

Pneumococcal Disease (invasive)

The increase of invasive pneumococcal disease (IPD) that began in 2016 continued in 2018 during which year 563 cases were reported (11.28 cases per 100,000 population). This was the highest number of cases ever reported, exceeding the 530 cases in 2017 as well as the 551 cases in 2007 when two outbreaks occurred.

The observed increase was largely driven by higher numbers of cases in adult age groups (aged 20 and over). The age specific rates for adults (20-24 years, 25-29 years, 30-39 years, 40-59 years, and 60+ years) were higher in 2018 than the average age specific rates for the years 2009 through 2017. Notably, adults aged 40-59 had an age specific incidence rate twice as high as the average rate from 2009 to 2017 at 16.08 cases per 100,000 population compared to 8.05 cases per 100,000 population, respectively. Age specific rates amongst cases younger than 20 years, on the other hand, were similar to or lower in 2018 compared to the 2009 through 2017 averages.

Enhanced surveillance data are collected for all pediatric IPD cases (aged 16 and younger) in BC, and there were 21 of these cases reported in 2018. Fourteen cases were under the age of five. All 21 pediatric cases were hospitalized, and meningitis was the clinical syndrome reported in one case (5%). None of these cases were fatal.

Serotype information was available for 534 (95%) of the 2018 IPD cases with serotype 4 being the most commonly reported (n=93, 17%). Amongst cases aged 65 and older, a population for which the 23-valent polysaccharide vaccine (PPV-23) is recommended, 172 cases (97%) had serotype information, and 65 of these cases (38%) were due to serotypes covered by PPV-23. Vaccination history is not routinely collected for adult cases of IPD in BC, and as a result, the proportion of cases aged 65 and older who received PPV-23 cannot be assessed.

All 14 pediatric cases under age five had serotype information. Three of these cases (21%) were due to serotypes covered by the pneumococcal-conjugate 13-valent vaccine (PCV-13) routinely recommended for infants and young children in BC. Four cases (29%) were due to serotypes covered by PPV-23 but not by PCV-13. PPV-23 is only recommended for certain high risk children.

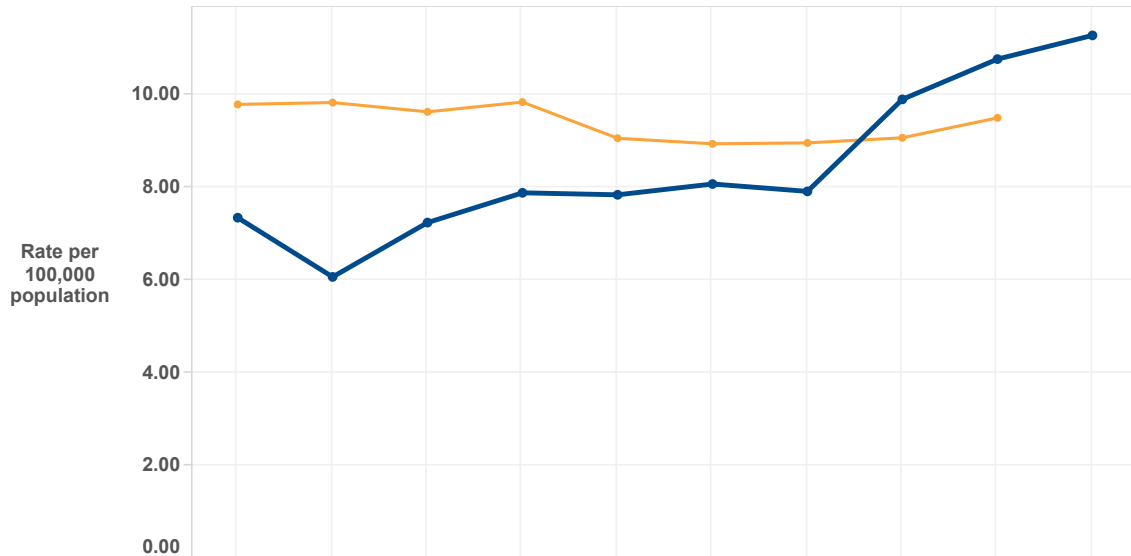
The serotypes, age at onset, and documented immunizations prior to onset of illness were reviewed against the BC immunization schedule for healthy and medically high-risk children to determine preventability by the current pneumococcal immunization program for children under 5 years of age.

All 14 cases were not preventable:

- Seven cases were due to serotypes not covered by PCV-13 or PPV-23 (15A, 15C, 23B [n=3], 29, and 35F)
- Three cases were due to serotypes covered by PPV-23 but in children who were not medically high-risk and, therefore, not eligible for that vaccine (9N, 12F, and 15B)
- Two cases were due to serotype 3 which is covered by PCV-13, and both were fully immunized according to the BC immunization schedule prior to onset of illness
- One case was due to serotype 14 which is covered by PCV-13, but the case had a valid exemption to vaccination
- One case due to serotype 33F was under 2 months old and too young to be vaccinated

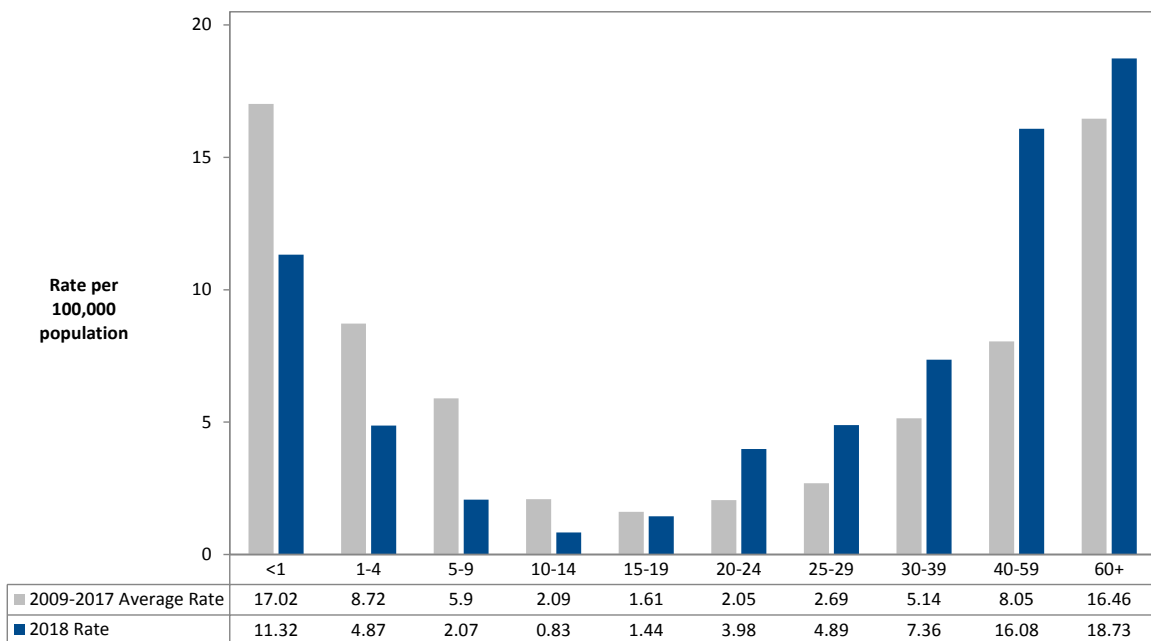


2.1 Pneumococcal Disease (invasive) Rates by Year, 2009-2018



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Reports	324	271	326	360	363	380	378	481	530	563
BC Rate	7.35	6.07	7.24	7.88	7.84	8.07	7.91	9.90	10.77	11.28
Canada Rate	9.79	9.83	9.63	9.84	9.06	8.94	8.96	9.07	9.50	9.50

2.2 Pneumococcal Disease (invasive) Rates by Age Group, 2009-2017 and 2018



2.3 Pneumococcal Disease (invasive) Rates by HSDA, 2018

