POLICY & PROCEDURE NUMBER: 2.8

DEPARTMENT: *Infection Control* **SUBJECT:** *Surveillance - Resident*

APPROVAL DATE: April 2004 **REVISION DATE:** Dec. 2020; Nov. 2022
REVIEW DATE: March 2017; November 2018; December 2019

POLICY:

A record of infection surveillance within the facility will be kept and made available to the Medical Director and/or Medical Officer of Health. The surveillance program will provide a system of early detection, reliable recording, analysis and control of infections within the Home. The Manager of Resident Care/IPAC program manager will regularly monitor for trends and report findings to the Medical Team/ Public Health Unit. Any further follow-up and/or any investigation required will be recorded. Separate lists will be kept for staff and residents.

PROCEDURE:

SURVEILLANCE – DEFINITIONS OF INFECTION

The use of standardised definitions of infections is important. It ensures that data being interpreted is consistent and allows for comparison between residents and different areas of the facility as well as inter-facility.

The initial signs of infection in the elderly may be subtle. The following are some of the signs that may be exhibited by the resident.

- Change in appetite
- Change in mobility, transfer, locomotion (gait, speed, increased # of falls)
- Fever
- Change in behaviour or mental status (confusion, forgetfulness, lethargy)
- Change in ability to perform activities of daily living (eating, dressing, personal hygiene, toileting, transferring)
- Leucocytosis

A mechanism is in place to ensure that residents with potential infections are identified and reported to the Infection Control Team.

The following conditions are an essential part of using these definitions in surveillance.

1. Symptoms must be new or acutely worse.
2. The identification of infection should not be based on a single piece of evidence (e.g. laboratory report should be used in conjunction with presence or absence of symptoms in the resident).

It is important to have a baseline set of vital signs for all residents.

Types of surveillance and specific process:
Constitutional Criteria:

A.Fever

1. A single oral temperature at >37.8°C,
2. Repeated oral temperatures >37.2°C or rectal temperature >37.5°C, or
3. A single temperature greater than 1.1°C, over baseline collected from any site

B. Leukocytosis

C. Change in Mental Status Baseline:

1. Sudden onset
2. Inconsistent Course
3. Inattention
4. Disorganized thinking or altered level of consciousness from baseline

D. Acute functional decline A new 3-point increase in total activities of daily living (ADL) score (range, 0–28) from baseline, based on the following 7 ADL items, each scored from 0 (independent) to 4 (total dependence)

1. Bed mobility
2. Transfer
3. Locomotion within LTC facility
4. Dressing
5. Toilet use
6. Personal hygiene
7. Eating

1. Respiratory Tract Infections

Upper Respiratory Tract Infection (URTI)
Cold/Respiratory Symptoms:
The resident must have at least two of the following:

- Runny nose or sneezing

- Stuffy nose (congestion)
- Sore throat or hoarseness or difficulty swallowing
- Dry cough
- Swollen or tender glands in neck
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- Fever may or may not be present; symptoms must be new
- N/P swab positive for respiratory pathogen

Influenza-like illness:
1. Fever (may not be present in the elderly)
2. New and or worsening cough
3. At least 2 of the following influenza-like illness sub criteria
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
Add resident's information to the 'Surveillance Form' and inform the Registered Nurse. The Registered Nurse will inform the Manager of Resident Care/delegate.

PNEUMONIA

The resident must have all of the following:

- 1. Interpretation of a chest radiograph as demonstrating pneumonia or the presence of a new infiltrate
- 2. At least 1 of the following respiratory sub criteria:
- - a. New or increased cough
- -b. New or increased sputum production
- -c. O2 saturation 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

Add resident's information to the 'Surveillance Form' and inform the Registered Nurse. The Registered Nurse will inform the Manager of Resident Care/delegate.

Other Lower Respiratory Tract Infection (bronchitis, tracheobronchitis)

The resident must have at least three of the following:

- New or increased cough
- New or increased sputum production
- Fever
- Pleuritic chest pain
- New physical finding on examination (rales, rhonchi, wheezes, bronchial breathing)
- One of the following to indicate change in status or breathing difficulty:
  a. New/increased shortness of breath
- B. Respiratory rate greater than 25 per minute. At least one of the constitional criteria listed above.

This diagnosis can only be made if chest X-ray is negative for pneumonia or no chest X-ray was taken.

Add resident's information to the 'Surveillance Form' and inform the Registered Nurse. The Registered Nurse will inform the IPAC Manager/Manager of Resident Care or delegate.

COVID-19 Resident Assessment and Surveillance
Registered staff, PSWs, or delegate:

• Conduct symptom assessment of all residents at least **once daily**, including temperature checks, to identify if any resident has symptoms of COVID-19, including any atypical symptoms as listed in the Management of Cases and Contacts of COVID-19 in Ontario.

• All residents returning from an absence must be actively screened upon their return.

When assessing for the symptoms below, the focus should be on evaluating if they are new, worsening, or different from an individual's baseline health status (usual state). Symptoms should not be chronic or related to other known causes or conditions (see examples below).

One or more of the following most common symptoms of COVID-19 necessitate immediate COVID-19 testing and treatment if eligible:

• Fever and/or chills

• Cough

• Shortness of breath

• Decrease or loss of smell or taste

Two or more of the following symptoms of COVID-19 necessitate immediate COVID-19 testing and treatment if eligible:

• Extreme fatigue (general feeling of being unwell, lack of energy, extreme tiredness)

• Muscle aches or joint pain

• Gastrointestinal symptoms (i.e., nausea, vomiting and/or diarrhea)

• Sore throat (painful swallowing or difficulty swallowing)

• Runny nose or nasal congestion

• Headache o Not related to other known causes or conditions (e.g., tension-type headaches, chronic migraines, receiving a COVID-19 or flu vaccine in the last 48 hours)

Other symptoms that may be associated with COVID-19 include:

• Abdominal pain

• Conjunctivitis (pink eye)

• Decreased or lack of appetite

Residents with respiratory symptoms or signs of COVID-19 or potential exposure to a suspect or confirmed case are immediately placed on Droplet/Contact Precautions in a single room, where feasible. Staff to wear N95 until COVID 19 is ruled out.

The local Public Health Unit is notified of any suspect or confirmed cases. Contact management decisions are made by the local PHU. Accordingly, all individuals who are identified as a close contact of a known case or an outbreak are required to follow the direction of the local PHU.

2. **Symptomatic Urinary Tract Infection**

A. For residents without an indwelling catheter (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 sub criteria

a. Acute pain, swelling, or tenderness of the testes, epididymis, or prostate in males

b. Fever or leukocytosis and at least 1 of the following localizing urinary tract sub criteria:
i. Acute dysuria
ii. Acute costovertebral angle pain or tenderness
III. Suprapubic pain
iv. Gross hematuria
v. New or marked increase in incontinence
vi. New or marked increase in urgency
vii. New or marked increase in frequency

c. In the absence of fever or leukocytosis, then 2 or more of the following localizing urinary tract sub criteria
i. Acute dysuria
ii. Suprapubic pain
iii. Gross hematuria
iv. New or marked increase in incontinence
v. New or marked increase in urgency
vi. New or marked increase in frequency

2. ≥ 108 cfu/L of no more than 2 species of microorganisms from a midstream urine OR ≥ 105 cfu/L of any number of organisms in a specimen collected by in-and-out catheter
3. A blood culture isolate is the same as the organism isolated from the urine and there is no alternate site of infection

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 sub criteria
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

2. Urinary catheter specimen culture with ≥ 108 cfu/L of any organism(s)
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

Considerations: Urinary catheter specimens for culture should be collected following replacement of the catheter if the current catheter has been in place for >14 days.

The presence of a positive urine culture in the absence of new signs and symptoms of urinary tract infection (asymptomatic bacteriuria) is not an indicator of infection.

Add resident's information to the 'Surveillance Form' and inform the Registered Nurse. The Registered Nurse will inform the Manager of Resident Care/delegate.

3. **Eye Infection (Conjunctivitis)**

The resident must have one of the following:

- Pus appearing from one or both eyes, present for at least 24 hours
- New or increased conjunctival redness, with or without itching or pain, present for at least 24 hours.
- New or increased conjunctival pain, present for at least 24 hours.

Considerations: Conjunctivitis symptoms should not be due to allergic reaction or trauma.

Add resident's information to the 'Surveillance Form' and inform the Registered Nurse. The Registered Nurse will inform the IPAC Program manager/Manager of Resident Care or delegate.

4. **Skin Infection**

Cellulitis/Soft Tissue/Wound Infection

The resident must have one of the following:

- Pus present at a wound, skin, or soft tissue site
- OR New and at least four or more of the following:
  - Fever
  - Worsening mental/functional status
  - Heat
  - Redness
  - Swelling

- Tenderness or pain
- Serous drainage
- One constitutional criteria (listed above)

Add resident's information to the 'Surveillance Form' and inform the Registered Nurse. The Registered Nurse will inform the IPAC Manager/Manager of Resident Care/delegate.

5. **Bloodstream Infection (bacteraemia)**

The resident must have one of the following:

For infections with a pathogen, both of the following criteria must be met:
1 of the following
a. Pathogen identified from 1 or more blood specimens obtained by culture
b. Pathogen identified to the genus level by non-culture based microbiologic testing methods (e.g., T2MR or Karius Test)
- Organism identified in the blood is not related to an infection at another body site

For infections with a common commensal organism, all of the following criteria must be met:
1 of the following:

- Fever* on two or more occasions at least 12 hours apart in any 3- day period, with no known infectious or non-infectious cause; OR
- New hypothermia (< 34.5°C, or does not register on the thermometer being used); OR
- A drop in systolic blood pressure of □30 mm Hg from baseline or worsening mental or functional status

AND:
- A common commensal organisms is identified by culture from two or more blood specimens collected on separate occasions
- Organism identified in the blood is not related to an infection at another body site

Add resident's information to the 'Surveillance Form' and inform the Registered Nurse. The Registered Nurse will inform the IPAC Manager/Manager of Resident Care/delegate.

6. **Gastrointestinal Tract Infection**

A. Gastroenteritis (at least 1 of the following criteria must be present)
1. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24 hour period
2. Vomiting: 2 or more episodes in a 24 hour period
3. Both of the following sign or symptom sub criteria:
a. A stool specimen testing positive for a pathogen (e.g. Salmonella, Shigella, Escherichia coli O157:H7, Campylobacter species, rotavirus)
b. At least 1 of the following GI sub criteria:
i. Nausea
ii. Vomiting
iii. Abdominal pain or tenderness
iv. Diarrhea
v. Mucous in stool

B. Norovirus gastroenteritis (both criteria 1 and 2 must be present)
1. At least 1 of the following GI sub criteria:
a. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24-hour period
b. Vomiting: 2 or more episodes in a 24-hour period
2. A stool specimen for which norovirus is positively detected by electron microscopy, enzyme immunoassay, or molecular diagnostic testing such as polymerase chain reaction (PCR)

C. Clostridium difficile infection (both criteria 1 and 2 must be present)
1. One of the following GI sub criteria:
a. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24 hour period
b. Presence of toxic megacolon (abnormal dilatation of the large bowel, documented radiologically)
2. One of the following diagnostic sub criteria:
a. A stool sample yields a positive laboratory test result for C. difficile toxin A or B, or a toxin-producing C. difficile organism is identified from a stool sample culture or by a molecular diagnostic test such as PCR
b. Pseudomembranous colitis identified during endoscopic examination or surgery or in histopathologic examination of a biopsy specimen

Add resident's information to the 'Enteric Outbreak Line Listing Form' and inform the Registered Nurse. The Registered Nurse will inform the IPAC Manager/Manager of Resident Care/delegate.

7. **Genito-urinary**
   - Complaints of pain, itching
   - Purulent drainage

8. **Oral Infection:**
   - Swelling of face
   - Redness of gums
   - Loss of appetite
   - Complaints of pain
   - Refusal to wear dentures

. Fungal Oral Infection:

- Presence of raised white patches on inflamed mucosa or plaques on oral mucosa
- Diagnosis by a medical or dental provider
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9. Fungal Infection:
- - rash or lesion
- - diagnosed by Physician or confirmed laboratory fungal pathogen.

10. **Herpes Simplex**
   - Cold sore
   - Vesicular/Blister type rash
   - Itchy

11. **Herpes Zoster**
   - Shingles
   - Vesicular rash
   - Pain
   - Physician diagnosed or laboratory confirmed

11. **Other Information**

The laboratory services will provide a monthly report summarising the following:

- Causative Organisms
- Source of culture
- Resident/Culture Results/Source of Infection and Location in Home in table format

This information will be provided to the Infection Control Team for analysis and trending; and, taken to PAC meetings for review.

Resources:

- COVID-19 Reference Document for Symptoms[1]
- COVID-19 Guidance: Long-Term Care Homes[3]
- Prevention and Management of COVID-19 in Long-Term Care and Retirement Homes; August 2021
- McGeer Criteria for Long-Term Care Surveillance Definitions, Updated 2012
- https://ipac-canada.org/photos/custom/Members/pdf/LTCSurveillanceToolkit_AppendixA_CaseDefinitions.pdf; 2017
- Long Term Care Surveillance Tool Kit IPAC Canada September 2020 COVID-19 Guidance: Long-Term Care Homes, Retirement Homes, and Other Congregate Living Settings for Public Health Units, October 6 2022
- COVID-19 Provincial Testing Guidance, October 6 2022