

Perth County Influenza Pandemic Plan

Chapter 7: Surveillance

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7.0 INTRODUCTION

Public health surveillance is the continuous and systematic process of collecting, analyzing, interpreting and disseminating descriptive information to help public health decision-makers prevent and reduce illness and death in a timely and appropriate manner. With respect to pandemic influenza, surveillance activities are designed to:

- Detect the arrival of the pandemic influenza virus in Perth County
- Monitor the progression of the pandemic, i.e. the phase of pandemic
- Determine high-risk groups, e.g. Elderly, infants
- Determine the pandemic's burden on illness and death
- Determine vaccine efficacy
- Determine adverse effects of vaccine and antivirals

This information will help determine the timing and amount of resources required to provide health care and public health services, including when and to whom antiviral drugs should be administered.

7.1 INTER-PANDEMIC PHASE

During the inter-pandemic phase, surveillance is mainly concerned with detecting animals with influenza subtypes which may pose a risk for human infection and humans infected with new subtypes of influenza virus. The first instance of human to human transmission of a new subtype of influenza indicates the start of the pandemic alert phase. The more quickly that this is detected, the better chance public health agencies have to put in place control measures to prevent or delay further transmission of the virus. Evidence of such infections is therefore continually monitored worldwide by various public health agencies such as the World Health Organization (WHO), World Organization for Animal Health (OIE), and Centers for Disease Control and Prevention (CDC).

The first instance of human to human transmission is not likely to occur in or near Canada. The Perth District Health Unit, therefore, monitors a variety of information sources daily to keep current on the influenza situation internationally as well as nationally and provincially through reports from sources such as the Public Health Agency of Canada (PHAC) and the Ontario Ministry of Health and Long-Term Care.

Although the likelihood of the pandemic flu virus making its first worldwide appearance in Perth County is remote, the Health Unit must still be prepared during the inter-pandemic phase to detect any new or unusual influenza subtypes, unusual symptoms, modes of transmission or high-risk groups in the community. This would be detected through the Health Unit's regular annual influenza surveillance activities, which would include:

- Lab confirmed cases of influenza
- Long-Term care facility outbreak reporting
- Febrile Respiratory Illness reporting (Hospital and other institutional reporting of ER and inpatient admissions and deaths due to FRIs)
- Influenza-like illness in family medical clinics
- School absenteeism

The Health Unit is also making efforts to establish with the local poultry industry to rapidly receive reports of Avian Flu in Perth County

7.1.1 REGULAR INFLUENZA SURVEILLANCE ACTIVITIES

7.1.1.1 Laboratory confirmed cases of influenza

All cases of influenza which are laboratory confirmed are reportable to the Health Unit. This includes individual “sporadic” cases diagnosed in hospital or a physician’s office, as well as cases which are being investigated as part of a cluster. Testing generally occurs at the Stratford General Hospital and the London Regional Public Health Laboratory. Since few cases of influenza in the community are actually laboratory tested, this is not a very reliable indicator of the extent of transmission of the virus in the community. It is however, the means by which the Health Unit will be made aware of any new or unusual subtypes of influenza which may indicate the arrival of pandemic flu in Perth County. During the inter-pandemic and alert phases, reports on all lab confirmed cases will be entered into and reviewed in summary using the Integrated Public Health Information System (IPHIS).

7.1.1.2 Long Term Care facility outbreaks

Influenza outbreaks in long-term care facilities are considered the most reliable indicator of influenza in the community. Long-term care facilities and retirement homes with more than 10 residents are required to report any outbreaks of respiratory infection to the Health Unit. The Health Unit confirms an influenza outbreak in these settings by arranging for and receiving results of laboratory testing of samples from nasopharyngeal swabs.

7.1.1.3 Febrile Respiratory Illness reporting

Institutional and community health care settings report to the Health Unit cases with febrile respiratory illness (FRI) which is due to a reportable disease, such as influenza, or is suspected to be a part of a cluster. In hospitals, these cases are usually reported by the Infection Control Practitioner and include cases from emergency room visits, hospital inpatient admissions and any unusual FRI activity during a hospital stay.

The Health Unit performs follow-up investigations with cases and would determine if they could be classified as pandemic flu cases. Health Unit investigators determine FRI cases' recent travel and exposure history including possible laboratory exposure, contact with another health facility and contact with an ill person who has recently traveled to an affected country. The Health Unit also ensures appropriate laboratory testing to confirm diagnoses and performs contact tracing if necessary.

7.1.1.4 School Absenteeism

The Health Unit has a well established absenteeism surveillance system for influenza. There are generally two ways in which the Health Unit becomes aware of the presence of influenza through the school system. One way is through passive surveillance of illness, including influenza, throughout the Perth County elementary and secondary school population. This passive surveillance component requires that schools notify the Health Unit any day that more than 10% of their students are absent for reasons other than a field trip or bad weather. The Health Unit follows up with the school and parents of the absent students, when possible, to get a better sense of what symptoms are responsible for these absences, and whether or not a communicable disease outbreak is occurring or imminent. Although student absenteeism is not particularly specific to influenza, it is an indicator which is highly sensitive to the presence of flu in the community. This means that if flu is in fact present in the community, this indicator is highly likely to detect it.

The Health Unit also conducts an active form of flu surveillance through Perth County school contacts. Participating schools include five elementary schools from Stratford, Listowel, Mornington, St Marys and Mitchell and two secondary schools from Listowel and St Marys. During the regular flu season, the Health Unit contacts each of these schools every week to determine the percentage of students who are absent during that day. During the school year outside of the flu season, this surveillance is done every other week. A student absenteeism rate of more than 10% will alert Health Unit authorities to investigate further.

7.1.1.5 Influenza-like illness in family medical clinics

The Health Unit will contact family medical clinics in St Marys and Mitchell periodically for family physician's assessments of influenza and influenza-like illness being seen in their practices. In addition, Perth County physicians routinely alert the Health Unit when there is an increase in influenza-like illness among their community patients. Once Family Health Teams are well established in Perth County, the Health Unit will also explore opportunities to develop strategies and methods with Family Health Team representatives for the routine collection of data on influenza-like illness in their group practices.

7.2 PANDEMIC ALERT PHASE

Once a pandemic alert is issued, public health agencies will want to learn as much as they can about the new subtype of influenza virus, its transmission, as well as patterns regarding how and who it is affecting. Local surveillance efforts will be focused on quickly detecting the arrival of the pandemic virus into Perth County. Regular influenza surveillance activities will be heightened during the pandemic alert phase and a workplace absenteeism surveillance initiative which is currently under development may also be implemented.

7.3 PANDEMIC PHASE

During the pandemic phase, surveillance efforts will focus more on determining the impact on the health of Perth County residents and the resources required to prevent and control further infection. Many of the surveillance activities intend to be maintained, as much as possible, during this phase. School and workplace surveillance as well as hospital reporting of FRIs, however, will likely be reduced or even discontinued, depending on the extent of spread and severity of the pandemic, and replaced with the following surveillance initiatives which are currently under development:

- Daily reports of hospital emergency room visits, inpatient admissions and deaths preferably due to pandemic flu
- Daily reporting of cases from special assessment clinics set up by hospitals throughout Perth County
- Reports on the number of calls to Telehealth Ontario and Healthline, the Health Unit's information line, from Perth County residents with a respiratory illness

7.4 VACCINE AND ANTIVIRAL UPTAKE AND ADVERSE EFFECTS

The Health Unit will be responsible for monitoring the distribution and uptake of vaccines and antivirals throughout Perth County. This will determine to what extent the populations who are in greatest need for vaccine and antivirals are actually receiving this health service and redirecting distribution and uptake strategies when indicated.

The Health Unit is also responsible for monitoring reports of adverse effects of antivirals and vaccines during a pandemic. Currently, physicians are required to report to the Health Unit adverse reactions which may be due to immunization. During a flu pandemic, the Health Unit will focus on the collection of such information specifically for influenza vaccine and antiviral drugs being administered.

The Health Unit may also be involved in collecting data for special studies to help determine vaccine and antiviral efficacy, that is, how effective these agents were in preventing or reducing symptoms of the pandemic flu virus.

7.5 SURVEILLANCE TOOLS

In an effort to implement standard data collection processes and tools across the province, the Health Unit will be participating on the Local Public Health Units Pandemic Surveillance Indicators Working Group. This is a newly established group comprising epidemiologists and other surveillance specialists from Health Units across the province. This group will develop surveillance indicators and tools and will be kept apprised of any further relevant work of the Surveillance Working Group of the Ministry of Health and Long-Term Care's Ontario Health Plan for Influenza Pandemic Planning (OHPIPP) Committee.

As local contexts vary, however, some processes and tools, including databases, will be developed or tailored specifically to the local situation. Existing data collection processes in the Health Unit are under review and being streamlined where possible. Further development and implementation of the Health Unit's pandemic flu surveillance plan will require the Health Unit to collaborate with a number of key players such as laboratories, health care facilities, long-term care facilities, family physicians, pharmacists, boards of education, and workplaces. This will ensure that the collection of important surveillance information is not only valid but done in a manner which is as practical and unobtrusive as possible.