



Infectious Disease Epidemiology Report

Streptococcus pneumoniae, 2010

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 2010 surveillance data on cases of invasive pneumococcal disease.

Methods

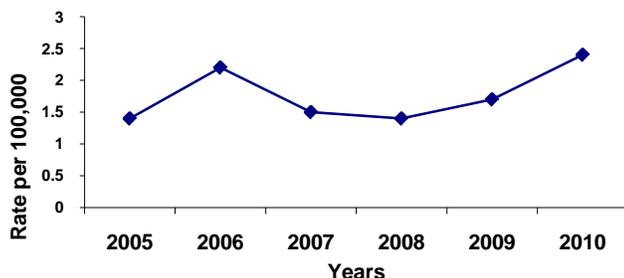
Invasive pneumococcal disease is defined as isolation of *Streptococcus pneumoniae* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid). Antibiotic-resistant invasive pneumococcal disease meets the invasive definition and is resistant to at least one antibiotic. Standardized case reports are completed for all invasive cases, including those that are antibiotic resistant.

Results

A total of 130 cases of invasive pneumococcal disease were reported in 2010. Of these, 100 (76.9%) were sensitive to all antibiotics tested. Ten invasive pneumococcal cases were in children less than five years. The rate of invasive pneumococcal disease in children less than five years was 14.0 cases per 100,000 persons.

Thirty cases of antibiotic-resistant invasive pneumococcal disease were reported in Maine during 2010 for a rate of 2.3 cases per 100,000 persons (Figure 1).

Figure 1: Rate of antibiotic-resistant invasive pneumococcal disease--Maine 2005-10 per 100,000



Of the 30 cases of antibiotic-resistant invasive pneumococcal disease reported in 2010, three (10%) were identified in children less than 5 years of age (Table 1). Of cases in children less than 5 years, 90% had received the pneumococcal vaccine.

Table 1: Invasive and antibiotic-resistant pneumococcal disease by age– Maine, 2010

Age Years	All Invasive #	Antibiotic-Resistant	
		#	%
<1	4	0	0
1-4	6	3	10
5-9	2	0	0
10-19	3	0	0
20-29	7	4	13.3
30-39	11	2	6.7
40-49	7	0	0
50-64	38	10	33.3
>65	52	11	36.7
Total	130	30	23.1

The majority of cases of antibiotic-resistant invasive pneumococcal disease were clinically diagnosed with pneumonia (Table 2). Of the 30 antibiotic-resistant cases, there were 2 deaths.

Table 2: Invasive pneumococcal disease by site of infection* – Maine, 2010

Site of infection	#	%
Bacteremia without focus	22	20
Meningitis	6	5.5
Pneumonia	49	44.6
Pneumonia/Bactermia without focus	4	3.6

* Cases may have had more than one site of infection

Antibiotic-resistant invasive pneumococcal disease was identified among residents of ten Maine counties in 2010 (Table 3).

Table 3: Invasive pneumococcal disease by county- Maine, 2010

Maine County	Cases	
	#	%
Androscoggin	18	13.9
Aroostook	5	3.9
Cumberland	38	29.2
Franklin	3	2.3
Hancock	1	0.8
Kennebec	21	16.2
Knox	0	0
Lincoln	10	7.7
Oxford	3	2.3
Penobscot	1	0.8
Piscataquis	2	1.5
Sagadahoc	1	0.8
Somerset	6	4.6
Waldo	2	1.5
Washington	0	0
York	19	14.6
Total	130	100

Discussion

Maine CDC conducts routine surveillance on all invasive pneumococcal cases. Changes in federal CDC's pneumococcal disease reporting led to modifications in Maine's surveillance. All invasive pneumococcal cases were investigated for 2010, while in 2009 only antibiotic-resistant cases and invasive pneumococcal cases in children less than 5 years were investigated. Surveillance data indicate that rates of antibiotic-resistant are slightly increasing.

Health care providers are encouraged 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 as well as 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

Invasive 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 invasive pneumococcal disease can be found at:

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