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Pertussis, 2012

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Recommended Citation

Maine Department of Health and Human Services and Maine Center for Disease Control and Prevention, "Pertussis, 2012" (2013).
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https://digitalmaine.com/mecdc_docs/161

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Infectious Disease Epidemiology Report

Pertussis, 2012

Background

Pertussis is caused by bacteria called *Bordetella pertussis*. Pertussis is clinically defined as a cough illness lasting at least two weeks with one or more of the following:

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

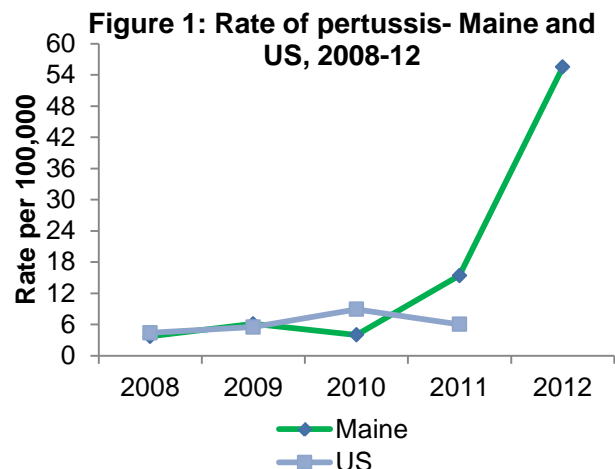
The disease symptoms mainly affect the respiratory tract. Pertussis can be very serious, especially in infants.

Methods

The Infectious Disease Epidemiology Program of 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. Pertussis cases must be clinically compatible, with laboratory confirmation or epi-linkage to a lab confirmed case to be counted as a case. Standardized case reports were completed for all cases and were documented in Maine CDC’s surveillance system.

Results

A total of 737 cases of pertussis were reported in 2012. Of these, nine (1.2%) were hospitalized. The 2012 rate of pertussis in Maine was 55.5 cases per 100,000 persons, a significant increase from the 2011 rate of 15.4 cases per 100,000 persons. (Figure 1).



Of the 737 cases of pertussis reported in 2012, the majority of cases occurred among children and adolescents aged 7-19 years (69.3%). The rate for the age groups 0-19 were significantly higher than the state rate. Thirty five cases (4.7%) were identified in children less than 1 year of age (Table 1).

Table 1: Pertussis by Age – Maine, 2012

Age group	# of cases	Rate per 100,000
< 6 mos	21	163.11
6-11 mos	14	108.74
1-6 yrs	108	128.49
7-10 yrs	231	390.41
11-19 yrs	232	155.65
20-29 yrs	25	16.28
30-39 yrs	41	27.63
40-49 yrs	36	18.61
50-59 yrs	12	5.55
≥ 60 yrs	17	5.46
All	737	55.49

Almost all pertussis cases reported having paroxysmal cough (Table 2).

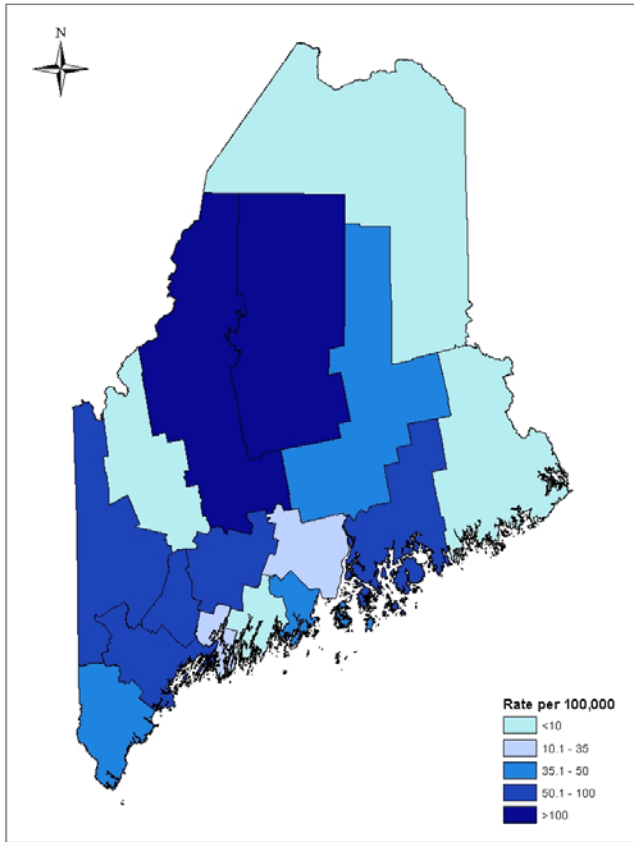
Table 2: Pertussis by Symptoms* – Maine, 2012

Symptoms	No.	%
Whoop	190	25.8
Post-tussive vomiting	80	10.9
Paroxysmal cough	717	97.3

* Cases may report more than one symptom

Pertussis cases were identified among residents of all sixteen Maine counties in 2012 (Figure 2). Somerset had the highest incidence with 196.5 cases per 100,000 persons compared to the state rate of 55.5 cases per 100,000. Androscoggin, Cumberland, Hancock, and Piscataquis counties rates were above the Maine rate.

Figure 2: Pertussis Rate by County - Maine, 2012



Discussion

Nationally during 2012, there was an increase of pertussis cases or outbreaks in a majority of states. Provisional counts from federal CDC indicate that more than 41,000 cases of pertussis were reported. Wisconsin reported the highest incidence during 2012 of 104.9 cases per 100,000. In 2012, Maine experienced a statewide pertussis outbreak. Maine was 7th nationally with a rate of 55.9 per 100,000.

Maine CDC encouraged providers to test clinically appropriate patients and report all pertussis cases. Early treatment of pertussis is very important and may lessen symptoms. This is particularly important for infants due to the severity of illness. Maine CDC developed guidance for clinicians for infant cases modified from American Academy of Pediatrics California District. Maine CDC provided educational materials to provider offices on pertussis identification, such as a poster, and card with the sound of a whooping infant cough.

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 except for pregnant women.

- 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 11 years and older, including pregnant women.
 - 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 is recommended during each pregnancy.
 - Tdap vaccine should be given to healthcare workers who have not received Tdap previously.

Pertussis cases can 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.maine.gov/dhhs/mecdc/infectious-disease/epi/vaccine/pertussis.shtml>
- Federal CDC
<http://www.cdc.gov/features/pertussis>
- Federal vaccine schedule
<http://www.cdc.gov/vaccines/schedules/>
- Infant guidance
<http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vaccine/documents/Pertussis-Infants-Guidance-Clinicians.docx>
- Educational materials (orderable)
www.maine.gov/dhhs/mecdc/infectious-disease/epi/order-form-wn.shtml