# DISEASE SURVEILLANCE SYSTEM

## GUIDELINES FOR MEDICAL OFFICERS AND REPORTING FORMATS

KARNATAKA HEALTH SYSTEM DEVELOPMENT PROJECT

## PREFACE

This manual has been prepared for guiding the medical officers of all primary and secondary level health institutions in Karnataka on surveillance of infectious diseases and non-infectious diseases of public health importance.

This manual includes the basic information on disease surveillance, method of reporting case definitions, types of surveillance and reporting formats for various diseases.

The medical officers are requested to study this manual carefully and understand the importance of accurate and timely reporting, so that, timely and appropriate measures can be taken by the designated agencies to control the diseases.

# GUIDELINES FOR SURVEILLANCE

**Burden of Diseases:**

The burden of infectious diseases in the state is very high. Infectious diseases are major causes of morbidity and mortality in children as well as all hospital admissions. Tuberculosis and malaria are leading causes of death. Diseases, hitherto unknown to Karnataka, such as Japanese Encephalitis and Dengue fever are spreading.

The population is undergoing socio-economic transition or change on account of urbanisation, increased travel, reduced physical activities, changing food and lifestyles. This has resulted in the increased prevalence of non-infectious diseases like coronary thrombosis, hypertension, diabetes, cancer etc..

Outbreaks of epidemics and increased prevalence of non-infectious diseases cause heavy human and economic burden. Due to increased international travel there is high risk of importing new infections with potential for an explosive outbreak e.g., yellow fever. International health agencies such as WHO, enforce member countries to comply with International Health Regulations so that the risk is minimised.

**Need for Disease Control:**

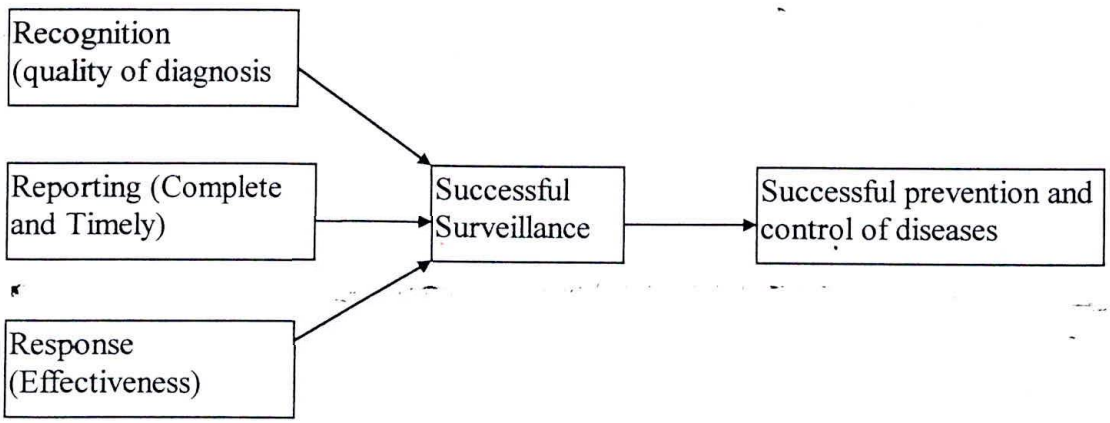
There is urgent need for disease control. Some of the approaches for controlling diseases which has been adopted so far are as follows:-

1. Prophylactic immunization (primary prophylaxis). E.g., vaccine preventable childhood diseases like Measles, Diphtheria, Pertussis, Tetanus, Polio.
2. Early diagnosis and prompt treatment (secondary prophylaxis). E.g., TB, Leprosy.
3. Vector control. E.g., Malaria.
4. Cost effective treatment have drastically reduced mortality due to some diseases like Cholera and Plague.
5. Improving food hygiene, ensuring safe drinking, zooprophylaxis prevent outbreak of diseases like food and water borne diseases, flurosis rabies etc..

**Disease Surveillance:**

Any of these interventions are possible only when all the information pertaining to the disease and its outbreak is available. Sporadic cases of infectious diseases turn into epidemic outbreaks due to amplification and transmission of infectious agents which happens silently. Detecting diseases, its origin, distribution and clustering (unusual occurrence of disease in many people at a time and place) are essential steps to understand the phenomenon of amplification and transmission. The word surveillance is used for this process of reporting diseases of public health importance, giving details of who is affected, how many, with what, where, when and how, to institutions which takes measures. Surveillance is the first essential step before taking action to control diseases. Continuous monitoring of the background phenomenon of diseases are essential for early warning signals of any outbreak.

**Diagram : Importance of Surveillance**




**Importance of Disease Surveillance:**

Surveillance is necessary for achieving disease eradication. Systematic surveillance of Acute Flaccid Paralysis (AFP) is required for polio eradication. Similarly, measles which is now targeted for eradication requires surveillance.

Surveillance helps to document impact of national programmes. Surveillance system is essential to identifying the areas of low coverage and potential risk of outbreaks. E.g., diphtheria.

**Types of Surveillance:**

Information regarding occurrence of diseases and their background may be collected by two types of surveillance:

a) Passive surveillance: Where data is collected at sub-centre, PHC/PHU, CHC or other health institution by health workers whenever a patient reports with a particular disease under surveillance programme.
b) Active surveillance: Information gathered about a disease when a health worker visits a household and collects data.

**Types of diseases that may be brought under surveillance**

| Type | Reasons |
|---|---|
| 1. Infectious | • Caused by a single agent.<br>• Easily preventable.<br>• Significant from public health view.<br>a. Targeting diseases for eradication. E.g., polio, measles.<br>b. Targeting diseases for elimination / control. E.g., malaria.<br>c. Targeting for local control measures (outbreaks). E.g., Gastroenteritis. |
| 2. Non-infectious a) | • Caused by multiple agents (factors).<br>• Requires designing of control strategies.<br>E.g., coronary heart disease, diabetes. |

**Diseases included for Surveillance:**

Diseases which are being brought under district and state surveillance system through KHSDP are as follows.

1. AIDS
2. Bacillary dysentery
3. Cholera
4. Dengue
5. Diphtheria
6. Japanese Encephalitis
7. Hepatitis
8. Measles
9. Meningococcal disease
10. Neonatal tetanus
11. Pertussis
12. Plague
13. Rabies
14. Salmonellosis
15. Syphillis
16. Tuberculosis

**Reporting Diseases under Surveillance:**

For effective surveillance, information has to flow continuously from the peripheral health care services to the central agency. Three levels of reporting are recognised:-

i. Peripheral: Consisting of sub-centres of PHC/PHUs.
ii. Intermediate at District level.
iii. Central level: At Directorate of Health & Family Welfare Services.

Two types of reporting are essential for diseases:

a) Case based reporting: On occurrence of some diseases e.g., Cholera, Plague, Japanese Encephalitis, which need constant monitoring and early & effective control measures.

b) Aggregated monthly reporting: For all diseases under surveillance.

The table below gives detail about reporting of diseases.

| Level of Reporting | Person Responsible | Information Available | Person/s Receiving Report | Periodicity | Person Taking Action |
|---|---|---|---|---|---|
| 1. Periphery : | | | | | |
| a) Sub-centre | JHA (M & F) | Anganwadi Teachers etc. | A.M.O.(PHC) | Case based reporting: within 24 hrs of case occuring. Aggregate report monthly | A. M. O. |
| b) PHC | A. M. O. (PHC) | -do- | D.S.O., D H & F W O Taluka MO | | D. S. O. D H & F W O |
| 2. Intermediate | D H & F W O D.S. | - | AD(CMD) D H & F W O | -do- | AD(CMD) |
| 3. Central | D H & F W O | - | Director General H & F W S, Govt. Of India | - | - |

The success and sustainability of the surveillance system will depend largely on the appropriateness and timeliness of responses elicited by disease reports. Three types of responses are expected from agency receiving the report:-

- Information feedback
- Investigation for aetiology or risk factors
- Interventions for disease control

This critical link between information and action is often weak in surveillance system and which needs to be strengthened. This is one of the main objective of Disease Surveillance Programme under KHSDP.

## Acute bloody diarrhoea (children under 5)

### RATIONALE FOR SURVEILLANCE

Bloody diarrhoea in children is usually a sign of invasive enteric infection that carries a substantial risk of serious morbidity and death especially in developing countries. Shigella is most frequently isolated from the stools of affected children. WHO's policy through the Child Health and Development division is to promote an integrated affordable approach to the management of the sick child. The primary objective is to reduce morbidity and mortality.

### RECOMMENDED CASE DEFINITION

**Clinical case definition**

Acute diarrhoea with visible blood in the stool

**Laboratory criteria for diagnosis**

Laboratory culture of stools may be used to confirm possible outbreaks of specific diarrhoea, but is not necessary for case definition

**Case classification**

Not applicable

### RECOMMENDED TYPES OF SURVEILLANCE

Patient records should be maintained at peripheral level.
Routine monthly reporting of aggregated data from peripheral level to intermediate and central level.
Community surveys/Sentinel surveillance to complement routine data and for evaluation of control programme activities

**Note:** Laboratories involved in diagnosis of *Shigella dysenteriae* type 1 should report confirmed cases including zero reporting.

### RECOMMENDED MINIMUM DATA ELEMENTS

**Case-based data at peripheral level**

Unique identifier, age, sex, geographical area
Date onset, date treatment
Treatment given (Y/N), kind of treatment
Hospitalised(Y/N)
Outcome

**Aggregated data for reporting**

Number of cases < 5 years by geographical area
Number of deaths < 5 years by geographical area

### RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

- Number of cases by month, geographical area, age group
- Comparisons with same month and geographical area in previous years
- Seasonal and secular data (best presented as line graphs)
- Monthly surveillance summaries should be produced nationally and regionally and fed back
- A quarterly or annual overview is helpful in trying to identify areas of concern and set priorities

## A03

## *Bacillary dysentery*

(caused by *Shigella dysenteriae* type 1)

### RATIONALE FOR SURVEILLANCE

Since the early 1990's the emergence of strains of *Shigella dysenteriae* type 1, resistant to most antibiotics, has become a major public health concern in central and southern Africa. The high case fatality and the epidemic potential make surveillance to detect and control the outbreaks essential.

### RECOMMENDED CASE DEFINITION

**Clinical case definition**

Diarrhoea with visible blood in the stool

**Laboratory criteria for diagnosis**

Isolation of *S. dysenteriae* type 1 from stools

**Case classification**

*Suspected:* A case that meets the clinical case definition
*Probable:* Not applicable
*Confirmed:* A suspected case that is laboratory-confirmed

### RECOMMENDED TYPES OF SURVEILLANCE

Routine weekly/monthly reporting of aggregated data on suspected cases from periphery to intermediate level (This may be integrated with surveillance of diarroeal diseases).
Routine weekly/monthly reporting of data on confirmed cases from intermediate level to central level.

**Note:**

- Intensified surveillance if suspected outbreak: immediate reporting to central level and WHO regional office and investigation
- Central recording of antibiotic resistance is recommended

### RECOMMENDED MINIMUM DATA SET

**Case-based data for reporting and investigation**

Case classification (suspected/confirmed), unique identifier, age; geographical information
Treatment given(Y/N), kind of treatment
Outcome

**Aggregated data for reporting**

Number of cases (suspected/confirmed) by age group (under or over 5 years), number of hospitalisations, number of deaths

## A00

## Cholera

Case report universally required by International Health Regulations

### RATIONALE FOR SURVEILLANCE

Cholera causes an estimation of 120 000 deaths per year and is prevalent in 80 countries. In Africa epidemics have become more frequent and case fatality rates higher. The world is currently experiencing the 7th pandemic. Refugee or displaced populations are at major risk of epidemics due to the conditions prevailing in the camps (unsafe water, poor sanitation and hygiene). Control of the disease requires appropriate surveillance with universal case reporting. Health education of population at risk and improvement of living conditions of population are essential preventive measures.

### RECOMMENDED CASE DEFINITION

**Clinical case definition**

- In an area where the disease is not known to be present, severe dehydration or death from acute watery diarrhoea in a patient aged 5 years or more **or**
- In an area where there is a cholera epidemic, acute watery diarrhoea, with or without vomiting in a patient aged 5 years or more*

**Laboratory criteria for diagnosis**

Isolation of *Vibrio cholerae* 01 or 0139 from stools in any patient with diarrhoea

**Case classification**

*Suspected:* A case that meets the clinical case definition
*Probable:* Not applicable
*Confirmed:* A suspected case that is laboratory-confirmed

Note: in a cholera-threatened area, when the number of "confirmed" cases rises, shift should be made to using primarily the "suspected "case classification.

*Cholera does appear in children under 5 years, however, the inclusion of all cases of acute watery diarrhoea in the 2–4 year age group in the reporting of cholera greatly reduces the specificity of reporting. For management of cases of acute watery diarrhoea in an area where there is a cholera epidemic, cholera should be suspected in all patients.

### RECOMMENDED TYPES OF SURVEILLANCE

Routine surveillance (this may be integrated with surveillance of diarrhoeal diseases: see acute watery diarrhoea).
Immediate case-based reporting of suspected cases from periphery to intermediate level and central level. All suspected cases and clusters should be investigated.
Aggregated data on cases should also be included in routine weekly/monthly reports from peripheral to intermediate and central level.

International: The initial suspected cases should be reported to WHO (mandatory).
Aggregated data on cases should be reported to WHO (mandatory).

Outbreak situations:

- During outbreak situations surveillance should be intensified with the introduction of active case finding
- Laboratory confirmation should be performed as soon as possible
- Thereafter weekly reports of cases, ages, deaths, regions, and hospital admissions should be set up

## COMMUNICABLE DISEASES SURVEILLANCE PROGRAMME

### Aggregated Data Report From District Surveillance Unit For Cholera, Bloody Dysentery, Acute Bloody Diarrhoea

| | | | | | | |
|---|---|---|---|---|---|---|
| **A** | District | | No. of Talukas | Name of D H & F W O | Signature | Reporting |
| | Code | Name | Reported | | | Month / Year |
| | | | | | | |
| **B** | Aggregated Monthly Data Submitted to: | | | Copy to: | | |

| Sl. No. | Taluka | Cholera | | | | | | Bloody Dysentery | | | | Acute Bloody Diarrhoea | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Confirmed Cases | | | | No. of Deaths | Zero Report | No. of Confirmed Cases | | No. of deaths | Zero Report | No. of Confirmed Cases | | No. of Deaths | Zero Report |
| | | < 5 years | | > 5 years | | | | < 5 years | > 5 years | | | < 5 years | > 5 years | | |
| | | M | F | M | F | | | | | | | | | | |
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## COMMUNICABLE DISEASES SURVEILLANCE PROGRAMME

### Daily case based data for Cholera / Gastro Enteritis

**(To be submitted by Health Workers (M/F) to the PHC on occurrence of every suspected case)**

| | |
|---|---|
| **Name of the reporting S.C.:** | **Date & month of reporting:** |
| **Name of the Officer or information:** | **Signature:** |
| **Report submitted to:** | **Copy to:** |

| Sl. No. | Name of the patient | Age (yrs) & Sex (M/F) | Identified by | Date of onset | Signs & symptoms | Treatment given | Geographic information | | Motion samples collected or not | Water sample collected or not | Total sample collected | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | S.C. | Village | | | Motion | Water |
| | | | | | | | | | | | | |
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Address:

Signature of reporting Authority

Date:

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## COMMUNICABLE DISEASES SURVEILLANCE PROGRAMME

### Daily case based data for Cholera / Gastro Enteritis

**(To be submitted by the Administrative Medical Officer of all the Medical Institutions in the district to the District Surveillance Units and D.H.& F.W.O. on occurrence of every suspected / confirmed case)**

| | |
|---|---|
| **Name of the reporting institution:** | **Date & month of reporting:** |
| **Name of the Administrative Medical Officer:** | **Signature:** |
| **Report submitted to:** | **Copy to:** |

| Sl. No. | Name of the patient | Age (yrs) & Sex (M/F) | Identified by | Date of onset | On the day | | Up to date | | Geographic information | | | | Treatment given | Samples collected for culture & examination | | Cholera cases | | Water samples collected | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Attacks | Deaths | Attacks | Deaths | Village | SC | PHC | Hospital | | Motion samples | Cholera +ve | Attacks | Deaths | No. of samples examined | Lab results |
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Signature of the Administrative Medical Officer

(**Note**: Fill up the relevant columns applicable to their institutions)

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# Karnataka Health Systems Development Project

## Surveillance of Communicable Diseases

### Case report for Gastro Enteritis / Cholera

**(To be filled up by the Medical Officer for every suspected case / contacts he examines)**

| | | | | |
|---|---|---|---|---|
| **A.** | Village | | Sub-centre | |
| | Taluka | | District | |
| | PHC | | Name of MO with signature: | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **B.** | **Personal history of case** | | | | | |
| | Name: | | Age: | Sex: Male / Female | | |
| | Marital Status | Father / Husband | Education | | | |
| | Married / Single | | Nil | Primary | Secondary | University |
| | Occupation: | | Address: | | | |
| | No. of family members: | | No. having same complaints: | | | |

| | | | |
|---|---|---|---|
| **C.** | **Case History** | | |
| | Complaints: Watery diarrhoea / Vomiting / Fever | | |
| | Date of onset: | Last food eaten at: | Date: |
| | Whether moved out during last 15 days: Yes / No. | | |
| | If Yes, Village/s visited: | | |
| | Reasons for visit: Work / Meeting relatives / Festivals / Other (specify): | | |
| | Source of drinking water: Well / Tap / Lake / River / Hand pump | | |
| | Food consumed: Home made / Community food / Hotel food | | |
| | Had contact with person/s with same symptoms (shared food/water/utensils): Yes / No | | |
| | If Yes, Name and address of that person/s: | | |
| | Type of latrine used: Open field / Service / Sanitary / Community latrine | | |
| | Practices handwashing following defaecation: Soap / Ash / Mud / Only water | | |
| | Case informed to J.H.A. at Sub-centre, Village Headman, Anganwadi, Teacher, other (specify) | | |
| | Past history: | | Date: |
| | **Treatment:** Taken / Not taken. If taken, by whom: Pharmacy/Private practitioner/Sub-centre/Other (specify) | | |
| **D.** | Treatment details: Specific (Antibiotics): Non-specific (Fluids, Antidiarrhoeals etc.): | | |
| | **Examination report** | | |
| **E.** | General condition: Ambulent / critically ill (low BP, dehydration, signs of shock) | | |
| | Pulse: | Temp: | BP: | Degree of dehydration: Mild / Moderate / Severe |
| | Specific signs if any | | | |
| | Investigations: Vomitus sample / Stool sample | | | |
| **F.** | **Outcome** | Recovered with Date: | | Died (Date): |

**CR - 1**

**Note:** Please fill all columns. Where multiple responses/findings are given, put (✓) against response given/finding observed.

# A36

# *Diphtheria*

## RATIONALE FOR SURVEILLANCE

Diphtheria is a widespread severe infectious disease that has the potential for epidemics. The control of diphtheria is based on the following three measures 1) primary prevention of disease by ensuring high population immunity through immunization; 2) secondary prevention of spread by the rapid investigation of close contacts, to ensure their proper treatment, 3) tertiary prevention of complications and deaths by early diagnosis and proper management. Surveillance data can be used to monitor levels of immunization coverage (Target > 90%) and disease, to predict epidemics and to monitor the impact of control programmes. Recent epidemics have highlighted the need for adequate surveillance and epidemic preparedness.

## RECOMMENDED CASE DEFINITION

**Clinical case definition**

An illness characterised by laryngitis **or** pharyngitis **or** tonsillitis, **and** an adherent membrane of the tonsils, pharynx and/or nose

**Laboratory criteria for diagnosis**

- isolation of *Corynebacterium diphtheriae* from a clinical specimen, **or**
- fourfold or greater rise in serum antibody, (but only if both serum samples were obtained before the administration of diphtheria toxoid or antitoxin)

**Case classification**

*Suspected:* Not applicable

*Probable:* A case that meets the clinical description

*Confirmed:* A probable case that is laboratory-confirmed or linked epidemiologically to a laboratory-confirmed case

Note: Asymptomatic persons with positive *C. diphtheriae* cultures (i.e. asymptomatic carriers) should not be reported as probable or confirmed diphtheria cases

## RECOMMENDED TYPES OF SURVEILLANCE

Routine monthly reporting of aggregated data of probable or confirmed cases from peripheral level to intermediate and central level.

All outbreaks should be investigated immediately and case-based data collected.

In addition in countries achieving low incidence (usually where coverage is >85-90%): immediate reporting of case-based data of probable or confirmed cases from peripheral level to intermediate and central level.

International: Aggregated data of probable or confirmed cases from national reports should be reported monthly to the WHO regional offices.

## RECOMMENDED MINIMUM DATA ELEMENTS

Aggregated data for reporting:

- Number of cases
- DTP doses administered to infants

Case-based data

- Unique identifier
- Geographical information
- Date of birth
- Date of onset
- Date of first treatment
- Treatment type (antibiotic & antitoxin/antibiotic only/antitoxin only/no or other treatment/unknown

## B05

## *Measles*

RATIONALE FOR SURVEILLANCE

Measles is targeted for elimination (9GPW 6.2). Surveillance for measles should evolve with each phase of measles control. Countries in the "measles control" phase are endemic and should concentrate on raising routine measles immunization coverage and focusing extra immunization efforts in areas with high measles morbidity. Countries in the more advanced "measles outbreak prevention phase" are achieving high routine measles coverage and low incidence with periodic outbreaks. Surveillance in these countries should be used to predict potential outbreaks and identify risk outbreak. Countries in the most advanced "measles elimination phase" in which the objective is to completely interrupt measles transmission require very intensive case-based surveillance to detect, investigate, and confirm every suspect measles case in the community.

RECOMMENDED CASE DEFINITION

**Clinical case definition**

Any person with:

- fever, **and**
- maculopapular (i.e. non-vesicular) rash, **and**
- cough, coryza (i.e. runny nose) or conjunctivitis (i.e. red eyes).

or Any person in whom a clinician suspects measles infection

**Laboratory criteria for diagnosis**

- At least a four-fold increase in antibody titre **or** isolation of measles virus **or**
- Presence of measles-specific IgM antibodies

**Case classification**

*Clinically confirmed:* A case that meets the clinical case definition

*Probable*: Not applicable

*Laboratory-confirmed* A case that meets the clinical case definition and that is laboratory confirmed or linked epidemiological to a laboratory-confirmed case

RECOMMENDED TYPE(S) OF SURVEILLANCE

**Control phase**: When measles is endemic, routine monthly reporting of aggregated data of clinical cases from peripheral to intermediate and central level. Only outbreaks (not each case) should be investigated.

International: routine monthly reporting of aggregated data specifying geographical area and month of onset from central level to WHO regional offices.

**Outbreak prevention phase**: When low incidence is achieved with periodic outbreaks due to accumulation of susceptibles, routine monthly reporting of aggregated data of clinical cases from peripheral to intermediate and central level. All suspected outbreaks should be investigated immediately and case-based data collected. Suspected epidemics should be confirmed by conducting serology on the first few cases only.

International: routine monthly reporting of aggregated data of clinical cases specifying geographical area, month of onset, age group and immunization status

**Elimination phase**: Case-based surveillance should be conducted and every case reported and investigated immediately from peripheral level to intermediate level, and also included in the weekly reporting system. Laboratory specimens should be collected on every case.

## A37.0

## *Pertussis*

(Whooping cough)

### RATIONALE FOR SURVEILLANCE

Pertussis is a major cause of childhood morbidity and mortality. Every year nearly 5 million children suffer from broncho-pneumonia as a result of pertussis infection and 50 000 develop long-term neurological sequelae. Case fatality in developing countries can reach 15%. High routine coverage with effective vaccine is the mainstay of prevention. Surveillance data on the disease can monitor the impact of vaccination on disease incidence and identify high risk areas.

### RECOMMENDED CASE DEFINITION

**Clinical case definition**

A person with a cough lasting at least 2 weeks **with one of the following**

- paroxysms (i.e. fits) of coughing,
- inspiratory "whoop",
- post-tussive vomiting (i.e. vomiting immediately after coughing),

and without other apparent cause.

**Laboratory criteria for diagnosis**

- isolation of *Bordetella pertussis, or*
- presence of IgG or IgA directed toward pertussis toxin (PT) or filamentous hemagglutinin antigen (FHA).

**Case classification**

*Suspected:* A case that meets the clinical case definition

*Confirmed:* A suspected case that is laboratory-confirmed or linked epidemiological to a laboratory-confirmed case

### RECOMMENDED TYPES OF SURVEILLANCE

Routine monthly reporting of aggregated data of suspected and confirmed cases from peripheral level to intermediate and central level. All outbreaks should be investigated immediately and laboratory-confirmed. During an outbreak, case-based data should be collected
Case-based surveillance may be considered in countries with low pertussis incidence (usually where coverage is >80%).

**International:** Aggregated data of clinical (suspected)l and confirmed cases should be included in routine monthly surveillance reports of all countries to WHO regional offices.

### RECOMMENDED MINIMUM DATA ELEMENTS

**Aggregated data for reporting**

Number of cases
Number of third doses of diphteria-pertussis-tetanus vaccine (DTP3) administered to infants
Completeness/timeliness of monthly reports

**Case-based data for investigation and reporting**

Unique identifier, geographical information, date of birth, date of onset, total pertussis vaccine doses, classification (confirmed/suspected/discarded), outcome (alive/dead/unknown)

## Communicable Diseaes Surveillance Programme

### Case-based Data for Diphtheria (A 36)

(To be submitted by Administrative Medical Officers of all Health Institutions from PHC/CHC/TLH/Any other Health Institutions to District Surveillance Officer & DH&FWO on occurance of every suspected/confirmed case)

| | | | |
|---|---|---|---|
| **Name of Reporting Institution:** | | **Month & Year of Reporting:** | |
| **Name of Adm. Medical Officer:** | | **Signature:** | |
| **Report submitted to:** | | **Copy to:** | |

| Sl. No. | Name | Age (Yrs.) & Sex (M/F) | Identified | Date of onset | Geographic Information | | Treatment | | | | DPT Vaccine | | Outcome : Died-D, Cured-C, Referred-R (name ref.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Village | Sub-center | Date started | Type | | | Whether received Y/N. If Y total doses received. | Date of Last Dose | |
| | | | | | | | | Antibiotic & Antitoxin | Antibiotic alone | No or other treatment | | | |
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FCB-3

# A90, A91

## *Dengue Fever* (A90), *including Dengue Haemorrhagic Fever and Dengue Shock Syndrome* (DHF & DSS, A91)

### RATIONALE FOR SURVEILLANCE

Dengue fever, including DHF and DSS, is the most significant arthropod-borne viral disease worldwide. It occurs in over 100 countries and territories and threatens the health of over 2 500 million people in tropical and subtropical regions. Dengue fever is a severe disease with high epidemic potential. An estimated 500 000 patients are hospitalised with DHF/DSS every year, 90% of whom under the age of 15. WHO aims to accelerate the final development of attenuated dengue vaccine.

### RECOMMENDED CASE DEFINITION

DENGUE FEVER

**Clinical description**

An acute febrile illness of 2-7 days duration with **two or more** of the following manifestations: headache, retro-orbital pain, myalgia, arthralgia, rash, haemorrhagic manifestations, leucopenia

**Laboratory criteria for diagnosis**

**one or more** of the following:

- Isolation of the dengue virus from serum, plasma, leukocytes, or autopsy samples
- Demonstration of a fourfold or greater change in reciprocal IgG or IgM antibody titres to one or more dengue virus antigens in paired serum samples
- Demonstration of dengue virus antigen in autopsy tissue by immunohistochemistry or immunofluorescence or in serum samples by EIA
- Detection of viral genomic sequences in autopsy tissue, serum or CSF samples by polymerase chain reaction(PCR)

**Case classification**

*Suspected:* A case compatible with the clinical description

*Probable:* A case compatible with the clinical description with **one or more** of the following:

- supportive serology (reciprocal haemagglutination-inhibition antibody titre ≥ 1280, comparable IgG EIA titre or positive IgM antibody test in late acute or convalescent-phase serum specimen)
- occurrence at same location and time as other confirmed cases of dengue fever

*Confirmed:* A case compatible with the clinical description that is laboratory-confirmed

CRITERIA FOR DENGUE HAEMORRHAGIC FEVER AND DENGUE SHOCK SYNDROME

*Dengue Haemorrhagic Fever:*

A probable or confirmed case of Dengue

and haemorraghic tendencies evidenced by **one or more of the following**

- positive tourniquet test
- petechiae, ecchymoses or purpura
- bleeding from mucosa, gastrointestinal tract, injection sites or other sites
- haematemesis or melena

and thrombocytopenia (100 000 cells per $mm^3$ or less)

and evidence of plasma leakage due to increased vascular permeability, manifested by one or more one of the following:

- a rise in average haematocrit for age and sex ≥ 20%
- a ≥ 20% drop in haematocrit following volume replacement treatment compared to baseline
- signs of plasma leakage (pleural effusion, ascites hypoproteinaemia)

*Dengue shock syndrome*:
All the above criteria for DHF plus evidence of circulatory failure manifested by
rapid and weak pulse, and narrow pulse pressure (≤20 mm Hg)
or
hypotension for age, and cold, clammy skin and restlessness

## RECOMMENDED TYPES OF SURVEILLANCE

**Areas where no dengue transmission has been detected but where *Aedes aegypti* occurs**
Surveillance of suspected cases with investigation of clusters of suspected cases for dengue.

**Countries where disease is endemic with seasonal increases in transmission and areas where epidemic dengue occurs**
Routine weekly/monthly reporting of aggregated data of suspected, probable and confirmed cases from peripheral to intermediate and central level.

## RECOMMENDED MINIMUM DATA ELEMENTS

**Case-based data at the peripheral level**

Case classification (suspected/probable/confirmed), serotype, DHF/DSS present (Y/N)
Unique identifier, name of patient, age, sex, geographical information
Date of onset
Hospitalised (Y/N)
Outcome
2 week travel history

**Aggregated data for reporting**

Number of cases by age group
Number of confirmed (and serotype)
Number of DHF/DSS cases by age group
Number of hospitalisations and deaths

## RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

Percentage of DHF/DSS cases and of hospitalisations
Case fatality

## PRINCIPAL USES OF DATA FOR DECISION MAKING

- Target high risk areas for intervention
- Monitor changes in serotype and rate of DHF/DSS
- Monitor trends in endemic disease or re-emergence of disease

## SPECIAL ASPECTS

Parallel to disease surveillance, vector surveillance of both larval and adult populations of *A. aegypti*

## CONTACT

**Regional offices**

See Regional Communicable Disease contacts on pages 15-20

**Headquarters**

WHO Division of Emerging and Other Communicable Diseases Surveillance and Control (EMC)
20 Avenue Appia, CH-1211 Geneva 27, Switzerland
E-mail: arthurr@who.ch / outbreakemc@who.ch
Tel: (41 22) 791 2658 / 2850 / 2111
Fax: (41 22) 791 4878

# Communicable Diseases Surveillance Programme
## Dengue Fever Including Dengue Haemorrhage Fever (DHF) and Dengue Shock Syndrome (DSS)

Case based data for reporting and investigation : All PHCs/PHUs submit to Dist. Surveillance M.O and copy to T.M.O on occurance of suspected case

| A | PHC | Taluka | District | Name of AMO | Signature | Month & Year of Report |
|---|---|---|---|---|---|---|
| | Code / Name | | | | | |
| | | | | | | |
| B | Case based data : Submitted to : | | | Copy to : | | |

| Sl. No. | Name | Age(Yrs) & Sex (M/F) | Case classification : suspected (S) Probable (P) | Date of onset | Identifier | Geographic information | | | DHF/DSS Present Y/N | Whether Hospitalized Y/N | Outcome: Died-D Cured - C Referred - R (Mention Place) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Village | Subcenter | 2 Wk. Travel History (Name all places visited) | | | |
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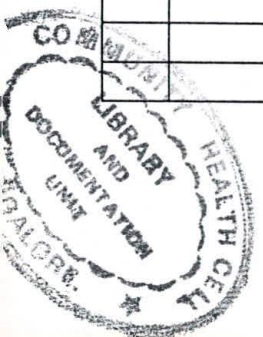

## Communicable Diseases Surveillance Programme

## Aggregated Data for Monthly reporting

### Dengue Fever including Dengue Haemorrhagic Fever (DHF) and Dengue Shock Syndrome

**To be submitted by Administrative Medical Officers of all Health Institutions on occurance of every suspected/confirmed case**

| | | | |
|---|---|---|---|
| **Name of Reporting Institution:** | | **Month & year of reporting:** | |
| **Name of Administrative Medical Officer:** | | **Signature:** | |
| **Report submitted to:** | | **Copy to:** | |

| Sl. No. | Number of all cases | | | No. Confirmed | No. of Cases | | | | No. Hospitalized | No. of Deaths | | Zero Report . (If no cases occurred mentiond NIL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | < 15 yrs | > 15 yrs | Total | | DHF | | DSS | | | | | |
| | | | | | < 15 yrs | > 15 yrs | < 15 yrs | > 15 yrs | | < 15 yrs | > 15 yrs | |
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FAP&D-2

# A82

# *Rabies*

## RATIONALE FOR SURVEILLANCE

Rabies is present on all continents and is endemic in most African and Asian countries. It is a fatal zoonotic viral disease which is transmitted to humans through contacts (mainly bites and scratches) with infected animals both domestic and wild. Over 40 000 human deaths are estimated to occur each year world-wide most of them in the developing world, mainly in Asian countries. An estimated 10 million people receive post exposure treatments each year after being exposed to rabies suspected animals.

WHO promotes human rabies prevention by well-targeted post exposure treatment and increased availability of modern rabies vaccine as well as disease elimination by mass vaccination of dogs and other animal reservoir species. Surveillance of both human and animal rabies is essential to rapidly detect high risk areas and outbreaks and to monitor the use of vaccine.

## RECOMMENDED CASE DEFINITION

### Clinical description

An acute neurological syndrome (encephalitis) dominated by forms of hyperactivity (furious rabies) or paralytic syndromes (dumb rabies) that progresses towards coma and death usually by respiratory failure within 7 to 10 days after the first symptom if no intensive care are instituted. Bite or scratch from a suspected animal can usually be traced back in the patient medical history. The incubation period may vary from days to years but usually falls between 30 to 90 days.

### Laboratory criteria for diagnosis

**one or more** of the following

- Detection by fluorescent antibody (FA) on brain tissue (collected post mortem)
- Detection by FA on skin or corneal smear (collected ante mortem)
- FA positive after inoculation of brain tissue, saliva or CSF in cell culture, mice or suckling mice
- Detectable rabies-neutralising antibody titre in CSF of an unvaccinated person
- Identification of viral antigens by PCR on fixed tissue collected post mortem or in a clinical specimen (brain tissue or skin, cornea or saliva)

### Case classification

HUMAN RABIES:

*Suspected:* A case that is compatible with the clinical description

*Probable:* A suspected case with an history of contact with a suspected rabid animal

*Confirmed:* A suspected case that is laboratory-confirmed

HUMAN EXPOSURE TO RABIES:

*Possibly exposed:* A person who had a close contact (usually a bite or scratch) with a rabies susceptible animal in/or originating from a rabies infected area

*Exposed:* A person who had a close contact (usually a bite or scratch) with a laboratory-confirmed rabid animal.

## RECOMMENDED TYPES OF SURVEILLANCE

SURVEILLANCE IN HUMAN POPULATION:

**Surveillance of human exposure to rabies:** At peripheral level especially in rabies infected area, reports of patients with a history of animal contact (usually a bite/scratch) should be immediately investigated and when required they should be treated as an emergency. Case-based and aggregated data must be sent regularly from peripheral to intermediate and central level.

## Human Rabies (A 82)

### Case-based data on Human Rabies Exposure on Suspected/Probable cases

### To be submitted by all Health Institutions Monthly (PHC and above)

| | | | |
|---|---|---|---|
| Name of Reporting Institution: | | Month & Year of Reporting: | |
| Name of Administrative Medical Officer: | | Signature: | |
| Report submitted to: | | Copy to: | |

| Sl. No. | Name | Age (Yrs.) | Identifier | Geographical Information | | Information on | | Immunization History | | Biting Animal | | Treatment | | Outcome: Died-D, Alive-A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Village | Sub-center | Date | Place | Vaccination | Serum | Vaccinated Y/N | Outcome: Died-D, Alive-A | Local | System | |
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FCB-4

# Aggregated data on Human Rabies Exposure (Dog Bite)

## To be submitted by all Health Institutions Monthly

| | | | |
|---|---|---|---|
| **Name of Reporting Institution:** | | **Month & Year of Reporting:** | |
| **Name of Administrative Medical Officer:** | | **Signature:** | |
| **Report submitted to:** | | **Copy to :** | |

| Sl. No. | Place | Exposed to Bites | Biting Animal | Outcome | |
|---|---|---|---|---|---|
| | | | | Man: Died-D, Alive-A, Unknown-U | Animal : Died-D, Alive-A, Unknown-U |
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FAP&D-3

## *Acute lower respiratory tract infections (aLRTI) and Pneumonia*

### RATIONALE FOR SURVEILLANCE

Acute lower respiratory infections, of which pneumonia is the most deadly, kills more than 4 million people a year. The majority of these deaths are among children < 5 years, and ARI are the leading cause of death in that age group. ARI are a major impact on health services and household income, accounting for up to 50% of visits by children to health facilities, and are the condition for which antibiotics are often prescribed and misused world wide. The WHO strategy is to reduce severe morbidity and mortality through integrated case management of children at primary level in collaboration with other agencies and governments. Surveillance is necessary to monitor disease trends and control programmes including essential drug use.

### RECOMMENDED CASE DEFINITION

**Clinical case definition and classification**

PNEUMONIA

***Symptoms*** Cough or difficult breathing **and**

***Signs:*** breathing faster than 50/min for child 2-12 months
breathing faster than 40/min for child 1-5 years
**and** No chest indrawing, stridor or danger signs

*SEVERE PNEUMONIA*

***Symptoms*** : Cough or difficult breathing + any danger sign or chest indrawing or stridor in a calm child.

***Danger Signs:***

For child 2 months to 5 years

Not able to drink or breast feed, vomits everything, convulsion, lethargic or unconscious

For child under 2 months

stopped feeding well, convulsions, lethargy or unconscious, wheezing, fever or low body temperature

**Note:** Chest indrawing + recurrent wheeze = asthma, probably not pneumonia

### RECOMMENDED TYPES OF SURVEILLANCE

Routine monthly aggregated reporting from peripheral level to intermediate and central level.
Community surveys/Sentinel surveillance to complement routine data and for evaluation of control programme activities.
Sentinel surveillance reporting monthly to intermediate and central level.
Quarterly reporting of community/household surveys from peripheral to central level.

### RECOMMENDED MINIMUM DATA ELEMENTS

*Aggregated data for reporting*

Number of cases by age, severity, geographical area, treatment(Y/N), hospitalisation (Y/N), outcome

## Acute Lower Respiratory Tract Infection (ALRTI) & Pneumonia
## Aggregated Monthly Data Reporting from all Health Institutions (PHC to District Hospital)

| | | | |
|---|---|---|---|
| Name of Reporting Institution: | | Month & Year of Reporting: | |
| Name of Administrative Medical Officer | | Signature: | |
| Report submitted to: | | Copy to: | |

| Sl. No. | Name of unit | Number of Cases | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pneumonia | | | | | | Severe Pneumonia | | | | | | |
| | | Age Group | | | # treated | # Hospitalized | # Died | Age Group | | | # treated | # Hospitalized | # Died | |
| | | upto 1 yr | 1-3 yrs | 3 - 5 yrs | | | | upto 1 yr | 1-3 yrs | 4 - 5 yrs | | | | |
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FAP&D-1

# Foodborne diseases

## RATIONALE FOR SURVEILLANCE

A foodborne disease is a disease, usually either infectious or toxic in nature, caused by agents that enter the body trough ingestion of food or drinking-water. In addition to diseases mentioned in the manual (e.g. salmonellosis, cholera, shigellosis, hepatitis A...) surveillance of other foodborne diseases could be carried out. The surveillance helps to determine the magnitude and trend of foodborne diseases and to monitor and evaluate food safety.
Surveillance is also needed for early detection and control of outbreaks, and identification of risk factors, as well as planning and evaluation of interventions.

## RECOMMENDED CASE DEFINITION

**Clinical case definition**
The clinical case definition varies with the specific disease

**Laboratory criteria for confirmation**
Isolation of pathogen

**Case classification**

| | |
|---|---|
| *Suspected:* | A case that meets the clinical case definition of a specific foodborne disease |
| *Probable:* | Not applicable |
| *Confirmed:* | A suspected case in whom laboratory investigation confirms the presence of one or more foodborne pathogens in a clinical specimen |
| *Outbreak:* | An incident in which two or more persons experience a similar illness after what is thought to have been a common exposure (ingestion of the same food or ingestion of water of the same source) |

## RECOMMENDED TYPES OF SURVEILLANCE

**Parallel systems of surveillance may be used, depending on specific surveillance objectives**

- Routine immediate reporting of case-based data on suspected cases form peripheral level to intermediate level (notifications). Routine weekly reporting of aggregated data on suspected and confirmed cases from peripheral to intermediate and central level
- Routine weekly case-based or aggregated reporting from laboratories on confirmed cases to intermediate and central level
- Sentinel surveillance (utilising reporting physicians or laboratories)
- Community studies

Sentinel surveillance or community studies can provide more detailed epidemiological and microbiological information. These systems may give a better picture of the true incidence and impact of disease in a defined population. However they are likely to miss outbreaks and as such do not represent a valid approach to outbreak detection.

All outbreaks should be investigated and notified to the intermediate and central level.

**International:** All major foodborne disease outbreaks, particularly those implicating a commercial product, should be reported to the Programme of Food Safety and Food Aid, WHO (Global databank on foodborne diseases (notified cases); global databank on foodborne disease outbreaks (under development), and regional programmes for surveillance of foodborne diseases).

**Note :** A minimum data set should be collected on each outbreak at intermediate and central level. This should be done after the outbreak investigation and should include key variables describing the nature and extent of the outbreak.

## FOOD BORNE DISEASES

### Case-based data at PHC : For records

| | | | |
|---|---|---|---|
| Name of Reporting Institution: | | Month & Year of Reporting: | |
| Name of Administrative Medical Officer: | | Signature: | |
| Report submitted to: | | Copy to: | |

| Sl. No. | Name | Age (Yrs.) & Sex (M/F) | Identifier | Geographical Information | | Date of Onset | Diagnosis | Travel History | Food | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Village | Sub-center | | | | Nature | Place purchased prepared & consumed |
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## FOOD BORNE DISEASES

### Aggregated Monthly Data Reporting from PHC

| | | | |
|---|---|---|---|
| **Name of Reporting Institution:** | | **Month & Year of Reporting:** | |
| **Name of Administrative Medical Officer:** | | **Signature:** | |
| **Report submitted to:** | | **Copy to:** | |

| Sl. No. | Sub-centre | Number of cases | | | | |
|---|---|---|---|---|---|---|
| | | Age group | | | Sex | |
| | | 1-15 yrs. | 16-45 Yrs. | >45 Yrs. | M | F |
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## FOOD BORNE DISEASES

### Aggregated Monthly Data Reporting from District

| | | | |
|---|---|---|---|
| Name of Reporting Institution: | | Month & Year of Reporting: | |
| Name of Administrative Medical Officer: | | Signature: | |
| Report submitted to: | | Copy to: | |

| Sl. No. | Taluka | Number of cases | | | | |
|---|---|---|---|---|---|---|
| | | Age group | | | Sex | |
| | | 1-15 yrs. | 16-45 Yrs. | >45 Yrs. | M | F |
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FAD-1

## FOOD BORNE DISEASES

### Aggregated data from District Laboratory

| | | | |
|---|---|---|---|
| Name of Reporting Institution: | | Month & Year of Reporting: | |
| Name of Adm. Med. Officer: | | Signature: | |
| Report submitted to: | | Copy to: | |

| Sl. No. | Taluka | PHC | Number of confirmed cases | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Age group | | | | | | Name of Organism | | | |
| | | | 1-15 yrs. | | 16-45 Yrs. | | >45 Yrs. | | | | | |
| | | | M | F | M | F | M | F | | | | |
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FAD-2

## A20

## *Plague*

(human)

Case report universally required by **International Health Regulations**

### RATIONALE FOR SURVEILLANCE

Disease endemic in many countries and often has epidemic potential. Surveillance of human and animal disease is important to predict and detect epidemics and to monitor control measures. Case report universally required by **International Health Regulations.**

### RECOMMENDED CASE DEFINITION

**Clinical description**

Plague is transmitted to humans by fleas or by direct exposure to infected tissues or respiratory droplets. The disease is characterised by

Rapid onset of fever, chills, headache, severe malaise, prostration **with**
*for Bubonic form:* extreme painful swelling of lymph nodes (buboes)
*for Pneumonic form:* cough with blood -stained sputum, chest pain, difficult breathing

**Laboratory criteria for diagnosis**

- Cultural isolation of *Yersinia pestis* from buboes, blood, CSF or sputum **or**
- Passive hemagglutination test (PHA test) demonstrating four fold change in antibody titre, specific for F1 antigen of *Y. pestis* (HI test) in paired sera

**Case classification**

***Suspected:*** A case compatible with the clinical description
May or may not be supported by laboratory finding of Gram stain negative bipolar coccobaccili in clinical material (bubo aspirate, sputum, tissue, blood)

***Probable:*** A suspected case **with**

- Positive FA test for *Y. pestis* in clinical specimen **or**
- PHA test, with antibody titre of >= 1:10, specific for the F1 antigen of *Y.pestis* as determined by HI.

**or**

- Epidemiological link with a confirmed case.

***Confirmed:*** A suspected or probable case that is laboratory-confirmed

### RECOMMENDED TYPES OF SURVEILLANCE

**In all situations:** Immediate case-based reporting of suspected cases from peripheral level to intermediate and central level. Laboratory based reporting of all confirmed cases should pertain in all situations

**During an outbreak:** Intensified surveillance: active case finding and contact tracing should be undertaken in order that treatment can be initiated in cases and contacts as well as targeting environmental measures and community education
A daily report of the number of cases and contacts as well as their treatment status and vital status should be produced. A weekly report should summarize the outbreak situation and summarize control measures taken and those planned to interrupt the outbreak.

**International:** Mandatory reporting of all suspected and confirmed cases within 24 hours to WHO.

# Plague (Human) (A 20)

## Case based data for reporting and investigation : PHC

| | | | |
|---|---|---|---|
| Name of Reporting Institution: | | Month & Year of Reporting: | |
| Name of Adm. Medical Officer | | Signature: | |
| Report submitted to: | | Copy to: | |

| Sl. No. | Name | Age (yrs) & Sex (M/F) | Identifier | Geographical Information | Clinical Syndrome Bubonic: B Pneumonic: P | Contact with Rodents Y/N | Flea bites Y/N | Household contact | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Previous week Y/N | Name | Place |
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FCB-6

# Plague (Human) (A 20)

## Case based data at District level

| | | | |
|---|---|---|---|
| Name of Reporting Institution: | | Month & Year of Reporting: | |
| Name of Adm. Medical Officer: | | Signature: | |
| Report submitted to: | | Copy to: | |

| Sl. No. | Name | Age (yrs) & Sex (M/F) | Identifier | Geographical Area | | | | No. of contacts | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Taluka | PHC | Sub-center | Village | Identified | Treated |
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*ANNEX 1*

*Surveillance Definitions*

**Active case-finding** The dynamic identification of the occurrence of a disease or health event under surveillance. (e.g. house visits by community workers to identify cases of tuberculosis).

**Active surveillance** Routine surveillance where reports are sought dynamically from participants in the surveillance system on a regular basis (e.g. telephoning each participant monthly to ask about new cases).

**Aggregate surveillance** The surveillance of a disease or health event by collecting summary data on groups of cases (e.g. in many general practice surveillance schemes clinicians are asked to report the number of cases of a specified diseases seen over a period of time)

**Attack rate** The proportion of those exposed to an infectious agent who become (clinically) ill.

**Case** A person who meets the case definition.

**Case definition** A set of diagnostic criteria that must be fulfilled to be regarded as a case of a particular disease. Case definitions can be based on clinical criteria, laboratory criteria or a combination of the two.

**Case classification** Gradations in the likelihood of being a case (e.g. suspected/probable/confirmed). This is particularly useful where early reporting of cases is important (e.g. Ebola haemorrhagic fever) and where there are difficulties in making definite diagnoses (e.g. specialised laboratory tests required).

**Case-based surveillance** The surveillance of a disease by collecting specific data on each case (e.g. collecting details on each case of Acute Flaccid Paralysis in polio surveillance)

**Case fatality rate** The proportion of people who die as a proportion of all cases. This will vary depending on the case definition used.

**Cluster** The occurrence of an unusual number of cases in person, place or time.

**Community surveillance** Surveillance where the starting point is a health event occurring in the community and reported by a community worker or actively sought by investigators. This may be particularly useful during an outbreak and where syndromic case definitions can be used. (the active identification of community cases of Ebola virus infection in Kikwit was an example of this type of surveillance)

**Comprehensive surveillance** The surveillance of a specified disease or health event in the whole population at risk for that event. (e.g. AFP surveillance)

**Contact** An individual who has had contact with a case in a way that is considered to have cause significant exposure and therefore risk of infection.

**Due dates** The dates by which reports from a specified period should be received by the each level of a surveillance system. (used to calculate timeliness)

**Endemic** The constant presence of a disease within a given geographic area or population group.

**Enhanced surveillance** The collection of additional data on cases reported under routine surveillance. The routine surveillance is a starting point for more specific data collection on a given health event. This information may be sought from the reporter, the case, the laboratory or from another surveillance data set.

**Epidemic** The occurrence of cases of an illness clearly in excess of expectancy. This is often referred to as an outbreak (more neutral).

**Epidemiological case definition** The definition of a case used for reporting to the surveillance system. The definition may be clinical, laboratory or both. It may relate to a specified disease (e.g. measles, yellow fever) or may identify a syndrome (e.g. meningitis, AFP)

**Exception flagging (reporting) system** an automated system of data analysis which calculates thresholds for unusual events or exceptions.

**Exposure** Someone who has met with an infectious agent in a way that we from experience know may cause disease has been exposed.

**Feedback** The regular process of sending analyses and surveillance reports on the surveillance data back through all levels of the surveillance system so that all participants can be informed of trends and performance.

**Health event** Any event relating to the health of an individual (e.g. the occurrence of a specific disease or syndrome, the administration of a vaccine or an admission to hospital)

**Hospital surveillance** Surveillance where the staring point for a report is the admission of a patient to hospital with a particular disease or syndrome.

**Incidence** The number of persons who fall ill with a certain disease during a defined time period

**Infectious Disease** An illness due to a specific infectious agent or its toxic products that arises through transmission of that agent or its products from an infected person, animal, or reservoir to a susceptible host, either directly or indirectly through an intermediate plant or animal host. vector, o r inanimate environment.

**Intensified surveillance** The upgrading from a passive to an active surveillance system for a specified reason and period (usually because of an outbreak). It must be noted that the system becomes more sensitive and secular trends may need to be interpreted carefully.

**Laboratory surveillance** Surveillance where the starting point is the identification or isolation of a particular organism in a laboratory. (e.g. surveillance of salmonellosis)

**Mandatory surveillance** A surveillance where participants must report to the system. Notifiable diseases are one example of a mandatory system where reporting is by law. Another may occur where for example a heath authority requires all public laboratories to report specified diseases. This is usually not be law but is linked to their contractual duties.

**Notifiable disease** A disease that must be reported to the authorities by law or ministerial decree.

**Outbreak** The occurrence of two or more linked cases of an communicable disease

**Passive surveillance** Routine surveillance where reports are awaited and no attempt make actively seek reports from the participants in the system.

**Primary care surveillance** Surveillance where the staring point for a report is a new consultation for a particular disease or syndrome with a primary care physician or health worker at a clinic.

**Performance indicators** Specific agreed measurements of how participants are functioning within the surveillance system. These indicators may measure both the process of reporting (e.g. completeness, timeliness) action taken in response to surveillance information (e.g. % cases investigated) and the impact of surveillance and control measures on the disease or syndrome in question (e.g. % of outbreaks detected by the system, % drop in cases over a specified time period).

**Periodicity** The presence of a repeating pattern of excess cases. The repeater can be in years, months or weeks.

**Prevalence** The number of persons who have a disease at a specific time

**Reporting completeness** Proportion of all expected reports that were actually received (usually

stated as "% completeness as of a certain date").

**Reporting timeliness** Proportion of all expected reports that were received by a certain due date.

**Reporting system** The specific process by which diseases or health events are reported. This will depend on the importance of the disease and the type of surveillance

**Routine surveillance** The regular systematic collection of specified data in order to monitor a disease or health event.

**Sentinel surveillance** The surveillance of a specified health event in only sample of the population at risk using a sample of possible reporting sites. The sample should be representative of the total population at risk.

**Serosurveillance** The surveillance of an infectious disease by measuring disease specific antibodies in a population or sub-population

**Surveillance** The systematic collection, collation and analysis of data and the dissemination of information to those who need to know in order that action may be taken.

**Surveillance report** A regular publication with specific information on the disease under surveillance. It should contain updates of standard tables and graphs as well as information on outbreaks etc. In addition it may contain information on the performance of participants using agreed performance indicators.

**Surveillance sensitivity** The ability of a surveillance system to detect an outbreak. (The proportion of all outbreaks that could have been detected by the system)

**Surveillance predictive value** The likelihood that an "outbreak" detected by a surveillance system is truly an outbreak

**Survey** An investigation in which information is systematically collected. It is usually carried out in a sample of a defined population group and in a defined time period. Unlike surveillance it is not ongoing though it may be repeated. If repeated regularly surveys can form the basis of a surveillance system.

**Unusual event** The occurrence of a disease or health in excess of the expectation. This expectation is a either a static or dynamic threshold set by the system

**Zero reporting** The reporting of zero cases when no cases have been detected by the participant. This allows the next level of the system to be sure that the participant has not sent data that has been lost or has forgotten to report.

## Reporting Formats

| Sl. No. | Disease | Type of Formats | | |
|---|---|---|---|---|
| | | Case based data | Aggregated Monthly Report | |
| | | | Periphery (PHC/PHU) | Intermediate (District) |
| 1 | Dengue Fever | FCB-1 | FAP&D-2 | FAP&D-2 |
| 2 | Diphtheria | FCB-3 | FAP-2 | FAD-4 |
| 3 | Measles | | FAP-2 | FAD-4 |
| 4 | Pertussis | | FAP-2 | FAD-4 |
| 5 | Japanese Encephalitis | FCB-2 | | FAD-3 |
| 6 | Acute Viral Hepatitis | | | FAD-3 |
| 7 | Meningococcal Disease | | | FAD-3 |
| 8 | Rabies | FCB-4 | FAP&D-3 | FAP&D-3 |
| 9 | Acute Lower Respiratory Infection & Pneunonia | | FAP&D-1 | FAP&D-1 |
| 10 | Food Borne Diseases | FCB-5 | FAP-1 | FAD-1, FAD-2 |
| 11 | Cholera | FCB - 7, FCB - 8 | | FAD-5 |
| 12 | Bloody Dysentery | | | FAD-5 |
| 13 | Acute Bloody Dysentery | | | FAD-5 |
| 14 | Plague | FCB-6 | | |
| 15 | Cholera & Gastro Enteritis | CR - 1 | | |