

 EPIDEMIOLOGICAL SUMMARY

# Monkeypox in Ontario: May 20, 2022 to August 11, 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 **August 11, 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](#).

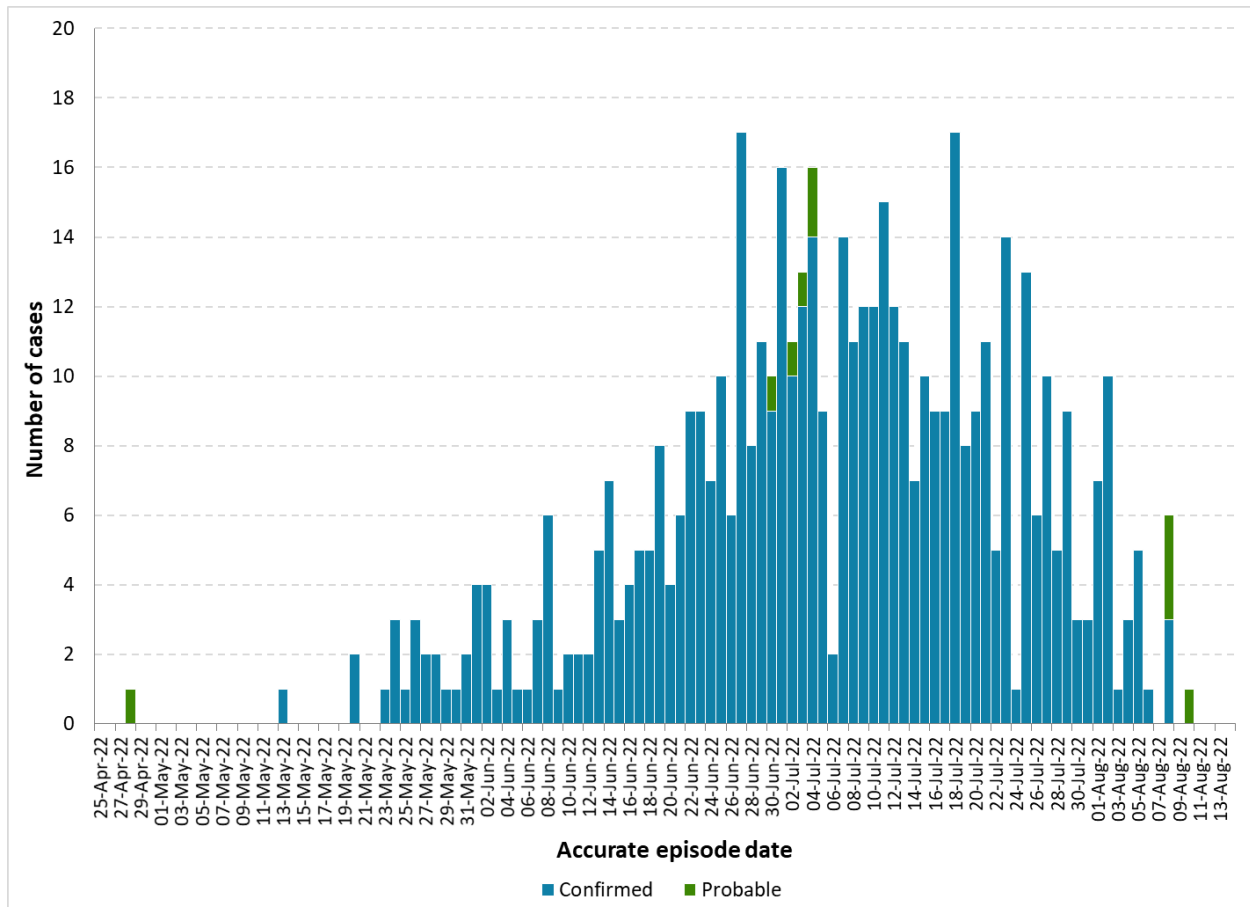
For further information regarding the monkeypox virus, including signs, symptoms, and how to reduce your risk of infection, visit the Ontario Ministry of Health's [Monkeypox Virus](#) webpage and Public Health Ontario's [Monkeypox webpage](#) for additional resources.

## Highlights

- There are 511 confirmed cases of monkeypox in Ontario.
  - 386/511 (75.5%) confirmed cases were reported by Toronto Public Health (see [Table 3](#) for confirmed cases by public health unit).
  - 508/511 (99.4%) confirmed cases are male; 3/511 (0.6%) are female.
  - The average age of confirmed cases is 36.1 years (range: <20 – 74 years).
  - The most commonly reported symptoms include rash, oral/genital lesions, swollen lymph nodes, headache, fever, chills, myalgia and fatigue.
  - 16/511 (3.1%) of confirmed cases have been hospitalized, and 2/511 (0.4%) have been in the intensive care unit (ICU); no deaths have been reported.
- In addition, there are ten probable cases. 10/10 (100.0%) probable cases are male; the ten probable cases range in age from 20 to 69 years (average: 39.9 years).

## Case Characteristics

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



**Note:** Accurate Episode Date is defined in the [Data Caveats](#).

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

| <b>Gender and Age Group</b> | <b>Confirmed<br/>n (%)</b> | <b>Probable<br/>n (%)</b> | <b>Total<br/>n (%)</b> |
|-----------------------------|----------------------------|---------------------------|------------------------|
| Gender: Male                | 508 (99.4)                 | 10 (100.0)                | 518 (99.4)             |
| Gender: Female              | 3 (0.6)                    | 0 (0.0)                   | 3 (0.6)                |
| Gender: Unknown             | 0 (0.0)                    | 0 (0.0)                   | 0 (0.0)                |
| Age group: < 20 years       | 3 (0.6)                    | 0 (0.0)                   | 3 (0.6)                |
| Age group: 20 - 29 years    | 124 (24.3)                 | 3 (30.0)                  | 127 (24.4)             |
| Age group: 30 - 39 years    | 217 (42.5)                 | 3 (30.0)                  | 220 (42.2)             |
| Age group: 40 - 49 years    | 120 (23.5)                 | 1 (10.0)                  | 121 (23.2)             |
| Age group: 50 - 59 years    | 38 (7.4)                   | 1 (10.0)                  | 39 (7.5)               |
| Age group: 60 - 69 years    | 7 (1.4)                    | 2 (20.0)                  | 9 (1.7)                |
| Age group: ≥ 70 years       | 2 (0.4)                    | 0 (0.0)                   | 2 (0.4)                |
| Age group: Unknown          | 0 (0.0)                    | 0 (0.0)                   | 0 (0.0)                |
| <b>Total</b>                | <b>511 (98.1)</b>          | <b>10 (1.9)</b>           | <b>521 (100.0)</b>     |

\*Note: The gender category captures an individual's internal and individual experience of gender and not necessarily their sex assignment at birth.

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

| Symptom                  | Confirmed<br>n (%) | Probable<br>n (%) | Total<br>n (%) |
|--------------------------|--------------------|-------------------|----------------|
| Rash                     | 391 (76.5)         | 2 (20.0)          | 393 (75.4)     |
| Oral/genital lesions     | 293 (57.3)         | 2 (20.0)          | 295 (56.6)     |
| Fever                    | 250 (48.9)         | 2 (20.0)          | 252 (48.4)     |
| Fatigue                  | 237 (46.4)         | 2 (20.0)          | 239 (45.9)     |
| Swollen lymph nodes      | 220 (43.1)         | 1 (10.0)          | 221 (42.4)     |
| Chills                   | 206 (40.3)         | 1 (10.0)          | 207 (39.7)     |
| Myalgia                  | 176 (34.4)         | 2 (20.0)          | 178 (34.2)     |
| Headache                 | 172 (33.7)         | 3 (30.0)          | 175 (33.6)     |
| Sweating                 | 138 (27.0)         | 1 (10.0)          | 139 (26.7)     |
| Sore throat              | 120 (23.5)         | 1 (10.0)          | 121 (23.2)     |
| Prostration (exhaustion) | 99 (19.4)          | 0 (0.0)           | 99 (19.0)      |
| Back pain/back ache      | 81 (15.9)          | 1 (10.0)          | 82 (15.7)      |
| Other*                   | 151 (29.5)         | 2 (20.0)          | 153 (29.4)     |

\***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**

| <b>Public Health Unit</b>                                | <b>Confirmed<br/>n (%)</b> | <b>Probable<br/>n (%)</b> | <b>Total<br/>n (%)</b> |
|----------------------------------------------------------|----------------------------|---------------------------|------------------------|
| Algoma Public Health                                     | 0 (0.0)                    | 0 (0.0)                   | 0 (0.0)                |
| Brant County Health Unit                                 | 4 (0.8)                    | 0 (0.0)                   | 4 (0.8)                |
| Chatham-Kent Public Health                               | 0 (0.0)                    | 0 (0.0)                   | 0 (0.0)                |
| City of Hamilton Public Health Services                  | 12 (2.4)                   | 0 (0.0)                   | 12 (2.3)               |
| Durham Region Health Department                          | 9 (1.8)                    | 0 (0.0)                   | 9 (1.7)                |
| Eastern Ontario Health Unit                              | 0 (0.0)                    | 0 (0.0)                   | 0 (0.0)                |
| Grey Bruce Health Unit                                   | 2 (0.4)                    | 0 (0.0)                   | 2 (0.4)                |
| Haldimand-Norfolk Health Unit                            | 3 (0.6)                    | 1 (10.0)                  | 4 (0.8)                |
| Haliburton, Kawartha, Pine Ridge District Health Unit    | 2 (0.4)                    | 1 (10.0)                  | 3 (0.6)                |
| Halton Region Public Health                              | 9 (1.8)                    | 0 (0.0)                   | 9 (1.7)                |
| 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 | 1 (0.2)                    | 0 (0.0)                   | 1 (0.2)                |
| Lambton Public Health                                    | 1 (0.2)                    | 0 (0.0)                   | 1 (0.2)                |
| Leeds, Grenville & Lanark District Health Unit           | 2 (0.4)                    | 0 (0.0)                   | 2 (0.4)                |
| Middlesex-London Health Unit                             | 13 (2.5)                   | 1 (10.0)                  | 14 (2.7)               |
| Niagara Region Public Health                             | 4 (0.8)                    | 0 (0.0)                   | 4 (0.8)                |
| 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                                     | 36 (7.1)                   | 2 (20.0)                  | 38 (7.3)               |
| Peel Public Health                                       | 8 (1.6)                    | 0 (0.0)                   | 8 (1.5)                |
| Peterborough Public Health                               | 5 (1.0)                    | 0 (0.0)                   | 5 (1.0)                |
| Porcupine Health Unit                                    | 0 (0.0)                    | 0 (0.0)                   | 0 (0.0)                |

| Public Health Unit                                      | Confirmed<br>n (%) | Probable<br>n (%) | Total<br>n (%)     |
|---------------------------------------------------------|--------------------|-------------------|--------------------|
| Public Health Sudbury & Districts                       | 1 (0.2)            | 0 (0.0)           | 1 (0.2)            |
| Region of Waterloo Public Health and Emergency Services | 0 (0.0)            | 0 (0.0)           | 0 (0.0)            |
| Renfrew County and District Health Unit                 | 0 (0.0)            | 0 (0.0)           | 0 (0.0)            |
| Simcoe Muskoka District Health Unit                     | 3 (0.6)            | 0 (0.0)           | 3 (0.6)            |
| Southwestern Public Health                              | 0 (0.0)            | 0 (0.0)           | 0 (0.0)            |
| 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                                   | 386 (75.5)         | 5 (50.0)          | 391 (75.1)         |
| Wellington-Dufferin-Guelph Public Health                | 3 (0.6)            | 0 (0.0)           | 3 (0.6)            |
| Windsor-Essex County Health Unit                        | 1 (0.2)            | 0 (0.0)           | 1 (0.2)            |
| York Region Public Health                               | 4 (0.8)            | 0 (0.0)           | 4 (0.8)            |
| <b>Total</b>                                            | <b>511 (98.1)</b>  | <b>10 (1.9)</b>   | <b>521 (100.0)</b> |

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

| Severity and outcome | Confirmed<br>n (%) | Probable<br>n (%) | Total<br>n (%) |
|----------------------|--------------------|-------------------|----------------|
| Ever hospitalized    | 16 (3.1)           | 0 (0.0)           | 16 (3.1)       |
| Ever in ICU          | 2 (0.4)            | 0 (0.0)           | 2 (0.4)        |
| 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 **August 11, 2022 at 1 p.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

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