

SURVEILLANCE REPORT

Invasive Group A Streptococcal (iGAS) Disease in Ontario: 2024–25 Seasonal Summary

Published: July 2026

Introduction

This report provides an epidemiologic overview of confirmed cases of invasive group A streptococcal disease reported in Ontario during the 2024–25 season (October 1, 2024 to September 30, 2025). It includes comparisons to the five seasons prior to the COVID-19 pandemic (October 1, 2014 to September 30, 2019), and the 2022–23 and 2023–24 (October 1, 2022 to September 30, 2024) post-COVID-19 pandemic seasons, which was marked by the discontinuation of pandemic related public health measures. The data in this report are based on information from Ontario's integrated Public Health Information System (iPHIS) as of **February 9, 2026**.¹

Group A Streptococcal (GAS) disease is classified as invasive GAS (iGAS) when *Streptococcus pyogenes* bacteria enter a normally sterile part of the body (e.g., blood, deep tissue, lining of the brain). GAS is a common cause of milder infections, but unlike iGAS, non-invasive GAS infections are not notifiable to public health in Ontario. Only cases meeting the [provincial confirmed iGAS case definition](#) are included in this report² and they are placed in time based on iGAS seasons, defined as the period spanning October 1 of one year to September 30 of the following year.

Highlights

- iGAS incidence in Ontario during the 2024–25 season declined to 1,601 cases (9.8 cases per 100,000 population) but remained above pre-pandemic levels and was the third highest season on record. The 2023–24 season represents the highest incidence on record since iGAS became reportable in Ontario in 1995², with 1,975 reported cases and a corresponding rate of 12.2 per 100,000.
- The percentage of fatalities among all cases was approximately 11.0% in the 2024–25 and 2023–24 seasons, which was higher than pre-pandemic levels. In contrast, the proportion of fatal cases among children aged <1, 10 to 13 and 14 to 17 increased in 2024–25 relative to 2023–24.
- Most public health units (24/29) had lower rates of iGAS in the 2024–25 season than in the 2023–24 season. In the 2024–25 season, public health units in northern Ontario had the highest iGAS incidence rates overall (i.e., Northwestern Health Unit, Thunder Bay District Health Unit, Northeastern Public Health, North Bay Parry Sound District Health Unit and Public Health Sudbury & Districts).
- The most commonly reported *emm* type remained *emm1*. However, the proportion of cases caused by *emm1* decreased substantially from 35.4% in the 2023–24 season to 10.8% in the 2024–25 season. This shift in the dominant *emm* type was accompanied by the emergence of *emm3* (9.9%), *emm41* (7.7%), *emm5* (5.4%) and *emm83* (4.2%), with each accounting for a higher proportion of iGAS cases in 2024–25 than in 2023–24.

- High rates of iGAS activity in Ontario, in the absence of an effective vaccine against GAS, underscore the importance of public health strategies that:
 - Continue to strengthen surveillance of iGAS in children and adults;
 - Support local public health units' capacity to provide timely management of iGAS cases, contacts and outbreaks, including within equity-deserving populations and communities (e.g., in Northern Ontario);
 - Promote collaboration with key public health and clinical partners to effectively increase awareness about iGAS among health care providers and the public; and
 - Promote staying up-to-date with eligible immunizations against viral infections such as influenza, chickenpox, and COVID-19, as these are infections that increase the likelihood of GAS infections and/or severe outcomes when they precede or co-occur with GAS infections.⁵

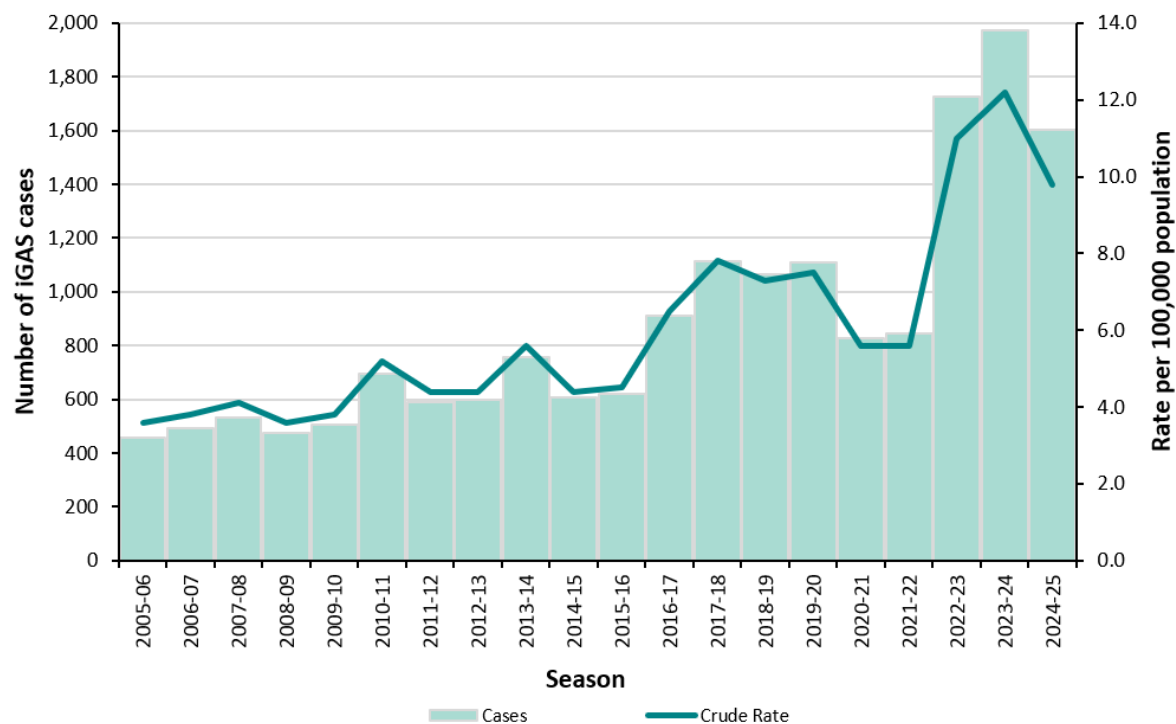
Epidemiological Trends

Since iGAS became reportable in Ontario in 1995, the highest number of cases were reported in the 2022-23 (1,725 cases) and 2023-24 (1,975 cases) seasons. In the last 20 seasons from 2005-06 to 2024-25, the crude rate of cases per 100,000 population increased from 3.6 to 9.8, representing a 172% increase. Rates were steady between 2005-06 and 2009-10 and increased slightly in 2010-2011. There were sustained higher levels of iGAS activity during the 2017-18 to 2019-20 seasons compared to preceding seasons, followed by a decrease in the 2020-21 and 2021-22 seasons, which coincided with the COVID-19 pandemic and associated public health measures. Rates increased sharply above pre-pandemic levels starting in 2022-23, peaked in the 2023-24 season, and then declined in 2024-25 ([Figure 1](#)).

In Ontario, iGAS cases typically increase in October, peak during the winter months, then decline through the spring and summer. iGAS case counts peaked in January in the five seasons immediately preceding the COVID-19 pandemic (average peak: 97 cases, range: 76-138), as well as in two of the three post-pandemic seasons (267 cases in 2023-24 and 184 cases in 2024-25). The exception was the 2022-23 season, when cases peaked in May with 209 cases. Across all three post-pandemic seasons, monthly case counts consistently exceeded expected levels based on the corresponding monthly averages for the five pre-pandemic seasons ([Figure 2](#)).

iGAS case counts were higher during the first half of the 2023-24 and 2024-25 seasons (October to March). In contrast, incidence peaked in the latter half of the 2022-23 season (April to September). This pattern was seen in both pediatric (under 18 years of age) and adult cases (18 years of age and older). In the 2024-25 season, monthly rates among adults remained above the corresponding pre-pandemic rates, whereas pediatric rates fell below pre-pandemic monthly rates in some months ([Figure 3a](#); [Figure 3b](#)).

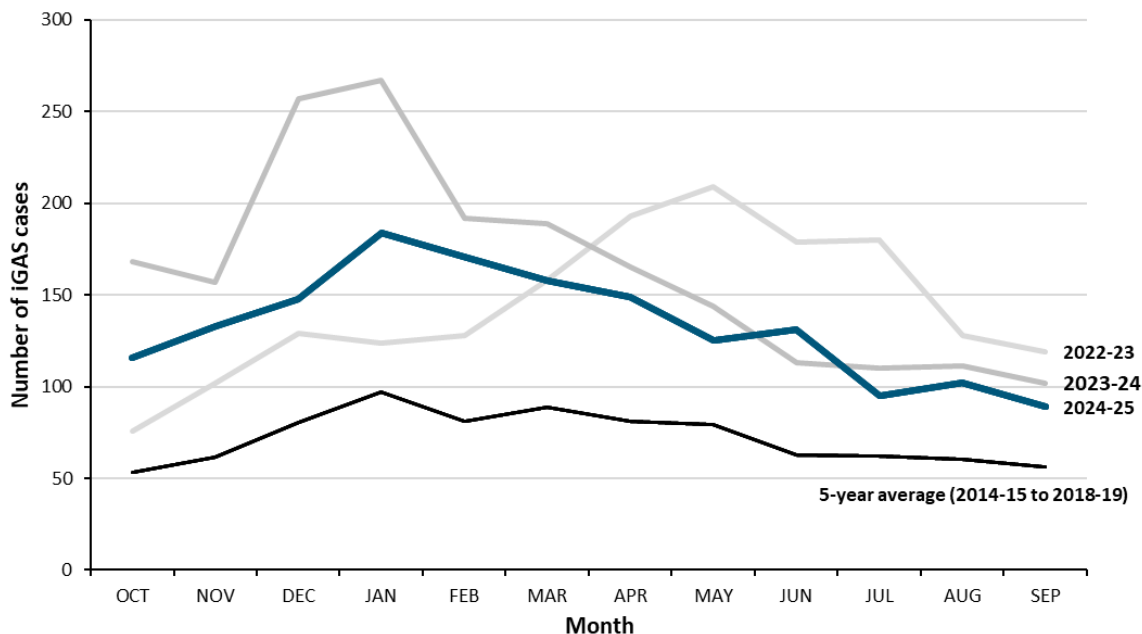
Figure 1: Cases and incidence of iGAS by Season: Ontario, 2005-06 to 2024-25 Seasons



Data sources: Case data: Ontario. Ministry of Health; 2026.¹ Population data: Statistics Canada; 2023⁴, Population Reporting.⁵

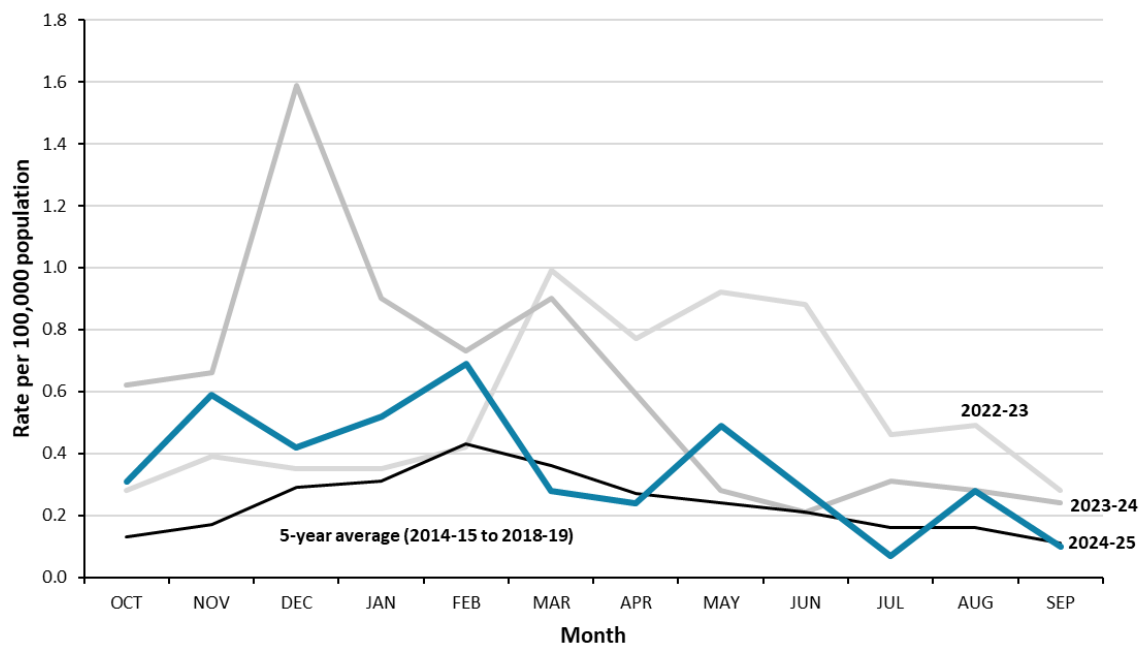
Note: Case definition and testing changes have occurred over time that may impact counts and therefore should be interpreted with this in mind.

Figure 2: Confirmed iGAS Case Counts by Month: Ontario, 2024-25 Compared to the Most Recent and Pre-Pandemic Seasons



Data source: Ontario. Ministry of Health; 2026.¹

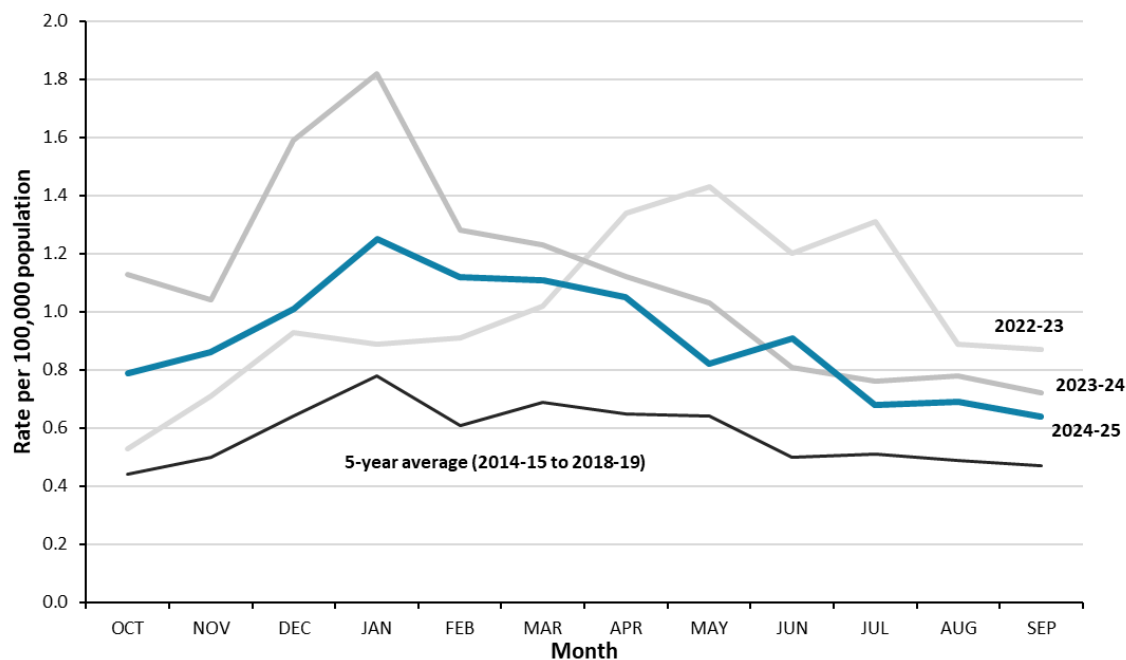
Figure 3a: Rate (per 100,000 Population) of Confirmed iGAS among Cases Aged < 18 Years by Month*: Ontario, 2024-25 Compared to the Most Recent and Pre-Pandemic Seasons



Data sources: Case data: Ontario. Ministry of Health; 2026.¹ Population data: Population data: Statistics Canada; 2023⁴, Population Reporting.⁵

Note: *Excludes cases with unknown age.

Figure 3b: Rate (per 100,000 Population) of Confirmed iGAS among Cases Aged ≥ 18 Years by Month*: Ontario, 2024-25 Compared to the Most Recent and Pre-Pandemic Seasons



Data sources: Case data: Ontario. Ministry of Health; 2026.¹ Population data: Population data: Statistics Canada; 2023⁴, Population Reporting.⁵

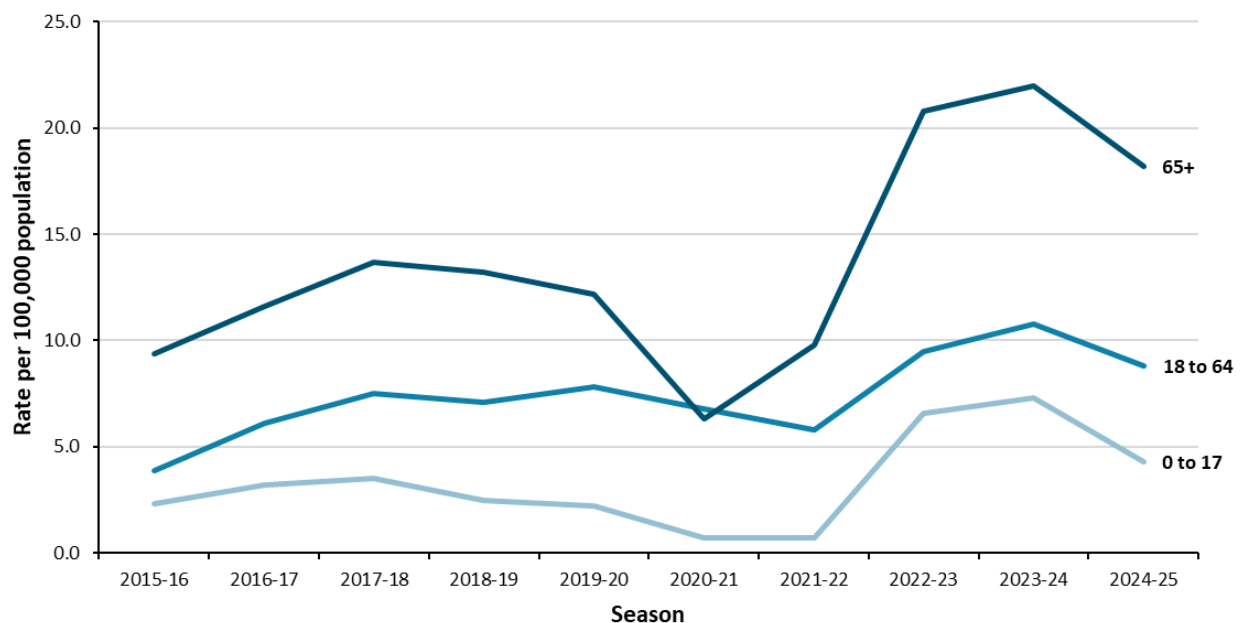
Note: *Excludes cases with unknown age.

Age Group

Apart from the 2020-21 season, older adults (aged 65 years and over) have consistently reported the highest rate of iGAS per 100,000 population over the last 10 seasons, compared to adults aged 18 to 64 and children aged 0 to 17 years. Rates rose sharply among all age groups in 2022-23 and into 2023-24 and remained above pre-pandemic rates despite declines in the 2024-25 season ([Figure 4](#)).

During the 2024-25 season, older adults aged 65 years and over had the highest rate of iGAS, followed by pediatric cases under 1 year, and adults aged 18 to 64 years. Except for cases under 1 year of age, rates for all other age groups were lower in the 2024-25 season compared to the age-specific rates for the 2023-24 season. The largest percentage decrease in rates occurred among pediatric cases aged 5 to 9 (-64.0%) and 1 to 4 years (-42.4%) ([Table 1](#)).

Figure 4: Rate (per 100,000 Population) of Confirmed iGAS Cases by Age Group and Season: Ontario, 2015-16 to 2024-25 Seasons



Data sources: Case data: Ontario. Ministry of Health; 2026.¹ Population data: Population data: Statistics Canada; 2023⁴, Population Reporting.⁵

Note: Pediatric age groups (<1, 1-4, 5-9, 10-13, and 14-17) were combined to support clearer presentation.

Table 1: Confirmed iGAS Cases and Rate (per 100,000 population) by Age Group: Ontario, 2024-25 Compared to the 2023-24 Season

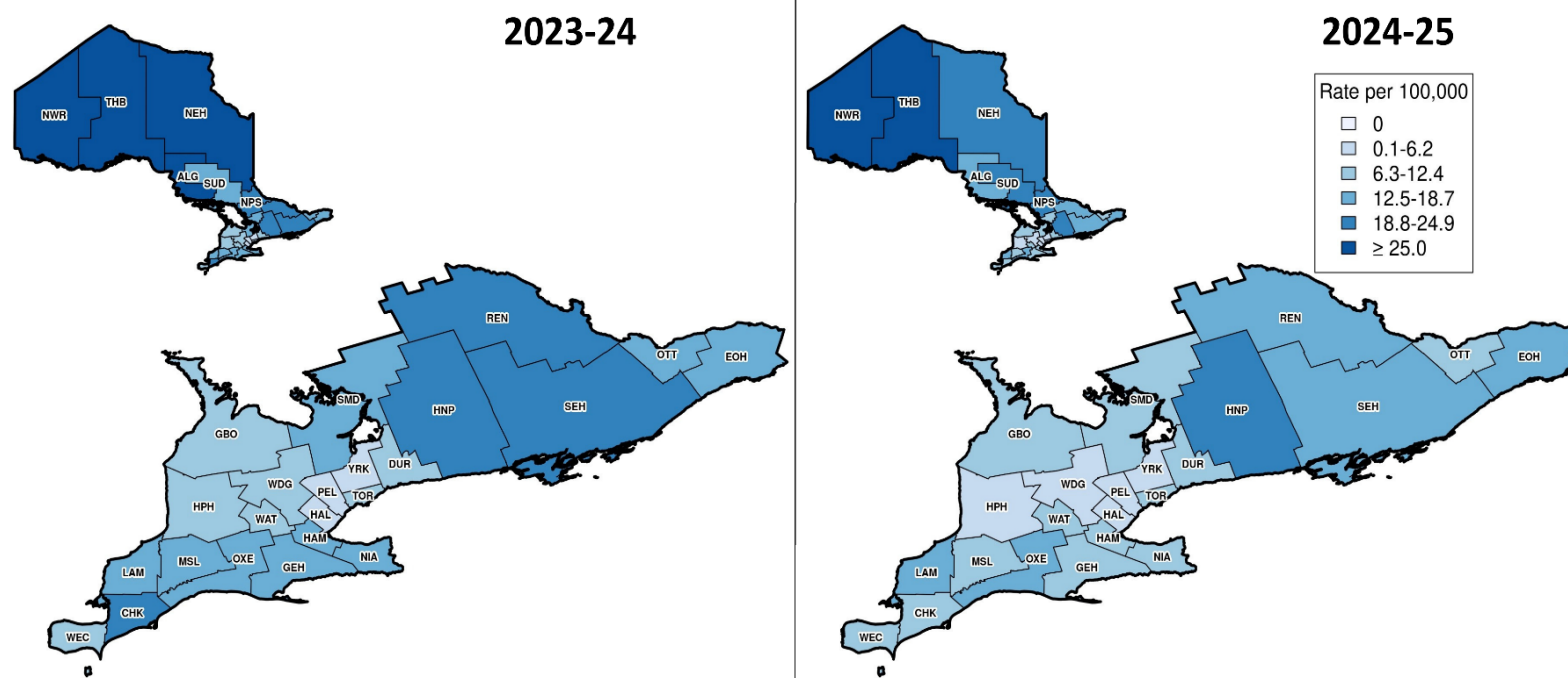
Age group (years)	2024-25 Season: Total Number of Cases	2024-25 Season: Rate Per 100,000 Population	2023-24 Season: Total Number of Cases	2023-24 Season: Rate Per 100,000 Population	Percentage Change in 2024-25 Rate Compared to 2023-24 Season
< 1	19	13.5	12	8.5	+58.8%
1 to 4	39	6.8	68	11.8	-42.4%
5 to 9	32	4.0	90	11.1	-64.0%
10 to 13	20	3.0	25	3.7	-18.9%
14 to 17	13	1.9	16	2.3	-17.4%
18 to 64	920	8.8	1,111	10.8	-18.5%
≥ 65	557	18.2	650	22.0	-17.3%
Unknown	1	N/A	3	N/A	N/A
Total	1,601	9.8	1,975	12.2	-19.7%

Data sources: Case data: Ontario. Ministry of Health; 2026.¹ Population data: Population data: Statistics Canada; 2023⁴, Population Reporting.⁵

Geography

Consistent with the 2023-24 season, the highest rates of iGAS were observed in northern Ontario in the 2024-25 season. Northwestern Health Unit followed by Thunder Bay District Health Unit had the highest rates for the 2024-25 season. Rates reported across public health units varied over time; however, most health units (24/29) had a lower rate in the 2024-25 season than in the 2023-24 season. The largest decreases in rates occurred in Chatham-Kent Public Health (-48.9%), Region of Waterloo Public Health and Paramedic Services (-37.5%) and South East Public Health (-36.6%). The largest increases in rates occurred in Public Health Sudbury & Districts (+19.6%) and Lambton Public Health (+12.7%). The lowest rates in the 2024-25 season were reported by York Region Public Health and Peel Public Health, which was consistent with the 2023-24 season ([Figure 5](#)).

Figure 5: Rate of Confirmed Cases of iGAS Reported in the 2024-25 and 2023-24 Seasons by Public Health Unit: Ontario



Code/Name

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

Data sources: Case data: Ontario. Ministry of Health; 2026.¹ Population data: Population data: Statistics Canada; 2023⁴, Population Reporting.⁵

Note: Public health unit iGAS counts and rates are available in [Appendix A](#): Table A1

Risk Factors

In the 2024-25 season, 88.6% (109/123) of pediatric iGAS cases (aged 0 to 17 years) and 94.6% (1,397/1,477) of adult iGAS cases (18 years of age and over) reported at least one risk factor in iPHIS. Approximately 30% of pediatric iGAS cases in the 2024-25 season reported signs or symptoms of upper respiratory tract infection within two weeks of their iGAS infection compared to 18.2% in the 2023-24 season. Monitoring of this iPHIS risk factor began in February 2024 and it should be interpreted with caution for cases reported in the 2023-24 season. Chronic illnesses or underlying medical conditions and dermatological conditions were consistently among the most commonly reported iPHIS medical risk factors ([Table 2a](#)).

Among adults, the most commonly reported iPHIS behavioural risk factors in the 2024-25 season were alcohol use disorder, injection drug use, and experiencing homelessness or inadequate housing. All three increased in proportion relative to the 2023-24 season. In the five pre-pandemic seasons, injection drug use was the most commonly reported iPHIS behavioural risk factor among adults (17.9%) but has declined in the 2023-24 and 2024-25 seasons ([Table 2b](#)).

Table 2a: Medical Risk Factors Reported for Confirmed iGAS Cases by Age Group and Season*: Ontario, 2024-25 Compared to the 2023-24 and the Five Pre-pandemic Seasons

iPHIS Risk Factor	2024-25 Season: Number (%) of Cases Aged 0 to 17	2023-24 Season: Number (%) of Cases Aged 0 to 17	Five Pre-pandemic Seasons: Number (%) of Cases Aged 0 to 17	2024-25 Season: Number (%) of Cases Aged ≥ 18	2023-24 Season: Number (%) of Cases Aged ≥ 18	Five Pre-pandemic Seasons: Number (%) of Cases Aged ≥ 18
Chronic Illness or Underlying Medical Condition	24/109 (22.0%)	34/187 (18.2%)	67/336 (19.9%)	885/1,397 (63.4%)	1,049/1,679 (62.5%)	2,164/3,702 (58.5%)
Dermatological Condition	13/109 (11.9%)	35/187 (18.7%)	69/336 (20.5%)	590/1,397 (42.2%)	738/1,679 (44.0%)	1,521/3,702 (41.1%)
Diabetes	0/109 (0.0%)	0/187 (0.0%)	6/336 (1.8%)	343/1,397 (24.6%)	412/1,679 (24.5%)	836/3,702 (22.6%)
Immunocompromised	9/109 (8.3%)	12/187 (6.4%)	24/336 (7.1%)	181/1,397 (13.0%)	211/1,679 (12.6%)	678/3,702 (18.3%)
Case Reported Laboratory Confirmation of Other Viral Infection within Two Weeks of iGAS Infection**	12/109 (11.0%)	13/187 (7.0%)	N/A	11/1,397 (0.8%)	19/1,679 (1.1%)	N/A
Case Reported Test Confirmed SARS-CoV-2 Infection within Two Weeks of iGAS Infection**	1/109 (0.9%)	2/187 (1.1%)	N/A	11/1,397 (0.8%)	29/1,679 (1.7%)	N/A

iPHIS Risk Factor	2024-25 Season: Number (%) of Cases Aged 0 to 17	2023-24 Season: Number (%) of Cases Aged 0 to 17	Five Pre-pandemic Seasons: Number (%) of Cases Aged 0 to 17	2024-25 Season: Number (%) of Cases Aged ≥ 18	2023-24 Season: Number (%) of Cases Aged ≥ 18	Five Pre-pandemic Seasons: Number (%) of Cases Aged ≥18
Case Reported Laboratory Confirmed Influenza Infection within Two Weeks of iGAS Infection**	3/109 (2.8%)	6/187 (3.2%)	N/A	33/1,397 (2.4%)	21/ 1,679 (1.3%)	N/A
Case Reported Laboratory Confirmed RSV Infection within Two Weeks of iGAS Infection**	5/109 (4.6%)	0/187 (0.0%)	N/A	3/1,397 (0.2%)	3/1,679 (0.2%)	N/A
Upper Respiratory Tract Infection Signs/Symptoms within Two Weeks of iGAS Infection**	34/109 (31.2%)	34/187 (18.2%)	N/A	204/1,397 (14.6%)	190/ 1,679 (11.3%)	N/A
Post-Exposure Prophylaxis Offered/Recommended if Close Contact of an iGAS Case**	3/25† (12.0%)	4/49† (8.2%)	N/A	19/422† (4.5%)	14/547† (2.6%)	N/A
Postpartum	0/109 (0.0%)	1/187 (0.5%)	1/336 (0.3%)	28/1,397 (2.0%)	26/ 1,679 (1.5%)	35/3,702 (0.9%)
Non-Invasive Strep Infection within past 30 Days	5/109 (4.6%)	16/187 (8.6%)	26/336 (7.7%)	29/1,397 (2.1%)	56/ 1,679 (3.3%)	123/3,702 (3.3%)
Recent Varicella	2/109 (1.8%)	1/187 (0.5%)	3/336 (0.9%)	3/1,397 (0.2%)	5/1,679 (0.3%)	11/3,702 (0.3%)
Other Medical Risk Factor	15/109 (13.8%)	18/187 (9.6%)	68/336 (20.2%)	203/1,397 (14.5%)	250/ 1,679 (14.9%)	755/3,702 (20.4%)

Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age are excluded from this table. iPHIS risk factors reported in <1% of cases by category are also not shown. * Cases that did not report at least one risk factor and cases that only reported a risk factor of 'Unknown' were excluded. **Data available as of February 2, 2024; interpret the 2023-24 season and the pre-pandemic seasons with caution. Refer to the [technical notes](#) for a list of iPHIS medical and behavioural risk factors and their definitions. Percentages may sum to more than 100% for cases that have more than one risk factor reported in iPHIS. †Denominator restricted to clinically severe cases with at least one risk factor reported as post-exposure prophylaxis is only recommended for clinically severe iGAS cases. For more details on how clinical severity was calculated refer to the [technical notes](#).

Table 2b: Behavioural Risk Factors Reported for Confirmed iGAS Cases by Age Group and Season*: Ontario, 2024-25 Compared to the 2023-24 and the Five Pre-pandemic Seasons

iPHIS Risk Factor	2024-25 Season: Number (%) of Cases Aged 0 to 17	2023-24 Season: Number (%) of Cases Aged 0 to 17	Five Pre-pandemic Seasons: Number (%) of Cases Aged 0 to 17	2024-25 Season: Number (%) of Cases Aged ≥ 18	2023-24 Season: Number (%) of Cases Aged ≥ 18	Five Pre-pandemic Seasons: Number (%) of Cases Aged ≥ 18
Alcohol Use Disorder	1/109 (0.9%)	0/187 (0.0%)	1/336 (0.3%)	201/1,397 (14.4%)	201/1,679 (12.0%)	427/3,702 (11.5%)
Childcare Centre Attendee**	22/109 (20.2%)	10/187 (5.3%)	N/A	N/A	N/A	N/A
Close Contact with a GAS Case	5/109 (4.6%)	10/187 (5.3%)	21/336 (6.3%)	25/1,397 (1.8%)	37/1,679 (2.2%)	96/3,702 (2.6%)
Close Contact with iGAS Case**	2/109 (1.8%)	0/187 (0.0%)	N/A	11/1,397 (0.8%)	5/1,679 (0.3%)	N/A
Injection Drug Use	0/109 (0.0%)	1/187 (0.5%)	5/336 (1.5%)	179/1,397 (12.8%)	200/1,679 (11.9%)	662/3,702 (17.9%)
Persons experiencing homelessness/ inadequate housing	1/109 (0.9%)	1/187 (0.5%)	1/336 (0.3%)	187/1,397 (13.4%)	200/1,679 (11.9%)	426/3,702 (11.5%)
Resident of Correctional Facility**	0/109 (0.0%)	0/187 (0.0%)	N/A	39/1,397 (2.8%)	12/1,679 (0.7%)	N/A
Resident of Homeless Shelter**	0/109 (0.0%)	0/187 (0.0%)	N/A	58/1,397 (4.2%)	41/1,679 (2.4%)	N/A
Resident of Long-Term Care Home**	0/109 (0.0%)	0/187 (0.0%)	N/A	41/1,397 (2.9%)	30/1,679 (1.8%)	N/A
Resident of Retirement Home**	0/109 (0.0%)	0/187 (0.0%)	N/A	46/1,397 (3.3%)	29/1,679 (1.7%)	N/A
Other Behavioural Risk Factor	12/109 (11.0%)	9/187 (4.8%)	21/336 (6.3%)	229/1,397 (16.4%)	231/1,679 (13.8%)	448/3,702 (12.1%)

Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age are excluded from this table. *Cases that did not report at least one risk factor and cases that only reported a risk factor of 'Unknown' were excluded. **Data available as of February 2, 2024; interpret the 2023-24 season and the pre-pandemic seasons with caution. Refer to the [technical notes](#) for a list of iPHIS medical and behavioural risk factors. Percentages may sum to more than 100% for cases that have more than one risk factor reported in iPHIS.

Clinical Manifestations

For both pediatric and adult cases, most clinical manifestations were similar between the five pre-pandemic, 2023-24 and 2024-25 seasons. The most common clinical manifestations among adult cases were fever or chills, cellulitis, and headache or dizziness or confusion; and among pediatric cases, fever or chills, vomiting or nausea and skin rash.

Compared to the 2023-24 season, streptococcal toxic shock syndrome (STSS) and possible STSS manifestations were lower among adults and similar (STSS) or lower (possible STSS) among pediatric cases in the 2024-25 season but remained higher than in the pre-pandemic period in both age groups. Given likely underreporting of STSS, possible STSS manifestations are also presented to provide a more complete assessment of iGAS severity ([Table 3](#)).

Table 3: Clinical Manifestations* for Confirmed iGAS Cases by Age Group and Season: Ontario, 2024-25 Compared to the 2023-24 and Five Pre-pandemic Seasons

Symptoms/ Complications*	2024-25 Season: Number (%) of Cases Aged 0 to 17	2023-24 Season: Number (%) of Cases Aged 0 to 17	Five Pre- pandemic Seasons: Number (%) of Cases Aged 0 to 17	2024-25 Season: Number (%) of Cases Aged ≥ 18	2023-24 Season: Number (%) of Cases Aged ≥ 18	Five Pre- pandemic Seasons: Number (%) of Cases Aged ≥ 18
Streptococcal toxic shock syndrome (STSS)	9/123 (7.3%)	18/211 (8.5%)	18/390 (4.6%)	101/1,477 (6.8%)	167/1,761 (9.5%)	214/3,928 (5.4%)
Possible STSS manifestation**	34/123 (27.6%)	66/211 (31.3%)	91/390 (23.3%)	554/1,477 (37.5%)	727/1,761 (41.3%)	1311/3,928 (33.4%)
Septicemia	6/123 (4.9%)	15/211 (7.1%)	19/390 (4.9%)	133/1,477 (9.0%)	186/1,761 (10.6%)	321/3,928 (8.2%)
Hypotension	19/123 (15.4%)	36/211 (17.1%)	46/390 (11.8%)	292/1,477 (19.8%)	467/1,761 (26.5%)	794/3,928 (20.2%)
Renal impairment	6/123 (4.9%)	14/211 (6.6%)	11/390 (2.8%)	204/1,477 (13.8%)	276/1,761 (15.7%)	479/3,928 (12.2%)
Liver function abnormality	5/123 (4.1%)	22/211 (10.4%)	21/390 (5.4%)	179/1,477 (12.1%)	266/1,761 (15.1%)	360/3,928 (9.2%)
Acute respiratory distress syndrome (ARDS)	16/123 (13.0%)	31/211 (14.7%)	48/390 (12.3%)	171/1,477 (11.6%)	198/1,761 (11.2%)	380/3,928 (9.7%)
Disseminated intravascular coagulation (DIC)	4/123 (3.3%)	17/211 (8.1%)	21/390 (5.4%)	65/1,477 (4.4%)	122/1,761 (6.9%)	231/3,928 (5.9%)

Symptoms/ Complications*	2024-25 Season: Number (%) of Cases Aged 0 to 17	2023-24 Season: Number (%) of Cases Aged 0 to 17	Five Pre- pandemic Seasons: Number (%) of Cases Aged 0 to 17	2024-25 Season: Number (%) of Cases Aged ≥ 18	2023-24 Season: Number (%) of Cases Aged ≥ 18	Five Pre- pandemic Seasons: Number (%) of Cases Aged ≥ 18
Rash desquamation	3/123 (2.4%)	2/211 (0.9%)	2/390 (0.5%)	10/1,477 (0.7%)	21/1,761 (1.2%)	24/3,928 (0.6%)
Soft tissue necrosis	3/123 (2.4%)	11/211 (5.2%)	20/390 (5.1%)	158/1,477 (10.7%)	237/1,761 (13.5%)	496/3,928 (12.6%)
Meningitis	2/123 (1.6%)	6/211 (2.8%)	11/390 (2.8%)	12/1,477 (0.8%)	13/1,761 (0.7%)	24/3,928 (0.6%)
Pneumonia	20/123 (16.3%)	39/211 (18.5%)	50/390 (12.8%)	165/1,477 (11.2%)	196/1,761 (11.1%)	375/3,928 (9.5%)
Bacteremia	26/123 (21.1%)	43/211 (20.4%)	50/390 (12.8%)	334/1,477 (22.6%)	398/1,761 (22.6%)	505/3,928 (12.9%)
Shock	6/123 (4.9%)	23/211 (10.9%)	30/390 (7.7%)	124/1,477 (8.4%)	189/1,761 (10.7%)	324/3,928 (8.2%)
Skin rash	36/123 (29.3%)	66/211 (31.3%)	95/390 (24.4%)	346/1,477 (23.4%)	465/1,761 (26.4%)	950/3,928 (24.2%)
Skin/muscle, extreme pain to touch	5/123 (4.1%)	16/211 (7.6%)	28/390 (7.2%)	176/1,477 (11.9%)	225/1,761 (12.8%)	563/3,928 (14.3%)
Osteomyelitis	1/123 (0.8%)	4/211 (1.9%)	8/390 (2.1%)	16/1,477 (1.1%)	11/1,761 (0.6%)	33/3,928 (0.8%)
Sore throat	20/123 (16.3%)	50/211 (23.7%)	74/390 (19.0%)	158/1,477 (10.7%)	240/1,761 (13.6%)	370/3,928 (9.4%)
Fever or chills	88/123 (71.5%)	183/211 (86.7%)	332/390 (85.1%)	826/1,477 (55.9%)	1100/1,761 (62.5%)	2579/3,928 (65.7%)
Vomiting or nausea	41/123 (33.3%)	81/211 (38.4%)	112/390 (28.7%)	263/1,477 (17.8%)	372/1,761 (21.1%)	700/3,928 (17.8%)
Diarrhea	9/123 (7.3%)	15/211 (7.1%)	19/390 (4.9%)	90/1,477 (6.1%)	119/1,761 (6.8%)	212/3,928 (5.4%)
Cough	19/123 (15.4%)	34/211 (16.1%)	60/390 (15.4%)	107/1,477 (7.2%)	177/1,761 (10.1%)	330/3,928 (8.4%)
Myositis	0/123 (0.0%)	6/211 (2.8%)	2/390 (0.5%)	5/1,477 (0.3%)	14/1,761 (0.8%)	34/3,928 (0.9%)

Symptoms/ Complications*	2024-25 Season: Number (%) of Cases Aged 0 to 17	2023-24 Season: Number (%) of Cases Aged 0 to 17	Five Pre- pandemic Seasons: Number (%) of Cases Aged 0 to 17	2024-25 Season: Number (%) of Cases Aged ≥ 18	2023-24 Season: Number (%) of Cases Aged ≥ 18	Five Pre- pandemic Seasons: Number (%) of Cases Aged ≥ 18
Cellulitis	9/123 (7.3%)	28/211 (13.3%)	62/390 (15.9%)	402/1,477 (27.2%)	560/1,761 (31.8%)	1266/3,928 (32.2%)
Headache or dizziness or confusion	19/123 (15.4%)	34/211 (16.1%)	49/390 (12.6%)	369/1,477 (25.0%)	447/1,761 (25.4%)	926/3,928 (23.6%)
Kidney inflammation	2/123 (1.6%)	4/211 (1.9%)	6/390 (1.5%)	45/1,477 (3.0%)	58/1,761 (3.3%)	117/3,928 (3.0%)
Lymphadenopathy	9/123 (7.3%)	10/211 (4.7%)	23/390 (5.9%)	30/1,477 (2.0%)	58/1,761 (3.3%)	93/3,928 (2.4%)
Other symptoms [†]	66/123 (53.7%)	124/211 (58.8%)	222/390 (56.9%)	747/1,477 (50.6%)	953/1,761 (54.1%)	2123/3,928 (54.1%)
No symptoms reported	18/123 (14.6%)	10/211 (4.7%)	18/390 (4.6%)	152/1,477 (10.3%)	98/1,761 (5.6%)	254/3,928 (6.5%)
No complications reported	18/123 (14.6%)	40/211 (19.0%)	88/390 (22.6%)	281/1,477 (19.0%)	298/1,761 (16.9%)	1,067/3,928 (27.2%)
Neither symptoms nor complications reported	5/123 (4.1%)	4/211 (1.9%)	12/390 (3.1%)	84/1,477 (5.7%)	66/1,761 (3.7%)	198/3,928 (5.0%)

Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age are excluded from this table.

*Includes symptoms and complications reported for iGAS cases in iPHIS, some of which are not typical of iGAS. Cases may not have any or multiple symptoms and/or complications entered.

**Due to potential incomplete data, the possible STSS manifestations category was developed to identify cases where at least one manifestation of STSS, as described in the [provincial confirmed iGAS case definition](#), was reported. The 'possible STSS manifestation' category may include cases with the 'STSS' complication reported explicitly in iPHIS. Refer to the [technical notes](#) for further details on how clinical manifestations including possible STSS manifestations were determined for cases. [†]Other symptoms include over 230 other symptom options available in iPHIS. Some of the most frequently reported symptoms categorized under this category for the 2024-25 season include: other [specify]; shortness of breath; weak; malaise [general unwell feeling]; abdominal pain; tachycardia; fatigue; chest pain; lethargy; swelling, localized; and myalgia.

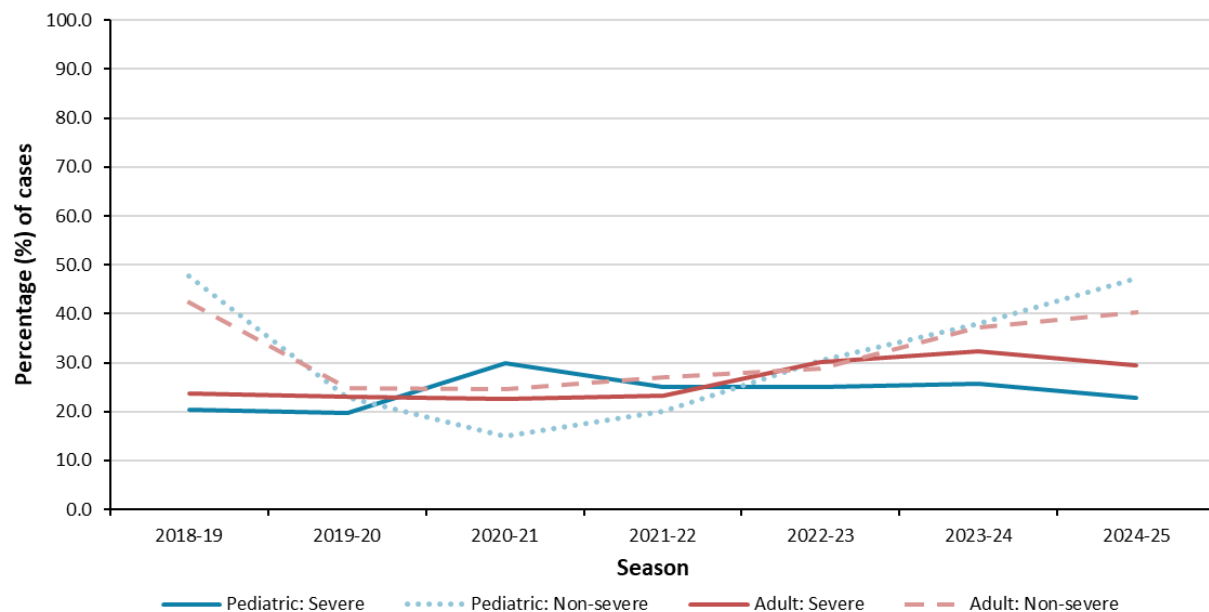
Clinical Severity

Among pediatric cases, 69.9% (86/123) in the 2024-25 season and 63.5% (134/211) in the 2023-24 season had severity information reported. Among adult cases, this proportion was 69.8% (1,031/1,477) in the 2024-25 season and 69.6% (1,226/1,761) in the 2023-24, respectively. In the 2024-25 season, a greater proportion of cases were reported as non-severe compared to the prior season with 40.4% of adult cases and 47.2% of pediatric cases categorized as non-severe. Relative to the 2023-24 season, the proportion of severe cases in the 2024-25 season decreased slightly for both adult (32.4% to 29.4%) and pediatric (25.6% to 22.8%) cases. Since the 2018-19 season, a greater proportion of adult cases have been reported as severe than pediatric cases, except for the seasons impacted by the COVID-19 pandemic (2020-21 and 2021-22 seasons) ([Figure 6](#)).

The proportion of cases hospitalized across all age groups remained high throughout the past 10 seasons, generally exceeding 70%. Older adults (aged 65 years and over) consistently reported a higher proportion of hospitalization than adults aged 18 to 64 years old, who reported relatively stable proportions over time. However, the proportion of pediatric cases that were hospitalized fluctuated, exceeding that of older adults in about half of the seasons. The decrease in pediatric hospitalizations in the 2020-21 season may have been due to the impacts of the COVID-19 pandemic ([Figure 7](#)). Overall, the proportion of cases hospitalized was similar in the last two seasons (81.0% in 2024-25 and 82.1% in 2023-24). However, hospitalizations increased in the 2024-25 season among cases aged 10 to 13, 14 to 17 and 65 years and over compared to the 2023-24 season. Hospitalizations decreased by almost 10 percentage points among cases age <1, 1 to 4 and 5 to 9 years ([Table 4](#)).

The proportion of fatalities among all cases was similar in the 2024-25 (10.9%) and 2023-24 (11.8%) seasons ([Table 4](#)). However, this proportion was consistently higher among older adults, with peaks in the 2017-18 and 2022-23 seasons, followed by declines since the 2023-24 season. The increase in fatal outcomes among adult cases aged 18 to 64 years is a more recent observation as of the 2021-22 season. The proportion of fatal outcomes among pediatric cases remained the lowest overall, however these proportions have fluctuated ([Figure 8](#)).

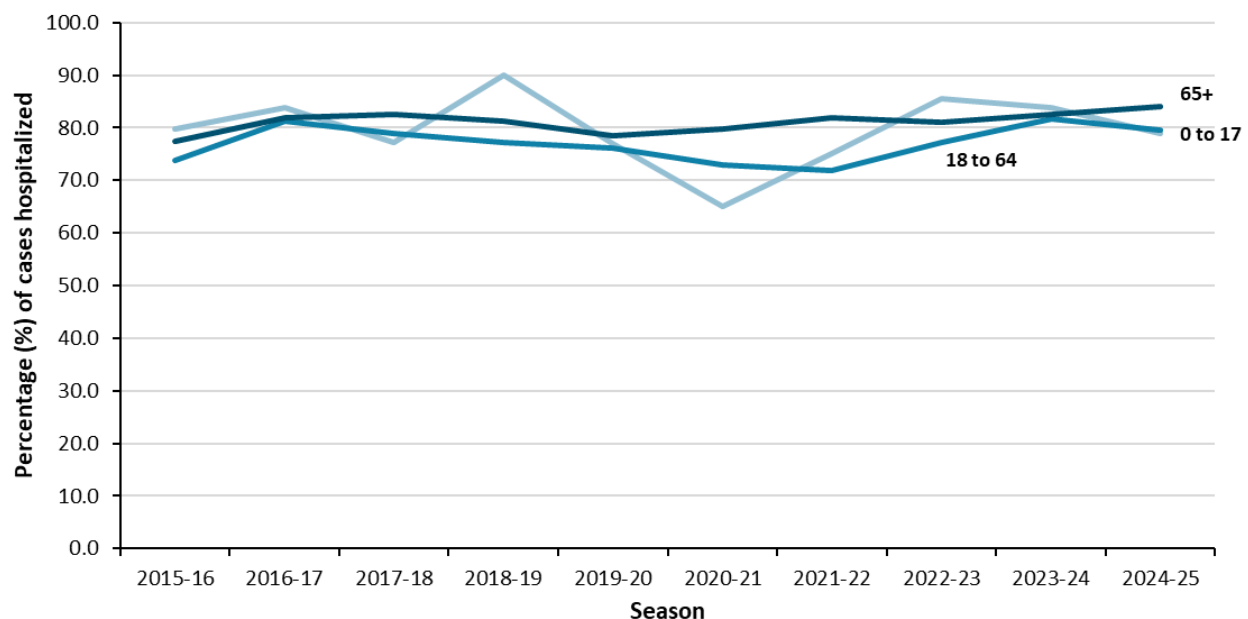
Figure 6: Clinical Severity among Confirmed iGAS Cases by Age Group and Season: Ontario, 2018-19 to 2024-25 Seasons



Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age and cases where severity was unknown were excluded. *Clinical severity was calculated using the severity field, complications indicating a severe infection and the outcome field which includes information on fatality. Clinical severity information has been available since June 2018 and therefore data are only presented from the 2018-19 season onwards. For more details refer to the [technical notes](#).

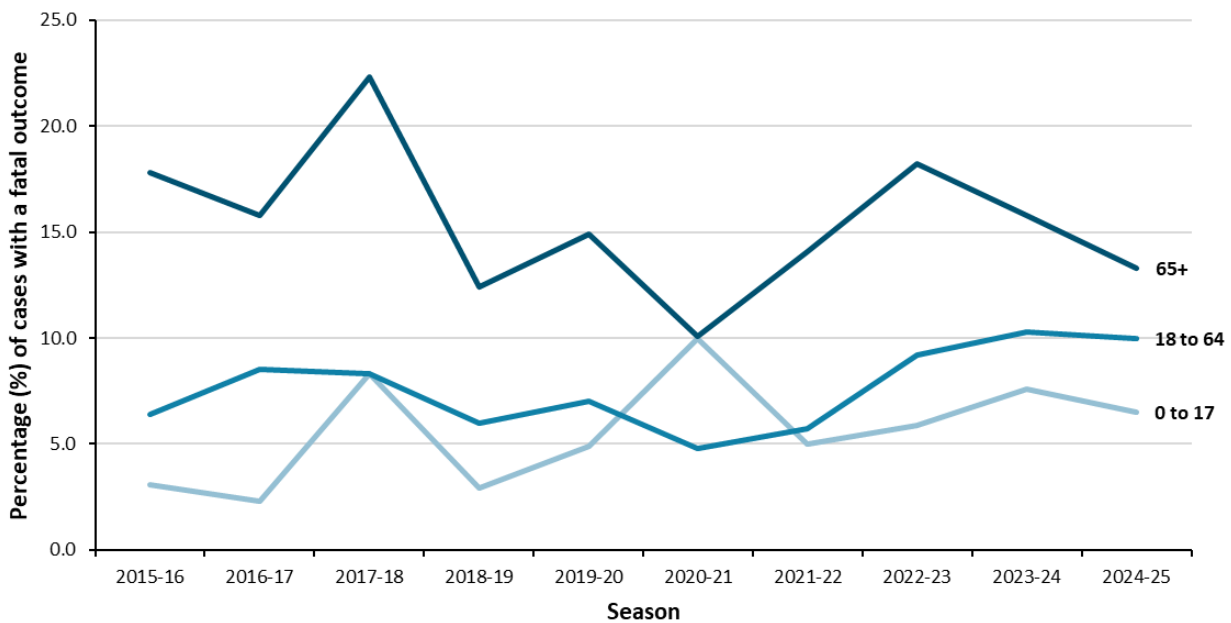
Figure 7: Percentage of Confirmed iGAS Cases Hospitalized by Age Group and Season: Ontario, 2015-16 to 2024-25 Seasons



Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age were excluded.

Figure 8: Percentage of Confirmed iGAS Cases with a Fatal Outcome by Age Group and Season: Ontario, 2015-16 to 2024-25 Seasons



Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age were excluded.

Table 4: Hospitalizations and Fatal Outcomes for Confirmed iGAS Cases by Age Group and Season: Ontario, 2024-25 and 2023-24 Seasons

Age Group (years)	2024-25 Season: Number (%) of Cases Hospitalized	2023-24 Season: Number (%) of Cases Hospitalized	2024-25 Season: Number (%) of Cases with a Fatal Outcome	2023-24 Season: Number (%) of Cases with a Fatal Outcome
< 1	14/19 (73.7%)	10/12 (83.3%)	2/19 (10.5%)	1/12 (8.3%)
1 to 4	29/39 (74.4%)	57/68 (83.8%)	1/39 (2.6%)	7/68 (10.3%)
5 to 9	26/32 (81.3%)	81/90 (90.0%)	1/32 (3.1%)	6/90 (6.7%)
10 to 13	19/20 (95.0%)	19/25 (76.0%)	2/20 (10.0%)	2/25 (8.0%)
14 to 17	9/13 (69.2%)	10/16 (62.5%)	2/13 (15.4%)	0/16 (0.0%)
18 to 64	732/920 (79.6%)	908/1,111 (81.7%)	92/920 (10.0%)	114/1,111 (10.3%)
≥65	468/557 (84.0%)	537/650 (82.6%)	74/557 (13.3%)	103/650 (15.8%)
Unknown	0/1 (0.0%)	0/3 (0.0%)	0/1 (0.0%)	1/3 (33.3%)
Total	1,297/1,601 (81.0%)	1,622/1,975 (82.1%)	174/1,601 (10.9%)	234/1,975 (11.8%)

Data source: Case data: Ontario. Ministry of Health; 2026.¹

Emm Types

In the 2024-25 season, 84.0% (1,345/1,601) of iGAS cases had *emm* type data reported in iPHIS. [Table 5](#) lists the top 12 *emm* types reported in the 2024-25 season, sorted by descending frequency. The most commonly reported *emm* type in the 2024-25 season was *emm1*, however the proportion of cases caused by *emm1* decreased from 35.4% in 2023-24 to 10.8% in 2024-25. *Emm1* was the most frequently reported *emm* type among pediatric cases (30.9%) and the second most frequently reported *emm* type among adult cases (9.0%) following *Emm49* (9.2%). *Emm3* was the second most frequently reported *emm* type among pediatric cases in 2024-25. Cases in adults were caused by a greater variety of *emm* types than in pediatric cases.

Table 5: Number (%) of Most Commonly Reported *Emm* Types among Confirmed iGAS Cases by Age Group: Ontario, 2024-25 and 2023-24 Seasons**

Most Commonly Reported <i>Emm</i> Type by Rank	2024-25 Season: All Cases	2023-24 Season: All Cases	2024-25 Season: Cases Aged ≥ 18	2023-24 Season: Cases Aged ≥ 18	2024-25 Season: Cases Aged 0 to 17	2023-24 Season: Cases Aged 0 to 17
<i>emm1</i>	145 (10.8%)	571 (35.4%)	111 (9.0%)	460 (32.0%)	34 (30.9%)	110 (63.6%)
<i>emm3</i>	133 (9.9%)	8 (0.5%)	108 (8.7%)	6 (0.4%)	25 (22.7%)	2 (1.2%)
<i>emm49</i>	115 (8.6%)	90 (5.6%)	114 (9.2%)	89 (6.2%)	1 (0.9%)	1 (0.6%)
<i>emm41</i>	103 (7.7%)	61 (3.8%)	102 (8.3%)	61 (4.2%)	1 (0.9%)	0 (0.0%)
<i>emm92</i>	89 (6.6%)	77 (4.8%)	87 (7.0%)	76 (5.3%)	2 (1.8%)	1 (0.6%)
<i>emm59</i>	83 (6.2%)	61 (3.8%)	80 (6.5%)	61 (4.2%)	3 (2.7%)	0 (0.0%)
<i>emm74</i>	83 (6.2%)	99 (6.1%)	80 (6.5%)	98 (6.8%)	3 (2.7%)	1 (0.6%)
<i>emm5</i>	73 (5.4%)	6 (0.4%)	72 (5.8%)	5 (0.3%)	1 (0.9%)	1 (0.6%)
<i>emm28</i>	57 (4.2%)	46 (2.9%)	54 (4.4%)	44 (3.1%)	3 (2.7%)	2 (1.2%)
<i>emm83</i>	57 (4.2%)	29 (1.8%)	57 (4.6%)	29 (2.0%)	0 (0.0%)	0 (0.0%)
<i>emm4</i>	55 (4.1%)	52 (3.2%)	38 (3.1%)	37 (2.6%)	17 (15.5%)	15 (8.7%)
<i>emm89</i>	50 (3.7%)	28 (1.7%)	48 (3.9%)	25 (1.7%)	2 (1.8%)	3 (1.7%)
Other	302 (22.5%)	484 (30.0%)	284 (23.0%)	447 (31.1%)	18 (16.4%)	37 (21.4%)
Total with <i>emm</i> type	1,345 (84.0%)	1,612 (81.6%)	1,235 (83.6%)	1,438 (81.7%)	110 (89.4%)	173 (82.0%)
Total without <i>emm</i> type	256 (16.0%)	363 (18.4%)	242 (16.4%)	323 (18.3%)	13 (10.6%)	38 (18.0%)
Total	1,601 (100%)	1,975 (100%)	1,477 (100%)	1,761 (100%)	123 (100%)	211 (100%)

Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: **Emm* type percentages are based on cases with *emm* type information available. **Cases with an unknown age are excluded from the age-related columns in this table.

Emerging *Emm* Types

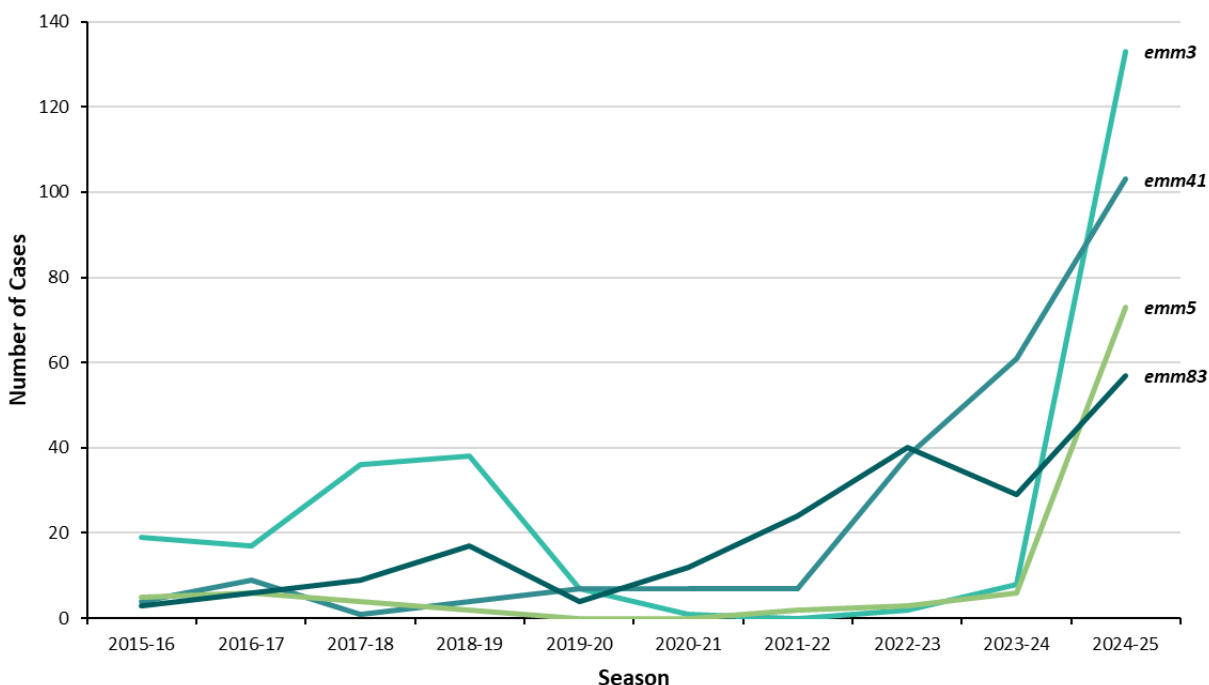
In the 2024-25 season, Ontario saw a shift in circulating iGAS *emm* types following two consecutive seasons in which *emm1* predominated, with a high proportion of M1UK subtypes (an *emm1* subtype) in 2023-24.⁶ Although *emm1* continued to represent the largest proportion of subtyped cases in 2024-25, its position as the dominant circulating *emm* type declined from 35.4% in the 2023-24 season to 10.8% in the 2024-25 season. This decline of *emm1* coincided with the emergence or re-emergence of other *emm* types including *emm3*, *emm41*, *emm5* and *emm83* in Ontario in the 2024-25 season. The top emerging *emm* types were selected based on three criteria: a multifold increase over the past 10 seasons, a 50% or greater rise in the last two seasons, and being among the top 10 *emm* types reported in the 2024-25 season.

Prior to the 2021-22 season, all four emerging *emm* types were reported sporadically or at very low levels, but this has been followed by rapid increases in more recent seasons. The number of cases subtyped as *emm3* ranged from 17 to 38 per season in the pre-pandemic period to under 5 cases per season during the COVID-19 pandemic period. However, *emm3* demonstrated the steepest increase from 8 cases in the 2023-24 season to 133 in the 2024-25 season. *Emm5* also increased notably, from 6 cases reported in 2023-24 up to 73 in 2024-25, and was associated with an outbreak in a correctional facility in the 2024-25 season.⁷ Both *emm41* and *emm83* exhibited more gradual increases over the last few seasons, increasing to 103 cases and 57 cases, respectively in 2024-25 ([Figure 9](#)).

The highest numbers of cases for the emerging *emm* types were observed among adults aged 18 to 64 and older adults aged 65 and over ([Table 6](#)). Among these four emerging *emm* types, pediatric cases were almost exclusively *emm3*. Severe clinical outcomes were associated with *emm3* and *emm5* where higher hospitalization proportions (87.0% and 86.1%, respectively) and higher fatality proportions (16.7% and 13.9%, respectively) were reported among adults aged 18 years and over. Although there were fewer pediatric cases reported, *emm3* caused the greatest burden of severe pediatric cases with 80.0% hospitalized and 8.0% experiencing a fatal outcome ([Table 7](#)). Clinical severity varied across the *emm* types, with *emm3* and *emm5* cases among adults reporting higher proportions of severe complications (40.7% and 41.7%, respectively) compared to *emm41* (24.5%) and *emm83* (14.0%) ([Table 8](#)).

Among adults reporting at least one iPHIS risk factor, chronic illness or underlying medical conditions were common across all four emerging *emm* types as well as dermatological conditions, particularly for *emm83*, *emm41* and *emm5*. Upper respiratory tract infection was more commonly reported among cases of *emm3* and *emm5*. iPHIS Behavioural risk factors differed across the *emm* types, for example, injection drug use was more commonly reported among cases of *emm5* and *emm41*, persons experiencing homelessness/inadequate housing and alcohol use disorder were more commonly reported among cases of *emm5*, *emm83* and *emm41*; persons experiencing homelessness/inadequate housing and injection drug use were not commonly reported among cases of *emm3* ([Table 9](#)). In pediatric cases of *emm3*, having a preceding respiratory infection (e.g., upper respiratory tract infection, influenza, RSV, strep infection) and chronic health conditions were the most common iPHIS risk factors (data not shown).

Figure 9: Emerging *Emm* Types* among Confirmed iGAS Cases by Season: Ontario, 2015-16 to 2024-25 Season



Data source: Case data: Ontario. Ministry of Health; 2026.¹

Table 6: Confirmed iGAS Cases and Rate (per 100,000 Population) by Emerging *Emm* Types* and Age Group: Ontario, 2024-25 Season

Case Characteristics	<i>emm3</i>	<i>emm41</i>	<i>emm5</i>	<i>emm83</i>
< 1	3 (2.1)	0 (0.0)	0 (0.0)	0 (0.0)
1 to 4	9 (1.6)	0 (0.0)	1 (0.2)	0 (0.0)
5 to 9	7 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)
10 to 13	5 (0.7)	1 (0.1)	0 (0.0)	0 (0.0)
14 to 17	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
18 to 64	61 (0.6)	78 (0.7)	54 (0.5)	32 (0.3)
≥ 65	47 (1.5)	24 (0.8)	18 (0.6)	25 (0.8)
Unknown	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)
Total	133 (0.8)	103 (0.6)	73 (0.4)	57 (0.3)

Data sources: Case data: Ontario. Ministry of Health; 2026.¹ Population data: Statistics Canada; 2023⁴, Population Reporting.⁵

Table 7: Hospitalizations and Fatal Outcomes for Confirmed iGAS Cases by Emerging *Emm* Types* and Age Group: Ontario, 2024-25 Season

Severe Outcome	<i>emm3</i>	<i>emm41</i>	<i>emm5</i>	<i>emm83</i>
Hospitalizations among cases 0 to 17	20/25 (80%)	1/1 (100%)	1/1 (100%)	0/0 (0.0%)
Hospitalizations among cases 18 and over	94/108 (87.0%)	76/102 (74.5%)	62/72 (86.1%)	43/57 (75.4%)
Fatal cases among cases 0 to 17	2/25 (8.0%)	0/1 (0.0%)	0/1 (0.0%)	0/0 (0.0%)
Fatal cases among cases 18 and over	18/108 (16.7%)	5/102 (4.9%)	10/72 (13.9%)	3/57 (5.3%)

Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age were excluded.

Table 8: Clinical Severity for Confirmed iGAS Cases by Emerging *Emm* Types and Age Group: Ontario, 2024-25 Season

Clinical Severity	<i>emm3</i>	<i>emm41</i>	<i>emm5</i>	<i>emm83</i>
Non-severe complications among cases 0 to 17	14/25 (56.0%)	1/1 (100%)	1/1 (100.0%)	0/0 (0.0%)
Severe complications* among cases 0 to 17	4/25 (16.0%)	0/1 (0.0%)	0/1 (0.0%)	0/0 (0.0%)
Non-severe complications among cases 18 and over	39/108 (36.1%)	42/102 (41.2%)	26/72 (36.1%)	27/57 (47.4%)
Severe complications* among cases 18 and over	44/108 (40.7%)	25/102 (24.5%)	30/72 (41.7%)	8/57 (14.0%)
Severity information unavailable (all age groups)	32/133 (24.1%)	35/102 (34.3%)	16/72 (22.2%)	22/57 (38.6%)

Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age are excluded from this table. * Clinical severity was calculated using the severity field, complications indicating a severe infection and the outcome field. For more details refer to the [technical notes](#).

Table 9: Risk Factors for Confirmed iGAS Cases Aged 18 and Over* by Emerging *Emm* Types: Ontario, 2024-25 Season

Risk Factor	<i>emm3</i>	<i>emm41</i>	<i>emm5</i>	<i>emm83</i>
Alcohol Use Disorder	11/107 (10.3%)	16/97 (16.5%)	11/70 (15.7%)	10/51 (19.6%)
Chronic Illness or Underlying Medical Condition	70/107 (65.4%)	67/97 (69.1%)	44/70 (62.9%)	38/51 (74.5%)
Close Contact with a GAS Case	2/107 (1.9%)	1/97 (1.0%)	0/70 (0.0%)	0/51 (0.0%)
Close Contact with iGAS Case	1/107 (0.9%)	1/97 (1.0%)	0/70 (0.0%)	0/51 (0.0%)
Dermatological Condition	27/107 (25.2%)	46/97 (47.4%)	29/70 (41.4%)	32/51 (62.7%)
Diabetes	24/107 (22.4%)	26/97 (26.8%)	15/70 (21.4%)	13/51 (25.5%)
Immunocompromised	13/107 (12.1%)	12/97 (12.4%)	3/70 (4.3%)	6/51 (11.8%)
Injection Drug Use	4/107 (3.7%)	19/97 (19.6%)	17/70 (24.3%)	5/51 (9.8%)
Case Reported Laboratory Confirmation of Other Viral Infection within Two Weeks of iGAS Infection	1/107 (0.9%)	1/97 (1.0%)	3/70 (4.3%)	0/51 (0.0%)
Case Reported Test Confirmed SARS-CoV-2 Infection within Two Weeks of iGAS Infection	1/107 (0.9%)	1/97 (1.0%)	0/70 (0.0%)	0/51 (0.0%)
Upper Respiratory Tract Infection Signs/Symptoms within Two Weeks of iGAS Infection	32/107 (29.9%)	11/97 (11.3%)	16/70 (22.9%)	2/51 (3.9%)
Case Reported Laboratory Confirmed Influenza Infection within Two Weeks of iGAS Infection	9/107 (8.4%)	1/97 (1.0%)	3/70 (4.3%)	0/51 (0.0%)
Persons Experiencing Homelessness/Inadequate Housing	2/107 (1.9%)	22/97 (22.7%)	24/70 (34.3%)	14/51 (27.5%)
Postpartum	3/107 (2.8%)	1/97 (1.0%)	1/70 (1.4%)	0/51 (0.0%)
Non-Invasive Strep Infection within Past 30 Days	2/107 (1.9%)	1/97 (1.0%)	4/70 (5.7%)	0/51 (0.0%)

Data source: Case data: Ontario. Ministry of Health; 2026.¹

Note: Cases with an unknown age are excluded from this table. *Cases that did not report at least one risk factor and cases that only reported a risk factor of 'Unknown' were excluded. Risk factors where <1% of cases were reported in each of the emerging *emm* types are not shown. Refer to the [technical notes](#) for a list of medical and behavioural risk factors and their definitions. Percentages may sum to more than 100% because cases may have more than one risk factor reported in iPHIS.

Technical Notes

Data Sources

Case Data

- 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 9 a.m., **February 9, 2026**.¹
- 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.

Ontario Population Data

- Ontario population estimates were sourced from Statistics Canada. Table 17-10-0157-01 Population estimates, July 1, by health region and peer group, 2023 boundaries [Internet]. Ottawa, ON: Government of Canada; 2025 Feb 19 [extracted 2025 Feb 21]⁴
- Ontario population projections were sourced from Population Reporting. Population Projections Public Health Unit, 2024-2051 [data file]. Toronto ON: Ministry of Finance [producer]; Toronto, ON: Ontario. Ministry of Health, IntelliHealth Ontario [distributor]; [data extracted 2025 Sep 12]⁵

Data Caveats

- These data only represent laboratory-confirmed cases of iGAS 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, which may depend on severity of illness, clinical practices, and changes in laboratory testing and reporting behaviours.
- Population estimates used to calculate rates for total cases, total hospital admissions and total deaths were calculated using the Ontario 2006 to 2024 population estimates⁴, sourced from Statistics Canada, and the Ontario 2025 population projections⁵, sourced from the Ontario Ministry of Finance.
- Only iGAS cases meeting the [confirmed case classification](#) as listed in the Ontario Ministry of Health (MOH) surveillance case definitions are included in the reported case counts.²
 - Current provincial surveillance case definitions available under the [Infectious Diseases Protocol](#).⁸
 - 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.
- Data from the 2022-23 to 2024-25 seasons were included in data quality initiatives to remove iGAS cases that did not meet the provincial case definition; however, some non-iGAS cases may be included in counts from earlier periods.
- Age-standardized rates were calculated using the 2011 adjusted population of Canada. Upon comparison of age-standardized and crude rates, age-standardized rates appeared to track crude rates and therefore only crude rates were presented in figure 1.

- Cases 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 the next available date in the hierarchy (i.e., Specimen Collection Date) will be used, and so on.
- Clinical manifestation data includes records where a symptom or complication was reported in iPHIS. Not all cases have a symptom and/or complication reported in iPHIS. Not all clinical manifestations listed may be typical symptoms of iGAS disease. “Other” symptoms include over 230 other symptom options available in iPHIS. For information on common iGAS clinical manifestations and symptoms preceding onset of iGAS disease please refer to the [provincial confirmed iGAS case definition](#).²
 - ‘Possible STSS manifestations’ were based on the [provincial confirmed iGAS case definition](#).² Cases may have one or more possible STSS manifestations recorded in iPHIS. Due to incomplete reporting in iPHIS where some cases are reported as having STSS without specific manifestations recorded, this category captures cases with at least one documented STSS manifestation and may include cases with STSS explicitly reported as a complication in iPHIS.
- Cases may have more than one risk factor reported in iPHIS. Data entry for risk factors may not be complete due to reporting and/or data entry lags.
- Cases that reported “Yes” to each of the included risk factors in iPHIS were included. The definitions for the included risk factors are detailed below.
 - iPHIS - Medical risk factors:
 - Chronic Illness/Underlying medical condition: Any self-reported secondary chronic medical condition that puts the individual at greater risk of acquiring the disease or having a more severe outcome due to their infection. Many underlying medical conditions may also be considered co-morbidities. Cases may have this risk factor selected in addition to the risk factors for ‘diabetes’, dermatological conditions’ and ‘immunocompromised’.
 - Dermatological conditions: Include dermatological condition / chronic dermatitis / wound causing break in skin integrity. Self-reported dermatological conditions involving inflammation of the skin. Cases may have this risk factor selected in addition to the risk factor for ‘chronic illness/underlying medical condition’.
 - Diabetes: An individual who self-reports they have been diagnosed with diabetes. Cases may have this risk factor selected in addition to the risk factor for ‘chronic illness/underlying medical condition’.
 - Immunocompromised: Person is less capable of battling infections because of an immune response that is not properly functioning. This can be brought about by illness/disease or medication/treatment. Cases may have this risk factor selected in addition to the risk factor for ‘chronic illness/underlying medical condition’.
 - Case reported laboratory confirmed influenza infection within two weeks of iGAS infection: The case self-reported that they had a laboratory confirmed influenza infection concurrently or within two weeks of their iGAS infection.
 - Case reported laboratory confirmed RSV infection within two weeks of iGAS infection: The case self-reported that they had a laboratory confirmed RSV infection concurrently or within two weeks of their iGAS infection.

- Case reported laboratory confirmation of other viral infection within two weeks of iGAS infection (specify): The case self-reported that they had laboratory confirmation of another respiratory virus concurrently or within two weeks of their iGAS infection.
- Postpartum: Covers any period after the date of delivery up to 30 days after the date of delivery, with reference to the mother. For example, if the date of delivery is 01 January 2018 the postpartum period will start on 02 January 2018.
- Post-exposure prophylaxis offered/recommended if close contact of an iGAS case: The case was a contact of another iGAS case prior to their illness and was offered post-exposure prophylaxis.
- Received current season influenza vaccine: The case received an influenza vaccine for the current or most recent influenza season at least two weeks prior to their iGAS infection.
- Received a COVID-19 vaccination in the past 6 months: The case received a COVID-19 vaccine in the past six months and at least two weeks prior to their iGAS infection.
- Strep infection within past 30 days (presented as Non-Invasive Strep Infection within Past 30 days): The individual has been infected with a non-invasive form of strep within the past 30 days.
- Recent varicella infection (<1 month): The individual has been infected with the varicella virus less than one month before their invasive group A streptococcal infection.
- Case reported test confirmed SARS-CoV-2 infection within two weeks of iGAS infection: The case self-reported that they had a COVID-19 infection indicated by molecular or rapid antigen testing concurrently or within two weeks of their iGAS infection.
- Upper respiratory tract infection signs/symptoms within two weeks of iGAS infection: The case self-reported that they had a viral respiratory illness concurrently or within two weeks of their iGAS infection.
- Varicella immunization up to date: The case is up to date with recommended varicella immunizations (chickenpox) for those born on/after January 1, 2000.
- iPHIS - Behavioural risk factors:
 - Alcohol abuse (presented as Alcohol Use Disorder): A pattern of drinking or dependency on alcohol that results in harm to one's health, interpersonal relationships or ability to work.
 - Childcare centre attendee: The case attends a childcare centre, including before and/or after school programming in a childcare centre, which may be located in schools or independent licensed childcare centres. Cases ≥ 18 years of age with this risk factor selected were not included in table 2b.
 - Close contact with a case (presented as Close Contact with a GAS Case): An individual who has been in close contact for a period of time with a confirmed case of a communicable disease. This may include contact with a person with a group A streptococcal infection that was not invasive.
 - Close contact with iGAS case: The case had close contact with another confirmed iGAS case prior to their illness.
 - Experiencing homelessness/Inadequate housing: Lacks a fixed regular and adequate night-time residence and has a night-time residence that is: A supervised publicly or privately operated shelter designed to provide temporary living accommodations; An institution that provides a temporary residence for individuals intended to be institutionalized; A public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings.

- Injection Drug Use: Recreational/illicit drug use or steroids administered using a needle or syringe pierced through the skin into the body.
- Resident of long-term care home: The case lives in a long-term care home.
- Resident of retirement home: The case lives in a retirement home.
- Resident of homeless shelter: The case has resided in a homeless shelter at least some of the time in the past month (includes temporary emergency shelters and newcomer shelters).
- Resident of correctional facility: The case is currently or was recently an inmate in custody at a correctional facility (e.g., correctional centre, detention centre, treatment centre) within the past 30 days.
- Resident of other congregate living setting: The case lives in a congregate living setting not specifically listed (e.g., youth justice, complex continuing care facility, boarding homes, bail bed programs, dormitories, group home).
- Other: A risk factor of interest that is not currently specified on the Risks screen in iPHIS for the case/episode/encounter under investigation.
- Unknown: No known factor which could have caused the infection, or the reportable disease/event could be identified by the client, or the health unit was unable to collect any risk factor information from the client. Excluded from analyses of cases with at least one risk factor.
- Severity was determined using data reported in iPHIS for the outcome (fatal), symptom and complications fields. A case is categorized as severe if:
 - any of the following complications/symptoms were reported as “YES”: Severe, STSS, Necrotizing Fasciitis, Soft tissue necrosis/necrotizing fasciitis/necrotizing myositis/gangrene, Meningitis, or
 - outcome was reported as “FATAL” and Cause of death was not reported as 'unrelated'.
- A case is categorized as non-severe if the iPHIS complication ‘Non-Severe’ was reported as “YES”
- Hospitalized iGAS cases were determined based on a reported intervention type description of “Hospitalization” or “ICU” and a reported intervention start date on or after the case’s episode date.
- Fatal iGAS cases were determined based on a case outcome description of “Fatal” and the type of death not being reported as “Reportable disease was unrelated to cause of death.”
- 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.
 - Cases for which the Diagnosing Health Unit (DHU) was reported as MOHLTC (to signify a case that is not a resident of Ontario) were excluded from this analysis.
- As of January 1, 2025, a number of public health units have merged:
 - 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 Lakelands Public Health Unit.
- Emerging *emm* types were selected based on meeting three criteria: the number of cases subtyped had a multifold increase in cases in the past 10 seasons; over 50% increase in cases in the last two seasons (2023-24 vs 2024-25); and were listed as a top 10 *emm* type in the 2024-25 season.

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Appendix A

Table A1: Count and Rate (per 100,000 Population) of Confirmed iGAS Cases by Public Health Unit and Season: Ontario, 2024-25 Compared to the Most Recent and Five Pre-pandemic Seasons

Diagnosing Health Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2022-23	2023-24	2024-25
Algoma Public Health	6 (5.1)	3 (2.6)	21 (18.1)	18 (15.5)	8 (6.8)	33 (26.8)	32 (25.3)	24 (18.5)
Chatham-Kent Public Health	7 (6.7)	7 (6.7)	12 (11.4)	8 (7.6)	8 (7.5)	12 (10.9)	21 (18.8)	11 (9.6)
City of Hamilton Public Health Services	28 (5.1)	24 (4.3)	34 (6.0)	49 (8.6)	50 (8.6)	89 (14.4)	92 (14.6)	76 (11.8)
Durham Region Health Department	13 (2.0)	33 (5.0)	23 (3.4)	32 (4.7)	36 (5.2)	86 (11.2)	95 (12.0)	71 (8.8)
Eastern Ontario Health Unit	5 (2.4)	4 (1.9)	13 (6.2)	24 (11.3)	10 (4.7)	33 (14.4)	34 (14.6)	32 (13.4)
Grand Erie Public Health	14 (5.5)	11 (4.3)	22 (8.4)	31 (11.6)	34 (12.5)	60 (20.3)	46 (15.1)	38 (12.2)
Grey Bruce Public Health	11 (6.7)	4 (2.4)	8 (4.7)	8 (4.7)	14 (8.0)	28 (14.9)	22 (11.5)	18 (9.1)
Halton Region Public Health	24 (4.3)	17 (3.0)	15 (2.6)	25 (4.3)	19 (3.2)	44 (6.8)	41 (6.2)	31 (4.6)
Huron Perth Public Health	3 (2.2)	10 (7.2)	8 (5.7)	14 (9.8)	13 (9.0)	15 (9.8)	12 (7.7)	8 (5.0)
Lakelands Public Health	20 (6.2)	10 (3.1)	23 (6.9)	30 (8.9)	41 (12)	68 (18.7)	81 (21.8)	72 (18.8)
Lambton Public Health	10 (7.7)	9 (6.9)	9 (6.9)	13 (9.8)	9 (6.7)	25 (17.8)	18 (12.6)	21 (14.2)
Middlesex-London Health Unit	18 (3.9)	38 (8.0)	95 (19.6)	68 (13.7)	67 (13.2)	100 (17.8)	99 (17.1)	73 (12.0)
Niagara Region Public Health	20 (4.4)	25 (5.4)	41 (8.7)	51 (10.7)	50 (10.3)	92 (17.5)	71 (13.2)	51 (9.2)
North Bay Parry Sound District Health Unit	7 (5.5)	6 (4.7)	7 (5.4)	13 (10.0)	19 (14.5)	12 (8.5)	34 (23.2)	33 (22.2)
Northeastern Public Health	3 (2.5)	8 (6.7)	17 (14.2)	14 (11.8)	13 (10.9)	27 (22.1)	33 (26.7)	29 (22.8)

Diagnosing Health Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2022-23	2023-24	2024-25
Northwestern Health Unit	31 (38.6)	38 (47.2)	52 (64.1)	57 (69.9)	48 (58.6)	49 (58.9)	48 (57.6)	53 (63.2)
Ottawa Public Health	41 (4.3)	34 (3.5)	67 (6.8)	67 (6.6)	68 (6.6)	109 (9.8)	187 (16.2)	130 (11.1)
Peel Public Health	44 (3.1)	31 (2.2)	39 (2.7)	55 (3.7)	52 (3.4)	79 (5.0)	87 (5.2)	76 (4.5)
Public Health Sudbury & Districts	14 (7.0)	15 (7.4)	25 (12.3)	28 (13.6)	21 (10.1)	51 (23.3)	38 (16.8)	46 (20.1)
Region of Waterloo Public Health and Paramedic Services	22 (4.1)	22 (4.0)	27 (4.8)	30 (5.2)	34 (5.7)	58 (8.6)	79 (11.2)	52 (7.0)
Renfrew County and District Health Unit	3 (2.8)	3 (2.8)	4 (3.7)	3 (2.8)	9 (8.2)	15 (13.1)	24 (20.7)	19 (16.1)
Simcoe Muskoka District Health Unit	27 (4.9)	26 (4.7)	31 (5.4)	63 (10.8)	51 (8.5)	90 (13.7)	92 (13.7)	87 (12.4)
South East Public Health	24 (4.5)	30 (5.6)	28 (5.1)	44 (7.9)	54 (9.6)	86 (14.3)	132 (21.6)	86 (13.7)
Southwestern Public Health	9 (4.4)	5 (2.4)	17 (8.1)	11 (5.2)	18 (8.3)	27 (11.5)	32 (13.3)	33 (13.4)
Thunder Bay District Health Unit	44 (28.2)	30 (19.2)	62 (39.5)	76 (48.1)	42 (26.4)	42 (26.0)	57 (34.9)	60 (36.0)
Toronto Public Health	98 (3.5)	115 (4.1)	138 (4.8)	188 (6.5)	183 (6.2)	249 (8.0)	328 (10.0)	250 (7.7)
Wellington-Dufferin-Guelph Public Health	16 (5.6)	18 (6.1)	15 (5.0)	20 (6.5)	10 (3.2)	21 (6.3)	23 (6.8)	21 (6.0)
Windsor-Essex County Health Unit	10 (2.5)	16 (3.9)	28 (6.7)	27 (6.3)	37 (8.5)	54 (11.5)	44 (9.1)	45 (9.0)
York Region Public Health	37 (3.3)	29 (2.5)	31 (2.7)	47 (4.0)	46 (3.9)	71 (5.7)	73 (5.7)	55 (4.3)
Ontario	609 (4.4)	621 (4.5)	912 (6.5)	1,114 (7.8)	1,064 (7.3)	1,725 (11.0)	1,975 (12.2)	1,601 (9.8)

Data sources: Case data: Ontario. Ministry of Health; 2026.⁶ Population data: Statistics Canada; 2023⁷, Population Reporting.⁸

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