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PHO Rounds:
Update on Influenza for the 2022-23 Season

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September 20, 2022

Disclosures

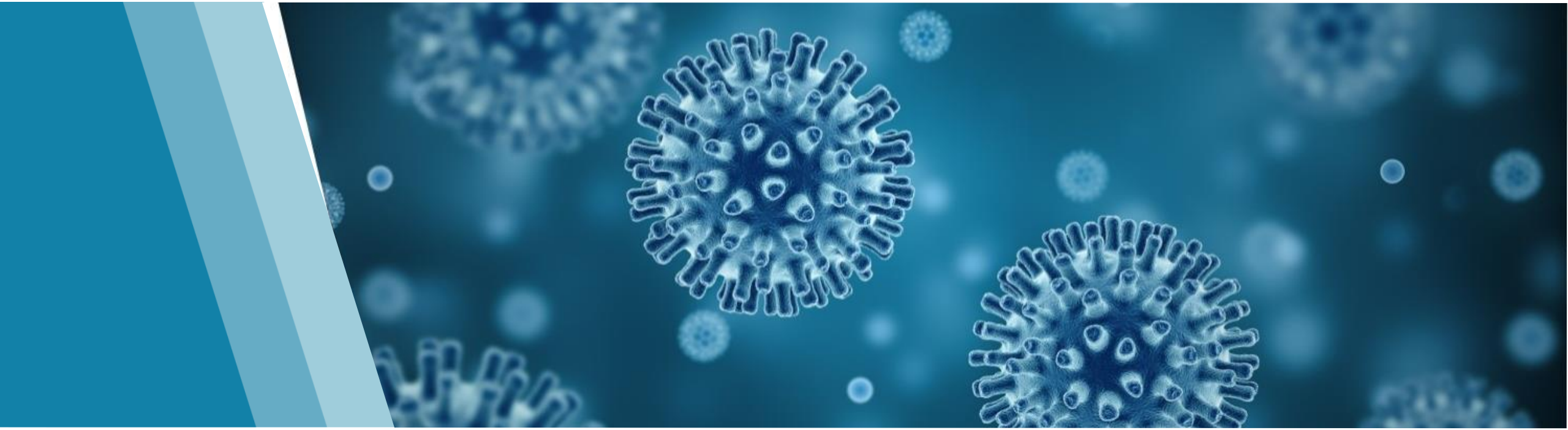
- Ms. Saunders and Dr. Navarro do not have any conflicts of interest to disclose
- Dr. Gubbay has received direct financial payments from the Global Infectious Diseases Epidemiology Online Network (GIDEON) in his role as a Consultant Scientific Editor

Learning Objectives

By the end of this session, participants will be able to:

- Describe trends in influenza and respiratory activity observed following reopening phases of the pandemic in Ontario, Canada, and internationally
- List the influenza vaccine products available as part of Ontario's Universal Influenza Immunization Program (UIIP) 2022-23 for different age groups
- Understand the use and benefits of antiviral medications for the treatment and prevention of influenza
- Recall the respiratory virus tests available at PHO Laboratory for symptomatic and asymptomatic patients

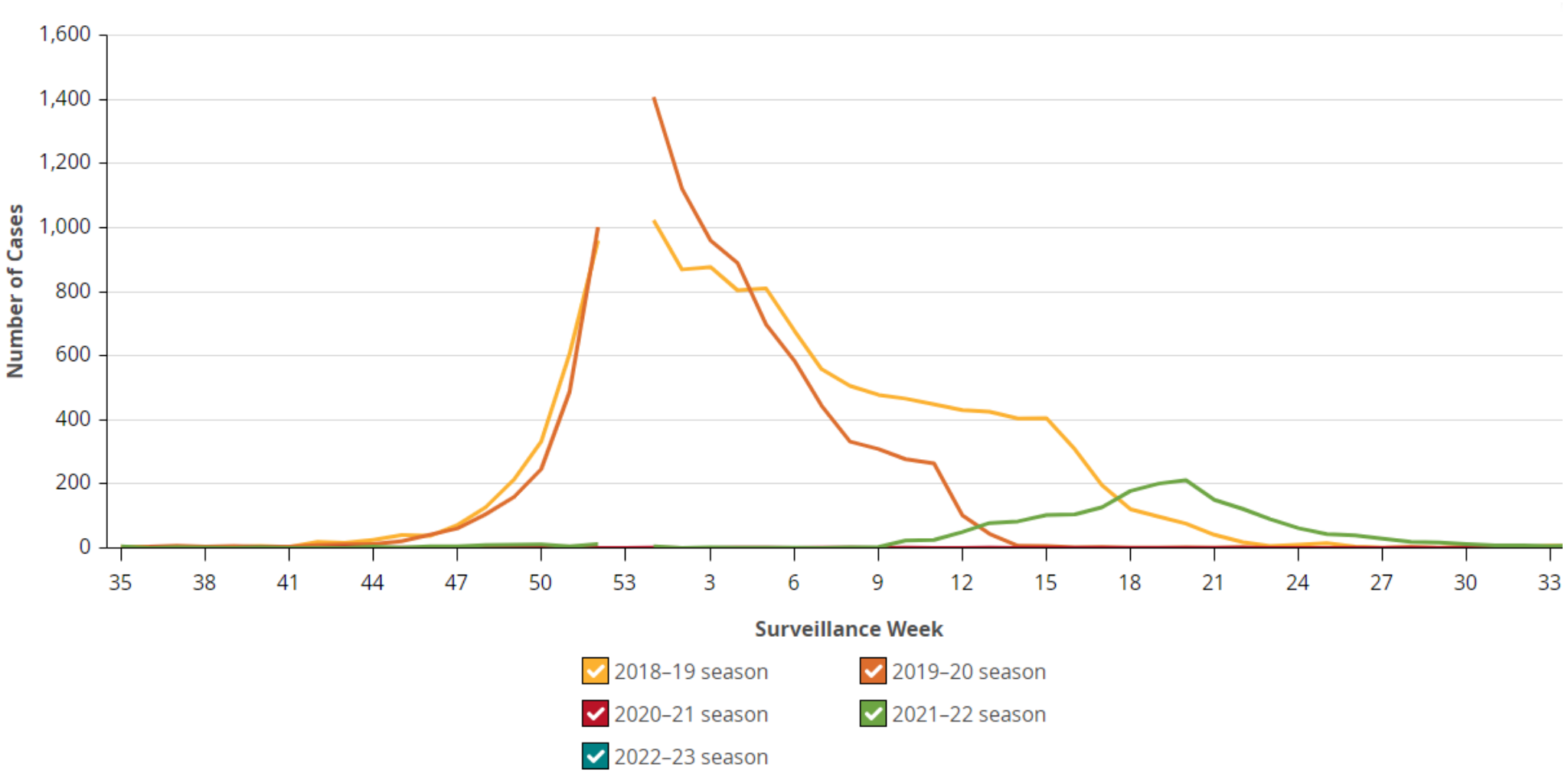
Respiratory Virus Activity: Ontario and Canada, 2021-22 Season



Polling Question #1

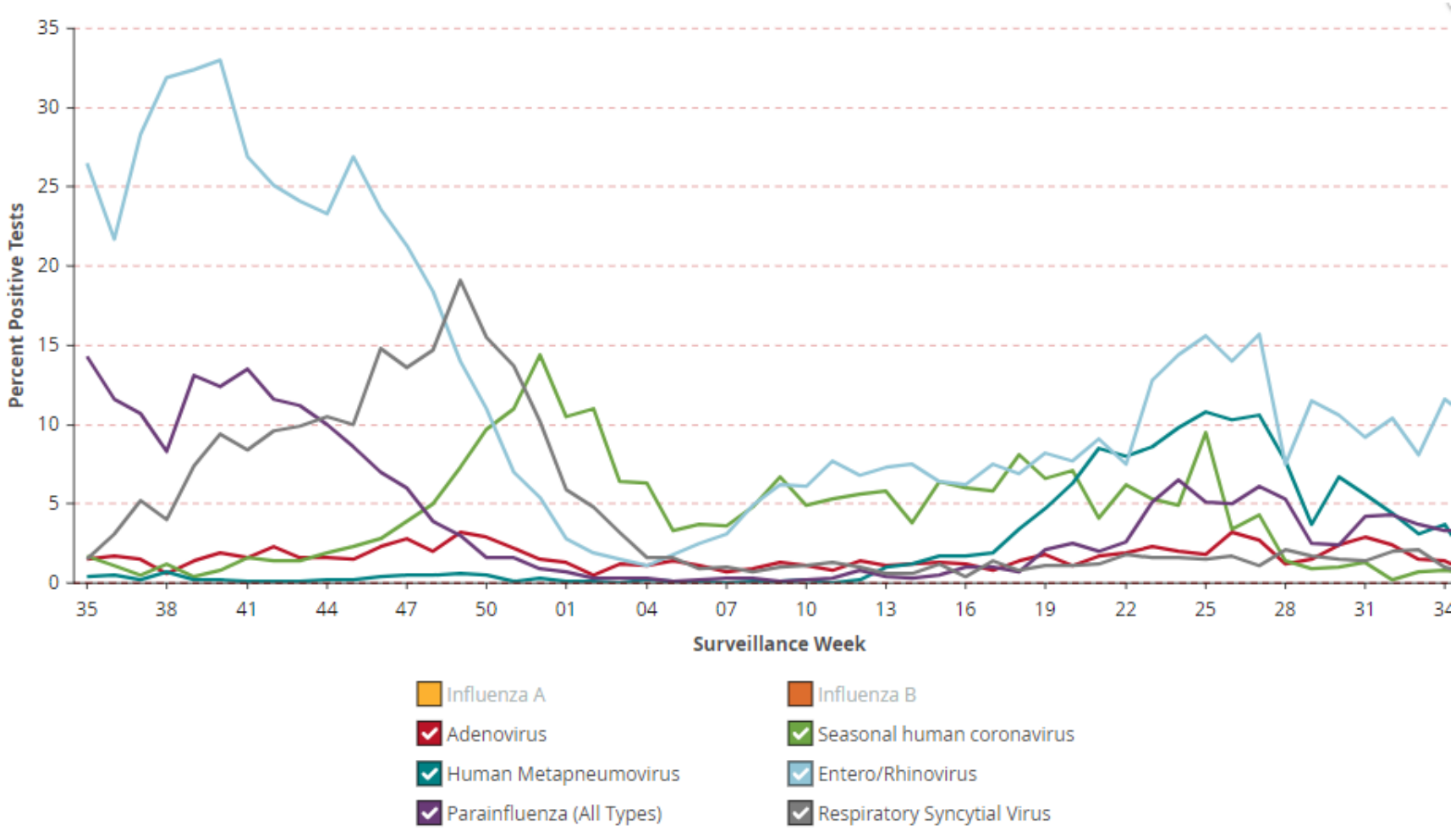
- In what month did the percent positivity for influenza peak during the 2021-22 season in Ontario?

Number of Influenza A Cases in Ontario: 2018-19 to 2021-22 Seasons



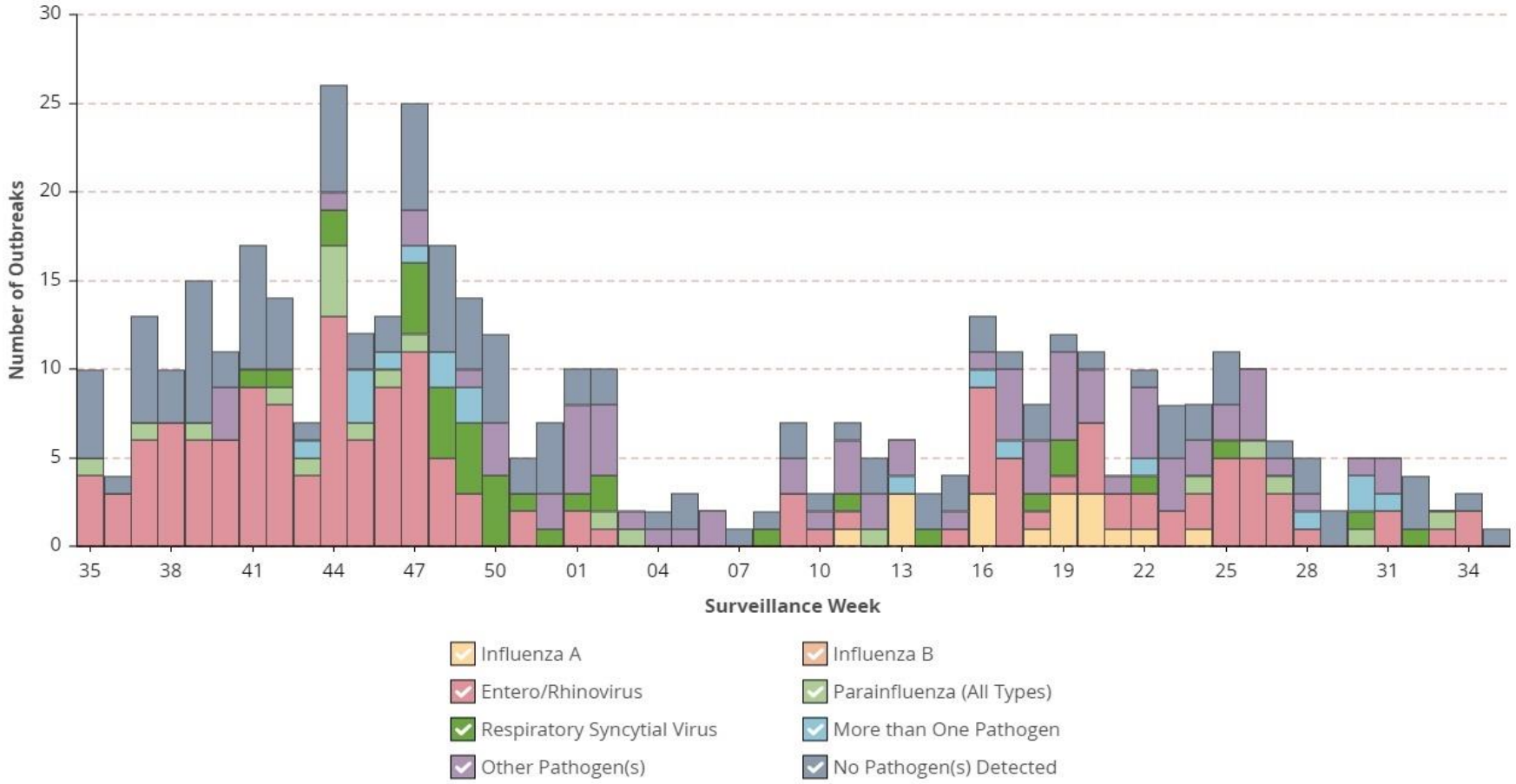
Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Ontario respiratory pathogen bulletin [Internet]. Toronto, ON: King's Printer for Ontario; 2022 [cited 2022 Sep 13]. Available from: https://www.publichealthontario.ca/en/data-and-analysis/infectious-disease/respiratory-pathogens-weekly

Percent Positivity of Other Respiratory Viruses by Surveillance Week: Ontario, 2021-22



Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Ontario respiratory pathogen bulletin [Internet]. Toronto, ON: King's Printer for Ontario; 2022 [cited 2022 Sep 13]. Available from: https://www.publichealthontario.ca/en/data-and-analysis/infectious-disease/respiratory-pathogens-weekly

Number of Institutional Respiratory Infection Outbreaks by Viral Pathogen and Surveillance Week: Ontario, 2021-22



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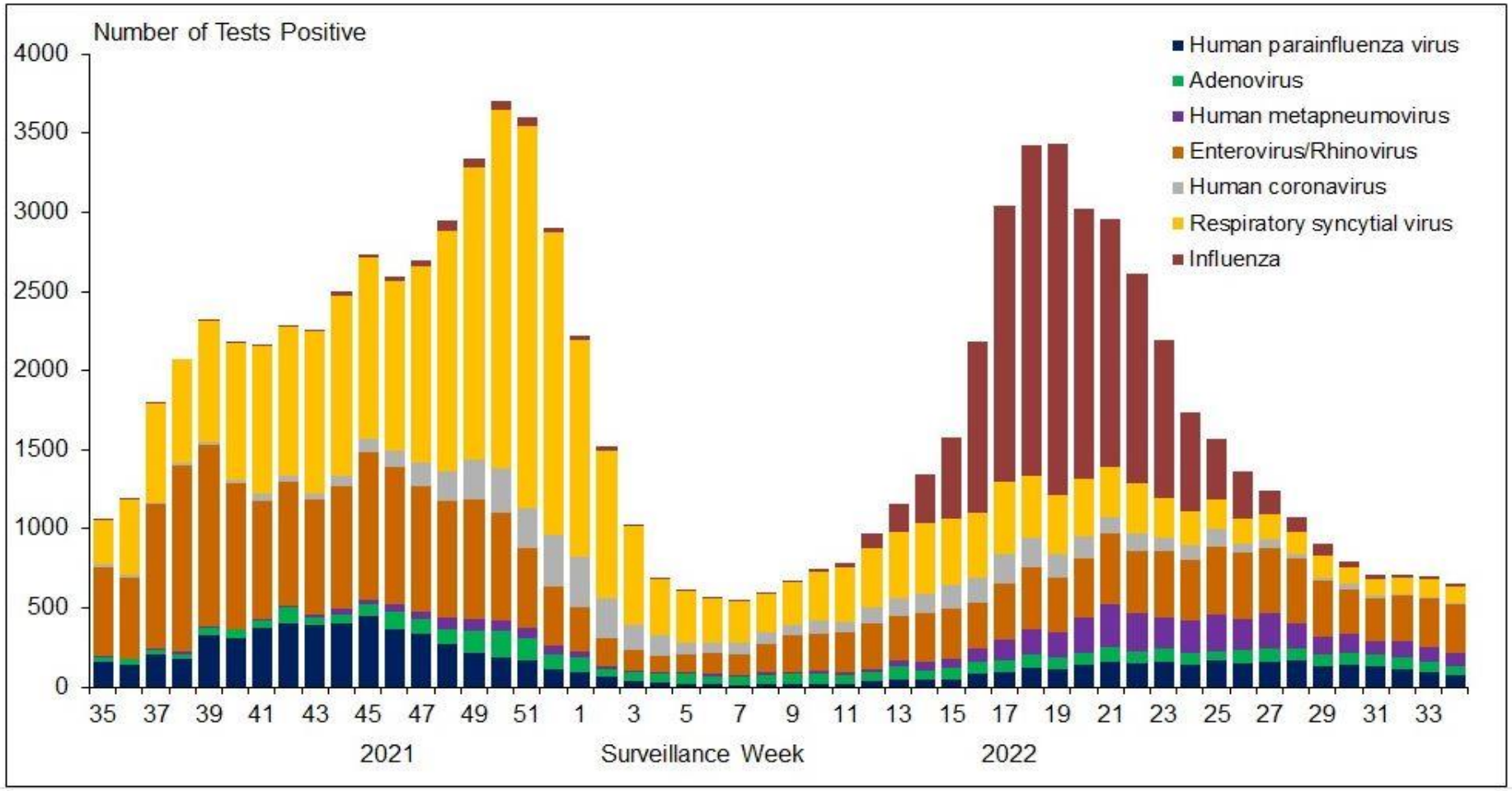
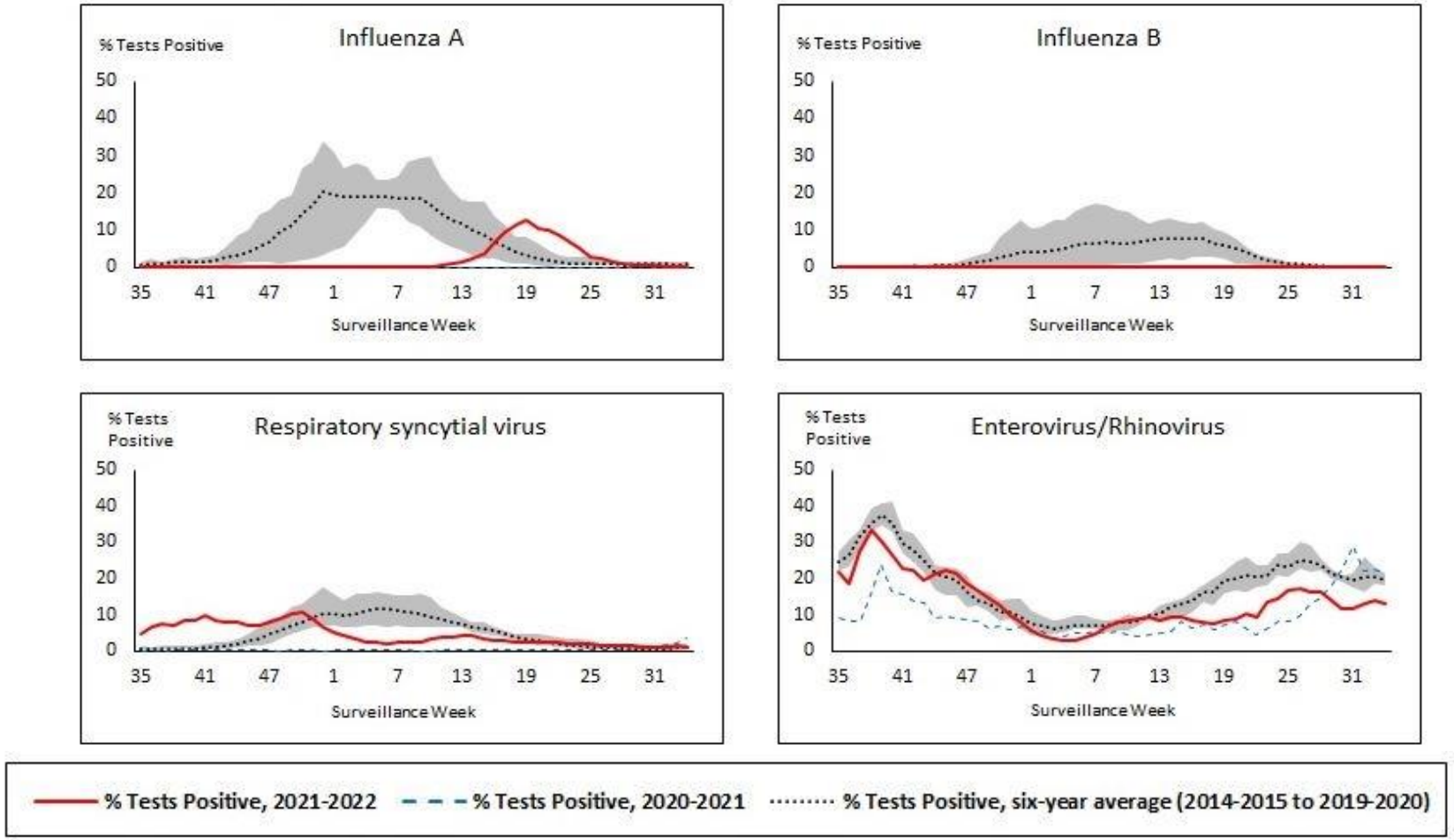
Number of Positive Respiratory Virus Tests* by Surveillance Week: Canada, 2021-22 (*Reported by Participating Laboratories)



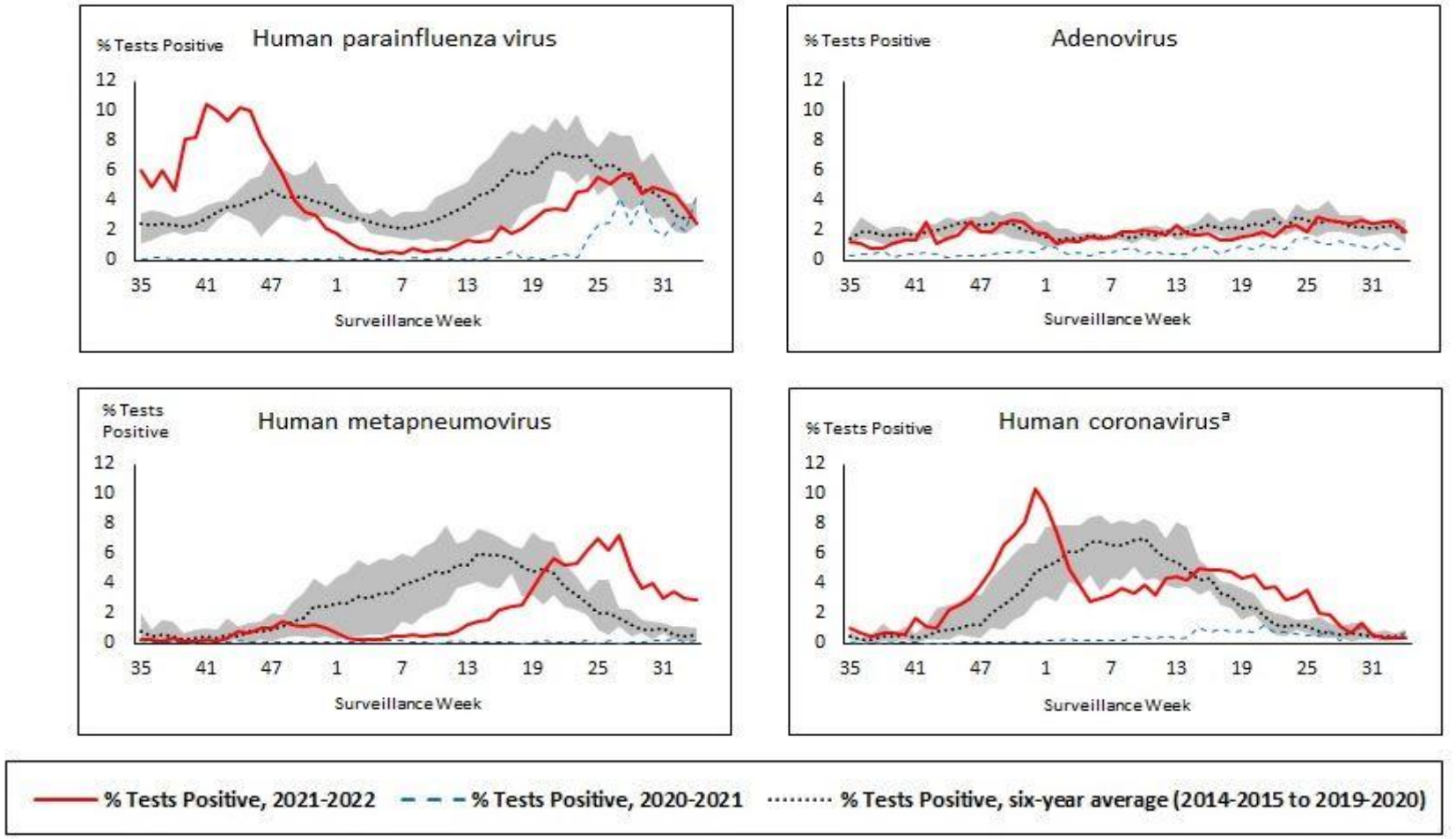
Source: Public Health Agency of Canada. Respiratory virus report, Week 34 – ending August 27, 2022 [Internet]. Ottawa, ON: Government of Canada; 2022 [cited 2022 July 12]. Reproduction is a copy of the version available from: https://www.canada.ca/en/public-health/services/surveillance/respiratory-virus-detections-canada/2021-2022/week-34-ending-august-27-2022.html. Used with permission available from: https://www.canada.ca/en/transparency/terms.html

Percent Positivity of Respiratory Viruses* by Surveillance Week: Canada, 2021-22 (*Reported by Participating Laboratories)



Source: Public Health Agency of Canada. Respiratory virus report, Week 34 – ending August 27, 2022 [Internet]. Ottawa, ON: Government of Canada; 2022 [cited 2022 July 12]. Reproduction is a copy of the version available from: https://www.canada.ca/en/public-health/services/surveillance/respiratory-virus-detections-canada/2021-2022/week-34-ending-august-27-2022.html. Used with permission available from: https://www.canada.ca/en/transparency/terms.html

Percent Positivity of Respiratory Viruses* by Surveillance Week: Canada, 2021-22, cont'd (*Reported by Participating Laboratories)



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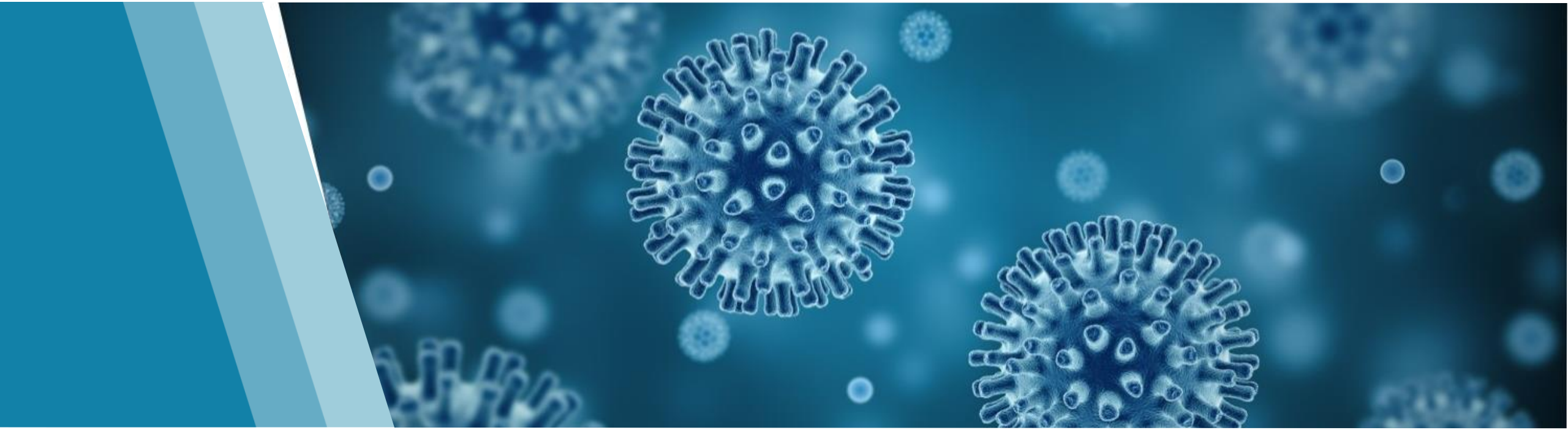
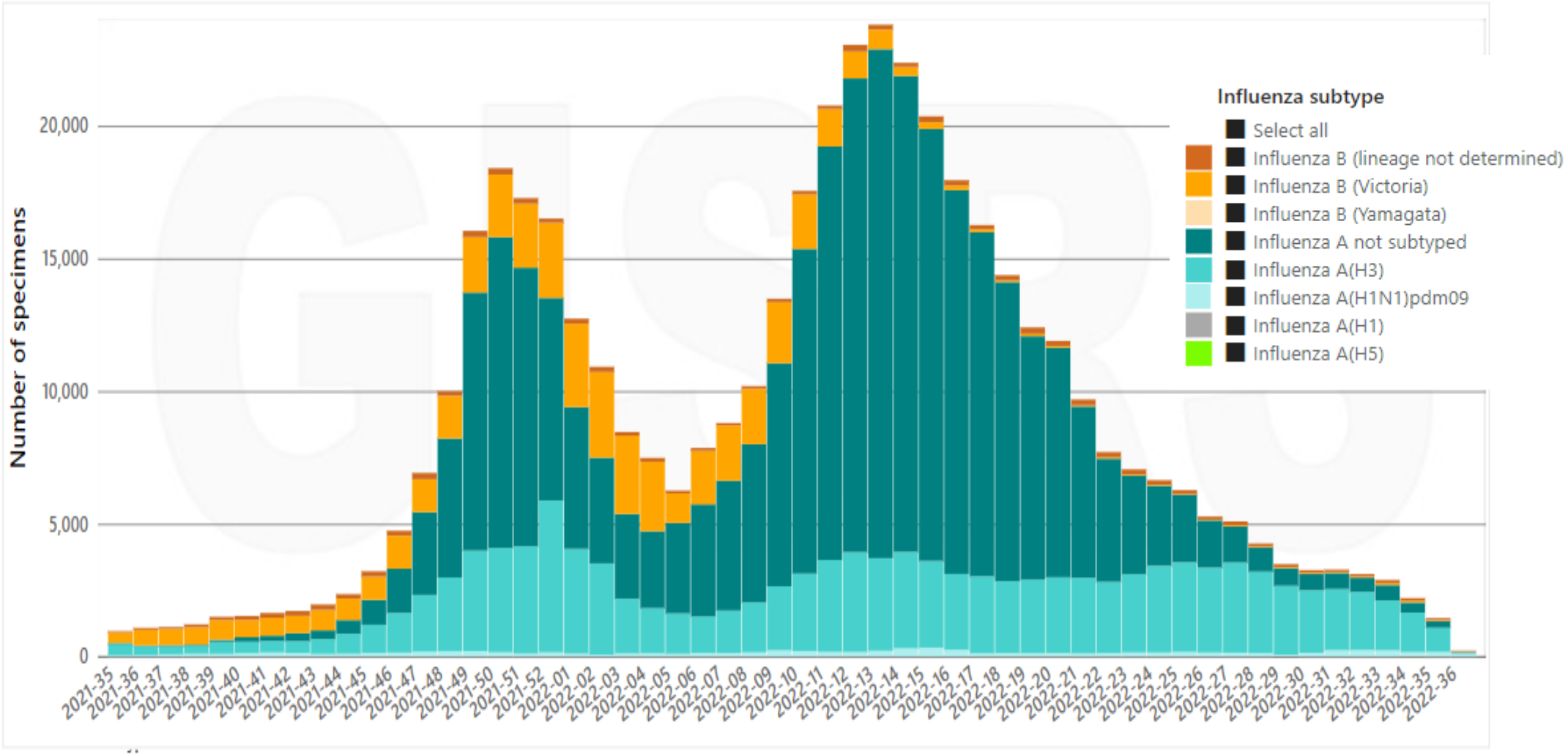
Respiratory Virus Activity: Internationally, 2021-22 Season

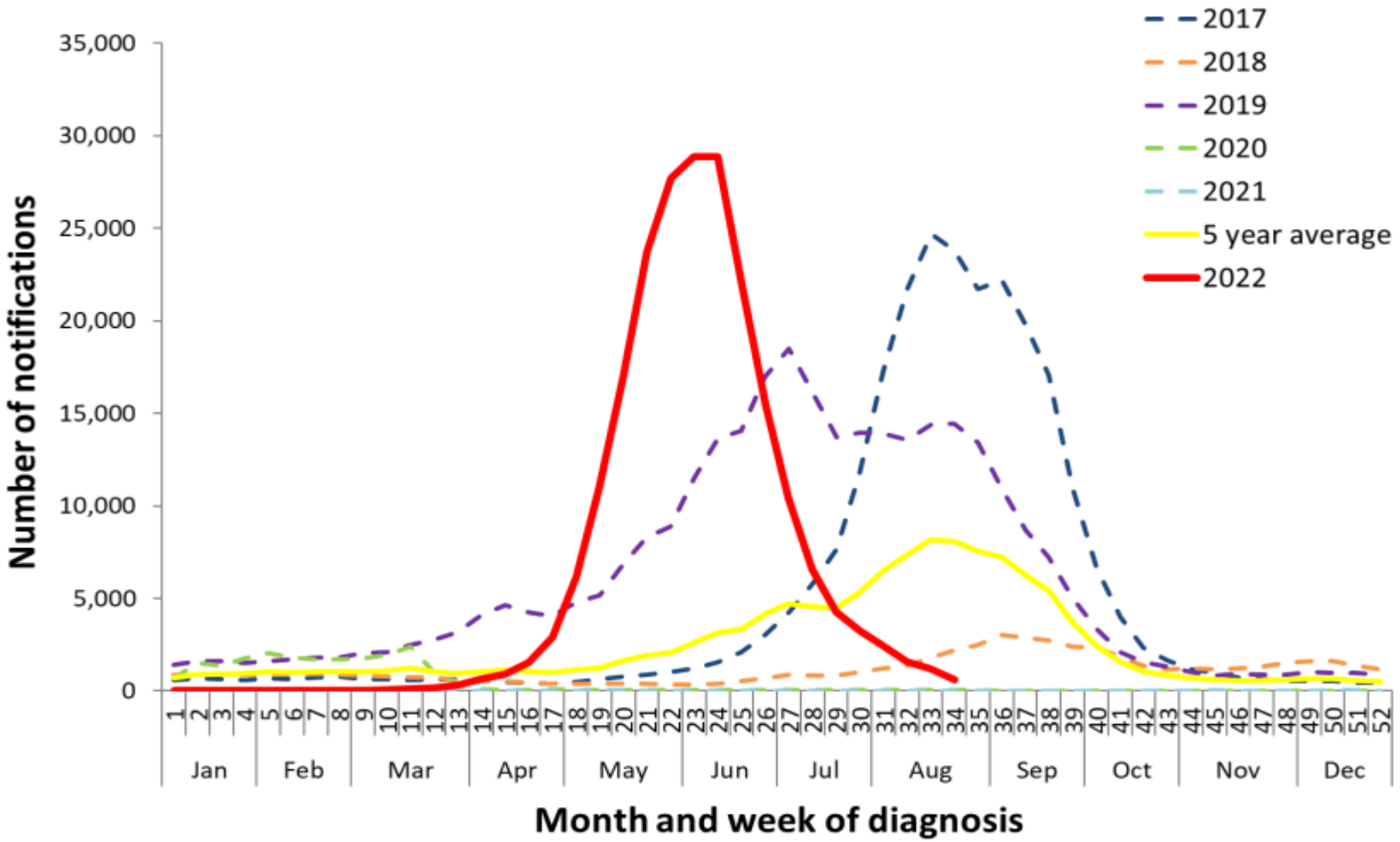


Influenza Virus Detections by Subtype: Globally, 2021-22



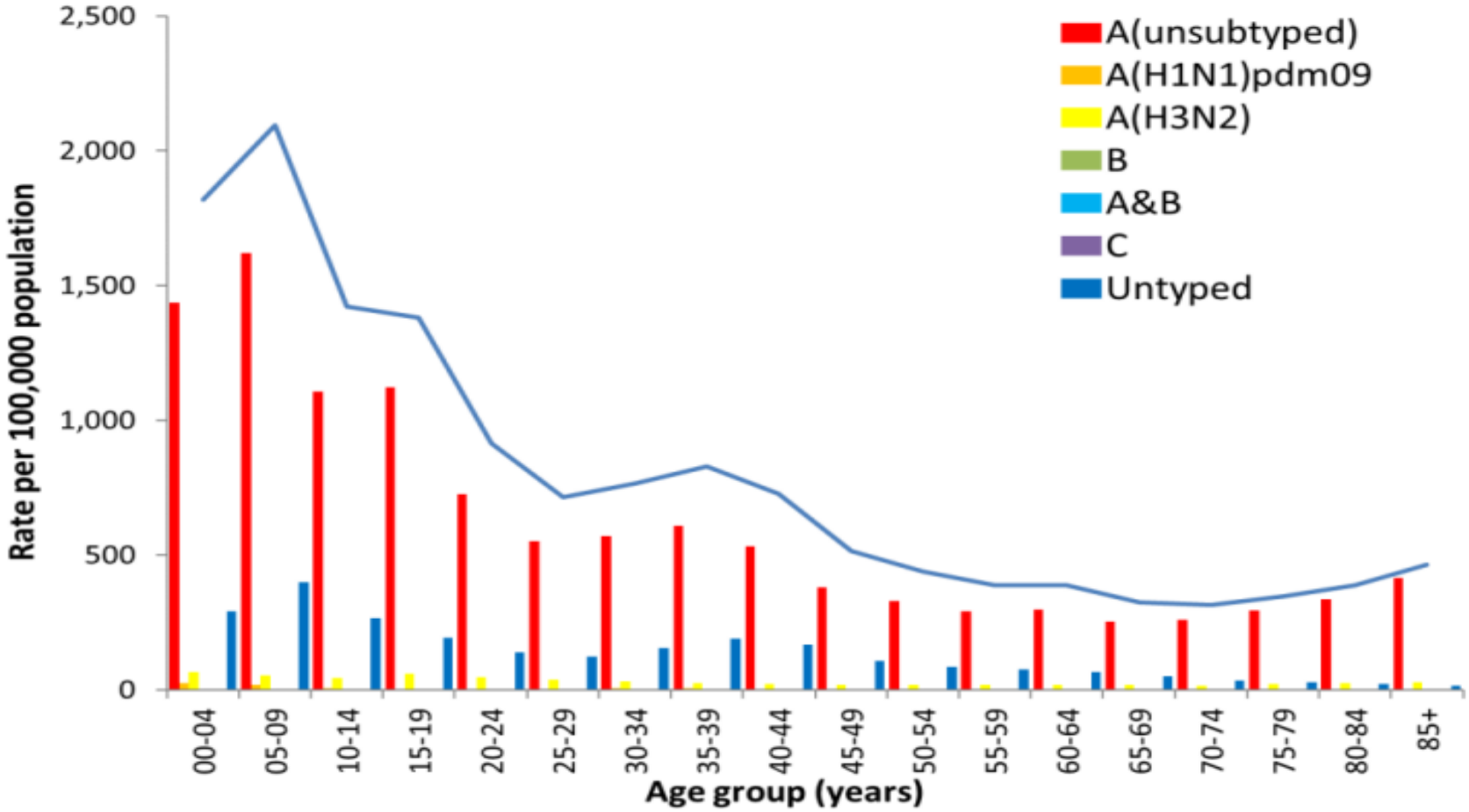
Source: World Health Organization; Global Influenza Surveillance and Response System (GISRS). Virus detections by subtype reported to FluNet. [Internet]. Geneva: World Health Organization; 2022 [cited 2022 Sep 13]. Available from: https://www.who.int/tools/flunet

Laboratory-Confirmed Influenza: Australia, 2017 to August 28, 2022



Source: Australian Government. Department of Health. Australian influenza surveillance report: No. 11, 2022 [Internet]. Canberra: Commonwealth of Australia; 2022 [cited 2022 Sep 13]. Available from: https://www1.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-ozflu-flucurr.htm#current

Rate of Laboratory-Confirmed Influenza by Age Group: Australia, January 1, 2022 to July 31, 2022



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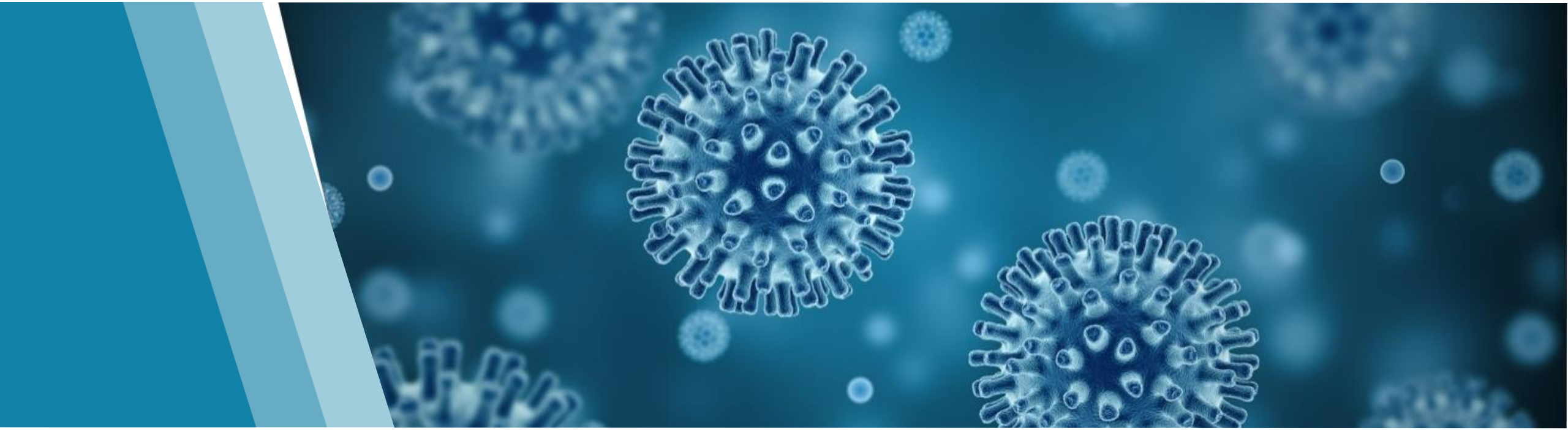
Lack of Information on Prior Season to Inform 2022-23 Season

- Some influenza circulation in 2021-22 globally, but an atypical season
  - In many jurisdictions, some level of public health measures and restrictions were still in place and disrupted influenza transmission
  - Influenza A activity peaked in the spring in Canada, much later than the usual peak; sporadic activity continues to be reported in many parts of the country
  - RSV activity peaked in the fall, earlier than the typical peak in winter
  - Some countries and regions did report epidemics, and overall higher detections of influenza activity in the 2021-22 season than in the 2020-21 influenza season.
- Insufficient influenza circulation to determine influenza vaccine effectiveness for the 2021-22 season

Anticipation for 2022-23 Season in Ontario

- Circulation of viruses other than SARS-CoV-2 already occurring and expected to continue
- Widespread public health measures (e.g., mandatory masking, distancing, capacity limits) that reduced the impact from SARS-CoV-2 and other respiratory viruses are no longer in place
- Reduced population immunity from lack of exposure over 2020-21 and 2021-22 may increase circulation/severity in 2022-23
  - Impacts for susceptibility to influenza in young children
  - High need for influenza vaccination in young children
  - Impacts for acute care capacity planning

Influenza Vaccines for 2022-23



Influenza Vaccine Composition for Northern Hemisphere

	2021-22 Egg-based Vaccines	2022-23 Egg-based Vaccines
Influenza A strains	A/Victoria/2570/2019 (H1N1)pdm09-like virus A/Cambodia/e0826360/2020 (H3N2)-like virus	A/Victoria/2570/2019 (H1N1)pdm09-like virus A/Darwin/9/2021 (H3N2)-like virus
Influenza B strains	B/Washington/02/2019 (B/Victoria lineage)-like virus B/Phuket/3073/2013 (B/Yamagata lineage)-like virus	B/Austria/1359417/2021-like virus (B/Victoria lineage)-like virus B/Phuket/3073/2013 (B/Yamagata lineage)-like virus*

* Not contained in TIV product

Adapted from: World Health Organization. Recommended composition of influenza virus vaccines for use in the 2022-2023 northern hemisphere influenza season [Internet]. Geneva: World Health Organization; 2021 [cited 2022 Sep 15]. Available from: https://www.who.int/publications/m/item/recommended-composition-of-influenza-virus-vaccines-for-use-in-the-2022-2023-northern-hemisphere-influenza-season

Recommended UIIP Vaccines for 2022-23

Age Group	Type of Product	Product Name
6 months to 4 years	Standard-dose quadrivalent (QIV)	FluLaval Tetra Fluzone Quadrivalent
5 years to 64 years	Standard-dose quadrivalent (QIV)	FluLaval Tetra Fluzone Quadrivalent Alfuria Tetra
65 years and over	Standard-dose quadrivalent (QIV)	FluLaval Tetra Fluzone Quadrivalent Alfuria Tetra
	High-dose quadrivalent (HD-QIV)	Fluzone High-Dose Quadrivalent
	Adjuvanted trivalent (TIV-adj)	Fluad

Source: Ontario. Ministry of Health. 2022/23 Universal influenza immunization program (UIIP) [Internet]. Toronto, ON: Queen's Printer for Ontario; 2022 [cited 2022 Sep 15]. Available from: https://www.health.gov.on.ca/en/pro/programs/publichealth/flu/uiip/#:~:text=The%20publicly%20funded%20influenza%20vaccines,65%20years%20only%20(table%202)

UIIP Vaccines for Adults 65 Years and Older

Considerations	QIV	HD-QIV	TIV-adj
Composition	• 15 mcg hemagglutinin per strain	• 60 mcg hemagglutinin per strain	• 15 mcg hemagglutinin per strain • M059 adjuvant
Immunogenicity	• Non-inferior immune response to strains contained in TIV • Superior immune response to additional B strain	• Expected superior immune response to influenza A strains compared to TIV • Superior immune response to additional B strain	• Non-inferior immune response compared to TIV • Superiority to TIV not consistently demonstrated
Efficacy and effectiveness	• Better protection against the influenza B strain not contained in TIV	• Expected better protection compared with TIV, particularly for A(H3N2) • Better protection against influenza B strain not contained in TIV	• Insufficient evidence to compare TIV-adj with TIV
Safety	• Similar safety profile to TIV	• Higher rate of some systemic reactions than QIV; these were mild and transient • Serious adverse events were rare and similar in frequency to QIV	• Higher rate of injection site reactions than TIV • Higher or comparable systemic reactions to TIV; these were mild to moderate and transient • Serious adverse events were comparable to TIV and uncommon

Source: Ontario. Ministry of Health. 2022/23 Universal influenza immunization program (UIIP) [Internet]. Toronto, ON: Queen's Printer for Ontario; 2022 [cited 2022 Sep 15]. Available from: https://www.health.gov.on.ca/en/pro/programs/publichealth/flu/uiip/#:~:text=The%20publicly%20funded%20influenza%20vaccines,65%20years%20only%20(table%202)

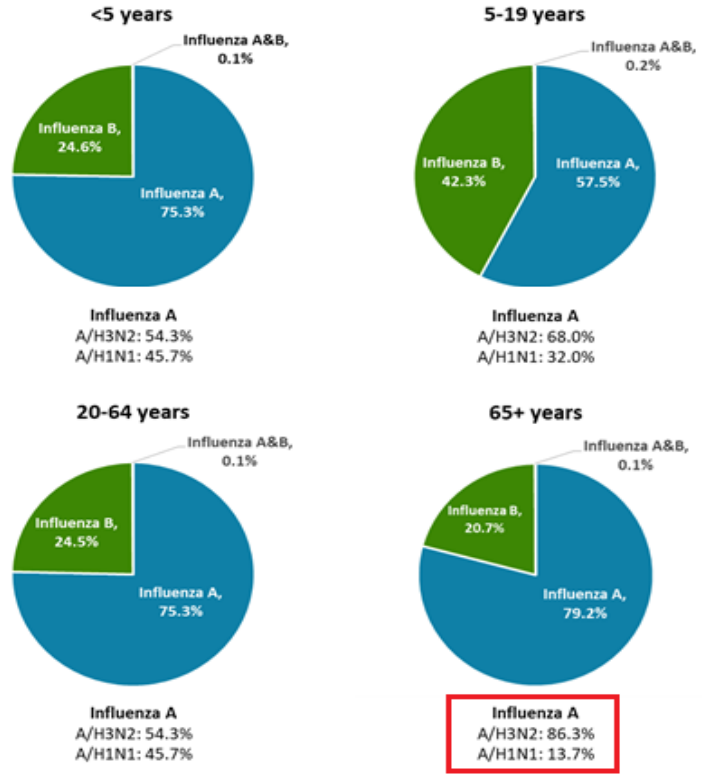
National Advisory Committee on Immunizations (NACI) 2022-23 Recommendations for Adults 65 Years and Older

Individual decision making

- **When available, high-dose QIV should be used over standard-dose QIV**
  - Based on good evidence of better protection of HD-TIV compared to TIV and the burden of influenza A (H3N2) disease in adults 65 years of age and older

Individual and public health program-level decision making

- Any of the available age-appropriate influenza vaccines should be used



Proportion of influenza cases by type and subtype for influenza A, by age group, Ontario, 2010–11 to 2021–22* influenza seasons (*as of July 25, 2022)

Source: Public Health Agency of Canada; National Advisory Committee on Immunization (NACI). Canadian immunization guide chapter on influenza and statement on seasonal influenza vaccine for 2022–2023: an Advisory Committee Statement (ACS). Ottawa, ON: Her Majesty the Queen in Right of Canada, as represented by the Minister of Health; 2022. Available from: https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/canadian-immunization-guide-statement-seasonal-influenza-vaccine-2022-2023.html

Very Important to be Vaccinated this Season

- Influenza vaccine remains the most effective way to prevent influenza illness and influenza-related complications
- Individual protection against influenza
  - Lack of natural immunity with >2 years since widespread influenza circulation
- Reduce risk of co-infection in individuals (influenza and COVID-19) and outbreaks with more than one virus
- Decrease burden on health care system
  - Anticipation of pressures with fall-winter respiratory season, with ongoing COVID-19 activity and impacts from other circulating respiratory viruses
- Co-administration can present important opportunities to provide individuals with the vaccines they are eligible for in a timely way
  - Including influenza, COVID-19, routine vaccines

Co-administration with Influenza Vaccines

- All influenza vaccines may be given at the same time as, or at any time before or after, other vaccines
- If given by injection at the same time, separate limbs should be used if possible
  - Alternatively, injections may be administered into the same muscle separated by at least 2.5 cm (1”)
- Different immunization equipment (needle and syringe) must be used for each vaccine

Co-administration with Influenza Vaccines

COVID-19 vaccines

- 5 years and older: influenza vaccines may be given at the same time as, or at any time before or after, other vaccines, including the COVID-19 vaccine
- 6 months to 5 years: NACI currently recommends to wait 14 days between vaccine products when administering the Moderna Spikevax (25 mcg) COVID-19 vaccine and other vaccines, including influenza vaccine

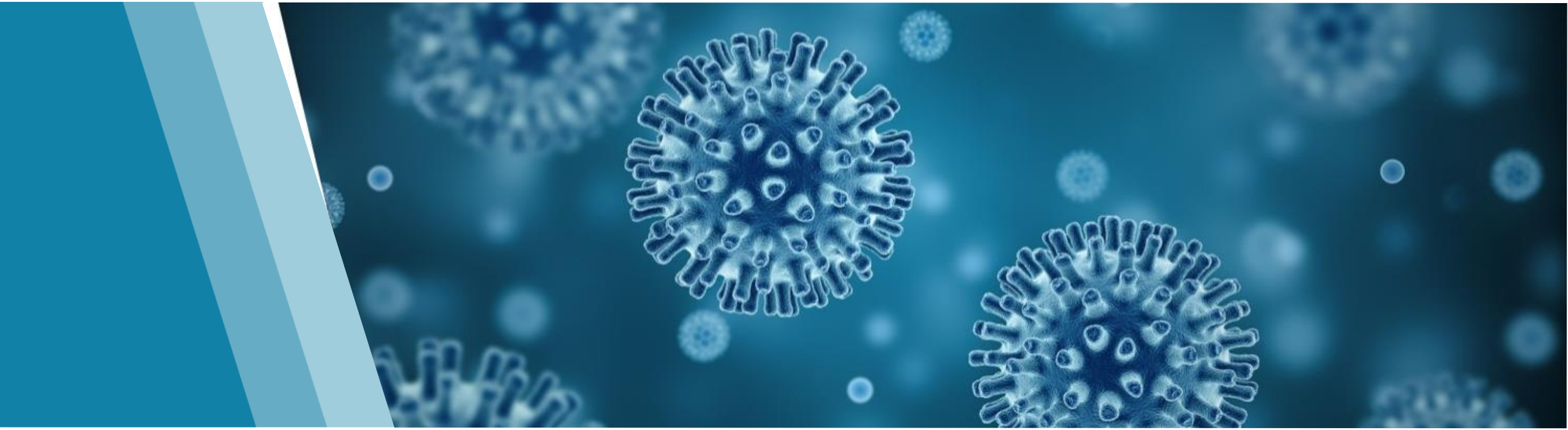
Recombinant adjuvanted subunit herpes zoster vaccine (RZV)

- RZV (Shingrix) has been shown to be safe and effective when given concomitantly with unadjuvanted, standard dose influenza vaccines
- No studies have assessed co-administration of RZV with adjuvanted or high dose influenza vaccine
- There are no data on how the adjuvants in RZV (AS01B) and TIV-adj (MF59) may interact
- NACI states that some providers may prefer to use non-adjuvanted influenza vaccine in this situation

Resources on Influenza Vaccines

- **National Advisory Committee on Immunization (NACI)**
  - Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2022–2023
  - Guidance on the use of influenza vaccine in the presence of COVID-19
- **Public Health Ontario**
  - Focus On: Influenza Vaccines for the 2022-2023 Influenza Season
- **Ministry of Health**
  - 2022/2023 Universal Influenza Immunization Program (UIIP)

Influenza Antiviral Medications



Polling Question #2

True or False:

Laboratory confirmation of influenza is required before initiating treatment with antivirals.

Antiviral Medications for Influenza

- Neuraminidase inhibitors (NIs)
  - Blocks exit of the virus from respiratory cells
  - Prevents further replication of the virus
- Used for
  - Treatment of individuals at those with moderate or severe illness or at risk for complications of influenza
  - Treatment and prophylaxis in outbreaks
- Offer as soon as possible
  - Benefits of treatment are much greater with initiation at less than 12 hours than with initiation at 48 hours
  - Should be initiated beyond 48 hours in with progressive, severe, or complicated illness or in those at high risk of complications

Antiviral Medications for Influenza Available in Canada

Product	Age	Route	Use
Oseltamivir (Tamiflu)	1 year of age or older* *Not approved for routine treatment of seasonal influenza illness for children <1 year, but can be considered on case-by-case basis	Oral	Primary agent for treatment of suspected or confirmed influenza
Zanamivir (Relenza)	7 years and over	Inhalation	Consider for individuals: • not responding to oseltamivir therapy • who have developed influenza while receiving oseltamivir prophylaxis • where influenza B is strongly suspected

During 2021-22, all 259 influenza viruses (248 A(H3N2) and 11 A(H1N1)) tested by the National Microbiology Laboratory were sensitive to oseltamivir and zanamivir.

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). At a glance: influenza antiviral treatment [Internet]. Toronto, Ontario: Queen's Printer for Ontario; 2021 [cited 2022 Sep 15]. Available from: https://www.publichealthontario.ca/-/media/Documents/F/2020/fact-sheet--antiviral-medications-influenza.pdf?sc_lang=en

Indications for Treating Influenza

1. Is influenza circulating in your community?
2. Does your patient have symptoms compatible with influenza?
3. Is your patient at high risk for the complications of influenza?
   OR
   Does your patient have moderate, progressive, severe or complicated influenza, such as individuals who are hospitalized with influenza?

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). At a glance: influenza antiviral treatment [Internet]. Toronto, Ontario: Queen's Printer for Ontario; 2021 [cited 2022 Sep 15]. Available from: https://www.publichealthontario.ca/-/media/Documents/F/2020/fact-sheet--antiviral-medications-influenza.pdf?sc_lang=en

Is Influenza Circulating in Your Community?

SURVEILLANCE REPORT

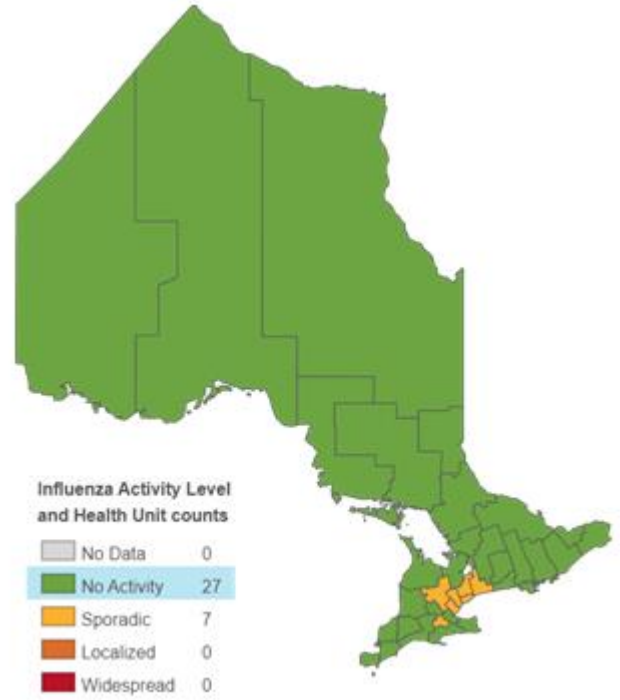
PHO Laboratory-Based Respiratory Pathogen Surveillance Report

Geography

Table 7. Number of specimens tested, positive, and percent positive for influenza A and B by public health unit and region, PHO, current week (August 28, 2022, to September 3, 2022) and cumulative season (August 28, 2022, to September 3, 2022)

Public Health Unit and Region	Flu A and B Tested Curr. (Cum.) N	Flu A Positive Curr. (Cum.) n	Flu A Percent Positivity Curr. (Cum.) %	Flu A/H1N1pdm09 Positive Curr. (Cum.) n	Flu A/H3N2 Positive Curr. (Cum.) n	Flu B Positive Curr. (Cum.) n	Flu B Percent Positivity Curr. (Cum.) n (%)
NWR	1 (1)	0 (0)	0.0 (0.0)	0 (0)	0 (0)	0 (0)	0.0 (0.0)
THB	1 (1)	0 (0)	0.0 (0.0)	0 (0)	0 (0)	0 (0)	0.0 (0.0)
Total North West	**2 (2)**	**0 (0)**	**0.0 (0.0)**	**0 (0)**	**0 (0)**	**0 (0)**	**0.0 (0.0)**

Ontario Respiratory Pathogen Bulletin
Influenza Activity Level and Cases by Subtype as Reported by Public Health Units (2021-22), Week 35 (August 28 to September 3, 2022)



Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). PHO laboratory-based respiratory pathogen surveillance report: week 34 (August 28, 2022 to September 3, 2022) [Internet]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2022 Sep 13]. Available from: https://www.publichealthontario.ca/-/media/Documents/Surveillance-Reports/Respiratory/2022/surveillance-report-respiratory-lab-wk31-2022.pdf?sc_lang=en

Does Your Patient have Symptoms Compatible with Influenza?

- Clinical diagnosis more challenging if influenza and SARS-CoV-2 are co-circulating, and similarity of symptom presentation
- Co-infection with both influenza virus A or B and SARS-CoV-2 may occur
  - Patients with co-infection receiving antivirals for SARS-CoV-2 infection should also receive oseltamivir

AT A GLANCE

Key features of influenza, SARS-CoV-2 and Other Common Respiratory Viruses

Table 1: Comparison of key features of influenza, SARS-CoV-2, respiratory syncytial virus (RSV) and rhinovirus

Key features	Seasonal Influenza	SARS-CoV-2 (COVID-19)	Respiratory Syncytial Virus (RSV)	Rhinovirus
Most common symptoms	Sudden onset of fever, cough, chills, headache, fatigue, sore throat, runny or stuffy nose, muscle pain or body aches[1,2]	Similar to influenza including shortness of breath with the possibility of other symptoms, including new loss of taste and smell and gastrointestinal symptoms (nausea, vomiting, diarrhea)[3,4]	Similar to influenza[1,2]	Runny nose, sneezing, cough, sore throat, muscle pain, fatigue, no or mild fever[1,2]
More severe manifestation/ complications	Pneumonia, worsening of underlying medical conditions, sepsis, cardiac involvement, neurologic involvement, death[1,2]	Similar to influenza with the addition of blood clots in lungs, heart, legs or brain[5] and multisystem inflammatory syndrome in children (MIS-C)[3-5], multisystem inflammatory syndrome in adults (MIS-A)[3], Long-COVID[6] and death[5,7]	Pneumonia, bronchiolitis, death[1]	Lower respiratory tract infection (pneumonia, bronchiolitis) in infants[1], bronchitis[2]
Risk groups for complications	Young children; older adults; underlying medical conditions, including immunocompromised; obesity; pregnancy[2,7]	Older adults[3,7]; underlying medical conditions, including immunocompromised[3,7]; obesity[3]	Infants and children less than 2 years of age with congenital heart disease or chronic lung disease; premature infants; older adults; underlying medical conditions, including immunocompromised[1,2]	Young children; immunocompromised; respiratory conditions[1]

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). At a glance: key features of influenza, SARS-CoV-2 and other common respiratory viruses [Internet]. Toronto, Ontario: Queen's Printer for Ontario; 2021 [cited 2022 Sep 15]. Available from: https://www.publichealthontario.ca/-/media/Documents/nCoV/ipac/2020/09/key-features-influenza-covid-19-respiratory-viruses.pdf?sc_lang=en

Is Your Patient at High-Risk for Complications of Influenza?

- Residents of nursing homes or other chronic care facilities
- Adults 65 years of age and over
- Persons with underlying medical conditions
- Pregnant females and females up to four weeks post-partum
- Indigenous peoples
- (Children under 5 years of age)

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). At a glance: influenza antiviral treatment [Internet]. Toronto, Ontario: Queen's Printer for Ontario; 2021 [cited 2022 Sep 15]. Available from: https://www.publichealthontario.ca/-/media/Documents/F/2020/fact-sheet--antiviral-medications-influenza.pdf?sc_lang=en

Resources on Influenza Antiviral Medications

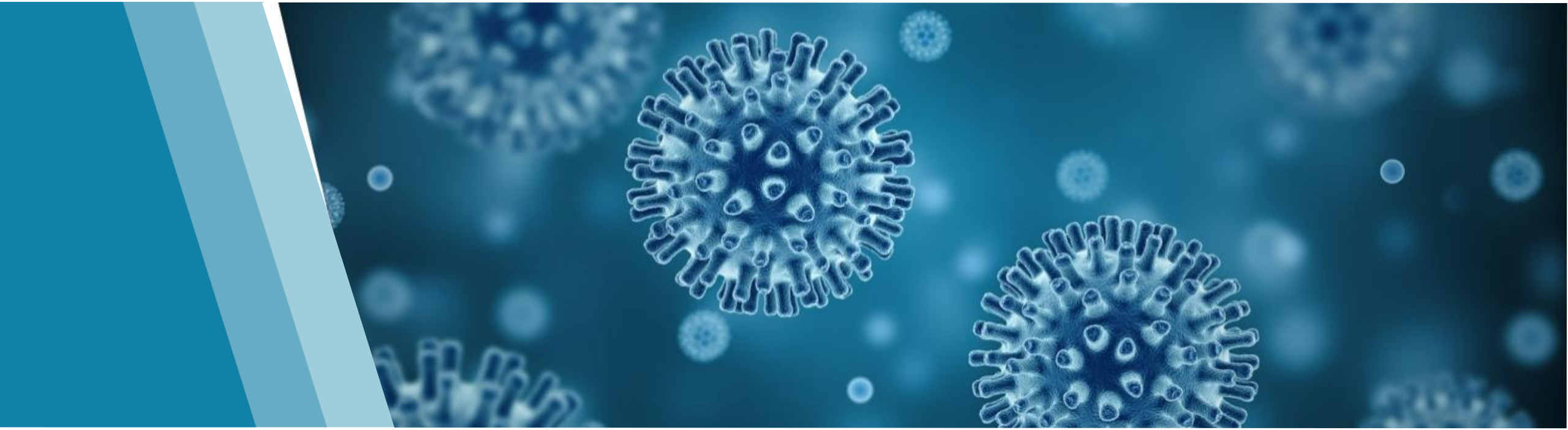
Association of Medical Microbiology & Infectious Disease Canada (AMMI)

- 2021–2022 AMMI Canada guidance on the use of antiviral drugs for influenza in the COVID-19 pandemic setting in Canada
- Use of antiviral drugs for seasonal influenza: Foundation document for practitioners – Update 2019

Public Health Ontario

- At A Glance: Influenza Antiviral Treatment
- FAQs: Antiviral Medication Use During an Influenza Outbreak: Congregate Living Settings

Influenza and Respiratory Virus Testing 2022-23



Respiratory Virus Tests in Use at PHO Laboratory

- SARS-CoV-2 PCR
- FLUVID detects: influenza A, influenza B, SARS-CoV-2 (COVID-19), and respiratory syncytial virus (RSV A + B)
- MRVP detects: influenza A, influenza A H3 subtype, influenza A H1 (pdm09) subtype, influenza B, respiratory syncytial virus (RSV A/B), parainfluenza (1 – 4), adenovirus, rhinovirus, seasonal human coronavirus (OC43, 229E, NL63, HKU1), rhinovirus and human metapneumovirus
- **Note:** The MRVP assay detects the different RSV, parainfluenza and seasonal human coronaviruses named above but does not differentiate between them. It does not detect or cross-react with SARS-CoV-2.

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Respiratory viruses (including influenza) [Internet]. Toronto, ON: King's Printer for Ontario; 2021 [modified 2021 Jul 23; cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/en/laboratory-services/test-information-index/virus-respiratory

Most Recent Testing Changes at PHO Laboratory (Since July 26, 2021)

- Changes to eligibility of multiplex respiratory virus PCR (MRVP) testing for children <18 years old seen in the Emergency Department
  - To support enhanced respiratory virus surveillance, MRVP testing is available for symptomatic children (<18 years) seen in the Emergency Department (ED)
    - This testing, which is generally not required for clinical purposes, will be re-evaluated in fall/winter 2022

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Respiratory viruses (including influenza) [Internet]. Toronto, ON: King's Printer for Ontario; 2021 [modified 2021 Jul 23; cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/en/laboratory-services/test-information-index/virus-respiratory

Respiratory Virus Testing Available at PHOL: Symptomatic Patients

Patient Setting	Testing Available By Request*
Hospitalized (all inpatients)	SARS-CoV-2 and MRVP **OR** FLUVID followed by MRVP
Remote communities	SARS-CoV-2 and MRVP **OR** FLUVID followed by MRVP
Institutions (non-outbreak) (e.g. long-term care homes, correctional facilities, congregate living settings)	SARS-CoV-2 and MRVP **OR** FLUVID followed by MRVP

*Both combinations will provide testing for the same viruses

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Respiratory viruses (including influenza) [Internet]. Toronto, ON: King's Printer for Ontario; 2021 [modified 2021 Jul 23; cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/en/laboratory-services/test-information-index/virus-respiratory

Respiratory Virus Testing Available at PHOL: Symptomatic Patients cont'd

Patient Setting	Testing Available By Request
Institutional and other public health unit declared respiratory infection outbreaks (including school outbreaks)	<u>Up to 4 outbreak specimens:</u> Influenza rapid testing (done if PCR testing is delayed >24 hours) SARS-CoV-2 and MRVP **OR** FLUVID followed by MRVP Additional specimens will be tested for SARS-CoV-2 only.

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Respiratory viruses (including influenza) [Internet]. Toronto, ON: King's Printer for Ontario; 2021 [modified 2021 Jul 23; cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/en/laboratory-services/test-information-index/virus-respiratory

Respiratory Virus Testing Available at PHOL: Asymptomatic Patients

Patient Setting	Testing Available By Request
All patient settings*	SARS-CoV-2

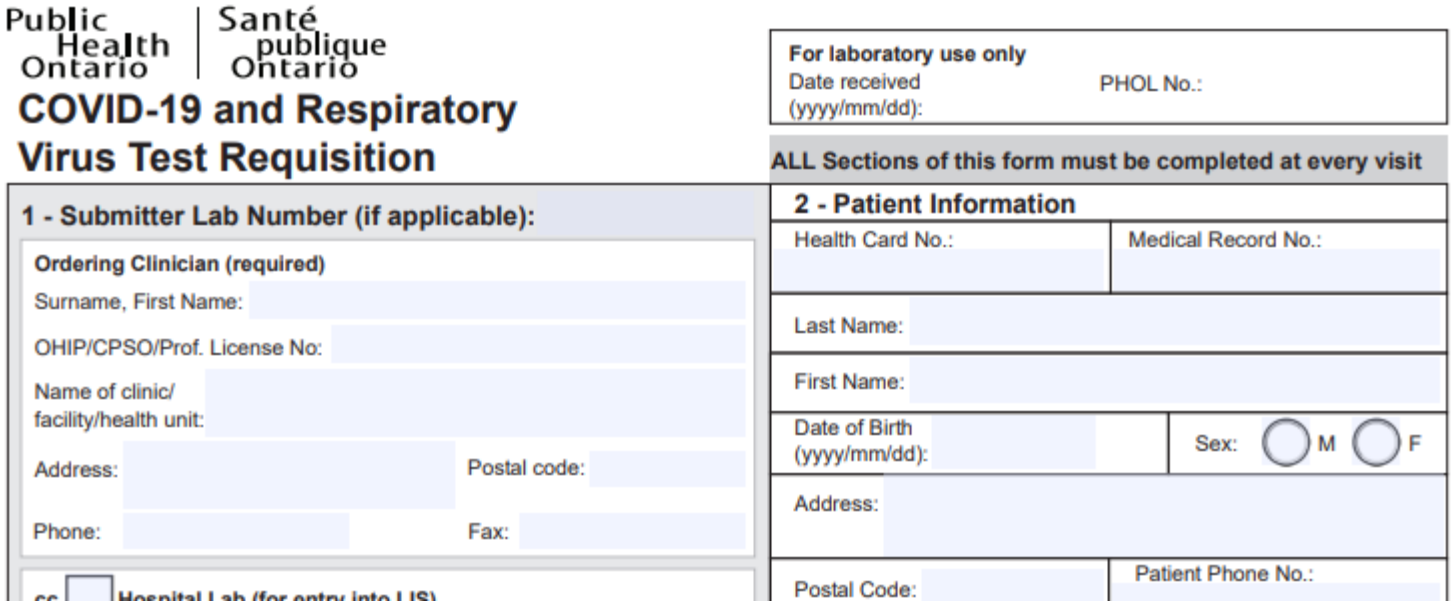
*Only SARS-CoV-2 testing will be performed on asymptomatic patients, regardless of patient setting

Notes:

- The specific test being requested AND patient setting must also appear on the requisition to help with appropriate test assignment and triaging of specimens
- If patient setting is not provided, the specimen will only be tested for SARS-CoV-2
- For outbreaks or investigations, the requisition must include the assigned outbreak or investigation number

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Respiratory viruses (including influenza) [Internet]. Toronto, ON: King's Printer for Ontario; 2021 [modified 2021 Jul 23; cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/en/laboratory-services/test-information-index/virus-respiratory

Key Points to Ensure Appropriate Test Assignment



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COVID-19 and Respiratory Virus Test Requisition

For laboratory use only
Date received (yyyy/mm/dd):
PHOL No.:

ALL Sections of this form must be completed at every visit

1 - Submitter Lab Number (if applicable):

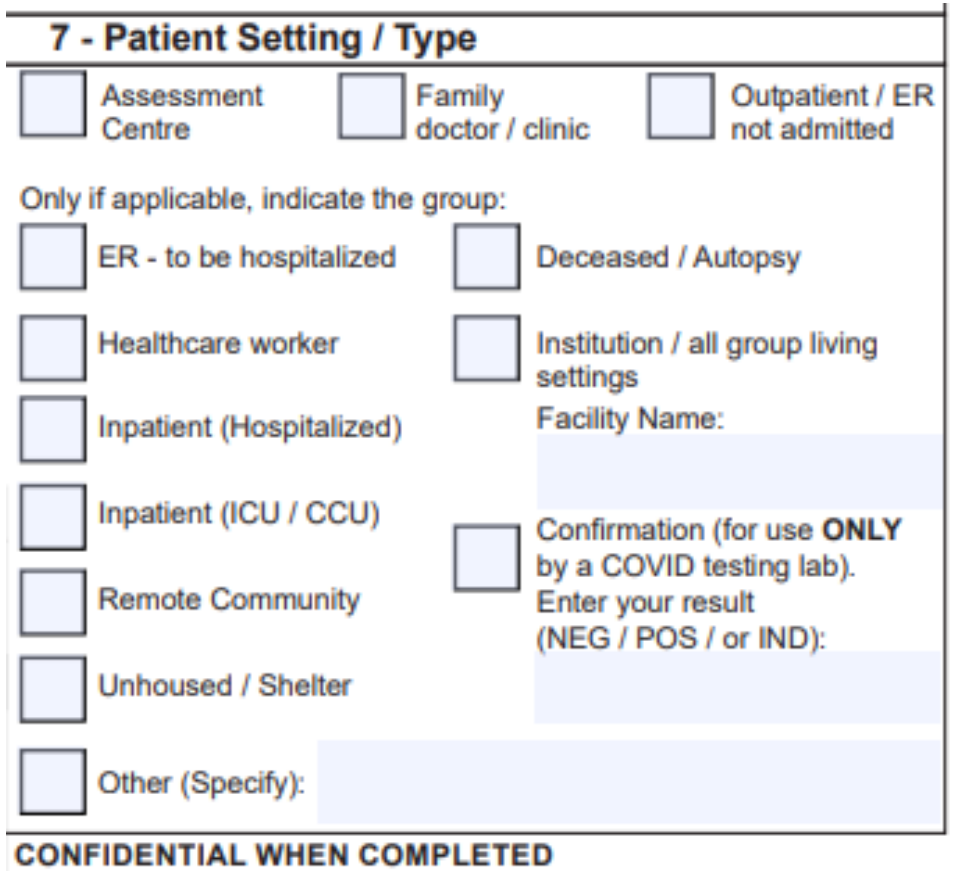
Ordering Clinician (required)
Surname, First Name:
OHIP/CPSO/Prof. License No:
Name of clinic/ facility/health unit:
Address:
Postal code:
Phone:
Fax:

2 - Patient Information
Health Card No.:
Medical Record No.:
Last Name:
First Name:
Date of Birth (yyyy/mm/dd):
Sex: M F
Address:
Postal Code:
Patient Phone No.:

The COVID-19 and Respiratory Virus Test Requisition is preferred over the General Test Requisition

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). General test requisition [Internet]. Toronto, ON: King's Printer for Ontario; 2019 [cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/-/media/documents/lab/general-test-requisition.pdf?la=en

Key Points to Ensure Appropriate Test Assignment cont'd



7 - Patient Setting / Type

- ☐ Assessment Centre
- ☐ Family doctor / clinic
- ☐ Outpatient / ER not admitted

Only if applicable, indicate the group:

- ☐ ER - to be hospitalized
- ☐ Deceased / Autopsy
- ☐ Healthcare worker
- ☐ Institution / all group living settings
  Facility Name:
- ☐ Inpatient (Hospitalized)
- ☐ Inpatient (ICU / CCU)
- ☐ Confirmation (for use **ONLY** by a COVID testing lab). Enter your result (NEG / POS / or IND):
- ☐ Remote Community
- ☐ Unhoused / Shelter
- ☐ Other (Specify):

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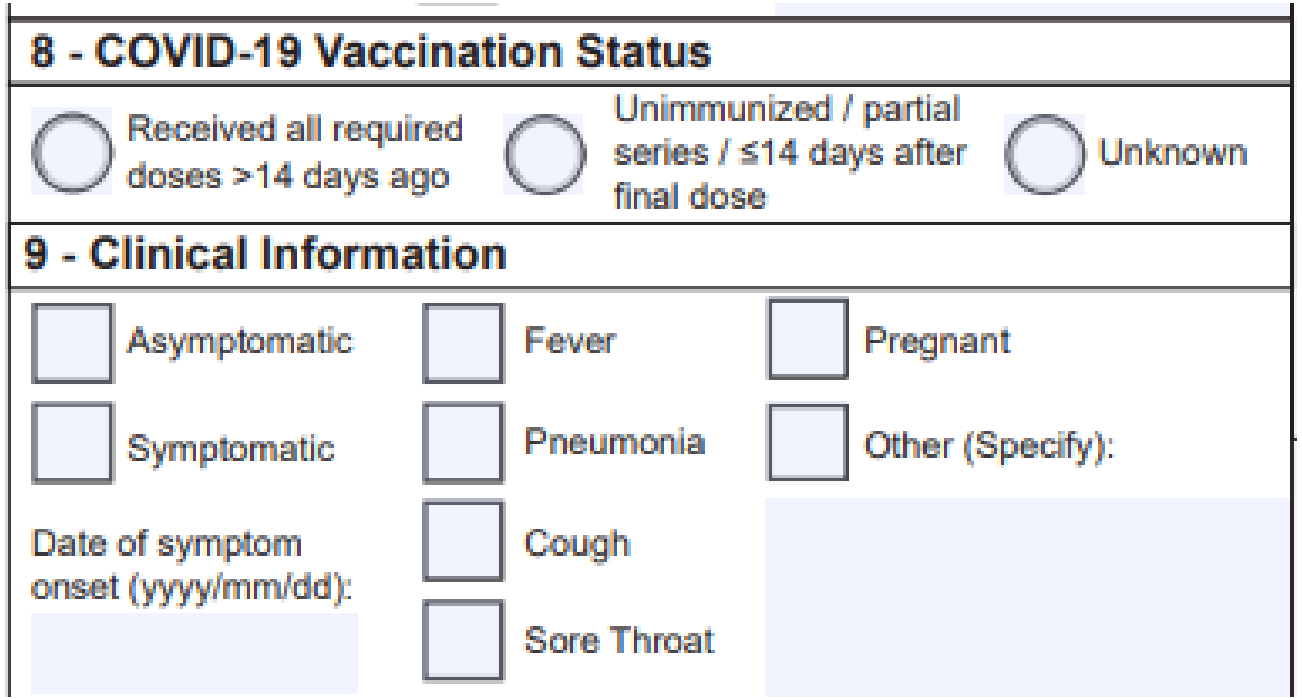
Patient setting must be indicated to help with appropriate test assignment and triaging of specimens. If patient setting is not provided, the specimen will only be tested for SARS-CoV-2.

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). General test requisition [Internet]. Toronto, ON: King's Printer for Ontario; 2019 [cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/-/media/documents/lab/general-test-requisition.pdf?la=en

Key Points to Ensure Appropriate Test Assignment cont'd



8 - COVID-19 Vaccination Status

- ○ Received all required doses >14 days ago
- ○ Unimmunized / partial series / ≤14 days after final dose
- ○ Unknown

9 - Clinical Information

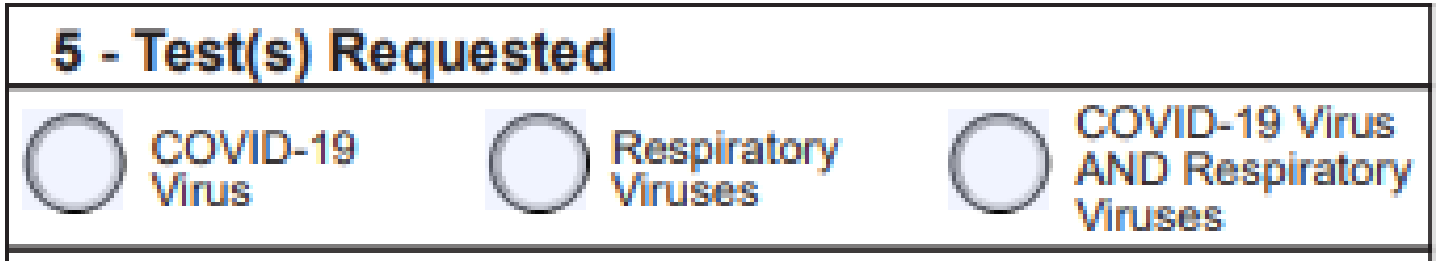
- ☐ Asymptomatic
- ☐ Symptomatic
- ☐ Fever
- ☐ Pneumonia
- ☐ Cough
- ☐ Sore Throat
- ☐ Pregnant
- ☐ Other (Specify):

Date of symptom onset (yyyy/mm/dd):

- Clinical information (in particular symptom status) must be provided.
  - Asymptomatic patients will only be tested with SARS-CoV-2 PCR.

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). General test requisition [Internet]. Toronto, ON: King's Printer for Ontario; 2019 [cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/-/media/documents/lab/general-test-requisition.pdf?la=en

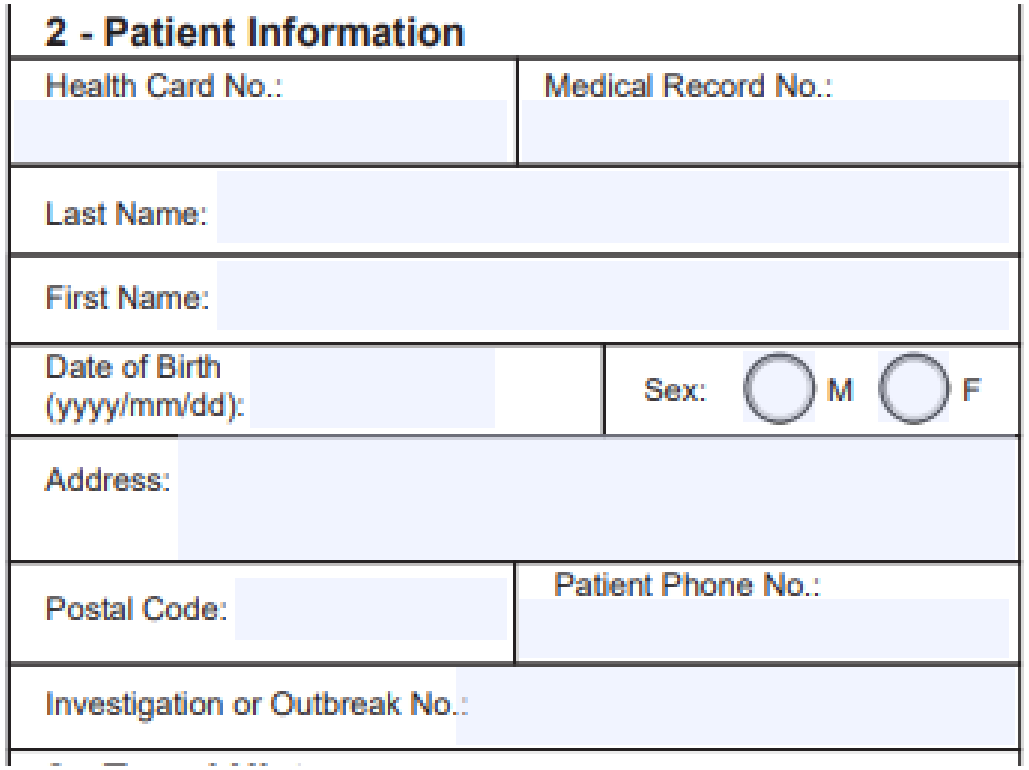
Key Points to Ensure Appropriate Test Assignment cont'd



- Order the individual tests required on the patient.
- Saliva can be submitted for stand alone SARS-CoV-2 PCR testing, but is not suitable for any other respiratory virus test panels (i.e. MRVP or FLUVID).

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). General test requisition [Internet]. Toronto, ON: King's Printer for Ontario; 2019 [cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/-/media/documents/lab/general-test-requisition.pdf?la=en

Key Points to Ensure Appropriate Test Assignment cont'd



2 - Patient Information

Health Card No.:	Medical Record No.:
Last Name:	
First Name:	
Date of Birth (yyyy/mm/dd):	Sex: M F
Address:	
Postal Code:	Patient Phone No.:
Investigation or Outbreak No.:	

For outbreaks or investigations, the requisition must include the assigned outbreak or investigational number.

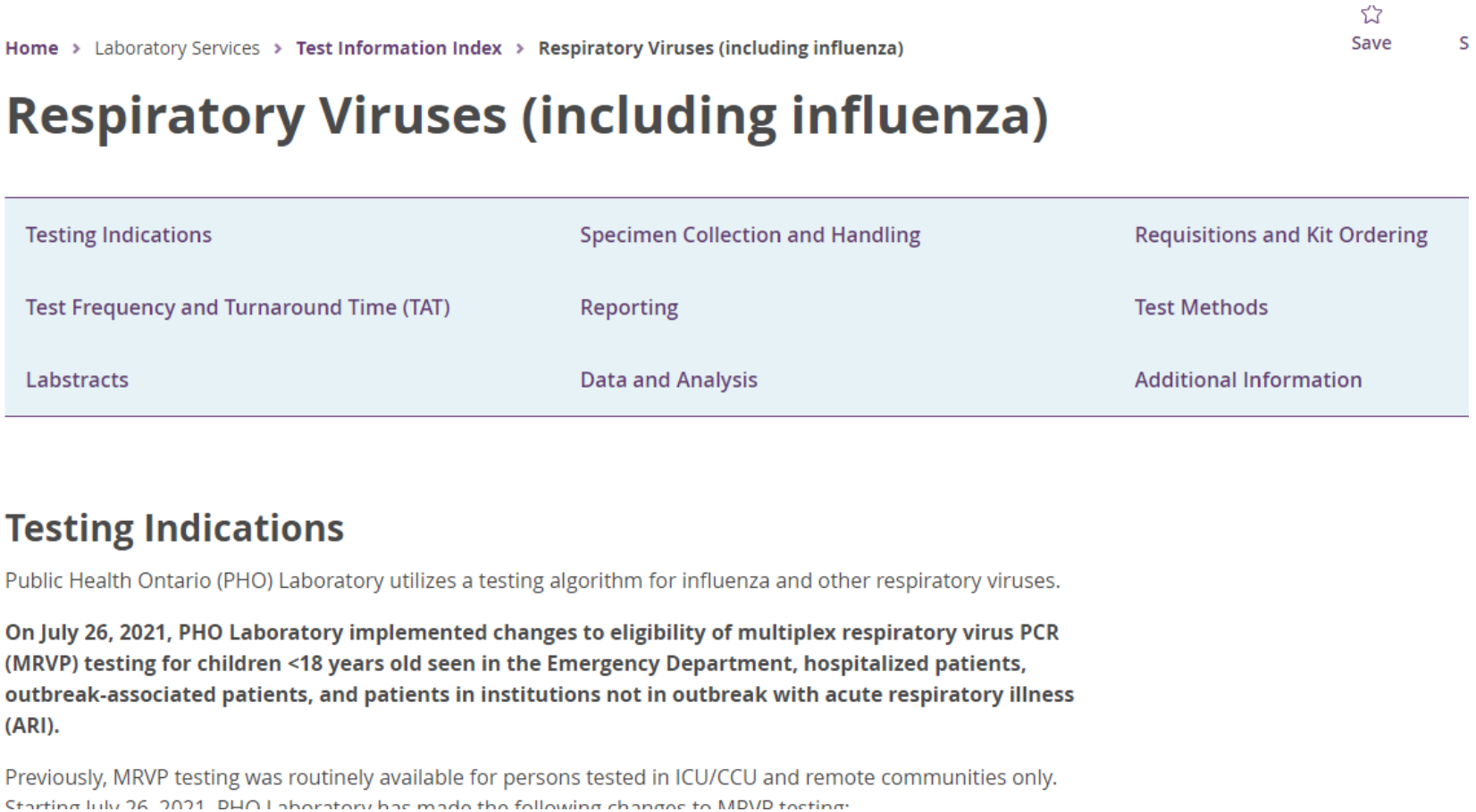
Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). General test requisition [Internet]. Toronto, ON: King's Printer for Ontario; 2019 [cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/-/media/documents/lab/general-test-requisition.pdf?la=en

Testing Outside the Standard PHO Laboratory Algorithm

- PHO Laboratory can be consulted if considering additional testing, e.g. additional MRVP beyond the first 4 specimens on symptomatic patients in an outbreak
- Use the General Test Requisition if only ordering non-COVID/seasonal respiratory virus tests
- For requests for additional testing in outbreak settings, contact PHO Laboratory's Customer Service Centre at 416-235-6556 or 1-877-604-4567 (toll-free)

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). General test requisition [Internet]. Toronto, ON: King's Printer for Ontario; 2019 [cited 2022 Sep 16]. Available from: https://www.publichealthontario.ca/-/media/documents/lab/general-test-requisition.pdf?la=en

PHO Laboratory's Respiratory Viruses Test Information Sheet



Home › Laboratory Services › Test Information Index › Respiratory Viruses (including influenza)

Save S

Respiratory Viruses (including influenza)

Testing Indications	Specimen Collection and Handling	Requisitions and Kit Ordering
Test Frequency and Turnaround Time (TAT)	Reporting	Test Methods
Labstracts	Data and Analysis	Additional Information

Testing Indications

Public Health Ontario (PHO) Laboratory utilizes a testing algorithm for influenza and other respiratory viruses.

On July 26, 2021, PHO Laboratory implemented changes to eligibility of multiplex respiratory virus PCR (MRVP) testing for children <18 years old seen in the Emergency Department, hospitalized patients, outbreak-associated patients, and patients in institutions not in outbreak with acute respiratory illness (ARI).

Previously, MRVP testing was routinely available for persons tested in ICU/CCU and remote communities only.

Starting July 26, 2021, PHO Laboratory has made the following changes to MRVP testing:

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Respiratory viruses (including influenza) [Internet]. Toronto, ON: Queen's Printer for Ontario; 2021 [modified 2021 Jul 23; cited 2021 Sep 27]. Available from: https://www.publichealthontario.ca/en/laboratory-services/test-information-index/virus-respiratory

PHO Continues to Provide Testing For the Following:

- Novel Influenzas
- Antiviral resistance in influenza
- Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
- Enterovirus D68

Acknowledgements

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- Ministry of Health
- Public Health Ontario
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  - Public Health Ontario Laboratory
    - Samir Patel, Maan Hasso, and other PHOL microbiologists
    - Adriana Peci, Paul Nelson, Kirby Cronin
    - Romy Olsha, Evelyn Lau, Hanyue Zhang

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