Weekly Flu News Technical Document

Purpose of Report

The weekly flu bulletin shares the most recent week's local influenza activity with stakeholders and the public, including crude counts of cases as well as a descriptive epidemiological profile of the flu season as it evolves. The epidemiological profile includes the impacted demographic groups, the severity of influenza, outbreaks reported and influenza vaccine match.

Legislative Authority

Influenza surveillance and reporting falls under the scope of the Ontario Public Health Standards and the Infectious Disease Protocol.

Case Definitions

Case definitions for influenza are defined under Appendix B of the Ontario Public Health Standards Infectious Disease Protocol.

Primary Audience

The primary audience of this report are community partners and health care professionals in the Simcoe and Muskoka regions. These include, and are not limited to:

- Long term care homes
- Retirement homes
- Corrections facilities
- Acute care facilities (e.g. hospitals)
- Police, Fire and Emergency Management

Reporting Guidelines

Frequency: Weekly from November to April (or as determined by health unit management). Posted to the website and shared to the distribution list on Wednesday mornings.

Surveillance weeks cover Sunday to Saturday and follow the Public Health Ontario influenza surveillance week schedule for the influenza season.

Data Sources:

- Integrated Public Health Information System (iPHIS) via CD Intake Database
- Ontario Respiratory Pathogen Bulletin
- Acute Care Enhanced Surveillance (ACES) system

Please note: CD Intake is an internal database maintained by the Simcoe Muskoka District Health Unit for case management. All reportable diseases are entered into it and it is comparable to the provincial Integrated Public Health Information System (iPHIS). Data quality checks are conducted to ensure the accuracy of this data.

Data Limitations

Timeliness:

The provincial data are from one week previous as it is the most recent data available to the health unit. The hospital data, local counts of influenza, and outbreaks are current to date. The number of cases listed in a given surveillance week may change as more information becomes available.

Case-Follow-up and iPHIS Data Entry:

While Public Health Ontario only requires case information as provided by the laboratory report, the health unit investigates all outbreak cases, as information is available, in order to provide a more accurate local picture of adverse outcomes and subtyping.

Case Reporting:

Sporadic cases do not accurately describe all cases of influenza as the cases reported are skewed towards individuals more likely to seek medical care and have specimens submitted for testing (e.g. young, elderly and immunocompromised). Consequently, it is likely that there is considerable under-reporting of actual cases.

Dissemination

The weekly influenza bulletin will be shared with both internal and external partners. The Epidemiologist is responsible for compiling and sending out the bulletin.

Frequency: Weekly during active flu season

Start Date: November

End Date: Ongoing until end of April (or as determined by health unit management)

Other Sources of Flu Data

- Ontario Respiratory Pathogen Report
- Public Health Agency of Canada FluWatch Reports

Acknowledgement

This guide was developed by Danielle Hachborn, Epidemiologist, in consultation with Jillian Fenik, Manager of Infectious Diseases, Amanda Tumukuratiire, Research Analyst and Stacey Collins, Data Management Assistant.

Appendix A: Influenza Indicators

The following tables outline the basic requirements for the calculation of each of the following influenza indicators, including APHEO. All indicators listed below are based on flu data by influenza season (September to August). Information includes the numerator, denominator, exclusion criteria and additional analytical notes.

APHEO Indicators

Source: APHEO Core Indicators

Total Incidence Rate

Description:	The rate of influenza per 100,000 individuals in the current flu season to date
Data Source:	CD intake database; iPHIS; Population Estimates/Projections
Numerator:	Number of new influenza cases where Simcoe Muskoka is the diagnosing health unit in the current flu season
Denominator	Total population for the current flu season (see analysis notes below)
Exclusions:	Missing data
Calculation:	$\frac{Total\ number\ of\ new\ cases\ in\ the\ specified\ time\ period}{Total\ population\ in\ the\ specified\ time\ period}$
Subgroups:	Age at illness (see below)
Analysis Notes:	- Population count is based on the population for starting year of the season (i.e. 2016 for the 2016-17 flu season). This can be pulled from the Population Estimates/Projections from Intellihealth.

Age-specific Incidence Rate

Description:	The rate of influenza per 100,000 individuals of a particular age group in the current flu season to date
Data Source:	CD intake database; iPHIS; Population Estimates/Projections
Numerator:	Number of new influenza cases where Simcoe Muskoka is the diagnosing health unit in the current flu season for a specific age group
Denominator	Total population for the current flu season for a specific age group (see analysis notes below)
Exclusions:	Missing data
Calculation:	$\frac{Total\ number\ of\ new\ cases\ in\ the\ specified\ time\ period\ in\ an\ age\ group}{Total\ population\ in\ the\ specified\ time\ period\ in\ that\ age\ group}$
Subgroups:	
Analysis Notes:	- Population count is based on the population for starting year of the season (i.e. 2016 for the 2016-17 flu season). This can be pulled from the Population Estimates/Projections from Intellihealth.

Non-APHEO Indicators

Percent Positivity

Description:	The proportion of ED visits that are categorized as a respiratory syndrome at participating SMDHU hospitals for the specified week.
Data Source	PHO Ontario Respiratory Pathogen Bulletin
Numerator:	Number of ED visits at participating SMDHU hospitals where the chief complaint is categorized as a respiratory syndrome for the defined time period
Denominator	Total number of ED visits at participating SMDHU hospitals for the defined time period
Exclusions:	Missing data
Calculation:	$\frac{Total\ number\ of\ ED\ visits\ at\ participating\ SMDHU\ hospitals\ that\ are\ categorized\ as\ respiratory\ syndrome\ in\ specified\ time\ period}{Total\ number\ of\ ED\ visits\ at\ participating\ SMDHU\ hospitals\ in\ specified\ time\ period}$
Subgroups:	Can be grouped by age, sex, postal code
Analysis Notes:	- Calculated for a week time period, following the influenza surveillance week numbers (Sunday to Saturday). - Displayed by the first day of the surveillance week for the current influenza season (i.e. Week 35 = September 4, 2016)

Respiratory Syndrome Emergency Department Visits

Description:	The proportion of ED visits that are categorized as a respiratory syndrome at participating SMDHU hospitals for the specified week.
Data Source:	Acute Care Enhanced Surveillance (ACES) system
Numerator:	Number of ED visits at participating SMDHU hospitals where the chief complaint is categorized as a respiratory syndrome for the defined time period
Denominator	Total number of ED visits at participating SMDHU hospitals for the defined time period
Exclusions:	Missing data
Calculation:	$\frac{Total\ number\ of\ ED\ visits\ at\ participating\ SMDHU\ hospitals\ that\ are\ categorized\ as\ respiratory\ syndrome\ in\ specified\ time\ period}{Total\ number\ of\ ED\ visits\ at\ participating\ SMDHU\ hospitals\ in\ specified\ time\ period}$
Subgroups:	Can be grouped by age, sex, postal code
Analysis Notes:	- Calculated for a week time period, following the influenza surveillance week numbers (Sunday to Saturday). - Displayed by the first day of the surveillance week for the current influenza season (i.e. Week 35 = September 4, 2016) - As of November 2018, Muskoka Algonquin Health Care (both sites), Georgian Bay General Hospital, Collingwood General and Marine Hospital, Orillia Soldiers Memorial and Royal Victoria Health Centre were the participating hospitals. - Does not include influenza-like illness (ILI).

Percent Vaccine Match

Description:	The proportion of characterized isolates that match the vaccine strains for the current influenza season.
Data Source:	PHO Ontario Respiratory Pathogen Bulletin
Numerator:	Number of influenza isolates characterized across Canada by NML that match the subtype/strain of interest
Denominator	The number of influenza isolates characterized across Canada by NML that are of the same type as the subtype or strain of interest.
Exclusions:	Missing data
Calculation:	$$\frac{Total\ number\ of\ influenza\ isolates\ characterized\ that\ match\ the\ subtype\ or\ strain\ of\ interest}{Total\ number\ of\ influenza\ isolates\ characterized\ that\ are\ of\ the\ same\ type\ as\ the\ subtype\ or\ strain\ of\ interest}$$
Subgroups:	None
Analysis Notes:	- Completed for each influenza strain contained within the trivalent and quadrivalent vaccines for the flu season. - The number of isolates characterized by the National Microbiology Lab (NML) for each health unit is random, based on the positive flu specimens submitted by Public Health Ontario Lab (PHOL). In practice, PHOL attempts to submit at least one specimen from each flu outbreak and sporadic cases at random, with more specimens submitted at the beginning, end and out-of-season time periods. - Denominator information is not available at the PHU level, as PHUs are only notified of strain typing results received back from NML which may not include all specimens submitted. - Calculated for the influenza season-to-date.