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MANUAL

Influenza and Other Respiratory Infection Surveillance Package 2023-24

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For public health units to support entry of high-quality data into the integrated Public Health Information System (iPHIS)

For the 2023-24 season, influenza and respiratory infection surveillance activities will begin on September 1, 2023. In online tools and graphs depicting respiratory virus data by surveillance week, the surveillance week containing September 1 (week 35) is used as the first week of the surveillance period. 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.

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: 2023-24 SEASON

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

CASE DATA ENTRY PROCESS: 2023-24 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 2023-24 season, only data obtained from laboratory reports is required for entry into iPHIS by PHUs and must be entered in accordance with the most recent version of the *iPHIS User guide: Outbreak module – respiratory diseases, section I – sporadic influenza cases*.[3] Additional case data may be collected at the discretion of PHUs and if entered into iPHIS should be in accordance with the User Guide, which is accessible from the iPHIS and Cognos Document Repository or by emailing publichealthsolutions@ontario.ca.

As per usual practice, 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] For the 2023-24 respiratory season, all respiratory infection outbreaks in institutions and public hospitals **must be entered into iPHIS within three business days** of the PHU receiving notification of the outbreak. This supersedes the guidance in, *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*.[4] Required fields to be reported within three business days 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 Virus Tool[5] 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 the 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. Following the notification of the outbreak and before it is declared over, information should be updated in iPHIS as required, such as when 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 2023-24 influenza season, PHO may include analysis of respiratory infection outbreaks in institutions and public hospitals by severity indicators in surveillance reports, which relies on timely entry of outbreak data in iPHIS.

Reporting Requirements

PHO determines the influenza activity level for each surveillance week and for each PHU based on the number of laboratory-confirmed influenza cases and the number of newly declared or ongoing (i.e. not declared over) outbreaks in institutions or public hospitals in iPHIS. Timely entry of case and outbreak data along with entry of declared over dates for outbreaks is critical for correct activity level assessments to be made. See Appendix A for further details on how PHO determines 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 determination of the onset, duration, conclusion, geographic patterns, severity and progression of seasonal respiratory virus activity, especially influenza;
    - 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

Ontario Respiratory Virus Tool

Starting in the 2023-24 season, surveillance information reported from various sources to monitor influenza, COVID-19, and other respiratory viruses in Ontario will be reported in a new integrated and interactive online report by PHO. This new Ontario Respiratory Virus Tool (ORVT)[5] will be updated weekly to support integrated public health monitoring, including informing health care providers and public health partners at the local, provincial, and federal levels and contributing to national and global surveillance. It has replaced the Ontario Respiratory Pathogen Bulletin (ORPB), Respiratory Virus Overview in Ontario report, Laboratory-Based Respiratory Pathogen Surveillance Report and the Ontario COVID-19 data tool

Seasonal Summaries

ORPB seasonal summaries for the past five seasons are available on PHO's respiratory virus seasonal summaries webpage.[6]

Appendix A: Program Components

For the 2023-24 influenza and other respiratory infection season, surveillance will consist of the following 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 laboratory-confirmed cases of 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

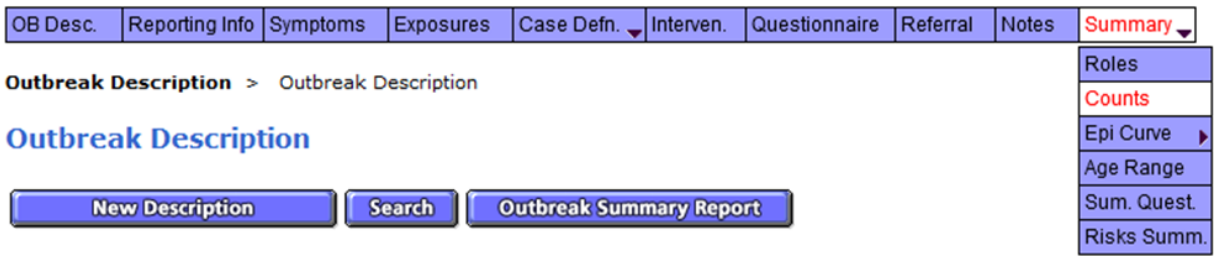
The reporting of respiratory infection outbreaks in institutions and public hospitals, many of which may be caused by pathogens other than influenza, is a legal reporting requirement under the HPPA.1 PHUs must report, via iPHIS, on respiratory infection outbreaks in institutions and public hospitals 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*.[7] Please note that psychiatric facilities as defined under the *Mental Health Act* are considered institutions under the HPPA.[8] A complete list of institutions can be found under section 21 (1) of the HPPA.[9]

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

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).[9] Under the *Retirement Homes Act* regulation 166/11,[10] 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. As such, influenza outbreaks in retirement homes are considered when determining influenza activity levels. Reporting of respiratory infection outbreaks in schools is not required; however if they are influenza outbreaks and are entered in iPHIS, they may be used by PHO to assist in determining influenza activity levels.

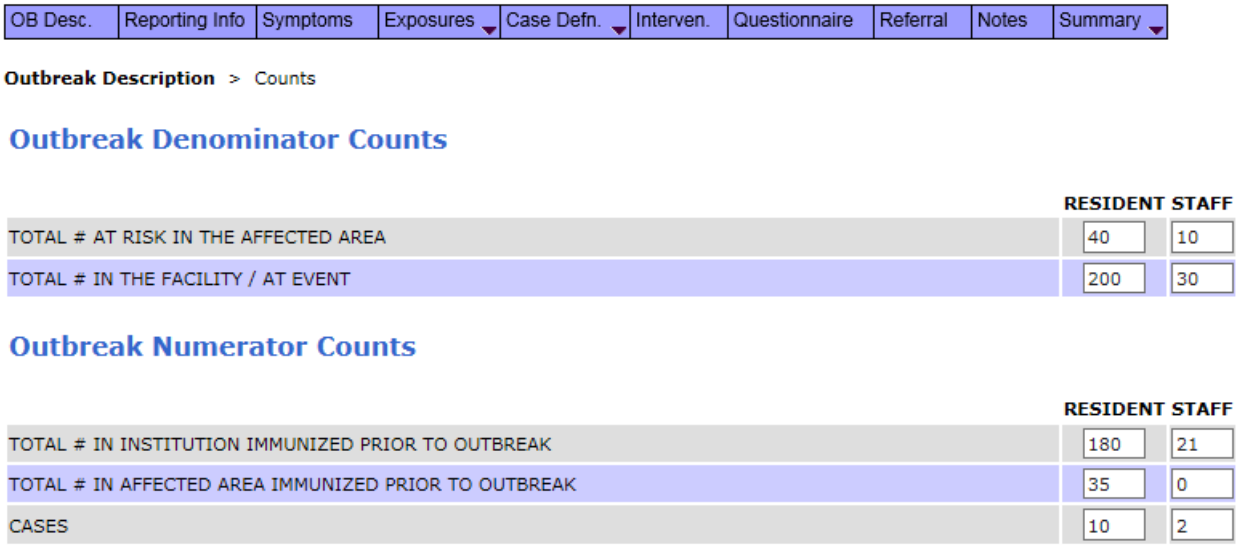
Where reporting is required, preliminary reports of respiratory infection outbreaks in institutions and public hospitals **must be entered within three business days** of notification. All outbreak-associated respiratory infection cases (i.e., both laboratory-confirmed and epi-linked) linked to an institution 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). Epi-linked outbreak associated cases which are later identified as having a negative laboratory result for the causative organism of the outbreak may be included in the numerator counts at the discretion of the outbreak investigator. The term aggregate case count refers to the total number of cases entered for both ‘RESIDENTS/PATIENTS’ 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 respiratory infection 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].

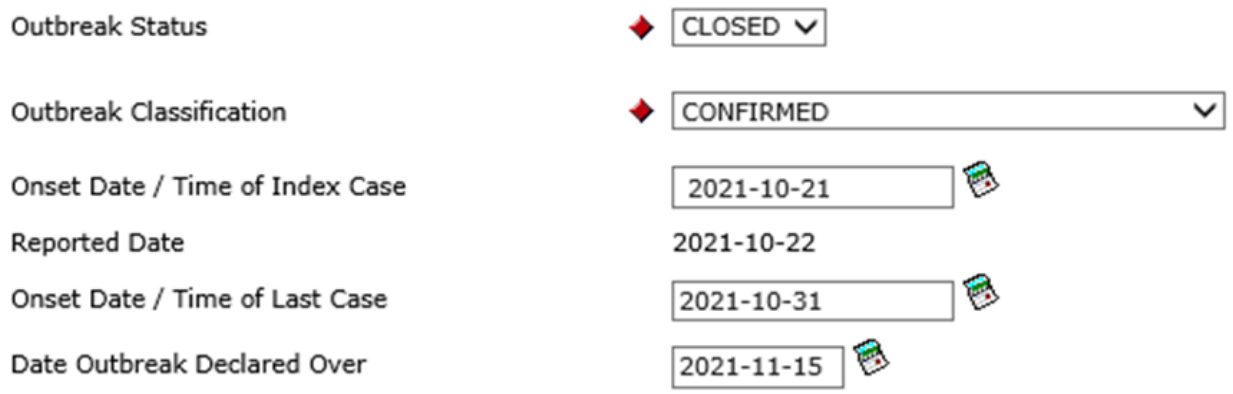
Figure 2: Screenshot for entering aggregate outbreak-associated respiratory infection case counts for staff and residents of institutions and public hospitals in iPHIS



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, the **Date Outbreak Declared Over field should be completed as soon as possible, ideally within 1 business day** of the declared over date for the outbreak. Timely completion of this field is important for all respiratory infection outbreaks, but especially so for influenza outbreaks, as this field is a key component in determining influenza activity levels. In general, respiratory infection outbreaks without a **Date Outbreak Declared Over** will be considered ongoing and for influenza, this field will be used in the activity level assessments to categorize public health units as having localized or widespread influenza activity.

Figure 3. Screenshot of select outbreak description fields for entering onset dates and date outbreak declared over in iPHIS



Source: Ontario. Ministry of Health. Integrated Public Health Information System (iPHIS) [database]. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2022 Aug 11].

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 respiratory infection season progresses.

3. Influenza activity reporting by PHO

For the 2023-24 season, PHO will determine the weekly influenza activity level for each PHU 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 that surveillance week, and

2. Any influenza outbreaks in institutions or public hospitals occurring in the surveillance week, in other words the outbreak was either declared or remains ongoing (i.e., not yet declared over), with at least two outbreak-associated cases in total entered in the aggregate case count section.

The PHAC's FluWatch activity level definitions forms the basis of the PHO weekly activity level assessment.[11] There are four levels of activity that PHO may assign to a PHU each surveillance week, which is defined as the preceding week from Sunday to Saturday inclusive (see Appendix B for the 2023-24 surveillance weeks). The descriptions of the activity levels listed here represent an Ontario-specific adaptation of PHAC's FluWatch activity levels:

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, 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 depends 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 the **Date Outbreak Declared Over** has not been entered.

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

Eighteen 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.[11]

Appendix B: Surveillance Weeks

Table 1: Surveillance weeks for the 2023-24 respiratory infection season

Surveillance week	Start date (Sunday)	End date (Saturday)
Week 35	27-Aug-23	02-Sep-23
Week 36	03-Sep-23	09-Sep-23
Week 37	10-Sep-23	16-Sep-23
Week 38	17-Sep-23	23-Sep-23
Week 39	24-Sep-23	30-Sep-23
Week 40	01-Oct-23	07-Oct-23
Week 41	08-Oct-23	14-Oct-23
Week 42	15-Oct-23	21-Oct-23
Week 43	22-Oct-23	28-Oct-23
Week 44	29-Oct-23	04-Nov-23
Week 45	05-Nov-23	11-Nov-23
Week 46	12-Nov-23	18-Nov-23
Week 47	19-Nov-23	25-Nov-23
Week 48	26-Nov-23	02-Dec-23
Week 49	03-Dec-23	09-Dec-23
Week 50	10-Dec-23	16-Dec-23
Week 51	17-Dec-23	23-Dec-23
Week 52	24-Dec-23	30-Dec-23
Week 1	31-Dec-24	06-Jan-24
Week 2	07-Jan-24	13-Jan-24
Week 3	14-Jan-24	20-Jan-24
Week 4	21-Jan-24	27-Jan-24

Surveillance week	Start date (Sunday)	End date (Saturday)
Week 5	28-Jan-24	03-Feb-24
Week 6	04-Feb-24	10-Feb-24
Week 7	11-Feb-24	17-Feb-24
Week 8	18-Feb-24	24-Feb-24
Week 9	25-Feb-24	02-Mar-24
Week 10	03-Mar-24	09-Mar-24
Week 11	10-Mar-24	16-Mar-24
Week 12	17-Mar-24	23-Mar-24
Week 13	24-Mar-24	30-Mar-24
Week 14	31-Mar-24	06-Apr-24
Week 15	07-Apr-24	13-Apr-24
Week 16	14-Apr-24	20-Apr-24
Week 17	21-Apr-24	27-Apr-24
Week 18	28-Apr-24	04-May-24
Week 19	05-May-24	11-May-24
Week 20	12-May-24	18-May-24
Week 21	19-May-24	25-May-24
Week 22	26-May-24	01-Jun-24
Week 23	02-Jun-24	08-Jun-24
Week 24	09-Jun-24	15-Jun-24
Week 25	16-Jun-24	22-Jun-24
Week 26	23-Jun-24	29-Jun-24
Week 27	30-Jun-24	06-Jul-24
Week 28	07-Jul-24	13-Jul-24

Surveillance week	Start date (Sunday)	End date (Saturday)
Week 29	14-Jul-24	20-Jul-24
Week 30	21-Jul-24	27-Jul-24
Week 31	28-Jul-24	03-Aug-24
Week 32	04-Aug-24	10-Aug-24
Week 33	11-Aug-24	17-Aug-24
Week 34	18-Aug-24	24-Aug-24

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