

Streptococcal Disease (invasive) Group A

In 2018, 413 confirmed cases of invasive group A streptococcal disease (iGAS) were reported in BC (8.3 cases per 100,000 population). This is a slight decline following annual increases that started in 2015 and peaked at 8.5 cases per 100,000 population in 2017.

Fifty-nine percent of cases were male. Cases ranged in age from two to 101 years (median 49 years) and the highest incidence rates were in the 30-39 year age group, followed by the 60+ and the 40-59 year age groups.

Cases were reported from all 16 health service delivery areas (HSDA), with incidence rates by HSDA ranging from 2.8 to 21.3 cases per 100,000 population. The highest incidence rate was in the Northwest HSDA with 16 cases aged 15-95 years and six different *emm* types identified, followed by the Northern Interior HSDA with 21 cases aged 28-75 years and nine different *emm* types. The third highest incidence rate, and the largest number of cases, was in Vancouver HSDA, with 95 cases aged 12-92 years and 20 different *emm* types.

Similar to 2017, one in three cases had homelessness/under-housing and/or injection drug use as a risk factor and over half had predisposing wounds or skin infections.

Twenty-seven percent of cases had severe clinical presentations (streptococcal toxic shock syndrome, soft tissue necrosis, meningitis, pneumonia or death); this is similar to the average rates observed in the previous ten years (range 18-35%, median 28%). While almost 90% of the severe cases were over 30 years of age, there were two severe cases in children under five years old and three in children aged 10-19 years.

The 2018 case fatality rate was 5.6%. In the previous ten years, the case fatality ranged between 4.0% and 13.7% (median 7.4%). Twenty of the 23

deaths in 2018 were in adults over 30 years old. There was also one death each in the 10-14 year, 19-20 year and 20-24 year age groups.

Four cases of puerperal fever were reported in 2018. One case followed a spontaneous abortion; three were associated with live births. In the previous decade, 1-5 (median 3) confirmed cases of puerperal fever due to group A streptococcus were reported each year.

No iGAS clusters or outbreaks were identified in 2018.

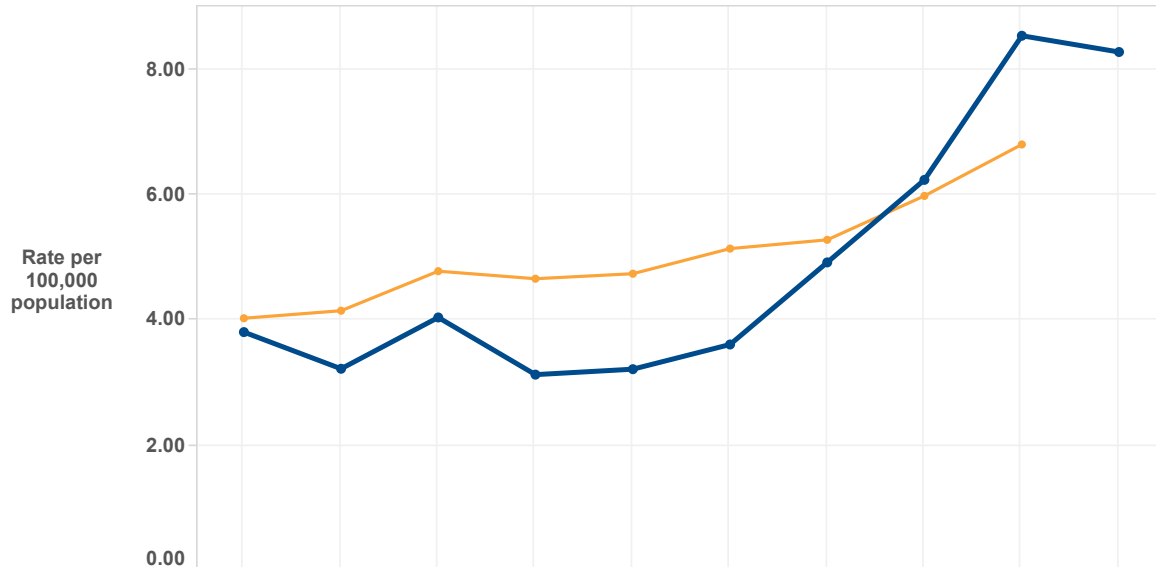
Isolates from 363 of the 413 confirmed cases were typed by the National Microbiology Laboratory. The most common *emm* types were types 76 (18%), 1 (17%) and 81 (13%). This is a slight shift from 2018, when the most common *emm* types were types 1 (21%), 76 (13%) and 101 (10%).

The *emm* type distribution varied by health authority. Case risk factor profiles varied by *emm* type. Large proportions of *emm* 76 and *emm* 81 cases reported homelessness/under-housing, injection drug use, skin infections and wounds. Six of the 14 cases aged 1-14 years with known *emm* types were *emm* 1. Cases with *emm* 1 were more likely to have severe presentations and fatal outcomes, but less likely to have underlying risk factors, than other *emm* types.

Additional detail is available in the Invasive Group A Streptococcal Disease (iGAS) in British Columbia 2018 Annual Summary report available at <http://www.bccdc.ca/health-professionals/data-reports/communicable-diseases>.

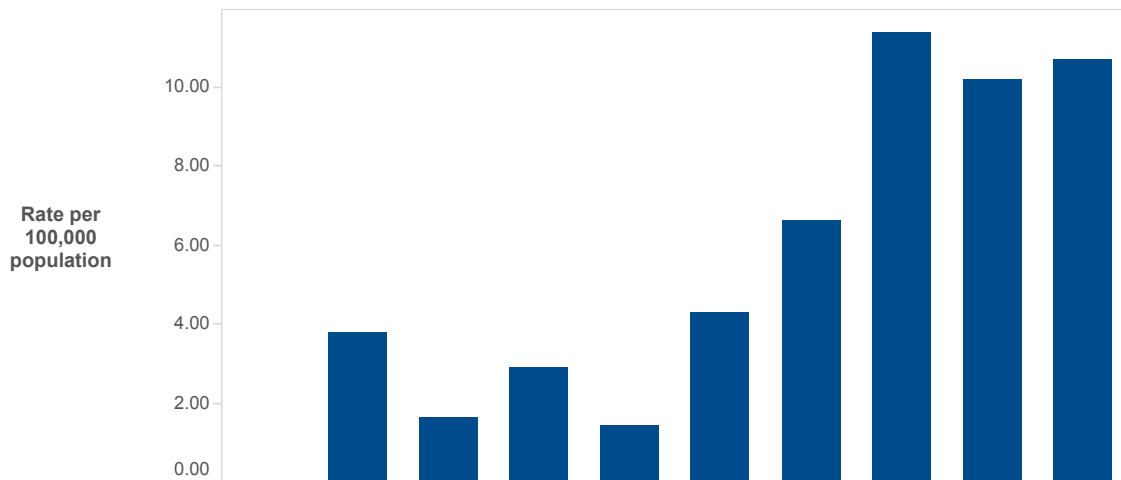


3.1 Streptococcal Disease (invasive) Group A Rates by Year, 2009-2018



| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------|------|------|------|------|------|------|------|------|------|------|
| Reports | 168 | 144 | 182 | 143 | 149 | 170 | 235 | 303 | 420 | 413 |
| BC Rate | 3.81 | 3.22 | 4.04 | 3.13 | 3.22 | 3.61 | 4.92 | 6.24 | 8.53 | 8.27 |
| Canada Rate | 4.03 | 4.15 | 4.78 | 4.66 | 4.74 | 5.14 | 5.28 | 5.98 | 6.80 | |

3.2 Streptococcal Disease (invasive) Group A by Age Group, 2018



| | | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-39 | 40-59 | 60+ |
|---------|--------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| Reports | Female | 0 | 4 | 1 | 3 | 2 | 9 | 9 | 37 | 55 | 48 |
| | Male | 0 | 3 | 3 | 4 | 2 | 5 | 14 | 42 | 85 | 87 |
| | Total | 0 | 7 | 4 | 7 | 4 | 14 | 23 | 79 | 140 | 135 |
| BC Rate | Female | 0.00 | 4.49 | 0.85 | 2.53 | 1.48 | 5.80 | 5.30 | 10.72 | 7.81 | 7.22 |
| | Male | 0.00 | 3.13 | 2.43 | 3.27 | 1.40 | 2.92 | 7.85 | 12.08 | 12.68 | 14.61 |
| | Total | 0.00 | 3.79 | 1.66 | 2.90 | 1.44 | 4.29 | 6.61 | 11.40 | 10.18 | 10.71 |

3.3 Streptococcal Disease (invasive) Group A Rates by HSDA, 2018

