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## **2. Surveillance**

Surveillance is the continuous and systematic process of collecting, analyzing, interpreting and disseminating descriptive information to monitor public health and ensure timely interventions to reduce morbidity and mortality.

### **2.1 Objectives of Pandemic Surveillance**

1. To detect and identify the pandemic strain early in Peterborough City and County.
2. To track the occurrence, severity, and progression of the pandemic, based on the WHO pandemic phases in order to implement appropriate public health measures.
3. To monitor influenza-like illness (ILI) using various surveillance activities to:
  - detect unusual events
  - compare new strains with vaccine composition and recommendations
  - estimate the impact of ILI (attack rate, outpatient visits, hospitalizations and case fatality rate)
  - describe the affected populations in order to identify high risk groups, modes of transmission, risk factors and protective factors
4. To share surveillance information, in a timely fashion, with all key stakeholders (i.e., hospital, emergency control groups, emergency medical services, physicians, nurse practitioners, pharmacies, long term care facilities) to help identify disease, guide prevention, institute control measures and evaluate treatment, prophylaxis and education.

### **2.2. Surveillance Activities**

#### **2.2. a Influenza Surveillance Activities in Ontario**

Ontario's influenza pandemic surveillance strategy will build on the seasonal influenza strategy outlined in [Seasonal Influenza 2012/2013: Ontario's Blueprint for Action](#).

#### **2.2.b Influenza Surveillance Activities in Peterborough**

Effective influenza surveillance relies on close collaboration and clear communication between PPH and key community stakeholders. The Medical Officer of Health has the overall responsibility for surveillance activities in Peterborough County and City.

Surveillance activities used by PPH to monitor respiratory diseases in the area are as follows:

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- **Reporting of laboratory confirmed cases of influenza:** Under the Health Protection and Promotion Act, R.S.O., 1990, physicians, other health care providers, laboratories, hospitals, school principals and directors of institutions are required to report when someone has or may have a reportable disease which includes influenza. Specimens are tested for influenza at the Provincial Laboratory in Peterborough. Private medical laboratories in Peterborough City and County are also required to report influenza. Reports of positive test results are forwarded to Peterborough Public Health. PPH investigates the cases and the information is entered into the MOHLTC Integrated Public Health Information System (iPHIS). iPHIS will support timely reporting of communicable disease data from PPH to the MOHLTC and from the MOHLTC to the Public Health Agency of Canada (PHAC). Influenza is under-reported since many people do not seek medical attention and few health care providers take swabs for influenza. Therefore, laboratory confirmed cases represent only a small fraction of influenza cases in the community.
- **Influenza outbreaks in institutions:** Long term care facilities and the hospital are required to report confirmed or suspected outbreaks of respiratory illness to Peterborough Public Health. They are to report when they see an increase in respiratory symptoms compared to the normal institutional profile. Swabs are taken from ill residents in order to identify if an influenza outbreak is occurring in the facility. Peterborough Public Health investigates outbreaks and advises the facilities to institute control measures to limit the spread of the outbreak. These recommended control measures include cohorting of staff, increasing cleaning and sanitizing of common surfaces, ensuring all staff and residents have been immunized, encouraging hand hygiene, restriction of visitors, etc. Influenza in institutions is the most reliable indicator of influenza activity in the community.
- **School and day nursery absenteeism:** Children are usually the first to be affected by the arrival of influenza and they are responsible for much of the early transmission in the community. School absenteeism is a good indicator of influenza activity. Schools in Peterborough City and County are asked to monitor and report increases in absences that may be related to influenza-like illness. The local boards of education forward absentee data to PPH electronically. This information is reviewed by the PPH epidemiologist and trends are reported to the Medical Officer of Health and Infectious Diseases program Manager. Day nurseries report increases in absenteeism related to illness to Peterborough Public Health.
- **Syndromic surveillance:** In Peterborough, data is collected from individuals visiting the local emergency department of the Peterborough Regional Health Centre (PRHC) who are experiencing specific symptoms. The information is entered into the Emergency Department Surveillance System (EDSS) database. This system is used by multiple Health Units in Ontario. By establishing baseline statistics, increases and/or decreases can be identified and/or investigated. Reports and graphs are prepared.

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- **Enhanced surveillance by medical clinics:** Peterborough Public Health is partnering with a large medical clinic in the community in order to monitor increases in clients with selected symptoms to detect clusters or outbreaks. This is an active reporting system. PPH contacts physicians in this clinic by telephone weekly in order to monitor influenza-like illness.
- **Febrile respiratory illness surveillance:** As an early detection system for the Sudden Acute Respiratory Syndrome (SARS) and other respiratory illnesses, health care settings are required to screen all clients who present for care. The guidelines are included in the MOHLTC document, [‘Best Practices for Preventing Febrile Respiratory Illnesses \(FRI\): Protecting Patients and Staff’](#). Screening questions ask about fever and a new onset of cough or shortness of breath. A client with both fever and a new onset of respiratory symptoms or worsening of existing symptoms is required to be placed under certain precautions to prevent the spread of infection. Health care settings report clusters of respiratory illness to PPH. Positive cases of FRI that have traveled to a country with a health alert are reported to the MOHLTC and investigated by Peterborough Public Health.
- **Day nursery and school outbreaks:** Day nurseries and schools report suspected respiratory outbreaks to Peterborough Public Health. Peterborough Public Health investigates these outbreaks and recommends control measures to limit the spread of the outbreak.
- **Influenza vaccine coverage and adverse event reporting:** The influenza vaccination coverage rate for the City and County of Peterborough is estimated using Peterborough Public Health clinic statistics, pharmacy immunization data, the Peterborough Regional Health Centre clinic statistics, and the amount of vaccine distributed to area health care facilities/offices. Data on adverse events in Peterborough is forwarded to the MOHLTC.

### 2.3 Surveillance Communications

Effective influenza surveillance is based on close collaboration and communication among local, provincial, federal and international health authorities. Information must flow into the surveillance system, and from the surveillance system to health care workers and decision makers. PPH will ensure that information and analysis of surveillance activities will be reported to key local health stakeholders. Surveillance information will inform key health stakeholders of the need to continue or curtail surveillance activities and/or to implement control measures. Refer to the Communications Section of the PPH Pandemic Influenza plan for more details on mechanisms to disseminate pertinent surveillance data.