Public Health Ontario | Santé publique Ontario

ENHANCED EPIDEMIOLOGICAL SUMMARY

Measles in Ontario

Updated: February 13, 2025

Introduction

Measles is a highly contagious respiratory virus. Symptoms of measles include fever, a red blotchy rash, red watery eyes and cough. Immunization is the best protection against measles. For children and most adults born in or after 1970, this means receiving two doses of measles containing-vaccine (e.g., MMR vaccine).

In Ontario, measles has been rare, owing to the successful elimination of measles in Canada and high immunization coverage. As a result, measles cases have typically been predominantly associated with travel (often referred to as "measles importations"). Due to an increase in measles activity globally in 2024, Ontario began to see more cases of measles. Presently, Ontario is experiencing a multi-jurisdictional measles outbreak that has included cases from New Brunswick[1] and Manitoba[2].

This report describes the epidemiology of measles in Ontario between January 1, 2013 and February 12, 2025, with a focus on the current outbreak. This report is typically updated every two weeks, and was last updated on January 30, 2025.

This report includes the most current information available from Ontario's integrated Public Health Information System (iPHIS) as of February 12, 2025 at 8:00 am.

Highlights

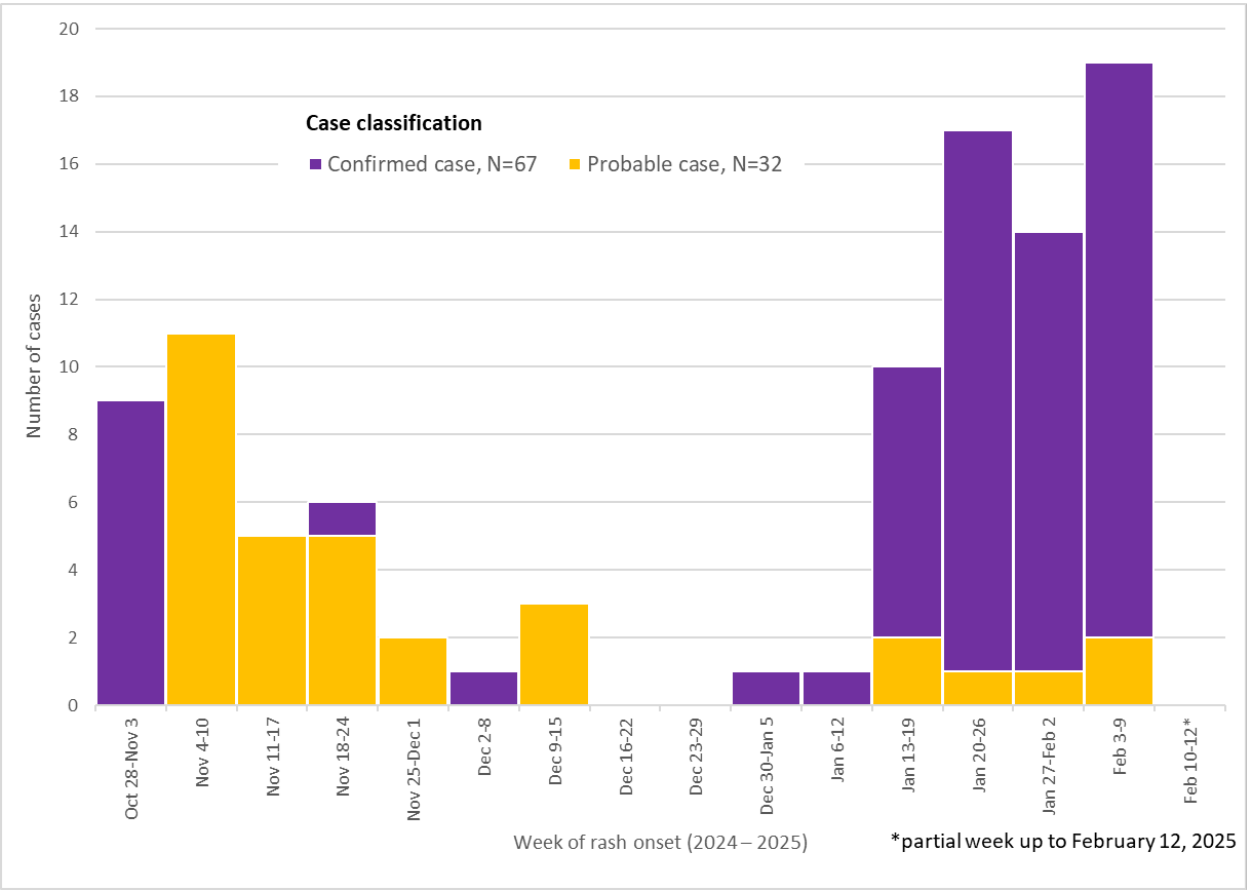
- In 2025, a total of 57 confirmed and 6 probable cases of measles have been reported in Ontario as of February 12. Most of these cases were associated with an ongoing multi-jurisdictional outbreak (described below). One confirmed case in 2025 was associated with travel (i.e. acquired measles outside of Canada) – this case was an unimmunized child who required hospitalization.
- Laboratory data as of February 11, 2025 indicates 19.0% of individuals (n=32) who have undergone laboratory testing for acute measles infection using molecular PCR in 2025, have tested positive.

Multi-Jurisdictional Measles Outbreak

- On October 18, 2024, exposure to a travel-related case in New Brunswick led to outbreaks of measles in New Brunswick and Ontario. While New Brunswick declared their outbreak over on January 7, 2025[1], Ontario continues to experience measles transmission, which has also led to cases of measles in Manitoba[2].
- As of February 12, 2025, 99 cases of measles (67 confirmed, 32 probable) have been reported in Ontario in association with this outbreak - this reflects an increase of 41 confirmed cases and five probable cases since the previous epidemiological summary on January 30 (Figure 1). Overall, laboratory confirmation was available for 34 cases.

- Outbreak cases have occurred in four public health units: Southwestern Public Health, Grey Bruce Health Unit, Grand Erie Public Health [formerly Brant County Health Unit and Haldimand Norfolk Health Unit], and Chatham-Kent Public Health (Table 1).
- All outbreak cases were in individuals born in or after 1970; 84 were in children and adolescents, and 15 in adults (Table 1).
  - Among children and adolescents, 98.8% were unimmunized (Figure 2).
- Seven outbreak cases have required hospitalization (Table 1), and all were unimmunized children.

Figure 1: Number of Measles Outbreak Cases by Week of Rash Onset and Case Classification: Ontario, October 28, 2024 – February 12, 2025



Notes:

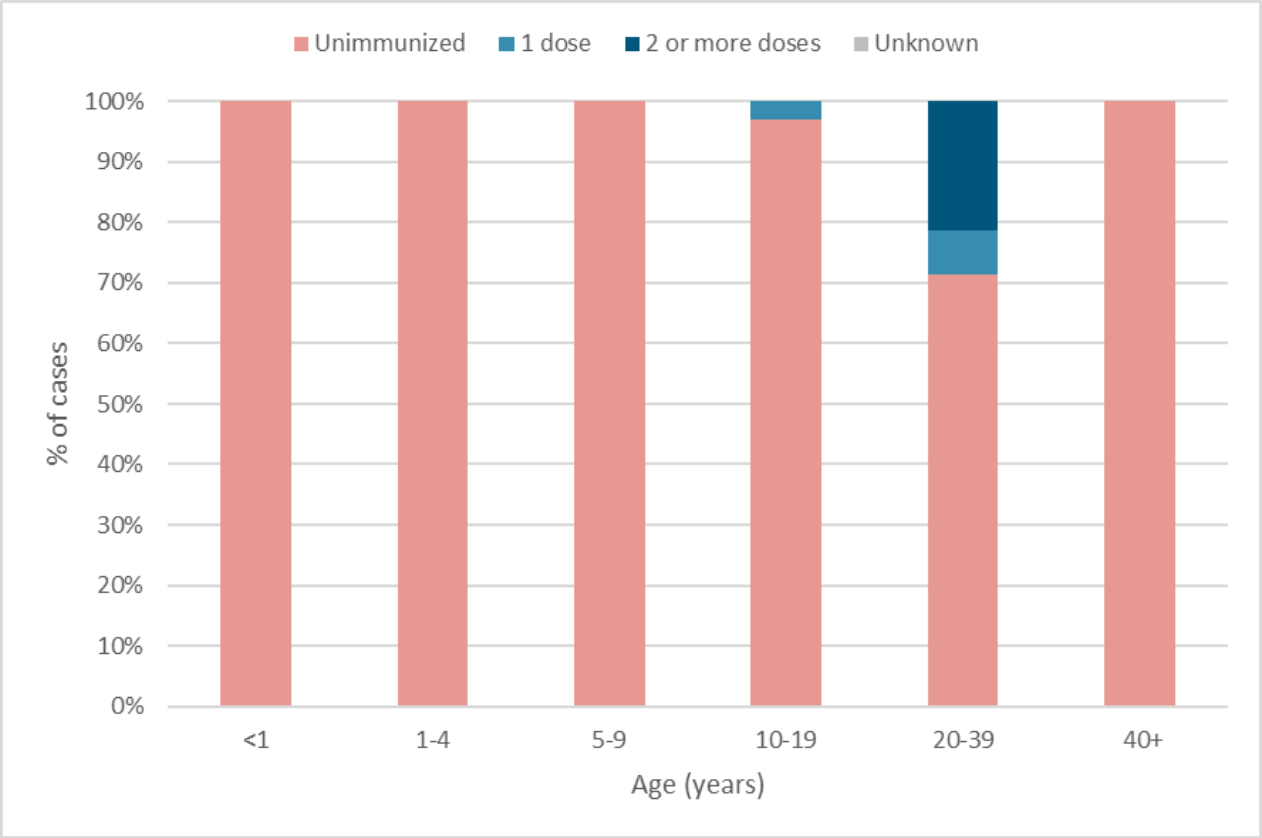
- The incubation period for measles (i.e., period from exposure to prodromal symptoms) averages 10 to 12 days; the time from exposure to rash onset ranges from 7 to 21 days (average 14 days).[3,4] Cases are considered to be infectious from one day before the start of the prodromal period, which is usually four days before rash onset, to four days after rash onset.[3]
- Based on the incubation and the infectious period, epidemiologically-linked cases may appear up to 25 days after the rash onset date of the most recently reported case of measles.
- Provincial surveillance definitions for confirmed and probable cases of measles are available in Appendix 1[5] and may be adapted in the event of an outbreak to reflect the specific circumstances of the outbreak under investigation.

Table 1: Characteristics of Measles Outbreak Cases: Ontario, October 28, 2024 – February 12, 2025

Case Characteristics	October 28, 2024 – February 12, 2025
Total Cases	99
Case Classification	
Confirmed	67 (67.7%)
Probable	32 (32.3%)
Gender	
Female	45 (45.5%)
Male	54 (54.5%)
Age (years)	
<1	5 (5.1%)
1-4	19 (19.2%)
5-9	27 (27.3%)
10-19	33 (33.3%)
20-39	14 (14.1%)
40+	1 (1.0%)
Cases born in or after 1970	99 (100.0%)
Public Health Unit	
Chatham-Kent Public Health	3 (3.0%)
Grand Erie Public Health	44 (44.4%)
Grey Bruce Health Unit	8 (8.1%)
Southwestern Public Health	44 (44.4%)
Hospitalizations	7 (7.1%)
Deaths	0 (0.0%)
Immunization Status	
Unimmunized	94 (94.9%)
1 dose	2 (2.0%)
2 or more doses	3 (3.0%)
Unknown/no proof of immunization	0 (0.0%)

Note: Brant County Health Unit and Haldimand-Norfolk Health Unit have merged into Grand Erie Public Health as of January 1, 2025.

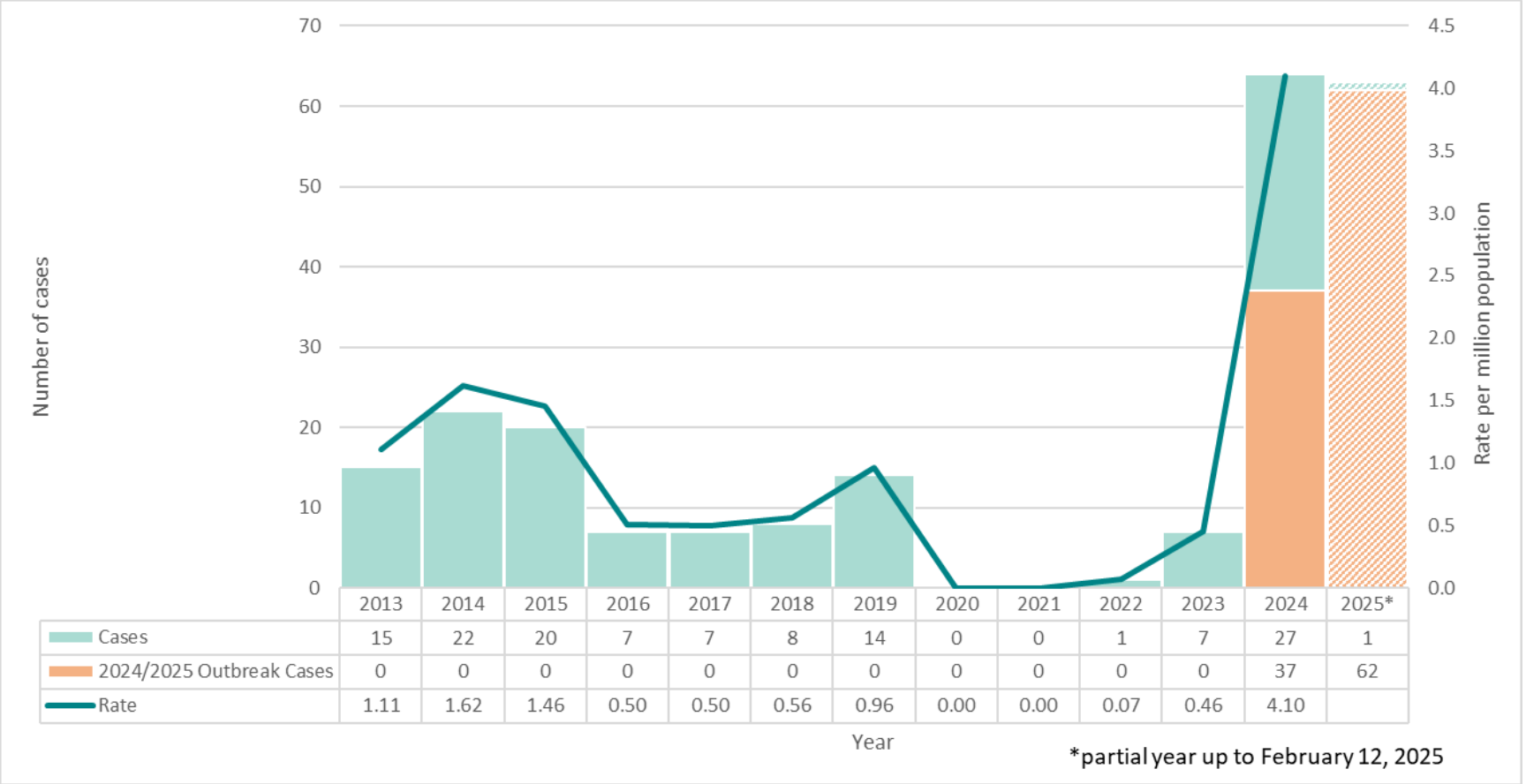
Figure 2: Immunization Status of Measles Outbreak Cases by Age Group: Ontario, October 28, 2024 – February 12, 2025



Trends Over Time

- Between 2013 and 2023 there were 101 confirmed cases of measles reported in Ontario, while in 2024 there were 64 cases of measles reported in Ontario (Figure 3).
  - Prior to the COVID-19 pandemic (2013–2019), the annual number of measles cases in Ontario ranged between seven and 22; in comparison, one case was reported during the pandemic (2020–2022) while seven cases were reported in 2023 (Figure 3). Similar trends were seen in Canada overall, where the number of measles cases decreased dramatically during the COVID-19 pandemic.
  - Of the cases in 2024, 37 were associated with the outbreak (see above). Eighteen cases were associated with travel, two of whom resulted in six epidemiologically-linked cases in April and May. Three cases occurred in individuals with unknown sources of exposure (i.e., no history of travel and not epidemiologically-linked to another case).
- Between 2013 and 2023 94 cases (93.1%) occurred in individuals born after 1970, 28 cases (27.7%) were hospitalized, and there were no deaths. In 2024 all 64 cases (100.0%) occurred in individuals born after 1970, eight (12.5%) cases were hospitalized, and there was one death in a child less than 5 years old (Table 2).
- Most cases between 2013 and 2023 were unimmunized (i.e., no doses received; 62.4%) or had unknown immunization status (24.8%). In 2024, similarly most cases were unimmunized (79.7%), while five (7.8%) had at least two doses of measles containing vaccines, two (3.1%) had one dose, and six (9.4%) had unknown immunization status (Table 2).

Figure 3: Number of Measles Cases and Incidence Rate per Million Population: Ontario, January 1, 2013 – February 12, 2025



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025*
Cases	15	22	20	7	7	8	14	0	0	1	7	27	1
2024/2025 Outbreak Cases	0	0	0	0	0	0	0	0	0	0	0	37	62
Rate	1.11	1.62	1.46	0.50	0.50	0.56	0.96	0.00	0.00	0.07	0.46	4.10	

Table 2: Characteristics of Measles Cases: Ontario, January 1, 2013 – December 31, 2024

Case Characteristics	2013-2023	2024
Total Cases	101	64
Gender		
Female	49 (48.5%)	30 (46.9%)
Male	52 (51.5%)	34 (53.1%)
Age (years)		
<1	13 (12.9%)	3 (4.7%)
1-4	22 (21.8%)	14 (21.9%)
5-9	6 (5.9%)	12 (18.8%)
10-19	8 (7.9%)	15 (23.4%)
20-39	36 (35.6%)	18 (28.1%)
40+	16 (15.8%)	2 (3.1%)
Cases born in or after 1970	94 (93.1%)	64 (100.0%)
Hospitalizations	28 (27.7%)	8 (12.5%)
Deaths	0 (0.0%)	1 (1.6%)
Immunization Status		
Unimmunized	63 (62.4%)	51 (79.7%)
1 dose	6 (5.9%)	2 (3.1%)
2 or more doses	7 (6.9%)	5 (7.8%)
Unknown/no proof of immunization	25 (24.8%)	6 (9.4%)

Technical Notes

Data Sources

Case Data

- The case 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 February 12, 2025 at 8:00 am.
- 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.

Laboratory Data

- The most recent monthly summary of laboratory data was extracted from the Public Health Ontario Laboratory Information Management System on February 11, 2025 and reflect finalized molecular PCR results indicating acute measles infection for samples received between January 1, 2025 and February 11, 2025. Specimen collection date was used where available, otherwise login date was used. Counts represent unique individuals and may change in future reports as results are finalized.
- Due to differences in the dates of extraction for case and laboratory data, the number of cases and individuals testing positive by PCR may differ.

Ontario Population Data

Ontario population data were sourced from Statistics Canada and the Ministry of Finance:

- Statistics Canada. Population estimates 2013-2022: table 17-10-0134-01: estimates of population (2016 census and administrative data), by age group and sex for July 1st, Canada, provinces, territories, health regions (2018 boundaries) and peer groups [Internet]. Ottawa, ON: Government of Canada; 2023 Mar 2 [extracted 2023 Mar 13]. Available from: https://doi.org/10.25318/1710013401-eng
- Population projections 2023-2024: Population reporting. Population Projections Public Health Unit, 2022-2046 [data file]. Toronto ON: Ministry of Finance [producer]; Toronto, ON: Ontario. Ministry of Health, IntelliHealth Ontario [distributor]; [data extracted 2023 May 10].

Data Caveats

- Data reported for 2020-2022 should be interpreted with caution. Both testing and iPHIS data entry practices were likely impacted by the COVID-19 pandemic response.
- Only measles cases meeting the confirmed and probable case classification as listed in the Ontario MOH surveillance[5] or outbreak case definitions are included in the reported case counts.
    - Changes to provincial surveillance case definitions and disease classifications have occurred over the years and thus may impact the analysis of trends over time. Cases are classified in iPHIS based on the Ontario MOH surveillance case definitions in use at the time the case was identified.
    - PHO's technical report "Factors Affecting Reporting Diseases in Ontario: Case Definition Changes and Associated Trends 1991-2016" and its associated appendix provide more detailed information on this topic.[6]

- 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. Cases that were not residents of Ontario at the time of illness onset were excluded from the 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.
- To determine immunization status of cases, only documented doses of a measles-containing vaccine administered on or after the 1st birthday and at least 14 days prior to disease onset were included.
- A case of measles is considered imported if the person travelled outside Canada 7 to 21 days prior to rash onset.
- To be considered as a fatal case outcome, a case must not have REPORTABLE DISEASE WAS UNRELATED TO CAUSE OF DEATH selected as the Death Type Description, at the time of data extraction.

References

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6. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Factors affecting reportable diseases in Ontario: case definition changes and associated trends in Ontario: 1991-2016 [Internet]. Toronto, ON: Queen's Printer for Ontario; 2018 [cited 2024 Mar 05]. Appendix, Measles. Available from: https://www.publichealthontario.ca/-/media/documents/F/2018/factors-reportable-diseases-ontario-1991-2016.pdf?la=en&hash=A10D37CEE72926746247664DEA6E8E503AFAE0B2

Citation

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