

QUARTERLY REPORT

Invasive Group A Streptococcal Disease, July 1, 2018 to September 30, 2018

Purpose

- Invasive group A streptococcus (iGAS) quarterly reports provide recent epidemiological summaries of iGAS activity in Ontario to help inform local public health investigations by providing the provincial context.
- These quarterly reports provide cumulative data for the current season. This report covers October 1, 2017 to September 30, 2018 —which represents the entire 2017-18 season. Comparisons are also made to the same time period in the previous five seasons (2012-13 to 2016-17).

An iGAS season is defined as the period spanning from October 1 to September 30.

Key Messages

Provincial trends from October to September of the 2017-18 season

- The 2017-18 season had had two distinct peaks in January (138 cases) and April (126 cases; [Figure 1](#)). This season had the highest reported monthly case counts since the 2012-13 season ([Table 1](#)).
- A higher proportion of iGAS cases were reported among males (54.2%; 603/1113) than females (45.8%; 510/1113) ([Table 2](#)). The proportions of male cases have increased gradually over the past several seasons.
- The median ages for males (52.9 years) and females (51.7 years) were similar to the median ages over the previous five seasons ([Table 2](#)).
- The provincial rate for iGAS was 7.7 cases per 100,000 population; a 71.1% rate increase since the 2012-13 season (4.5 cases per 100,000 population). Rates were highest in the Northwest region of Ontario. Northwestern Health Unit had 69.6 cases per 100,000 population, which was almost ten times the provincial rate and Thunder Bay District Health Unit had 48.6 cases per 100,000 population, which was six times the provincial rate ([Figure 2](#)).

Complications from October to September of the 2017-18 season

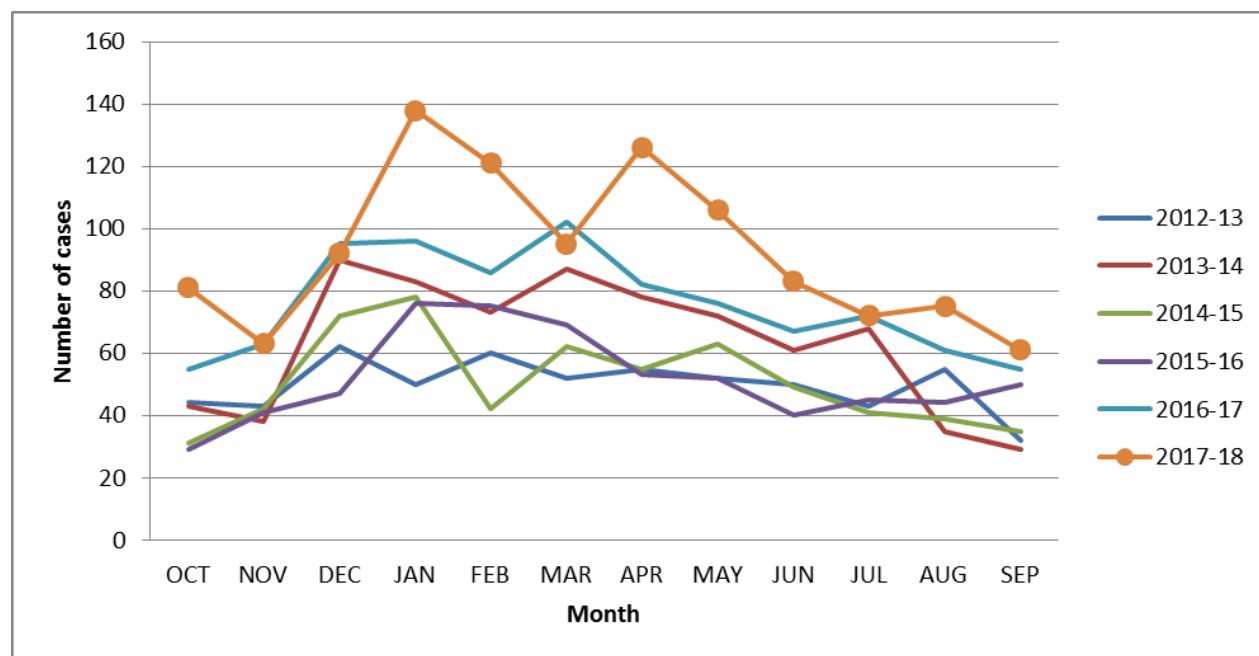
- The percentage of iGAS cases that were hospitalized (83.0%; 924/1113) was comparable to the previous five seasons (79.6%; 2782/3495) ([Table 3](#)).
- The percentage of iGAS cases that were fatal (12.5%; 139/1113) was similar to the previous five seasons (11.2%; 392/3495) ([Table 3](#)).

Serotypes from October to September of the 2017-18 season

- *Emm* type 1 was the most frequently reported *emm* type, which had been the same for the previous five seasons ([Table 4](#) and [Table 5](#)).

Figures and Tables

Figure 1: Number of confirmed cases of iGAS by month: Ontario, October to September of the 2017–18 season versus the previous five seasons



Ontario Cases: MOHLTC, integrated Public Health Information System (iPHIS) database, extracted [2019/02/04].

Table 1: Number of confirmed cases of iGAS by month: Ontario, October to September of the 2017–18 season versus the monthly and total averages for the previous five seasons

Seasons	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Total
2017–18 season	81	63	92	138	121	95	126	106	83	72	75	61	1,113
Five-season average*	40.4	45.4	73.2	76.6	67.2	74.4	64.6	63.0	53.6	53.8	46.8	40.2	669.2

*Five-year average based on 2012-13 to 2016-17 seasons.

Ontario Cases: MOHLTC, integrated Public Health Information System (iPHIS) database, extracted [2019/02/04].

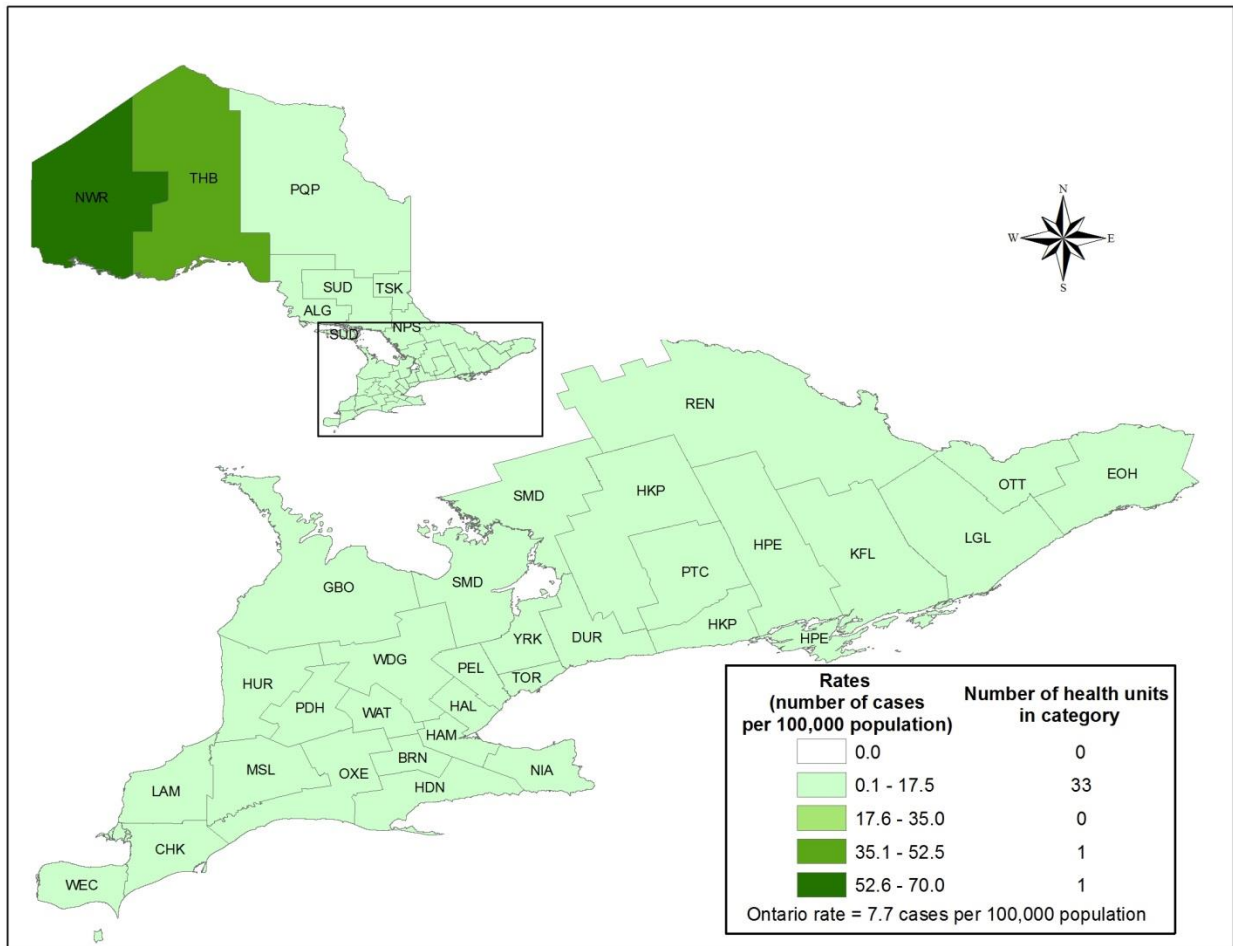
Table 2: Age of confirmed cases of iGAS by gender: Ontario, October to September of the 2017-18 season versus the previous five seasons

Age (years)	Males 2017–18 Season N = 603	Males Previous Five Seasons N = 1842	Females 2017–18 Season N = 510	Females Previous Five Seasons N = 1646	Overall 2017–18 Season† N = 1113	Overall Previous Five Seasons† N = 3495
Median	52.9	53.3	51.7	51.1	52.5	52.4
Range	<1-97	<1-99	<1-100	<1-108	<1-100	<1-108

Ontario Cases: MOHLTC, integrated Public Health Information System (iPHIS) database, extracted [2019/02/04].

†Overall counts include individuals who did not specify female or male.

Figure 2: Rates of confirmed iGAS by public health unit: Ontario, October to September of the 2017–18 season



Ontario Cases: Ontario. Ministry of Health and Long-Term Care. Integrated Public Health Information System (iPHIS) [database], extracted [2019/02/04].

Ontario Population Projections 2017-2018. Ontario. Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, extracted [2017/10/24].

Table 3: Reported hospitalizations and deaths for confirmed cases of iGAS: Ontario, October to September of the 2017–18 season versus the previous five seasons

Outcomes	Number of cases 2017–18	Percent of cases 2017–18	Percent of cases Previous Five Seasons
TOTAL Hospitalized	924	83.0% (924/1113)	79.6% (2782/3495)
TOTAL Fatalities	139	12.5% (139/1113)	11.2% (392/3495)

Ontario Cases: MOHLTC, integrated Public Health Information System (iPHIS) database, extracted [2019/02/04].

Table 4: Most commonly reported *emm* types by season: Ontario, October to September of the 2017-18 season versus the previous five seasons

Most commonly reported <i>emm</i> type by rank	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
1	<i>Emm</i> type 1	<i>Emm</i> type 1	<i>Emm</i> type 1	<i>Emm</i> type 1	<i>Emm</i> type 1	<i>Emm</i> type 1
2	<i>Emm</i> type 89	<i>Emm</i> type 89	<i>Emm</i> type 4	<i>Emm</i> type 12	<i>Emm</i> type 81 and type 74	<i>Emm</i> type 74
3	<i>Emm</i> type 28	<i>Emm</i> type 12	<i>Emm</i> type 68	<i>Emm</i> type 89 and type 4	<i>Emm</i> type 12	<i>Emm</i> type 28
4	<i>Emm</i> type 12	<i>Emm</i> type 28	<i>Emm</i> type 89	<i>Emm</i> type 81	<i>Emm</i> type 4	<i>Emm</i> type 53
5	<i>Emm</i> type 6	<i>Emm</i> type 4	<i>Emm</i> type 12	<i>Emm</i> type 3	<i>Emm</i> type 28	<i>Emm</i> type 81

Ontario Cases: MOHLTC, integrated Public Health Information System (iPHIS) database, extracted [2019/02/04].

Table 5: Number of reported iGAS cases by *emm* types: Ontario, October to September of the 2017–18 season versus the previous five seasons

<i>Emm</i> Type	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
1	49	107	43	82	116	149
74	1	0	0	15	76	99
89	26	34	20	28	33	38
12	18	24	19	29	43	41
28	21	20	12	18	34	64
4	14	18	27	28	42	35
81	3	2	8	26	76	45
3	13	11	13	19	17	36
6	17	11	5	12	17	33
53	1	4	16	9	6	47
11	15	13	12	12	15	12
68	3	12	22	16	5	4
9	5	2	4	1	19	26
2	7	9	10	5	8	16
101	8	14	0	7	4	13
77	1	2	4	7	9	20
87	8	4	6	6	4	12
82	7	3	6	3	3	13
59	9	9	3	4	3	5
75	3	4	5	4	6	11
83	9	3	0	3	6	9
91	0	0	1	3	11	8
49	0	0	0	1	3	17
118	4	9	1	3	2	1
58	0	1	2	6	7	4
41	1	2	2	4	9	1
73	1	2	1	5	5	5
76	0	1	1	1	1	14
5	1	0	1	5	6	4
22	0	0	2	4	2	7
44	1	4	1	2	1	6
94	2	0	0	3	3	4
80	3	2	1	2	2	1
29	1	3	1	1	4	0

<i>Emm</i> Type	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
18	1	0	0	2	3	2
114	1	2	0	0	1	2
92	2	2	1	0	0	1
102	0	0	0	1	1	2
110	0	0	0	1	1	2
115	2	0	1	1	0	0
48	0	0	0	0	2	1
117	0	0	0	2	0	0
217	0	2	0	0	0	0
31	0	0	0	2	0	0
56	1	0	0	0	1	0
85	1	0	0	0	0	1
208	0	1	0	0	0	0
64	0	1	0	0	0	0
90	1	0	0	0	0	0
Proportion of iGAS cases with known <i>emm</i> types*	44.3% (265/598)	44.8% (339/757)	41.7% (254/609)	62.2% (386/621)	68.2% (621/911)	74.3% (827/1113)

Ontario Cases: MOHLTC, integrated Public Health Information System (iPHIS) database, extracted [2019/02/04].

* Known *emm* types includes those cases where the value of 'Other (specify)' was selected.

Technical Notes

- Case data:
 - The data for this report were based on information entered in the Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database as of **February 4, 2019**.
 - iPHIS is a dynamic disease reporting system, which allows ongoing updates to data previously entered. As a result, data extracted from iPHIS represent a snapshot at the time of extraction and may differ from previous or subsequent reports.
- The data only represent cases reported to public health and recorded in iPHIS. As a result, the counts are subject to possible underreporting.
- Cases are classified in iPHIS according to the (MOHLTC) surveillance **case definitions**, available online as part of the Infectious Diseases Protocol (for details, please see the [provincial iGAS case definition](#)). Please note that the case definitions available online represent the most recent versions and cases reported in prior years may have slightly different case definitions.
- Case counts were assigned to PHUs based on the PHU of residence at the time of illness onset and not necessarily the location of exposure. Cases for which the case's PHU of residence was reported as MOHLTC (to signify a case that is not a resident of Ontario) or Muskoka Parry Sound (a health unit that no longer exists) were excluded.
- Cases in this dataset are reported based on the Accurate Episode Date. This is a calculated field used when extracting data from iPHIS. The field uses a number of dates entered in iPHIS to provide an approximation of onset date.
- Cases for which the 'Encounter Status' was reported as ENTERED IN ERROR, DUPLICATE-DO NOT USE or any variation on these values were excluded.

Citation

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