

14th lecture:

Disease Notification

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Lecture objectives:

At the end of session participants will be able to

- Describe the disease notification process for major infectious diseases including mortality
- Classify the types of reporting mechanisms
- Justify the role of ministry of health / department of health in disease notification system



Background

The communicable disease control requires:

1. Understanding of the epidemiology of diseases
2. Reliable data on its distribution.

Once an infectious disease listed to be reported or a new disease has been detected (or suspected) it should be notified to the local health authority, whose responsibility is to put into operation, control and preventive measures.

Background: Control of Communicable diseases

- The first step prompt recognition & identification (identification of the disease)
- Reporting to a higher level remains the first line of alertness
- All health care workers should be aware of diseases that need to be reported as well as how, why & where they are to be reported.
- Administrative practices on diseases reporting may vary greatly from one country or region to another.
- Disease reporting provides necessary and timely information to justify the application of appropriate investigation and control measures.
- Uniformity in morbidity and mortality reporting allow comparison of data from different time periods, regions, and nations. (by collecting and submitting the data daily, we will have an ongoing collection of data, this would help us know how many cases we have, what is the trend...etc)

A reporting system functions in four stages

- Collection of basic data in the local community where disease occurs.
- Data are next assembled at district, state or province (area) level.
- Aggregation of information under national systems.
- For certain diseases, reporting is made by the national health authority to the WHO. (e.g. polio eradication)

Reporting System in Saudi Arabia:

- Reporting system of communicable diseases passed through various stages since 1953G/1353H
- Modifications had been undertaken where reporting was urged to be implemented more seriously and the diseases were classified into **two main classes**.

Class I:

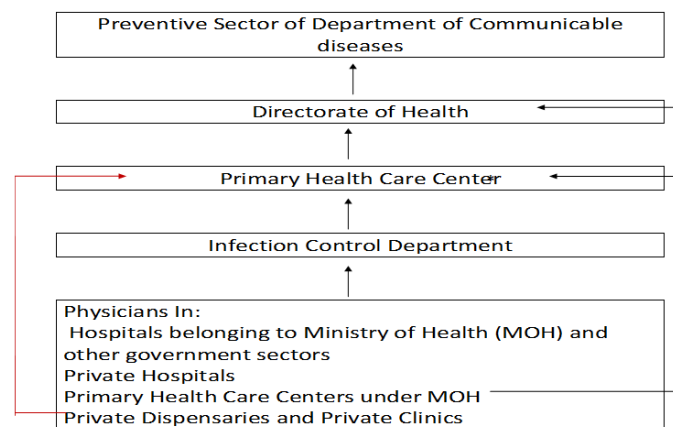
- Included quarantinable diseases (where you put the patients to isolation sometime) such as Cholera, Plague and Yellow fever **and**
- Other communicable diseases such as Poliomyelitis and Cerebrospinal meningitis of various origins as well as other diseases.
- Diseases under class 1 should be **reported immediately** from hospitals, to the responsible health care center to regional health affair directorate and eventually to the Ministry of Health **by telephone, fax or most rapid means.**
- The diseases should be reported to the general directorate of preventive medicine by fax.

Class II:

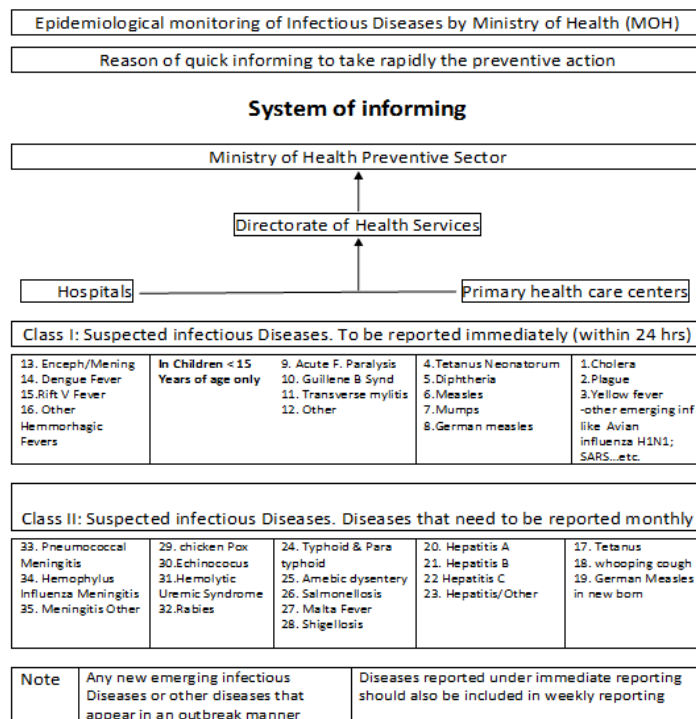
- Diseases included this class should be **reported weekly** from the assigned health care center to the regional health affair directorate and then monthly from the latter to the general directorate of preventive medicine in the Ministry of Health.
- This class include communicable diseases which are closely related to environmental health

e.g. Typhoid, Amoebic dysentery, hepatitis, and other diseases, *please see table in next slides.*

Channel of Reporting



* In Big Cities PHC can report directly to Directorate of Health



Surveillance, Survey & daily reporting

Surveillance (WHO, state, health department, hospital, decide)

- Continuous; frequency of reporting scheduled (weekly, monthly...etc to see the trend and pattern of the disease)
 - Trend= with time (like a cohort effect)
 - Pattern= right now (like a cross sectional study of the disease)
- Monitor long term trends
- To make comparisons
- Demands on maintaining quality of data

Survey (WHO, state, health department, hospital, decide)

- one time activity/ prevalence survey/to know burden
- Repeated surveys / yearly / quarterly

Daily reporting

- A structured format: to report to infection control department
- If new emerging infectious disease of fatal nature then health department need to be notified daily or per decision

*So surveillance is an ongoing study while survey is one time only

Disease notification

Legal responsibility of public & privately functional/working

- Physicians
- Laboratories
- Hospitals
- Health centers
- Others
- Immediately reporting can be done by fax with sufficient information for the health department to trace and take actions to confirm the case; and control further
- Within a hospital infection control department assists in collecting information to process to health department
- Passive type of surveillance (because the hospital is reporting, it would be active if the ministry of health sent someone to collect the data)

Disease notification

- Instituted for rapid application of prevention measure
- List of diseases vary by country
- Notification goes by mail
- Information on form includes dx, date of onset, age, sex, and place of residence; may contain Sx, Rx given, and precautions
- It is done to control and prevent people in homes, clinics, hospitals, villages, towns, cities, countries, and at global level too.

Validity (truthfulness) of notification data

- Seeking of medical care is not constant
- Distance to the nearest hospital
- Cost and distance to travel
- Media reports will increase the # of people reporting to the hospital e.g. dengue fever
- Public awareness will increase the incidence

Case Definition

- Standard set of criteria
- Clinical and lab
- Allows for comparison
- Sensitive vs. Specific
- New diagnostic tests will
- increase incidence

Case Definition Example

- Probable Case of Smallpox: A case that meets the clinical case definition that is not laboratory confirmed but has an epidemiological link to another confirmed or probable case.
- Confirmed Case of Smallpox: A case of smallpox that is laboratory confirmed.

Case Definition Gradient



DEATH: Assigning Cause on certificate

- under-registration (of death) (especially where registration facilities are minimal).
- The exact determination of the cause of death is one of the most difficult problems of vital statistics.

The WHO standard death certificate:

- Disease/condition directly leading to death e.g. peritonitis.
 - Antecedent causes e.g. perforation of duodenum.
 - Morbid conditions if any, giving rise to above cause e.g. duodenal ulcer.
 - Other significant conditions, contributing to death but not related to the disease, or condition causing it ... e.g. hypertension.
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Importance of Death Certificate:

- Enables the underlying causes of death to be assigned to its proper category in the (ICD). “[International classification of diseases](#)”
- The WHO considers this classification as one of the great advances in the field of vital statistics.
- It enables international comparative studies.
- Death from acute infections of short durations act like incidence of disease

Summary

- Disease notification requires an inbuilt surveillance system between health care workers/services and government
- Case definitions / cause of death assignment
- Prompt action as soon as notification arrives
- Control measures to be considered for health care services, community, employees, and determining target or high risk groups

Exercises:

- a new infectious disease epidemic occurs that was not endemic in the region/setting
1. How to notify infectious diseases from admitted patients?
 2. How to notify infectious diseases from outpatients?
 3. How to notify infectious diseases in medical professionals /occupational hazards medical profession?
 4. How to notify infectious diseases from laboratory?
 5. How to report needle stick injuries in health workers of a hospital?
 6. How to report a suspected case of polio to health department?
 7. How to handle a case of suspected Enteric Fever in hospital cafeteria cook?