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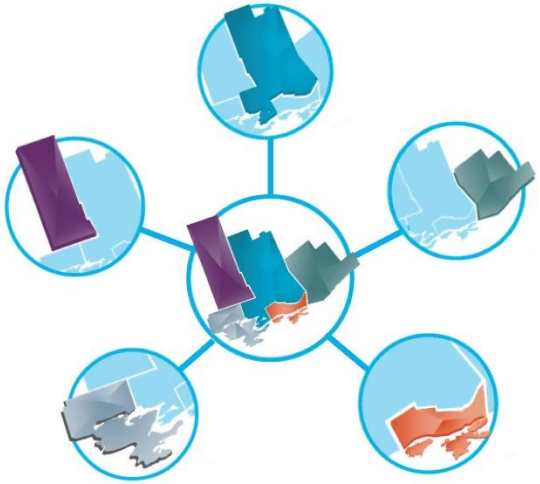

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What's in your Surveillance Program?

IPAC EDUCATION SESSION #2 – FOR LONG TERM CARE HOMES
SE IPAC HUB & SPOKE – SEPTEMBER 10 2021

Learning Objectives

- ✓ To outline the importance and requirements for surveillance
- ✓ To outline outcome and process surveillance and to provide recommended indicators as part of your home's IPAC program
- ✓ To provide an overview of the key components to effective surveillance systems
- ✓ To provide resources, tools, and considerations to assist in achieving effective surveillance

Agenda

Introduction to Surveillance

- What is surveillance?
- Why conduct surveillance?

Types of Surveillance

- What should you be looking for?

Outcome Surveillance

- What are the key pieces of your surveillance system?
- What resources, tools, and considerations are available?

Process Surveillance (auditing)

- What are the key pieces of your surveillance system?
- What resources, tools, and considerations are available?

What is Surveillance?

slido

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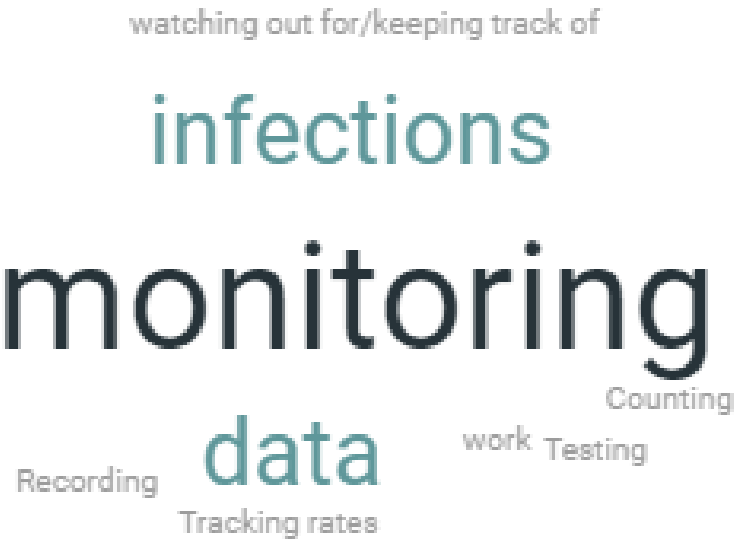
What do you think of when you hear “surveillance”?



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What is Surveillance?

"Surveillance is the systematic, ongoing collection, collation and analysis of data with timely dissemination of information to those who require this information in order to take action."

Do you have a process?

Do you have a consistent method?

Do you have a method of collecting, analyzing, and interpreting data?

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for surveillance of health care-associated infections in patient and resident populations. 3 rd ed. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: https://www.publichealthontario.ca/-/media/documents/b/2014/bp-hai-surveillance.pdf?la=en.

What is Surveillance?

"Surveillance is the systematic, ongoing collection, collation and analysis of data with timely dissemination of information to those who require this information in order to take action."

What information will you be sharing? And when?

Who are you communicating the information to?

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for surveillance of health care-associated infections in patient and resident populations. 3 rd ed. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: https://www.publichealthontario.ca/-/media/documents/b/2014/bp-hai-surveillance.pdf?la=en.

What is Surveillance?

LET'S KEEP IT SIMPLE

Surveillance is the routine process of…

- gathering information
- looking for patterns
- sharing your findings with those who can make a difference.

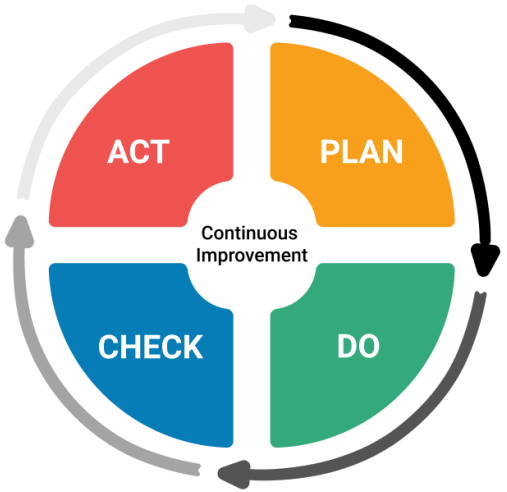

Photo source: https://kanbanize.com/lean-management/improvement/what-is-pdca-cycle

Why Conduct Surveillance?

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Why does your home conduct surveillance?

Education needed

identify issues

find trends to prevetn further infections

to track infections

Patient safety.

To improve resident health

protect residents

keep infections low

stop spread

Why Conduct Surveillance?

- Goal: to reduce the risk of acquiring health care-associated infections (HAI)
  - HAIs are common in long term care homes, frequently resulting in death
  - Outbreaks can be difficult to contain and result in significant costs
  - Up to ~70% of HAIs are preventable

An effective surveillance program will help reduce the frequency of health care-associated infection.

Why Conduct Surveillance?

Surveillance can be used for many purposes, including:

- To detect and monitor HAI
- To identify risk factors for HAI
- To evaluate preventive interventions
- To provide information to inform, educate, and reinforce practice

Mandatory Requirements

Long-Term Care Homes Act, 2007, S.O. 2007, c. 8

Requirements of program

(2) The infection prevention and control program must include,

(a) daily monitoring to detect the presence of infection in residents of the long-term care home; and

(b) measures to prevent the transmission of infections. 2007, c. 8, s. 86 (2).

Mandatory Requirements

Long-Term Care Homes Act, 2007, S.O. 2007, c. 8

O. Reg. 79/10: GENERAL

(3) The licensee shall designate a staff member to co-ordinate the program who has education and experience in infection prevention and control practices, including,
(a) infectious diseases;
(b) cleaning and disinfection;
(c) data collection and trend analysis;
(d) reporting protocols; and
(e) outbreak management. O. Reg. 79/10, s. 229 (3).

(5) The licensee shall ensure that on every shift,
(a) symptoms indicating the presence of infection in residents are monitored in accordance with evidence-based practices and, if there are none, in accordance with prevailing practices; and
(b) the symptoms are recorded and that immediate action is taken as required. O. Reg. 79/10, s. 229 (5).

(6) The licensee shall ensure that the information gathered under subsection (5) is **analyzed daily to detect the presence of infection and reviewed at least once a month to detect trends,** for the purpose of reducing the incidence of infection and outbreaks. O. Reg. 79/10, s. 229 (6).

(7) The licensee shall implement **any surveillance protocols given by the Director for a particular communicable disease**. O. Reg. 79/10, s. 229 (7).

(8) The licensee shall ensure that there are in place,
(a) an outbreak management system for **detecting,** managing, and controlling infectious disease outbreaks, including defined staff responsibilities, reporting protocols based on requirements under the *Health Protection and Promotion Act*, communication plans, and protocols for receiving and responding to health alerts

Other Requirements

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PIDAC Best Practices

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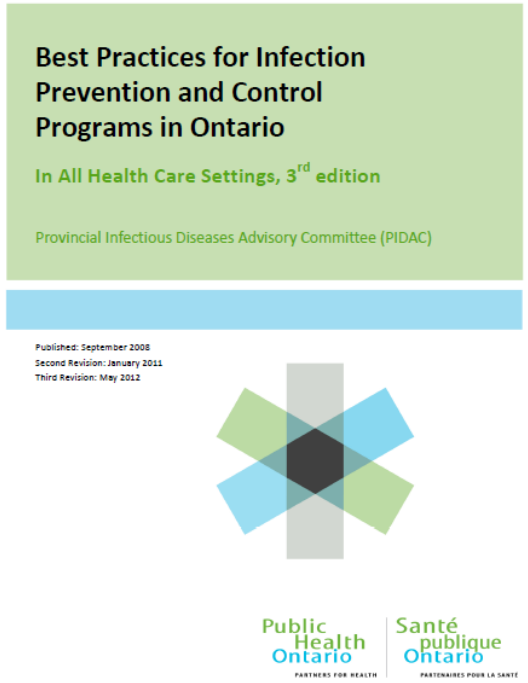
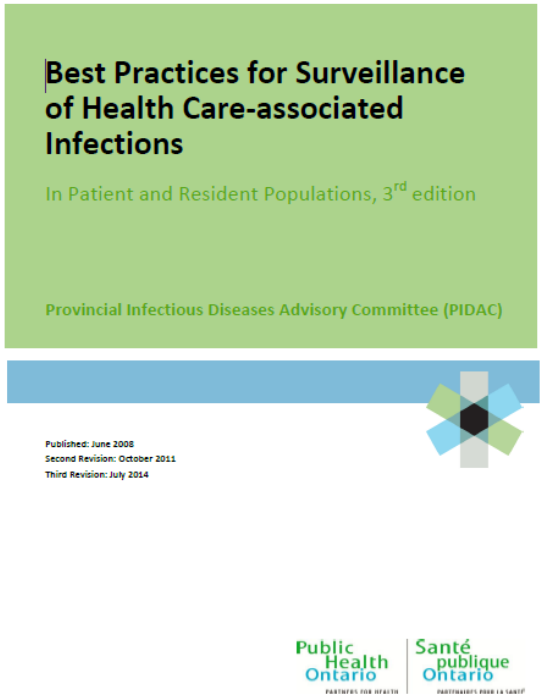
IPAC Programs in All Health Care Settings



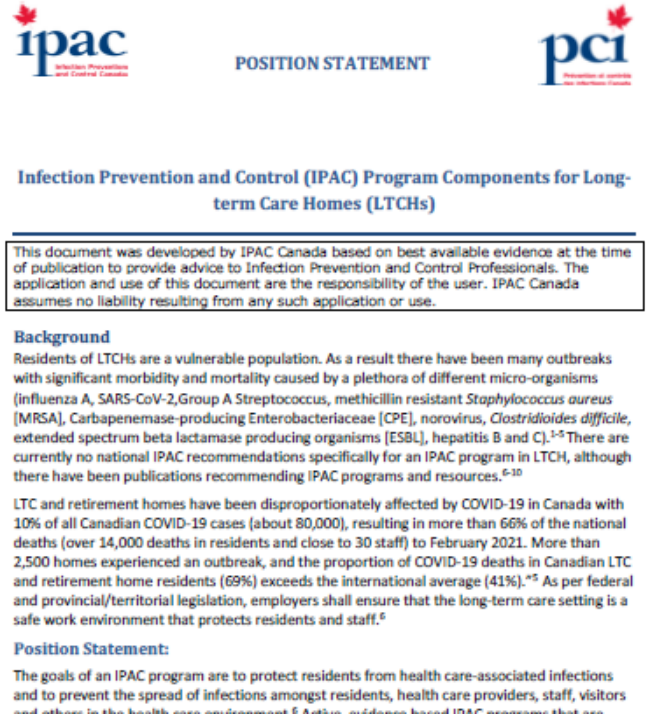
Surveillance of Health Care-associated Infections



IPAC for LTCH

IPAC Canada Position Statements

IPAC Program Components for LTCH



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POSITION STATEMENT

pci Prévention et contrôle des infections Canada

Infection Prevention and Control (IPAC) Program Components for Long-term Care Homes (LTCHs)

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Background

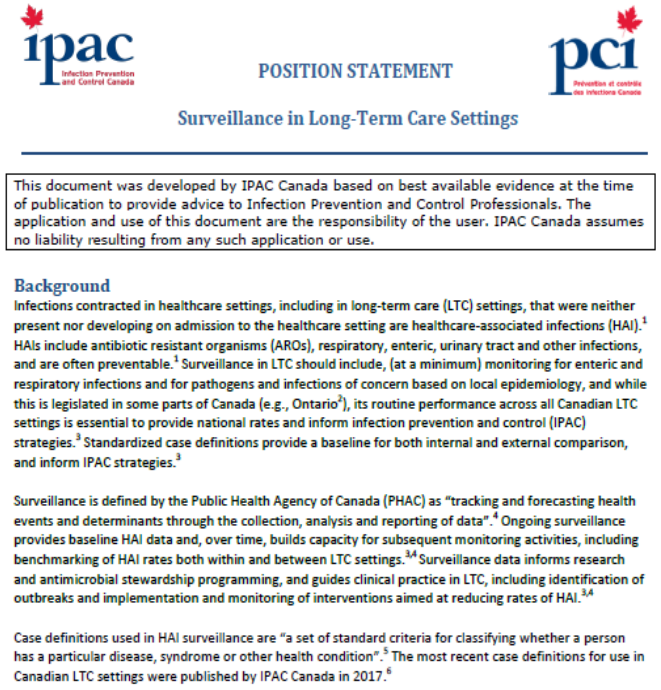
Residents of LTCHs are a vulnerable population. As a result there have been many outbreaks with significant morbidity and mortality caused by a plethora of different micro-organisms (influenza A, SARS-CoV-2,Group A Streptococcus, methicillin resistant *Staphylococcus aureus* [MRSA], Carbapenemase-producing Enterobacteriaceae [CPE], norovirus, *Clostridioides difficile*, extended spectrum beta lactamase producing organisms [ESBL], hepatitis B and C).[1-5] There are currently no national IPAC recommendations specifically for an IPAC program in LTCH, although there have been publications recommending IPAC programs and resources.[6-10]

LTC and retirement homes have been disproportionately affected by COVID-19 in Canada with 10% of all Canadian COVID-19 cases (about 80,000), resulting in more than 66% of the national deaths (over 14,000 deaths in residents and close to 30 staff) to February 2021. More than 2,500 homes experienced an outbreak, and the proportion of COVID-19 deaths in Canadian LTC and retirement home residents (69%) exceeds the international average (41%).“[5] As per federal and provincial/territorial legislation, employers shall ensure that the long-term care setting is a safe work environment that protects residents and staff.[6]

Position Statement:

The goals of an IPAC program are to protect residents from health care-associated infections and to prevent the spread of infections amongst residents, health care providers, staff, visitors

Surveillance in LTC Settings



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Surveillance in Long-Term Care Settings

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Background

Infections contracted in healthcare settings, including in long-term care (LTC) settings, that were neither present nor developing on admission to the healthcare setting are healthcare-associated infections (HAI).[1] HAIs include antibiotic resistant organisms (AROs), respiratory, enteric, urinary tract and other infections, and are often preventable.[1] Surveillance in LTC should include, (at a minimum) monitoring for enteric and respiratory infections and for pathogens and infections of concern based on local epidemiology, and while this is legislated in some parts of Canada (e.g., Ontario[2]), its routine performance across all Canadian LTC settings is essential to provide national rates and inform infection prevention and control (IPAC) strategies.[3] Standardized case definitions provide a baseline for both internal and external comparison, and inform IPAC strategies.[3]

Surveillance is defined by the Public Health Agency of Canada (PHAC) as “tracking and forecasting health events and determinants through the collection, analysis and reporting of data”.[4] Ongoing surveillance provides baseline HAI data and, over time, builds capacity for subsequent monitoring activities, including benchmarking of HAI rates both within and between LTC settings.[3,4] Surveillance data informs research and antimicrobial stewardship programming, and guides clinical practice in LTC, including identification of outbreaks and implementation and monitoring of interventions aimed at reducing rates of HAI.[3,4]

Case definitions used in HAI surveillance are “a set of standard criteria for classifying whether a person has a particular disease, syndrome or other health condition”.[5] The most recent case definitions for use in Canadian LTC settings were published by IPAC Canada in 2017.[6]

What should you be looking for?

What should you be looking for?

OUTCOME

SURVEILLANCE

PROCESS

SURVEILLANCE

What should you be looking for?

OUTCOME SURVEILLANCE

- monitors targeted outcomes for health care-associated infections
- *i.e., changes in the residents' health status that can be attributed to their care received at the home*

e.g., monitoring acute respiratory infections

PROCESS SURVEILLANCE

- Monitors targeted IPAC processes with regular audits of practice
- *i.e., things done to or for a resident at the home*

e.g., auditing hand hygiene practices

What should you be looking for?

OUTCOME SURVEILLANCE

- Goals:
  - to identify clusters and outbreaks
  - to compare infection rates to benchmarks
  - to measure internal improvement over time

PROCESS SURVEILLANCE

- Goals
  - To improve practices and processes
  - To provide feedback and identify gaps in practice

PROCESS

PROCESS

things done to or for a resident at the home

PROCESS

OUTCOME

*changes in the **resident's health status** attributed to the care received*

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QUIZ TIME

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Tracking facility-acquired Clostridium difficile infection in residents. Is this outcome or process surveillance?

Outcome

92 %

Process

8 %

ⓘ Start presenting to display the poll results on this slide.

slido

Monitoring adherence to environmental cleaning protocols. Is this outcome or process surveillance?

Outcome

0 %

Process

100 %

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Monitoring adherence to acute respiratory infection screening protocols. Is this outcome or process surveillance?

Outcome

14 %

Process

86 %

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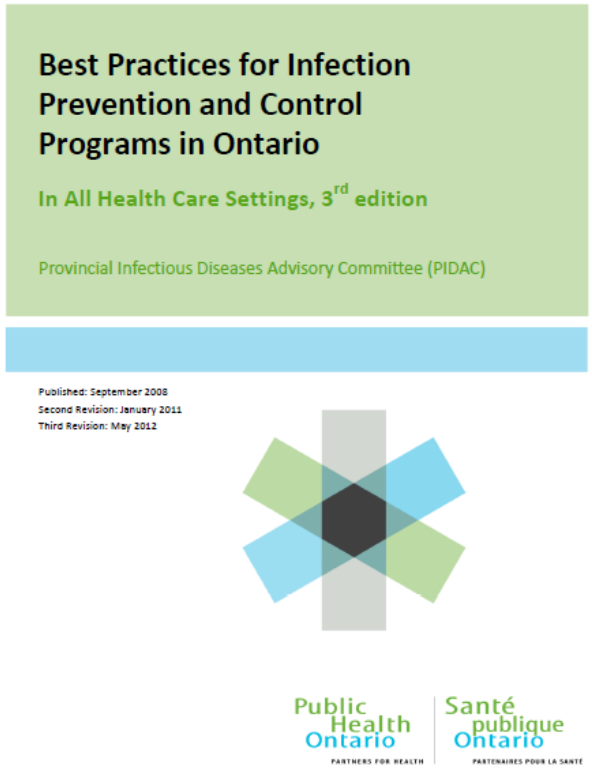
What should you be looking for?



- outlines the recommended outcome and process surveillance indicators in long term care

TABLE 2: RECOMMENDED OUTCOME SURVEILLANCE INDICATORS

Surveillance Component	Reference #	Acute Care	CCC	LTC	HHC
Facility-acquired respiratory infection in clients/patients/residents	80	✓	✓	✓	
Facility-acquired ARO in clients/patients/residents	79	✓	✓	✓	
Facility-acquired *Clostridium difficile*-associated disease in clients/patients/residents	117	✓	✓	✓	
Facility-acquired acute GI infection in clients/patients/residents		✓	✓	✓	
Facility-acquired group A streptococcal infections in clients/patients/residents		✓	✓	✓	
Staff tuberculin skin test (or interferon-gamma release assay) conversions	81	✓	✓	✓	✓
Procedure-specific surgical site infections (SSI)	86, 87	✓			✓ *
Central line-associated bloodstream infections in high risk areas	91-93	✓			✓ *
New acquisition of hepatitis in hemodialysis patients	84	✓	✓	✓	
Skin and soft tissue infections in clients/residents			✓	✓	

Legend: CCC = Complex Continuing Care LTC = Long-term Care HHC = Home Health Care
*** in collaboration with the agency that inserted the central line/performed the surgery**

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Table 2: Recommended Outcome Surveillance Indicators

Page 23-24

TABLE 1: RECOMMENDED PROCESS SURVEILLANCE INDICATORS

Surveillance Component	Reference #	Acute Care	CCC	LTC	HHC
Adherence to ARO screening protocols for clients/patients/residents	79	✓	✓	✓	
Adherence to ARI screening protocols for clients/patients/residents	80	✓	✓	✓	✓
Adherence to screening protocols for tuberculosis in clients/residents	81		✓	✓	
Adherence to screening protocols for acute GI infection in clients/patients/residents		✓	✓	✓	✓
Influenza vaccination rates (clients/residents)	82		✓	✓	
Pneumococcal vaccination rates (clients/residents)	82		✓	✓	
Adherence to screening protocols for hepatitis, MRSA and VRE in hemodialysis patients	83-85	✓	✓	✓	
Staff tuberculosis screening	81	✓	✓	✓	✓
Staff vaccination rates including annual influenza vaccination	82	✓	✓	✓	✓
Sharps injury surveillance	89, 90	✓	✓	✓	✓
Adherence to central line protocols	91-93	✓	✓	✓	✓

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Table 1: Recommended Process Surveillance Indicators

Page 19-20

Surveillance Component	Reference #	Acute Care	CCC	LTC	HHC
Adherence to ventilator use protocols	94, 95	✓	✓		
Adherence to protocols related to surgical procedures (e.g., pre-operative antibiotic use)	86, 87	✓			
Adherence to hand hygiene protocols	96-98	✓	✓	✓	✓
Adherence to Routine Practices protocols, including the correct use of PPE	2, 3	✓	✓	✓	✓
Adherence to reprocessing practices protocols	96, 105	✓	✓	✓	✓
Adherence to environmental cleaning protocols	96, 102	✓	✓	✓	
Adherence to IPAC construction/renovation protocols	100, 101	✓	✓	✓	
Adherence to recommendations of the antimicrobial stewardship program	63, 104, 106	✓	✓	✓	
Adherence to practices to limit urinary catheter use	103	✓	✓	✓	✓
Legend: CCC = Complex Continuing Care LTC = Long-term Care HHC = Home Health Care					

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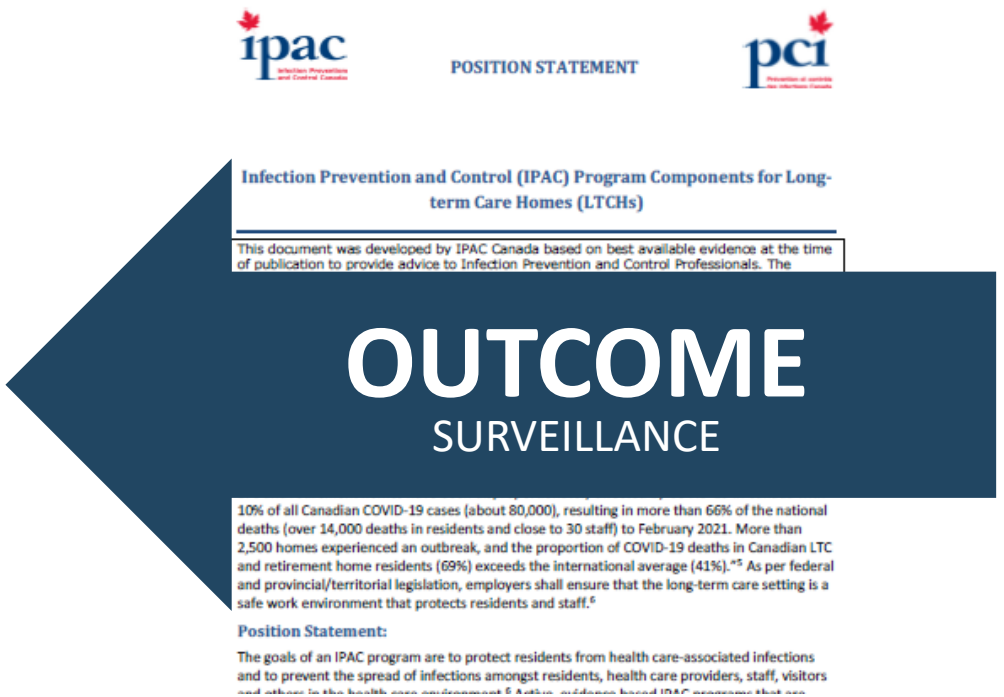
Table 1: Recommended Process Surveillance Indicators (continued)

Page 19-20

Position Statement:
IPAC Program Components for LTC

As a minimum, surveillance shall include:

- **Admission screening**
- **Active syndromic surveillance**
  e.g., respiratory infection and gastroenteritis
- **Identification of sentinel events**
  e.g., invasive GAS, SARS-CoV-2

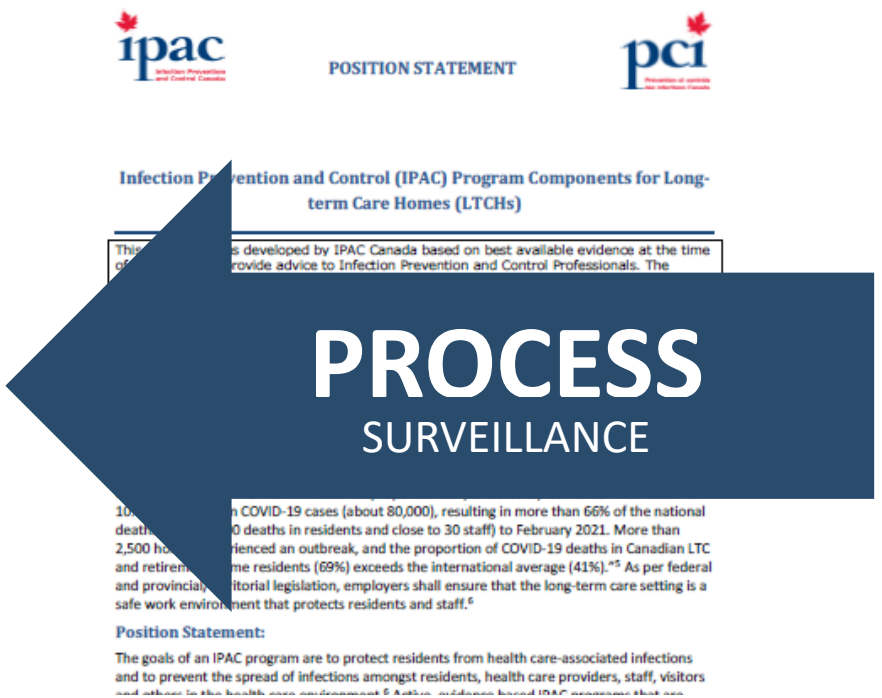


Position Statement:
IPAC Program Components for LTC

As a minimum, surveillance shall include:

- **Audits**

  e.g., compliance with Routine Practices and Additional Precautions - hand hygiene, personal protective equipment use, environmental cleaning, shared equipment cleaning



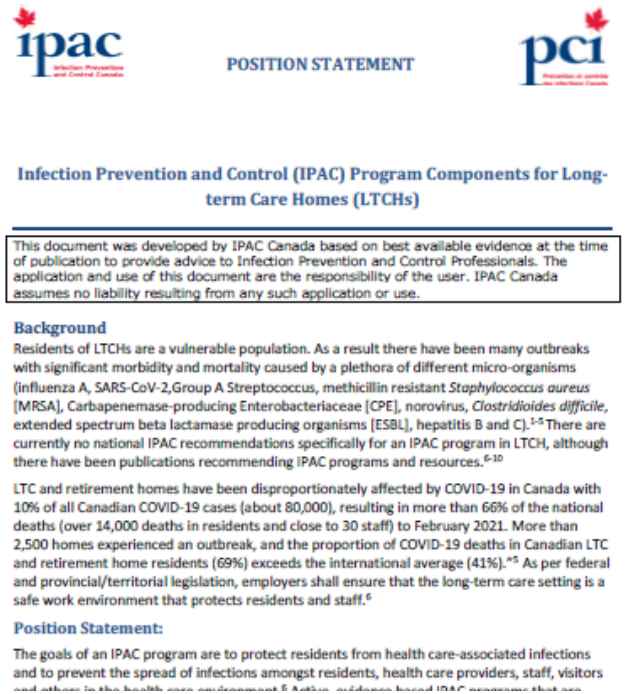
PROCESS
SURVEILLANCE

Position Statement:
IPAC Program Components for LTC

As a minimum, surveillance shall include:

- **Antimicrobial stewardship**

  e.g., asymptomatic bacteriuria/ urinary tract infections, Clostridioides difficile



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Infection Prevention and Control (IPAC) Program Components for Long-term Care Homes (LTCHs)

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LTC and retirement homes have been disproportionately affected by COVID-19 in Canada with 10% of all Canadian COVID-19 cases (about 80,000), resulting in more than 66% of the national deaths (over 14,000 deaths in residents and close to 30 staff) to February 2021. More than 2,500 homes experienced an outbreak, and the proportion of COVID-19 deaths in Canadian LTC and retirement home residents (69%) exceeds the international average (41%).*[5] As per federal and provincial/territorial legislation, employers shall ensure that the long-term care setting is a safe work environment that protects residents and staff.[6]

Position Statement:

The goals of an IPAC program are to protect residents from health care-associated infections and to prevent the spread of infections amongst residents, health care providers, staff, visitors

POLL TIME

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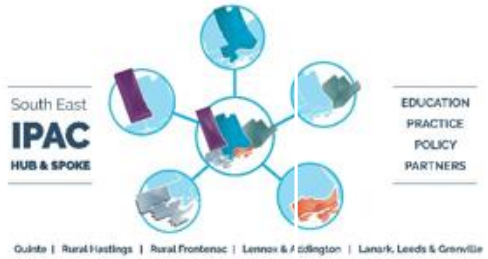
What outcome surveillance indicators do you currently monitor?



C diff infections

Respiratory rates

Ari

CDI acute respiratory

daily symptom tracking sheet

respiratory infections

infection rates, i.e. UTIs, wounds, etc.

acute enteric Uti Bee

Urinary tract infections

MRSA

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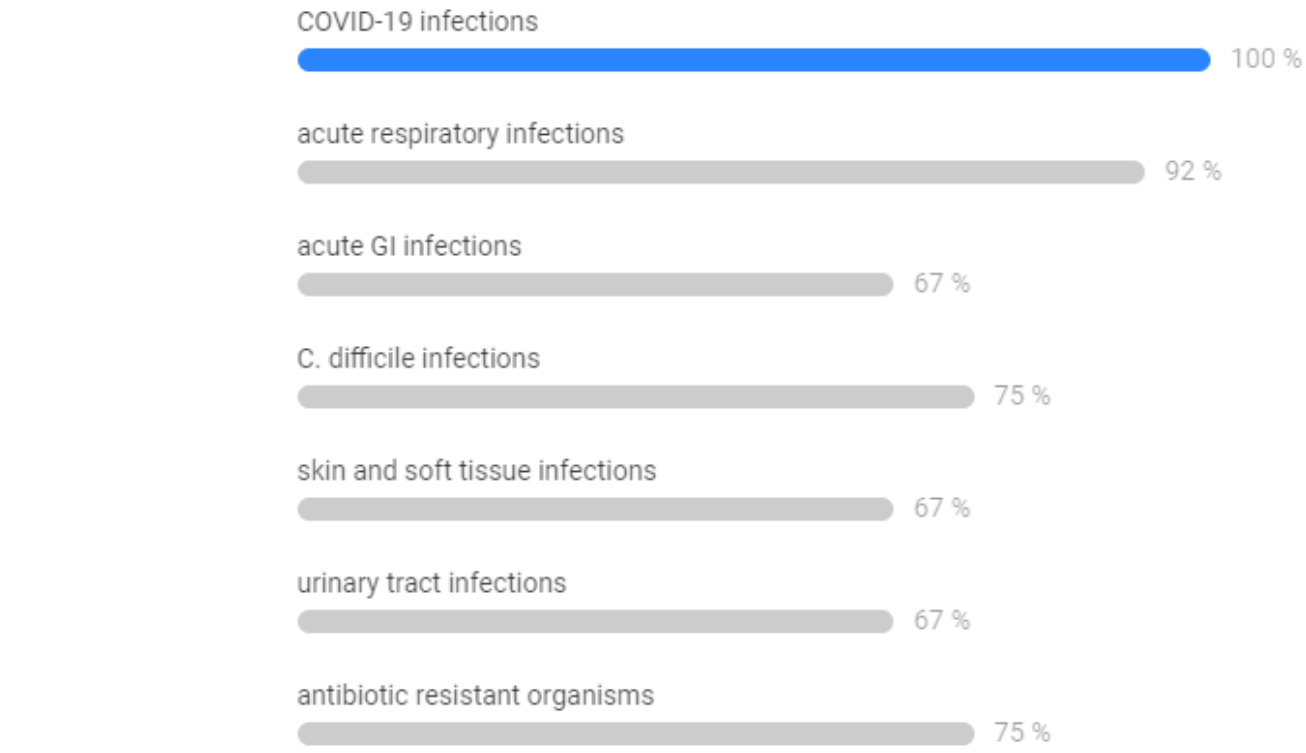
slido

Which of the following outcome surveillance indicators do you track in your home?



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What process surveillance indicators do you currently monitor?

Cleaning

PPE compliance

Environmental cleaning

PPE use

Seabbinng PPE audits HH

HAND HYGIENE

Hand hygiene audits

screening

Screening audits

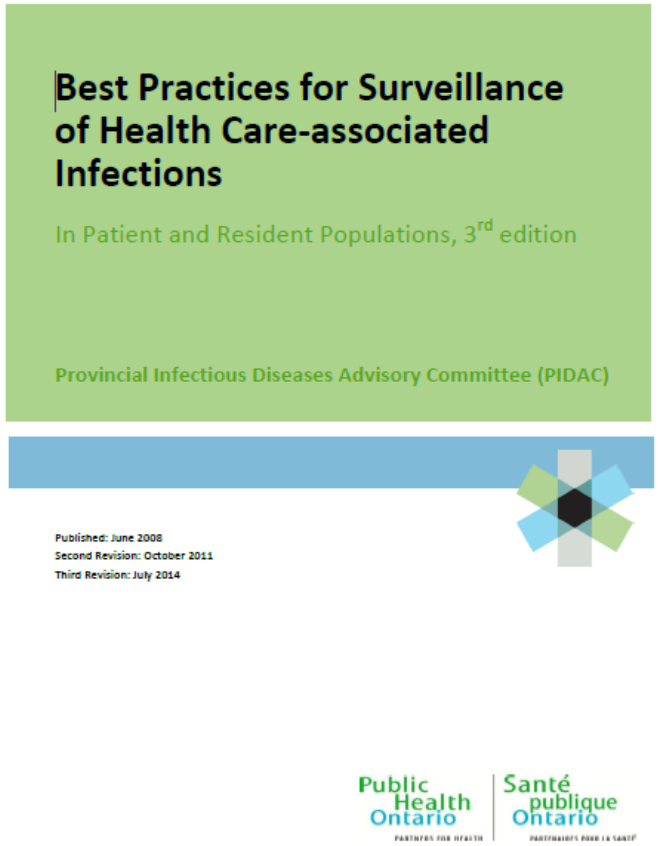
hand hygiene PPE use, environmental cleaning, screening

slido

Which of the following process surveillance indicators do you track in your home?

What are the key pieces of your surveillance system?

OUTCOME SURVEILLANCE



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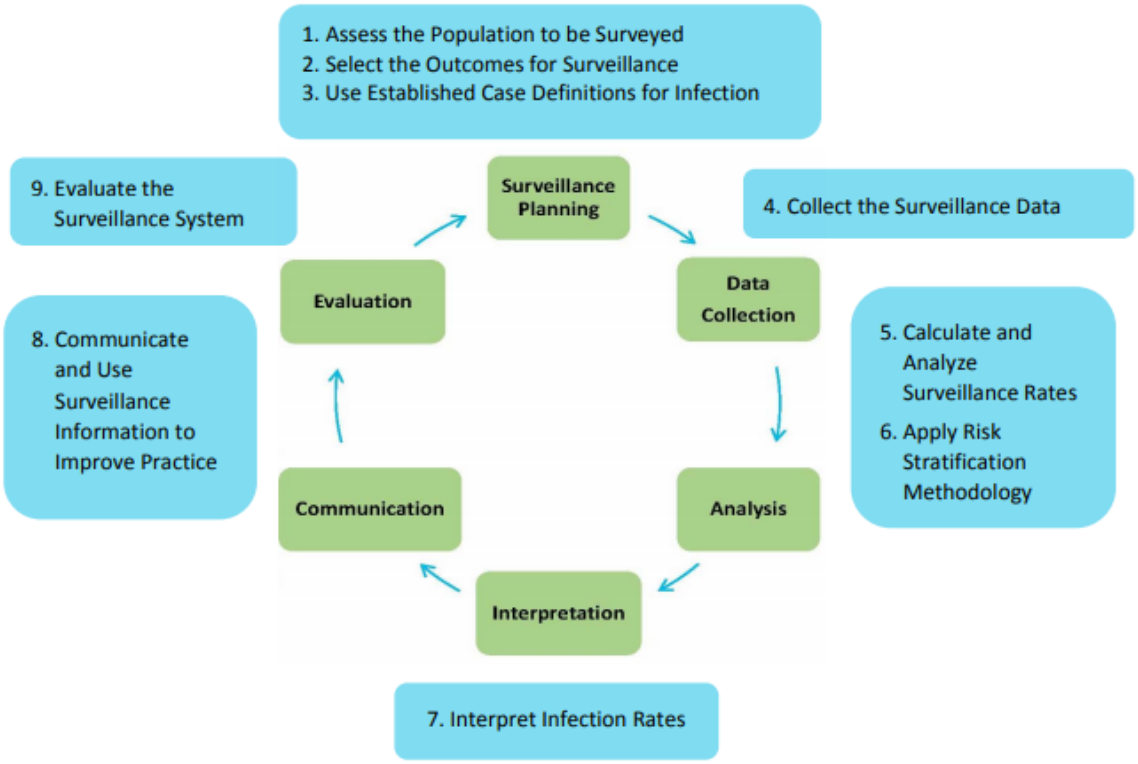
PIDAC Best Practices for Surveillance of Health Care-associated Infections in Patient and Resident Populations

Reminder! What is surveillance?

the systematic, ongoing collection, collation and analysis of data with timely dissemination of information to those who require this information in order to take action.

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for surveillance of health care-associated infections in patient and resident populations. 3 rd ed. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: https://www.publichealthontario.ca/-/media/documents/b/2014/bp-hai-surveillance.pdf?la=en.

Key Components



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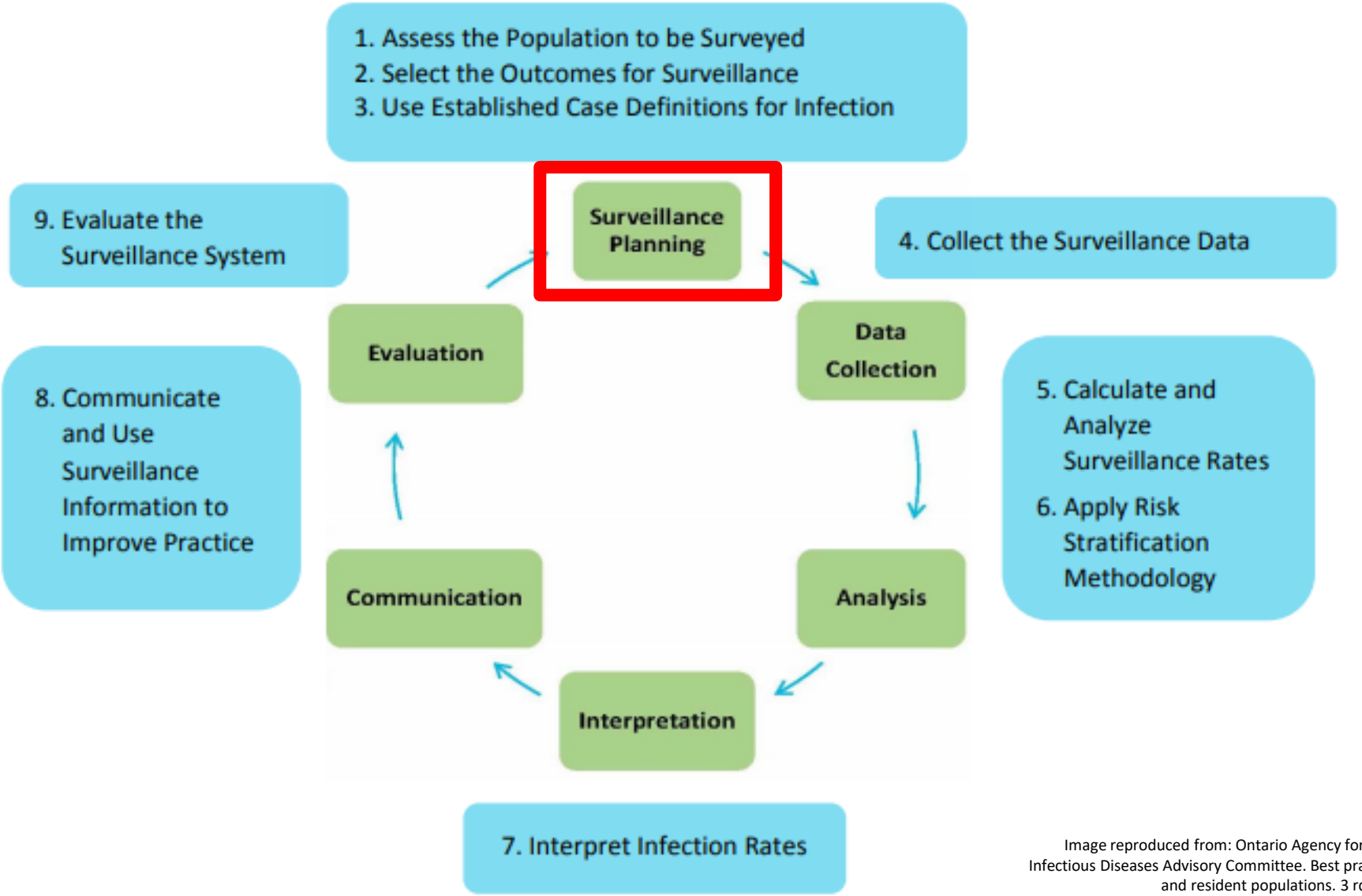

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Surveillance Planning

1. Assess the Population to be surveyed

As a first step, you should assess:

- Types of residents that the home serves;
- Key medical interventions and procedures that they undergo; and
- Types of infections for which they are most at risk.

This assessment is done to establish priorities for the surveillance system.

Surveillance Planning

1. **Assess the Population**
    - What is the catchment area of the long-term care home?
    - What types of residents are served *(e.g., age distribution, socio-demographic profile)*?
    - What are the most common diagnoses?
    - What are the most frequently performed invasive procedures
    - *(e.g., indwelling urinary catheters)*?
    - Which services or treatments are utilized most frequently?
    - What types of residents are at greatest risk of infection?

Surveillance Planning

2. **Select the Outcomes for Surveillance**

   - Targeted vs. Facility-wide surveillance
   - It is not feasible to conduct surveillance of ***all*** infections in ***all*** residents at all times.
   - Prioritize the most important infections in your surveillance system – what is most important?

Surveillance Planning

2. Select the Outcomes for Surveillance

- Syndromic surveillance of respiratory infections and gastroenteritis should be undertaken in all LTCH

- To identify additional outcomes for surveillance in your home, consider the following:
  - the frequency of the infection
  - the impacts of the infection (including % case fatality and excess costs)
  - the preventability of the infection

Surveillance Planning

2. Select the Outcomes for Surveillance

- In LTCH, the preventable infections may influence what you choose to look for in outcome surveillance.
- Some preventable infections include:
  - Acute respiratory infection (ARI)
  - Skin and soft tissue infections
  - Urinary tract infection

Example: Surveillance Planning

Forest Manor is a fictitious 100-bed LTCH. Half of all residents are dependent on staff for assistance to carry out normal activities associated with daily living.

- *Symptomatic urinary tract infections (UTIs) comprise one-third of HAIs and 10% of residents have urethral catheters.*
- *Lower respiratory tract infections account for half of the remaining HAIs.*
- *~20% of infections developed by residents are skin/soft tissue infections.*

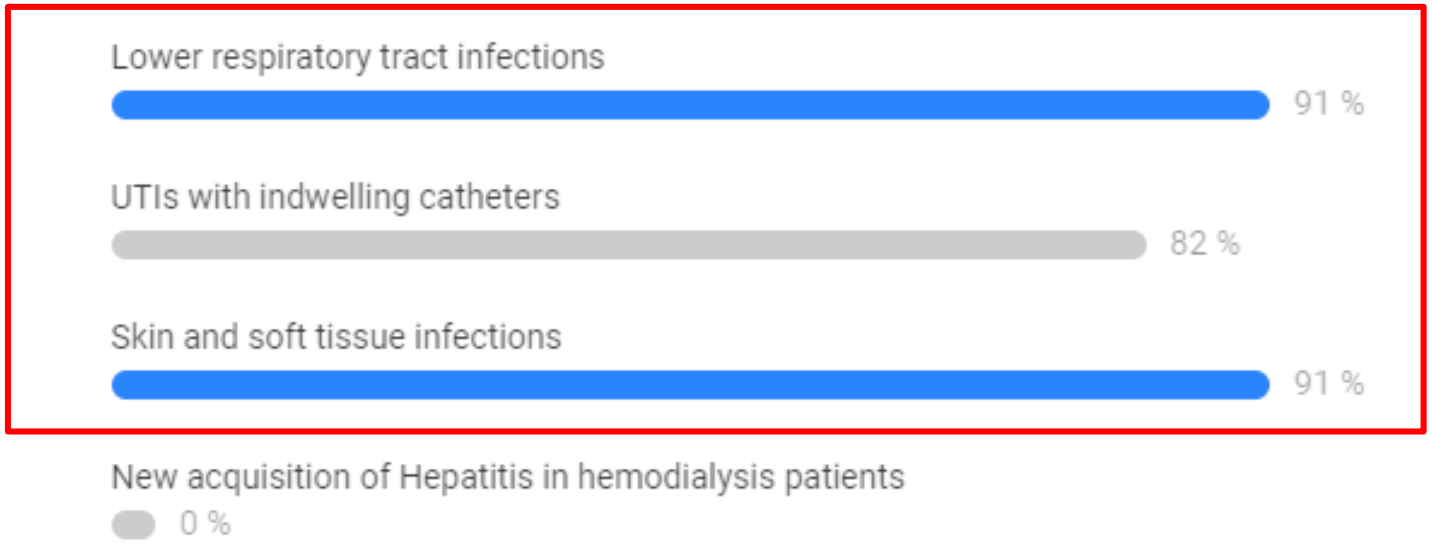
Based on this population, what surveillance outcomes should Forest Manor consider monitoring?

slido

#IPAChub

slido

Based on this population, what surveillance outcomes should Forest Manor consider monitoring?



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Surveillance Planning

3. Use Established Case Definitions For Infection

- Refer to *Surveillance Case Definitions of Infections in Canadian Long-Term Care Facilities* for case definitions
- Apply case definitions accurately and consistently

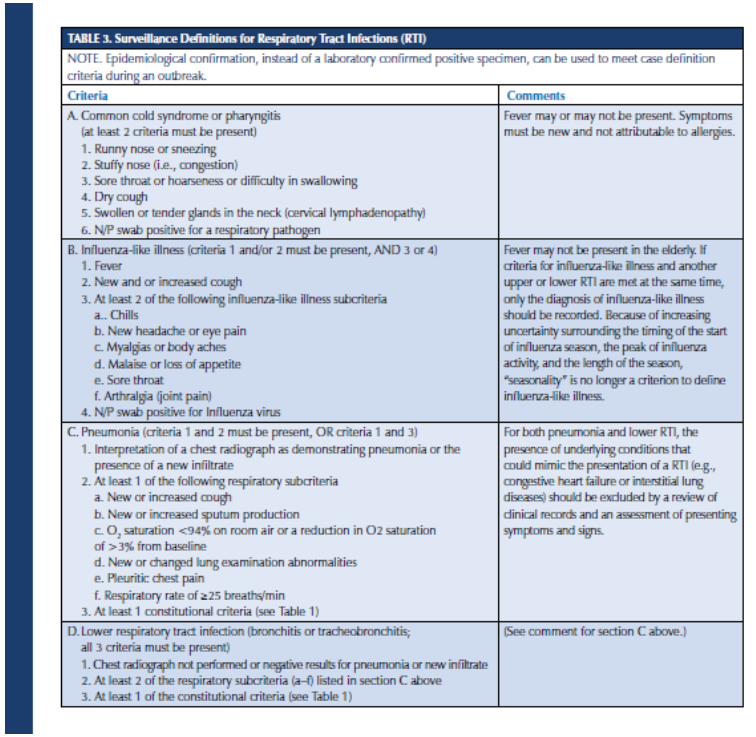


TABLE 3. Surveillance Definitions for Respiratory Tract Infections (RTI)

NOTE. Epidemiological confirmation, instead of a laboratory confirmed positive specimen, can be used to meet case definition criteria during an outbreak.

Criteria	Comments
A. Common cold syndrome or pharyngitis (at least 2 criteria must be present) 1. Runny nose or sneezing 2. Stuffy nose (i.e., congestion) 3. Sore throat or hoarseness or difficulty in swallowing 4. Dry cough 5. Swollen or tender glands in the neck (cervical lymphadenopathy) 6. N/P swab positive for a respiratory pathogen	Fever may or may not be present. Symptoms must be new and not attributable to allergies.
B. Influenza-like illness (criteria 1 and/or 2 must be present, AND 3 or 4) 1. Fever 2. New and or increased cough 3. At least 2 of the following influenza-like illness subcriteria a.. Chills b. New headache or eye pain c. Myalgias or body aches d. Malaise or loss of appetite e. Sore throat f. Arthralgia (joint pain) 4. N/P swab positive for Influenza virus	Fever may not be present in the elderly. If criteria for influenza-like illness and another upper or lower RTI are met at the same time, only the diagnosis of influenza-like illness should be recorded. Because of increasing uncertainty surrounding the timing of the start of influenza season, the peak of influenza activity, and the length of the season, "seasonality" is no longer a criterion to define influenza-like illness.
C. Pneumonia (criteria 1 and 2 must be present, OR criteria 1 and 3) 1. Interpretation of a chest radiograph as demonstrating pneumonia or the presence of a new infiltrate 2. At least 1 of the following respiratory subcriteria a. New or increased cough b. New or increased sputum production c. O_2 saturation <94% on room air or a reduction in O2 saturation of >3% from baseline d. New or changed lung examination abnormalities e. Pleuritic chest pain f. Respiratory rate of ≥25 breaths/min 3. At least 1 constitutional criteria (see Table 1)	For both pneumonia and lower RTI, the presence of underlying conditions that could mimic the presentation of a RTI (e.g., congestive heart failure or interstitial lung diseases) should be excluded by a review of clinical records and an assessment of presenting symptoms and signs.
D. Lower respiratory tract infection (bronchitis or tracheobronchitis; all 3 criteria must be present) 1. Chest radiograph not performed or negative results for pneumonia or new infiltrate 2. At least 2 of the respiratory subcriteria (a–f) listed in section C above 3. At least 1 of the constitutional criteria (see Table 1)	(See comment for section C above.)

Scenario: Case Definition

3. Use Established Case Definitions For Infection

https://youtu.be/Md1CKHfAsjM

Example: Case Definition

Forest Manor conducts surveillance for UTIs associated with indwelling catheters and uses the recommended *Surveillance Case Definitions of Infections in Canadian Long-Term Care Facilities* .

On Thursday, one resident with an urinary indwelling catheter had a positive urine culture (≥ 10^8cfu/L). The resident had no localized signs and symptoms. No blood culture isolate was identified.

Does this resident meet case definition?

slido

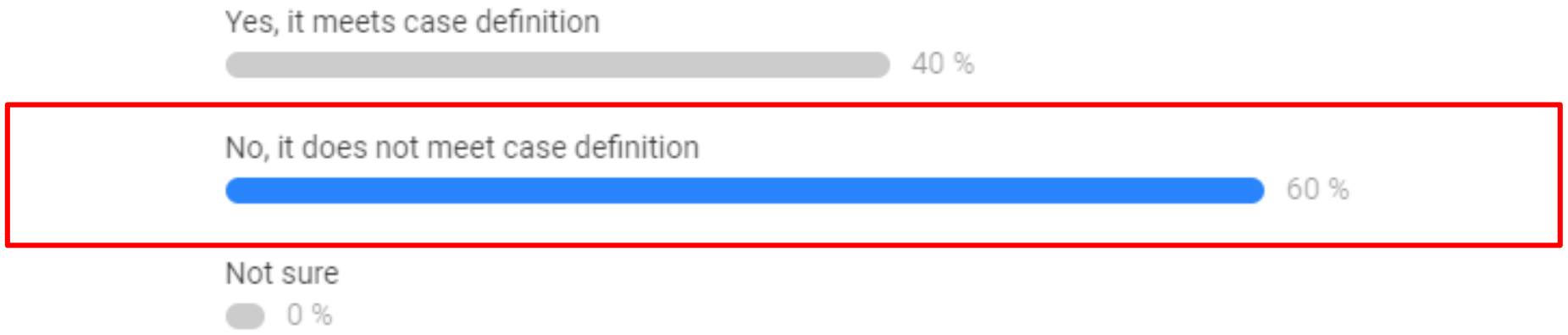
#IPAChub

Example: One resident with an urinary indwelling catheter has a positive urine culture ($\geq 10^8$cfu/L). The resident has no localized signs and symptoms.
No blood culture isolate was identified. Surveillance case definition is below:

B. For residents with an indwelling in a single catheter urine specimen or in a midstream voided urine specimen from a resident whose catheter has been removed within the previous 48 hours (criteria 1 and 2 must be present with no other identified source of infection, OR criteria 2 and 3) 1. At least 1 of the following sign or symptom subcriteria a. Fever, rigors, or new-onset hypotension, with no alternate site of infection b. Either acute change in mental status (see Table 2) or acute functional decline (see Table 1), with no alternate diagnosis and leukocytosis c. New-onset suprapubic pain or costovertebral angle pain or tenderness d. Purulent discharge from around the catheter e. Acute pain, swelling, or tenderness of the testes, epididymis, or prostate in males	Recent catheter trauma, catheter obstruction, or new onset hematuria are useful localizing signs that are consistent with UTI but are not necessary for diagnosis.
2. Urinary catheter specimen culture with ≥ 10^8cfu/L of any organism(s)	Urinary catheter specimens for culture should be collected following replacement of the catheter if the current catheter has been in place for >14 days.
3. A blood culture isolate is the same species as the organism isolated from the urine, with the same resistance pattern, and there is no alternate site of infection	

slido

Does this resident meet case definition?



Example: One resident with an urinary indwelling catheter has a positive urine culture ($\geq 10^8$cfu/L). The resident has no localized signs and symptoms.
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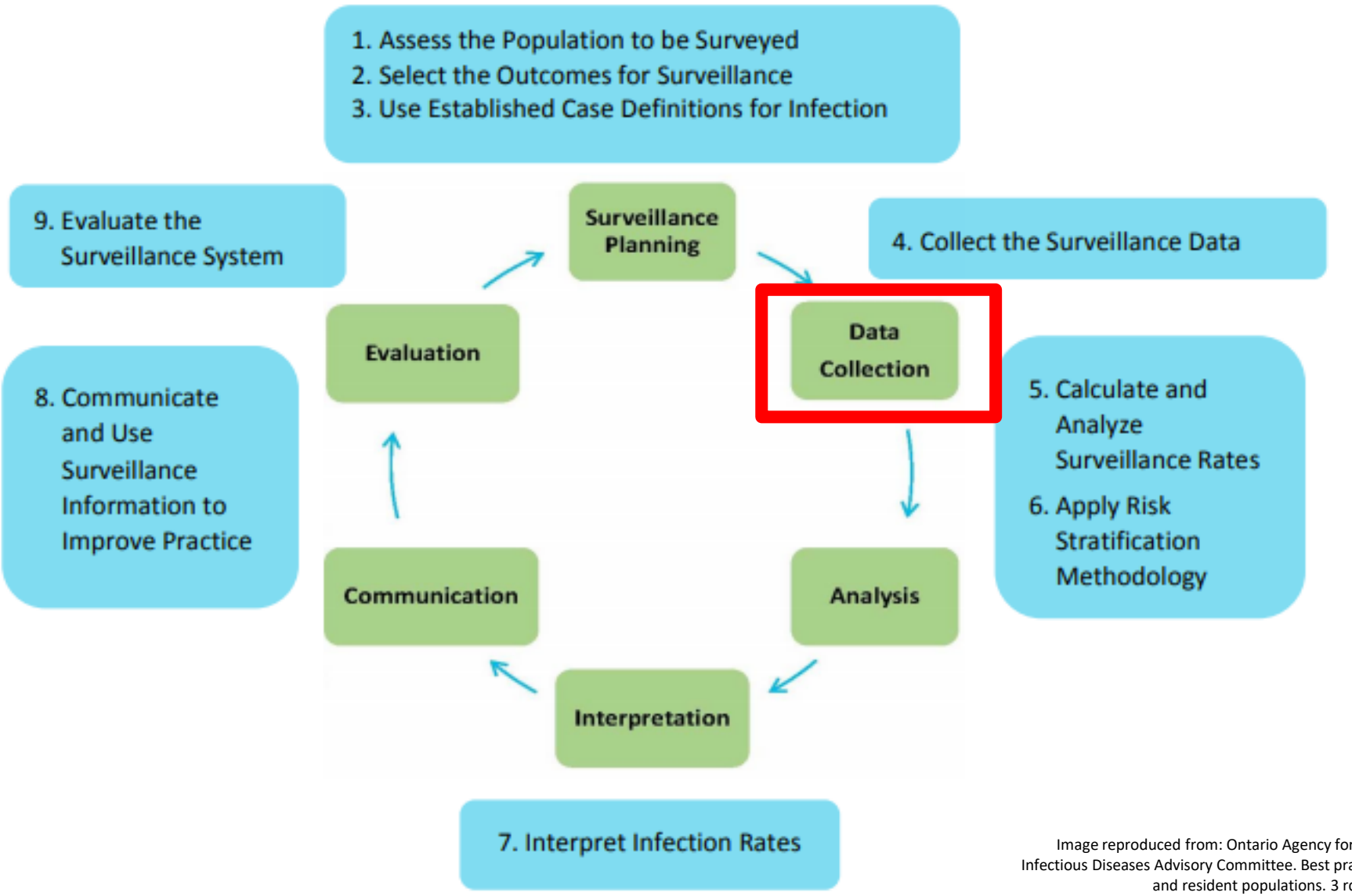
3. A blood culture isolate is the same species as the organism isolated from the urine, with the same resistance pattern, and there is no alternate site of infection	

Surveillance Planning

Extra Consideration: Preparation & Training

- Ensure staff have proper training about…
  - what to look for
  - how to document
  - how to communicate
- Ensure staff understand why surveillance is taking place
- Recruit champions and ensure that documentation occurs properly and routinely
- Consider using practice forms as part of your training process



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Data Collection

4. **Collect the Surveillance Data**

What data do you need? How will you collect this data?

- Data collection may be time consuming
- Variety of sources available for data/information

Data Collection

4. Collect the Surveillance Data

A. **Review and select data sources for the numerator and denominator.**

B. Assess the *sensitivity* and *specificity* of the data sources. Maximize these two parameters.

C. Choose the most feasible surveillance system.

D. Implement the data collection system.

E. Review the information to ensure the dataset is complete.

Data Collection

NUMERATOR

number of cases (*i.e., persons with a particular infection)*

e.g., Total number of UTI infections in residents with indwelling catheters

DENOMINATOR

Population at risk (*i.e., residents at risk for development of that infection)*

e.g., Total number of resident catheter days

Data Source[74, 84]	Methodology	Benefits	Limitations	Resources Required
Total chart/medical record review	▪ ICP reviews medical and nursing notes, medications, treatment records, radiology and laboratory reports for each patient 1-2 times per week for signs of infection (e.g., antibiotics or intravenous fluids ordered, special orders for wound dressing, orders for isolation precautions)	▪ Most complete method of case finding ▪ May be done prospectively or retrospectively	▪ Time consuming (requires 10-30 minutes per record) ▪ Unable to identify all infections due to: o Missing data, diagnostic reports o Record unavailable at time of review o May be difficult to confirm that criteria for infection have been met	▪ Additional ICP resources may be required
Laboratory reports	▪ ICP reviews daily laboratory reports for positive culture results that prompt investigation of potential HAIs ▪ Significant results 'flagged' in electronically-generated batch reports ▪ Laboratory staff notify ICP with significant results	▪ Quickly identifies significant increases in some types of infections ▪ Often identifies microorganisms of special concern before any other method (e.g., MRSA) ▪ ICPs who visit the laboratory will develop rapport with staff, leading to better cooperation and understanding of each other's roles	▪ Infections are missed if cultures are not sent or if microorganisms fail to grow on culture media ▪ Infections are missed if diagnosis is based on signs and symptoms alone. ▪ False-positive infections if laboratory-based surveillance is used alone (patient may only be colonized e.g., MRSA)	▪ Electronic laboratory information system beneficial ▪ ICPs must work closely with the laboratory that services their hospital to develop reporting mechanisms from the laboratory to the ICP
Nursing Kardex/Patient Profile	▪ ICP reviews nursing Kardex/patient profile for each patient 1-2 times per week for signs of infection (e.g., temperature charts, intravenous fluids, antibiotics given, application of Additional Precautions)	▪ Prospective surveillance ▪ Quickly identifies patients suspected of having an infection that require a more detailed review ▪ May identify early signs/ symptoms indicative of an outbreak	▪ Relies on accuracy and completeness of the Kardex/Patient Profile for information ▪ Information must be confirmed with a review of the medical record	
Clinical ward/unit rounds	▪ ICP joins patient care staff during clinical rounds, entering into discussions and information sharing regarding	▪ Prospective surveillance ▪ Increases ICP visibility in patient care areas	▪ Time-consuming	▪ Additional ICP resources may be required

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for surveillance of health care-associated infections in patient and resident populations. 3 rd ed. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: https://www.publichealthontario.ca/-/media/documents/B/2014/bp-hai-surveillance.pdf?la=en

Data Source[74, 84]	Methodology	Benefits	Limitations	Resources Required
	potential infections that may not be included in patient records until a definitive diagnosis has been made.	▪ Provides ICP with opportunities to monitor patient care practices ▪ Provides opportunity for discussion and informal education on infection prevention and control issues ▪ May hasten the application of Additional Precautions when communicable infections are suspected		
Sentinel reporting system	▪ Patient care staff complete forms documenting possible indicators of infection (e.g., fever, symptoms of respiratory infection, unexplained GI illness). ▪ Patient care staff complete and provide these forms on a routine, often daily, basis	▪ Prospective surveillance ▪ Provides an alert system for outbreaks ▪ Refer to Appendix E for a sample sentinel surveillance form for completion by ward/unit staff	▪ Relies on ward/unit staff taking time to complete forms ▪ Relies on accuracy of ward/unit staff in completing foms	▪ May require additional ward/unit resources
Electronic screening of patient records	▪ Case finding via searches of medical record databases (‘*data mining*’) is an emerging tool for surveillance ▪ Patient records are flagged via algorithm for indicators of HAI	▪ Effective means to identify post-discharge surgical site infections[113] ▪ Uses include surgical site infections, UTIs and CVC-associated bloodstream infections[114-116]	▪ Results must be verified for accuracy ▪ Relies on accuracy of information that has been entered into the electronic database	▪ Require sophisticated electronic information systems with the ability to create specialized searches and access of ICPs to results

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for surveillance of health care-associated infections in patient and resident populations. 3 rd ed. Toronto, ON: Queen’s Printer for Ontario; 2014. Available from: https://www.publichealthontario.ca/-/media/documents/B/2014/bp-hai-surveillance.pdf?la=en

Data Collection

4. Collect the Surveillance Data

A. Review and select data sources for the numerator and denominator.

B. **Assess the *sensitivity* and *specificity* of the data sources. Maximize these two parameters.**

C. Choose the most feasible surveillance system.

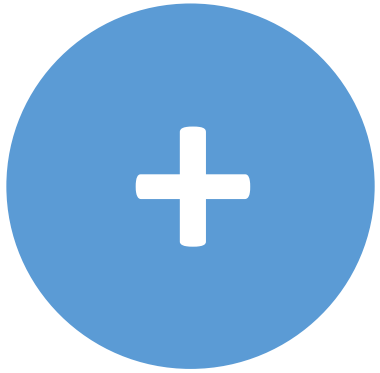
D. Implement the data collection system.

E. Review the information to ensure the dataset is complete.

Data Collection

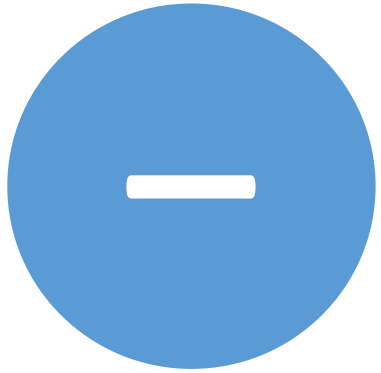
SENSITIVITY

Ability to correctly include infections that are present *(i.e. true positive infections).*



SPECIFICITY

Ability to correctly exclude infections that are not present *(i.e. true negative).*



Data Collection

4. Collect the Surveillance Data

A. Review and select data sources for the numerator and denominator.

B. Assess the *sensitivity* and *specificity* of the data sources. Maximize these two parameters.

C. Choose the most feasible surveillance system (active vs. passive)

D. Implement the data collection system.

E. Review the information to ensure the dataset is complete.

Data Collection

Passive Surveillance	Active Surveillance
• Relies on an individual to provide information e.g., residents reporting their symptoms to staff	• Actively seeking out health care-associated infections on a regular basis e.g., staff asking each resident specific questions

Data Collection

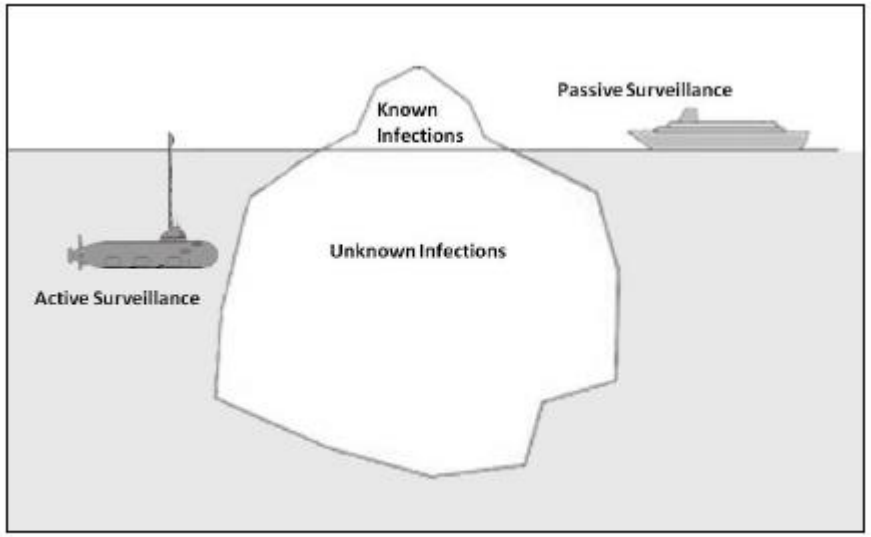


Figure 4: 'Tip of the Iceberg': Passive surveillance vs. active surveillance

BP Active surveillance should be used in LTCHs because of the higher sensitivity associated with this approach to case finding.

Data Collection

4. Collect the Surveillance Data

A. Review and select data sources for the numerator and denominator.

B. Assess the *sensitivity* and *specificity* of the data sources. Maximize these two parameters.

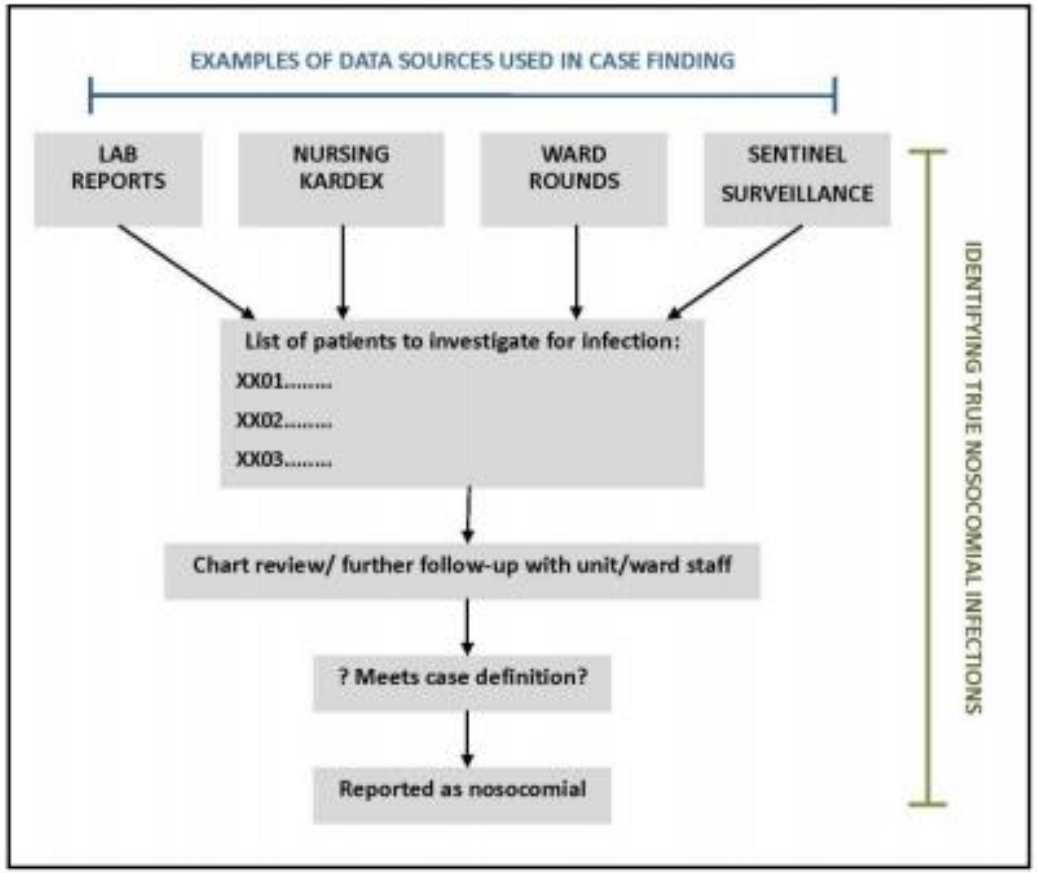
C. Choose the most feasible surveillance system.

D. Implement the data collection system.

E. Review the information to ensure the dataset is complete.

Data Collection

- Different sources of information should be strategically combined to quickly identify potential infections
- Further investigation and follow-up is conducted to confirm infection through total chart review



Data Collection

4. Collect the Surveillance Data

A. Review and select data sources for the numerator and denominator.

B. Assess the *sensitivity* and *specificity* of the data sources. Maximize these two parameters.

C. Choose the most feasible surveillance system.

D. Implement the data collection system.

E. Review the information to ensure the dataset is complete.

Data Collection

- Data must be “cleaned” or assessed for accuracy and validity.
- Further investigation of cases that were initially identified as infections requires full chart review and follow-up with resident care staff.
- Exclude cases that do not meet the case definition for infection.

Example: Data Collection

At Forest Manor, ward nurses complete a form during each shift. This identifies the residents with signs and symptoms of UTI, skin or soft tissue infections, or of lower respiratory tract infections.

The ICP uses this form to follow up on residents who have been identified with signs and symptoms of infection.

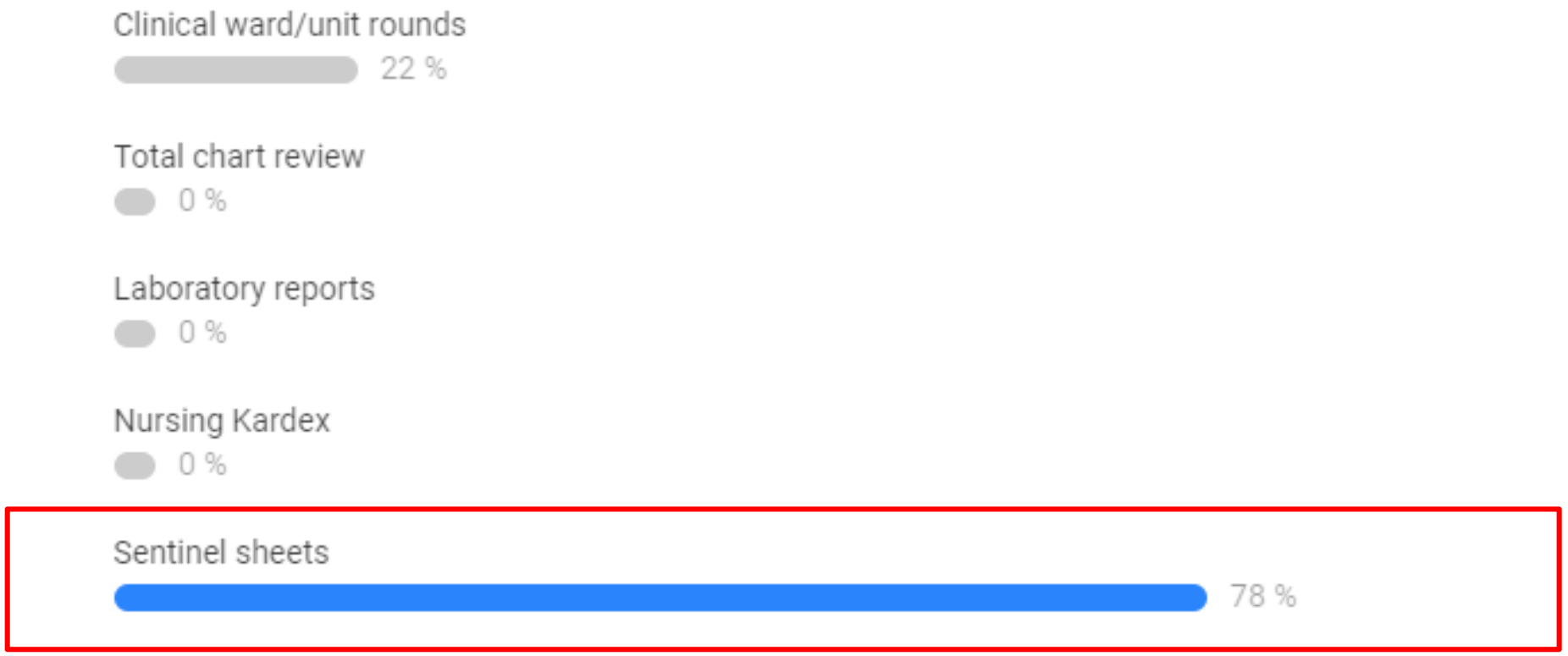
What type of data source is used in this example at Forest Manor?

slido

#IPAChub

slido

What type of data source is used in this example at Forest Manor?



Health Care Associated Infections

- In LTC, for an infection to be considered nosocomial:
  - no evidence that the infection was present on admission or re-admission (following hospitalization or community visit).
  - no evidence that the infection resulted from a procedure performed at a hospital or in a physician's office.
- When a particular infection meets case definition, it should only be considered nosocomial if it was not present or incubating when the resident was admitted.
- *Consider the incubation period.* Infections that occur more than 48 to 72 hours after admission may be considered to be associated with health care.

Example: HAI

There is a new resident admitted to Forest Manor. Upon admission, the resident did not present with any abnormal signs or symptoms.

The next morning after breakfast, the resident exhibited an episode of loose stool. The resident experienced 3 more episodes of diarrhea over the next 3 hours. Specimen was collected and was positive for a *C. difficile* infection.

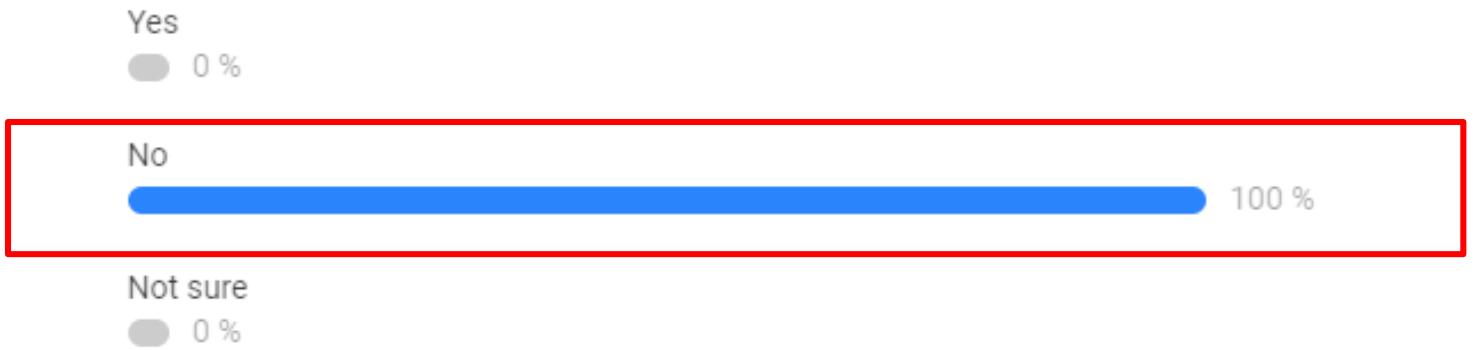
Is this a infection associated with Forest Manor?

slido

#IPAChub

slido

Is this a infection associated with Forest Manor? *C. difficile*



Example: HAI

There is a new resident admitted to Forest Manor with an indwelling urinary catheter. Upon admission, the resident did not present with any abnormal signs or symptoms.

After 5 days, the resident developed a fever, acute pain, and purulent discharge around the catheter. A urine specimen was sent and a positive culture was identified.

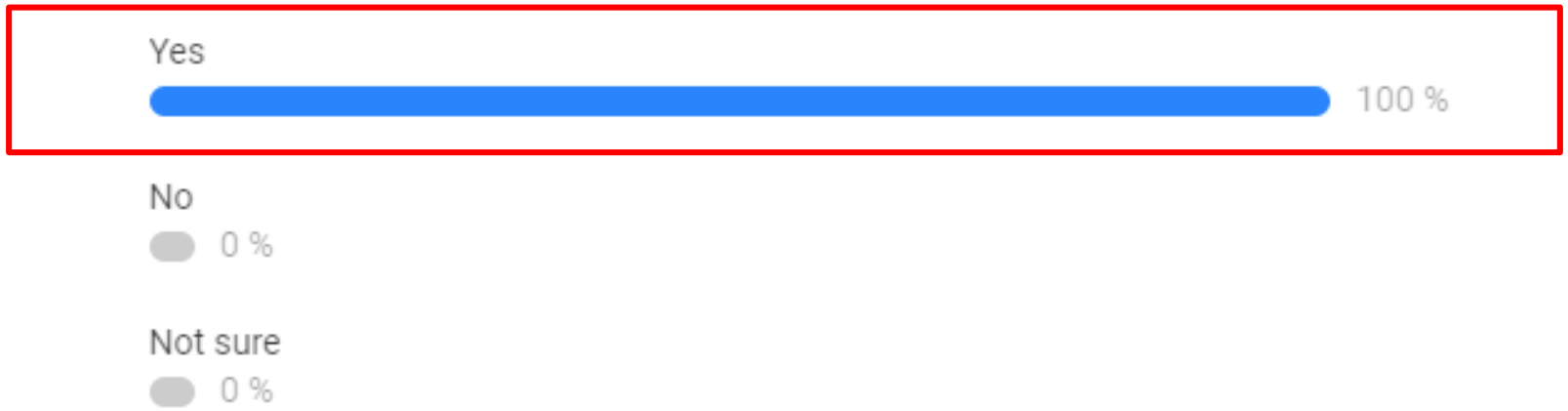
Is this a infection associated with Forest Manor?

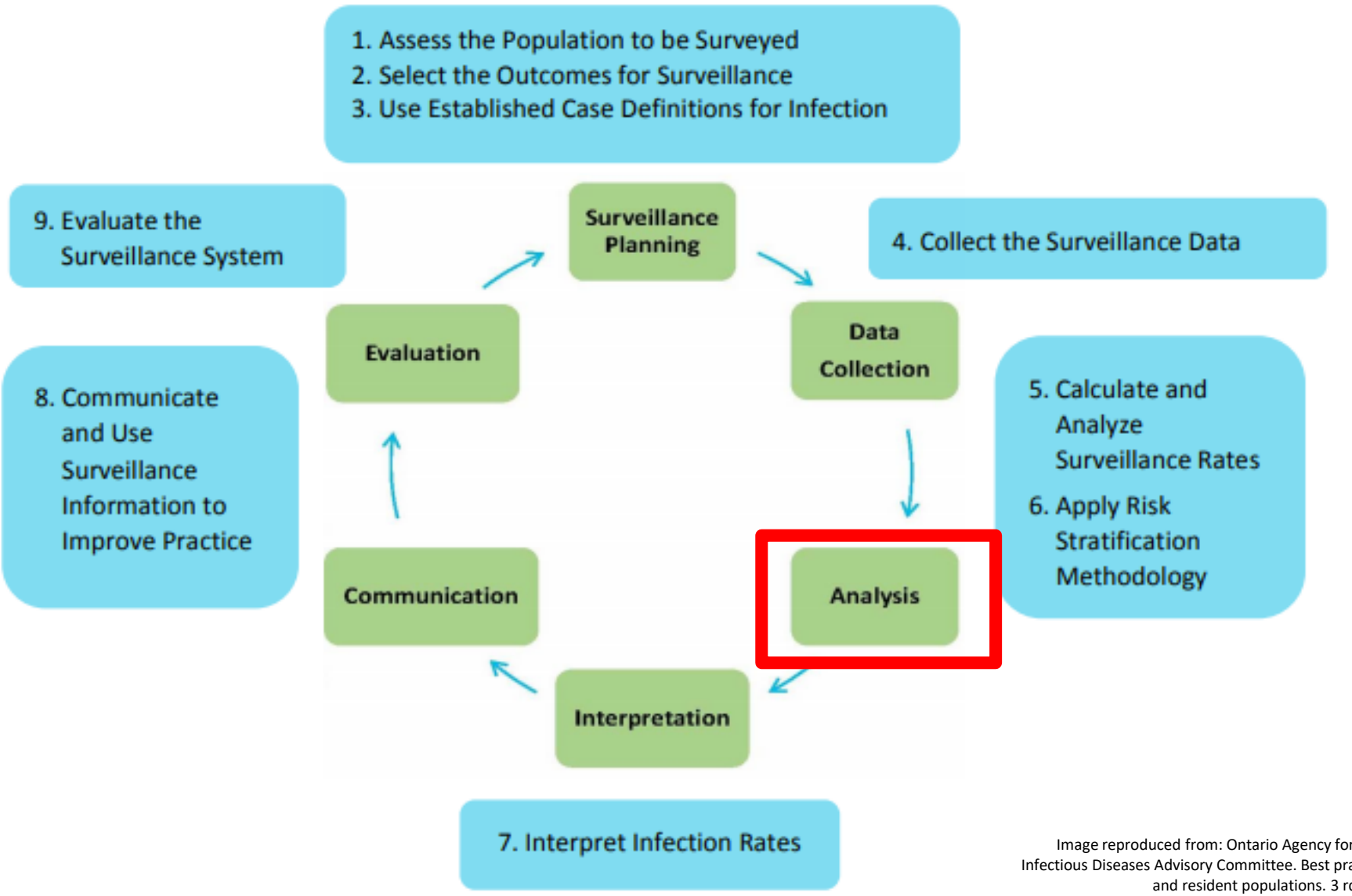
slido

#IPAChub

slido

Is this a infection associated with Forest Manor? (UTI)





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Data Analysis

5. Calculate and Analyze Surveillance Rates

Do we know…

- The number of cases?
- The population at risk?
- The time period involved?

LET'S CALCULATE SOME RATES

Data Analysis

5. Calculate and Analyze Surveillance Rates

$$Rate = \frac{numerator}{denominator}\ x\ k\ (constant)$$

- **Numerator:** the number of cases
- **Denominator**: the population at risk
- **K (constant)**: used to transform the result into a number that is larger than one (e.g. 1000)

Data Analysis

5. Calculate and Analyze Surveillance Rates

- *Incidence:* measurement of <u>new</u> infections within a population over a period of time
  - Adjust rates for length of stay or length of exposure to medical device. It provides a more accurate estimate of the risk of infection

Data Analysis

$$Rate = \frac{numerator}{denominator}\ x\ k\ (constant)$$

5. Calculate and Analyze Surveillance Rates

A. Adjust surveillance rates for length of stay

- Numerator: number of new infections
- Denominator: number of resident days in a specific surveillance period
- **Example:** respiratory infections, skin and soft tissue infections

Data Analysis

5. Calculate and Analyze Surveillance Rates

A. Adjust surveillance rates for length of stay

$$\frac{\#\ of\ cases\ over\ a\ specified\ period\ of\ time}{\#\ of\ resident\ days\ over\ the\ same\ period\ of\ time}\ x\ 1000$$

e. g.,

$$\frac{\#\ \text{of ARI cases in October}}{\#\ \text{of resident days in October}}\ \text{x } 1000$$

$$= \frac{6\ \text{ARI cases}}{1284\ \text{days}}\ \text{x } 1000$$

$$= 4.6\ \text{ARI cases per } 1000\ \text{resident days}$$

Data Analysis

$$Rate = \frac{numerator}{denominator}\ x\ k\ (constant)$$

5. Calculate and Analyze Surveillance Rates

B. Adjust surveillance rates based on exposure to medical devices

- Numerator: number of infections in residents exposed to the device
- Denominator: number of days that residents were exposed to the device
- **Example:** Indwelling catheter-associated urinary tract infections

Data Analysis

5. Calculate and Analyze Surveillance Rates

B. Adjust surveillance rates based on exposure to medical devices

$$\frac{\#\ of\ cases\ in\ residents\ exposed\ to\ the\ device}{\#\ of\ days\ that\ residents\ were\ exposed\ to\ the\ device}\ x\ 1000$$

$e.g.,$ $\dfrac{\#\text{ of UTIs in residents with indwelling catheters in Q1}}{\#\text{ of resident catheter days in Q1}}$ x 1000

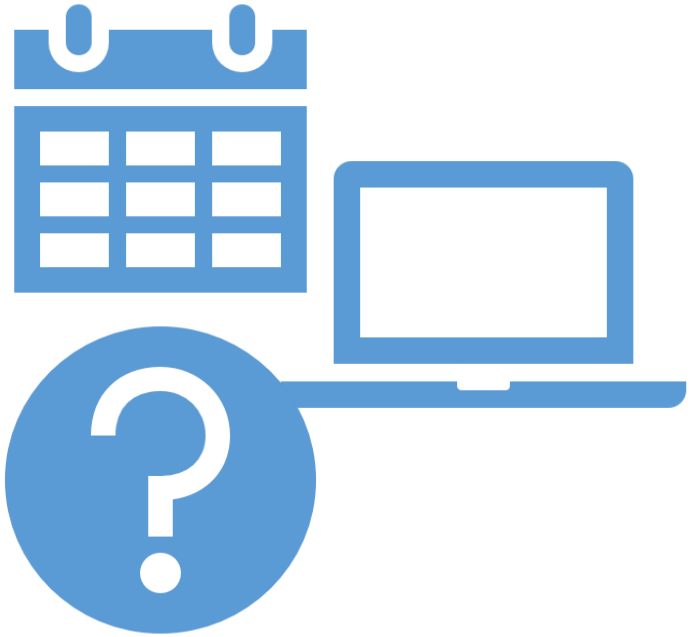
$= \dfrac{\text{4 UTIs in residents with indwelling catheters}}{\text{1984 resident catheter days}}$ x 1000

$=$ 2.0 UTIs per 1000 resident catheter days

Data Analysis

5. Calculate and Analyze Surveillance Rates

- Determine how often are surveillance rates calculated
- Organize data in electronic format for calculations of rates



Example: Data Analysis

The population at risk for lower respiratory tract infections includes all residents at Forest Manor.

Sixty-one lower respiratory tract infections were identified over the quarterly surveillance period.

Forest Manor's billing database indicates that there were 16,940 resident days over the quarterly surveillance period.

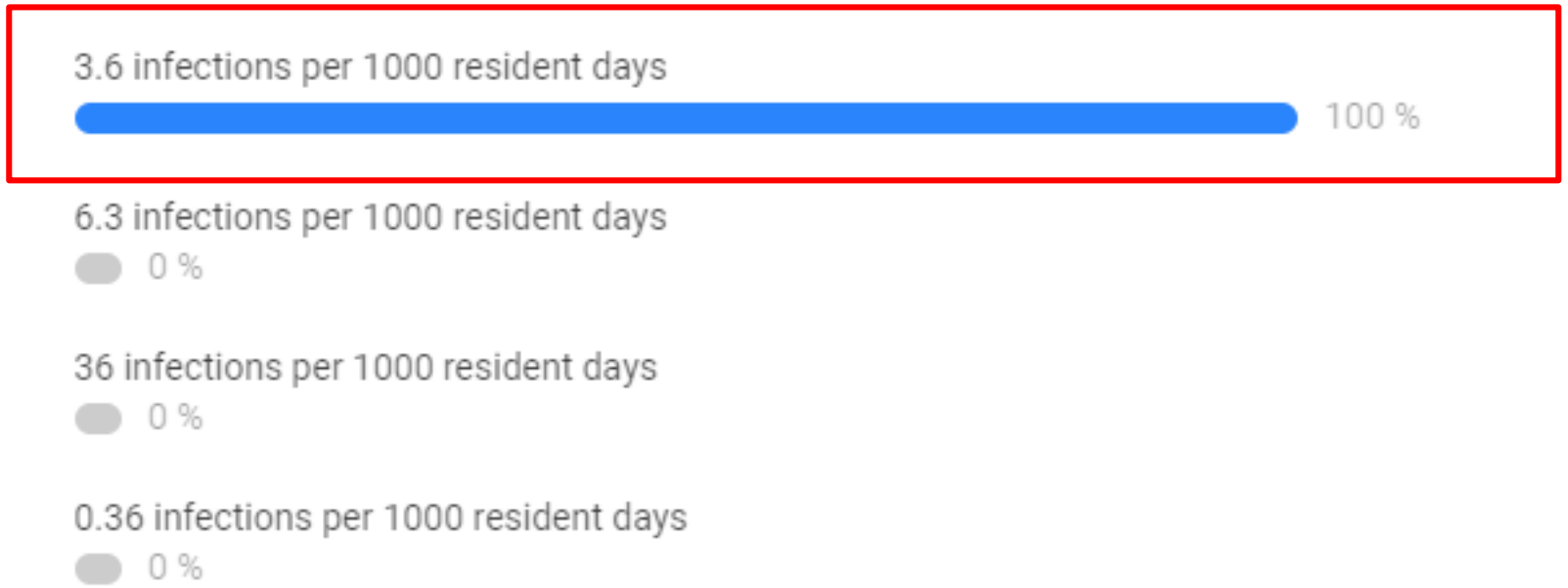
What is the rate of lower respiratory tract infections at Forest Manor for this surveillance period?

slido

#IPAChub

slido

What is the rate of lower respiratory tract infections at Forest Manor for this surveillance period?



Example: Data Analysis

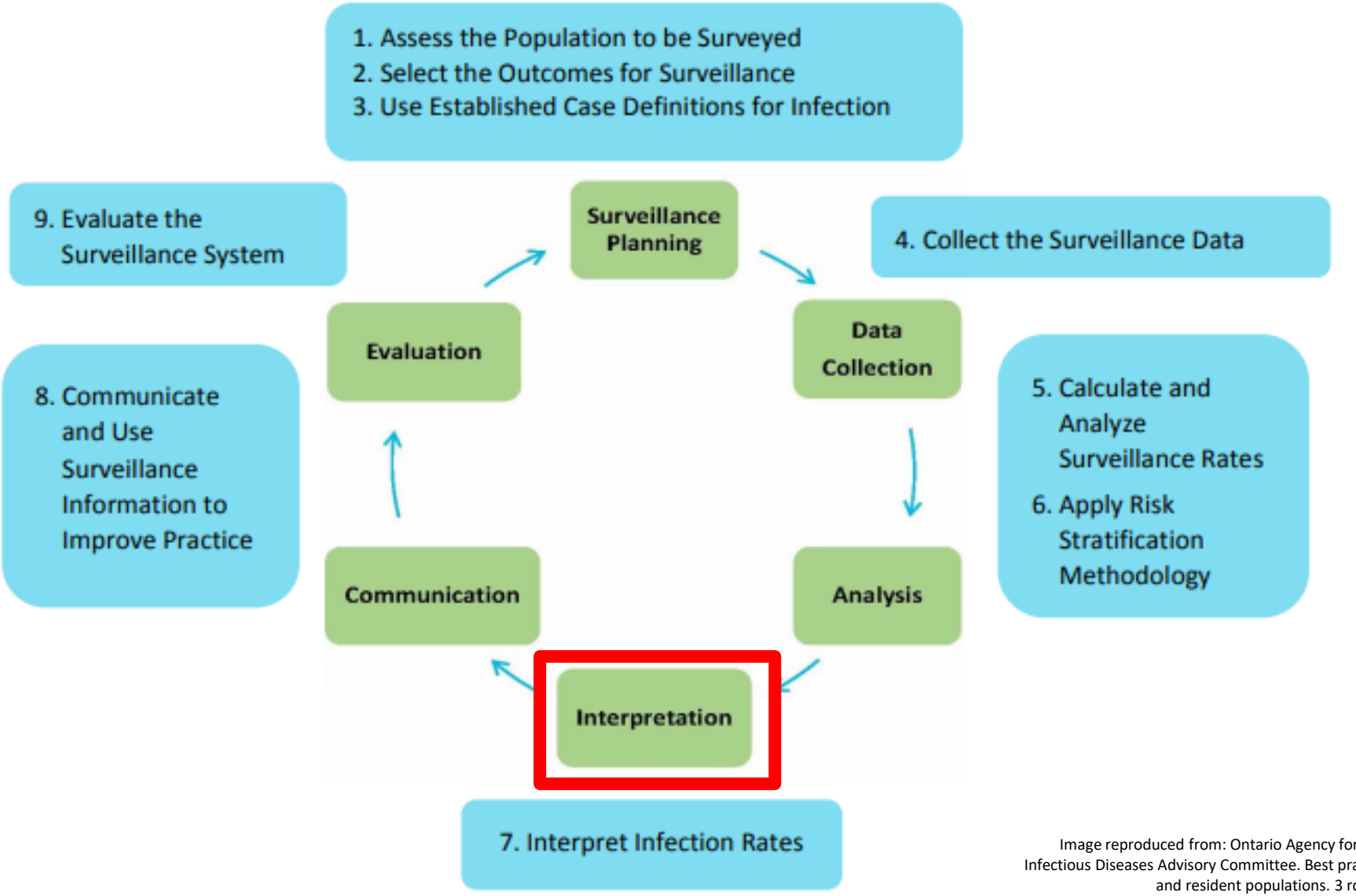
HINT - *As all residents at Forest Manor are at risk for respiratory tract infections, the denominator for this rate is the total number of resident days.*

ANSWER: **3.6 infections per 1,000 resident days.**

$$\frac{\#\text{ of } lower\ resp\ tract\ infections\ in\ Q1}{\#\text{ of resident days in Q1}}\ \text{x } 1000$$

$$= \frac{61}{16940}\ \text{x } 1000$$

$$= 3.6 \text{ infections per } 1000 \text{ resident days}$$



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Data Interpretation

7. Interpret Infection Rates

A. Are the rates accurate?

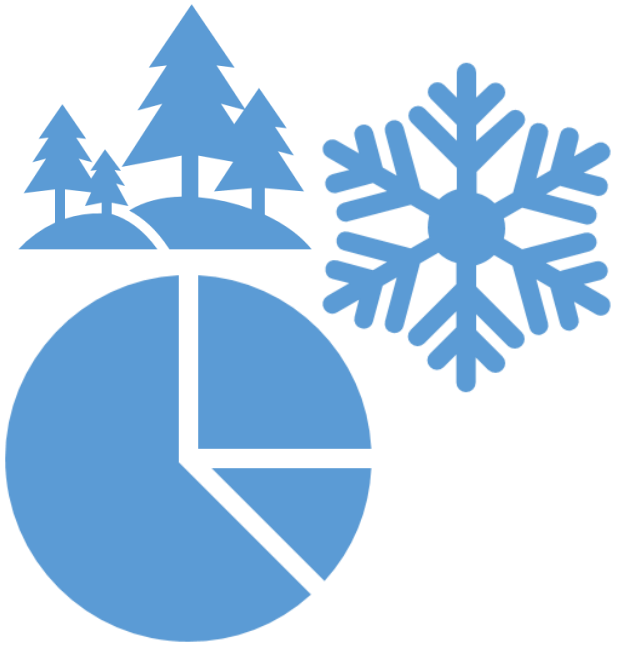
- Use a computerized system or spreadsheet/ database
- Consider having a colleague review HAI rates and check the accuracy prior to any interpretation of the rate.

Data Interpretation

7. Interpret Infection Rates

B. Are the rates substantially different from previous data? Do the rates make sense?

- Consider recent changes in practice
- Consider seasonal or weekly variations
- Consider effects of sample size



Data Interpretation

7. Interpret Infection Rates

C. Compare rates

- To previous surveillance periods
- To benchmarks set by your own facility
- To recognized standards or benchmarks, if available

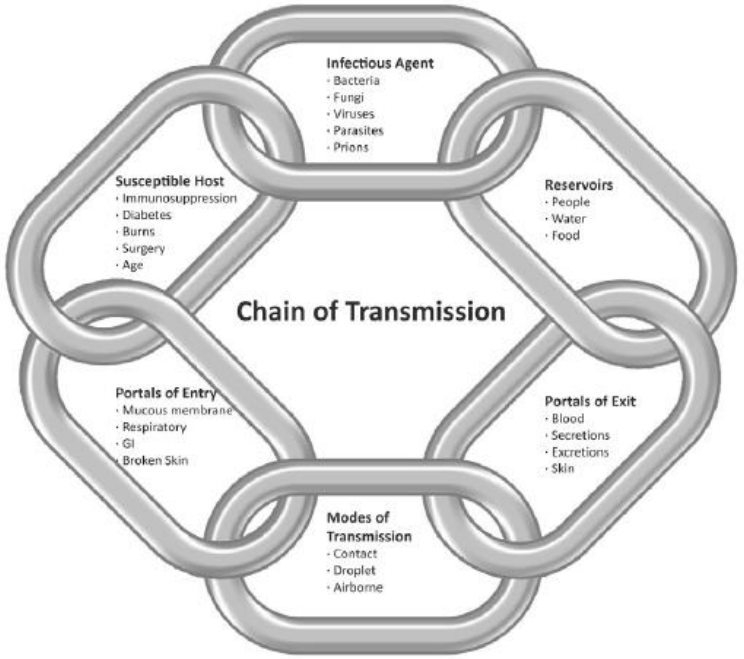
Data Interpretation

7. Interpret Infection Rates

D. Investigation of increased HAI rates

- Use the Chain of Transmission model to:
  - Suggest explanations for these rates
  - Identify areas where improvements to infection control practices could reduce the rates

E. Discussion with the infection control team



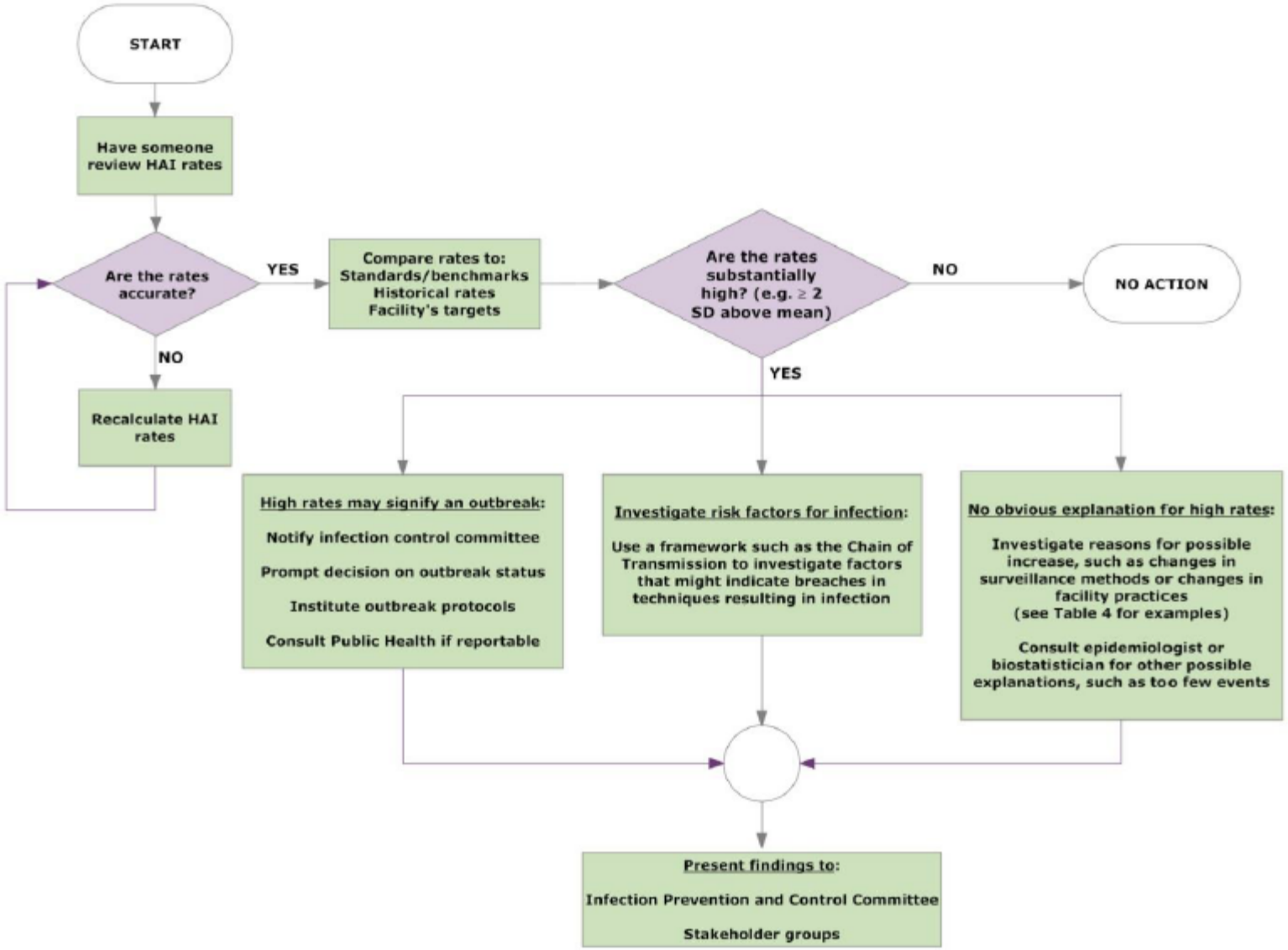


Figure 8: Recommended steps in interpretation of surveillance rates

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for surveillance of health care-associated infections in patient and resident populations. 3 rd ed. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: https://www.publichealthontario.ca/-/media/documents/B/2014/bp-hai-surveillance.pdf?la=en

Data Interpretation: Example

The Forest Manor ICP noticed an increased rate for *C. difficile* infection (CDI) for the month of July. The ICP noted that…

- Earlier that month, two residents were admitted to Forest Manor from hospital, both were at the end of treatment for CDI.
- Two other residents on that wing developed CDI mid-July and were isolated and treated.

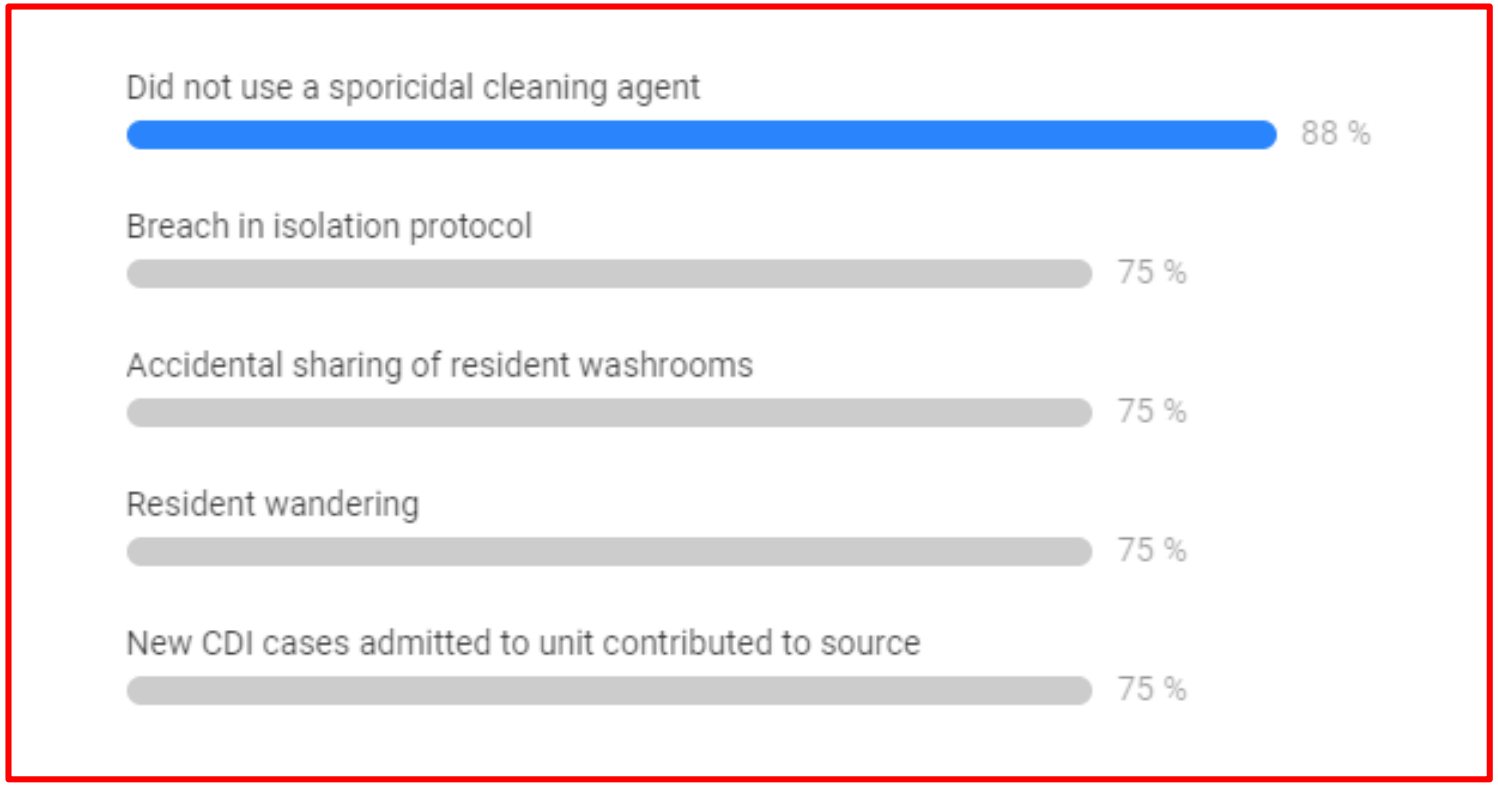
What are the possible explanations for the rise in cases?

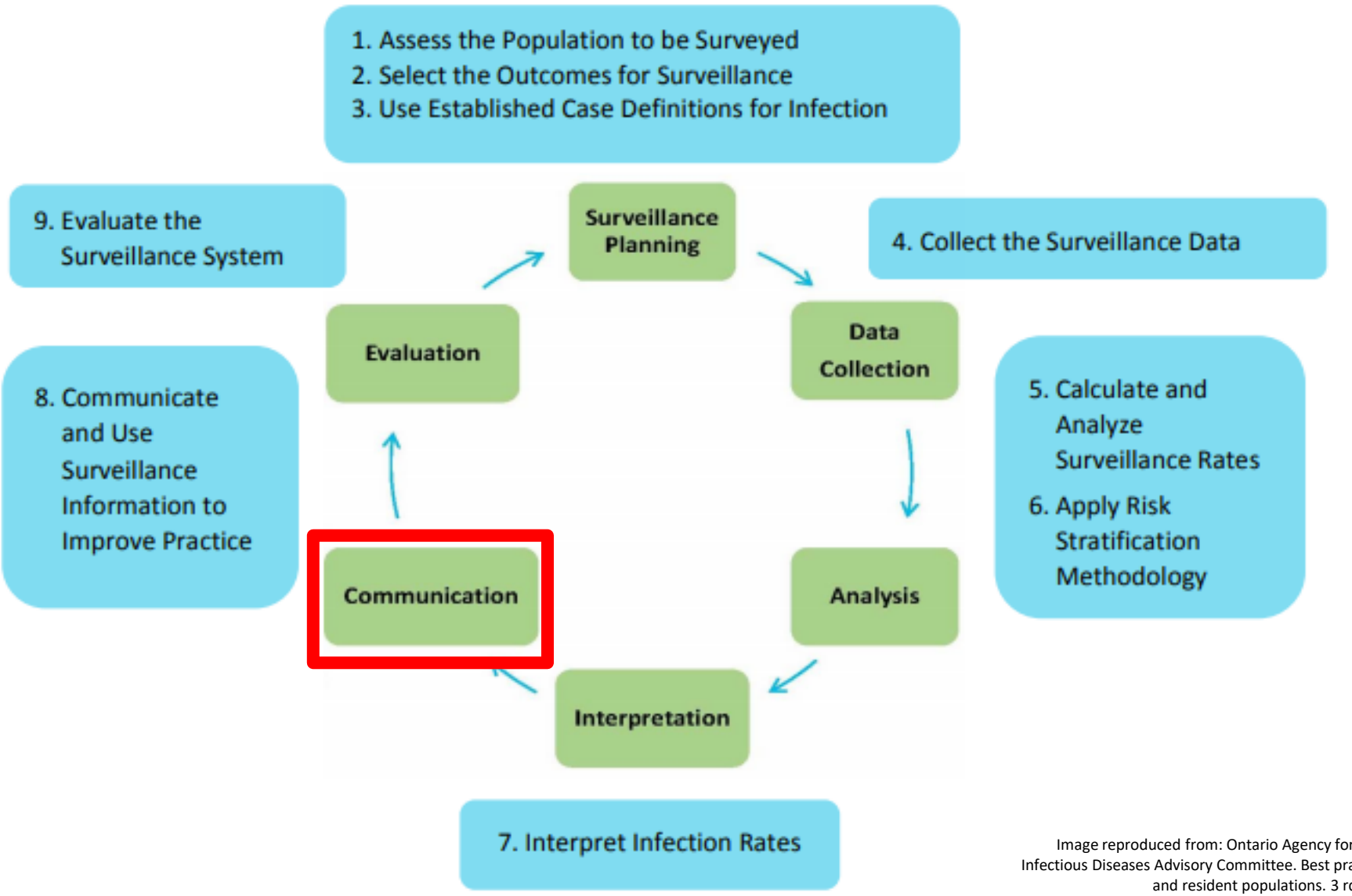
slido

#IPAChub

slido

What are the possible explanations for the rise in cases?





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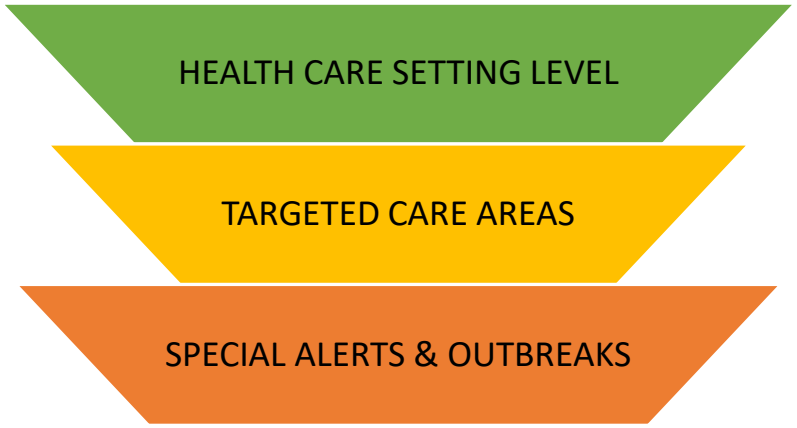
Communication

8. Communicate: Use surveillance information to improve practice



Routine communication to IPAC Committee – e.g., quarterly report of UTI rates, skin and soft tissue infection rates, acute respiratory infection rates

Targeted report to a particular resident care area or specialty care area

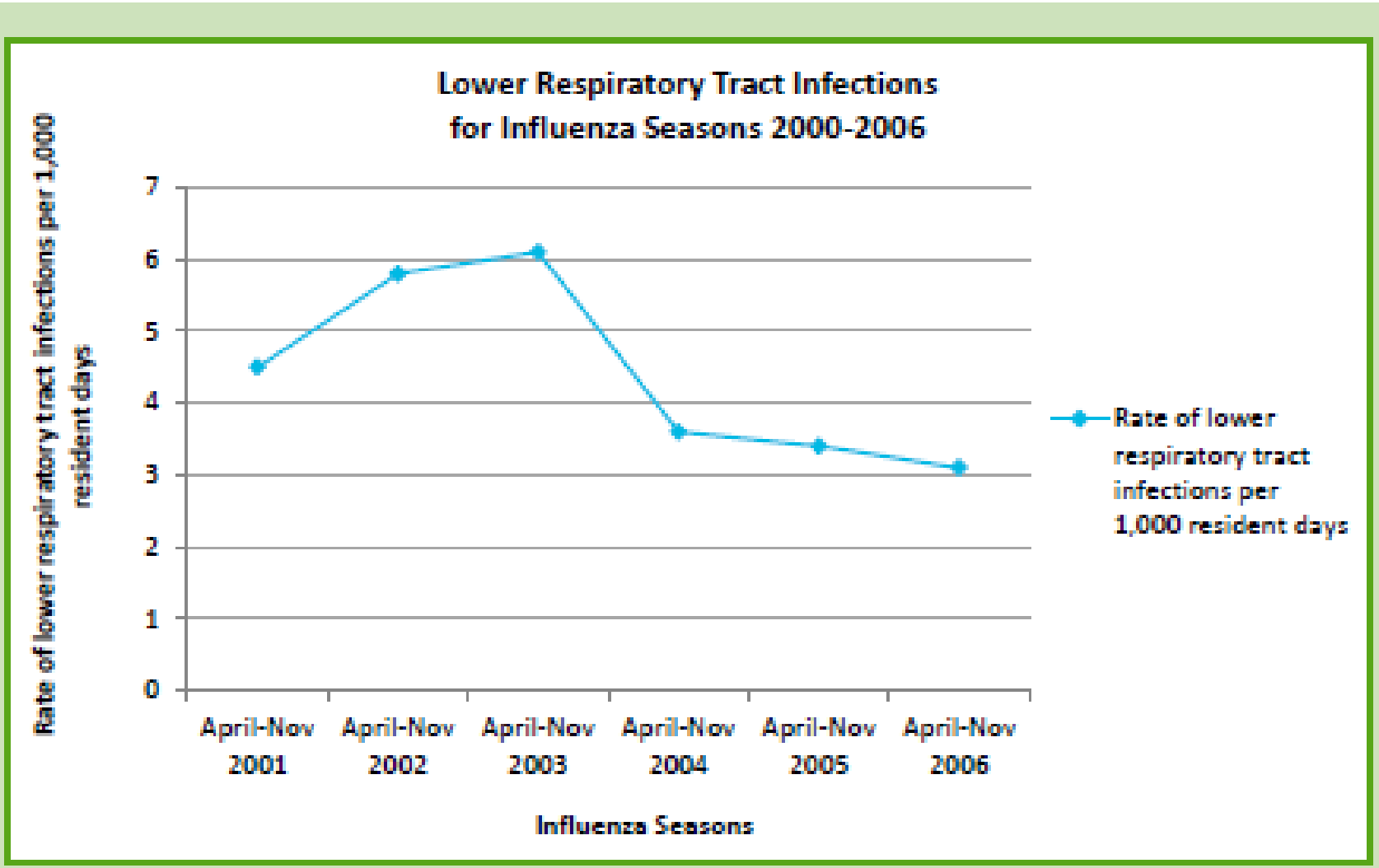
Outbreaks and emerging concern

BP Communication of surveillance data should take place on an ongoing, systematic basis and be targeted to those with the ability to change infection control practice.

Communication

8. Communicate: Use surveillance information to improve practice

- Know your audience
- Make it clear and easy to follow
- Focus on the main messages
- Present using a standardized format
- Use visual aids (pie charts, bar charts, graphs)



- ✓ Include title (with time frame, summary subtitle)
- ✓ Label axes
  - ✓ Y-axis: rate of infection
  - ✓ X-axis: Time
- ✓ Indicate denominator
- ✓ Indicate timeframe
- ✓ Include a legend

Evaluation

9. Evaluate the surveillance system

- *Ongoing surveillance system improvement* - Regularly review system and make modifications as needed.

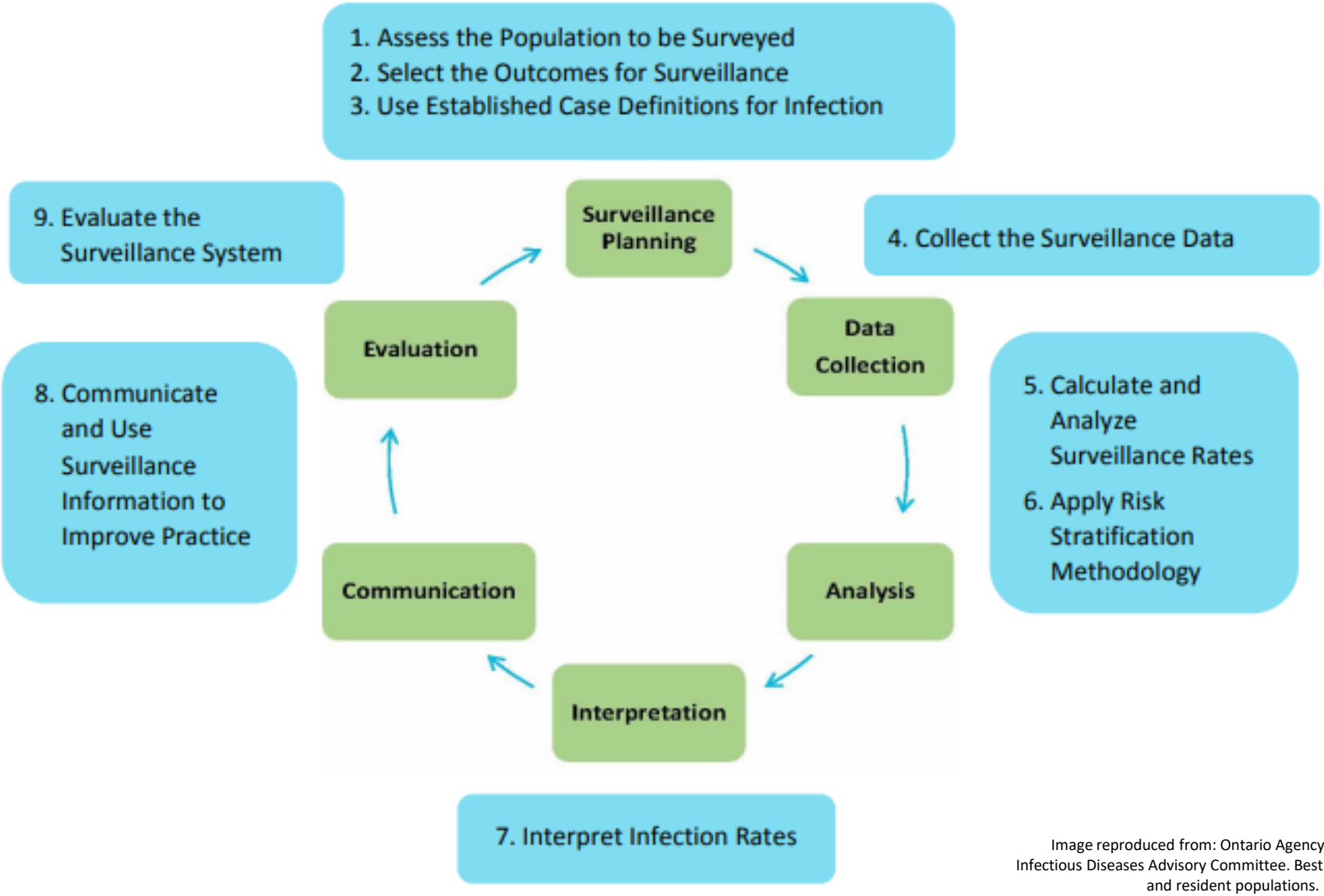
- ***Process Evaluation*** – e.g., How is the system is working day to day? How can the process be improved?

- ***Outcome Evaluation*** – e.g., Did the surveillance system detect clusters or outbreaks? Which resident care practices were changed based on surveillance data?

Scenario: Evaluation

9. Evaluate the surveillance system

https://youtu.be/ucLC6WovxPo



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Additional Resources

Specific resources about:

- Antibiotic-resistant organism surveillance
- Acute respiratory infection surveillance
- *Clostridium difficile* surveillance

What resources and tools are available?

OUTCOME SURVEILLANCE

Outcome Surveillance

Outcome surveillance is *"monitoring changes in the resident's health status that can be attributed to their care received at the home"*

Goals:

- to identify clusters and outbreaks
- to compare infection rates to benchmarks
- to measure internal improvement over time

LTCH Surveillance Toolkit

- The LTC surveillance toolkit contains 6 tools to help guide LTCH in conducting surveillance of infections in residents.
- IPAC Canada / Public Health Ontario webinar explaining the LTC surveillance toolkit is available here.

LTCH Surveillance Toolkit

1. Surveillance Readiness self-assessment form
2. Daily surveillance tracking form
3. Surveillance Training slides
4. Case definitions
5. Case validation forms
6. Surveillance Database and reporting tool

Surveillance Readiness Self-assessment Form

Surveillance Readiness Self-Assessment Form

This self-assessment is used to determine readiness to implement the LTC Surveillance Toolkit. It is important to plan for implementation of the Toolkit so that it does not conflict with other significant changes in the facility (e.g., significant staffing changes or the roll-out of another program). Consider who should be consulted for support in moving forward with establishing a surveillance program. Ensure there is a designated lead for the initiative and confirm that time can be committed to a surveillance program.

Readiness Questions and Considerations	Participant Response	Comments
Surveillance in LTC facilities should involve daily assessment and documentation of signs and symptoms of infection for all residents, as well as collation, analysis and sharing of the data. Do you perform surveillance for infections in your LTC facility?	☐Yes, we perform infection surveillance for infections ☐No, we don't perform surveillance for infections	
If you do perform surveillance for infections, is your process following best practice? Is there a desire to improve the process?	☐We don't follow best practice and we want to improve our surveillance process ☐We follow best practice and we are satisfied with our current process ☐I don't know	
Does this project conflict with other projects, priorities or significant changes occurring at this time?	☐Yes, we have other conflicting priorities at this time ☐No, we have no other conflicting priorities at this time	

Daily Surveillance Tracking Form

Daily Infection Signs and Symptoms Tracking Form

Unit:	Month:

Staff Initials and Shift that Assessment was Completed																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
D																															
E																															
N																															

Signs and Symptoms Tracking																																
				Respiratory								Urinary							Skin				GI								
Date	Resident Name	Room No.	Temp.	Runny nose/sneezing	Stuffy nose or congestion	Sore throat	New or worsening cough	Increased Sputum production	Myalgia, body aches	Chills	Chest pain	Increase in frequency	Acute dysuria/acute pain	Hematuria	Increase urinary incontinence	Acute costovert pain/tenderness	Suprapubic pain	Increased urgency	Indwelling catheter	Wound/tissue drainage	Pus at wound site	Rash/lesion	Redness or swelling at site	Nausea	≥3 liquid/watery stools in 24hrs	≥2 vomiting episodes in 24hrs	Abdominal pain	Specimen submitted to lab	Infection resolved	Other

Surveillance Training Slides

Case Definitions

Surveillance Definitions of Infections in Canadian Long Term Care Facilities

Jennifer Happe, MSc[1]; Faith Stoll, BScN, RN, CIC[1]; Laurel Biluk, BN, RN, CIC[1]; Karen Cargill, BN, RN, GNC(C)[2]; Alisa Cuff, BN, RN, CIC[2]; Gwen Cerkowniak, BSN, RN, CIC[3]; Blanda Chow, MPH, RN[1]; Jean Clark, BN, RN, CIC[2]; Betty Anne Elford, BN, RN[2]; Darlene Fawcett, BN, RN2; Yvette Gable, BN, RN2; Sukhpreet Jagpal, BEH, CPHI(C)1; Lesley McLeod, MSc, CIC1; Caroline Meguerditchian, CIC[1]; Daphne Murray, BN, RN, CIC[2]; Smit Patel, MSc[1]; Nathalie Pigeon, BSc[4]; Blair Ranns, MPH[2]; Monica Sephton, BN, RN[2]; Paula Stagg, MN, RN, CIC[1]; Marilyn Weinmaster, BScN RN CIC[2]

[1] Infection Prevention and Control Canada (IPAC Canada), Surveillance and Applied Epidemiology Interest Group;
[2] IPAC Canada, Long Term Care Interest Group;
[3] IPAC Canada, Network of Networks Interest Group;
[4] L'Association des infirmières en prévention des infections

In partnership with:
Accreditation Canada; Association of Medical Microbiology and Infectious Disease Canada; Canadian Patient Safety Institute; Centre for Communicable Disease and Infection Control, Public Health Agency of Canada; IPAC Canada

BACKGROUND

The Canadian Patient Safety Institute (CPSI) and the Public Health Agency of Canada (PHAC) hosted a national infection prevention and control summit in November 2014. Participants came together with the goal of advancing infection prevention and control practices and reducing healthcare-associated infections (HAI) in Canada. During this meeting, measurement and surveillance, specifically improving consistency in surveillance practices across the country, surfaced as a key theme and an action plan was created. Under the leadership of Infection Prevention and Control Canada (IPAC Canada) and the Association of Medical Microbiology and Infectious Diseases Canada (AMMI Canada), a national committee was created to help establish and implement standard infection case surveillance definitions for HAI in acute care and long term care (LTC) facilities. Members of IPAC Canada's Surveillance and Applied Epidemiology, LTC, and Network of Networks Interest Groups and the L'Association des infirmières en prévention des infections formed a working group to revise the existing Society for Healthcare Epidemiology of America LTC facility infection surveillance definitions. Case definitions were updated based on the Canadian healthcare system and an increase in

TABLE 3. Surveillance Definitions for Respiratory Tract Infections (RTI)

NOTE. Epidemiological confirmation, instead of a laboratory confirmed positive specimen, can be used to meet case definition criteria during an outbreak.

Criteria	Comments
A. Common cold syndrome or pharyngitis (at least 2 criteria must be present) 1. Runny nose or sneezing 2. Stuffy nose (i.e., congestion) 3. Sore throat or hoarseness or difficulty in swallowing 4. Dry cough 5. Swollen or tender glands in the neck (cervical lymphadenopathy) 6. N/P swab positive for a respiratory pathogen	Fever may or may not be present. Symptoms must be new and not attributable to allergies.
B. Influenza-like illness (criteria 1 and/or 2 must be present, AND 3 or 4) 1. Fever 2. New and or increased cough 3. At least 2 of the following influenza-like illness subcriteria a.. Chills b. New headache or eye pain c. Myalgias or body aches d. Malaise or loss of appetite e. Sore throat f. Arthralgia (joint pain) 4. N/P swab positive for Influenza virus	Fever may not be present in the elderly. If criteria for influenza-like illness and another upper or lower RTI are met at the same time, only the diagnosis of influenza-like illness should be recorded. Because of increasing uncertainty surrounding the timing of the start of influenza season, the peak of influenza activity, and the length of the season, "seasonality" is no longer a criterion to define influenza-like illness.
C. Pneumonia (criteria 1 and 2 must be present, OR criteria 1 and 3) 1. Interpretation of a chest radiograph as demonstrating pneumonia or the presence of a new infiltrate 2. At least 1 of the following respiratory subcriteria a. New or increased cough b. New or increased sputum production c. O_2 saturation <94% on room air or a reduction in O2 saturation of >3% from baseline d. New or changed lung examination abnormalities e. Pleuritic chest pain f. Respiratory rate of ≥25 breaths/min 3. At least 1 constitutional criteria (see Table 1)	For both pneumonia and lower RTI, the presence of underlying conditions that could mimic the presentation of a RTI (e.g., congestive heart failure or interstitial lung diseases) should be excluded by a review of clinical records and an assessment of presenting symptoms and signs.
D. Lower respiratory tract infection (bronchitis or tracheobronchitis; all 3 criteria must be present) 1. Chest radiograph not performed or negative results for pneumonia or new infiltrate 2. At least 2 of the respiratory subcriteria (a–f) listed in section C above 3. At least 1 of the constitutional criteria (see Table 1)	(See comment for section C above.)

Case Validation Forms

UTI with an Indwelling Catheter
Infection Case Validation Form
LTC Surveillance Toolkit

Urinary Tract Infection (UTI) with an Indwelling Catheter

Unit:		**Resident Name:**		**Physician Name:**	
Date:		**Date of Birth:**		**Infection Onset Date:**	

Catheter

☐ Patient has an indwelling catheter
Date catheter inserted or last changed:

Microbiological Testing

The following criterion must be met using urine from a catheter specimen or a midstream voided urine from a resident whose catheter has been removed within the previous 48 hours:
☐ A urine culture with $\geq 10^8$cfu/L of any organism(s)
Name of organism(s) cultured:

Signs and Symptoms of Infection

At least 1 of the following criteria must be met:
☐ At least 1 of the following sign or symptom sub
a. Fever*, rigors, or new-onset hypotensic
b. Either acute change in mental status* c
c. New-onset suprapubic pain or costover
d. Purulent discharge from around the cat
e. Acute pain, swelling, or tenderness of t

☐ A blood culture grows the same organism, with

Respiratory Tract Infection
Infection Case Validation Form
LTC Surveillance Toolkit

Respiratory Tract Infection (RTI)

Unit:		**Resident Name:**		**Physician Name:**	
Date:		**Date of Birth:**		**Infection Onset Date:**	

Signs and Symptoms of Infection

Common Cold/Pharyngitis	Influenza-like Illness	Pneumonia	Lower RTI
At least 2 of the following criteria must be present that are new and cannot be attributed to allergies: ☐Runny nose or sneezing ☐Stuffy nose (i.e., congestion) ☐Sore throat or hoarseness or difficulty in swallowing ☐Dry cough ☐Swollen or tender glands in the neck (cervical lymphadenopathy) ☐N/P swab positive for a respiratory pathogen Name of pathogen: _____	At least 1 of the following criteria must be met: ☐Fever ☐New and or increased cough AND at least 1 of the following: ☐At least 2 of the following a. Chills b. New headache or eye pain c. Myalgia or body aches d. Malaise or loss of appetite e. Sore throat f. Arthralgia (joint pain) ☐N/P swab positive for Influenza virus	The following criteria must be met: ☐Interpretation of a chest radiograph as demonstrating pneumonia or the presence of a new infiltrate AND at least 1 of the following: ☐At least 1 of the constitutional criteria* ☐At least 1 of the following a. New or increased cough b. New or increased sputum production c. O2 saturation <94% on room air or a reduction in O2 saturation of >3% from baseline d. New or changed lung examination abnormalities e. Pleuritic chest pain f. Respiratory rate of ≥25 breaths/min	All 3 criteria must be met: ☐Chest radiograph not performed or negative results for pneumonia or new infiltrate ☐At least 1 of the constitutional criteria* ☐At least 2 of the following a. New or increased cough b. New or increased sputum production c. O2 saturation <94% on room air or a reduction in O2 saturation of >3% from baseline d. New or changed lung examination abnormalities e. Pleuritic chest pain f. Respiratory rate of ≥25 breaths/min

*see Constitutional Criteria below

Surveillance Database and Reporting Tool

Hospital name: Be Well Hospital

Year: 2020

a single infection per line, per user data entry preference

										C. diff	Antimicrobial Use		Precautions			Organism(s) Identified		
Month	Patient Name	Healthcare Number	Sex	DOB	Unit/Ward/Floor	Room #	Admission Date	Onset Date	Was the infection determined to be acquired within the current facility? (Y/N)	C. difficile	Patient on Antimicrobial(s)	Indication for Use	Contact	Droplet	Airborne	ARO Identified	Other Organism Identified	
Mar	Bella Banana	7890123	F	2/02/1978	1	4												

Total Infections

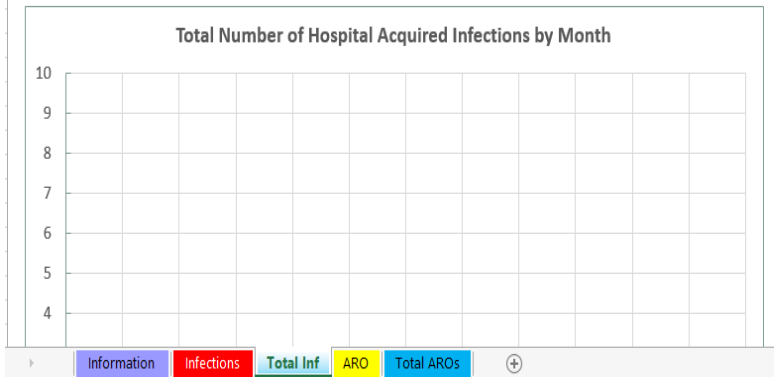
Summary of HAIs (excluding those acquired outside the current hospital)

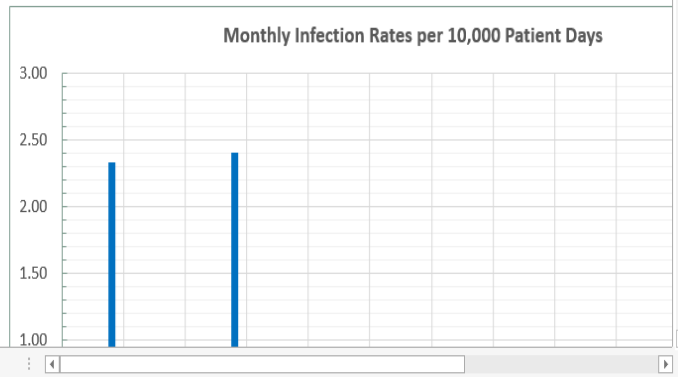
Month	BSI	SSI	UTIs	Respiratory Infections	Skin Infections	Gastro Infections	*C. difficile*	Total
Jan	0	0	0	0	0	0	2	**2**
Feb	0	0	0	0	0	0	0	**0**
Mar	0	0	0	0	0	0	2	**2**
Apr	0	0	0	0	0	0	0	**0**
May	0	0	0	0	0	0	0	**0**
Jun	0	0	0	0	0	0	0	**0**
Jul	0	0	0	0	0	0	0	**0**
Aug	0	0	0	0	0	0	0	**0**
Sep	0	0	0	0	0	0	0	**0**
Oct	0	0	0	0	0	0	0	**0**
Nov	0	0	0	0	0	0	0	**0**
Dec	0	0	0	0	0	0	0	**0**
Annual Total	0	0	0	0	0	0	4	**4**

Enter patient days in column O ->

Monthly rates of HAIs, per 10,000 patient days (excluding those acquired outside the currer

Month	Patient Days	BSI	SSI	UTIs	Respiratory Infections	Skin Infections	Gastr Infectio
Jan	8570	--	--	--	--	--	--
Feb	7980	--	--	--	--	--	--
Mar	8320	--	--	--	--	--	--
Apr		--	--	--	--	--	--
May		--	--	--	--	--	--
Jun		--	--	--	--	--	--
Jul		--	--	--	--	--	--
Aug		--	--	--	--	--	--
Sep		--	--	--	--	--	--
Oct		--	--	--	--	--	--
Nov		--	--	--	--	--	--
Dec		--	--	--	--	--	--
Annual Avg	**24870**	0.00	0.00	0.00	0.00	0.00	





Information | Infections | Total Inf | ARO | Total AROs

Outcome Surveillance

Tips & Tricks

- Getting started is the hardest part.
- Start small. Practice makes perfect.
- Consider additional supports (IPAC Hub)
- Be practical. What are your available resources?
- Is your team ready? Ensure there is support from your leadership and staff.

What are the key pieces of your surveillance system?

PROCESS SURVEILLANCE - AUDITING

Process Surveillance (Auditing)

Process surveillance is *"measuring the things done to or for a resident during their encounter with the health care system"*

Goals

- To improve practices and processes
- To provide feedback and identify gaps in practice

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What should we audit?

TABLE 1: RECOMMENDED PROCESS SURVEILLANCE INDICATORS

Surveillance Component	Reference #	Acute Care	CCC	LTC	HHC
Adherence to ARO screening protocols for clients/patients/residents	79	✓	✓	✓	
Adherence to ARI screening protocols for clients/patients/residents	80	✓	✓	✓	✓
Adherence to screening protocols for tuberculosis in clients/residents	81		✓	✓	
Adherence to screening protocols for acute GI infection in clients/patients/residents		✓	✓	✓	✓
Influenza vaccination rates (clients/residents)	82		✓	✓	
Pneumococcal vaccination rates (clients/residents)	82		✓	✓	
Adherence to screening protocols for hepatitis, MRSA and VRE in hemodialysis patients	83-85	✓	✓	✓	
Staff tuberculosis screening	81	✓	✓	✓	✓
Staff vaccination rates including annual influenza vaccination	82	✓	✓	✓	✓
Sharps injury surveillance	89, 90	✓	✓	✓	✓
Adherence to central line protocols	91-93	✓	✓	✓	✓

Table 1: Recommended Process Surveillance Indicators

Page 19-20

What should we audit?

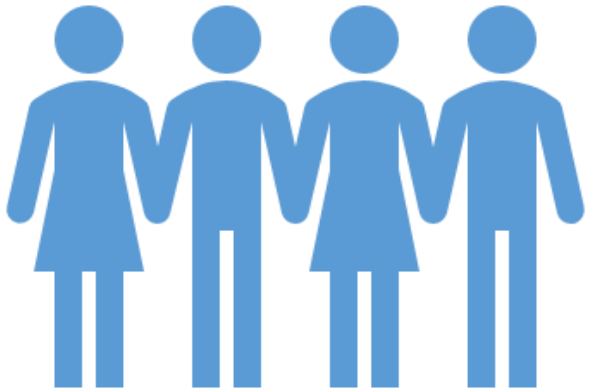
Surveillance Component	Reference #	Acute Care	CCC	LTC	HHC
Adherence to ventilator use protocols	94, 95	✓	✓		
Adherence to protocols related to surgical procedures (e.g., pre-operative antibiotic use)	86, 87	✓			
Adherence to hand hygiene protocols	96-98	✓	✓	✓	✓
Adherence to Routine Practices protocols, including the correct use of PPE	2, 3	✓	✓	✓	✓
Adherence to reprocessing practices protocols	96, 105	✓	✓	✓	✓
Adherence to environmental cleaning protocols	96, 102	✓	✓	✓	
Adherence to IPAC construction/renovation protocols	100, 101	✓	✓	✓	
Adherence to recommendations of the antimicrobial stewardship program	63, 104, 106	✓	✓	✓	
Adherence to practices to limit urinary catheter use	103	✓	✓	✓	✓
Legend: CCC = Complex Continuing Care LTC = Long-term Care HHC = Home Health Care					

Table 1: Recommended Process Surveillance Indicators

Page 19-20

Who should we audit?

- Anyone who has to perform the task in the course of their job duties. This includes:
  - Licensed health care personnel
  - Unlicensed health care personnel
  - Physicians
  - Trainees



Are staff prepared?

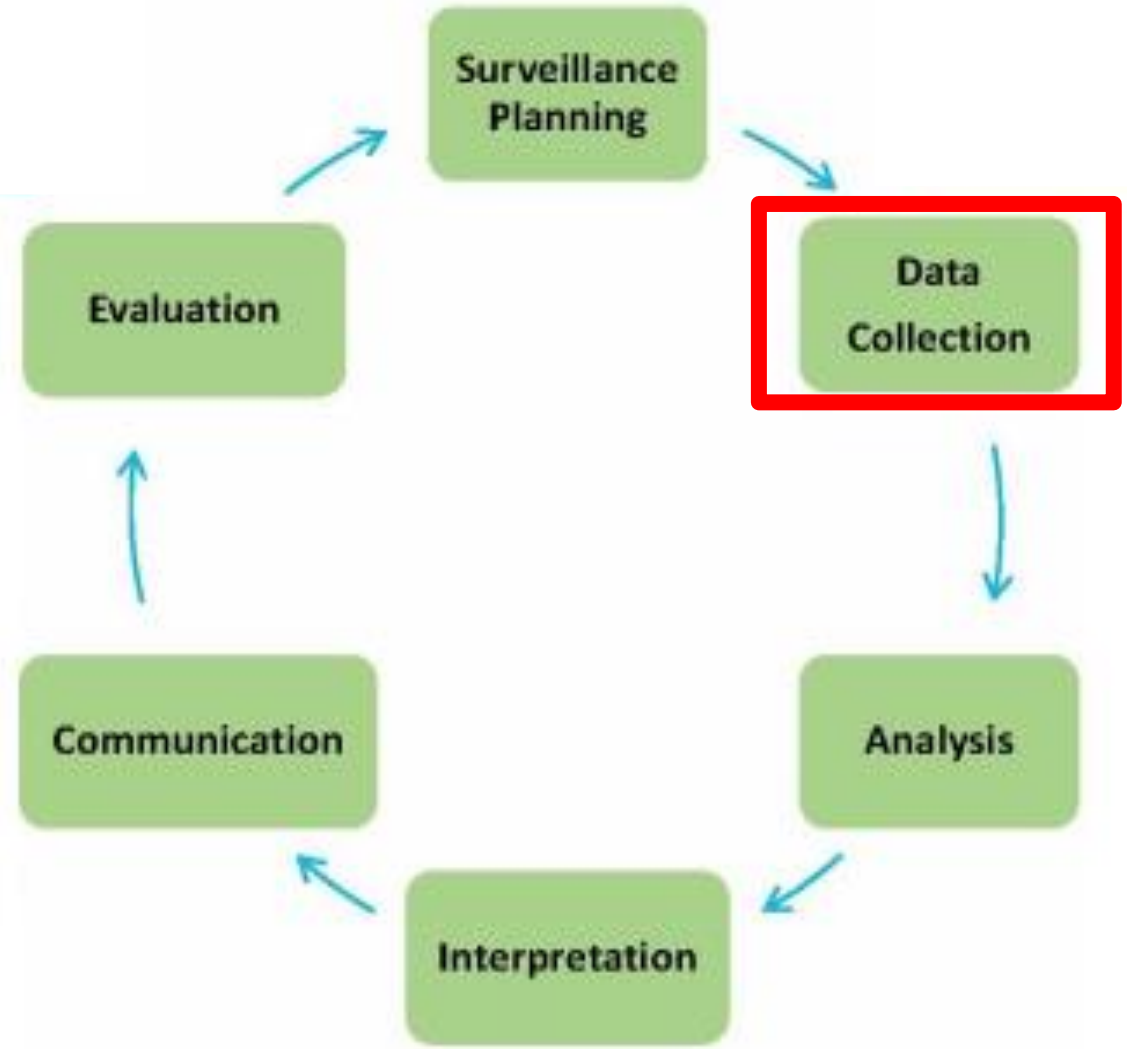
- Ensure staff have proper training to perform the task.
- Ensure staff understand why auditing is taking place
- Ensure staff are aware of the auditing processes

Scenario: Are staff prepared?

https://youtu.be/vaI4sGiC1C8

Are the auditors prepared?

- Recruit champions/auditors for your program
- Ensure auditors are trained by a knowledgeable lead about:
  - How to properly perform audits
  - How to document audits
  - The importance of routine, planned observations
- Complete practice audits (with another auditor) to make sure they are comfortable with the process



South East IPAC HUB & SPOKE

EDUCATION
PRACTICE
POLICY
PARTNERS

Quinte | Rural Hastings | Rural Frontenac | Lennox & Addington | Lanark, Leeds & Grenville

How should we audit?

Planned Observations vs. Random Observations

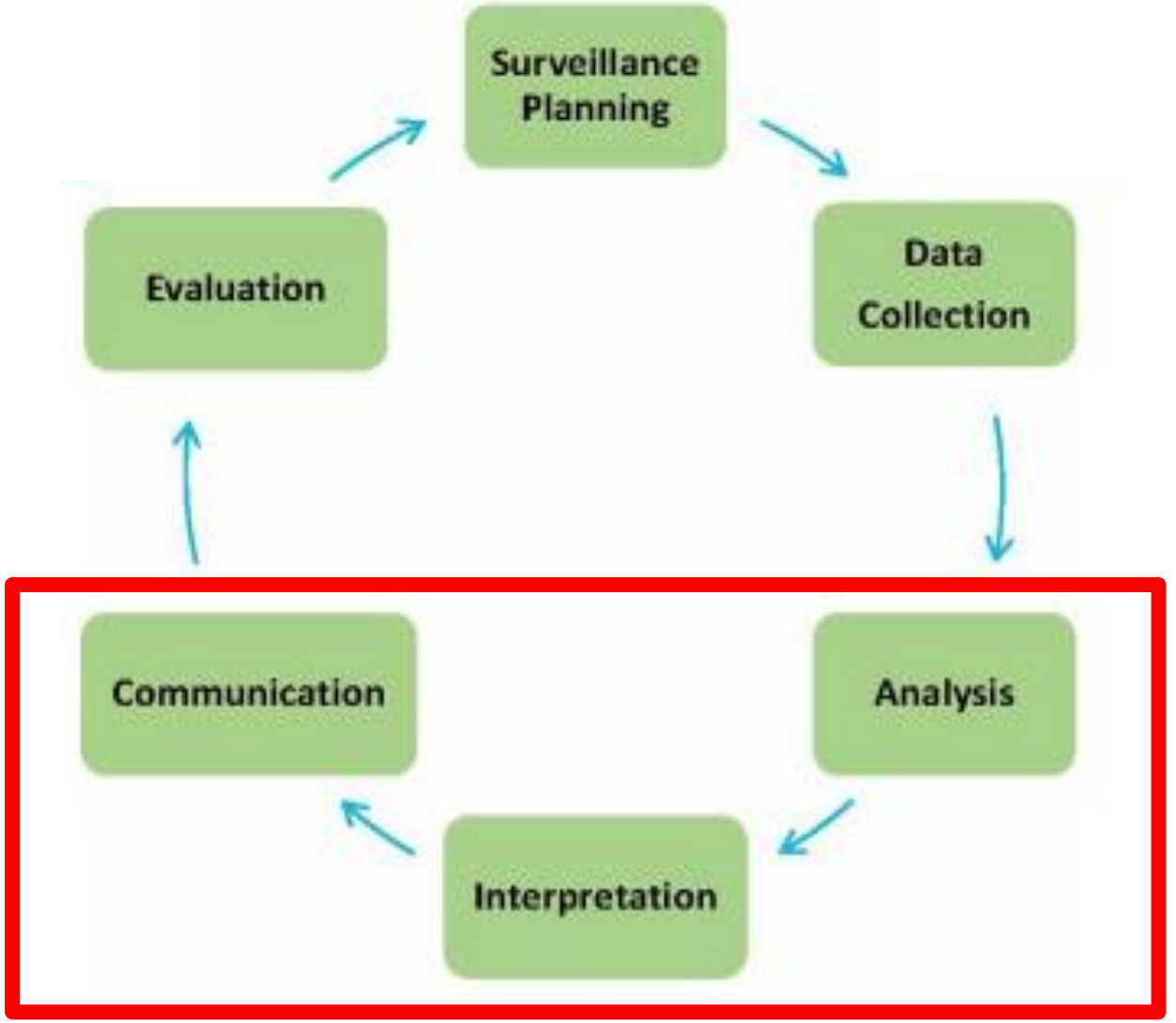
PLANNED OBSERVATIONS	
PROS	**CONS**
Can be scheduled to ensure that all individuals demonstrate regular competency	Unable to determine behavior during the routine course of duties
Scenarios can provide feedback on individual's ability to choose PPE appropriate for the situation	

RANDOM OBSERVATIONS	
PROS	**CONS**
Ability to assess adherence during normal work	Requires large number of observations on all shifts

! Use standardized audit tools among auditors.

How often should we audit?

- Frequency - Audits should take place at regular intervals as defined by the organization
- Re-educate and audit whenever there is a change in equipment/supplies and if rates of HAIs are high or increasing.


Surveillance Planning
Data Collection
Analysis
Interpretation
Communication
Evaluation

How do we to provide feedback?

Feedback should be:

- **Specific** –When a break in protocol is identified, it should be specific
- **Timely** – immediate feedback is the most effective
- **Positive** – the feedback should be given in a manner that is constructive

How do we provide feedback?

Type of Feedback	How it Works	By Whom
Immediate Feedback	Feedback given at the time of the occurrence	Can be given by anyone; including observers, managers, supervisors or peers
Planned Feedback	Feedback given at pre-determined intervals through a type of measurement system	Usually the responsibility of a designated department or assigned role

How do we use audit data?

Routine report of compliance data can…

- provide valuable information to drive improvement (e.g., ward/unit specific).
- identify gaps in practices which helps the organization set priorities and develop improvement plans


Surveillance Planning
Data Collection
Analysis
Interpretation
Communication
Evaluation

How do we evaluate?

- Regularly review and make modifications as needed
  - E.g., Do you ask for feedback or suggestions from auditors and staff for improvements to auditing process?
  - E.g., Are there sufficient numbers of audits are being done to ensure good quality data?

Scenario: PPE Auditing

https://youtu.be/9L3l_kZI6DU

What resources and tools are available?

PROCESS SURVEILLANCE - AUDITING

Considerations for Auditing Tools

$ ... $$$

Paper Checklists	Electronic Checklists	Electronic Programs
Direct observation required	Direct observation required	Direct observation required
Pen / Paper Tracking	Electronic Tracking	Electronic Tracking
Manual data entry required	No manual data entry required	No manual data entry required
Manual data analysis	Manual data analysis	Automated data analysis

Lots of human resources ... Limited human resources

slido

What kind of auditing does your home conduct?

Surveillance Component	Reference #	Acute Care	CCC	LTC	HHC
Adherence to ventilator use protocols	94, 95	✓	✓		
Adherence to protocols related to surgical procedures (e.g., pre-operative antibiotic use)	86, 87	✓			
Adherence to hand hygiene protocols	96-98	✓	✓	✓	✓
Adherence to Routine Practices protocols, including the correct use of PPE	2, 3	✓	✓	✓	✓
Adherence to reprocessing practices protocols	96, 105	✓	✓	✓	✓
Adherence to environmental cleaning protocols	96, 102	✓	✓	✓	
Adherence to IPAC construction/renovation protocols	100, 101	✓	✓	✓	
Adherence to recommendations of the antimicrobial stewardship program	63, 104, 106	✓	✓	✓	
Adherence to practices to limit urinary catheter use	103	✓	✓	✓	✓
Legend: CCC = Complex Continuing Care LTC = Long-term Care HHC = Home Health Care					

Table 1: Recommended Process Surveillance Indicators (continued)

Page 19-20

Hand Hygiene Auditing

- Process of ensuring hand hygiene practices in health care follow recommended guidelines
- Results will help identify interventions (education, training, etc.)
- Conduct openly without interfering ongoing work
- Direct observation is the most common approach
- Use a standardized and validated tool for accurate data collection

Observation Tool for Long-Term Care Homes

Ontario

Observer-ID: ____ Form-No.: ____ Facility-ID: ____
Date: __ __ / __ __ / __ __ __ __ Care Unit: ____
Day of Week: ____
Start Time: __ __ : __ __ AM/PM
End Time: __ __ : __ __

Category:
1 – Physician; 2 – Nurse; 3 – HCA/PSW; 4 – Student; 5 – Social Worker; 6 – Pastoral Care; 7 – Blood Collection/Lab/X-ray; 8 – Therapy Staff (OT/Physio); 09 – Housekeeping/Laundry Staff; 10 – Volunteer; 11 – Recreation Staff; 12 – Sitter/Private Caregiver; 13 – Dietary Staff; 14 – Other*; 15 – Personal Services**

Category:	Category:	Category:	Category:
1 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves ☐ Nails ☐ Bracelets ☐ Rings	1 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves ☐ Nails ☐ Bracelets ☐ Rings	1 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves ☐ Nails ☐ Bracelets ☐ Rings	1 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves ☐ Nails ☐ Bracelets ☐ Rings
2 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	2 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	2 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	2 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves
3 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	3 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	3 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	3 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves
4 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	4 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	4 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves	4 ☐ BEF-PAT/ENV ☐ AFT-PAT/ENV T: T: ☐ BEF-ASP ☐ AFT-BFL ☐ Rub ○ Missed ☐ Wash ☐ Gloves

Your 4 Moments for Hand Hygiene

On-the-spot feedback

A

Moment being observed:
- ☐ 1. Before initial resident/resident environment contact
- ☐ 2. Before aseptic procedure
- ☐ 3. After body fluid exposure risk
- ☐ 4. After resident/resident environment contact

Hand hygiene method:
☐ Rub ☐ Wash ☐ Missed

Other considerations:
☐ Gloves without cleaning ☐ Incorrect nail length
☐ Bracelets worn ☐ Rings worn
☐ Contact time less than 15 seconds

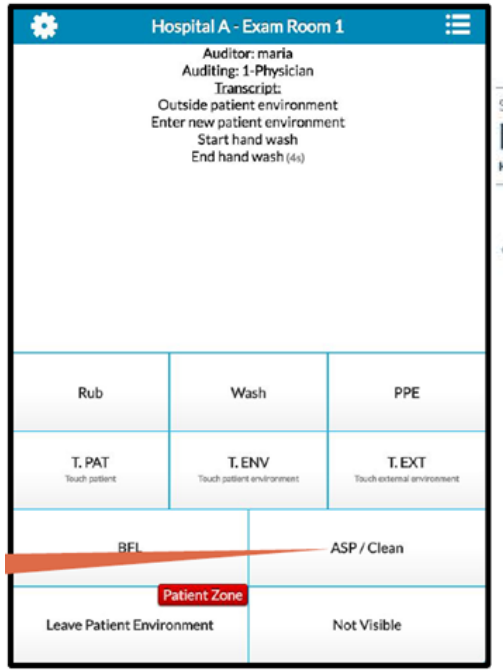
B

Moment being observed:
- ☐ 1. Before initial resident/resident environment contact
- ☐ 2. Before aseptic procedure
- ☐ 3. After body fluid exposure risk
- ☐ 4. After resident/resident environment contact

Hand hygiene method:
☐ Rub ☐ Wash ☐ Missed

Other considerations:
☐ Gloves without cleaning
☐ Contact time less than 15 seconds

For more information, please contact handhygiene@oahpp.ca or visit publichealthontario.ca/JCYH

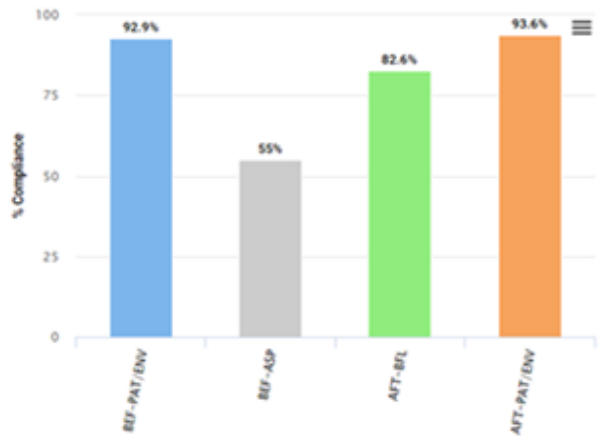


Hand Hygiene Compliance by Type of Indication

Indication	% Compliance	# Complied	# Observed
BEF-PAT/ENV	92.9%	1212	1304
BEF-ASP	55.0%	11	20
AFT-BFL	82.6%	19	23
AFT-PAT/ENV	93.6%	1274	1361

Standard 4 Moments Moments shown All
Includes HandyAudit Sites:

BEF-PAT/ENV - Before Initial Patient/Patient Environment Contact by Category of Health Care Provider BEF-ASP - Before Aseptic Procedure by Category of Health Care Provider AFT-BFL - After Body Fluid Exposure Risk by Category of Health Care Provider AFT-PAT/ENV - After Patient/Patient Environment Contact by Category of Health Care Provider



fraserhealth Hand Hygiene Audit Form

Better health. Best in health care.

Submit Audits at hh.fhaaudit.com

Form Updated August 26, 2020

Facility				Unit		
Observer Name				Date/Time		
HCP GROUP	**HCP DISCIPLINE**					
Direct Care	RN/RPN	LPN	Care Aide	Student Nurse	ESN	NP
Physicians	MD	Med Student/Resident				
Clinical	Lab Personnel	Dietitian	Pharmacist	Social Worker	Medical Tech.	Renal Tech.
	Physiotherapist	Occ. Therapist	Resp. Therapist	Rec. Therapist	Rec. Aide	Rehab Assist.
	SLP	Porter				
Other	Housekeeping	Food Services	Unit Clerk	Maintenance	Volunteer	

Observation #	Health Care Provider *Indicate Specific discipline*	Hand Hygiene Moment *Use a separate line for each moment/observation*				Hand Hygiene Method S = Soap A = ABHR M = Misc			Factors That Affect Hand Hygiene N = Nails R = Rings W = Wristwear			Reasons for Miss *Use the descriptions provided on the back*
		Before Pt. or Pt. Envir. Contact	Before Aseptic Proceedure	After Body Fluid Risk Exposure	After Pt. or Pt. Envir. Contact	S	A	M	N	R	W	
1												
2												

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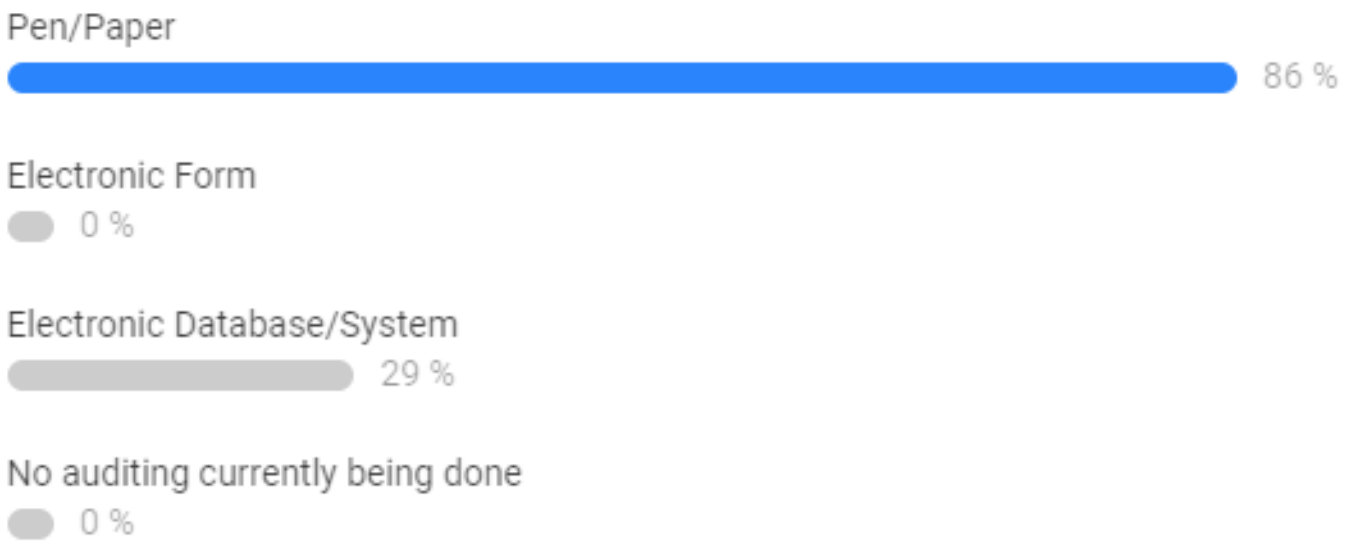
What type of hand hygiene audit tool do you use?



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What specific tool do you use?

facility provided

created own facility paper tool

JCYH On the Spot Hand Hygiene tool

JCYH document

Speedy Audit

Facility made one

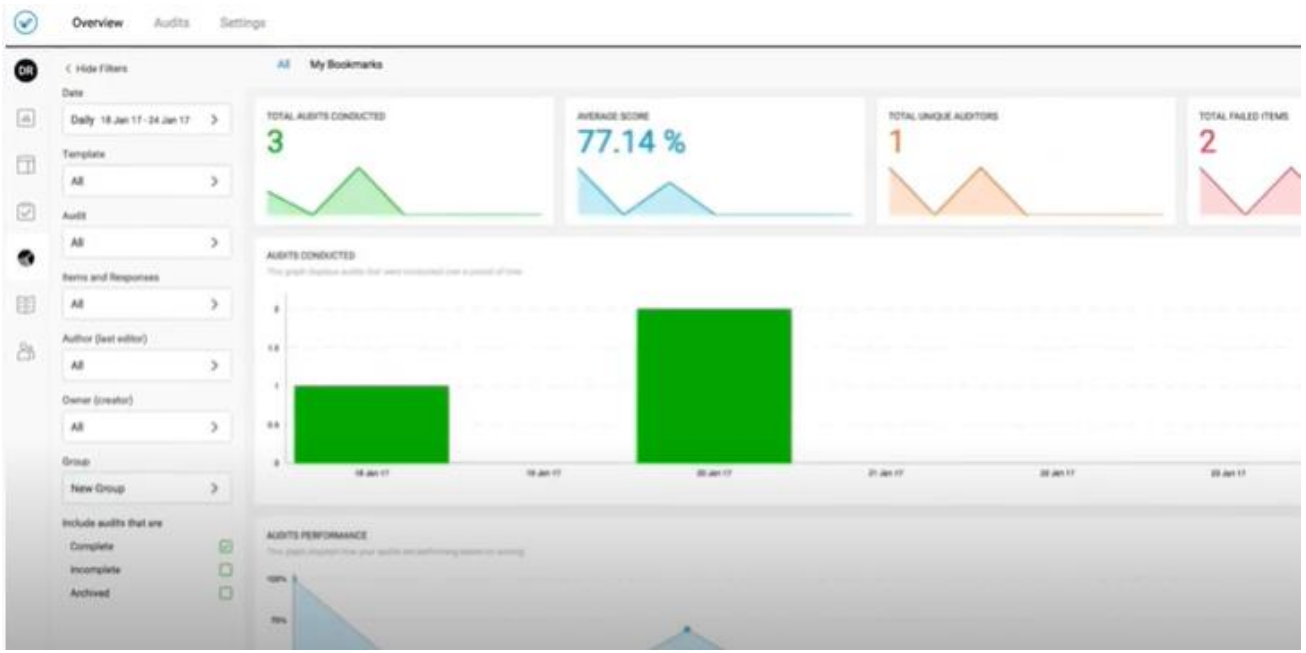
PPE Auditing

- The process of ensuring staff using PPE are following guidelines
- To ensure PPE is provided, used, and maintained in a safe and reliable manner
- To monitor the correct and consistent use of PPE
- Direct observation would be the most common approach

Donning Issues	Y	No	comments
Performed Hand Hygiene			
Tied gown and fastened at the neck and waist			
Selected appropriate mask or respirator			
Applied mask appropriately			
Selected Eye Protection if appropriate			
Applied gloves to cover cuffs			
Doffing Issues			
Used proper glove in glove technique for removal			
Performed hand hygiene			
Removed face shield or googles without touching face			
Removed gown using appropriate rolling technique			
Took care not to have inside of gown touch clothing			
Performed hand hygiene			
Observation			
Took care not to touch unprotected areas of the body or clothing			
Did not adjust mask or clothing			

Public Health Ontario has an audit tool coming out soon!

		HCW 1	HCW 2	HCW 3	HCW 4	HCW 5	HCW 6	HCW 7	HCW 8	HCW 9	HCW 10	Total (Y&N)
	Category of HCW											
Donning PPE												
1. Hand hygiene is performed	Immediately prior to accessing and donning PPE, all surfaces of hands and wrists are cleaned with either Alcohol based hand rub (ABHR) or hands are washed with soap and water											
2. Donning	PPE is donned at least two-metres away from the patient: Within the anteroom (if available) or immediately outside the patient room.											
3. Gown is donned correctly	The gown covers the torso and is secured by ties at the neck and waist or back.											
4. Procedure/surgical mask is donned correctly or;	Elastic loops are secured behind the ears or ties are secured at the back of the head and neck. Mask is secure on the face, covering the chin with the nose band molded to the bridge of the nose.											



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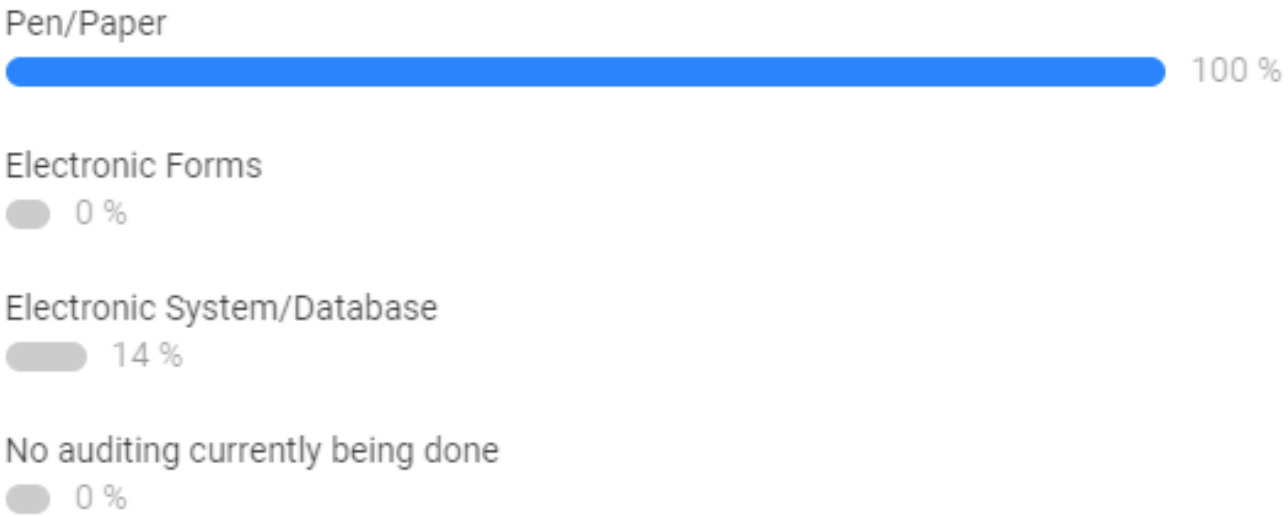
What type of PPE audit tool do you use?



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Environmental Cleaning Auditing

- Process of ensuring that environmental cleaning techniques being practiced follow recommended guidelines.
- Results will help identify interventions (education, training, process improvements, etc.)
- Methods include:
  - Observational Methods (visual assessment of cleanliness, performance observations, satisfaction surveys)
  - Post Cleaning Testing of Surfaces (environmental marking*, ATP bioluminescence, environmental cultures)

Table 7: Observational Methods Used to Monitor Cleaning and Cleanliness in Health Care Facilities

Method	Description	Advantages	Disadvantages
Visual assessment [376,452]	Trained observer (e.g., environmental service supervisor) assesses cleanliness of an area following cleaning	▪ Easy to implement[376] ▪ Useful to assess whether a "hotel clean" has been obtained ▪ Allows feedback to individual environmental service staff	▪ Results do not correlate with levels of microbial contamination[376] ▪ Does not assure that a "health care clean" has been achieved[452] ▪ Results may vary across different observers[376]
Performance observation [230,376]	Environmental service supervisor observes environmental service workers perform cleaning	▪ Easy to implement[376] ▪ Useful to assess that facility procedures for cleaning are performed correctly[376] ▪ Allows feedback to environmental service staff	▪ Time consuming ▪ Labour intensive[230] ▪ Performance while observed may not be the same as performance when not observed[376]
Satisfaction surveys [453]	Patients/residents/clients complete surveys and provide feedback on the facilities' cleanliness	▪ Useful to ensure needs of client/patient/resident are met	▪ Results may not correlate with levels of microbial contamination[453]

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Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for environmental cleaning for prevention and control of infections in all health care settings. 3rd ed. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: https://www.publichealthontario.ca/-/media/documents/b/2018/bp-environmental-cleaning.pdf

Table 8: Assessment of Cleaning Through Testing of Surfaces Following Cleaning

Method	Description	Advantages	Disadvantages
Environmental marking [462]	Prior to cleaning, environmental surfaces are marked with an invisible tracing agent that can only be seen using a revealing agent. After cleaning, a trained observer can check to determine if the tracing agent was removed from the surfaces during cleaning. Failure to remove the tracing agent from a smooth surface suggests that the surface was not cleaned.	▪ Allows direct assessment of cleaning thoroughness (i.e., proportion of surfaces actually cleaned) ▪ Allows assessment of which high- and low-touch surfaces are cleaned consistently and which are omitted ▪ Associated with rapid improvement when constructive feedback is provided ▪ Easy to implement ▪ Results easily understood[462]	▪ Does not directly measure microbial contamination ▪ Does not measure quality or intensity of cleaning (i.e., a single wipe will remove marker) ▪ Does not assess adequacy of cleaning of unmarked surfaces ▪ Surface texture may affect removal of the tracing agent

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for environmental cleaning for prevention and control of infections in all health care settings. 3rd ed. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: https://www.publichealthontario.ca/-/media/documents/b/2018/bp-environmental-cleaning.pdf

Scenario: Environmental Marking

https://youtu.be/GUYkrhRvYuE

TERMINAL CLEANING

Record results of evaluation for each surface on the check list for every room monitored. Use the following symbols for marking:
O = NOT CLEAN, X = CLEAN, LEAVE BLANK = NOT EVALUABLE NOTE - USE CAP LETTERS "X" AND "O"
The percentage of individual surfaces cleaned will be automatically calculated in Sheet 2 (Aggregate Score Sheet).
Please report aggregate scores calculated for each category highlighted in Sheet 2 (Aggregate Score Sheet).

				High Touch I			High Touch II			High Touch III		
Unit	Rm No.	Date of Marking (if	Date of Evaluation	Bed rails	Tray table	IV pole	Call box / button	Telephone	Bedside table handle	Chair	Rm sink	Rm light switch

Example: The overall cleaning rate for toilet seat in the last 10 months is calculated as follow:

audits with “clean” result = 4

audits conducted = 10

Overall cleaning rate = 4/10 x 100% = 40%

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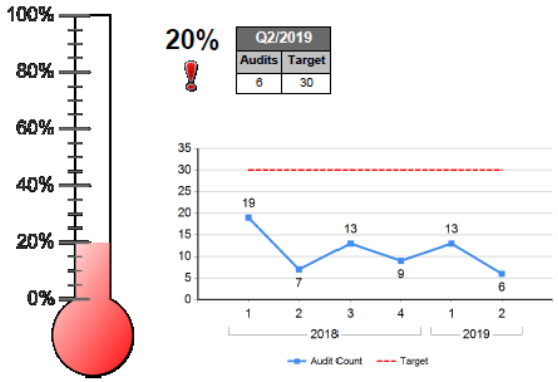
Item	Audit Dates												No. of "clean" audit results	No. of audits conducted	Overall cleanliness for the item
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Bedrail	clean	clean	missed	clean	clean	clean	clean	clean	clean	clean			9	10	90%
Bedside table	missed	clean	clean	clean	missed	clean	missed	clean	clean	clean			7	10	70%
Call bell	clean	missed	clean	missed	clean	missed	clean	missed	clean	missed			5	10	50%
Chair arm	clean	clean	clean	clean	clean	clean	clean	clean	clean	clean			10	10	100%
Curtain edge	missed	missed	clean	missed	missed	clean	clean	missed	missed	clean			4	10	40%
Door knob	clean	clean	clean	missed	clean	clean	missed	clean	clean	clean			8	10	80%
Drip stand	missed	missed	clean	clean	missed	missed	clean	clean	clean	missed			5	10	50%
ECG machine	missed	clean	clean	clean	clean	clean	missed	clean	clean	clean			8	10	80%
Keyboard	missed	clean	clean	clean	missed	clean	clean	clean	clean	missed			7	10	70%
Light switch	missed	clean	missed	clean	clean	missed	missed	clean	missed	missed			4	10	40%
Sink	missed	missed	missed	clean	missed	missed	missed	missed	clean	missed			2	10	20%
Tab	missed	clean	missed	clean	clean	missed	clean	clean	clean	missed			6	10	60%
Telephone	clean	clean	clean	clean	missed	clean	clean	clean	clean	clean			9	10	90%
Toilet handle	missed	missed	clean	missed	clean	missed	clean	clean	missed	clean			5	10	50%
Toilet seat	missed	clean	missed	clean	missed	missed	clean	missed	missed	clean			4	10	40%
No. of "clean" items	5	10	10	11	8	8	10	11	11	9			93	150	62%
No. of "missed" items	10	5	5	4	7	7	5	4	4	6			57		[redacted]
Monthly cleaning rate	33%	67%	67%	73%	53%	53%	67%	73%	73%	60%			[redacted]		

Audit Progress

Units: All Units

Area: Patient Room



3/1/2019 - 7/11/2019

Units: All Units

Type: All

Area: Patient Room

Top 3 HTOs	% Cleaned
Bathroom Dispenser	100.00%
Bathroom Inner Door Knob	100.00%
Bathroom Light Switch	100.00%
Bathroom Sink	100.00%
Bed Rail/Controls	100.00%
Bedside Table Handle	100.00%
Chair	100.00%
Commode	100.00%
Light Cord	100.00%
Patient Room Dispenser	100.00%
Room Inner Door Knobs	100.00%
Room Light Switch	100.00%
Telephone	100.00%
Toilet Flush Handle	100.00%
Toilet Seat	100.00%
Tray Table	100.00%

Bottom 3 HTOs	% Cleaned
Room Sink	NaN
Bathroom Handrail by Toilet	66.67%
Call Button	83.33%

Hto	% Cleaned
Bathroom Dispenser	100.00%
Bathroom Inner Door Knob	100.00%
Bathroom Light Switch	100.00%
Bathroom Sink	100.00%
Bed Rail/Controls	100.00%
Bedside Table Handle	100.00%
Chair	100.00%
Commode	100.00%
Light Cord	100.00%
Patient Room Dispenser	100.00%
Room Inner Door Knobs	100.00%
Room Light Switch	100.00%
Telephone	100.00%
Toilet Flush Handle	100.00%
Toilet Seat	100.00%
Tray Table	100.00%
Call Button	83.33%
Bathroom Handrail by Toilet	66.67%
Room Sink	NaN

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Units: All Units

Type: All

Area: Patient Room

High Touch Object	Baseline	Q1 2019	Q2 2019	Change Over Baseline	Trend
Bathroom Dispenser	38%	100%	100%	62%	→
Bathroom Handrail by Toilet	78%	90%	67%	-11%	↓
Bathroom Inner Door Knob	78%	90%	100%	22%	↑
Bathroom Light Switch	75%	100%	100%	25%	→
Bathroom Sink	100%	100%	100%	0%	→
Bed Rail/Controls	88%	85%	100%	12%	↑
Bedside Table Handle	100%	92%	100%	0%	↑
Call Button	57%	100%	83%	26%	↓
Chair	67%	100%	100%	33%	→
Commode	80%	100%	100%	20%	→
Light Cord		100%	100%	NaN	→
Patient Room Dispenser	40%	92%	100%	60%	↑
Room Inner Door Knobs	88%	77%	100%	12%	↑
Room Light Switch	50%	100%	100%	50%	→
Room Sink	100%	100%			
Telephone	100%	92%	100%	0%	↑
Toilet Flush Handle	100%	90%	100%	0%	↑
Toilet Seat	89%	100%	100%	11%	→
Tray Table	62%	100%	100%	38%	→
Total Patient Bathroom	**80%**	**96%**	**96%**	**16%**	↓
Total Patient Room	**70%**	**95%**	**99%**	**29%**	↑
Total	**77%**	**95%**	**97%**	**20%**	↑

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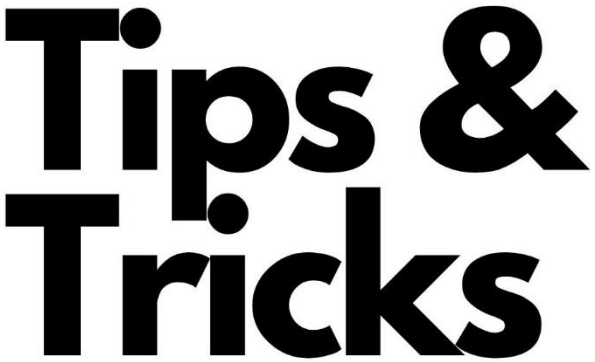
What type of environmental cleaning audits do you do?

Process Surveillance (auditing)



- Getting started is the hardest part.
- Start small. Practice makes perfect.
- Consider additional supports for setting up the program (IPAC Hub)
- Be practical. What are your available resources?
- Is your team ready? Ensure there is support from your leadership and staff.

Antimicrobial Stewardship

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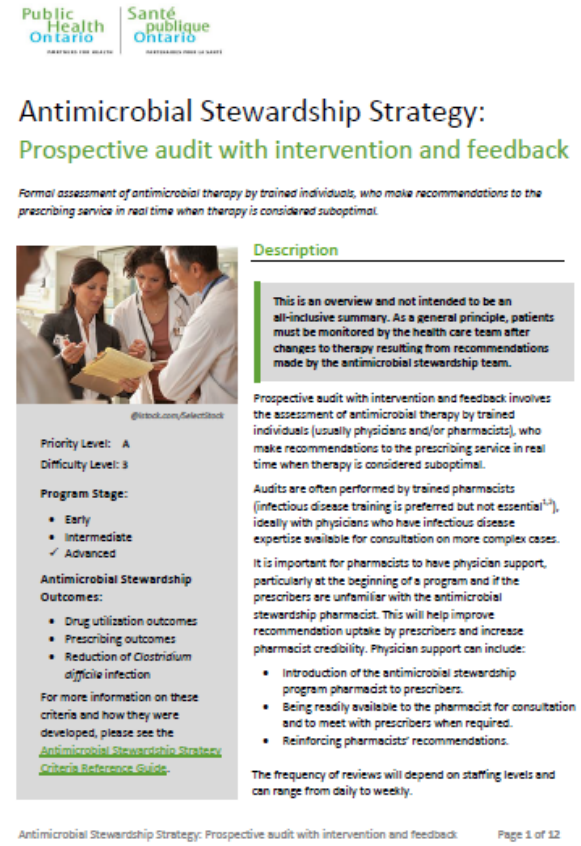

Auditing other processes?

ipac Infection Prevention and Control Canada

pci Prévention et contrôle des infections Canada

Public Health Ontario | Santé publique Ontario

Summary

- ✓ Health care settings must monitor targeted IPAC processes with regular audits of practices.
- ✓ Health care settings must monitor targeted IPAC outcomes using surveillance for health care-associated infections in specific populations.
- ✓ Infection surveillance must include: Standardized collection of data using written definitions of infections, identification of risk population, methods of measurement, description of data sources, and benchmarks used for comparison.
- ✓ Results of process and outcome surveillance must be analyzed and reported back in a timely fashion. Based on the surveillance results, a plan for improvements (including organizational accountability) must be developed.

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What is your next step to making/changing/improving your current surveillance program?

- do environmental audits with glow germ
- seek other ipac persons to help evaluate our program
- including environmental audits
- updating case definitions, i.e. UTI
- more tools
- Need to review
- Glo Germ environmental audits
- getting more resources

We can help!

If you need help setting up your surveillance system, please contact us by email: SEhubintake@kingstonhsc.ca

Visit our website at:

https://kingstonhsc.ca/healthcare-providers/se-ipac-hub-and-spoke

Thank You!

Questions?

SEhubintake@kingstonhsc.ca

References

- **PIDAC Best Practices:**
  - Ontario Agency for Health Protection and Promotion (Public Health Ontario). Infection prevention and control for long-term care homes: summary of key principles and best practices. Toronto, ON: Queen's Printer for Ontario; 2020. Available from: https://www.publichealthontario.ca/-/media/documents/i/2021/ipac-ltch-principles-best-practices.pdf?la=en
  - Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for surveillance of health care-associated infections in patient and resident populations. 3 rd ed. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: https://www.publichealthontario.ca/-/media/documents/B/2014/bp-hai-surveillance.pdf?la=en
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  - Ontario Agency For Health Protection and Promotion. Provincial Infectious Diseases Advisory Committee. Best Practices for Infection Prevention and Control Programs in All Health Care Settings, 3rd edition. Toronto, ON: Queen's Printer for Ontario; May 2012. https://www.publichealthontario.ca/-/media/documents/b/2012/bp-ipac-hc-settings.pdf?sc_lang=en
- **Auditing and Feedback of PPE Use:** *https://www.cdc.gov/infectioncontrol/pdf/strive/PPE104-508.pdf*
- **IPAC Canada Position Statements:**
  - https://ipac-canada.org/photos/custom/Members/pdf/IPAC_LTC_Surveillance_Position_Statement_June2019_FINAL.pdf
  - https://ipac-canada.org/photos/custom/pdf/positionStat_LTCH_28July2021_English.pdf
- **Long Term Care Surveillance Toolkit in Collaboration with Public Health Ontario:** https://ipac-canada.org/surveillance-statistics-resources.php