

Streptococcal Disease Group A (invasive)

In 2016, 303 confirmed cases of invasive Group A Streptococcal disease (iGAS) were reported, with an incidence rate of 6.4 cases per 100,000 population. This the highest rate of iGAS in BC since it became reportable in 1997.

Cases ranged in age from 0 to 97 years. The age distribution and mean age (46 years) were similar to those observed in 2007-2015, with a slightly higher proportion of cases in the 25-29 year age group, and lower proportions in the 0-4 year and 20-24 year age groups, than in previous years.

Cases occurred in all Health Service Delivery Areas, with incidence rates ranging from 1.6 to 12.5 cases per 100,000 population. The highest rate was in Vancouver HSDA, with 84 cases aged 5-83 years and thirteen different *emm* types identified.

Eighty-five cases (28%) were reported with severe presentations (streptococcal toxic shock syndrome, soft tissue necrosis, meningitis, pneumonia or death). This is similar to the proportion of severe presentations observed in 2007-2015, (range 18-35%, median 28%). Over 70% of the severe cases were over 40 years of age; there were no severe cases under 5 years of age.

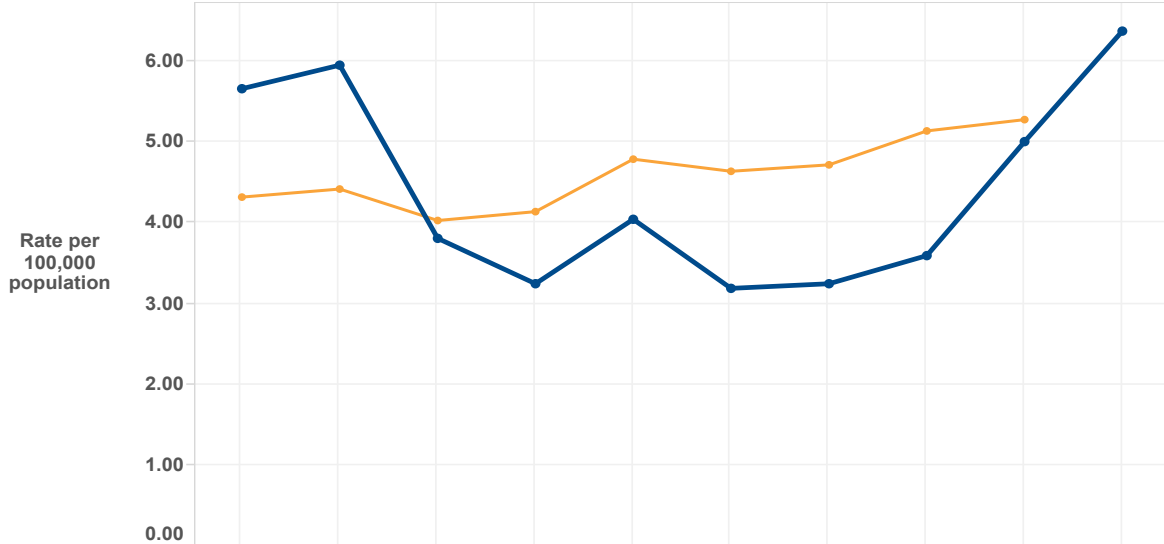
The case fatality rate was 7.9%. This is similar to case fatality rates observed in 2007-2015 (range 6.0-13.7%, median 7.2%). Of the 24 deaths in 2016, one was in an adolescent and the rest were adults over 40 years old. Those aged 60 years and older had the highest age-specific case fatality rate (12.6%).

Isolates from 262 of the 303 confirmed cases were typed by the National Microbiology Laboratory. The most common *emm* types were types 82 (20.2%), 101 (16.8%) and 1 (11.8%). From 2007 to 2015, the most common *emm* types among confirmed cases were types 1 (17.4%), 59 (11.0%) and 89 (8.1%). Eight of the 16 cases aged 1-14 years with known *emm* types were *emm* 1. *Emm* types 82 and 101 were most common among the injection drug-using and homeless/under-housed populations (40.1% and 28.4% of cases with known *emm* types, respectively).

Compared to previous years, there was a higher prevalence reported of each of the risk factors assessed, except for immunocompromise. Most notably, 31% of cases reported injection drug use (compared to 17% in 2007-2015), 26% reported being homeless or under-housed (compared to 16% in 2015) and 54% reported a predisposing wound and/or skin infection (compared to 34% in 2007-2015). Two-thirds of injection drug-using and/or homeless/under-housed cases reported a pre-existing wound or skin infection.

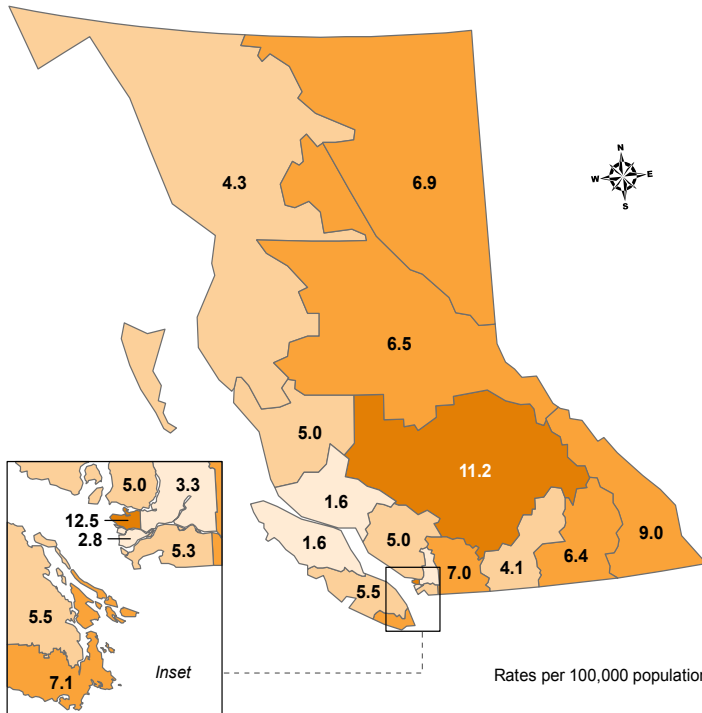


2.1 Streptococcal Disease Group A (invasive) Rates by Year, 2007-2016

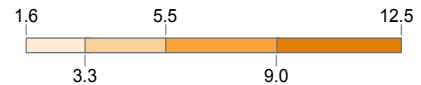


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Reports	243	259	168	145	182	145	149	167	235	303
BC Rate	5.66	5.95	3.81	3.25	4.05	3.19	3.25	3.60	5.01	6.38
Canada Rate	4.32	4.42	4.03	4.14	4.79	4.64	4.72	5.14	5.28	

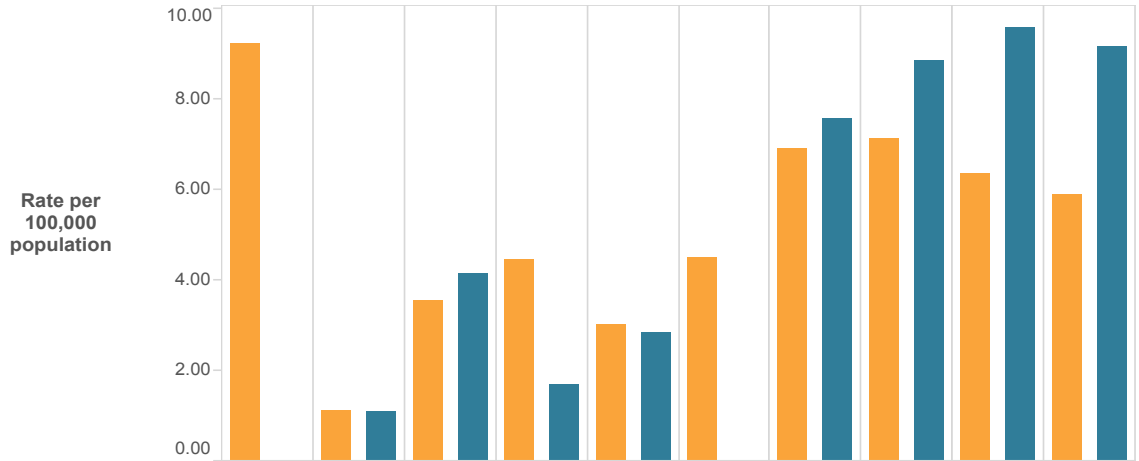
2.2 Streptococcal Disease Group A (invasive) Rates by HSDA, 2016



ID	Health Service Delivery Area	Cases	Rate
11	East Kootenay	7	9.0
12	Kootenay Boundary	5	6.4
13	Okanagan	15	4.1
14	Thompson Cariboo Shuswap	25	11.2
21	Fraser East	21	7.0
22	Fraser North	22	3.3
23	Fraser South	43	5.3
31	Richmond	6	2.8
32	Vancouver	84	12.5
33	North Shore/Coast Garibaldi	14	5.0
41	South Vancouver Island	27	7.1
42	Central Vancouver Island	15	5.5
43	North Vancouver Island	2	1.6
51	Northwest	3	4.3
52	Northern Interior	9	6.5
53	Northeast	5	6.9



2.3 Streptococcal Disease Group A (invasive) Rates by Age Group and Sex, 2016



		<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+
Reports	Female	2	1	4	5	4	7	11	23	43	36
	Male	0	1	5	2	4	0	12	28	63	51
	Total	2	2	9	7	8	7	23	52	106	87
BC Rate	Female	9.23	1.14	3.55	4.45	3.03	4.48	6.93	7.11	6.34	5.90
	Male	0.00	1.07	4.13	1.67	2.85	0.00	7.57	8.83	9.59	9.16
	Total	4.48	1.10	3.85	3.02	2.94	2.14	7.25	8.11	7.94	7.46