

Acute haemorrhagic fever syndrome

RATIONALE FOR SURVEILLANCE

Acute haemorrhagic fever syndromes can be attributable to dengue (dengue haemorrhagic fever), Ebola-Marburg viral diseases, Lassa fever, yellow fever, Rift Valley fever, hantavirus infections, Crimean-Congo haemorrhagic fever, and other viral, bacterial or rickettsial diseases with a potential to produce epidemics. All cases of acute haemorrhagic fever syndrome, whether single or in clusters, should therefore be notified early, without waiting for the causal agent to be identified, according to the syndromic approach of revised *International Health Regulations* (IHR). Surveillance of acute haemorrhagic fever syndrome is aimed at early detection of cases in order to avoid epidemics and the possible international spread of the disease.

RECOMMENDED CASE DEFINITION

Clinical case description (revised IHR)

Acute onset of fever of less than 3 weeks duration in a severely ill patient
and

any 2 of the following

- haemorrhagic or purpuric rash
- epistaxis
- haematemesis
- haemoptysis
- blood in stools
- other haemorrhagic symptom **and** no known predisposing host factors for haemorrhagic manifestations

Note: During epidemics, most infected patients do not show haemorrhagic symptoms and a specific case definition, according to the suspected or proven disease, has to be used (see disease-specific case definitions in this manual for Ebola, Lassa, dengue, and yellow fever, or specific WHO Outbreak Control Guidelines*).

* Available for Ebola haemorrhagic fever, dengue haemorrhagic fever, yellow fever.

RECOMMENDED TYPES OF SURVEILLANCE

Immediate case-based reporting of acute haemorrhagic fever syndrome, whether occurring singly or in clusters, from peripheral to intermediate and central level, in order to ensure rapid investigation and laboratory confirmation.

All cases must be investigated, with contact tracing. Blood samples and appropriate clinical specimens must be collected to confirm a diagnosis as rapidly as possible.

RECOMMENDED MINIMUM DATA ELEMENTS

Case-based data

- Unique identifier, name, age, sex
- Geographical information
- Profession, place of work
- Date of onset of syndrome
- Date of hospitalization
- Date of death if relevant
- Number of contacts with ill patients
- Date and type of contacts with other cases
- Clinical samples taken for laboratory investigation (including date of sampling)

AGGREGATED DATA

- Number of cases
- Number of deaths
- Number of contacts
and aggregated vector and/or animal reservoir data as appropriate

RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

Routine

- Total cumulative number of cases
- Total cumulative number of deaths
- Geographic distribution of cases
- Date of reported cases

During outbreaks

- Total cumulative number of cases
- Epidemic curve
- Total cumulative number of deaths
- Case-fatality rate
- Current number of patients
- Geographic distribution of cases
- Attack rate (age-specific if possible)
- Current number of hospitalized patients
- Date of reporting of last identified case
- Date of death or hospital discharge of the last reported case
- Contacts:
 - Current number of contacts requiring follow up
 - Current number of contacts actually under follow-up
 - Geographic distribution of contacts

PRINCIPAL USES OF DATA FOR DECISION-MAKING

Routine surveillance data

- Detect an isolated case or an outbreak and take appropriate control measures

During outbreaks

- Active case finding and contact tracing:
 - Identify all cases and contacts
 - Assess and monitor the spread of an outbreak
- Evaluate control measures
- Provide basis for research

SPECIAL ASPECTS

Acute haemorrhagic fever syndrome is one of the syndromes subject to notification to WHO in the revised *International Health Regulations* (pending implementation).

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Acute lower respiratory tract infections (aLRTI) and Pneumonia

RATIONALE FOR SURVEILLANCE

Acute infections of the lower respiratory tract, of which pneumonia is the most deadly, kill more than 4 million people a year, mainly among children <5 years. Acute respiratory tract infections (ARI) are the leading cause of death in that age group; ARI have a major impact on health services and household income, accounting for up to 50% of visits by children to health facilities. Antibiotics are often inappropriately prescribed and used for these conditions.

WHO strategy is to support health authorities in reducing morbidity and mortality through integrated case management of children at primary and first referral level, in collaboration with other agencies. Surveillance is necessary to monitor disease trends and control programmes, including the provision and use of essential drugs.

RECOMMENDED CASE DEFINITION

Clinical case definition and classification

PNEUMONIA

Symptoms: Cough or difficult breathing **and**

Signs: breathing >50/minute for infant aged 2 months to <1year
breathing >40/minute for child aged 1 to 5 years **and**
no chest indrawing, stridor or danger signs.

SEVERE PNEUMONIA

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

General danger signs:

For children aged 2 months to 5 years.

Unable to drink or breast feed, vomits everything, convulsions, lethargic or unconscious.

RECOMMENDED TYPES OF SURVEILLANCE

Routine monthly aggregated reporting from peripheral to intermediate and central level.

Community surveys / sentinel surveillance to complement routine data and for the 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), hospitalization (Y/N), outcome.

RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

- Cases / incidence by month, geographical area, age, sex
- Comparisons with same month, age group and geographical area in previous years
- Information on seasonal and secular trends best presented as line graphs
- Annual surveillance summaries should be produced nationally and regionally and fed back
- Annual overview helpful in trying to identify areas of concern and set priorities

PRINCIPAL USES OF DATA FOR DECISION-MAKING

- Monitor trends in disease incidence
- Monitor treatment guidelines
- Support essential drugs supply
- Detect peaks in incidence
- Identify high risk areas for further targeting intervention

SPECIAL ASPECTS

Management of acute lower respiratory tract infections is part of the integrated case management approach to child health. The syndrome-based reporting approach is recommended as the most effective way to report on cases. However, this approach has not been proven from the perspective of surveillance of diseases: since multiple diagnoses are frequently made in children, the integrated case management approach may present difficulties for single disease surveillance.

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Acute (watery) diarrhoea (childhood)

RATIONALE FOR SURVEILLANCE

One of the major causes of morbidity and mortality in young children, diarrhoeal diseases caused more than 3 million deaths in 1995 (80% in children under 5 years). About half of these deaths are due to acute watery diarrhoea. Contaminated food is now thought to be responsible for over two-thirds of cases.

WHO supports regional initiatives in coordinating activities aimed at improved preparedness and response to outbreaks of diarrhoeal diseases (including cholera and dysentery). WHO strategy is to reduce incidence and fatality through integrated case management in children at primary care level, in collaboration with governments and other agencies.

RECOMMENDED CASE DEFINITION

Clinical case definition

Acute watery diarrhoea (passage of 3 or more loose or watery stools in the past 24 hours) with or without dehydration.

Laboratory criteria for diagnosis

Laboratory culture of stools may be used to confirm possible outbreaks of specific agents, 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 / weekly 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: If laboratory examinations are undertaken at the start of an outbreak in order to identify the causative agent, this need not be continued once the causative agent has been identified (unnecessary burden on laboratory facilities).

RECOMMENDED MINIMUM DATA ELEMENTS

Case-based data at peripheral level

- Unique identifier, age, sex, geographical area
- Date of onset
- Laboratory results if appropriate
- Outcome.

Aggregated data for reporting

- Number of cases <5 years by geographical area
- Number of deaths <5 years by geographical area
- Number of hospitalizations if appropriate.

RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

- Number of cases by month, geographical area, age group
- Comparisons with same month and geographical area in previous years
- Information on seasonal and secular trends best presented as line graphs
- Plots of laboratory-confirmed cases by month and year, as appropriate
- 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

PRINCIPAL USES OF DATA FOR DECISION-MAKING

- Monitor trends in disease incidence
- Detect possible outbreak at the local level
- Identify high risk areas for further targeting of intervention
- Estimate incidence rate and case-fatality rate
- Support plan for the distribution of medical supplies (diagnostic test, antibiotics etc.) and allocation of control teams
- Determine the effectiveness of control measures
- Provide research data in the area of means of transmission and antibiotic susceptibility of isolates (monitor antimicrobial resistance)
- Help mobilize donors to support epidemic control measures

SPECIAL ASPECTS

Diarrhoeal diseases are handled as part of the integrated case management approach to child health. The syndrome-based reporting approach is recommended as the most effective way to report on cases. However, from the perspective of surveillance of diseases, this approach has to be proven. Multiple diagnoses are frequently made in children. The integrated case management approach, while important in the primary care setting, may thus not lend itself to specific disease surveillance.

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Acute (bloody) diarrhoea**RATIONALE FOR SURVEILLANCE**

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

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**

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, such as *S. dysenteriae* type 1, 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 / weekly reporting of aggregated data from peripheral level to intermediate and central level.

Community surveys / sentinel surveillance to complement routine data and for the evaluation of control programme activities.

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

Note 2: Central recording of antibiotic susceptibility is recommended.

Note 3: After an epidemic caused by *S. dysenteriae* type 1 has been confirmed, it is not necessary to examine specimens from all cases (unnecessary burden on laboratory facilities).

RECOMMENDED MINIMUM DATA ELEMENTS**Case-based data at peripheral level**

- Unique identifier, age, sex, geographical area
- Date of onset, date of treatment
- Treatment given (Y/N), kind of treatment
- Hospitalized(Y/N)
- Laboratory result (*S. dysenteriae* type 1) if appropriate
- Outcome

Aggregated data for reporting

- Number of cases by geographical area
- Number of deaths by geographical area
- Number of hospitalizations if appropriate

RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

- Number of cases by month, geographical area, age group
- Comparisons with same month and geographical area in previous years
- Plots of laboratory confirmed cases by month and year, if appropriate
- Information on seasonal and secular trends 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

PRINCIPAL USES OF DATA FOR DECISION-MAKING

- Monitor trends in disease incidence
- Identify high risk areas for further targeting of intervention
- Detect and monitor outbreaks and epidemics for appropriate response
- Estimate incidence rate and case-fatality rate
- Support plan for the distribution of medical supplies (diagnostic test, antibiotics etc.) and allocation of control teams
- Determine the effectiveness of control measures
- Provide research data in the area of means of transmission and antibiotic susceptibility of isolates (monitor antimicrobial resistance)
- Help mobilize donors to support epidemic control measures

SPECIAL ASPECTS

The syndrome-based reporting approach, while important in the case management in the primary care setting, may not lend itself to surveillance of specific diseases. A national reference laboratory is needed to confirm outbreaks of *S. dysenteriae* type 1 where suspected.

Countries at risk from epidemics should undertake routine surveillance of bloody diarrhoea. This is particularly recommended for central and southern Africa.

Each country should have at least 1 reference laboratory in order to confirm the organism / outbreak, perform antimicrobial susceptibility testing, undertake training, and disseminate results. At least 20 specimens should be collected to confirm the cause of the outbreak. Patients for culture should be chosen among those with bloody diarrhoea for less than 4 days, without treatment, who agree to the examination. Rectal swabs or swabs of stool passed within an hour should be placed in Cary Blair media and transported cold (refrigerated or frozen). Culture should be on Mac-Conkey xylose-lysine-desoxycholate media.

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Antimicrobial resistance

RATIONALE FOR SURVEILLANCE

Antimicrobial resistance has increased dramatically in the last decade, adversely affecting control of many important diseases such as *Shigella* dysentery, pneumonia, tuberculosis, and malaria. Antimicrobial resistance leads to prolonged morbidity, increases case-fatality and lengthens the duration of epidemics.

Surveillance is necessary for local control and for national and international coordination and collaboration in issues relating to antimicrobial use and resistance and drug development.

RECOMMENDED DEFINITION

Microbial isolate that is resistant to one or more antimicrobial agents on standard susceptibility tests (e.g., disk diffusion, minimal inhibitory concentration determination).

RECOMMENDED TYPES OF SURVEILLANCE

Peripheral level

Every hospital should have a surveillance system for antimicrobial resistance (e.g., routine weekly laboratory-based reporting). This must involve collaboration between microbiologists, clinicians, pharmacists, and infection control personnel.

Intermediate / Central level

- At minimum, reporting from sentinel sites
- Routine laboratory-based reporting (this may include comprehensive reporting of aggregate statistics as well as case-based reporting from sentinel sites)
- Reporting should be at least once a year

Note 1: Surveillance should be geographically and demographically representative.

Note 2: Reference authorities must perform collection and confirmation of new or unusual resistance phenotypes.

RECOMMENDED MINIMUM DATA ELEMENTS

Case-based data at peripheral level and sentinel sites

- Unique identifier, age, sex
- Hospitalized (Y/N)
- Specimen type, specimen date, organism, microbial susceptibility test results

Aggregated data for reporting

- Distribution by type (resistant intermediate, susceptible)
- Number of samples tested for each organism by antibiotic
- Data for important pathogens must be reported separately for hospitalized and non-hospitalized cases, as well as by age group

Aggregate statistics should address important local and national antimicrobial resistance problems.

RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

At peripheral level

Daily review for unusual or important results.

Weekly-to-monthly review of organism frequencies and resistance profiles for outbreaks.

Quarterly review of data for monitoring resistance trends and review of hospital usage policy.

At intermediate and central level

Aggregated data

- Quarterly review of data for monitoring of resistance trends by organism, antibiotic, geographic, and demographic parameters
- Quarterly review of resistance results for possible errors in laboratory performance

Case-based data

Same analyses as for aggregate statistics, as well as more detailed analyses on test performance, mechanisms of resistance, and strain epidemiology.

PRINCIPAL USES OF DATA FOR DECISION-MAKING

- Monitor the changing trends and issues in antimicrobial resistance
- Aid the development of antimicrobial usage and infection control policies
- Monitor the impact of antimicrobial usage and infection control policies
- Guide the establishment of priorities for the development of new antimicrobial agents
- Aid research activities in the development of new antimicrobial agents
- Monitor outcome of treatment

SPECIAL ASPECTS

National Quality Assurance Programmes improve test performance by laboratories in the provision of reliable results to clinicians.

Local and national uses of antimicrobial resistance data can be greatly enhanced by the use of specialized software (WHONET), available free of charge from WHO.

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Anti-tuberculosis drug resistance

RATIONALE FOR SURVEILLANCE

Anti-tuberculous drug resistance occurs when a strain of *Mycobacterium tuberculosis* isolate is resistant to one or more antimicrobial agents as evidenced by internationally recommended methods for susceptibility tests (e.g., the economic variant of the proportion method, using Löwenstein-Jensen medium). The absolute concentration, resistance ratio, and other standardized methods may be used.

CASE DEFINITIONS

Primary drug resistance is defined as the presence of resistant strains of *M. tuberculosis* in a patient who, in response to direct questioning, denies having had any prior anti-tuberculous treatment or for whom, in countries where adequate documentation exists, no documented evidence of such a history is found.

Acquired drug resistance is defined as the presence of resistant strains of *M. tuberculosis* in a patient who, in response to direct questioning, admits having had prior anti-tuberculous treatment or for whom, in countries where adequate documentation exists, documented evidence of such a history is found.

RECOMMENDED TYPES OF SURVEILLANCE

Three main principles must be followed:

1. Use of a data collection system (based on standard registers) for *all* tuberculosis patients, designed in such a way that new patients are distinguished from those previously treated. National Tuberculosis Programmes using the WHO tuberculosis control strategy adopt a recording and reporting system which allows this kind of differentiation.
2. Use of laboratory methods internationally recommended for susceptibility testing. A country should have no more than one national reference laboratory (NRL) to which diagnostic centres send the sputum (with the exception of very large countries). The National Reference Laboratory should be linked to an international laboratory by strain exchange to ensure quality control.
3. Adequate sampling strategies must ensure the representativeness of the country or area to be surveyed.

In general, countries can choose between routine surveillance and ad hoc surveys at regular intervals (3-5 years) according to the availability of resources, logistics, and to other operational considerations.

RECOMMENDED MINIMUM DATA ELEMENTS

Peripheral level (diagnostic centres)

- Patient identifier, age, sex, specimen date, history of previous treatment, other data (nationality, HIV status if known). Only patient with positive sputum smear(s) should be enrolled

National Reference Laboratory

- Anti-tuberculous drug susceptibility test results

Central

- Data from the diagnostic centres and from the National Reference Laboratory should be matched and analysed by a coordinating team

RECOMMENDED DATA ANALYSIS, PRESENTATION, REPORTS

Peripheral level (diagnostic centres)

- The data should be tabulated at regular intervals by the diagnostic centres and the National Reference Laboratory, using standard forms, or be extracted from routine registers

Central level

- Based on the information provided by the diagnostic centres, the national coordinating team must make regular reports to the heads of the National Tuberculosis Programme and the reference laboratory
- Data analysis, by computer whenever feasible (WHO has developed a software for data entry and analysis; see Special Aspects)
- Analysis on a yearly basis for routine surveillance or at the end of ad hoc surveys
- Data must be aggregated by level of resistance to each single drug and each single combination of drugs as well as between primary and acquired resistance
- Stratification of data by age, sex, etc.; trend analysis may be undertaken as and when needed

PRINCIPAL USES OF DATA FOR DECISION-MAKING

- Monitor levels and trends of anti-tuberculous drug resistance prevalence as an indicator of the effectiveness of tuberculosis control efforts
- Identify outbreaks of multi-drug resistance in certain settings
- Provide feedback to those regions or areas which participated in region-representative surveys
- Under special circumstances, review the policy of tuberculosis case management

SPECIAL ASPECTS

National quality assurance programmes to assure that the performance of each National Reference Laboratory is monitored by an international laboratory network.

Reporting to WHO for international comparison of performance.

WHO has set up a global network of supra-national reference laboratories (SRL) which are responsible for quality control in various countries. In addition, they exchange strains amongst themselves. This quality assurance allows for the international comparison of survey results.

WHO has developed a simple software programme (SDRTB-2) based on EPI-Info for entering and analysing data from surveys. It can produce summary tables with the prevalence of drug resistance for each drug, analysed from different perspectives. The software is available free of charge from WHO.

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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 through ingestion of food or drinking-water. In addition to diseases mentioned in the manual (cholera, hepatitis A, shigellosis, salmonellosis), other foodborne diseases can also be the object of surveillance, which 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, identification of risk factors, and 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.

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

* Sentinel surveillance or community studies can provide detailed epidemiological and microbiological information, and may give a better picture of true incidence and impact of disease in a defined population, but are likely to miss outbreaks and thus do not necessarily represent a valid approach to outbreak detection.

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

International: Reports on notifications, laboratory data and outbreaks to be sent to the *WHO Global Database on Foodborne Diseases Incidence* as well as to regional surveillance programmes. Reports on investigations of specific outbreaks, particularly those implicating a commercial product, to the *WHO Global Database on Foodborne Diseases Outbreaks*.

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

RECOMMENDED MINIMUM DATA ELEMENTS

Case-based data at peripheral level

- Case classification (suspected / confirmed)
- Unique identifier, age, sex, geographical information
- Date of onset, diagnosis, travel history
- Suspected food, where purchased, prepared, consumed

Aggregated data for reporting

- Number of cases by age group, sex, geographical area, week

Case-based data from laboratory

- Unique identifier, age, sex, geographical information
- Date of onset, date of specimen
- Specimen type, organism(s) identified

Aggregated data from laboratory

- Number of cases by age group and sex, geographical area, week, organism

Outbreaks aggregated data

- Number of people at risk / ill / hospitalized / dead
- Geographical information, outbreak setting (e.g., restaurant, hospital, school)
- Date of first and last case
- Food or constituent implicated, causal agent
- Other factors (storage, heating, cross-contamination, food handler, environment)

RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

Surveillance data

- Frequent review of clinical and laboratory data looking for clusters of cases in time, place or person; all suspected clusters must be investigated to establish whether an outbreak has occurred
- Incidence of disease notifications and laboratory identifications by week, geographical area, organism, age group and sex (map incidence by geographical area if possible)

Outbreak investigation data

- Outbreak incidence by month, geographical area, setting, causal agent, attack rate, duration, foods implicated and contributing factors

See: *WHO Guidelines for the Investigation and Control of Foodborne Disease Outbreaks*, in preparation.

PRINCIPAL USES OF DATA FOR DECISION-MAKING

- Determine the magnitude of the public health problem
- Detect clusters / outbreaks on time
- Track trends in foodborne disease over time
- Identify high risk food, food practices and populations for specific pathogens
- Identify emergence of new pathogens
- Guide the formation of food policy and monitor the impact of control measures
- Assess risk and set standards
- Provide information to enable the formulation of health education in food safety

See: *Surveillance of foodborne diseases: What are the options?* WHO/FSF/FOS/97.3. Food Safety Unit, WHO, 1997, 44 pages.

SPECIAL ASPECTS

Human surveillance should be linked with food safety and control authorities.

Some diseases (e.g., salmonellosis) have a specific surveillance system which requires reference laboratories for detailed serotyping.

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Sexually transmitted diseases / syndromes

RATIONALE FOR SURVEILLANCE

The morbidity attributable to sexually transmitted diseases has continued to increase throughout this century, relative to that caused by other infectious diseases. Sexually transmitted diseases now rank among the 5 most important causes of years of healthy productive life lost in developing countries. Many sexually transmitted diseases (including HIV/AIDS) are often encountered as syndromes.

WHO approaches towards control is based on integrated primary health care at an early stage. A set of syndromic reporting definitions can be used to monitor the incidence of a number of conditions and for programme management; three syndromes will be used in this document:

- **Genital ulcer syndrome** (with etiologies such as chancroid, Herpes simplex, syphilis, Lymphogranuloma venereum, Granuloma inguinale)
- **Urethral discharge syndrome** (mainly gonococcal and non-gonococcal urethritis)
- **Vaginal discharge syndrome** (mainly vaginitis, and, to a lesser extent, cervical infections)

RECOMMENDED CASE DEFINITIONS

Clinical case definition

URETHRAL DISCHARGE SYNDROME

Urethral discharge in men, with or without dysuria.

GENITAL ULCER SYNDROME

Genital ulcer on penis or scrotum in men and on labia, vagina or cervix in women, with or without inguinal adenopathy.

VAGINAL DISCHARGE SYNDROME

Abnormal vaginal discharge (amount, colour and odour), with or without lower abdominal pain, or specific symptoms or specific risk factor (without examination).

Laboratory criteria for confirmation

URETHRAL DISCHARGE SYNDROME

Laboratory confirmation of organism if possible (Gram stain for intracellular diplococci), but this is not essential for the case definition, which is syndrome-based.

GENITAL ULCER SYNDROME / VAGINAL DISCHARGE SYNDROME

Laboratory confirmation of organism if possible, but this is not essential for the case definition, which is syndrome-based.

Case classification

Not applicable.

RECOMMENDED TYPES OF SURVEILLANCE

Routine monthly reporting, usually from sentinel sites on aggregated or case-based data to intermediate level (in some countries this may be universal reporting).

Annual reports from sentinel sites to central level.

In some countries surveillance relies on specific surveys (in the community or at clinics for sexually transmitted diseases).

RECOMMENDED MINIMUM DATA ELEMENTS

Case-based data for local record

- Unique identifier, age, sex, geographical area
- Date of onset
- Laboratory results

Case-based data for contact tracing

- Sex partners

Aggregated data for reporting

- Number of cases by age group, geographical area, and laboratory diagnosis if applicable
- Number of cases treated (urethral discharge syndrome)

RECOMMENDED DATA ANALYSES, PRESENTATION, REPORTS

- Syndromic reporting (numbers / incidence) by month, geographical area, age group, sex, laboratory results if appropriate
- Comparisons with same month, age group and geographical area in previous years
- Regular overview (monthly, quarterly or annual) to identify areas of concern and to set priorities as appropriate
- Information on seasonal and secular trends best presented as line graphs

PRINCIPAL USES OF DATA FOR DECISION-MAKING

- Provide surrogate indicators for the monitoring of trends in disease incidence
- Identify high risk areas for further intervention, including enhancement of HIV control activities as appropriate
- Raise awareness in policy makers and communities
- Define and monitor effective diagnostic and therapeutic procedures
- Define resources, supplies for service, prevention and control measures
- Monitor and improve existing programme, keeping it relevant and effective

SPECIAL ASPECTS

None.

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