

Arctic Investigations Program (AIP) Alaska Invasive Bacterial Disease Surveillance Report *Streptococcus pneumoniae* – 2015

Background

AIP has conducted statewide surveillance of invasive *Streptococcus pneumoniae* since 1986. Beginning in January 2007, invasive *S. pneumoniae* became a reportable condition to the State of Alaska Division of Public Health (DPH). Reports of cases of disease caused by this organism are shared between AIP and DPH.

Population

The population of the State of Alaska in 2015 was 737,625; 144,274 (19%) were Alaska Native people. Source: AK Dept. of Labor & Workforce Development population estimates.

Case Definition

An isolate of *Streptococcus pneumoniae* from a normally sterile site that has been taken from a resident of Alaska.

Methods

Participating laboratories send isolates recovered from sterile sites to the AIP laboratory in Anchorage; materials and forms for isolate shipment and data collection are provided to each laboratory by AIP. Demographic and clinical information on the cases are collected from a review of medical records. Annually, AIP asks that each laboratory review their records and provide information on any cases that may have been overlooked.

Invasive *Streptococcus pneumoniae* Cases by Race – Alaska, 2015

Race	Cases n (%)	Age Adjusted Rate*	% Male	Deaths n (%)
Alaska Native	43 (43)	32	61%	7 (16)
Non-Native†	57 (57)†	8.6	67%	7 (13)‡
Total	100		64%	14 (14)

*Cases per 100,000 per percent distribution of Alaska 2010 population

†Includes 6 cases for which race was unknown

‡Outcome unknown in 2 cases

Invasive *Streptococcus pneumoniae*, Cases & Rates by Age Group & Race – Alaska, 2015

Age (years)	Alaska Native		Non-Native	
	No. Cases	Rate*	No. Cases	Rate*
<2	4	71.9	2	12.8
2-4	1	10.9	0	0
5-18	2	5.2	1	0.9
19-54	17	25.5	21	7
55-64	6	43.9	17	20
65+	13	124.7	16	24.8
Total	43	29.8	57	9.6

*Cases per 100,000 population

Invasive *Streptococcus pneumoniae*, Clinical Presentations – Alaska, 2015

	No.	%*
Pneumonia with bacteremia	64	64
Bacteremia	12	12
Meningitis	9	9
Empyema	5	5

*Percent of cases

Antibiotic Resistance in Invasive *Streptococcus pneumoniae* Isolates – Alaska, 2015

Antibiotic	S*%	I†%	R‡%
Penicillin	85	11	3
TMP-sulfa	94	3	2
Erythromycin	79	0	21
Ceftriaxone	99	1	0
Tetracycline	92	2	6
Chloramphenicol	98	0	2
Vancomycin	100	0	0
Levofloxacin	100	0	0
Clindamycin	96	1	3

*Susceptible, †Intermediate, ‡Resistant based on year 2015 CLSI definition

Proportion of Invasive Isolates Contained in the PCV13 Vaccine by Age Group – Alaska, 2015

Age (yrs)	Total (%)
<2	1 (17%) of 6
2-4	1 (100%) of 1
5+	17 (21%) of 82
Total	19 (21%) of 89