



# Infectious Disease Epidemiology Report

## *Streptococcus pneumoniae*, 2009

### Background

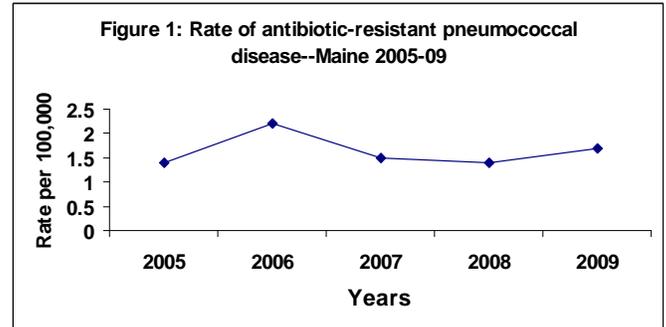
The Infectious Disease Epidemiology Program of the Maine Center for Disease Control and Prevention monitors the incidence of invasive pneumococcal disease through mandatory reporting by health care providers, clinical laboratories and other public health partners. This report summarizes 2009 surveillance data on cases of antibiotic-resistant invasive pneumococcal disease and invasive pneumococcal disease in children less than 5 years of age.

### Methods

Invasive pneumococcal disease is defined as isolation of *Streptococcus pneumoniae* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid). Antibiotic-resistant invasive pneumococcal disease follows the invasive definition and is resistant to at least one antibiotic. Standardized case reports are completed for all drug resistant and invasive cases in children less than 5. All other invasive cases were documented in Maine CDC's surveillance system.

### Results

A total of 133 cases of invasive pneumococcal disease were reported in 2009. Of these, 110 (83%) invasive pneumococcal disease cases were sensitive to all antibiotics tested. Nine invasive pneumococcal cases were in children less than 5. The rate of invasive pneumococcal cases in children less than 5 was 0.53 cases per 100,000. Twenty three cases of antibiotic-resistant invasive pneumococcal disease were reported in 2009. The 2009 rate of drug-resistant invasive pneumococcal disease in Maine was 1.7 cases per 100,000 population (Figure 1).



Of the 23 cases of antibiotic-resistant pneumococcal disease reported in 2009, two cases (8.7%) were identified in children less than 5 years of age (Table 1). Both children had received pneumococcal vaccine.

**Table 1: Invasive and Antibiotic-resistant pneumococcal disease by age– Maine, 2009**

Age Years	All Invasive #	Drug Resistant	
		#	%
<1	4	1	25.0
1-4	5	1	20.0
5-17	8	2	25.0
18-34	18	2	11.1
35-49	19	2	10.5
50-64	32	5	15.6
≥65	47	10	21.3
Total	133	23	17.3

The majority of cases of drug-resistant invasive pneumococcal disease were clinically diagnosed with pneumonia. (Table 2). Of the 23 drug resistant cases, there were 3 deaths.

**Table 2: Antibiotic-resistant invasive pneumococcal disease by syndrome\* – Maine, 2009**

Syndrome	No.	%
Bacteremia without focus	6	26
Meningitis/Bacteremia without focus	3	13
Pneumonia	10	44
Pneumonia/Bacteremia without focus	2	9

\* Cases may have had more than one syndrome

Drug-resistant pneumococcal disease was identified among residents of nine Maine counties in 2009 (Table 3).

**Table 3: Drug resistant pneumococcal disease-  
Maine, 2009**

Maine County	Cases	
	No.	%
Androscoggin	2	8.7
Aroostook	4	17.4
Cumberland	3	13
Franklin	3	13
Hancock	0	0
Kennebec	4	17.4
Knox	0	0
Lincoln	0	0
Oxford	3	13
Penobscot	0	0
Piscataquis	0	0
Sagadahoc	0	0
Somerset	1	4.4
Waldo	1	4.4
Washington	0	0
York	2	8.7
Total	23	100

## Discussion

Maine CDC has routine surveillance on all invasive pneumococcal cases with an emphasis on cases in children less than 5 and drug resistant cases. Surveillance data indicates drug resistant rates appear stable. Federal CDC changes in pneumococcal disease reporting led to changes in Maine's surveillance. All invasive pneumococcal cases will be investigated beginning in June 2010.

Health care providers are encouraged to practice more judicious use of antibiotics and to promote the use of pneumococcal vaccines. Pneumococcal conjugate vaccine (PCV13) is approved for all infants and children younger than 5 years of age. It protects against the 13 types of pneumococcal bacteria most likely to cause disease in infants and young children.

All adults 65 years and older and persons with certain health conditions are encouraged to receive the polysaccharide pneumococcal vaccine (PPV23) that provides protection against 23 serotypes of pneumococcal infection.

The following persons are encouraged to receive PPV23:

- Anyone 2 years of age or older with long term health problems such as diabetes, leaks of cerebrospinal fluid; heart, lung ( not including asthma) kidney, or liver disease; or alcoholism
- Adults 19 and older who smoke or have asthma
- People who live in nursing homes or other long-term care facilities

Pneumococcal disease should be reported to Maine CDC by calling 1-800-821-5821 or faxing to 1-800-293-7534. For more information contact your healthcare provider or local health center.

Additional information about Pneumococcal disease can be found at:

- Maine CDC  
<http://www.mainepublichealth.gov>
- Federal CDC  
<http://www.cdc.gov/vaccines/vpd-vac/pneumo/default.htm>