



# Infectious Disease Epidemiology Report

## Pertussis, 2011

### Background

The Infectious Disease Epidemiology Program of the Maine Center for Disease Control and Prevention monitors the incidence of pertussis through mandatory reporting by health care providers, clinical laboratories and other public health partners. This report summarizes 2011 surveillance data on cases of pertussis disease.

### Methods

Pertussis is defined as a cough illness lasting at least two weeks with one of the following:

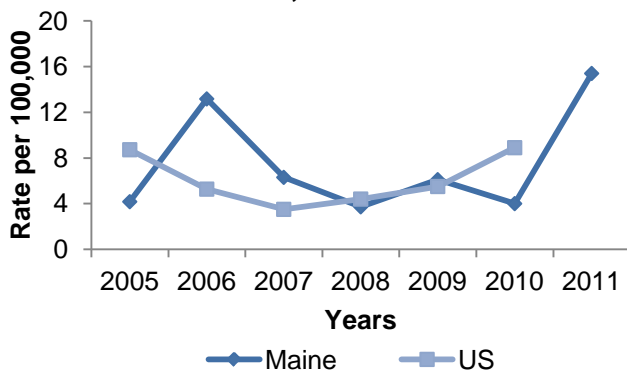
- Paroxysms of coughing,
- Inspiratory “whoop,” or
- Post-tussive vomiting

in addition to laboratory confirmation or epi-linkage to a laboratory confirmed case. Standardized case reports were completed for all cases and were documented in Maine CDC’s surveillance system.

### Results

A total of 205 cases of pertussis were reported in 2011. Of these, three (4.9%) were hospitalized. The 2011 rate of pertussis in Maine was 15.4 cases per 100,000 persons, a significant increase from the 2010 rate. (Figure 1).

**Figure 1: Rate of Pertussis - Maine and US, 2005 - 2011**



Of the 205 cases of pertussis reported in 2011, the majority of cases occurred among children and adolescents aged 5-19 years (69.3%). 9 cases (4.4%) were identified in children less than 1 year of age (Table 1).

**Table 1: Cases of Pertussis by Age – Maine, 2011**

Age	No.	%
Less than 6 months	4	2.0
6 mo – 11 mo	5	2.4
1-6 yr	38	18.5
7-10 yr	63	30.7
11 - 19 yr	62	30.2
20 -29 yr	9	4.4
30 -39 yr	8	3.9
40 - 49 yr	6	2.9
50 - 59 yr	4	2.0
>60 yr	6	2.9
Total	205	100

Almost all pertussis cases reported having paroxysmal cough (Table 2). A large proportion of cases also reported post-tussive vomiting.

**Table 2: Pertussis Disease by Symptoms\* – Maine, 2011**

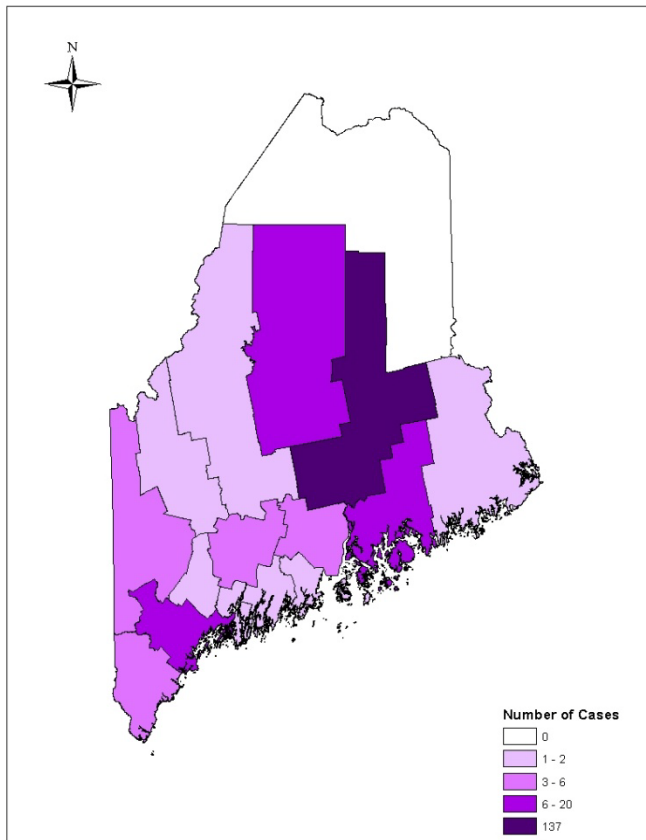
Symptoms	No.	%
Paroxysmal cough	202	98.5
Post -tussive vomiting	92	44.9
Whoop	37	18.1

\* Cases may have had more than one symptom

Pertussis cases were identified among residents of fifteen Maine counties in 2011 (Figure 2).

Penobscot had the highest incidence with 90.5 cases per 100,000 persons compared to the state rate of 15.4 cases per 100,000.

**Figure 2: Pertussis Disease by County - Maine, 2011**



Maine had fifteen pertussis outbreaks in five counties; Cumberland, Kennebec, Hancock, Penobscot and Waldo.

### Discussion

Early treatment of pertussis is very important. If treatment for pertussis is started early in the course of illness, symptoms may be lessened. This is particularly important for infants. Whenever possible, a nasopharyngeal (NP) swab or aspirate should be obtained from all persons with suspected pertussis.

- For infants aged <1 year with suspected pertussis, collect a specimen and then treat immediately with recommended antibiotics while awaiting results.

Health care providers are encouraged to promote the use of pertussis vaccines. There are two pertussis vaccines (DTaP and Tdap). Both vaccines contain pertussis antigen in combination with tetanus and diphtheria. Tdap is recommended only for a single dose across all age groups

- Children under age 7 should get 5 DTaP shots. These are routinely given at ages 2, 4, 6, 12-15 months and 4-6 years.
- Children 7 through 10 years of age who are not fully vaccinated against pertussis should receive a single dose of Tdap to provide protection against pertussis.
- Tdap vaccine should be given to all adolescents and adults who have not previously received a dose.
  - The preferred age of administration for adolescents is 11-12 years.
  - Vaccination with Tdap is especially important for persons who have or will have contact with an infant less than one year of age.
  - Tdap should be administered to pregnant women during the third or late second trimester (at least 20 weeks), if they have not previously been vaccinated with Tdap. If not administered during pregnancy, Tdap should be given immediately postpartum.
  - Tdap vaccine should be given to healthcare workers who have not received Tdap previously.

Pertussis 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 Pertussis disease can be found at:

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