form and linelist include **same variables**

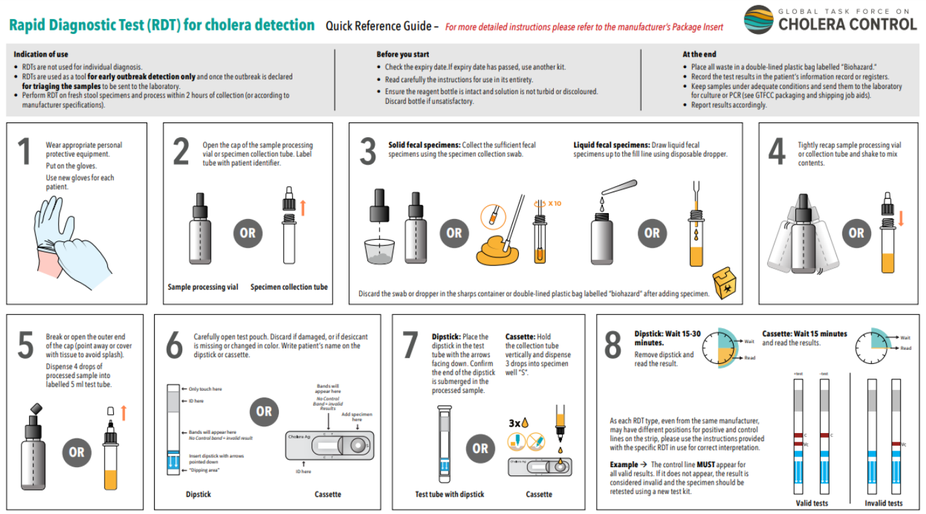
Convenient for use when number of cases is low

Convenient for use when number of cases is higher

- For **community-based surveillance**

Testing

RDT - Job aid



Rapid Diagnostic Test (RDT) for cholera detection Quick Reference Guide – *For more detailed instructions please refer to the manufacturer's Package Insert*

GLOBAL TASK FORCE ON CHOLERA CONTROL

Indication of use
- RDTs are not used for individual diagnosis.
- RDTs are used as a tool **for early outbreak detection only** and once the outbreak is declared **for triaging the samples** to be sent to the laboratory.
- Perform RDT on fresh stool specimens and process within 2 hours of collection (or according to manufacturer specifications).

Before you start
- Check the expiry date. If expiry date has passed, use another kit.
- Read carefully the instructions for use in its entirety.
- Ensure the reagent bottle is intact and solution is not turbid or discoloured. Discard bottle if unsatisfactory.

At the end
- Place all waste in a double-lined plastic bag labelled "Biohazard."
- Record the test results in the patient's information record or registers.
- Keep samples under adequate conditions and send them to the laboratory for culture or PCR (see GTFCC packaging and shipping job aids).
- Report results accordingly.

1 Wear appropriate personal protective equipment. Put on the gloves. Use new gloves for each patient.

2 Open the cap of the sample processing vial or specimen collection tube. Label tube with patient identifier.
OR
Sample processing vial | Specimen collection tube

3 **Solid fecal specimens:** Collect the sufficient fecal specimens using the specimen collection swab.
Liquid fecal specimens: Draw liquid fecal specimens up to the fill line using disposable dropper.
OR
Discard the swab or dropper in the sharps container or double-lined plastic bag labelled "biohazard" after adding specimen.

4 Tightly recap sample processing vial or collection tube and shake to mix contents.
OR

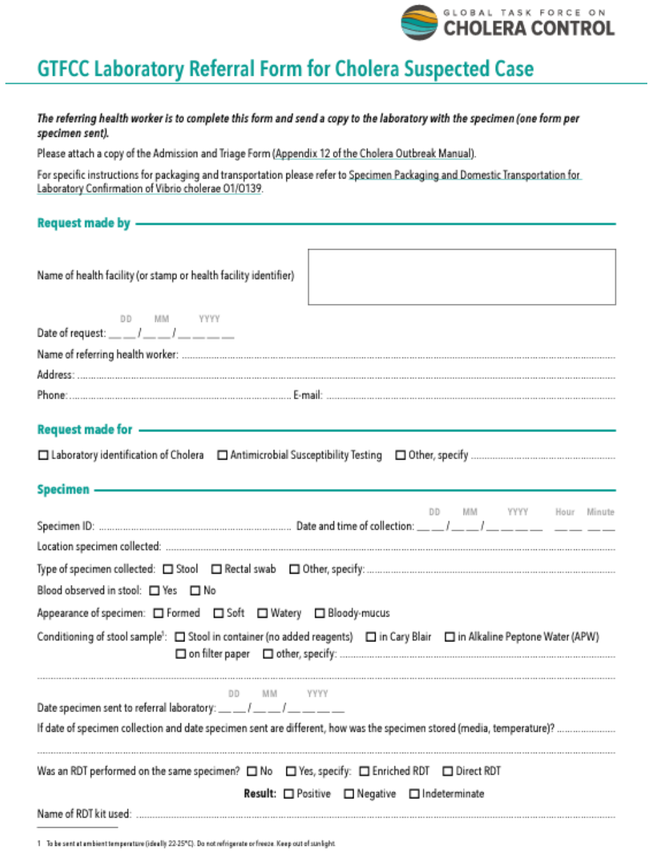
5 Break or open the outer end of the cap (point away or cover with tissue to avoid splash). Dispense 4 drops of processed sample into labelled 5 ml test tube.
OR

6 Carefully open test pouch. Discard if damaged, or if desiccant is missing or changed in color. Write patient's name on the dipstick or cassette.
OR
Dipstick | Cassette

7 **Dipstick:** Place the dipstick in the test tube with the arrows facing down. Confirm the end of the dipstick is submerged in the processed sample.
Cassette: Hold the collection tube vertically and dispense 3 drops into specimen well "S".
OR
3x
Test tube with dipstick | Cassette

8 **Dipstick: Wait 15-30 minutes.** Remove dipstick and read the result.
Cassette: Wait 15 minutes and read the results.
As each RDT type, even from the same manufacturer, may have different positions for positive and control lines on the strip, please use the instructions provided with the specific RDT in use for correct interpretation.
Example → The control line **MUST** appear for all valid results. If it does not appear, the result is considered invalid and the specimen should be retested using a new test kit.
Valid tests | Invalid tests

Referral form for testing



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GTFCC Laboratory Referral Form for Cholera Suspected Case

The referring health worker is to complete this form and send a copy to the laboratory with the specimen (one form per specimen sent).

Please attach a copy of the Admission and Triage Form (Appendix 12 of the Cholera Outbreak Manual).

For specific instructions for packaging and transportation please refer to Specimen Packaging and Domestic Transportation for Laboratory Confirmation of Vibrio cholerae O1/O139.

Request made by

Name of health facility (or stamp or health facility identifier)

Date of request: DD ___ / MM ___ / YYYY ____

Name of referring health worker: .....

Address: .....

Phone: ..... E-mail: .....

Request made for

☐ Laboratory identification of Cholera ☐ Antimicrobial Susceptibility Testing ☐ Other, specify .....

Specimen

Specimen ID: ..... Date and time of collection: DD ___ / MM ___ / YYYY ____ Hour ___ Minute ___

Location specimen collected: .....

Type of specimen collected: ☐ Stool ☐ Rectal swab ☐ Other, specify: .....

Blood observed in stool: ☐ Yes ☐ No

Appearance of specimen: ☐ Formed ☐ Soft ☐ Watery ☐ Bloody-mucus

Conditioning of stool sample[1]: ☐ Stool in container (no added reagents) ☐ in Cary Blair ☐ in Alkaline Peptone Water (APW) ☐ on filter paper ☐ other, specify: .....

Date specimen sent to referral laboratory: DD ___ / MM ___ / YYYY ____

If date of specimen collection and date specimen sent are different, how was the specimen stored (media, temperature)? .....

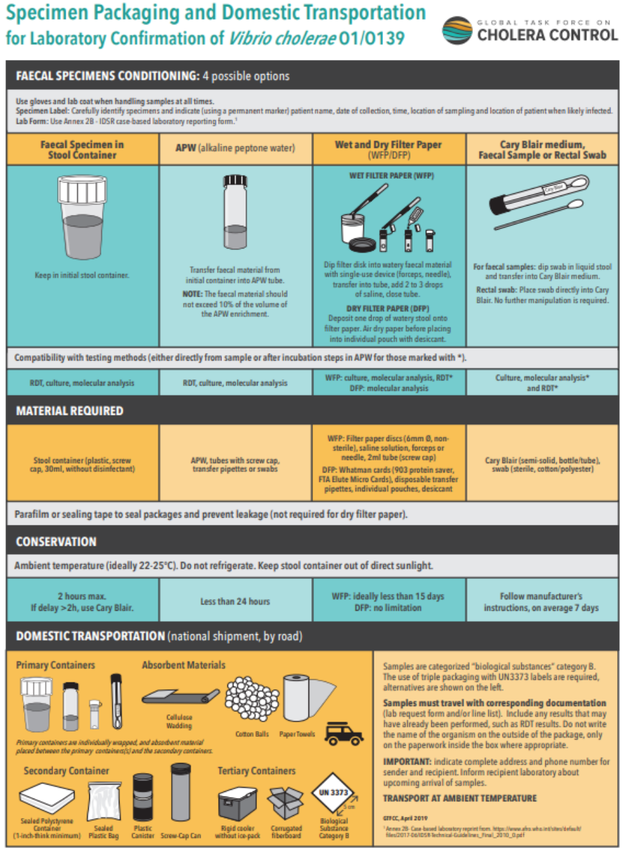
Was an RDT performed on the same specimen? ☐ No ☐ Yes, specify: ☐ Enriched RDT ☐ Direct RDT

Result: ☐ Positive ☐ Negative ☐ Indeterminate

Name of RDT kit used: .....

1 To be sent at ambient temperature (ideally 22-25°C). Do not refrigerate or freeze. Keep out of sunlight.

Handling samples



Specimen Packaging and Domestic Transportation for Laboratory Confirmation of *Vibrio cholerae* O1/O139

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FAECAL SPECIMENS CONDITIONING: 4 possible options

Use gloves and lab coat when handling samples at all times.
Specimen Label: Carefully identify specimens and indicate (using a permanent marker) patient name, date of collection, time, location of sampling and location of patient when likely infected.
Lab Form: Use Annex 2B - IDSR case-based laboratory reporting form.[1]

Faecal Specimen in Stool Container	APW (alkaline peptone water)	Wet and Dry Filter Paper (WFP/DFP)	Cary Blair medium, Faecal Sample or Rectal Swab
Keep in initial stool container.	Transfer faecal material from initial container into APW tube. **NOTE:** The faecal material should not exceed 10% of the volume of the APW enrichment.	**WET FILTER PAPER (WFP)** Dip filter disk into watery faecal material with single-use device (forceps, needle), transfer into tube, add 2 to 3 drops of saline, close tube. **DRY FILTER PAPER (DFP)** Deposit one drop of watery stool onto filter paper. Air dry paper before placing into individual pouch with desiccant.	**For faecal samples:** dip swab in liquid stool and transfer into Cary Blair medium. **Rectal swab:** Place swab directly into Cary Blair. No further manipulation is required.
Compatibility with testing methods (either directly from sample or after incubation steps in APW for those marked with *).			
RDT, culture, molecular analysis	RDT, culture, molecular analysis	WFP: culture, molecular analysis, RDT* DFP: molecular analysis	Culture, molecular analysis* and RDT*
MATERIAL REQUIRED			
Stool container (plastic, screw cap, 30ml, without disinfectant)	APW, tubes with screw cap, transfer pipettes or swabs	WFP: Filter paper discs (6mm Ø, non-sterile), saline solution, forceps or needle, 2ml tube (screw cap) DFP: Whatman cards (903 protein saver, FTA Elute Micro Cards), disposable transfer pipettes, individual pouches, desiccant	Cary Blair (semi-solid, bottle/tube), swab (sterile, cotton/polyester)

Parafilm or sealing tape to seal packages and prevent leakage (not required for dry filter paper).

CONSERVATION

Ambient temperature (ideally 22-25°C). Do not refrigerate. Keep stool container out of direct sunlight.

2 hours max. If delay >2h, use Cary Blair.	Less than 24 hours	WFP: ideally less than 15 days DFP: no limitation	Follow manufacturer's instructions, on average 7 days

DOMESTIC TRANSPORTATION (national shipment, by road)

Primary Containers | Absorbent Materials (Cellulose Wadding, Cotton Balls, Paper Towels)
Primary containers are individually wrapped, and absorbent material placed between the primary container(s) and the secondary containers.
Secondary Container | Tertiary Containers
Sealed Polystyrene Container (1-inch-think minimum) | Sealed Plastic Bag | Plastic Canister | Screw-Cap Can | Rigid cooler without ice-pack | Corrugated fiberboard | UN 3373 Biological Substance Category B

Samples are categorized "biological substances" category B. The use of triple packaging with UN3373 labels are required, alternatives are shown on the left.

Samples must travel with corresponding documentation (lab request form and/or line list). Include any results that may have already been performed, such as RDT results. Do not write the name of the organism on the outside of the package, only on the paperwork inside the box where appropriate.

IMPORTANT: indicate complete address and phone number for sender and recipient. Inform recipient laboratory about upcoming arrival of samples.

TRANSPORT AT AMBIENT TEMPERATURE

GTFCC, April 2019

[1] Annex 2B- Case-based laboratory reporting form. https://www.afro.who.int/sites/default/files/2017-04/IDSR-Technical-Guidelines_Final_2010_0.pdf

Trainings on testing

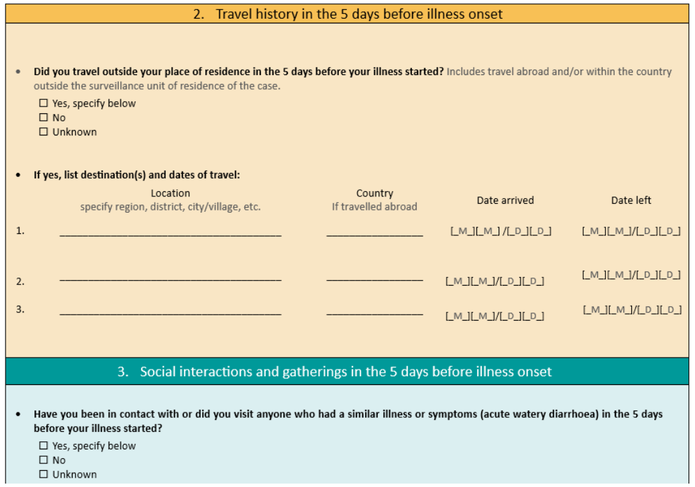
Trainings on sample collection and testing for cholera

Investigation & response

https://tinyurl.com/CholeraSurveillance

Case investigation form

- **Standard questionnaire**



2. Travel history in the 5 days before illness onset

- **Did you travel outside your place of residence in the 5 days before your illness started?** Includes travel abroad and/or within the country outside the surveillance unit of residence of the case.
  - ☐ Yes, specify below
  - ☐ No
  - ☐ Unknown
- **If yes, list destination(s) and dates of travel:**

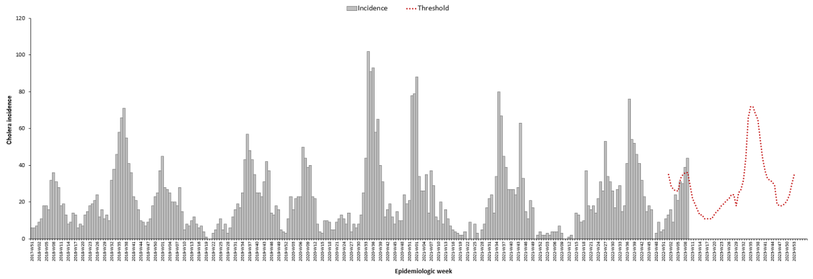
	Location specify region, district, city/village, etc.	Country If travelled abroad	Date arrived	Date left
1.	_____	_____	[_M_][_M_] /[_D_][_D_]	[_M_][_M_]/[_D_][_D_]
2.	_____	_____	[_M_][_M_]/[_D_][_D_]	[_M_][_M_]/[_D_][_D_]
3.	_____	_____	[_M_][_M_]/[_D_][_D_]	[_M_][_M_]/[_D_][_D_]

3. Social interactions and gatherings in the 5 days before illness onset

- **Have you been in contact with or did you visit anyone who had a similar illness or symptoms (acute watery diarrhoea) in the 5 days before your illness started?**
  - ☐ Yes, specify below
  - ☐ No
  - ☐ Unknown

Excel tool to detect the deterioration of an outbreak

- **Automatizes calculations** of weekly baseline thresholds



Field manual

- Guidance for **field investigation and response** to an outbreak

Regional & global reporting

https://tinyurl.com/CholeraSurveillance

Recommendations

- **Standard aggregate datasets for weekly reporting** to the regional and global levels

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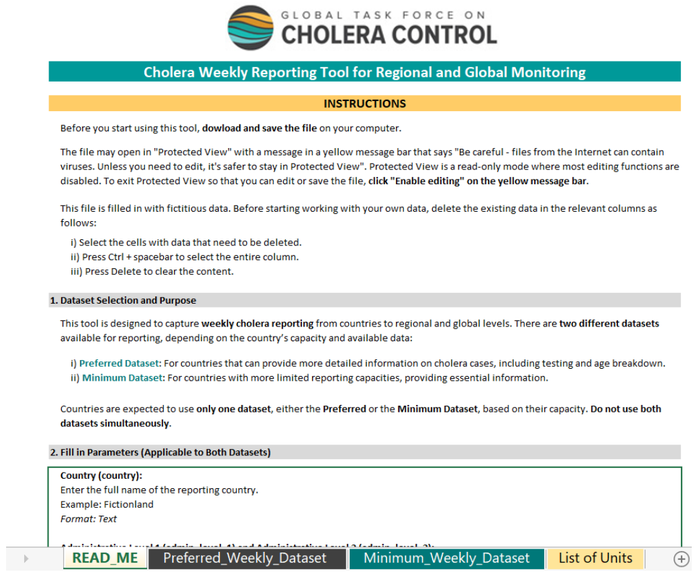
Reporting tool

- **Excel tool** for reporting the recommended datasets

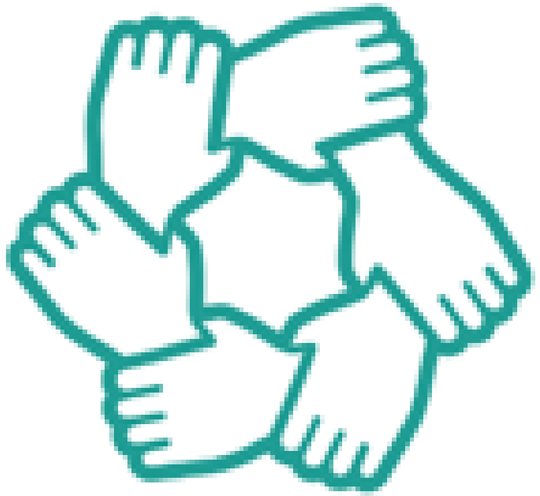


GTFCC network

Photo adapted from: MOH Cameroon Ngomba

GTFCC network

The GTFCC and its network of partners is here to support you



For any question or technical assistance,
contact the GTFCC Secretariat

GTFCCsecretariat@who.int

Together we can
#Endcholera
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CHOLERA CONTROL