

IC2:1000 Surveillance: Data Collection, Monitoring & Analysis

1.0 PURPOSE

To provide information on infection occurrences and trends which, in turn, is used to make improvements by helping to minimize and control, incidents of infections and outbreaks.

2.0 DEFINITION

Surveillance is the systematic, ongoing collection, collation and analysis of data with timely dissemination of information for the purpose of improvements in prevention and control of conditions. Proper surveillance requires objective, timely, and valid definitions of infection. Effective surveillance requires knowing both the number of current infections (i.e. the baseline) and the number of new infections that occurred during the reporting period.

Health care associated infections or nosocomial infections, infections acquired during the delivery of care.

The elements of a surveillance program include:

- Planning
- Data collection
- Data analysis
- Communication of results
- Evaluation

3.0 GUIDELINES

3.1 Planning

Facility is to identify which infections and infectious agents most common to their services and resident population. An assessment of the following will help determine facility surveillance priorities.

- Residents in the facility
- Medical interventions or procedures provided in the facility
- Frequency of infections
- Impact of the infection
- Preventability of the infection

Data Collection

- 3.1.1 In order to conduct purposeful surveillance, facilities must determine: the type of information needed to identify infections
- the processes and procedures needed in order to collect the information you need
 - *triggers* for data collection: *triggers* are potential clues to infection - they may include: fever, specific symptoms, certain physician orders such as cultures or antibiotic medications, and certain laboratory test results.
- 3.1.2 Identify your sources of data. These may include:
- reports from staff
 - residents' medical records
 - resident assessments
 - laboratory and radiology reports
- 3.1.3 Utilize validated infection surveillance definitions for infections (see IC2:1100 Appendix I surveillance definitions,).
- 3.1.5 Collect data on an on-going basis. Refer to sample Surveillance Record (see IC2:1200, Appendix II)

3.2 Data Analysis

- 3.2.1 Review and analyze your data at least monthly and daily during suspected outbreaks.
- 3.2.3 Examine your worksheet data for clinical and geographic trends. Ask the following questions and look for the features that these residents have in common (e.g. gender, caregivers, devices, treatments):
- Are most of the cases on a particular hall or wing?
 - Are several residents having similar symptoms?
- 3.2.4 Compute the rates of new infections in your facility.
- $$\frac{\text{Number of new infections}}{\text{Resident Population}} \times 100 = \text{Incident Rate}$$
- 3.2.5 Monitor your facility's indicators for infection control.
- 3.2.6 Evaluate your surveillance data regularly and whenever there is a sudden increase in the number of infections or a new type of infection. Look for emerging trends in your data.

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- 3.2.7 Look for clusters of residents with similar symptoms, type of infection, or physical location within your facility. Determine the similarities among affected residents.

3.3 Communication of Results

- 3.3.1 Compile and share surveillance data and statistics with the Infection Control Committee, the employees, and whenever there are new trends or suspected outbreaks. It is suggested that data be compiled monthly and reported at least quarterly, however the frequency is defined based on the facility's own infection control program design.
- 3.3.2 Use surveillance information to identify and address infection control issues.
- Infection rates for a particular infection during the same months across consecutive years suggest seasonal patterns.
 - Infection rates in consecutive months during the year suggest emerging trends.
 - Differences in infection rates among your nursing units should lead you to seek reasons for the observed differences.
- 3.3.3 Prepare a report for members of the Infection Control Committee, and employees at least quarterly and whenever an outbreak is suspected. Your report should include:
- A written summary of infections that occurred since the last report date.
 - Summary rates for all nosocomial infections that have occurred since the last report.
 - Simple graphs that show infection trends.
 - Numbers and rates of infection.
 - Your recommendations for actions that need to be taken.
 - Procedures that need to be implemented to halt a newly identified outbreak.
 - A summary of employee education required for procedural changes.

3.4 Evaluation

Surveillance data are important in determining which infection control practices need to be reviewed. Therefore, it is important to make surveillance data available to the employees on the unit and the infection control committee. The data should be presented regularly (as determined by your ICC) and in a format that helps the infection control committee make decisions for changes to improve outcomes.

References

Provincial Infectious Diseases Advisory Committee. Best practice for surveillance of health care associated infections. Second revision October 2011
http://www.publichealthontario.ca/en/eRepository/Surveillance_3-3_ENGLISH_2011-10-28%20FINAL.pdf