

Communicable Disease Surveillance



Introduction

Surveillance may be defined as the routine collection, analysis and dissemination of various data that describe the occurrence and distribution of disease, events or conditions. Surveillance is a continuous and systematic process consisting of three primary activities:

1. **Collection** of relevant data for a specified population, time period and/or geographic area;
2. Meaningful **analysis** of data;
3. Routine **dissemination** of data with accompanying interpretation.

The primary objective of disease surveillance is to determine the extent of infections and the risk of disease transmission, so that prevention and control measures can be applied both effectively and efficiently to minimize the burden of illness. Surveillance data must be **timely** and **complete** to accurately reflect the occurrence and distribution of disease.

To achieve this objective, health care professionals working in communicable disease control programs must carry out the following activities:

- Identify and describe each individual having an infection as quickly as possible after exposure.
- Determine the source of infection.
- Identify exposed individuals to whom the infection may have been transmitted.
- Specify the frequency of occurrence of infection in population groups at risk by person, place and time.
- Identify populations that are experiencing, or might experience, an increased frequency of infection.
- Prepare and distribute surveillance reports to health care professionals participating in disease prevention and control activities.

Types of Surveillance

There are two types of surveillance commonly used:

1. **Passive** disease surveillance refers to the receipt of reports of infections/disease from physicians, laboratories and other health care professionals required to submit such reports as defined by public health legislation.
2. **Active** disease surveillance is also based on public health legislation and refers to daily, weekly or monthly contacting of physicians, hospitals, laboratories, schools or others to “actively” search for cases. This type of surveillance is usually seasonal to coincide with periods of high disease frequency and generally yields a much higher percentage of actual cases as compared to passive surveillance. Active surveillance is used also during outbreaks to identify additional cases.

Sources of Surveillance Data

In Manitoba, several sources of data are used for surveillance:

- Laboratory reports of infections.
- Morbidity reports from health care professionals describing individual cases (e.g., pertussis).
- Morbidity reports from health care professionals describing groups of cases (e.g., influenza-like illness).
- Morbidity reports from Manitoba Health (e.g., patients admitted to hospital with a communicable disease).
- Reports of outbreak investigations.
- Mortality reports from Vital Statistics and/or health care professionals.
- Active surveillance for specific infections/diseases.
- Special surveys (i.e., hospital admissions, disease registers, serologic surveys).
- Absenteeism data from school or workplaces for selected diseases (e.g., influenza).

Health-care professionals, laboratory personnel, or others (e.g., day-care workers/school teachers) aware of an individual with a reportable communicable disease should notify the appropriate public health officials.

Public health staff will initiate a disease-specific follow-up investigation as indicated for each disease protocol, and ensure that adequate prevention and control measures are taken.