

ENHANCED EPIDEMIOLOGICAL SUMMARY

Mpox in Ontario: January 1 to December 31, 2024

Updated: January 14, 2025

Introduction

This report provides an epidemiologic summary of confirmed mpox cases in Ontario. It includes information available from Ontario's integrated Public Health Information System (iPHIS) as of **January 8, 2025**.

The current provincial case definition for mpox can be found in Appendix 1 of the Infectious Disease Protocol for [mpox](#)¹. For further information regarding mpox, visit Public Health Ontario's (PHO) [Mpox webpage](#)².

Key Messages

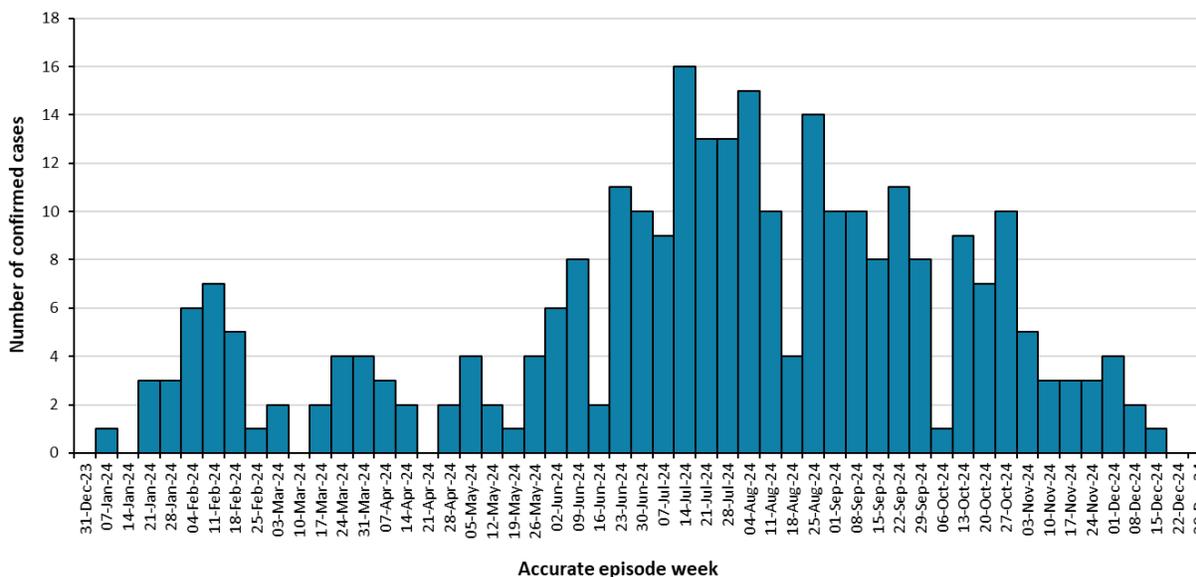
- An increase in mpox activity has been observed in Ontario since mid-January 2024 with a total of 282 confirmed cases occurring from January 1 to December 31, 2024. In comparison, only 33 confirmed cases were reported in 2023. Trends pertaining to age, gender and risk factors were similar between cases reported in 2023 and 2024. For more information on cases reported in 2023, see the [mpox epidemiological summary](#)³ published on June 25, 2024.
- Public health units (PHUs) that have reported cases, particularly those in the Greater Toronto Area and Ottawa, should encourage health care providers to test individuals with compatible clinical evidence for mpox.
- Only 38.4% of individuals who received one dose of the Imvamune[®] vaccine in Ontario have received their second dose. PHUs in Ontario should continue to promote a two-dose Imvamune[®] vaccination series to those [eligible](#)⁴. Individuals with a previous history of laboratory-confirmed mpox infection or history of completing a two dose Imvamune[®] vaccine series do not require a booster vaccine.
- On August 14, 2024, the World Health Organization declared mpox a Public Health Emergency of International Concern due to the spread of the more severe clade 1b strain of the virus in countries in West and Central Africa. Although travel-associated clade 1b mpox cases have been reported in several countries outside of Africa, including in Manitoba, Canada, to date, no cases have been reported in Ontario and the risk to people in Ontario remains low at this time.

Highlights

- Since January 1, 2024, a total of 282 laboratory-confirmed mpox cases have been reported in Ontario. ([Figure 1](#))
- 269/282 (95.4%) cases are male, 8/282 (2.8%) cases are female and gender is unknown for 5/282 (1.8%) cases ([Table 1](#)). Seven of the female cases had known sexual contact with male partners, three of which are confirmed cases; exposure information is unavailable for the other female case.
- PHO is monitoring for mpox cases that occur in “bridging groups” which are defined as individuals that do not identify as part of the predominantly affected population of adult men who exclusively report having sex with men. Bridging groups include cases who identify as male and report sex with opposite sex, identify as male and report both sex with opposite sex and sex with same sex, identify as female, or are under 18 years of age with no identified risk factors.
 - Compared to 2023, there has been an increase in 2024 in the proportion of cases occurring amongst bridging groups in Ontario, however, there is no evidence of sustained transmission.
 - Risk factors for mpox infection reported by cases in bridging groups include having sex with more than one partner, having a new sexual contact, and engaging in anonymous sex.
- 246/282 (87.2%) cases are between the ages of 20 – 49 years. The overall median age is 35.6 years (interquartile range: 30.0 – 43.2 years). ([Table 1](#))
- Five cases required hospitalization; no deaths have been reported. ([Table 1](#))
- 46/282 (16.3%) received 2 doses of Imvamune® and 61/282 (21.6%) received 1 dose. The majority of cases were unvaccinated (175/282; 62.1%). ([Table 1](#))
- 234/282 (83.0%) cases were reported by Toronto Public Health; the remaining 48/282 (17.0%) cases were reported by ten other public health units. ([Table 2](#))
- 258/282 (91.5%) cases reported at least one risk factor. Engaging in sexual or intimate contact with a partner of the same sex (221/258; 85.7%), with new and/or more than one partner (201/258; 77.9%), or anonymous partners (149/258; 57.8%) were the most frequently reported risk factors among these cases.
- 39/258 (15.1%) cases reported travel outside of Ontario during the 21 days prior to symptom onset, suggesting that the majority of cases acquired their infection within Ontario (i.e., ongoing local transmission).
- 1,583 new individuals have been tested for mpox since January 1, 2024. Weekly percent positivity peaked at 48.4% the week of June 30, 2024. It has since declined and remains below 20% in recent weeks. ([Figure 2](#))
- Between January 1, 2024 and December 31, 2024, a total of 5,612 doses of Imvamune® vaccine have been administered in Ontario among 2,876 people. In December 2024, 70 first doses and 93 second doses were administered. Total doses of Imvamune® vaccine administered in Ontario peaked in August with 1,109 doses, but have since declined. ([Figure 3](#))

Case Characteristics

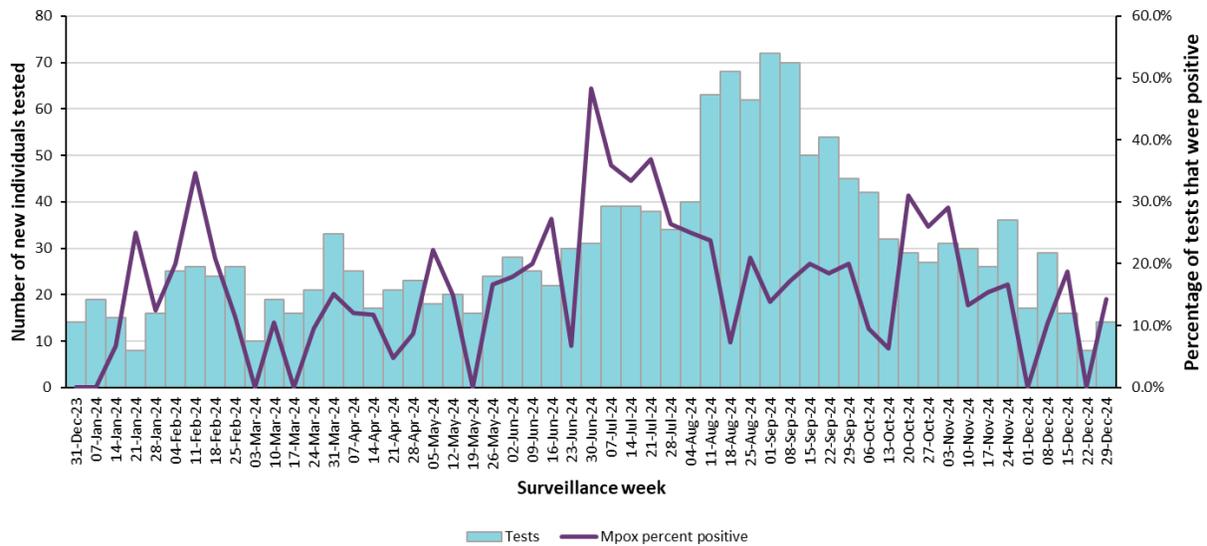
Figure 1: Confirmed mpox cases by week of accurate episode date: Ontario, January 1 to December 31, 2024



Data source: Ontario's integrated Public Health Information System (iPHIS)

Note: Accurate Episode Date is defined in the [Data Caveats](#). Due to potential delays between symptom onset, reporting of laboratory test results, and data entry into iPHIS, case counts for the last few weeks may be incomplete and should be interpreted with caution.

Figure 2: Number of new individuals tested for mpox and percent positivity by week: Public Health Ontario, January 1 to December 31, 2024



Data Source: Public Health Ontario Laboratory Information Management System.

Note: Week was assigned using sample collection date, if provided, and login date otherwise. Testing may not be complete for the most recent week. Data are presented at the unique patient level. As Public Health Ontario is not the sole provider of mpox testing in Ontario, data may not be a complete representation of individuals tested in the province. For further details, see [Technical Notes](#).

Table 1: Case characteristics of confirmed mpox cases: Ontario, January 1 to December 31, 2024

Case Characteristics	January 1 to December 31, 2024 n (%)
Male	269 (95.4%)
Female	8 (2.8%)
Unknown	5 (1.8%)
< 20 years	1 (0.4%)
20 – 29 years	71 (25.2%)
30 – 39 years	113 (40.1%)
40 – 49 years	62 (22.0%)
≥ 50 years	35 (12.4%)
Unvaccinated*	175 (62.1%)
1 dose of Imvamune®*	61 (21.6%)
2 doses of Imvamune®*	46 (16.3%)
Hospitalized	5 (1.8%)
Death	0 (0.0%)
Total Reported Cases	282 (100.0%)

Data sources: iPHIS and Digital Health Immunization Repository (DHIR).

Note: The categories “Male” and “Female” reflects an individual’s internal and individual experience of gender and not necessarily their sex assignment at birth. Case counts may fluctuate based on data updates by public health units.

Table 2: Diagnosing public health unit of confirmed mpox cases: Ontario, January 1 to December 31, 2024

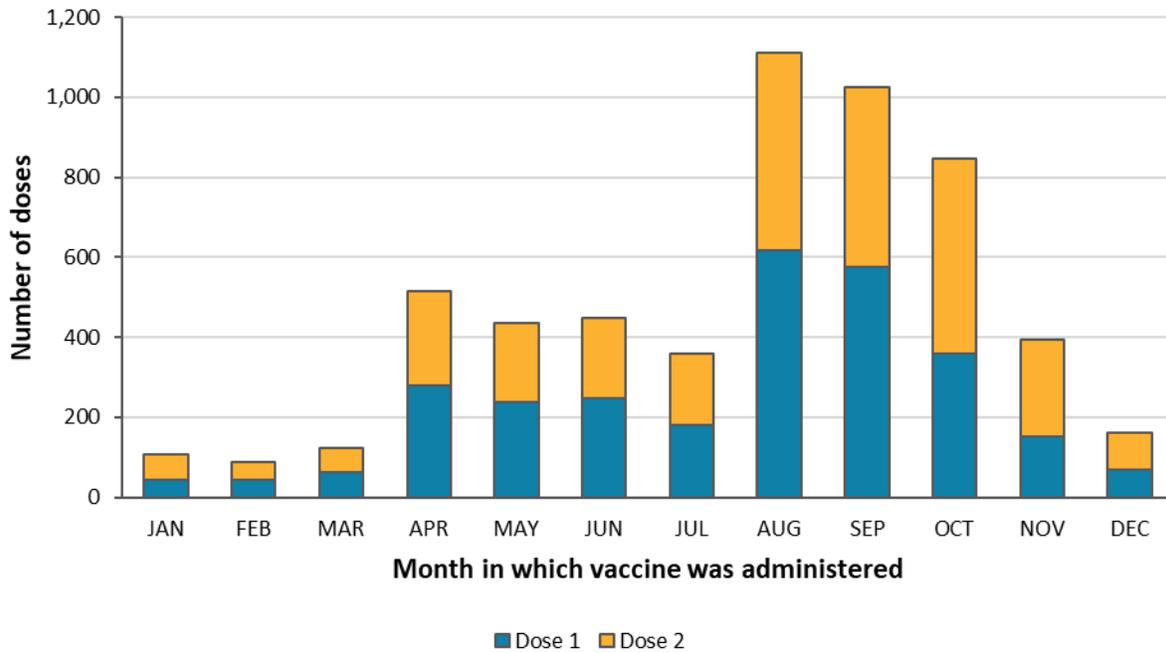
Public Health Unit*	January 1 to December 31, 2024 n (%)
Toronto Public Health	234 (83.0%)
Ottawa Public Health	11 (3.9%)
York Region Public Health	8 (2.8%)
Halton Region Public Health	7 (2.5%)
Peel Public Health	7 (2.5%)
City of Hamilton Public Health Services	4 (1.4%)
Durham Region Health Department	3 (1.1%)
Middlesex-London Health Unit	2 (0.7%)
Region of Waterloo Public Health and Emergency Services	2 (0.7%)
Simcoe Muskoka District Health Unit	2 (0.7%)
Wellington-Dufferin-Guelph Public Health	2 (0.7%)
Total	282 (100.0%)

Data source: iPHIS

*23/34 public health units have not reported any confirmed mpox cases since January 1, 2024 and are not included in Table 2.

Vaccine Uptake

Figure 3: Number of Imvamune® vaccine doses administered in Ontario by dose number and month of administration, January 1 to December 31, 2024 (n= 5,612 doses)



Data source: DHIR

Technical Notes

Data Sources

- The data for this report were based on information entered in:
 - the Ontario Ministry of Health's (MOH) integrated Public Health Information System (iPHIS) database as of **January 8, 2025**
 - the Public Health Ontario Laboratory Information Management System as of **January 8, 2025**
 - the Digital Health Immunization Repository (DHIR) as of **January 8, 2025**
- iPHIS is a dynamic disease reporting system that allows ongoing updates to previously entered data. As a result, data extracted from iPHIS represent a snapshot at the time of extraction and may differ from previous or subsequent reports.

Data Caveats

- These data only represent confirmed cases of mpox reported to public health and recorded in iPHIS. As a result, all case counts are subject to varying degrees of underreporting due to a variety of factors, such as disease awareness and medical care seeking behaviours that may depend on severity of illness, clinical practices, and changes in laboratory testing and reporting behaviours.
- Only mpox cases meeting the confirmed case classification as listed in the [Ontario MOH surveillance case definitions](#)¹ are included in the reported case counts.
- Cases of mpox are reported based on the Episode Date, which is an estimate of the onset date of disease for a case. In order to determine this date, the following hierarchy exists in iPHIS: Onset Date > Specimen Collection Date > Lab Test Date > Reported Date.
 - For example: If an Onset Date exists, it will be used as the Episode Date. If Onset Date is not available, then the next available date in the hierarchy (i.e., Specimen Collection Date) will be used, and so on.
- Case counts by geography are based on the diagnosing health unit (DHU). DHU refers to the case's public health unit of residence at the time of illness onset or report to public health and not necessarily the location of exposure.
- The vaccination status of mpox cases was determined as follows:
 - Unvaccinated: Did not receive any doses of Imvamune[®] vaccine or their Episode Date occurred within 14 days of receiving their first dose.
 - 1 Dose of Imvamune[®]: Their Episode Date occurred more than 14 days after receiving their first dose or their Episode Date occurred within 14 days of receiving their second dose.
 - 2 Doses of Imvamune[®]: Their Episode Date occurred more than 14 days after receiving their second dose.
- Hospitalized cases include those with an Intervention Type Description of 'Hospitalization' or 'ICU' and an Intervention Start Date that occurs on or after the case's Episode Date.
- Fatal cases include those with an Outcome of 'Fatal' and Type of Death is not captured as 'Reportable Disease was Unrelated to Cause of Death'.

- Cases for which the Disposition Status was reported as ENTERED IN ERROR, DOES NOT MEET DEFINITION, DUPLICATE-DO NOT USE, or any variation on these values, were excluded from this analysis.
- The potential for duplicates exists because duplicate sets were not identified and excluded unless they were already resolved at either the local or provincial level prior to data extraction from iPHIS.
- Number of new individuals tested for mpox excludes individuals with invalid, indeterminate or pending test results. For individuals with multiple test results, the following hierarchy was used to assign a single result: Detected > Indeterminate > Not detected > Invalid > Pending. For multiple results at the same level in the hierarchy, the earliest result was used.
- Risk factor data, including data on travel, as well as data on hospitalizations and fatalities may be incomplete for cases reported in the most recent week(s) and should be interpreted with caution. This information may be updated in subsequent reports pending further data collection and entry by public health units.

References

1. Ontario. Ministry of Health. Ontario public health standards: requirements for programs, services and accountability. Infectious disease protocol. Appendix 1: case definitions and disease-specific information. Disease: Smallpox and other Orthopoxviruses including mpox (monkeypox). Effective: May 2023 [Internet]. Toronto, ON: King's Printer for Ontario; 2023 [cited 2024 Dec 05]. Available from: <https://files.ontario.ca/moh-ophs-smallpox-en-2023.pdf>
2. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Mpox. Toronto, ON: King's Printer for Ontario; 2024 [cited 2024 Dec 05]. Available from: <https://www.publichealthontario.ca/en/Diseases-and-Conditions/Infectious-Diseases/Vector-Borne-Zoonotic-Diseases/Mpox>
3. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Mpox in Ontario: January 1, 2023 to May 31, 2024. Toronto, ON: King's Printer for Ontario; 2024 [cited 2024 Dec 05]. Available from: https://www.publichealthontario.ca/-/media/Documents/M/24/mpox-ontario-epi-summary.pdf?rev=acdf3de253df469cb35a6661aef534b0&sc_lang=en
4. Ontario. Ministry of Health. Mpox (monkeypox). Effective: Feb 2024 [Internet]. Toronto, ON: King's Printer for Ontario; 2024 [cited 2024 Dec 05]. Available from: <https://www.ontario.ca/page/mpox-monkeypox>

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Enhanced epidemiological summary: Mpox in Ontario: January 1, 2024 to December 31, 2024. Toronto, ON: King's Printer for Ontario; 2025

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