

Cholera surveillance for health authorities

Module 1



GLOBAL TASK FORCE ON
CHOLERA CONTROL

Cholera surveillance for health authorities



Pivotal role

What will you learn?

- **Ojectives** of cholera surveillance in different situations
- **Pivotal role of health authorities** to ensure that cholera surveillance meets its objectives



Background

Cholera



Photo adapted from WHO/Mulugeta Ayene

- **Acute diarrhoeal infection**
- Spread through contaminated food and water
- Caused by the **bacterium *Vibrio cholerae*** (toxigenic, serogroup O1 or O139)
- Can **spread rapidly** and cause large outbreaks
- Severe forms of the disease can lead **to severe dehydration** and **death** within hours if not treated
- It is **preventable** and **easily treatable** (rehydration)

Disease surveillance

Continuous and systematic collection, analysis, and interpretation of health-related data with prompt dissemination of results to guide public health response

➡ Essential to

- **Understand outbreak dynamics**
 - **Who is affected, where, when**
- **Design effective interventions**



Objectives of cholera surveillance

Overview

Cholera surveillance generates information to guide an effective response to reduce the number of cholera cases and deaths, and limit the spread of the disease

Depending on the cholera situation in an area, the surveillance objectives evolve

- ➡ In geographic **areas without an outbreak**
 - Surveillance is for the **early detection** of any new outbreak **for rapid response**
- ➡ In geographic **areas with an outbreak that is not yet widespread** (“**cases in cluster**”)
 - Surveillance is to **track clusters to stop transmission** with targeted interventions
- ➡ In geographic **areas with an outbreak** (“**community transmission**”)
 - Surveillance is to **monitor the outbreak to guide the response**

Early detection

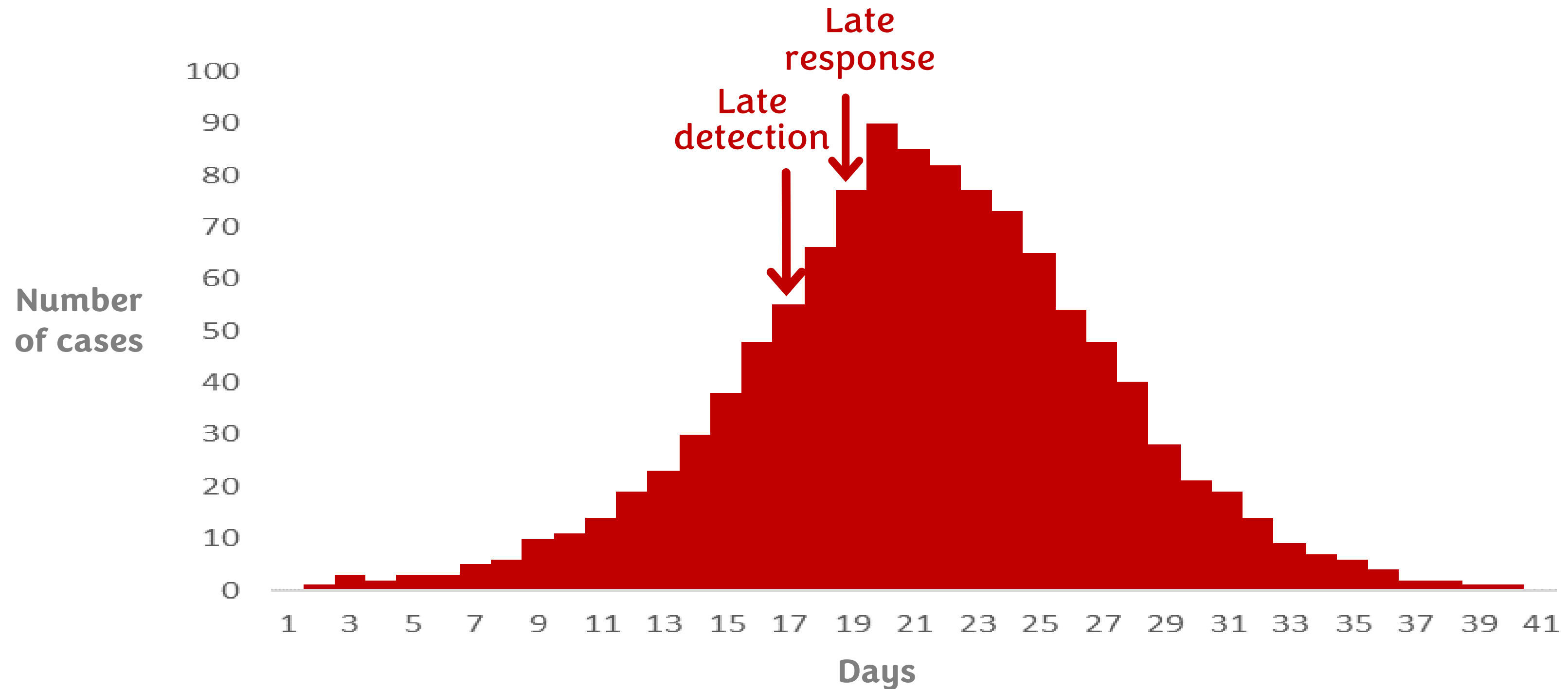


Outbreaks detected early can be controlled rapidly

➔ **Spread & impact mitigated**

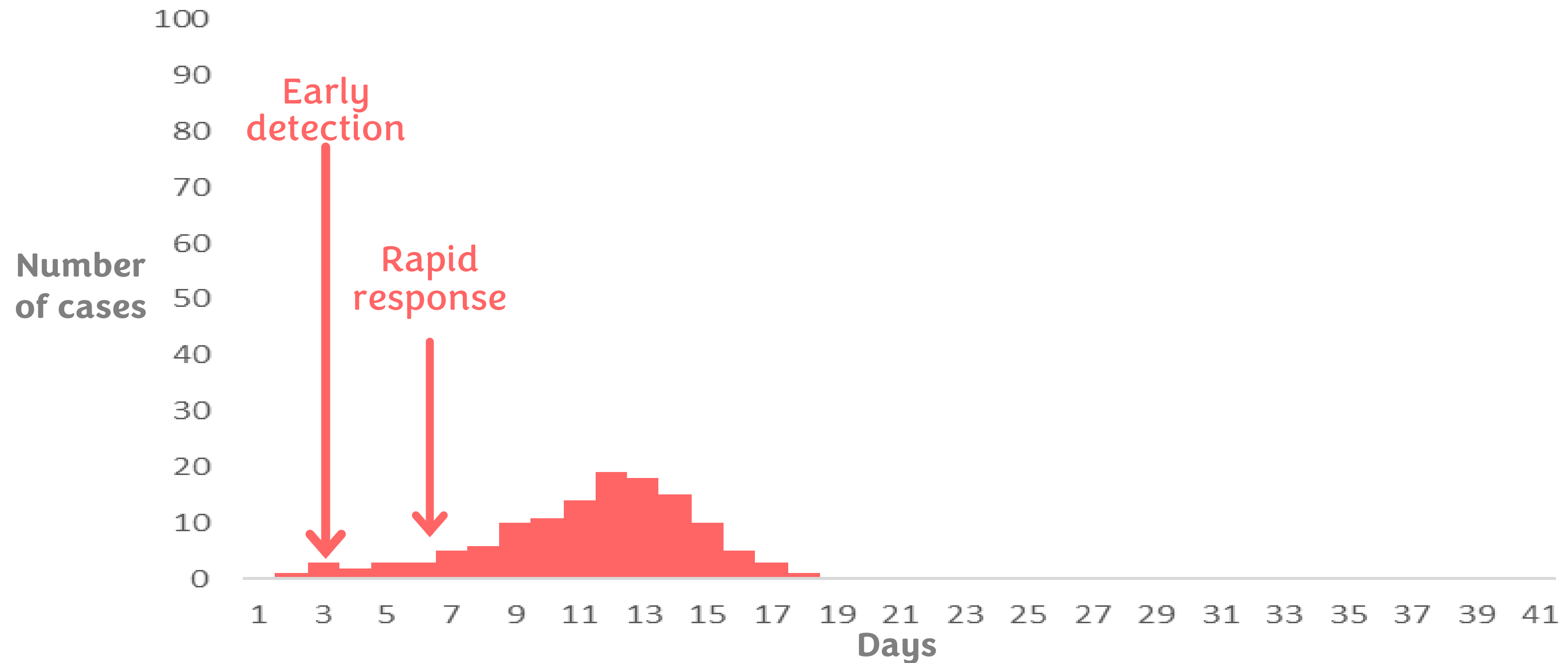
Early detection

Illustration



Early detection

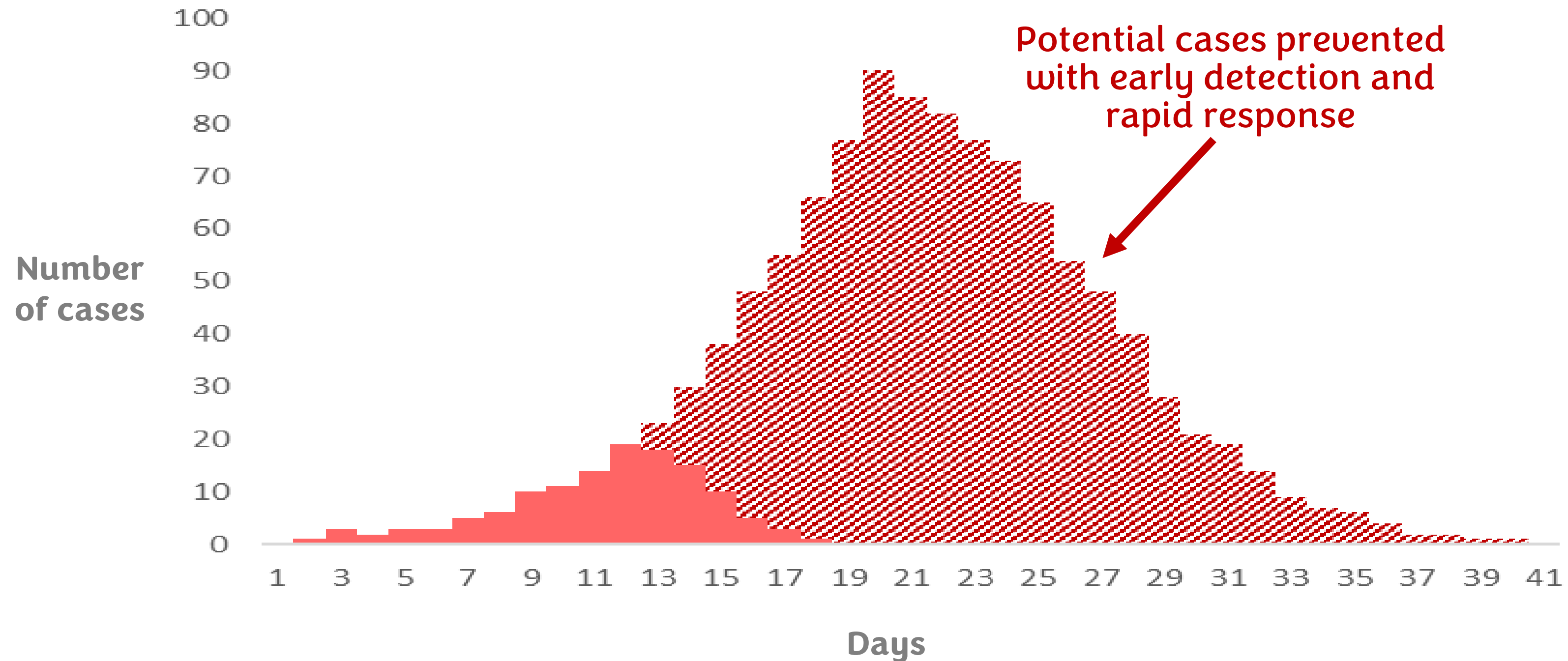
Illustration



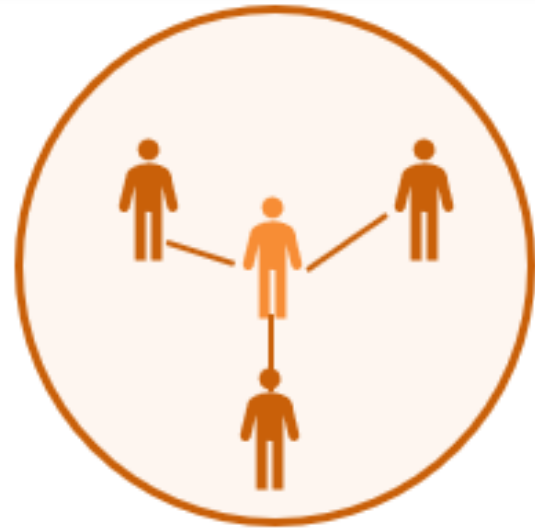
Early detection

Illustration

■ Early ■ Delayed



Tracking clusters



Cluster



Widespread outbreak in the community

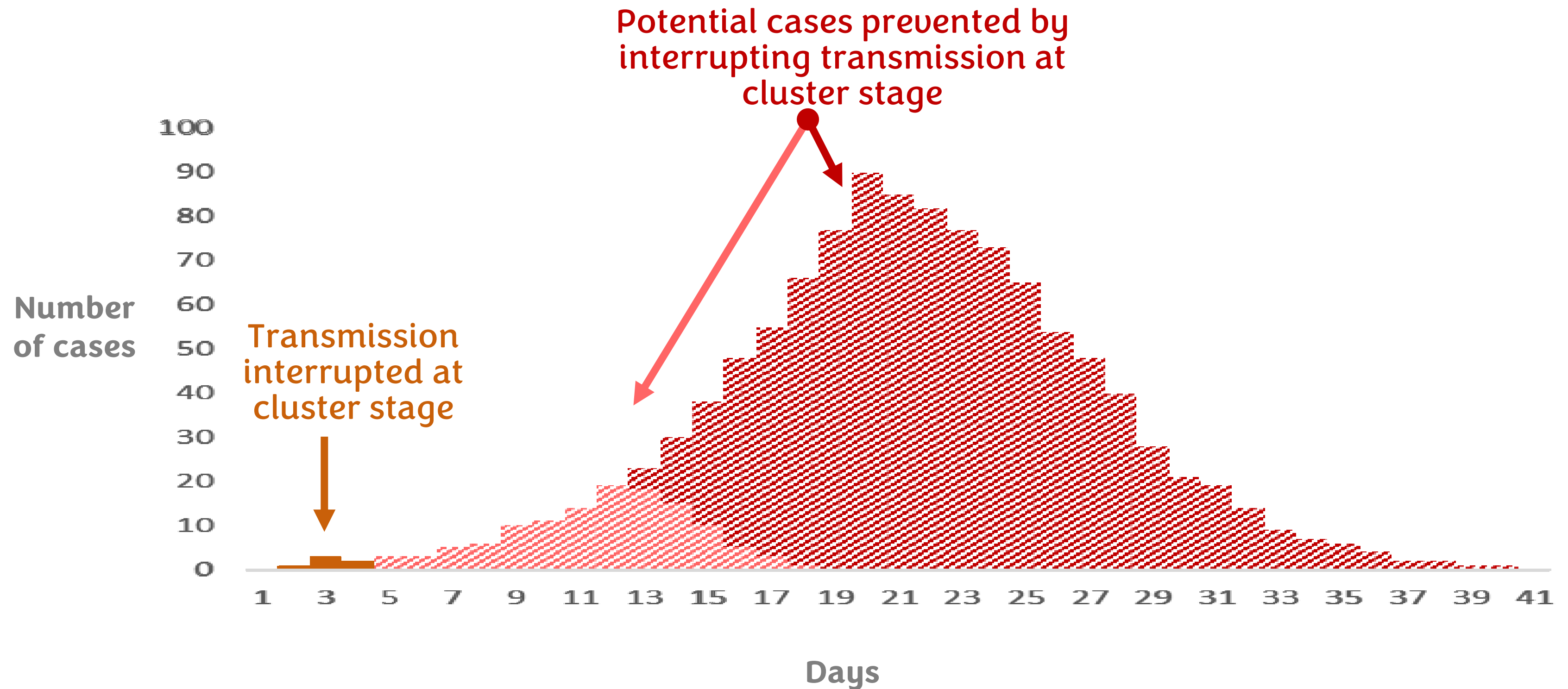
➡ Cluster

- A group of cases
 - infected one another
 - or
 - got infected by the same source
- Usually at the **very early stage of an outbreak**
 - Following cholera introduction in a new geographic area

With robust surveillance and highly targeted interventions, it is possible to **interrupt transmission at cluster stage before it spreads in the community**

Tracking clusters

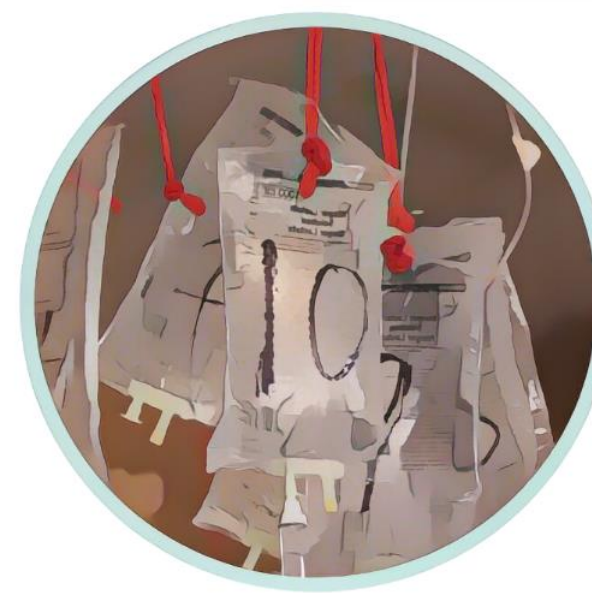
Illustration



Monitoring outbreaks

During an outbreak, the information generated by surveillance is used to **target multisectoral strategies to control the outbreak**

- ➡ Surveillance guides **interventions across all pillars**
 - Vaccination campaigns, water, sanitation and hygiene (WaSH), community engagement, case management



A photograph of two men in a health information center. One man is seated at a desk, operating a computer, while the other stands beside him, looking at the screen. A large sign on the wall reads 'Centro de Informações Estratégicas em Vigilância em Saúde'. A teal text box is overlaid on the left side of the image.

Health authorities' role in cholera surveillance

Centro de Informações
Estratégicas em
Vigilância em Saúde

Adaptive surveillance



Adaptive cholera surveillance

Surveillance strategies adapted locally depending on the cholera situation in “surveillance units”

► Surveillance units

- Lowest administrative level at which decisions are made on cholera prevention and control
- **Corresponding administrative level is country-specific**
 - Typically, **administrative levels 2 or 3**

Adaptive surveillance

Illustration



- Units where there is an ongoing cholera outbreak (community transmission)**
 - Surveillance aims to **monitor the outbreak**
- Unit where there is a cluster of cholera cases**
 - Surveillance aims to **track the cluster**
- Units where there is no ongoing cholera outbreak**
 - Surveillance aims to **detect any outbreak early**

Local level health authorities

Because cholera surveillance is adapted at the **LOCAL level**, **LOCAL health authorities** play a pivotal role in its implementation

➡ **Local health authorities** ensure that, **at all times**, cholera surveillance is:

- Adapted to the ongoing cholera situation
- Effectively implemented
- Used to guide prevention & control

Operationalisation

Adaptive surveillance is implemented in a **stable surveillance system**

Stability

Some **core functions** are implemented at all times

Adaptability

Some **strategies** are adapted depending on the local cholera situation

Stability

► Core functions applicable at all times

- **Module 2. Core functions** of health authorities in cholera surveillance

Adaptability

► Surveillance strategies adapted to the local cholera situation

- **Module 3.** Surveillance for **early detection**
- **Module 4.** Surveillance to **monitor outbreaks**
- **Module 5.** Surveillance to **track clusters**

Case studies

Wrap up

- ➔ **Depending on the cholera situation, surveillance has different objectives**
 - **Detect cholera outbreaks early** so that they can be controlled rapidly
 - **Monitor cholera outbreaks** to generate information to guide effective control strategies
 - **Track cholera clusters** to interrupt transmission before spread in the community
- ➔ **Surveillance strategies are adapted** according to the cholera situation at the local level of **“surveillance units”**
- ➔ **Health authorities** ensure that cholera surveillance is **effectively implemented** in each surveillance unit according to the ongoing cholera situation



Question 1



► In surveillance units where there is **no cholera outbreak**, surveillance is for the:

- a) Early detection of outbreaks
- b) Monitoring of outbreaks
- c) Tracking of clusters

► **This is critical to:**

- d) Generate information to guide effective interventions across all cholera control pillars
- e) Interrupt transmission before cholera spreads in the community
- f) Respond rapidly to any new outbreak to mitigate its spread and impact

Question 1 – Answers



► In surveillance units where there is no cholera outbreak, surveillance is for the:

- a) Early detection of outbreaks
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- c) Tracking of clusters

► This is critical to:

- d) Generate information to guide effective interventions across all cholera control pillars
- e) Interrupt transmission before cholera spreads in the community
- f) Respond rapidly to any new outbreak to mitigate its spread and impact

Question 2



► In surveillance units where **there is a cholera outbreak**, surveillance is for the:

- a) Early detection of outbreaks
- b) Monitoring of outbreaks
- c) Tracking of clusters

► **This is critical to:**

- d) Generate information to guide effective interventions across all cholera control pillars
- e) Interrupt transmission before cholera spreads in the community
- f) Respond rapidly to any new outbreak to mitigate its spread and impact

Question 2 – Answers



► In surveillance units where there is a cholera outbreak, surveillance is for the:

- a) Early detection of outbreaks
- b) Monitoring of outbreaks**
- c) Tracking of clusters

► This is critical to:

- d) Generate information to guide effective interventions across all cholera control pillars**
- e) Interrupt transmission before cholera spreads in the community
- f) Respond rapidly to any new outbreak to mitigate its spread and impact

Question 3



► In surveillance units where **cholera has just been introduced and hasn't yet spread in the community**, surveillance is for the:

- a) Early detection of outbreaks
- b) Monitoring of outbreaks
- c) Tracking of clusters

► **This is critical to:**

- d) Generate information to guide effective interventions across all cholera control pillars
- e) Interrupt transmission before cholera spreads in the community
- f) Respond rapidly to any new outbreak to mitigate its spread and impact

Question 3 – Answers



► In surveillance units where cholera has just been introduced and hasn't yet spread in the community, surveillance is for the:

- a) Early detection of outbreaks
- b) Monitoring of outbreaks
- c) Tracking of clusters**

► This is critical to:

- d) Generate information to guide effective interventions across all cholera control pillars
- e) Interrupt transmission before cholera spreads in the community**
- f) Respond rapidly to any new outbreak to mitigate its spread and impact

Together we can
#Endcholera



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