

**INTEGRATED DISEASE
SURVEILLANCE PROJECT**

**TRAINING MANUAL FOR
STATE & DISTRICT
SURVEILLANCE OFFICERS**

**OUTBREAK INVESTIGATION,
RESPONSE & CONTROL**

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1. INTRODUCTION

One of the main objectives of IDSP is early detection of disease outbreaks. The course of an epidemic is dependent on how early the outbreak is identified and how effectively specific control measures are applied. The epidemiological impact of the outbreak control measures can be expected to be significant only if these measures are applied in time. Scarce resources are often wasted in undertaking such measures after the outbreak has already peaked and the outcome of such measures in limiting the spread of the outbreak, and in reducing the number of cases and deaths, is negligible.

When outbreaks occur or when the risk of such outbreaks is high, the co-operation of other government departments, non-governmental agencies and the community often becomes necessary. Such help will be more forthcoming if mechanisms for interaction have been developed before the onset of an outbreak.

The frequency of the occurrence of the epidemics is an indication of the inadequacy of the surveillance system and preparedness to identify and control outbreaks in a timely manner. Outbreak investigations are the primary method of confirming emerging infections. Changes in trends observed and suspected outbreaks are confirmed by outbreak investigations. Outbreak investigations provide a rich source of epidemiological information. The outbreaks should be investigated to ascertain its etiology and understand why they occurred as well as to identify high-risk areas and groups. Laboratory help should be utilized in establishing the diagnosis of early cases only. Once the cause of outbreak is confirmed, laboratory support should not be wasted for each and every case. The data collected as a result of outbreak investigations must be utilized for improving Programme activities and the surveillance system as well as for filling gaps identified as a result of these investigations. The results should be shared with other district officers and other states so that the experience gained could be effectively used for preventing such outbreaks in these areas.

Definition of an 'Outbreak and Epidemic:

An outbreak or an epidemic is defined as the occurrence in a community of cases of an illness clearly in excess of expected numbers. While an outbreak is usually limited to small focal area, an epidemic covers larger geographic areas and has more than one focal point.

2. SPECIFIC INSTRUCTIONAL OBJECTIVES

At the end of this training session the participant should be able to:

- ☞ Define an outbreak / epidemic
- ☞ List the various ways of detecting an outbreak / epidemic
- ☞ List the modes of transmission of causative agents of outbreaks
- ☞ Describe warning signs of an impending outbreak

- ☞ Specify the operational threshold levels of diseases under surveillance under IDSP for outbreak investigations in his/her district
- ☞ List the members of District Epidemic Investigating Team (DEIT) in your district
- ☞ Enumerate the situations when DEIT would be initiated
- ☞ Describe the steps of epidemiologic investigation to establish an outbreak and determine its etiology.
- ☞ To outline the appropriate control measures as soon as an outbreak related to the following is established:
 - Water borne diseases
 - Vector borne diseases
 - Vaccine preventable disease outbreaks
 - Outbreaks of unknown etiology

3. FORMAT OF TRAINING SESSION AT A GLANCE

DURATION OF SESSION

3.30 HOURS

| Unit No | CONTENT | METHODOLOGY | TENTATIVE DURATION | TEACHING AIDS |
|---------|--|---------------------------------|--------------------------|---|
| 1 | Outbreak investigation and control | Lecture | 45 Minutes | Training modules/Slide Projector/overhead projector |
| 2 | Group Activity Module reading Discussion | Self learning Group learning | 45 Minutes 30 Minutes | Handouts and Reading Materials |
| 3 | Group Exercises | Group Discussion Plenary | 30 Minutes 30 minutes | Training Modules Exercises |
| 4 | Evaluation exercise | | 10 minutes | Training module exercise |
| 5 | FAQs | Plenary discussion | 20 minutes | FAQs in the training module |

4. GROUP ACTIVITIES

GROUP – 1

Read the following cases study carefully and discuss the questions given at the end. Present the study and the answers at the plenary. (Time: 30 minutes)

Case Study

The district of Maharajpur has a population of about 20 lakhs and is malaria endemic which experienced an epidemic of malaria 7 years ago. It is a district where the primary vocation of people is agriculture. The climate is extreme. The annual rainfall is scanty. The district has 5 CHCs, 20 PHCs and 100 sub centres. Most of the CHCs

report about 700 fever cases in a month. In the present year there has been heavy rainfall in the district. 2 new brick kilns have started operation in the district.

One of the CHCs reported 1300 cases of fever in the current month. Report from one private practitioner in the area of adjacent CHC reported 5 cases of high-grade fever with unconsciousness but the number of cases reported from that CHC was near the average (850 cases of fever were reported).

Questions

1. What inference can you draw from the information provided above?
2. What additional information would you require?
3. What steps would you take?

GROUP - 2

Read the following cases study carefully and discuss the questions given at the end. Present the study and the answers at the plenary. (Time: 30 minutes)

Case Study

In the urban area of Ravidas Nagar, there has been a lot of construction activity to build a residential housing colony for the past 1 year. Till recently the area had a population of about 5000 but after the construction of new houses the population has almost doubled to 9500.

A number of cases of jaundice in adults have been reported in the last two weekly reports for the month of October from the dispensary of Ravidas Nagar. A private practitioner from the area has reported 3 cases admitted with complaints of sudden onset of altered sensorium.

Questions

1. What inferences can you draw from the information given above?
2. How will you proceed?

Group – 3

Read the following cases study carefully and discuss the questions given at the end. Present the study and the answers at the plenary. (Time: 30 minutes)

Case Study

The most recent weekly reports from two CHCs in your district have reported a large number of cases of fever with rash in children below 5 years. Presently the Pulse Polio Programme is also underway in your district.

During a similar period last year measles outbreak was reported and was managed. One of the control measures included a special measles vaccination drive in the area.

Questions

1. Is there a need to involve the DEIT?
2. What difficulties do you envisage in managing the scenario?
3. What further steps would you take?
4. What additional information necessary?

5. IMPORTANT POINTS TO REMEMBER

1. Outbreaks mean:
 - More suffering for people
 - Diversion of scarce resources for control measures and extra work for everybody.
 - Bad publicity
2. “Unless you are looking for it you will not find it” - Detection of an early outbreak requires high index of suspicion through constant vigil.
3. Prompt and timely action is the key to minimize the damage.
4. The emphasis should be on saving lives – logistic support to the field teams should be provided immediately on receiving a report of a suspected outbreak without awaiting verification of the outbreak.
5. Once the etiological agent of the outbreak has been identified, laboratory resources should not be wasted for diagnosing each and every case.
6. In an established outbreak, standard case management for epidemiologically linked cases DOESN'T require lab confirmation and should start immediately.
7. The review on the outbreak control should be done on a daily basis and followed up with feedback to the MO/DEIT/state level.
8. Rumours and misinformation regarding the outbreak and control measures should be dispelled through swift and effective communication with the community.
9. Media interaction (written & verbal) through single designated person
10. Follow up action of an outbreak involves:
 - Review of the process by which the outbreak was managed at various levels.
 - Dissemination/discussion on findings of outbreak investigation measures.

The following 10 Points are recommended for preparatory action for control of Epidemic. However with IDSP most of these will have been identified and initiated as part of the programme itself so that Epidemic preparedness is improved in the future at all levels.

1. Identify the Nodal Officer at the state and District Level
2. Strengthen the routine surveillance system
3. Constitute an inter-disciplinary team at the state/district levels
4. Train medical and other health personnel
5. List the laboratories at the regional/state/district level
6. List 'high-risk' pockets in the rural /urban area
7. Establish a rapid communication network
8. Undertake IEC activities for community participation
9. Ensure that essential supplies are available at the peripheral health facilities and buffer stocks are maintained at the district level.
10. Set up inter-departmental committee, including the NGOs

6. FREQUENTLY ASKED QUESTIONS

1. What should be the criteria for constitution of DEIT members?
2. What is to be done if a specialist required for DEIT is not available?
3. What role does a DSO have in actual outbreak control measures?
4. How does one make sure that the reported increase in number of cases is indeed an outbreak?
5. Why is it not necessary to confirm ALL cases before initiating control measures?

7. HANDOUT ON OUTBREAK INVESTIGATION, RESPONSE & CONTROL

7.1 Definition of an Outbreak

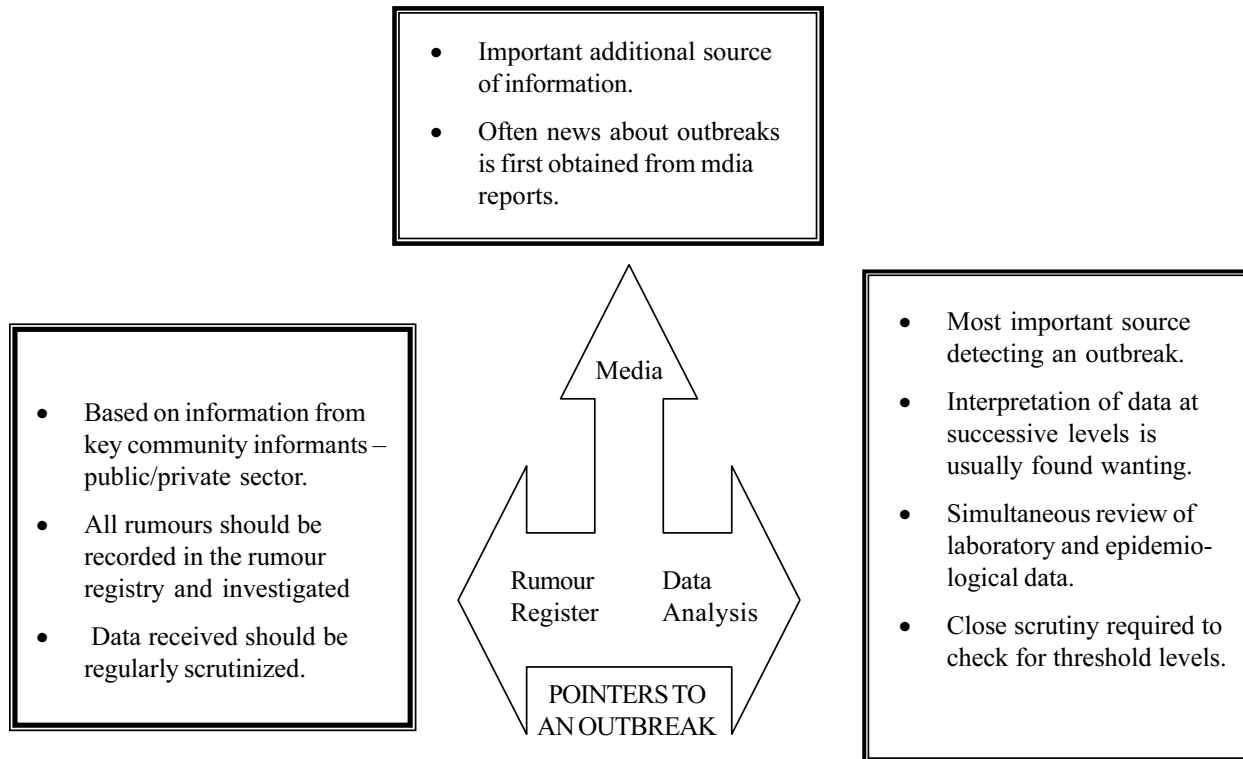
An outbreak or epidemic is defined as the occurrence in a community of cases of an illness clearly in excess of expected numbers. The difference between an epidemic and an outbreak is the scale. While an outbreak is usually limited to a small focal area, an epidemic covers large geographic areas and has more than one focal point.

For field epidemiological purposes another definition of an outbreak is: occurrence of two or more epidemiologically linked cases of a disease of outbreak potential (e.g. measles, cholera, dengue, JE, AFP or plague).

Increase in the total number of cases doesn't necessarily mean increased incidence. Variations in the number of reporting sites, completeness of reports, changes in size of the reporting area, correctness of reports must be taken into consideration while analysing reports.

This difference between an outbreak and epidemic has implications for the scale at which control measures are initiated. Epidemics usually lead to control measures on a district/state wide basis, whereas outbreaks are usually within one district or often a few blocks.

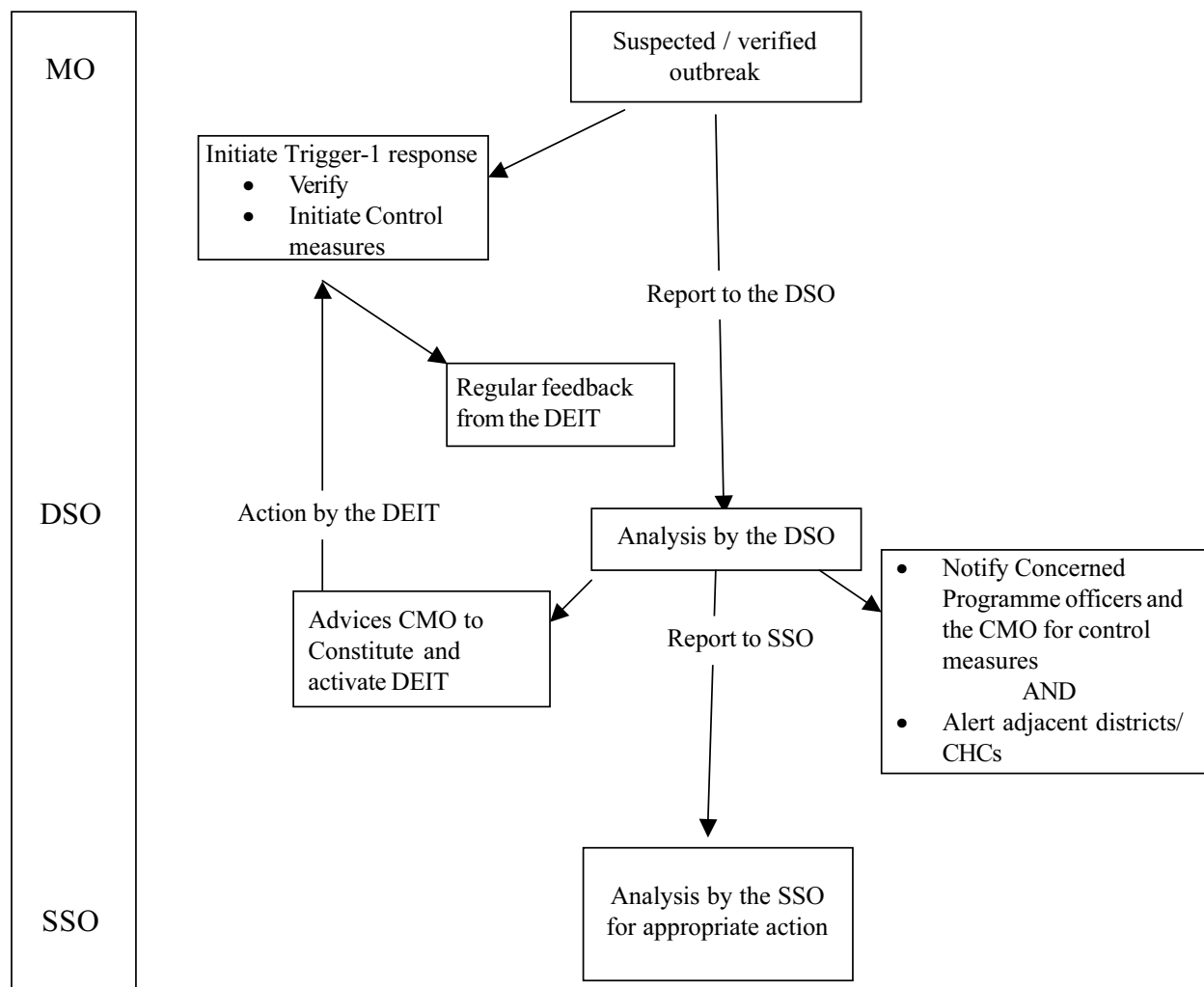
7.2 Detecting an Outbreak:



Warning signs of an impending outbreak:

- Clustering of cases or deaths in time and/or space
- Unusual increase in number of cases or deaths
- Even a single case of measles, AFP, Cholera, Plague, dengue or JE
- Acute febrile illness of unknown aetiology
- Occurrence of two or more epidemiologically linked cases of meningitis, measles
- Unusual isolate
- Shifting in age distribution of cases
- Sudden increase / high vector density
- Natural disasters

7.3 Reporting and Action in an Outbreak



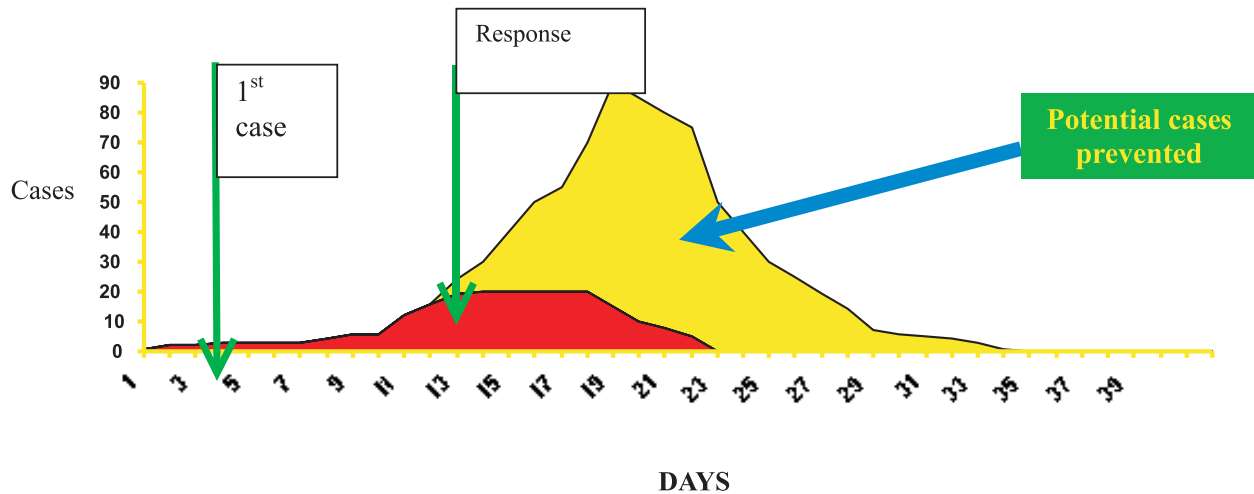
Response to an outbreak and control measures

Some times trigger events indicate a potential outbreak. Details of these are given below.

Preset trigger levels for diseases will be identified with specific responses identified for various levels. The levels will depend on the epidemic potential, case fatality of the disease and the prevalence of the problem in the community(s).

| | | |
|-------------------------|-----------------------------|---|
| Trigger Level-1 | Suspected /limited outbreak | Local response by health worker and MO |
| Trigger Level-2 | Outbreak | Local & District Response by DSO & DEIT |
| Trigger Level -3 | Confirmed Outbreak | Local, District and State level response |
| Trigger Level-4 | Wide spread Epidemic | State Level response to an epidemic |
| Trigger Level-5 | Disaster Response | Local, District, State, Center & Partners |

- In a non-endemic area even 1 case of suspected epidemic prone disease should initiate a trigger response at various levels e.g. report of an AFP case in an areas which has not reported any polio case in last one year.
- In an endemic region change in pattern of disease or evidence of clustering of disease should be considered a trigger event e.g. report of more than 10 cases of jaundice from an urban ward in a week.



Importance of timely action in controlling an outbreak through effective surveillance action

The First Information Report (as per Form C; sample at Annexure 2) should be submitted to the District Surveillance officer by the reporting unit as soon as verification of the suspected epidemic is made.

The fastest route of information available will be used. This may be by Telephone, Fax, E-mail or through IDSP computer format entry.

Summary of Outbreak Preparedness

Preparatory action before an outbreak

- Formation of the DEIT
- Training for the DEIT
- Regular review of the data
- Identifying 'outbreak seasons'
- Identifying 'outbreak regions'
- Ensuring that these regions have the necessary drugs and materials (including transport media) prior to the 'outbreak season'
- Identifying and strengthening the appropriate labs
- Designating vehicles for outbreak investigation and ensuring that it is in working condition.
- Ensuring that communication channels like telephones are in working condition.

7.4 Steps in Outbreak Response

Step 1 - Verification of the outbreak

1. Identify validity of source of information – to avoid false alarm / a data entry error
2. Check with the concerned MO:
 - If there is an abnormal increase in the number of cases or
 - If there is a clustering of cases or
 - If the cases are Epidemiologically linked or
 - If some trigger events have occurred (see above) or
 - If many deaths have occurred
3. The DSO should alert the neighbouring district/CHC/PHC about the outbreak so that preventive measures can be instituted there also.
4. DSO will notify the concerned Programme officer and the CMO about the outbreak.
The concerned Programme division will take further control measures.

The Rapid Response Teams (DEIT):

The DEIT is a multi speciality team that provides assistance in the management of an outbreak.

• **Composition:**

- o An epidemiologist,
- o A clinician and;
- o A microbiologist.
- o Other specialists as per requirement. Further details of the DEIT are given in Annex 6.8

• **Roles and functioning:**

- o Investigation and confirmation of outbreak
- o Assist local health staff in controlling the outbreak
- o Follow up of control measures undertaken
- o It works in coordination with the DSO/CMO/concerned Programme divisions and MO/local health staff.

The updated names, addresses and telephone numbers of the DEIT members should be available with the District and State surveillance officer at all times, so that they can be contacted at a short notice.

Step 2 – Sending the DEIT

- A DEIT should be immediately constituted from the panel of specialists according to the suspected type of outbreak.
- Orientation of the DEIT to the current scenario.
- Resources (vehicles, drugs, reagents and forms) should be made available to the DEIT to move to the affected area.

- Coordination and feedback from DEIT.

The DEIT would investigate the outbreak in the following manner and report to the DSO/concerned Programme officer/CMO.

- The DEIT should file an interim report. A format is given in Annex
- If the epidemic continues unabated, consider action regarding special studies as per the figure below
- Follow-up visits should be undertaken to ensure that the control measures are being implemented adequately.

To Investigate or control?

| | | SOURCE / TRANSMISSION | |
|----------|---------|--------------------------------|------------------------------|
| | | Known | Unknown |
| ETIOLOGY | Known | Control +++ Investigate + | Control + Investigate +++ |
| | Unknown | Control +++ Investigate +++ | Control + Investigate +++ |

Step 3: Monitoring the situation

DEIT will update the DSO on the progress of control measures/state of outbreak. This will be done in liaison with the CMO/concerned Programme officer. The main points to monitor are:

- The trends in the cases and deaths.
- The containment measures that are being implemented
- Drugs / vaccine stock
- Logistic issues – communications, vehicles,
- Community involvement
- Media response

This should continue till the outbreak is officially declared to be over.

Step 4: Declaring the outbreak to be over

When there have been no new cases for a period of 2 incubation periods since the onset of the last case (after rigorous active case search).

Step 5: Review of the final report

To be submitted from the PHC MO within 10 days of the outbreak being declared to be over. The Technical committee should review and make suitable recommendations – immediate and medium term, so that similar outbreaks do not occur in the future.

7.5 Control measures

A - General control Measures

Even as the outbreak is detected, and is being investigated, control measures need to be instituted.

General measures - till the specific source and route of transmission is identified. For example, if one is suspecting water borne disease, then one should start a campaign-requesting people to use safe drinking water.

Response to an outbreak requires additional input of following resources.

- Human resources - Additional MO's, lab technicians and nursing staff.
- Drugs –Mobilization of medicines from other sources/locations.
- Equipment and supplies
- Vehicles and mobility
- 24-hours Communication channels have to be established between the District and the team leader at the outbreak location.
- IEC: To sensitise the community about the problem and to dispel rumours and misinformation. More details are given in Annex
- Handling of the media: Given the impact of the media on the people. Only a designated person should deal with the media regarding the status of the outbreak.

B - Specific control measures

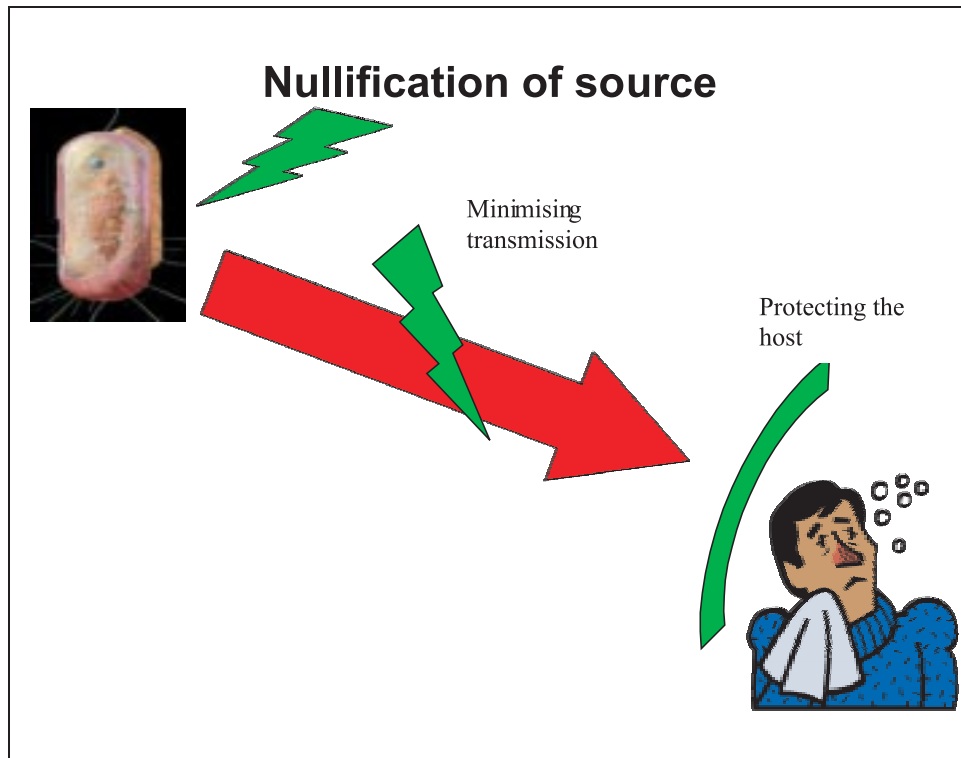
These are summarized in the figure below.

Control Measures for Specific Types of Outbreaks

(a) Water Borne Outbreak

Ensure the following

- **Access to safe drinking water:**
 - No consumption of water from affected sources till it is made safe for consumption.
 - Alternate supply of safe water should be arranged.



- **Sanitary disposal of human waste:**
→ Very important but often neglected.
- **Frequent hand washing.**
- **Adopting safe practices in food handling.**

(b) Vector Borne Outbreak

Ensure the following:

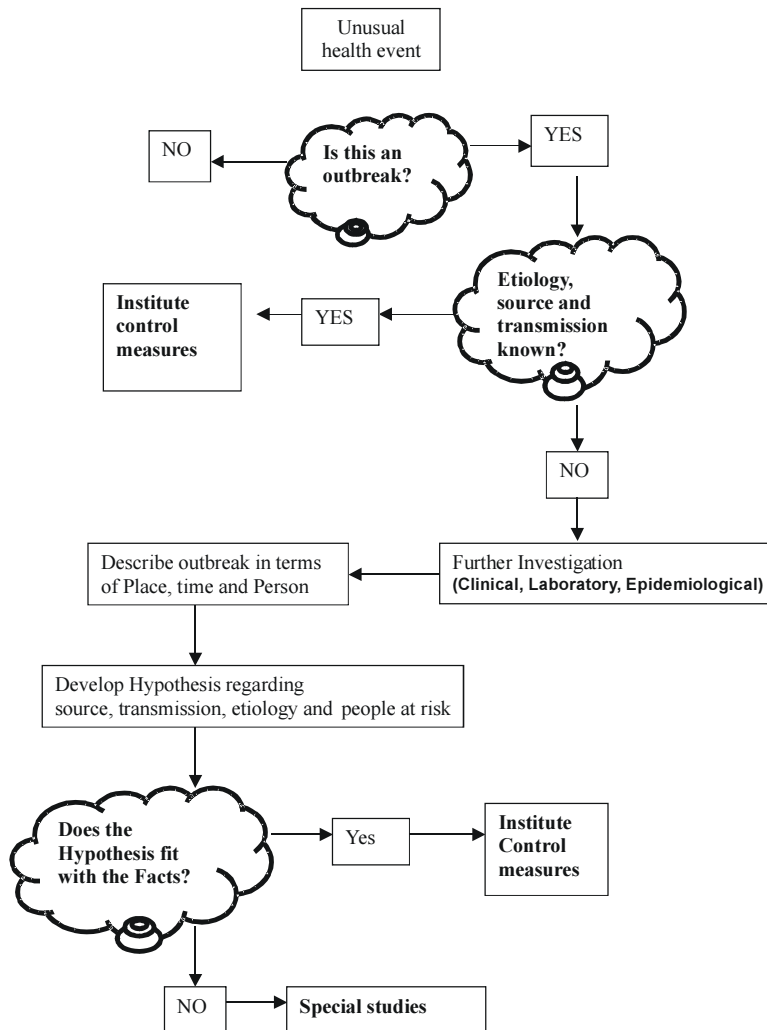
- Vector control: Integrated vector control methods should be implemented on priority under guidance by the entomologist (if available).
- Use of environmental methods (draining of water collections/ stagnation, filling, etc)
- Biological (use of larvivorous fish, *Bacillus thuringensis*, etc) and
- Chemical (larvicidal – abate/ baytex, anti-adult-space sprays, fogging only if absolutely essential, and indoor residual spray with appropriate chemicals)
- Personal protective measures: Prevention of exposure to mosquito bites by using repellents (including neem oil) and use of mosquito nets at night (plain or impregnated) would significantly reduce risk of infection during an outbreak.

(c) Vaccine Preventable Disease Outbreak

Ensure the following:

- Adequate supply of vaccines, syringes and needles
- Adequate staff who are able to administer the vaccines.
- Ring immunisation wherever applicable.

SUMMARY OF RESPONSE TO AN OUTBREAK



7.6 Outbreak of Unusual Syndromes Leading to Death or Hospitalization

Why Surveillance of Unusual Syndrome?

While most common illnesses fit into the syndromic approach, the health workers should be alert for uncommon events in the community also so as to detect new/emerging etiologies of outbreaks.

Syndrome definition

Syndrome Description: The sudden occurrence of unusual events, in a geographical region, causing death or hospitalization and which does not conform with the standard case/syndrome definitions under the existing surveillance mechanisms. Some of the symptoms may be:

- Convulsions
- Alteration in consciousness
- Breathing Difficulty
- Bleeding
- Paralysis
- Others

Trigger: Two cases of death or hospitalisation due to an unusual symptom.

7.7 Reporting

The purpose of reports is:

1. To keep the authorities at the higher level informed so that they can make the appropriate decisions.
2. To help to review the outbreak and response, identify system failures and take corrective measures so that similar events are prevented.

Interim report by DEIT

The DEIT will submit an interim report within one week of starting their investigation, response and control activities. The report should cover verification of the outbreak, total number of affected cases/ deaths, time, person, place analysis, management of the patients, likely suspected source, immediate control measures implemented, etc. The report will include reports by the physician and microbiologist, and entomologist (where applicable). The lab results received during that period, environmental factors, etc. It will also have a provisional hypothesis of the causation of the outbreak and comments/recommendations, if any, including whether any further outside help is necessary.

Final report

Within 10 days after the outbreak has ceased, a final outbreak investigation report must be submitted by the local health authorities. This report must be comprehensive and give a complete picture of the multi-factorial causes of the outbreak, the precipitating factors, the evolution of the epidemic, description of the persons affected,

time trends, areas affected and direction of spread of the epidemic. It should have complete details of lab results including regional lab (cross verification and strain identification), confirmation of the provisional diagnosis and other relevant information.

It is important that feedback from the report is shared with the lower levels and also other districts. Publication in a journal will ensure wider dissemination of results.

8. EVALUATION QUESTIONS

1. An outbreak is suspected when the occurrence of cases is above the preset _____ levels.
2. Sources of information for an outbreak include media reports, routine reports and _____.
3. Trigger level 3 actions are undertaken in _____ area.
4. An outbreak is declared over when no new cases have been reported for _____ period of _____ case search.
5. Specific control measures are undertaken by _____ (DSO/specific Programme division/ CMO).

True or False type

6. DEIT is permanently stationed at the District Surveillance Office. (T/F)
7. All outbreaks require special studies to identify the etiological agent.
T/F
8. Laboratory confirmation of epidemiologically linked cases is necessary for standard case management.
 - True
 - False
9. Specific control measures are aimed at nullification of source, protecting the host and _____.
10. Unusual cases are detected through _____ approach.

SUMMARY OF OUTBREAK INVESTIGATIONS

Response by Health Worker

| S.No | Syndrome | Trigger event | Action taken |
|------|--|---|---|
| 1 | Acute watery stools | A single case of severe dehydration /death in a patient > 5 years of age with diarrhoea. More than 10 houses having at least one case of loose stools irrespective of age per village or an urban ward | <ol style="list-style-type: none"> 1. Treat with appropriate antibiotics. 2. Treat with ORS 3. Refer to PHC if dehydration is severe. 4. Inform MO PHC 5. Collect water samples and send to PHC for analysis. 6. OT testing 7. Check TCL stock (bleaching Powder) 8. Train the local person/s about chlorination of water. 9. IEC for community awareness about safe water and personal hygiene. |
| 2 | a) Fever < 7 days duration Only fever | 5 cases in 1000 population. | <ol style="list-style-type: none"> 1. Slides for MP with presumptive /RT for malaria 2. Inform MOPHC. 3. IEC for community awareness. |
| | b) With rash (Measles / Dengue) | Two similar cases in a village (1000 population) | <ol style="list-style-type: none"> 1. Collect slide for MP 2. Refer the case to PHC 3. Inform MOPHC 4. Give vitamin A 5. Give paracetamol. 6. Check immunisation 7. Surveillance for Aedes Egypti Larvae in the house. <ol style="list-style-type: none"> a. Containers b. Coolers, etc |
| | c) Altered consciousness | Two cases of fever with altered consciousness in the village / 1000 population | <ol style="list-style-type: none"> 1. Collect slide for MP 2. Refer the case to CHC/DH 3. Antipyretics (Avoid Aspirin) 4. Inform to PHC 5. IEC |
| | d) Fever with bleeding | Two cases of fever with bleeding in a village or 1000 population | <ol style="list-style-type: none"> 1. Refer the case to CHC/DH 2. Inform to PHC 3. IEC |
| | Fever with convulsions | Two cases fever with convulsions in a village or 1000 population | <ol style="list-style-type: none"> 1. Refer the case to CHC/DH 2. Inform to PHC 3. IEC |
| | Fever more than 7 days | More than 2 cases in a village or 1000 population | <ol style="list-style-type: none"> 1. Give paracetamol. 2. Collect slide for MP 3. Give anti malarial treatment. *4. Inform and refer to PHC for treatment. 5. OT testing of drinking water. 6. Collect water sample and send it to PHC for onward transmission. |

| S.No | Syndrome | Trigger event | Action taken |
|------|---------------|---|--|
| | | | <ul style="list-style-type: none"> 7. Check TCL stock. 8. Train local person about water Chlorination. 9. Community awareness about safe water and Personal hygiene. |
| 3 | Jaundice | More than 2 cases in a village or in 1000 population. | <ul style="list-style-type: none"> 1. Refer to PHC 2. Inform MOPHC 3. Search and refer antenatal cases with jaundice in 2nd/3rd trimester. 4. Collect water samples for analysis and send it to PHC 5. OT testing of drinking water. 6. Collect water sample and send it to PHC for onward transmission. 7. Check TCL stock. 8. Train local persons about water Chlorination. 9. Community awareness about safe water and Personal hygiene. |
| 4 | Unusual event | More than 2 deaths or hospitalization | <ul style="list-style-type: none"> 1. Inform MOPHC 2. Community awareness |

MEDICAL OFFICER LEVEL (PHC/CHC)

| Serial No. | Probable Diagnose | Trigger event | Action taken |
|------------|---------------------------------------|--|---|
| 1 | Acute watery diarrhoea/Cholera | A single case of cholera or epidemiologically linked cases of diarrhoea, / a case of severe dehydration or death due to diarrhoea in a patient > 5 years old Clustering of cases particularly in a village or ward where more than 10 houses having at least 1 case of loose stools irrespective of age | <ul style="list-style-type: none"> • Verify the information from ANM. • Confirmation of the outbreak. • Active search of cases with standard case definition. • Standard case management. • Stool sample collection for Cholera. • Ensure safe water supply. • Inform district authority and ask for help SOS. • IEC. • Documentation. • Ensure buffer stock. |
| 2 | Typhoid | More than 30 cases of prolonged fever in a week from the entire PHC or 5 or more case per week from 1 sub-centre. OR More than 2 cases from a single village/ urban ward with 1000 population | <ul style="list-style-type: none"> • Verify the information from ANM • Confirmation of the outbreak • Active search of cases with standard case definition • Stool sample collection • Standard case management • Ensure safe water supply • Inform district authority and ask for help SOS • IEC • Documentation • Ensure buffer stock • Blood culture for S typhi. |
| 3 | Viral hepatitis | Clustering of cases from a particular village / urban ward where more than 2 cases of jaundice have been found in different households OR More than 10 cases per PHC per week. | <ul style="list-style-type: none"> • Clinical verification. • Standard case management. • Active search of cases. • Ensure Safe Water supply. • Serological investigation. • Active search for 2nd/3rd trimester cases with jaundice and keep them under observation with referral to district hospital SOS. • Investigation of water treatment plant/ pipeline leakages. |
| 4 | Measles | A single case of probable measles from a tribal or remote area Two or more cases with fever with rash | <ul style="list-style-type: none"> • Verify the case through clinical manifestation. • Send samples for laboratory testing. • Standard case management. • Active search of cases. • Ring vaccination. • Vitamin A • IEC |
| 5 | Japanese Encephalitis | Even a single case of probable JE or 2 cases with fever with altered consciousness / seizures. | <ul style="list-style-type: none"> • Verify the information. • Clinical confirmation. • Standard case management. • Active search of cases with standard case definition. • Vector surveillance and control. • IEC |

| Serial No. | Probable Diagnose | Trigger event | Action taken |
|------------|---|---|---|
| | | | <ul style="list-style-type: none"> • Subsequently inform to higher authority. • Isolation of virus. • Sero-diagnosis • Referral of serious cases to district hospital. |
| 6 | Dengue/DHF | Even a single case of suspected DHF from a community Rising number of fever cases for previous 3 weeks | <ul style="list-style-type: none"> • Verify the information. • Suspect if clustering of fever cases with M.P. negative slides are found. • Confirmation of outbreak. • Standard case management. • Active search of cases with standard case definition. • House-to-house Vector surveillance for <i>A. Egypti Larvae</i>. • Fogging/spraying if necessary. • Inform the DHO. • IEC • Empty the coolers, vessels and keep them dry for 24 hours at least once in a week. • Remove garbage. (Containers etc.) • Laboratory confirmation. |
| 7 | Malaria | Even single case is found malaria + ve in an area where malaria was not present for minimum three months. OR SPR rise more than double over last three months. OR States will have to set trigger value based on endemicity of malaria. | <ul style="list-style-type: none"> • Mass survey for fever cases. • Microscopic examination within 24 hours • Start CRT to all fever cases/all contacts of + ve cases and all migratory population. (in case of single PF case of indigenous origin is found) • Focal spraying with synthetic pyrethroid • Fogging daily X 3 days followed by biweekly for 3 weeks. • Larvicidal application • Elimination of mosquitogenic places by tempting of water tables, land filling, channelizing the drains. • Activate DDC/FTD • Involve local bodies and community by IEC. • Daily surveillance for 3 to 4 weeks. |
| 8 | Unusual syndromes causing death or hospital admission | Hospitalisation or death of minimum two cases of similar illness from same geographical area. | <ul style="list-style-type: none"> • Verification of the rumour. • Clinical verification of cases. • Basic Life Support and emergency medical care. • Refer to appropriate hospital if necessary. • Active search of cases. • Autopsy and preservation of body fluid and tissues of vital organs for laboratory diagnosis. • IEC to avoid panic. • Reporting to the higher authority. |

FIRST INFORMATION REPORT FORM – FORM C
Officer In Charge CHC/PHC – Trigger-1 Response

General Information

State : _____
 District : _____
 Town / PHC : _____
 Ward / Village : _____
 Population : _____
 District code No : _____ Unique identifier Reporting unit: _____

Background Information

Person reporting the outbreak : _____
 Date of report : _____
 Date investigations started : _____
 Person(s) investigating the outbreak : _____

Details of Investigation

Describe how the cases were found (may include: (a) house-to- house searches in the affected area; (b) visiting blocks adjacent to the affected households; (c) conducting record reviews at local hospitals; (d) requesting health workers to report similar cases in their areas, etc.):

Descriptive Epidemiology

1. Cases by time, place and person (attach case based reporting forms and relevant graphs and maps).
2. Age-specific attack rates and mortality rates
3. High-risk age groups and geographical areas.

Description of Control Measures taken

Factors which, in your opinion, contributed to the Outbreak

Conclusions and Recommendations

FORM-C – Trigger 1 Response

Case based reporting Format for diseases of epidemic potential

AFP Cholera Dengue JE Measles Plague Others_____ (please specify)

Suspect Probable Confirmed

Name and address of patient _____

Age Sex Date of onset_____ Immunisation status_____ (if applicable)

Present status – alive / dead / admitted /

If admitted – name and address of health facility_____

Number of cases with similar features in the locality:_____

Signature of the authority

Name and designation of the reporting authority

Specimen send for confirmation with serial numbers_____

Name and address of the reporting person (with telephone no:)

Final diagnosis (to be filled by the District Surveillance Officer)

AFP CholeraDengueJE Measles Plague Others_____ (please specify)

Suspect Probable Confirmed

Date of diagnosis _____

1. Local / 2. Imported

Date

(Name and Designation)

Note: This report should be submitted by the investigating officer (State / District /PHC Nodal Officer) to the next higher authority within a week of completion of investigation. Tables and Graphs should be included wherever appropriate.

Filling Form C

This is filled and reported only when a case is suspected and is a case based reporting. The source of data will be from the patient's.

- One form for one patient
- If there are more than 5 patients, then the details of the first 5 patients maybe filled up and the details of the rest maybe included in the line listing.
- Circle the suspected disease
- Circle whether it is suspect, probable or confirmed
- The detailed name and address of the patient is required
- Age and sex of the patient should be recorded. In the event of a child less than 5 years, the date of birth would be preferable
- The date of onset indicates the date on which the patient developed the initial symptoms
- The current status of the patient should be recorded.
- Following the investigations by the concerned authorities, the district health authority will confirm the outbreak. This will then be entered into the bottom half of the form and filed (after entering into the computer).