

# First steps for managing an outbreak of acute diarrhoea

THIS LEAFLET AIMS AT GUIDING YOU THROUGH  
THE VERY FIRST DAYS OF AN OUTBREAK

Two types of emergencies regarding acute diarrhoea exist:

**Cholera = acute watery diarrhoea**  
and

**Shigella dysentery = acute bloody diarrhoea**

Both are transmitted by contaminated water, unsafe food, dirty hands and vomit or stools of sick people.

Other causes of diarrhoea may produce severe illness for the patient, but will not produce outbreaks which represent an immediate threat to the community.



# THE FIRST TWO QUESTIONS ARE:

1. Could this be the beginning of an outbreak?
2. Is this patient suffering from cholera or shigella?

## 1. Is this the beginning of an outbreak?

You might be facing an outbreak very soon if

You have seen an unusual number of acute diarrhoeal cases this week and the patients have the following points in common:

- they have similar clinical symptoms (watery or bloody diarrhoea)
- they are living in the same area or location
- they have eaten the same food (at a burial ceremony for example)
- they are sharing the same water source
- there is an outbreak in the neighbouring community

or

You have seen an adult suffering from acute watery diarrhoea with severe dehydration and vomiting

*If you have some statistical information from previous years or weeks verify if the actual increase of cases is unusual over the same period of time.*

**Be  
prepared  
to face a  
sudden  
increase  
in number  
of cases**

## 2. Is the patient suffering from cholera or shigella?

Acute diarrhoea could be a common symptom. Therefore it is important to differentiate between shigella or cholera in order to improve case management and to estimate needed supplies

- Establish a clinical diagnosis for the patient you have seen (Table 1)
- Do the same for the other family members who are suffering from acute diarrhoea
- Try to take stool samples and send them for immediate analysis. If it is not possible to send the samples immediately, collect stool specimens in Cary Blair or TCBS transport medium and refrigerate.

***Don't wait for laboratory results to start treatment and to protect the community.***

***Not all the cases need to be laboratory confirmed.***

**TABLE 1**

| Symptoms            | Cholera =<br>acute watery<br>diarrhoea              | Shigella =<br>acute bloody<br>diarrhoea        |
|---------------------|---|--|
| Stool               | > 3 stools<br>per day,<br>watery like<br>rice water | > 3 stools<br>per day,<br>with blood<br>or pus |
| Fever               | No  | Yes  |
| Abdominal<br>cramps | Yes   | Yes  |
| Vomiting            | Yes a lot   | No   |
| Rectal pain         | No  | Yes  |

# WHAT DO I HAVE TO DO WHEN I SUSPECT AN OUTBREAK?

**1. Inform and ask for help**

**2. Protect the community**

**3. Treat the patients**

## 1. INFORM AND ASK FOR HELP

**The outbreak can evolve quickly and the rapid increase of cases may prevent you from doing your daily activities**

- Inform your supervisor about the situation
- Ask for more supplies if needed (see **Box 1**)
- Ask for help to control the outbreak among and outside the community

### BOX 1: CHECK THE SUPPLIES YOU HAVE AND RECORD AVAILABLE QUANTITIES

- ➔ IV fluids (Ringer Lactate is the best)
- ➔ Drips
- ➔ Nasogastric tubes
- ➔ Oral Rehydration Salt (ORS)
- ➔ Antibiotics (see **Box 6**)
- ➔ Soap
- ➔ Chlorine or bleaching powder
- ➔ Rectal swabs and transport medium (Cary Blair or TCBS) for stool samples
- ➔ **Safe water is needed to rehydrate patients and to wash clothes and instruments**

## Collect data on the patients

Note carefully the following data that will help to investigate the outbreak

| N° | Name | Address | Symptoms | Age<br>(<5 or<br>>5 years) | Sex<br>(male M) or<br>(female F) | Date<br>of onset | Outcome |
|----|------|---------|----------|----------------------------|----------------------------------|------------------|---------|
|    |      |         |          |                            |                                  |                  |         |
|    |      |         |          |                            |                                  |                  |         |
|    |      |         |          |                            |                                  |                  |         |

## 2. PROTECT THE COMMUNITY

### HOW TO PROTECT THE COMMUNITY

- Isolate the severe cases
- Provide information
  - on how to avoid cholera through simple messages
  - on the outbreak
- Disinfect water sources with chlorine
- Promote water disinfection at home using chlorine
- Avoid gatherings

**Stool and vomit are highly contagious**

### PRECAUTIONS FOR FUNERALS

- Disinfect corpses with chlorine solution (2%)
- Fill mouth and anus with cotton wool soaked with chlorine solution
- Wash hands with soap after touching the corpse
- Disinfect the clothing and bedding of the deceased by stirring them in boiling water or by drying them thoroughly in the sun

### GIVE SIMPLE MESSAGES TO THE COMMUNITY

#### To avoid cholera and shigella

- Wash your hands with soap
  - before and after using toilets
  - before preparing food
  - before eating
- Boil or disinfect the water with chlorine solution
- Only eat freshly cooked food
- Do not defecate near the water sources
- Use latrines and keep them clean

#### In case of acute diarrhoea

- Start oral rehydration with ORS (see **Boxes 2 and 3**) before going to the health centre
- Go to the health centre as soon as possible

### BOX 2: HOW TO PREPARE HOME-MADE ORS SOLUTION

- If ORS sachets are available: dilute one sachet in one litre of safe water
- Otherwise: Add to **one litre of safe water**:
  - **Salt** 1/2 small spoon (3.5 grams)
  - **Sugar** 4 big spoons (40 grams)

And try to compensate for loss of potassium (for example, eat bananas or drink green coconut water)

# DON'T FORGET ...

## PROTECT YOURSELF FROM CONTAMINATION

- Wash your hands with soap before and after taking care of the patient
- Cut your nails

## ISOLATE CHOLERA PATIENTS

- Stools, vomit and soiled clothes of patients are highly contagious
- Latrines and patients' buckets need to be washed and disinfected with chlorine
- Cholera patients have to be in a special ward, isolated from other patients

**CONTINUOUS PROVISION OF NUTRITIOUS FOOD** is important for all patients especially for patients with shigella dysentery

- Provide frequent small meals with familiar foods during the first two days rather than infrequent large meals
- Provide food as soon as the patient is able to take it
- Breastfeeding infants and young children should continue

**For more information: Cholera web site:**  
**<http://www.who.int/emc/diseases/cholera>**



### 3. TREAT THE PATIENTS

#### Summary of the treatment

- A. Rehydrate with ORS or IV solution depending on the severity
- B. Maintain hydration and monitor frequently the hydration status
- C. Give antibiotics for severe cholera cases and for shigella cases

**80% of the cases can be treated with Oral Rehydration Salt (ORS)**

#### A. Rehydrate depending on severity

##### Is the patient dehydrated?

- The patient is losing a lot of fluids because of diarrhoea and vomiting.
- Does he have two or more of the following signs?  
The lack of water in his body results in:
  - sunken eyes
  - absence of tears
  - dry mouth and tongue
  - the patient is thirsty and drinks eagerly
  - the skin pinch goes back slowly

**If NO  
THEN**

**There is NO dehydration:**  
Give Oral Rehydration Salt (Box 3)



**If YES, check if the dehydration is very severe**

##### Is the dehydration very severe?

When dehydration is very severe in addition to the above mentioned signs :

- The patient is lethargic, unconscious or floppy
- He is unable to drink
- His radial pulse is weak
- The skin pinch goes back very slowly

**If NO  
THEN**

##### There is some dehydration:

- Give Oral Rehydration Salt in the amount recommended in **Box 4**
- Nasogastric tubes can be used for rehydration when ORS solution increases vomiting and nausea or when the patient cannot drink
- Monitor the patient frequently

**If YES THEN**

##### There is severe dehydration

- Put an IV drip to start intravenous rehydration
- **Refer** the patient as soon as possible to a higher level of health care
- Otherwise start IV rehydration as shown in **Box 5**

### BOX 3

**When there is NO sign of dehydration: give ORS solution (see Box 5) after each stool**

- **Child less than 2 years old:** 50–100 ml (1/4–1/2 cup) ORS solution. Up to approximately 1/2 litre a day.
- **Child between 2 and 9 years old:** 100–200 ml. Up to approximately 1 litre a day.
- **Patient of 10 years of age or more** as much as wanted. Up to approximately 2 litres a day.



### BOX 4: THERE IS SOME SIGN OF DEHYDRATION

**Approximate amount of ORS solution to give in the first 4 hours**

| Age                | Less than 4 months | 4–11 months | 12–23 months | 2–4 years  | 5–14 years | 15 years or older |
|--------------------|--------------------|-------------|--------------|------------|------------|-------------------|
| Weight             | Less than 5 kg     | 5–7.9 kg    | 8–10.9 kg    | 11–15.9 kg | 16–29.9 kg | 30 kg or more     |
| ORS Solution in ml | 200–400            | 400–600     | 600–800      | 800–1200   | 1200–2200  | 2200–4000         |

### BOX 5: IV REHYDRATION

Give IV drips of Ringer Lactate or if not available cholera saline (or normal saline)

- 100 ml/kg in three-hour period (in 6 hours for children aged less than 1 year)
- Start rapidly (30ml/kg within 30 min) and then slow down.

**Total amount per day: 200 ml/kg during the first 24 hours**



## B. Monitor the patient

Reassess the patient for signs of dehydration regularly during the first six hours

- Number and quantity of stools and vomit in order to compensate for the loss of body fluids
- Radial pulse: if it remains weak, IV rehydration has to be continued

## C. Give antibiotics if needed

When is it useful to give antibiotics?

- ➔ For **cholera** cases with severe dehydration only
- ➔ Ideally for all of **Shigella dysenteriae** cases, but as a priority for the most vulnerable patients: children under five, elderly, malnourished, patients with convulsions

### BOX 6: WHICH ANTIBIOTICS CAN BE GIVEN?

#### Cholera

Doxycycline single dose 300 mg

or Tetracycline 12.5 mg/kg – 6 hourly – 3 days

Pregnant women: Furazolidone 1.25/mg/kg – 4 times a day – 3 days

Young children: Erythromycin liquid 30mg/kg – 4 times a day – 3 days

**Note:** There is increasing resistance of *V.cholerae* to Doxycycline, Tetracycline and TMP-SMX.

#### Shigella

Nalidixic acid 1g, 4 times a day for 5 days

or Ciprofloxacin 500 mg, twice a day for 3 days

**Note:** Rapidly evolving **antimicrobial resistance** is a real problem. *Shigella* is usually resistant to Ampicillin and TMP-SMX.



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