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BEST PRACTICE

Influenza and Respiratory Infection Surveillance Package 2021-22

For the 2021-22 season, influenza and respiratory infection surveillance activities will begin on September 1, 2021. The purpose of this surveillance package is for Public Health Ontario (PHO) to provide public health units (PHUs) with a resource to help with their local surveillance activities.

This package is intended to support PHU entry of high-quality data into the integrated Public Health Information System (iPHIS). The information PHUs provide helps us understand and describe influenza and respiratory infection activity in Ontario and is published in provincial and national surveillance reports. PHO is committed to the continued dissemination of our surveillance reports that describe the epidemiology of influenza and respiratory infections in Ontario, and cannot do this without the assistance and support of our colleagues in local PHUs who provide high-quality data.

Note: This document does not include guidance on data entry for cases and/or outbreaks of COVID-19. PHUs should follow existing PHO data entry guidance for cases and/or outbreaks of COVID-19.

Summary of Public Health Unit Responsibilities

Influenza is a disease of public health significance in Ontario as per Regulation 135/18 and amendments under the *Health Protection and Promotion Act* (HPPA).[1]

Laboratory-Confirmed Influenza Cases

CASE FOLLOW-UP: 2021-22 SEASON

There is no provincial requirement for PHUs to follow-up any laboratory-confirmed seasonal influenza cases; however, they may choose to do so for their own surveillance needs.

CASE DATA ENTRY PROCESS: 2021-22 SEASON

PHUs are required to report all laboratory-confirmed cases of influenza in accordance with *iPHIS Bulletin 17 – Timely entry of cases.*[2]

For the 2021-22 season, data obtained by PHUs during follow-up or as documented on laboratory reports must be collected and entered into iPHIS in accordance with the most recent version of the *iPHIS User guide: Outbreak module – respiratory diseases, section I – sporadic influenza cases* that is accessible on the iPHIS and Cognos Document Repository or by emailing iphissupport.moh@ontario.ca.[3]

For all laboratory-confirmed seasonal influenza cases, PHUs are only required to enter into iPHIS the information available from the laboratory report. Please enter the specific data elements found on the

laboratory report in accordance with the *iPHIS User guide: Outbreak module – respiratory diseases, section I – sporadic influenza cases*.[3]

As per usual practice, please continue to link all laboratory-confirmed cases that are outbreak-associated to the relevant outbreak in iPHIS.

Respiratory Infection Outbreaks in Institutions and Public Hospitals

Respiratory infection outbreaks in institutions and public hospitals are reportable as a disease of public health significance under the HPPA.[1] All respiratory infection outbreaks in institutions and public hospitals **must be entered into iPHIS within one business day** of the PHU receiving notification of the outbreak, in accordance *iPHIS Bulletin 17 – Timely entry of cases.*[2] Definitions and other relevant information can be found in the most recent version of the *iPHIS User guide: Respiratory infection outbreaks in institutions and public hospitals* that is accessible on the iPHIS and Cognos Document Repository or by emailing iphissupport.moh@ontario.ca.[4] Required fields to be reported within the first business day include but are not limited to:

- Summary case counts (as reported when outbreak is declared) by role (e.g., staff and residents)*
- Outbreak description
- Laboratory-confirmed organism (if known)
- Outbreak setting type

*Note: The **summary case count by role must be entered in iPHIS** in order for the outbreak to be included in the Ontario Respiratory Pathogen Bulletin (ORPB) and for the assessment of influenza activity levels. If the total number of cases (as reported when the outbreak is declared) entered in iPHIS does not meet case definition for a confirmed outbreak, the outbreak will not be included.

Final reports of respiratory infection outbreaks in institutions and public hospitals must be entered into iPHIS and **closed as soon as possible and by no later than 15 business days** after the outbreak has been declared over. PHUs are asked to enter the "declared over" date for the outbreak **as soon as possible, ideally within 1 business day of the declared over date.** Between the notification of the outbreak and it being declared over, information should be updated in iPHIS as required, such as if there are significant changes to the status of the outbreak (e.g., marked increase in the number of cases, hospitalizations or outbreak-associated deaths). For the 2021-22 influenza season, PHO will include analysis of respiratory infection outbreaks in institutions and public hospitals by severity indicators in the weekly ORPB, which will rely on timely entry of outbreak data in iPHIS.

Reporting Requirements

For the 2021-22 season, PHUs are not required to report their weekly influenza activity levels to PHO. Instead, PHO will determine the activity level for each PHU based on the number of laboratory-confirmed influenza cases and outbreaks in institutions or public hospitals entered in iPHIS for each surveillance week. See Appendix A for further details on how PHO will determine the weekly influenza activity levels for each PHU.

Goal and Objectives

Ontario Respiratory Virus Surveillance Program

GOAL

To promote early detection and provide timely, comprehensive information regarding respiratory infections in Ontario, including influenza, in order to guide prevention and control efforts.

OBJECTIVES

1. To raise awareness of influenza and respiratory virus activity and support the implementation of appropriate prevention and control measures, accurate and timely information is collected that will:

    - Allow the onset, duration, conclusion, geographic patterns, severity and progression of seasonal respiratory virus activity, especially influenza, to be determined;
    - Detect unusual events (e.g., new respiratory pathogens, unusual outcomes or syndromes, unusual severity or distribution, and new influenza strains including epizootic strains, antigenic drift/shift);
    - Identify dominant circulating respiratory viruses;
    - Identify influenza types and subtypes to enable comparisons between circulating influenza strains and strains included in and/or recommended for the current season's influenza vaccine;
    - Estimate influenza and influenza-like illness (ILI) indicators such as attack rates, emergency department visits, hospitalization rates, and case fatality rates;
    - Identify high-risk groups for influenza illness and complications; and
    - Allow comparisons with national and international respiratory virus activity.

2. To share accurate and timely surveillance information with public health partners at the local, provincial, national and international levels in order to:

    - Anticipate and guide prevention, response, and control efforts;
    - Evaluate treatment, prophylaxis and control measures in the management and termination of outbreaks; and
    - Guide and inform timely research.

Dissemination Strategy for Surveillance Reports

As part of the Ontario Influenza and Respiratory Infection Surveillance Program, PHO produces surveillance reports that are routinely distributed for the purpose of informing health care providers and public health partners at the local, provincial, and federal levels and contribute to national and global surveillance. The surveillance reports include:

Ontario Respiratory Pathogen Bulletin

Information reported by PHUs, PHO, and the Public Health Agency of Canada (PHAC) are collated, analyzed and published in an interactive format weekly in the Ontario Respiratory Pathogen Bulletin (ORPB) by PHO. Bulletins from the past two seasons are available on PHO's website along with season summaries for the past five seasons.[5-6] Earlier bulletins and seasonal summaries are available by request by emailing PHO's Communicable Diseases team at cd@oahpp.ca.

In addition, for the 2021-22 season PHO will include analysis of institutional outbreaks respiratory infection (excluding COVID-19) by severity indicators in the weekly ORPB.

Laboratory-Based Respiratory Pathogen Surveillance Report

The Laboratory-based Respiratory Pathogen Surveillance Report[7] which is based solely on laboratory tests conducted by Public Health Ontario Laboratories, is published weekly on PHO's website.

Appendix A: Program Components

For the 2021-22 influenza and respiratory infection season, surveillance will consist of four main components, the first two of which are provided by PHUs:

1. iPHIS reporting of laboratory-confirmed influenza cases

Case records for both sporadic and outbreak-associated cases of laboratory-confirmed influenza must be individually entered in iPHIS based on information provided on the laboratory report. Please note that laboratory-confirmed cases of influenza associated with an outbreak in an institution or public hospital must also be linked to that outbreak. In addition, an aggregate count of all outbreak-related cases must be entered in the outbreak summary section of iPHIS as per section 2 (see below).

2. iPHIS reporting of respiratory infection outbreaks in institutions and public hospitals

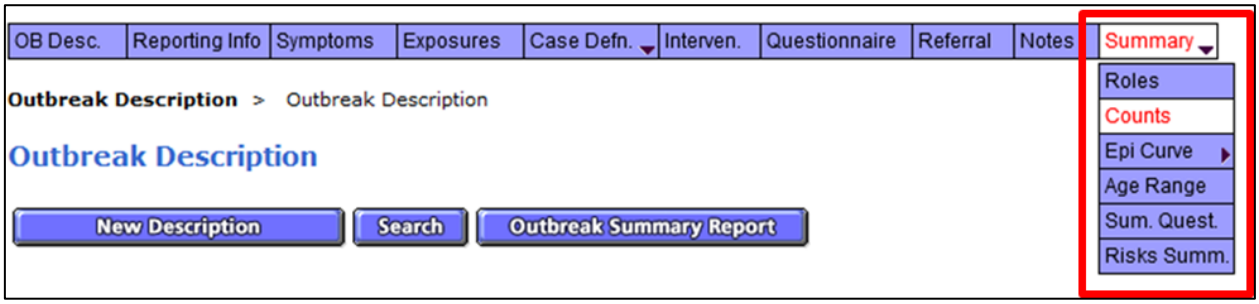
The reporting of respiratory infection outbreaks in institutions and public hospitals, many of which may be caused by pathogens other than influenza, is a legal requirement under the HPPA.[1] PHUs must report, via iPHIS, on respiratory infection outbreaks in institutions and public hospitals including but not limited to: certain long-term care homes (LTCHs) including nursing homes, homes for the aged and facilities operating under the former *Developmental Services Act*.[8] Please note that psychiatric facilities as defined under the *Mental Health Act* are considered institutions under the HPPA.[9] A complete list of institutions can be found under section 21 (1) of the HPPA.[10]

Note: Institutions and public hospitals that also have COVID-19 outbreaks must follow PHO data entry guidance to separately report the COVID-19 outbreak and the respiratory infection outbreak.

While reporting by retirement homes is not expressly required under the HPPA, PHUs often do consider retirement homes to fall under the definition of an institution, as "any other place of a similar nature" under the HPPA section 21(1).[10] Under the *Retirement Homes Act* regulation 166/11,[11] retirement homes are required to have an infection prevention and control program which includes developing a written surveillance protocol and reporting outbreaks to the local MOH or designate. Influenza outbreaks in retirement homes can be considered as outbreaks when determining influenza activity levels. Reporting of respiratory infection outbreaks by schools is not required; however, they may be used to assist in determining influenza activity levels.

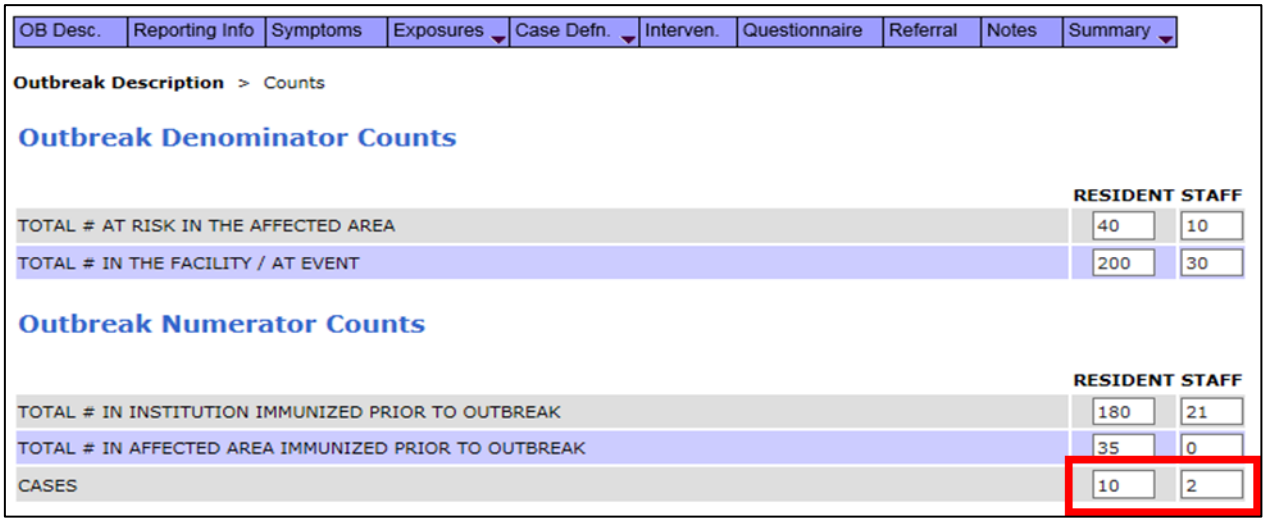
Where reporting is required, preliminary reports of respiratory infection outbreaks in institutions and public hospitals **must be entered within one business day** of notification**.** All outbreak-associated influenza cases (i.e., both laboratory-confirmed and epi-linked) linked to an institution must be entered into iPHIS using the **CASES** field in iPHIS**,** which can be located via this path: *Outbreak Description > Summary > Counts > Outbreak Numerator Counts > CASES* (see Figure 1). The term aggregate case count refers to the total number of cases entered for both 'RESIDENTS' and 'STAFF' (see red box highlighted in Figure 2). The aggregate case count in iPHIS reports are extracted from this field, and are not based on epi-curve data or laboratory-confirmed cases that are linked to the outbreak.

Figure 1. Screenshot of path for entering outbreak-associated influenza cases in institutions and public hospitals in iPHIS



Source: Ontario. Ministry of Health. Integrated Public Health Information System (iPHIS) [database]. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2021 Oct 06].

Figure 2. Screenshot for entering aggregate outbreak-associated influenza case counts for staff and residents of institutions and public hospitals in iPHIS



Source: Ontario. Ministry of Health. Integrated Public Health Information System (iPHIS) [database]. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2021 Oct 06].

The final report of a respiratory infection outbreak in an institution or public hospital must be entered into iPHIS **by no later than 15 business days after the outbreak has been declared over**. However, please ensure the **Date Outbreak Declared Over** field is entered **as soon as possible, ideally within 1 business day** of the declared over date for the outbreak as this field is a key component in the influenza activity level assessment.

Between the notification of the outbreak and it being declared over, information on outbreaks should be updated when there are significant changes to the status of the outbreak (e.g., the causative organism has been identified, there have been deaths or hospitalizations attributed to the outbreak, or high attack rates are noted). This will enable accurate and timely analysis of surveillance data and estimates of the level and severity of ILI activity in the province as the influenza and respiratory infection season progresses.

3. Influenza activity reporting

For the 2021-22 season, PHO will determine the weekly influenza activity for each PHU (i.e., PHUs will no longer be required to submit their activity levels using the Surveys@PHO tool) based on whether the following have been entered in iPHIS:

1. Any sporadically occurring (i.e., not outbreak related) laboratory-confirmed influenza cases with reported dates for the surveillance week, and

2. Any influenza outbreaks in institutions or public hospitals occurring in the surveillance week (i.e., the outbreak was either declared or remains open during) with at least two outbreak-associated cases in total entered in the aggregate case count section.

The PHAC's FluWatch activity level definitions will continue to form the basis for our weekly activity level reporting.[12] There are four levels of activity that PHO may assign to the PHU each surveillance week, which is defined as the preceding week from Sunday to Saturday inclusive (see Appendix B for the 2021-22 surveillance weeks). The descriptions of the activity levels listed below represent an Ontario-specific operationalization of PHAC's FluWatch activity level definitions:

1. **No activity:** no laboratory-confirmed cases of influenza reported and no ongoing laboratory-confirmed influenza outbreak in an institution (e.g., LTCHs, retirement homes etc.) or public hospital.

2. **Sporadic**: at least one laboratory-confirmed case of influenza* with no ongoing laboratory-confirmed influenza outbreaks in an institution or public hospital.

3. **Localized:** at least one ongoing laboratory-confirmed influenza outbreak in an institution or public hospital during the surveillance week even if the outbreak was declared over on the first day of the surveillance week

4. **Widespread:** multiple ongoing laboratory-confirmed influenza outbreaks in institutions or public hospitals separated by some geographic distance, in other words, non-adjacent areas. As a general rule, in order to have 'widespread' activity:

    a. PHUs with 30 or more institutions/facilities: at least 10% of these facilities should be experiencing an ongoing influenza outbreak.

    b. PHUs with less than 30 institutions/facilities: at least 15% should be experiencing an ongoing influenza outbreak.

*Confirmation of influenza within the surveillance area at any time within the surveillance week based on the date the laboratory report was received.

As noted above, in order to determine if a PHU is experiencing 'widespread' influenza activity, the total number of institutions (i.e., LTCHs, retirement homes) and public hospitals will be used as the denominator. For this purpose, PHO will use a provincial list of LTCHs, retirement homes, and public hospitals to obtain the denominator for each PHU and apply the above criteria.

This process is dependent on PHUs entering cases and outbreaks in iPHIS as per the instructions provided above. Of note, if there is a discrepancy between PHO's assigned activity level and the level that would have been assigned by the PHU, it is most often because one or more of the following have not been entered into iPHIS: sporadically occurring cases, outbreaks in institutions, the number of initially-reported and final outbreak-associated cases (i.e., under summary counts by role), or if the outbreak is over but either the **Date Outbreak Declared Over** field has not been entered or the outbreak status was not updated to 'Closed' within 15 business days.

4. Laboratory surveillance conducted by the Public Health Agency of Canada (PHAC)

Sixteen Ontario laboratories participate in national respiratory virus surveillance providing laboratory results to both the appropriate PHU and PHAC. Further strain characterization of influenza isolates (approximately 5% - 10% of positive influenza isolates, primarily at the beginning and end of the season) and other laboratory testing (e.g., antiviral resistance testing) for influenza are done at PHAC's National Microbiology Laboratory in Winnipeg. As part of the national influenza surveillance strategy, Ontario, along with other provinces and territories, adheres to national FluWatch surveillance definitions.[12]

Appendix B: Surveillance Weeks

Table 1. Surveillance weeks for the 2021-22 influenza and respiratory infection season

Surveillance week	Start date	End date
Week 35	29-Aug-21	04-Sep-21
Week 36	05-Sep-21	11-Sep-21
Week 37	12-Sep-21	18-Sep-21
Week 38	19-Sep-21	25-Sep-21
Week 39	26-Sep-21	02-Oct-21
Week 40	03-Oct-21	09-Oct-21
Week 41	10-Oct-21	16-Oct-21
Week 42	17-Oct-21	23-Oct-21
Week 43	24-Oct-21	30-Oct-21
Week 44	31-Oct-21	06-Nov-21
Week 45	07-Nov-21	13-Nov-21
Week 46	14-Nov-21	20-Nov-21
Week 47	21-Nov-21	27-Nov-21
Week 48	28-Nov-21	04-Dec-21
Week 49	05-Dec-21	11-Dec-21
Week 50	12-Dec-21	18-Dec-21
Week 51	19-Dec-21	25-Dec-21
Week 52	26-Dec-21	01-Jan-22
Week 1	02-Jan-22	08-Jan-22
Week 2	09-Jan-22	15-Jan-22

Surveillance week	Start date	End date
Week 3	16-Jan-22	22-Jan-22
Week 4	23-Jan-22	29-Feb-22
Week 5	30-Jan-22	05-Feb-22
Week 6	06-Feb-22	12-Feb-22
Week 7	13-Feb-22	19-Feb-22
Week 8	20-Feb-22	26-Feb-22
Week 9	27-Feb-22	05-Mar-22
Week 10	06-Mar-22	12-Mar-22
Week 11	13-Mar-22	19-Mar-22
Week 12	20-Mar-22	26-Mar-22
Week 13	27-Mar-22	02-Apr-22
Week 14	03-Apr-22	09-Apr-22
Week 15	10-Apr-22	16-Apr-22
Week 16	17-Apr-22	23-Apr-22
Week 17	24-Apr-22	30-Apr-22
Week 18	01-May-22	07-May-22
Week 19	08-May-22	14-May-22
Week 20	15-May-22	21-May-22
Week 21	22-May-22	28-May-22
Week 22	29-May-22	04-Jun-22
Week 23	05-Jun-22	11-Jun-22
Week 24	12-Jun-22	18-Jun-22
Week 25	19-Jun-22	25-Jun-22

Surveillance week	Start date	End date
Week 26	26-Jun-22	02-Jul-22
Week 27	03-Jul-22	09-Jul-22
Week 28	10-Jul-22	16-Jul-22
Week 29	17-Jul-22	23-Jul-22
Week 30	24-Jul-22	30-Jul-22
Week 31	31-Jul-22	06-Aug-22
Week 32	07-Aug-22	13-Aug-22
Week 33	14-Aug-22	20-Aug-22
Week 34	21-Aug-22	27-Aug-22

References

1. *Designation of Diseases,* O Reg 135/18. Available from: https://www.ontario.ca/laws/regulation/180135

2. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Timely entry of cases and outbreaks for diseases of public health significance (DOPHS). iPHIS Bulletin. Toronto, ON: Queen's Printer for Ontario; 2020:17.

3. Ontario Agency for Health Protection and Promotion (Public Health Ontario). iPHIS user guide: outbreak module: respiratory diseases. Toronto, ON: Queen's Printer for Ontario; 2009. Section I, Sporadic influenza cases.

4. Ontario Agency for Health Protection and Promotion (Public Health Ontario). iPHIS user guide: respiratory infection outbreaks in institutions and public hospitals [Internet]. Version 2.1. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2021 Oct 06]. Available from: https://www.publichealthontario.ca/-/media/documents/I/2019/iphis-user-guide-respiratory.pdf

5. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Ontario respiratory pathogen bulletin [Internet]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2021 Oct 06]. Available from: https://www.publichealthontario.ca/en/data-and-analysis/infectious-disease/respiratory-pathogens-weekly

6. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Ontario respiratory pathogen bulletins - historical [Internet]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2021 Oct 06]. Available from: https://www.publichealthontario.ca/en/data-and-analysis/infectious-disease/respiratory-pathogens-weekly/respiratory-pathogens-historical

7. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Laboratory respiratory pathogen surveillance reports [Internet]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2021 Oct 06]. Available from: https://www.publichealthontario.ca/en/data-and-analysis/infectious-disease/laboratory-respiratory-pathogen-surveillance

8. *Developmental Services Act*, RSO 1990, c D.11 (Ontario), as repealed by *Services and Supports to Promote the Social Inclusion of Persons with Developmental Disabilities Act*, 2008, SO 2008, c 14. Available from: https://www.ontario.ca/laws/statute/90d11

9. *Mental Health Act*, RSO 1990, c M.7. Available from: https://www.ontario.ca/laws/statute/90m07

10. *Health Protection and Promotion Act*, RSO 1990, c H.7, s 21(1). Available from: https://www.ontario.ca/laws/statute/90h07#BK26

11. *General*, O Reg 166/11. Available from: https://www.ontario.ca/laws/regulation/110166

12. Government of Canada. Overview of influenza monitoring in Canada [Internet]. Ottawa, ON: Government of Canada, 2019 [cited 2021 Oct 06]. Available from: https://www.canada.ca/en/public-health/services/diseases/flu-influenza/influenza-surveillance/about-fluwatch.html

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