

Supplemental Table 1: Incidence rate (per 100,000 person-years) of specific pneumococcal serotypes, among the subset of 169 patients with serotypes available.

Serotype		Pre-PCV13, 2002-2010		Post-PCV13, 2011-2018		<i>p</i> -value
		Number of cases	Rate (95% CI)	Number of cases	Rate (95% CI)	
4, 6B, 9V, or 19F (part of PCV7, PCV13 and PPSV23 serotypes)						
	Overall, rates are age- and sex-adjusted ^b	13	1.2 (0.5, 1.9)	0		
	By age group (years)					
	<19	1	0.3 (0, 1.8)	0		
	19-64	8	1.1 (0.5, 2.2)	0		
	65+	4	3.1 (0.9, 8.1)	0		
1, 3, 6A, 7F or 19A (part of PCV13/non-PCV7 serotypes)						
	Overall, rates are age- and sex-adjusted ^b	40	3.7 (2.6, 4.9)	10	0.8 (0.3, 1.2)	<.001
	By age group (years)					
	<19	5	1.6 (0.5, 3.8)	2	0.6 (0.1, 2.2)	.24
	19-64	17	2.4 (1.4, 3.9)	1	0.1 (0, 0.7)	<.001

	65+	18	14.2 (8.4, 22.4)	7	4.1 (1.6, 8.4)	.011
8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19A, 19F, 20, 22F, 23F, and 33F (part of PPSV23/non-PCV13)						
	Overall, rates are age- and sex-adjusted ^b	26	2.4 (1.5, 3.4)	35	2.7 (1.8, 3.6)	.39
	By age group (years)					
	<19	4	1.3 (0.4, 3.3)	3	0.9 (0.2, 2.7)	.69
	19-64	12	1.7 (0.9, 3.0)	12	1.6 (0.8, 2.8)	.94
	65+	10	7.9 (3.8, 14.5)	20	11.7 (7.2, 18.1)	.13
Non-vaccine serotypes ^c						
	Overall, rates are age- and sex-adjusted ^b	26	2.5 (1.5, 3.5)	19	1.5 (0.8, 2.2)	.18
	By age group (years)					
	<19	4	1.3 (0.4, 3.3)	3	0.9 (0.2, 2.7)	.69
	19-64	7	1.0 (0.4, 2.1)	5	0.7 (0.2, 1.5)	.53
	65+	15	11.8 (6.6, 19.5)	11	6.4 (3.2, 11.5)	.27

^a Abbreviation: CI, confidence interval; IPD, invasive pneumococcal disease; PCV7, 7-valent pneumococcal conjugate vaccine; PCV13, 13-valent pneumococcal conjugate vaccine; PPSV23, 23-valent pneumococcal polysaccharide vaccine.

^b Adjusted to the population structure of the U.S. total population in 2010.

^c The types of non-vaccine serotypes (and number of patients in each period) are as follows: 6C (0 pre, 1 post), 7C (2 pre, 1 post), 15A (5 pre, 1 post), 16F (3 pre, 2 post), 21 (0 pre, 1 post), 23A (5 pre, 1 post), 23B (0 pre, 5 post), 24A (0 pre, 1 post), 31 (3 pre, 2 post), 34 (1 pre, 0 post), 35B (3 pre, 4 post), and 35F (4 pre, 0 post)

Supplemental Table 2: Serotype and vaccine status, overall and by calendar period of IPD diagnosis.

Category	Pre-PCV13 (2002-2010, N=115)	Post-PCV13 (2011-2018, N=72)	Overall (N=187)
Excluded from the analysis for this table	N=61	N=24	N=85
Did not receive relevant vaccines and the serotype was not available	5	3	8
Did not receive relevant vaccines, but the serotype was available	51	16	67
Received relevant vaccines, but the serotype was not available	5	5	10
Included	N (% of 54)	N (% of 48)	N (% of 102)
Received either PCV7 or PCV13 and developed IPD from PCV7 or PCV13 serotypes	2 (3.7%)	1 (2.1%)	3 (2.9%)
Received PPSV23 vaccine and developed IPD from PPSV23 serotypes	25 (46.3%)	21 (43.8%)	46 (45.1%)
Received PCV7 or PCV13 along with PPSV23 and developed IPD from PPSV23 serotypes	0 (0%)	5 (10.4%)	5 (4.9%)
Received PCV7 or PCV13 along with PPSV23 and developed IPD from PCV7 or PCV13 serotypes	0 (0%)	1 (2.1%)	1 (1.0%)

Received vaccines (either PCV7 or PCV13 or PPSV23), but non-vaccine serotypes were recovered	19 (35.2%)	17 (35.4%)	36 (35.3%)
Received vaccines (either PCV7 or PCV13 or PPSV23), but developed IPD from a different vaccine serotype	8 (14.8%)	3 (6.2%)	11 (10.8%)

^a Abbreviation: IPD, invasive pneumococcal disease; N, number; PCV7, 7-valent pneumococcal conjugate vaccine; PCV13, 13-valent pneumococcal conjugate vaccine; PPSV23, 23-valent pneumococcal polysaccharide vaccine.