Infection Prevention & Control Program

Module #5: Surveillance

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Winnipeg Regional Health Authority
Caring for Health
Office régional de la santé de Winnipeg
À l'écoute de notre santé

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MODULE #5: SURVEILLANCE

OBJECTIVES

At the completion of this module you will:

1. **Describe** a surveillance program with the Infection Control Program of your facility/area and assess its strengths and limitations in terms of:
    - Purpose and objectives
    - Type of surveillance used
    - Date sources for identifying cases
    - Definition used to confirm cases
    - Data collection methods and forms
    - Data analysis method
    - Summary of the findings including conclusions, recommendations, and follow-up

2. Collect, manage, analyze, interpret and report data from a surveillance program

Number of Hours

- Key Concepts ~ 4 hrs
- Methods ~ 4 hrs

Required Readings

- [ ] WRHA Infection Control Professional Specific Manual Chapter: Surveillance (**NOTE:** ICSA's Please connect with your WRHA IPC to review together)
- [ ] **LTC:** Surveillance, Targeted https://professionals.wrha.mb.ca/old/extranet/ipc/files/manuals/ltc/TSOpG2014.pdf (**NOTE:** ICSA's Please have a conversation with your preceptor)
- [ ] **Acute care definitions:** CDC/NHSN Surveillance definition of healthcare-associated infection and criteria for specific types of infections: Surveillance Definitions (cdc.gov)
- [ ] **LTC definitions:** Canadian LTC Surveillance Definitions.pdf (patientsafetyinstitute.ca)
- [ ] LTC - Making Surveillance Work for You
- [ ] Surveillance Orientation Review

Discuss with your preceptor scheduling time to meet with the WRHA Epidemiologist (i.e., group meeting, and/or individual as appropriate).

Other Readings

- [ ] Ontario's Best Practices for Surveillance of Healthcare-associated Infections in Patient and Resident Populations available on line at: PIDAC-IPC_Surveillance_ENGLISH_2014-06-23 (publichealthontario.ca)
- [ ] APIC Text- 4th Edition- Chapter 11. Surveillance

OVERVIEW

We spend a lot of time doing surveillance. It's important to be able to identify where problems are so we can focus interventions to improve patient outcomes. Each HAI surveillance program, e.g., surgical site infections (SSI), Methicillin resistant *Staphylococcus aureus* (MRSA), and respiratory should have a clear purpose and specific objectives. This helps focus data collection and analysis and also helps sell the program to administrators! Before we review concepts and apply them to your program, you need to know what HAI surveillance is taking place in your facility. Complete the following exercise.

Surveillance Programs

Instructions: List your facility's/areas HAI surveillance programs. For each, in the rows below, identify its purpose and specific objectives:

PROGRAM	PURPOSE AND SPECIFIC OBJECTIVES

KEY CONCEPTS

Key concepts refer to the basic information that an you will require in order to do surveillance effectively. From the readings, complete each of the following tables. Doing so will help you take notes of important definitions, facts and comparisons.

Definition, Purpose and Objectives of Surveillance

DEFINE SURVEILLANCE

LIST FIVE PURPOSES OF SURVEILLANCE
1.
2.
3.
4.
5.

DEFINE EACH OF THE FOLLOWING TERMS	
Epidemiology	
Population	
Case	
Contact	
Case definition	
Numerator	
Denominator	
Rate	
Attack rate	
Endemic	
Cluster	
Epidemic	
Pandemic	
Incidence	
Incidence density	
Distribution	
Proportion	
Baseline	

FOR ACUTE SITES - SURGICAL SITE INFECTIONS SURVEILLANCE TERMS	
Wound classification	
Risk Index (**NOTE**: not used in our Winnipeg Surveillance daily practice, but become aware of what it involves)	
ASA score	

TYPES OF SURVEILLANCE

There are many different types of surveillance approaches, each of which has strengths and limitations. It is important to decide which approach will best suit your surveillance programs purpose and objectives.

	TOTAL SURVEILLANCE	TARGETED SURVEILLANCE
Definition		
Strengths		
Limitations		
Examples		

	SYNDROMIC	SENTINEL
Definition		
Strengths		
Limitations		
Examples		

	PROCESS	OUTCOME
Definition		
Strengths		
Limitations		
Examples		

	RETROSPECTIVE	PROSPECTIVE
Definition		
Strengths		
Limitations		
Examples		

METHODS

In this section you will have an opportunity to apply the knowledge you have learned in the key concepts sections to scenarios which you may encounter in your job. **Read and discuss those which are applicable to your knowledge base and areas of employment** with your preceptor. In this section you will focus on the steps that need to be followed in order to identify, collect, handle and analyze the data.

Definition of Cases

Consistent criteria must be used to define cases in order to accurately collect the data and be able to compare the results of different surveillance programs. National organizations have identified case definitions for surgical site infections, urinary tract infections and other healthcare-associated infections. For example, the CDC's healthcare-associated surveillance definitions are widely used in North America. They are available at Surveillance Definitions (cdc.gov).

Or widely used LTC case definitions: Canadian LTC Surveillance Definitions.pdf (patientsafetyinstitute.ca).

There are also provincial definitions for some diseases. These can be found here: Diseases & Conditions A - Z Site Index | Health | Province of Manitoba (gov.mb.ca)

REVIEW YOUR SURVEILLANCE PROGRAM: CASE DEFINITIONS
Choose one of your surveillance activities (e.g., *Clostridioides difficile* infections) and answer the following:
Identify the case definitions used for the surveillance program & where did it come from? Are they consistent with definitions used by other provinces?
Are the definitions clear and concise?
How comparable are the results of your surveillance program to other facilities in your province?

Sources of Cases

There are a number of sources that will be utilized to identify cases and may include: admission forms, nurses on the P/R/C units, microbiology lab, ICP ward rounds, antibiotic use, physicians and community health practitioners.

Identify sources of data for identifying infections used in the surveillance program you have chosen. Can you identify additional strengths or limitations?

Explain why you need multiple sources for identifying possible cases?

Data Collection

Describe how you collect data to confirm or reject a case — what data do you collect and why, and how do you collect it (e.g., form to use). It may be necessary to collect information from multiple sources such as pharmacy, chart review, x-ray data, and laboratory data therefore usually a form is required so that the same information is collected on all cases. For consistency across facilities/areas, specific data collection forms are used to ensure similar data is collected in the same manner across Winnipeg facilities/areas. For efficiency and ethical reasons, you should only collect the data that

you need. Data collection procedures should include strategies for ensuring accuracy and completeness of data.

REVIEW YOUR SURVEILLANCE PROGRAM: DATA COLLECTION
Describe the surveillance activity you have chosen in terms of the following:
Identify the methods used for collecting data to confirm or reject cases.
Describe strategies to ensure you are collecting quality data.
Describe methods used for obtaining denominator data.

Practice with an actual example of data collection from your facility/area

Data Handling

How you manage your data can affect both the efficiency and effectiveness of your surveillance program. A computerized system is essential, but there are many options available. Rather than being familiar with the variety of potential options, you need to understand the one used in your facility, even if you are not the person responsible for data entry. Discuss site specific data bases with Preceptor.

Describe the system used for data management:

1. What database is used?
2. Who enters the data?
3. Who is responsible for maintaining the system?

Practice entering data from at least 3 data collection forms (i.e., long term care: HAI surveillance form, Acute care: ask about specific data collection forms appropriate to your area)

Data Analysis

Surveillance data are used to generate infection rates, which can then be interpreted to identify if there is a problem to be addressed or if interventions have been effective. Review site specific data collection forms with preceptors i.e., LTC targeted surveillance form

REVIEW YOUR SURVEILLANCE ACTIVITY: PRACTICE WITH DATA ANALYSIS
Calculate and interpret the following rates (as appropriate). Interpretation could be: rates are high, low, changed, etc. • Incidence Rate • Prevalence Rate
Discuss sources for benchmark comparisons.
Interpret the rates using appropriate benchmarks.

Documentation and Reporting

Discuss the purpose and value of writing reports. Who should get the report and what information do they need, and how often?

Describe the parts of the report.

Discuss the role of Infection Control Professionals, Infection Control Assistants and Infection Control Support Associates as Infection Control data collectors.

Discuss what site-specific & regional specific reports are generated with your preceptor.

- Who should get the report?
- What information they need and how often they require it?

Other Issues: Ethics

DISCUSS ETHICAL ISSUES RELATING TO SURVEILLANCE IN TERMS OF WHY THEY ARE ISSUES AND HOW THEY CAN BE ADDRESSED	
Confidentiality	
Privacy	
Mandatory Reporting	

The WRHA would like to thank the Provincial Infection Control Network of British Columbia (PICNET) for allowing the use of their ICP Orientation Manual.

IP&C ORIENTATION MODULE EVALUATION – SURVEILLANCE

These modules have been developed in order to make your orientation to the WRHA Infection Prevention & Control Program a good experience. Please complete the below evaluation for each module so any necessary changes can be made to improve the manual for future use. Your thoughts and comments are greatly appreciated, thank you.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. The material was presented in a clear and organized way.	☐	☐	☐	☐
2. The information in the module was consistent with the objectives stated.	☐	☐	☐	☐
3. The required readings were useful.	☐	☐	☐	☐
4. The instructions with in the module were clear.	☐	☐	☐	☐
5. The amount of time given for the module was adequate.	☐	☐	☐	☐
6. The module provided information that I needed in order to do my job.	☐	☐	☐	☐
7. The module helped me to develop my critical thinking by using examples of IP&C situations.	☐	☐	☐	☐

Comments

1. Do you now feel better prepared to begin your job, recognizing that this is an orientation manual and not meant to replace an accredited infection control course?

2. Do you have any suggestions on how this module can be improved?

3. Are there any additional topics that should be included in this module?

4. Any further comments?