

EPIDEMIOLOGICAL SUMMARY

Monkeypox in Ontario: May 20, 2022 to September 27, 2022

Introduction

This report provides an epidemiologic summary of monkeypox in Ontario and includes the most current information available from Ontario's integrated Public Health Information System (iPHIS) as of **September 27, 2022**.

The current provincial case definition for monkeypox can be found in Appendix 1 of the Infectious Disease Protocol for [Smallpox and other Orthopoxviruses including Monkeypox](#).

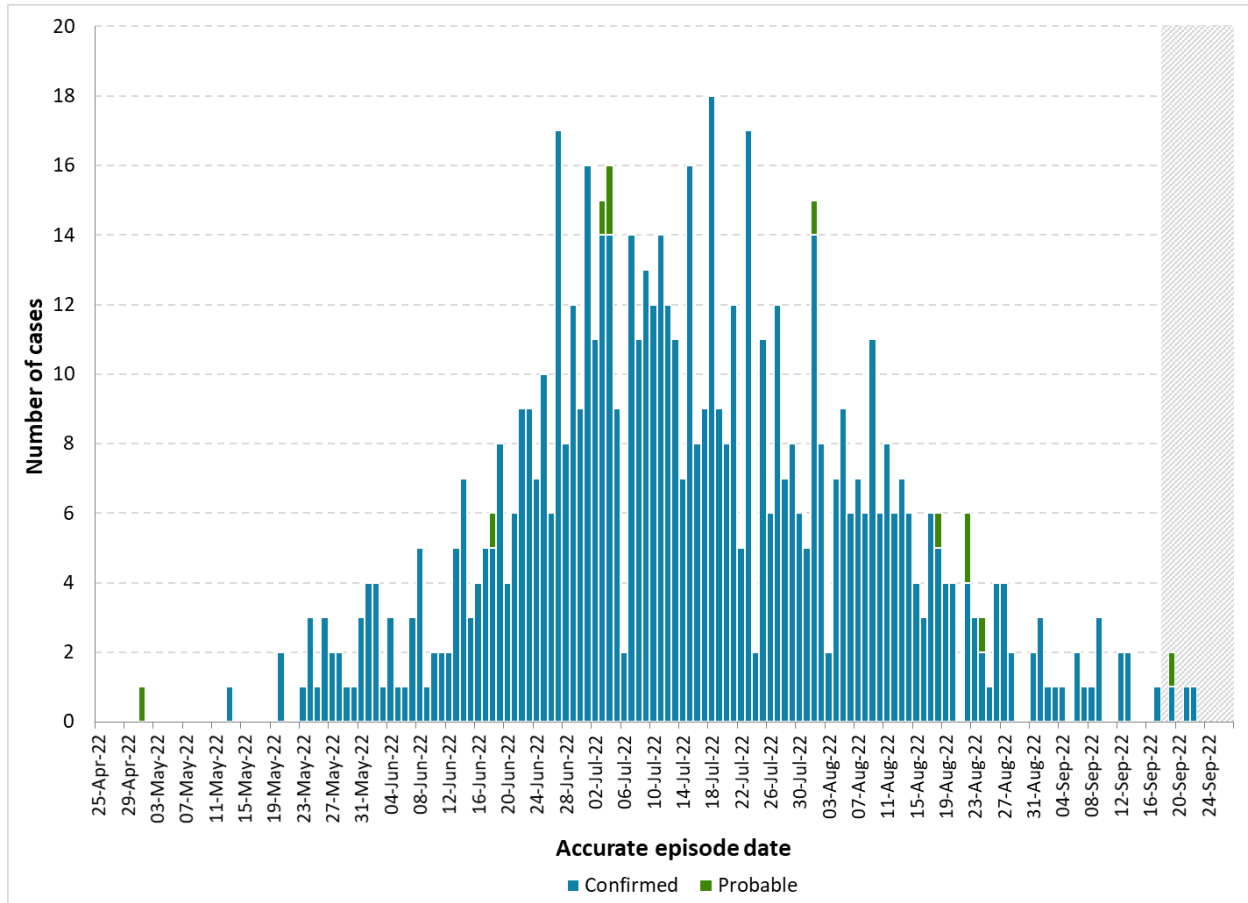
For further information regarding the monkeypox virus, including signs, symptoms, and how to reduce your risk of infection, visit the Ontario Ministry of Health's [Monkeypox Virus](#) webpage and Public Health Ontario's [Monkeypox webpage](#) for additional resources.

Highlights

- There are 674 confirmed cases of monkeypox in Ontario (an increase of 7 confirmed cases since the last report).
 - 496/674 (73.6%) confirmed cases were reported by Toronto Public Health (see [Table 3](#) for confirmed cases by public health unit).
 - 669/674 (99.3%) confirmed cases are male and 5/674 (0.7%) are female.
 - The average age of confirmed cases is 36.6 years (range: <20 – 74 years).
 - The most commonly reported symptoms include rash, oral/genital lesions, swollen lymph nodes, headache, fever, chills, myalgia and fatigue.
 - 19/674 (2.8%) of confirmed cases have been hospitalized, and 2/674 (0.3%) have been in the intensive care unit (ICU); no deaths have been reported.
- In addition, there are 11 probable cases. 10/11 (90.9%) are male and 1/11 (9.1%) is female; the 11 probable cases range in age from 21 to 69 years (average: 43.6 years).

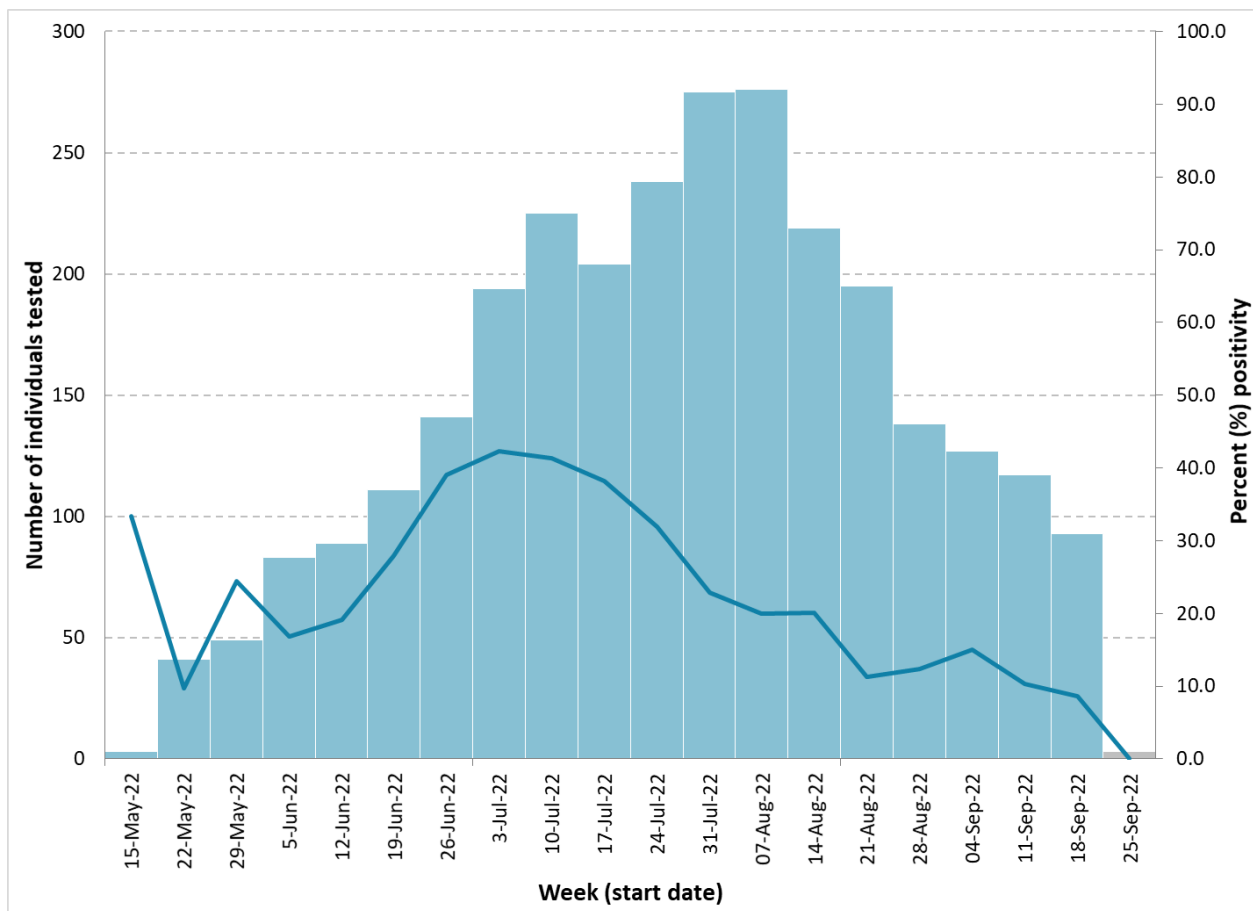
Case Characteristics

Figure 1. Monkeypox cases by accurate episode date and case classification



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 10 days (gray area) may be incomplete and should be interpreted with caution.

Figure 2. Number of individuals tested for monkeypox and percent positivity by week



Data Source: Public Health Ontario Laboratory Information Management System.

Note: Week was assigned using sample collection date, if provided, and login date otherwise. Not all testing has been completed for the most recent week.

Table 1. Gender* and age group (in years) of monkeypox cases by case classification

Gender and Age Group	Confirmed n (%)	Probable n (%)	Total n (%)
Gender: Male	669 (99.3)	10 (90.9)	679 (99.1)
Gender: Female	5 (0.7)	1 (9.1)	6 (0.9)
Gender: Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Age group: < 20 years	5 (0.7)	0 (0.0)	5 (0.7)
Age group: 20 - 29 years	153 (22.7)	1 (9.1)	154 (22.5)
Age group: 30 - 39 years	285 (42.3)	4 (36.4)	289 (42.2)
Age group: 40 - 49 years	162 (24.0)	4 (36.4)	166 (24.2)
Age group: 50 - 59 years	52 (7.7)	0 (0.0)	52 (7.6)
Age group: 60 - 69 years	14 (2.1)	2 (18.2)	16 (2.3)
Age group: ≥ 70 years	3 (0.5)	0 (0.0)	3 (0.4)
Age group: Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Total	674 (98.4)	11 (1.6)	685 (100.0)

***Note:** The gender category captures an individual's internal and individual experience of gender and not necessarily their sex assignment at birth. Case counts may fluctuate based on data cleaning at the local public health unit level.

Table 2. Predominant symptoms reported by monkeypox cases by case classification

Symptom	Confirmed n (%)	Probable n (%)	Total n (%)
Rash	522 (77.4)	9 (81.8)	531 (77.5)
Oral/genital lesions	416 (61.7)	8 (72.7)	424 (61.9)
Fever	329 (48.8)	5 (45.5)	334 (48.8)
Fatigue	300 (44.5)	5 (45.5)	305 (44.5)
Swollen lymph nodes	296 (43.9)	3 (27.3)	299 (43.6)
Chills	286 (42.4)	5 (45.5)	291 (42.5)
Headache	221 (32.8)	3 (27.3)	224 (32.7)
Myalgia	215 (31.9)	3 (27.3)	218 (31.8)
Sweating	184 (27.3)	3 (27.3)	187 (27.3)
Sore throat	165 (24.5)	2 (18.2)	167 (24.4)
Prostration (exhaustion)	119 (17.7)	1 (9.1)	120 (17.5)
Back pain/back ache	104 (15.4)	3 (27.3)	107 (15.6)
Other*	229 (34.0)	5 (45.5)	234 (34.2)

***Note:** other symptoms include: constipation, coryza (runny nose), cough, diarrhea, dysuria (painful urination), malaise, and nausea.

Table 3. Monkeypox cases by diagnosing public health unit and case classification

Public Health Unit	Confirmed n (%)	Probable n (%)	Total n (%)
Algoma Public Health	0 (0.0)	0 (0.0)	0 (0.0)
Brant County Health Unit	4 (0.6)	0 (0.0)	4 (0.6)
Chatham-Kent Public Health	0 (0.0)	0 (0.0)	0 (0.0)
City of Hamilton Public Health Services	18 (2.7)	0 (0.0)	18 (2.6)
Durham Region Health Department	11 (1.6)	0 (0.0)	11 (1.6)
Eastern Ontario Health Unit	0 (0.0)	0 (0.0)	0 (0.0)
Grey Bruce Health Unit	2 (0.3)	1 (9.1)	3 (0.4)
Haldimand-Norfolk Health Unit	3 (0.5)	0 (0.0)	3 (0.4)
Haliburton, Kawartha, Pine Ridge District Health Unit	2 (0.3)	1 (9.1)	3 (0.4)
Halton Region Public Health	10 (1.5)	0 (0.0)	10 (1.5)
Hastings Prince Edward Public Health	0 (0.0)	0 (0.0)	0 (0.0)
Huron Perth Public Health	0 (0.0)	0 (0.0)	0 (0.0)
Kingston, Frontenac and Lennox & Addington Public Health	2 (0.3)	0 (0.0)	2 (0.3)
Lambton Public Health	1 (0.2)	0 (0.0)	1 (0.2)
Leeds, Grenville & Lanark District Health Unit	2 (0.3)	0 (0.0)	2 (0.3)
Middlesex-London Health Unit	15 (2.2)	1 (9.1)	16 (2.3)
Niagara Region Public Health	8 (1.2)	0 (0.0)	8 (1.2)
North Bay Parry Sound District Health Unit	1 (0.2)	0 (0.0)	1 (0.2)
Northwestern Health Unit	0 (0.0)	0 (0.0)	0 (0.0)
Ottawa Public Health	41 (6.1)	0 (0.0)	41 (6.0)
Peel Public Health	22 (3.3)	0 (0.0)	22 (3.2)
Peterborough Public Health	5 (0.7)	0 (0.0)	5 (0.7)
Porcupine Health Unit	0 (0.0)	0 (0.0)	0 (0.0)

Public Health Unit	Confirmed n (%)	Probable n (%)	Total n (%)
Public Health Sudbury & Districts	1 (0.2)	0 (0.0)	1 (0.2)
Region of Waterloo Public Health and Emergency Services	4 (0.6)	0 (0.0)	4 (0.6)
Renfrew County and District Health Unit	1 (0.2)	0 (0.0)	1 (0.2)
Simcoe Muskoka District Health Unit	3 (0.5)	0 (0.0)	3 (0.4)
Southwestern Public Health	1 (0.2)	0 (0.0)	1 (0.2)
Thunder Bay District Health Unit	0 (0.0)	0 (0.0)	0 (0.0)
Timisakming Health Unit	0 (0.0)	0 (0.0)	0 (0.0)
Toronto Public Health	496 (73.6)	8 (72.7)	504 (73.6)
Wellington-Dufferin-Guelph Public Health	6 (0.9)	0 (0.0)	6 (0.9)
Windsor-Essex County Health Unit	7 (1.0)	0 (0.0)	7 (1.0)
York Region Public Health	8 (1.2)	0 (0.0)	8 (1.2)
Total	674 (98.4)	11 (1.6)	685 (100.0)

Figure 3. Confirmed monkeypox cases and rate per 100,000 population by diagnosing public health unit

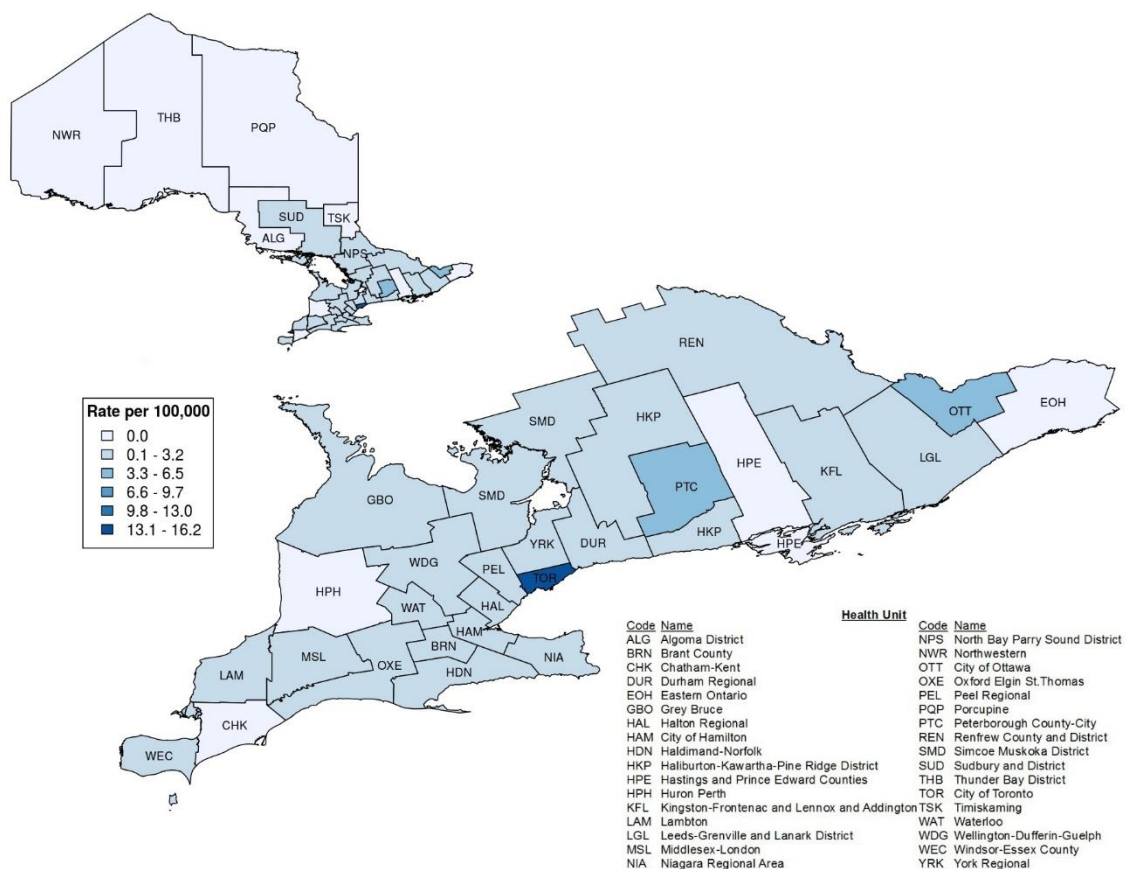


Table 4. Severity and outcome of monkeypox cases by case classification

Severity and outcome	Confirmed n (%)	Probable n (%)	Total n (%)
Ever hospitalized	19 (2.8)	0 (0.0)	19 (2.8)
Ever in ICU	2 (0.3)	0 (0.0)	2 (0.3)
Outcome: fatal	0 (0.0)	0 (0.0)	0 (0.0)

Risk Factors

- The most commonly reported risk factors include engaging in sexual or intimate contact (e.g., hugging, kissing, cuddling) with new and/or more than one partner.
- Travel, being immunocompromised, or having close contact with someone from outside of the province were less commonly reported.
- Although cases have mostly been identified among males who report sexual or intimate contact with other males (MSM), anyone can get monkeypox. Various factors that may increase the potential risk for exposure include close, sexual, and/or other intimate contact with someone who has a monkeypox rash, sore, or scabs.

Technical Notes

Data Sources

- The data for this report were based on information entered in the Ontario Ministry of Health (MOH) integrated Public Health Information System (iPHIS) database as of **September 27, 2022 at 1:00 p.m.** and the Public Health Ontario Laboratory Information Management System as of **September 27, 2022 at 9:00 a.m.**
- 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 cases of monkeypox 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 monkeypox cases meeting the confirmed, probable, or suspect case classification as listed in the [Ontario MOH surveillance case definitions](#) are included in the reported case counts.
- Cases of monkeypox 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 is 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.
 - Cases for which the DHU was reported as MOHLTC (to signify a case that is not a resident of Ontario) or MUSKOKA-PARRY SOUND (a public health unit that no longer exists) were excluded from this analysis.
- 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.

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Epidemiological summary: Monkeypox in Ontario – May 20, 2022 to September 27, 2022. Toronto, ON: King's Printer for Ontario; 2022.

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