Ministry of Health and Long-Term Care

Health System Action Plan:
Respiratory Illness Surge

Health System Emergency Management Branch

December 20, 2017

In many parts of the health system, a marked increase in the demand for care and treatment occurs during a surge in respiratory virus activity in the community. This is particularly true in primary health care, acute care and long-term care. The Health System Action Plan: Respiratory Illness Surge (the Plan) sets out the actions the Ministry of Health and Long-Term Care (ministry) is taking to support the health system's response to the 2017/2018 respiratory virus season. Additionally, the Plan identifies planning expectations, best practices and resources for health sector partners.

Background

Infectious respiratory viruses place pressure on the primary health care system when individuals who have a new onset of respiratory symptoms present to Family Health Teams, clinics and other primary health care providers. This may also add pressure on urgent care centres and hospital emergency departments with an increase in outpatient visits. Those who present with severe respiratory infection or complications, such as pneumonia, may increase surge levels at hospitals, taking them from minor to moderate surge as admitted patients wait for beds.

Respiratory infections may also affect long-term care homes as beds are needed for alternate level of care (ALC) patients discharged from hospital. When respiratory virus outbreaks occur in long-term care homes, additional pressure on physical and human resources can result.

Influenza is one of the key causes of respiratory infections during the winter months. The most effective way to prevent the spread of influenza is to get the influenza vaccine. The vaccine is offered annually through Ontario's Universal Influenza Immunization Program

Ontario

Influenza A and B are the most common influenza viruses that cause illness and Ontario has observed both during seasonal influenza outbreaks. If both influenza A and B viruses circulate during a single season, activity generally occurs in two distinct waves.

Seasonal influenza A subtypes include H3N2 and H1N1; the influenza B lineages are Victoria and Yamagata. Because circulating influenza viruses change frequently, the strains in the vaccines need to be reassessed twice a year (once for the Northern Hemisphere vaccine and once for the Southern Hemisphere vaccine).The World Health Organization (WHO) meets each year in February to recommend which influenza A and B strains should be included in the following season's influenza vaccine for the northern hemisphere. This recommendation is based on surveillance of circulating influenza strains globally.

Once the WHO has recommended viruses for inclusion in the following season's influenza vaccine, manufacturers will incorporate these strains into their vaccines. Canada's National Advisory Committee on Immunization (NACI) makes recommendations on the use of influenza vaccines, and identifies those at high risk for influenza complications. The Public Health Agency of Canada (PHAC) coordinates the logistics of vaccine supply for provinces and territories.

For the 2017-18 season, the Universal Influenza Immunization Program offers both trivalent vaccines (contains a H3N2 and H1N1 strain, and a strain from one B lineage) and quadrivalent vaccines (contains a H3N2 and H1N1 strain, and strains from both B lineages). The ministry also identifies target populations for each vaccine.

The effectiveness of the influenza vaccine varies from year to year, but on average it is about 50% effective in preventing influenza. Influenza vaccination is recommended annually because the strains in the vaccine can change from year to year and vaccine protection may not last from one year to the next.

Complications from influenza include pneumonia and worsening of underlying medical conditions, which can result in hospitalizations and deaths. Different groups of individuals are at varying risks of complications from influenza. For example, young children, individuals 65 years of age and over, individuals with co-morbidities (including those with heart disease, lung disease and compromised immune systems), and pregnant women are at greater risk of complications from the influenza virus. When influenza H3N2 strains circulate, they tend to cause more outbreaks, hospitalizations and deaths, particularly among elderly individuals.

For those with influenza illness, treatment with influenza antiviral medications (e.g. oseltamivir or zanamivir) shortens the duration of the symptoms and reduces the risk of complications. These drugs are used to prevent and treat influenza outbreaks in institutional settings (e.g. hospitals, long term care homes, retirement homes). When influenza is circulating in the community, it is recommended that influenza antiviral medications are prescribed to those with influenza-like illness if they have severe illness or are at increased risk for complications. Laboratory confirmation of influenza is not needed to begin treatment with influenza antiviral medications.

Planning Expectations

The following are recommendations for the health care sector in preparation for the annual increase in respiratory virus activity, which may increase the demand for health care services:

1. Advise staff, patients and visitors of measures to prevent acquisition and transmission of infections (e.g. hand hygiene, staying home when ill, staying away from others when ill (social distancing) and immunization with the influenza vaccine)
    - Promote influenza vaccination for all staff members in health care and related organizations, and offer the vaccine to the public:
        - Vaccination is the best defence against influenza. All staff members, whether they provide direct patient care or not, should get immunized against influenza every year once the vaccine becomes available. All staff members should recognize the importance of getting immunized against influenza to protect themselves, their families, co-workers, patients and clients.
        - The ministry urges public health units (PHUs) to work with community members and organizations to set up influenza immunization clinics, as needed and requested.
        - Ontario pharmacies may participate in the Universal Influenza Immunization Program through administering the vaccine and promoting vaccination.
2. Prepare for an increased demand for health care services and outbreaks:
    - Local Health Integration Networks (LHINs), PHUs, primary health care providers, long term care providers, and other health partners should collaborate with hospitals to conduct minor and moderate surge planning and/or be aware of surge plans in their area.
    - LHINs should also participate on inter-LHIN surge planning efforts as appropriate.
    - Hospital staff should be familiar with their organization's minor and moderate surge plans.
    - Health care employers should ensure sufficient personal protective equipment (PPE) and training are available for respiratory virus season.
    - Pharmacies should be prepared to supply influenza antivirals and to be integral sources of advice to members of the public on self-care related to infection with respiratory viruses.
    - Primary health care providers should ensure adequate coverage for their patients over weekends and the holiday season.
3. Monitor respiratory virus activity in your community by reviewing local surveillance reports or the surveillance and monitoring tools discussed below.
4. Plan for staffing shortages due to respiratory infections.

Surveillance and Monitoring

Surveillance and monitoring of surge occur at the local level through primary health care, hospitals, PHUs and LHINs. Public Health Ontario (PHO) monitors respiratory virus activity in Ontario and produces the Ontario Respiratory Pathogen Bulletin to summarize this information. This report is produced weekly from November to May and the interactive version on PHO's website is updated weekly all year round. The Health System Emergency Management Branch of the ministry monitors and analyzes respiratory virus and surge data and assists with coordinating resources and communications as needed.

Risk Assessment

From November to April, the ministry reviews a set of indicators on a weekly basis to assess how the province is progressing through the influenza season. These indicators include data from syndromic, laboratory and critical care information and surveillance systems.

The ministry maintains a classification system to describe influenza activity and to support decision-making by health organizations. Over the course of the 2017/2018 influenza season, the ministry and its partners will validate the classification system for future improvements.

This system describes provincial influenza activity according to a green, yellow, orange and red colour scheme:

- Green - Influenza-related activity is at low seasonal levels.
- Yellow - Influenza-related activity is at elevated seasonal levels.
- Orange - Influenza-related activity is at elevated seasonal levels and may be reaching peak levels this week.
- Red - Influenza-related activity is at greatly elevated levels.

Vaccine

Ontario's Universal Influenza Immunization Program provides free influenza immunization for individuals six months of age or older who live, work or attend school in Ontario. Vaccines must be administered by regulated healthcare professionals. For 2017/2018, Ontario is publicly funding the trivalent Influvac™ and Fluviral™ vaccines for adults 18 years of age and over, the quadrivalent FluLaval Tetra™ and Fluzone™ Quadrivalent vaccines for children 6 months to less than 18 years of age and the quadrivalant FluMist™ vaccine for children 2 years to less than 18 years of age. The ministry began distributing vaccines to delivery agents in October.

The ministry collects data and collaborates with PHO to analyze data related to vaccine uptake in hospital and long-term care home healthcare workers, which guides distribution and promotion efforts. Long-term care homes and hospitals report their staff immunization rates to local PHUs by December 15. This local information is then analyzed by the PHUs and reported to the ministry by January 15; the provincial data are then analyzed by PHO and reported in the Ontario Respiratory Pathogen Bulletin.

Agents (individuals and organizations) who deliver and/or administer vaccines also submit regular reports to the ministry on administration rates. Physicians report on influenza vaccine administration through Ontario Health Insurance Program (OHIP) billing.

Physicians, nurses and pharmacists must report any adverse events following influenza immunization to their local medical officer of health. Public health units then report to PHO, who shares this information with the PHAC. PHAC chairs a national Vaccine Vigilance Working Group that meets frequently to monitor adverse effects reported throughout Canada.

Impact to the System

Although respiratory virus infection is a driver of health system surge, it is not the only contributing factor. From November to April, which is the period when many respiratory viruses circulate at higher levels, the ministry enhances its daily risk assessment process by reviewing a set of indicators to assess the impact of expected system pressures on the acute care sector. These indicators include data from syndromic and acute care reporting systems as well as health system utilization data which are submitted to the ministry on a daily basis.

Some specific indicators that the ministry will monitor and report to partners include:

- ALC patients
- critical care occupancy levels
- hospital utilization rates and patient throughput
- bed availability

The ministry will post a summary of these data and its analysis on the Emergency Management Communications Tool (EMCT) to ensure all health system partners share a common situational awareness to better coordinate a local response to system pressures.

Laboratory Testing

Effective September 20, 2017 the Public Health Ontario Laboratory (PHOL) updated its respiratory virus testing algorithm. Testing is currently offered for outbreak support and for hospitalized or institutionalized patients only; testing is not offered for ambulatory patients. The PHOL will send a proportion of influenza-positive samples to the National Microbiology Laboratory for strain typing and antiviral susceptibility. Limited susceptibility testing is available at PHOL. A number of hospital labs located throughout the province have the capability to test for respiratory viruses and will continue to do so per their protocols. This will assist in surveillance of ambulatory and emergency department patients presenting with respiratory infection.

Response

The ministry has developed this Plan to communicate preparedness and response activities for the 2017-2018 respiratory virus season. Depending on the severity of the respiratory virus season and its associated surge, the ministry may initiate an enhanced response, including increasing surveillance, developing recommendations and provincial response strategies, and/or activating the Ministry Emergency Operations Centre (MEOC) to coordinate provincial support for the health system.

Develop Recommendations and Provincial Response Strategies

If surveillance and monitoring show a significant rise in respiratory infections or pressures on the health system, the ministry may develop additional recommendations for local response strategies or further enhance provincial response strategies. Local response strategies may include local health partner coordination mechanisms to manage surge and alternate level of care needs. Provincial response strategies may include establishing provincial coordination calls with health partners and other support strategies (e.g. monitoring critical care capacity, ensuring adequate supplies and equipment, and business continuity supports).

Ministry Emergency Operations Centre

The MEOC is the central hub from which the ministry coordinates provincial responses to health emergencies (e.g. infectious disease outbreaks) or surges in the health system (e.g. acute care surge). An information cycle is established that includes situation reports and teleconferences with health sector partners as needed (i.e. LHINs, PHUs, clinical care, health care shared services organizations, or health professional associations, unions, and regulatory colleges).

Federal/provincial/territorial teleconferences may commence if the respiratory virus surge season is affecting health partners across numerous jurisdictions.

In a major surge situation, providers may request Ontario's Emergency Medical Assistance Team (EMAT). As EMAT is staffed by volunteers from health partners, a consideration in deployment is whether the team can assist in managing an acute incident without significantly impacting capacity elsewhere in the health system. Local health partners (e.g. LHIN, hospitals, long-term care homes) should identify the supports needed (e.g. critical care, isolation) and contact the ministry's Health Care Provider Hotline. The ministry will discuss the suitability of an EMAT deployment to provide the identified support needs.

The EMCT will be a key information sharing platform for health partners. The ministry will use EMCT to share situational awareness information, best practice materials, and guidance and strategy documents. Additional mechanisms such as the seasonal influenza website for health professionals and teleconferences will also be used. When health partners post on EMCT, they should ensure that tickets are routed to the MEOC Operations Analyst and local partner(s), including LHINs and PHUs, for information and action. EMCT tickets should flag specific concerns – especially those that are not

tracked through existing surveillance systems (e.g. number of units that are in an outbreak) – and assistance requested.

The ministry's 24/7 Health Care Provider Hotline (1-866-212-2272) is a single window phone number to the Health System Emergency Management Branch and the MEOC. Health Care Providers should call the hotline if they need information on respiratory virus surge planning/response or have an acute situation that requires ministry assistance and support.

Emerging Infectious Respiratory Diseases

The ministry continues to work with partners to monitor the threat posed by other emerging infectious respiratory diseases, such as the Asian lineage avian influenza A(H7N9) virus and the Middle East Respiratory Syndrome Coronavirus (MERS-CoV). Health sector partners can check the ministry's avian influenza A(H7N9) webpage and MERS-CoV webpage for updates on these diseases, including case definitions, guidance on appropriate occupational health & safety and infection prevention & control measures, laboratory testing and prevention and treatment recommendations.

Ontario Health Plan for Influenza Pandemic

The ministry worked with partners to update the Ontario Health Plan for Influenza Pandemic (OHPIP) in 2013. The OHPIP details how the province will respond to an influenza pandemic, including sector specific actions, coordination mechanisms, and liaison with partners outside the health system. Aspects of the OHPIP could be leveraged for a severe respiratory virus season.

Occupational Health & Safety and Infection Prevention & Control

PHO's Provincial Infectious Diseases Advisory Committee (PIDAC) sets out infection prevention & control best practices for the health system. Key resources include:

- Routine Practices and Additional Precautions in All Health Care Settings, which provides recommendations on infection prevention & control programs, including health care worker influenza immunization
- Routine Practices and Additional Precautions Annex B: Best Practices for Prevention of Transmission of Acute Respiratory Infection in All Health Care Settings, which provides guidance on appropriate infection prevention & control measures for seasonal influenza in all health settings
- Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, which provides guidance on cleaning and disinfecting the physical environment in health care as it relates to the prevention and control of infections- targeted to those who have a role in the management of cleaning/housekeeping services for the health care setting
- Best Practices for Hand Hygiene provides guidance for hand hygiene in health care settings across the continuum of care, including acute care, complex continuing care, rehabilitation facilities, long-term care homes, chronic care, pre-hospital care and home health care

Additional learning on Occupational Health & Safety and Infection Prevention & Control:

- PHO provides online learning materials on infection prevention & control.
- The Ministry of Labour maintains a webpage on Flu and Your Workplace.
- The Public Services Health & Safety Association provides e-learning, in person training, and webinars.

Care & Treatment

The health system provides acute respiratory infection assessments in three primary ways: self-assessment, telephone assessment and face-to-face assessment.

- Ontario promotes self-assessment and provides information that the people of Ontario can use to identify and assess their own or their family member's symptoms and determine whether they need to seek care.
- Telehealth Ontario (1-866-797-0000 or TTY: 1-866-797-0007) is a free, confidential telephone service that the people of Ontario can use to get health advice or general health information from a registered nurse any time of day or night.
- Ambulatory patients may access assessment/treatment through primary health care providers, walk-in clinics (for those without a regular primary health care provider), urgent care clinics and emergency departments as needed. Assessment also occurs in hospital wards, outpatient clinics, long-term care homes, and homecare settings.

Note that individuals living in First Nations communities may access primary health care through federal or community-run programs.

Health care providers use clinical judgment to determine how to prevent or treat respiratory infection in clients/patients/residents.

Early treatment with influenza antiviral drugs as recommended is important to reduce the duration of symptoms and prevent complications. Similarly, early use of influenza antiviral drugs for treatment and prevention in institutional influenza outbreaks can decrease the spread and impact of the outbreak. The Association of Medical Microbiology and Infectious Diseases Canada's (AMMI's) provides guidelines and resources on the use of antiviral drugs for influenza including:

- The use of antiviral drugs for influenza: A foundation document for practitioners
- Guidance on use of antiviral drugs given potential low vaccine effectiveness for the 2017-18 influenza season
- Guidance on the use of antiviral drugs for influenza in acute care facilities in Canada, 2014-2015
- Guidance for practitioners on the use of antiviral drugs to control influenza outbreaks in long-term care facilities in Canada, 2014-2015 season
- Algorithm for oseltamivir and zanamivir treatment of mild or uncomplicated influenza in adults
- AMMI Flu app

Additionally, PHO prepared a fact sheet on Antiviral medications for influenza: Information for health care providers.

Best Practices

The ministry will post a collection of resources, provided by partners, on EMCT for all health system partners to review and adapt for their local needs. In addition to the planning expectations and guidance in the surveillance and monitoring and response sections of the plan, health system partners may wish to consider the following best practices:

Local Health Integration Networks

LHINs are encouraged to:

- monitor the rate of reported influenza and respiratory virus infection within the LHIN and province to support planning and response
- advise hospital sites to use a common surge methodology to report system pressures to LHINs beyond usage of regular data systems
- host bed management calls as needed based on local conditions. Calls should include local partners and hospital flow coordinators (This will help support the movement of patients throughout the local health care system with the goal of ensuring inpatient capacity is used in the most effective manner.)
- understand the potential fluctuations in capacity due to respiratory infection (i.e., long-term care closures (full or partial) due to outbreaks, and/or health human resource unplanned absences due to illness across the continuum of care)
- monitor trends in designated ALC patients to understand the system capacity and patient flow
- identify primary health care practices' hours of operation during high vacation periods (December 2017 to March 2018) to inform health system partners and residents of options for access to primary care

Public Health

PHUs are encouraged to:

- communicate information about the use of influenza antiviral medications to health care providers in their jurisdictions
- provide information to health sector partners on influenza activity in their jurisdictions
- conduct outbreak investigations as needed
- participate in LHIN coordination calls as needed to support local surge planning

Acute Health Care

Acute care facilities are encouraged to:

- prepare for a possible increase in emergency department visits, hospital admissions and need for intensive care beds
- participate in LHIN coordination calls to support local surge planning

Critical Care Services Ontario has a Surge Capacity Management Planning website that provides guidance on minor and moderate surge planning for hospitals.

The Ontario Hospital Association website has developed an Emergency Management Toolkit: Developing a Sustainable Emergency Management Program for Hospitals. The Ontario Hospital Association's and the Ontario Medical Association's Joint Communicable Diseases Surveillance Protocols Committee, in collaboration with the ministry developed an Influenza Surveillance Protocol for Ontario Hospitals.

Primary Health Care

Primary health care providers are encouraged to:

- monitor respiratory virus activity
- keep their offices open during the holiday season to accommodate the anticipated increase in respiratory virus activity. If the office will be closed during the holidays, communication to patients should include where they can go to seek care in case they develop a respiratory infection and require medical attention (e.g., include messaging on the office voicemail system, provide information on the office website, and email information to patients)
- review patient needs in advance of the holiday season to minimize routine visits and reserve capacity for patients with acute respiratory infections

Urgent care clinics are encouraged to prepare for an increase in patient volume over the holiday season.

Pharmacies

Pharmacies fill influenza antiviral prescriptions and administer influenza immunizations (for individuals 5 years of age and older), and answer non-critical health-related questions or concerns.

Pharmacies are also encouraged to run "refill due" reports or check with those who are on certain high risk therapies to make sure they have enough medication to last them the holiday season.

Paramedic Services

Paramedic services are encouraged to:

- monitor respiratory virus activity
- be prepared for a surge in calls
- participate in LHIN coordination calls

Long-Term Care Homes

Long term care homes are encouraged to prepare to detect and respond to outbreaks in collaboration with their local health unit. The ministry has provided A Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes.

Communications

The ministry is delivering and facilitating coordinated communication with health partners and the general public and will work to coordinate public messaging and communications with the federal government, and health system partners.

The ministry encourages all health system partners to establish coordinated and positive media communication plans with their local partners in advance of respiratory illness season and communicate with the public (manage influenza at home, stay home when ill, prevention, immunization, where to get medical assessment) via:

- newsletters/notices
- posters
- websites
- newspapers
- media releases

Other resources

Ontario maintains a website providing information on influenza and provides fact sheets to support the Universal Influenza Immunization Program, including:

- People who are 65 year of age or older need a flu shot
- Infants and children need a flu shot
- Women who are pregnant need a flu shot
- People with a medical condition need a flu shot
- Get the facts about the flu shot
- Health care provider Q&A 2017/2018 Universal Influenza Immunization Program
- Trivalent inactivated influenza vaccines: For individuals 18 years of age and older
- Quadrivalent influenza vaccines: For individuals 6 months through 17 years of age

Information on influenza for health care providers is also provided on PHO's website.