Public Health Ontario | Santé publique Ontario

ENHANCED EPIDEMIOLOGICAL SUMMARY

Measles in Ontario

Updated: June 19, 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 historically been a rare disease, owing to the successful elimination of measles in Canada and high immunization coverage. 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 part of a multi-jurisdictional measles outbreak with measles activity occurring in Ontario and several other provinces.[2] Visit our measles exposures webpage for more information on places and dates of exposure to a case of measles in Ontario.

This report describes the epidemiology of measles in Ontario between January 1, 2013 and June 17, 2025, with a focus on the current multi-jurisdictional measles outbreak. This report will be updated weekly until otherwise noted.

This report includes the most current information available from Ontario's integrated Public Health Information System (iPHIS) as of June 17, 2025 at 7:00 am.

Highlights

Multi-Jurisdictional Measles Outbreak

October 18, 2024 to June 17, 2025

- On October 18, 2024, exposure to a travel-related case in New Brunswick led to measles cases in Ontario. While New Brunswick declared their outbreak over on January 7, 2025[1], Ontario and additional provinces[2] have reported measles cases related to this outbreak, with Ontario's first outbreak cases occurring the week of October 28, 2024.
- As of June 17, 2025, Ontario has reported a total of 2,179 measles cases (1,871 confirmed, 308 probable) associated with this outbreak (Figure 1) occurring in 22 public health units (Table 1).
  - This represents an increase of 96 cases (Figure 1) and one new public health unit (Table 1) since the previous data extraction on June 10.
  - The increase in outbreak cases includes newly reported cases as well as previously reported cases with unknown source of exposure that are now linked to the outbreak based on genomic sequencing results.

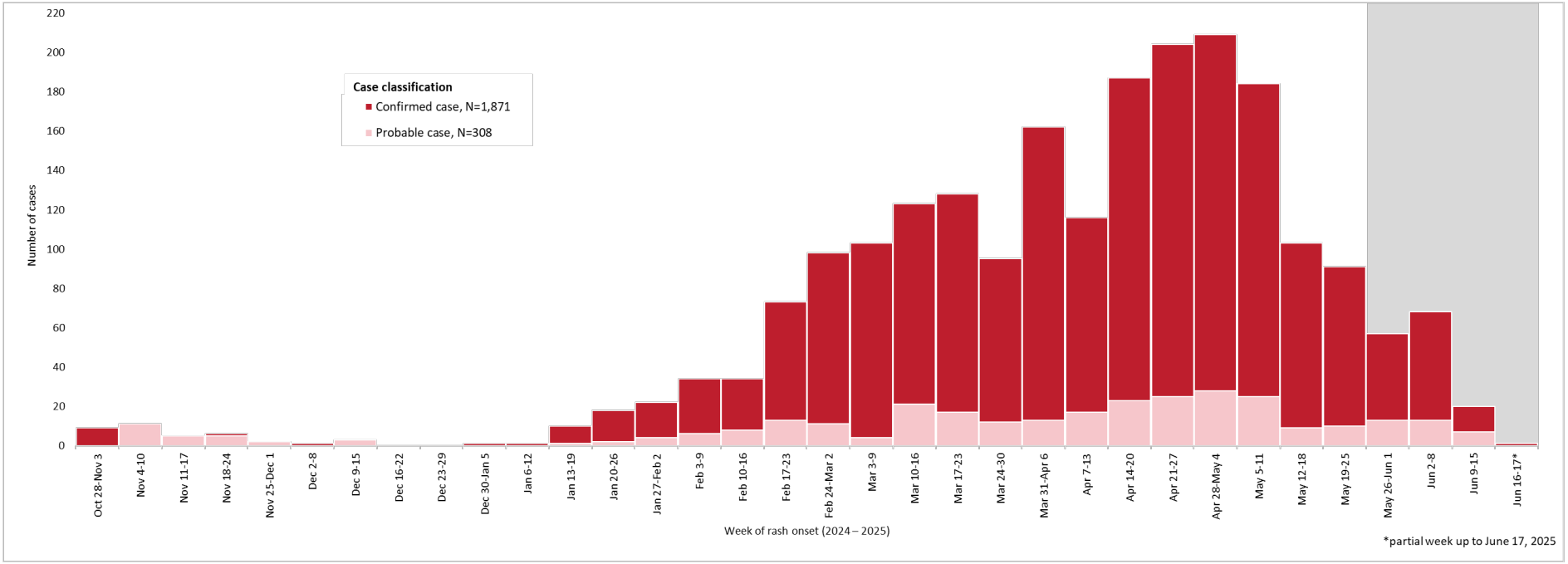
- The continued increase in the number of outbreak cases and geographic spread is predominantly due to ongoing exposures and transmission among individuals who have not been immunized.
- The geographic distribution of measles outbreak cases per 100,000 population by forward sortation area (FSA) is shown in Figure 2A (cumulative cases since the start of the outbreak) and Figure 2B (recent cases with rash onset in the last 21 days).
    - The FSAs with the highest cumulative and recent rates of outbreak cases to date are in southwestern Ontario (Figure 2A, Figure 2B).
- As of June 17, there was one reported case that could be determined to be within their period of communicability (i.e., when a case is able to transmit virus to others) (Table 2). The number of measles cases currently infectious is difficult to estimate as most measles cases are no longer within their period of communicability at the time they are included in the report, as well as the potential for there to be measles cases not yet diagnosed or reported to public health.
- Among all outbreak cases, the majority (73.8%, n=1,609) were infants, children and adolescents (19 years old or younger), while 25.6% (n=558) were adults, and 0.6% (n=12) had unknown age (Table 3).
    - Almost all infant, child and adolescent outbreak cases (96.3%, n=1,550) were unimmunized, while 67.6% (n=377) of adults were unimmunized (Figure 3).
    - 98.3% (n=2,141) of outbreak cases were born in or after 1970 (Table 3).
- A total of 2.0% (n=44) of outbreak cases were pregnant at the time of their measles infection (Table 3).
    - Of these, 75.0% (n=33) were unimmunized, 4.5% (n=2) received one dose of measles-containing vaccine, 13.6% (n=6) received two or more doses, and 6.8% (n=3) had unknown immunization status.
    - There have been seven cases of congenital measles (i.e., measles diagnosed in the first 10 days of life) (Table 3).
- Overall, 6.8% (n=149) of outbreak cases were hospitalized and 0.5% (n=11) were admitted to the intensive care unit (ICU) (Table 3).
    - 94.0% (n=140) of hospitalized cases were unimmunized, of whom 107 were infants, children and adolescents.
    - The median length of stay among discharged hospitalized cases was three days (range: 1–54 days) and the median length of stay among ICU admissions was three days (range: 1–54 days).
- There was one death that occurred in a congenital case of measles who was born pre-term and had other underlying medical conditions (Table 3).

Measles Cases in 2025

January 1 to June 17, 2025

- In 2025, a total of 2,188 measles cases (1,906 confirmed, 282 probable) have been reported in Ontario as of June 17 (Figure 4).
    - All but 46 cases were linked with the multi-jurisdictional outbreak described above. Of these, 22 cases had a history of travel (i.e. measles acquired outside of Canada), one case was epidemiologically-linked to a visitor to Ontario, and 23 cases do not yet have a source of exposure reported.
        - Among these cases, 7 required hospitalization, all in unimmunized infants, children and adolescents.
    - As of June 16, 2025, laboratory data shows that 24.0% of individuals (n=1,026) tested for acute measles infection in 2025 using molecular PCR have received positive test results.

Figure 1: Number of Measles Outbreak Cases by Week of Rash Onset and Case Classification: Ontario, October 28, 2024 – June 17, 2025



Week of rash onset	Oct 28-Nov 3	Nov 4-10	Nov 11-17	Nov 18-24	Nov 25-Dec 1	Dec 2-8	Dec 9-15	Dec 16-22	Dec 23-29	Dec 30-Jan 5	Jan 6-12	Jan 13-19	Jan 20-26	Jan 27-Feb 2	Feb 3-9	Feb 10-16	Feb 17-23	Feb 24-Mar 2	Mar 3-9	Mar 10-16	Mar 17-23	Mar 24-30	Mar 31-Apr 6	Apr 7-13	Apr 14-20	Apr 21-27	Apr 28-May 4	May 5-11	May 12-18	May 19-25	May 26-Jun 1	Jun 2-8	June 9-15	June 16-17*
Confirmed case	9	0	0	1	0	1	0	0	0	1	1	9	16	18	28	26	60	87	99	102	111	83	149	99	164	179	181	159	94	81	44	55	13	1
Probable case	0	11	5	5	2	0	3	0	0	0	0	1	2	4	6	8	13	11	4	21	17	12	13	17	23	25	28	25	9	10	13	13	7	0
Total cases	**9**	**11**	**5**	**6**	**2**	**1**	**3**	**0**	**0**	**1**	**1**	**10**	**18**	**22**	**34**	**34**	**73**	**98**	**103**	**123**	**128**	**95**	**162**	**116**	**187**	**204**	**209**	**184**	**103**	**91**	**57**	**68**	**20**	**1**

Notes:

- **Cases are infectious from four days before rash onset to four days after rash onset.**[3] 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]
- Rash onset date was not yet available for 36 cases at the time of analysis; as a result, episode date was used as a proxy instead.
- 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. The grey shaded area in the figure represents this case lag, and case counts during these weeks should be considered tentative.
- Provincial surveillance definitions for confirmed and probable cases of measles are available in Appendix 1[5] and have been adapted to reflect the specific circumstances of the outbreak under investigation.

Table 1: Public Health Units of Measles Outbreak Cases: Ontario, October 28, 2024 – June 17, 2025

Public Health Unit	Case Count as of June 17	Change in Case Count since June 10	Rate per 100,000 Population as of June 17
Southwestern Public Health	751 (34.5%)	12	316.8
Grand Erie Public Health	284 (13.0%)	1	96.4
Huron Perth Public Health	249 (11.4%)	14	159.5
Chatham-Kent Public Health	176 (8.1%)	0	161.6
Windsor-Essex County Health Unit	145 (6.7%)	4	32.4
Algoma Public Health	115 (5.3%)	34	97.3
Region of Waterloo Public Health and Emergency Services	110 (5.0%)	21	16.3
South East Health Unit	80 (3.7%)	0	13.6
Wellington-Dufferin-Guelph Public Health	70 (3.2%)	1	20.5
Grey Bruce Health Unit	50 (2.3%)	3	26.5
Middlesex-London Health Unit	45 (2.1%)	0	8.1
North Bay Parry Sound District Health Unit	38 (1.7%)	5	28.5
Lambton Public Health	20 (0.9%)	0	14.8
Northeastern Public Health	19 (0.9%)	0	16.2
Niagara Region Public Health	13 (0.6%)	0	2.5
Eastern Ontario Health Unit	6 (0.3%)	0	2.7
Haliburton Kawartha Northumberland Peterborough Health Unit	2 (0.1%)	0	0.6
Renfrew County and District Health Unit	2 (0.1%)	0	1.8
City of Hamilton Public Health Services	1 (0.05%)	0	0.2
Simcoe Muskoka District Health Unit	1 (0.05%)	1	0.2
Toronto Public Health	1 (0.05%)	0	0.0
York Region Public Health	1 (0.05%)	0	0.1
Ontario	**2,179 (100.0%)**	**96**	**13.8**

Notes:

- This table is based on the public health unit corresponding to where a case was residing most of the time at the time of illness onset or report to public health, and not necessarily the location of exposure or diagnosis.
- As of January 1, 2025, Brant County Health Unit and Haldimand-Norfolk Health Unit have merged into Grand Erie Public Health; Hastings and Prince Edward Counties Health Unit, Kingston, Frontenac and Lennox and Addington Health Unit and Leeds, Grenville and Lanark District Health Unit have merged into South East Health Unit; Porcupine Health Unit and Timiskaming Health Unit have merged into Northeastern Public Health; and Haliburton, Kawartha, Pine Ridge District Health Unit and Peterborough County-City Health Unit have merged into Haliburton Kawartha Northumberland Peterborough Health Unit.
- Decreases in case counts at the PHU level may result from ongoing data cleaning efforts and/or case updates, including re-classification of cases.

Table 2: Measles Outbreak Cases by Period of Communicability: Ontario, October 28, 2024 – June 17, 2025

Period of Communicability	Case Count as of June 17
Cases past period of communicability	2,142
Cases within period of communicability	1
Cases without rash onset date (required to calculate the period of communicability)	36
Total cases	**2,179**

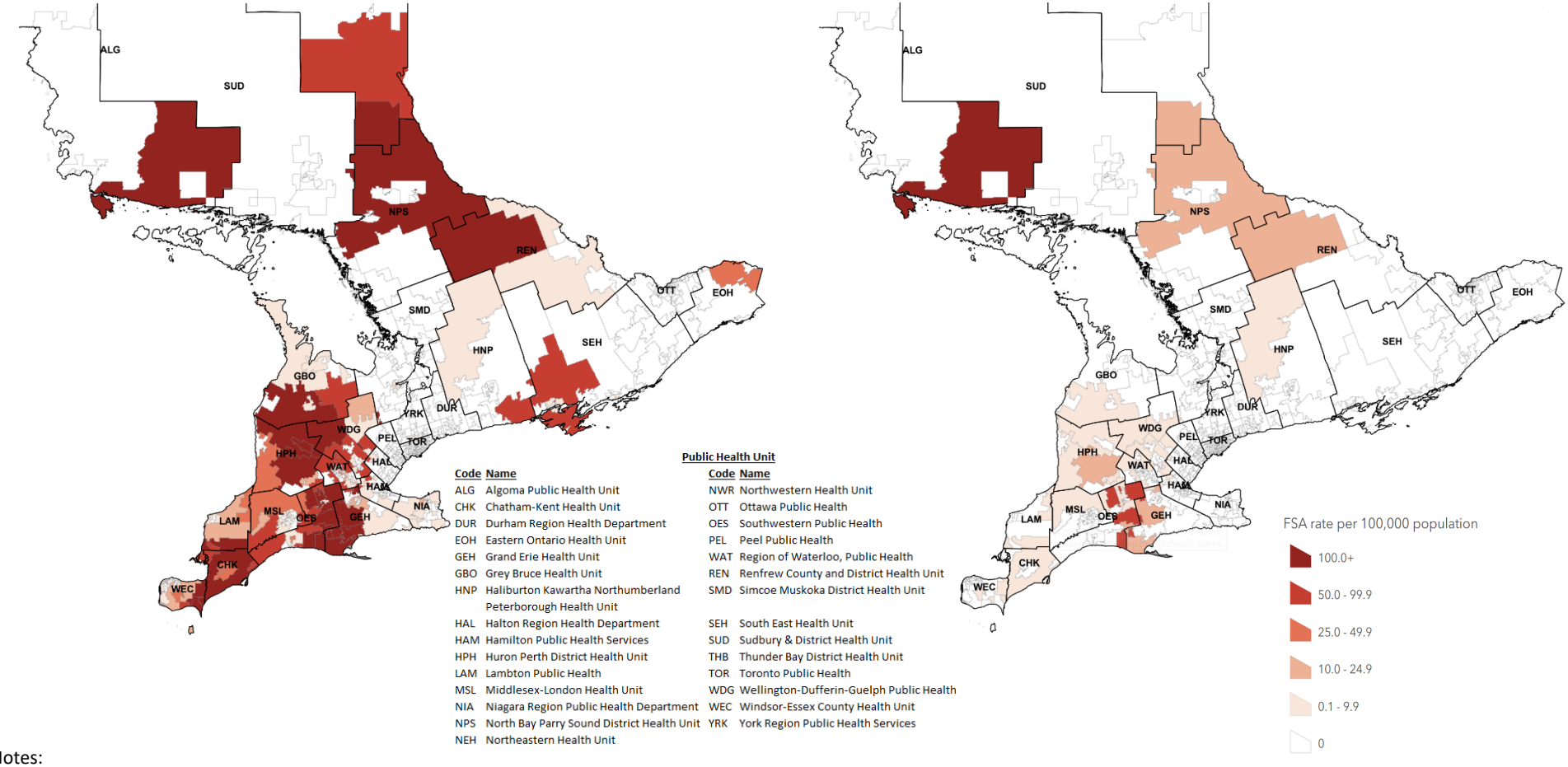
Notes:

- The period of communicability is defined as the period when a measles case is able to transmit the virus to others. It spans the interval from four days prior to four days following the onset of rash, including the date of rash onset.
- The reported number of cases within their period of communicability does not reflect the risk in the community due to the potential for undiagnosed cases of measles or delays in reporting.

Figure 2: Geographic Distribution of the Rate of Measles Outbreak Cases Per 100,000 Population by Forward Sortation Area (FSA) Among Regions in Ontario with Cases.

A. Cumulative Cases: October 28, 2024 – June 17, 2025

B. Recent Cases (Rash Onset in the Last 21 days): May 27, 2025 – June 17, 2025



Public Health Unit			
Code	Name	Code	Name
ALG	Algoma Public Health Unit	NWR	Northwestern Health Unit
CHK	Chatham-Kent Health Unit	OTT	Ottawa Public Health
DUR	Durham Region Health Department	OES	Southwestern Public Health
EOH	Eastern Ontario Health Unit	PEL	Peel Public Health
GEH	Grand Erie Health Unit	WAT	Region of Waterloo, Public Health
GBO	Grey Bruce Health Unit	REN	Renfrew County and District Health Unit
HNP	Haliburton Kawartha Northumberland Peterborough Health Unit	SMD	Simcoe Muskoka District Health Unit
HAL	Halton Region Health Department	SEH	South East Health Unit
HAM	Hamilton Public Health Services	SUD	Sudbury & District Health Unit
HPH	Huron Perth District Health Unit	THB	Thunder Bay District Health Unit
LAM	Lambton Public Health	TOR	Toronto Public Health
MSL	Middlesex-London Health Unit	WDG	Wellington-Dufferin-Guelph Public Health
NIA	Niagara Region Public Health Department	WEC	Windsor-Essex County Health Unit
NPS	North Bay Parry Sound District Health Unit	YRK	York Region Public Health Services
NEH	Northeastern Health Unit		

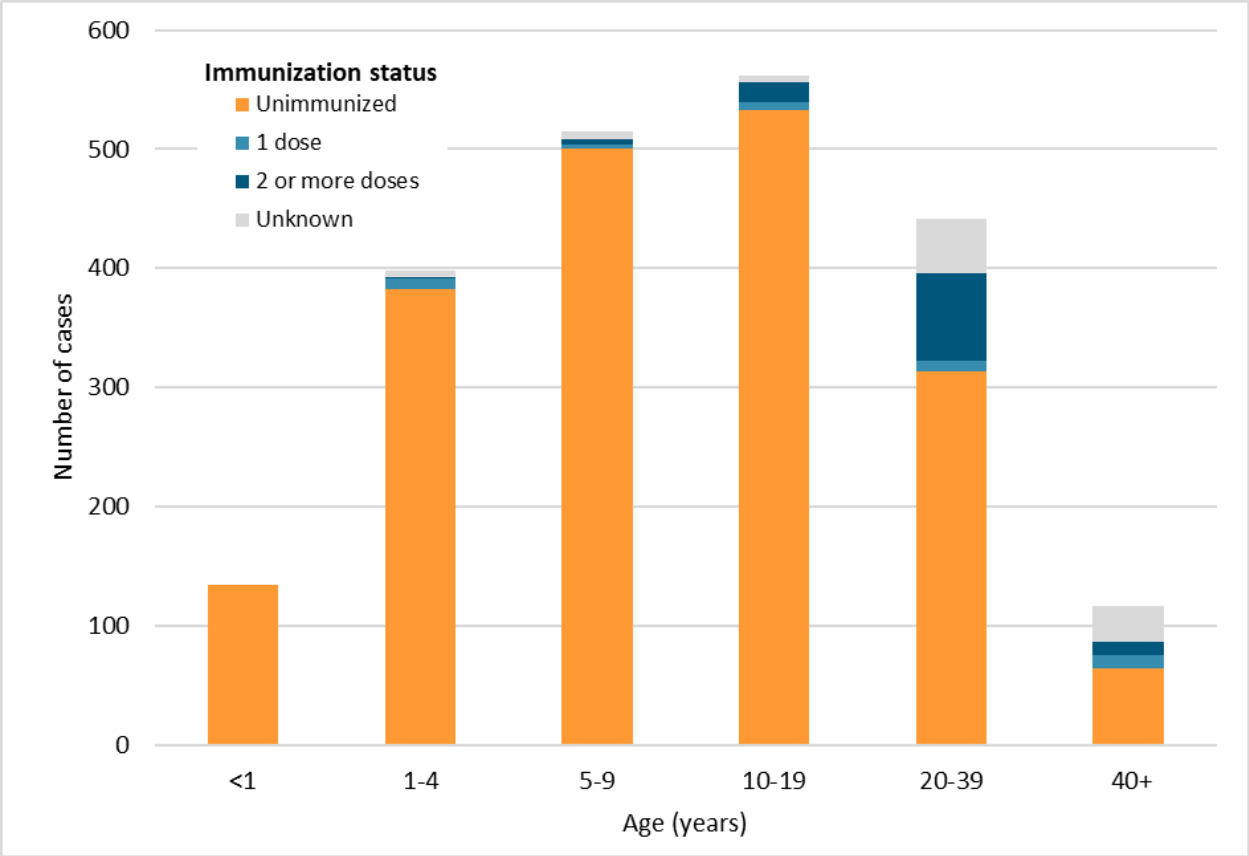
Notes:

- **FSA boundaries do not align with public health unit boundaries, and some FSAs span multiple public health units.** Therefore, the number and rate of cases by public health unit in Table 1 do not correspond to the FSA-level rates shown in these maps.
- As of January 1, 2025, Brant County Health Unit and Haldimand-Norfolk Health Unit have merged into Grand Erie Public Health; Hastings and Prince Edward Counties Health Unit, Kingston, Frontenac and Lennox and Addington Health Unit and Leeds, Grenville and Lanark District Health Unit have merged into South East Health Unit; Porcupine Health Unit and Timiskaming Health Unit have merged into Northeastern Public Health; and Haliburton, Kawartha, Pine Ridge District Health Unit and Peterborough County-City Health Unit have merged into Haliburton Kawartha Northumberland Peterborough Health Unit.

Table 3: Characteristics of Measles Outbreak Cases: Ontario, October 28, 2024 – June 17, 2025

Case Characteristics	Case Count as of June 17
Total cases	2,179 (100.0%)
Case classification	
Confirmed	1,871 (85.9%)
Probable	308 (14.1%)
Gender	
Female	1,048 (48.1%)
Male	1,130 (51.9%)
Unknown	1 (0.05%)
Age (years)	
<1	134 (6.1%)
1-4	398 (18.3%)
5-9	515 (23.6%)
10-19	562 (25.8%)
20-39	441 (20.2%)
40+	117 (5.4%)
Unknown	12 (0.6%)
Pregnant cases	44 (2.0%)
Congenital cases	7 (0.3%)
Cases born in or after 1970	2,141 (98.3%)
Hospitalized cases	149 (6.8%)
ICU admissions	11 (0.5%)
Deaths	1 (0.05%)
Immunization status	
Unimmunized	1,935 (88.8%)
1 dose	38 (1.7%)
2 or more doses	108 (5.0%)
Unknown/no proof of immunization	98 (4.5%)

Figure 3: Immunization Status of Measles Outbreak Cases by Age Group: Ontario, October 28, 2024 – June 17, 2025

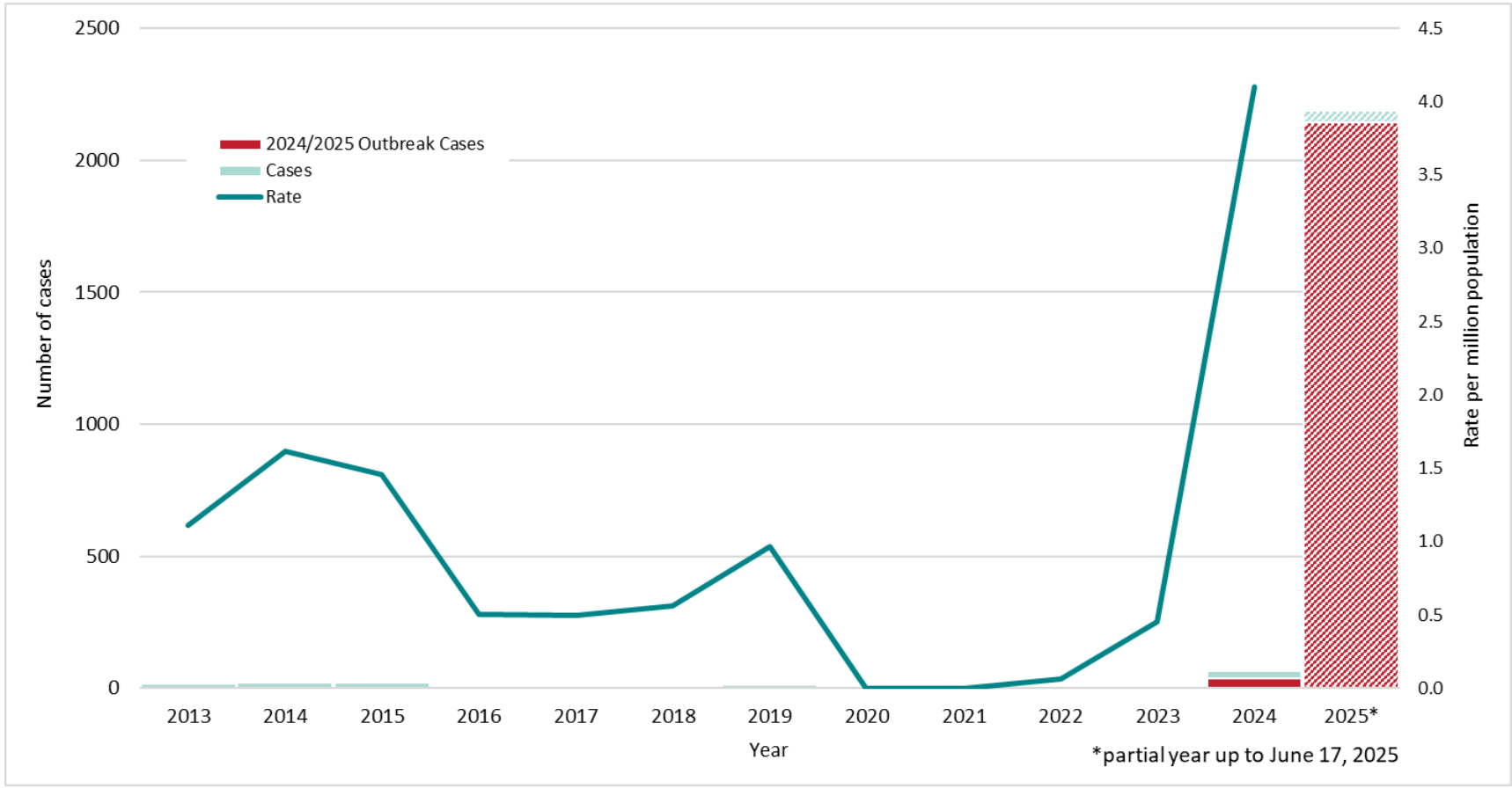


Age group	<1	1-4	5-9	10-19	20-39	40+
Unimmunized	100.0%	96.2%	97.1%	94.8%	71.0%	54.7%
1 dose	0.0%	2.0%	0.8%	1.1%	2.0%	9.4%
2 or more doses	0.0%	0.3%	0.8%	3.0%	16.8%	10.3%
Unknown	0.0%	1.5%	1.4%	1.1%	10.2%	25.6%

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 4).
  - 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 4). 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 4).
- 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 4).

Figure 4: Number of Measles Cases and Incidence Rate per Million Population: Ontario, January 1, 2013 – June 17, 2025



Year	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	46
2024/2025 Outbreak Cases	0	0	0	0	0	0	0	0	0	0	0	37	2,142
Total	**15**	**22**	**20**	**7**	**7**	**8**	**14**	**0**	**0**	**1**	**7**	**64**	**2,188**
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 4: 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 June 17, 2025 at 7:00 am.
    - Cases associated with the multi-jurisdictional measles outbreak were identified as cases linked to the provincial outbreak number (0000-2024-00016) in iPHIS.
- 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 June 16, 2025 and reflect finalized molecular PCR results indicating acute measles infection for samples received between January 1 and June 16, 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. Table 17-10-0134-01: Population estimates (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
- Statistics Canada. Table 98-10-0027-01: Population estimates (2021 census and administrative data), by age (in single years), average age and median age, gender, Canada and forward sortation areas [Internet]. Ottawa, ON: Government of Canada; 2022 Sept 9 [extracted 2024 June 7]. Available from: https://doi.org/10.25318/9810002701-eng
- Population projections 2023-2025: 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]
- In Figure 1, episode date was used as a proxy when rash onset date was unavailable. Episode date is an estimate of the onset date of disease for a case that is determined using the following hierarchy 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 and rates by geography in Table 1 are based on the diagnosing health unit (DHU). DHU refers to the public health unit corresponding to where a case was residing most of the time at the time of illness onset or report to public health, and does not necessarily indicate the location of exposure or diagnosis. Cases that were not residents of Ontario at the time of illness onset were excluded from the analysis.
  - In Figure 2A and Figure 2B, the maps show the rates of measles cases by residential forward sortation area (FSA); FSA boundaries do not align with public health unit boundaries, and some FSAs span multiple health units.
- 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 minimum interval of 28 days between doses was also applied to count valid doses.
- A case of measles is considered imported if the person travelled outside Canada 7 to 21 days prior to rash onset.
- The median length of stay for hospitalized cases and ICU admissions was only derived for those cases where both the admission and discharge dates were entered in iPHIS. Cases who were still hospitalized or admitted to ICU, or whose dates of admission/discharge were unknown at the time of data extraction, were excluded from the calculation. For cases with multiple records of hospitalization, the cumulative length of stay (i.e., sum of length of stay associated with each hospitalization) was used to calculate the median length of stay.
- 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

1. Government of New Brunswick. News release: measles outbreak in zone 3 is over [Internet]. Fredericton, NB: Government of New Brunswick; 2025 [cited 2025 Feb 13]. Available from: https://www2.gnb.ca/content/gnb/en/news/news_release.2025.01.0003.html
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Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Measles in Ontario. Toronto, ON: King's Printer for Ontario; 2025.

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