

# Arctic Investigations Program (AIP) Alaska Invasive Bacterial Disease Surveillance Report *Streptococcus pneumoniae* – 2013

## 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 2013 was 736,399; 142,989 (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, 2013

Race	Cases n (%)	Age Adjusted Rate*	% Male	Deaths n (%)
Alaska Native	50 (47)	36.9	62%	12 (24)
Non-Native†	56 (53)†	8.7	63%	5 (9)
Total	106		62%	17 (16)

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

†Includes 10 cases for which race was unknown

## Invasive *Streptococcus pneumoniae*, Cases & Rates by Age Group & Race – Alaska, 2013

Age (years)	Alaska Native		Non-Native	
	No. Cases	Rate*	No. Cases	Rate*
<2	6	102.5	4	26.3
2-4	4	42.7	3	12.6
5-18	5	13	2	1.9
19-54	18	27	15	4.9
55-64	11	83.8	10	11.9
65+	6	63.5	22	37.7
Total	50	35	56	9.4

\*Cases per 100,000 population

## Invasive *Streptococcus pneumoniae*, Clinical Presentations – Alaska, 2013

	No.	%*
Pneumonia with bacteremia	65	61
Bacteremia	24	23
Meningitis	6	6
Empyema	3	3

\*Percent of cases

## Antibiotic Resistance in Invasive *Streptococcus pneumoniae* Isolates – Alaska, 2013

Antibiotic	S*%	I†%	R‡%
Penicillin	87	0	13
TMP-sulfa	92	3	5
Erythromycin	84	0	16
Ceftriaxone	97	3	0
Tetracycline	94	0	6
Chloramphenicol	98	0	2
Vancomycin	100	0	0
Levofloxacin	100	0	0
Clindamycin	96	0	4

\*Susceptible, †Intermediate, ‡Resistant based on year 2013 CLSI definition

## Proportion of Invasive Isolates Contained in the PCV13 Vaccine by Age Group – Alaska, 2013

Age (yrs)	Total (%)
<2	2 (20%) of 10
2-4	0 (0%) of 7
5+	13 (16%) of 83
Total	15 (15%) of 100

