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Epidemics

Compiled by the Eastern Africa Disaster Management Training Core Team
Narrate by Dr. Roy William Mayega

Public Health Disaster Planning at District Level
What do you understand by the term ‘Epidemic’ or ‘Outbreak’?
Feed-back:
An epidemic (or outbreak) is the occurrence of a disease in excess of what is expected in a particular community, for a particular groups of people, within a certain period of time.
Other Terms

- **Endemic** it refers to the constant presence of a disease or infectious agent within a given geographic area or population group. It is the usual or expected frequency of disease within a population.

- **Pandemic** refers to an epidemic occurring simultaneously in multiple locations worldwide.
The example of your country

- Epidemics are the commonest Public Health emergency in our districts.

- In Uganda for example, 6 outbreaks occurred in 8 months: Cholera, Meningitis, Hepatitis E, Marburg, Plague and Ebola.

- Can you name 5 outbreaks that have occurred recently in your district?
Common Epidemic prone diseases

- Diarrhoeal diseases including **watery diarrhoea**, **Cholera**, **dysentery** and **typhoid** are likely to occur in many districts.

- Outbreaks of immunisable diseases like measles are common because immunisation coverage is low.

- Malaria is endemic in most parts of Eastern Africa especially in low land areas; however outbreaks can occur in both low and highland areas.
Other Epidemic prone diseases

- Sexually Transmitted Infections including HIV/AIDS, Syphilis, Gonorrhea etc
- Plague
- Hepatitis E
- Massive chemical poisoning (e.g. poisoning from illicit alcohol)
Detecting an outbreak: Case Study 1

- Let a volunteer read Case Study 1 (Refer to the introductory part of this session in your manual)

- Questions for brainstorming:
  - *Is this a scenario that could occur in your district?*
  - *How did the district authorities establish that there is an outbreak?*
Detecting an Outbreak

• Obtain initial notification of the outbreak
  • We receive information about the likelihood of an outbreak from:
    – The community
    – Cases coming to health centres
  – Local leaders
  – Every rumour must be investigated!
Detecting an outbreak

• There must be a Case Definition for the diseases and it should be known by the health workers at all levels

• There must be an un-expected rise in new cases of these diseases beyond the expected level
Examples of case definitions

• Take 5 minutes to read the case definitions for the following diseases as attached in the reader marked “Extension Activity 1.2: Standard Case Definitions for some Epidemic Prone Diseases”:
  – 1. Polio
  – 2. Measles
  – 3. Cholera
  – 4. Ebola
  – 5. Bacterial Meningitis

• NB: Case definitions may be changed according to the locality and the nature of the symptoms.
Examples of case definitions

• The District RRT can develop a working case definition where there is no standard one depending on common symptoms and risk factors

• Can you suggest a case definition for the following?
  – An outbreak of sudden alcohol related illness and deaths in zone X
  – An outbreak of dysentery in camp Y
  – An outbreak of sudden food-related illness and deaths in a village Z
Thresholds for detecting an outbreak

- Some epidemic prone diseases exist in the community even without an outbreak
  - Outbreaks occur when there is a sharp rise in cases (e.g. Malaria)
Thresholds for detecting an outbreak

- Some epidemic prone diseases do not exist normally in the community

  - The occurrence of just one confirmed case is considered an outbreak (e.g. Cholera)
Thresholds for detecting an outbreak

• Some epidemic prone diseases are rare and highly deadly when they occur
  
  – We do not have to wait for confirmation of a case
  – Just one suspected case is enough to consider an outbreak (e.g. Ebola)
Thresholds for detecting an outbreak

Therefore, thresholds differ from disease to disease

- Cholera – One confirmed case
- Ebola – One suspected case
- Measles – A cluster of 5 or more suspected cases OR at least 3 confirmed positive cases in a catchment area of a health facility in a month
- Malaria – A sharp seasonal rise in cases beyond the usual number of cases
Case Study 2:

- Let a volunteer read Case Study 2 (Refer to the introductory part of this session in your manual)

Questions for general discussion:

- How do you think the District and Ministry of Health officials went about investigating the outbreak?
- What do you understand by the term ‘early response’
Steps in investigating an outbreak

In some of your districts, you have responded to outbreaks; think of a recent suspected outbreak that occurred in your district: what steps did you go through to respond to it?
Step 1:

• **Initial response and confirmation of outbreak**
  
  – Assemble team and prepare for an initial field visit as soon as possible
  
  – Choose a working case definition and confirm cases
  
  – Find cases systematically
  
  – Confirm whether there is an outbreak by comparing occurrence of cases with thresholds
  
  – Describe who is affected, when and where?
Step 2

• **Identify and manage cases**
  – Establish a district task force and allocate them their responsibilities
  – Use the working case definition to find cases
  – Set up a treatment centre
Steps 3

• Set up immediate control measures
  – Treat cases to interrupt transmission and reduce deaths
  – Consider vaccination, disinfection and protective wear
  – Provide health education to those at risk
  – Communicate clearly to reduce panic
Step 4

• **Address the resource gaps**
  – Ensure adequate medical supplies and logistics to handle cases
  – Look for additional resources to address the gaps
  – Contact Ministry of Health and partner agencies
Step 5

- Determine responsible factors and make a report
  - Analyse available information to establish the risk factors
  - Prepare a report and disseminate it
  - Recommend and implement priority control measures

"The Salmonella probe widens" cartoon removed.
Step 6

• **Surveillance: Be on your guard**
  – Strengthen existing system to be able to find cases actively
  – Learn from this outbreak to respond better in future
  – Put in place measures to prevent other outbreaks in future
End!
Public Health Disaster Planning at District Level

Additional Source Information
for more information see: http://open.umich.edu/wiki/CitationPolicy

