

Pertussis

Pertussis is a highly contagious, acute bacterial respiratory tract infection caused by the bacterium *Bordetella pertussis*. It is transmitted from person to person through contact with respiratory secretions (i.e., droplet transmission). The disease is most severe in infants and young children, many of whom suffer the intense fits of coughing that may end with an inspiratory “whoop.” Although the disease may be milder in older persons, any infected person can transmit the disease to other susceptible persons, including unimmunized or incompletely immunized infants.

Despite high childhood immunization coverage rates, pertussis remains endemic in the United States, with epidemics every three to five years. In 2012 Oregon experienced a pertussis epidemic with the most cases seen in a single year since 1953. Because pertussis often goes undiagnosed in adolescents and adults, it is likely that the actual number of cases greatly exceeds the number reported.

Infants have long had the highest reported incidence rate of pertussis in Oregon — 253/100,000 in 2012. In 2012, the 10–14-year age group had the next highest incidence (104/100,000), closely followed by the 1–4 and 5–9-year-old cohorts (81 and 67 per 100,000, respectively).

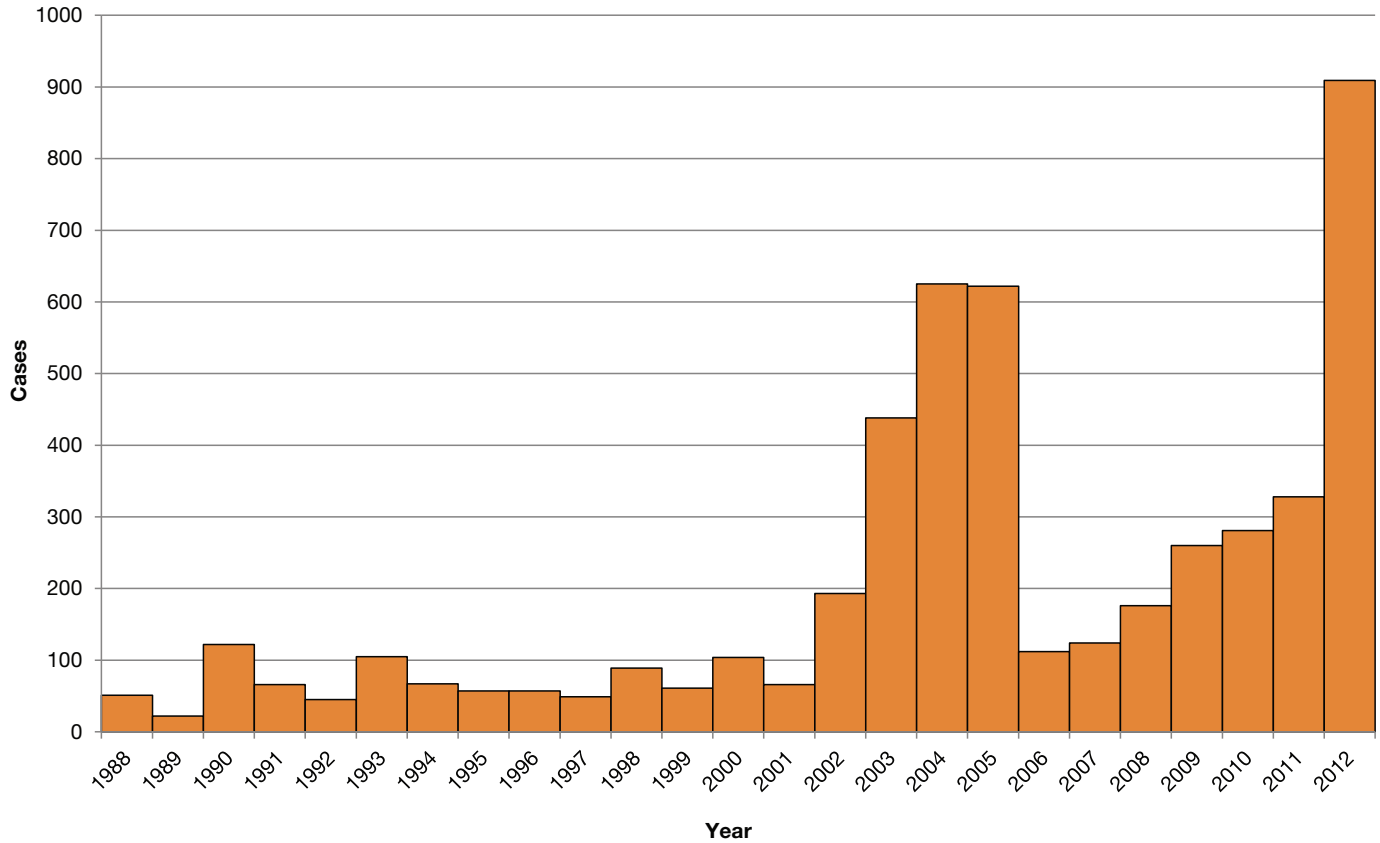
Infants with pertussis are also the most likely to suffer complications and death. Since 2003, 204 (38%) of the 544 infants diagnosed with

pertussis in Oregon have been hospitalized, and five have died. In 2012, 26 infants were hospitalized; 24 of them were ≤ 3 months of age. One young infant with pertussis spent more than 40 days on extracorporeal membrane oxygenation.

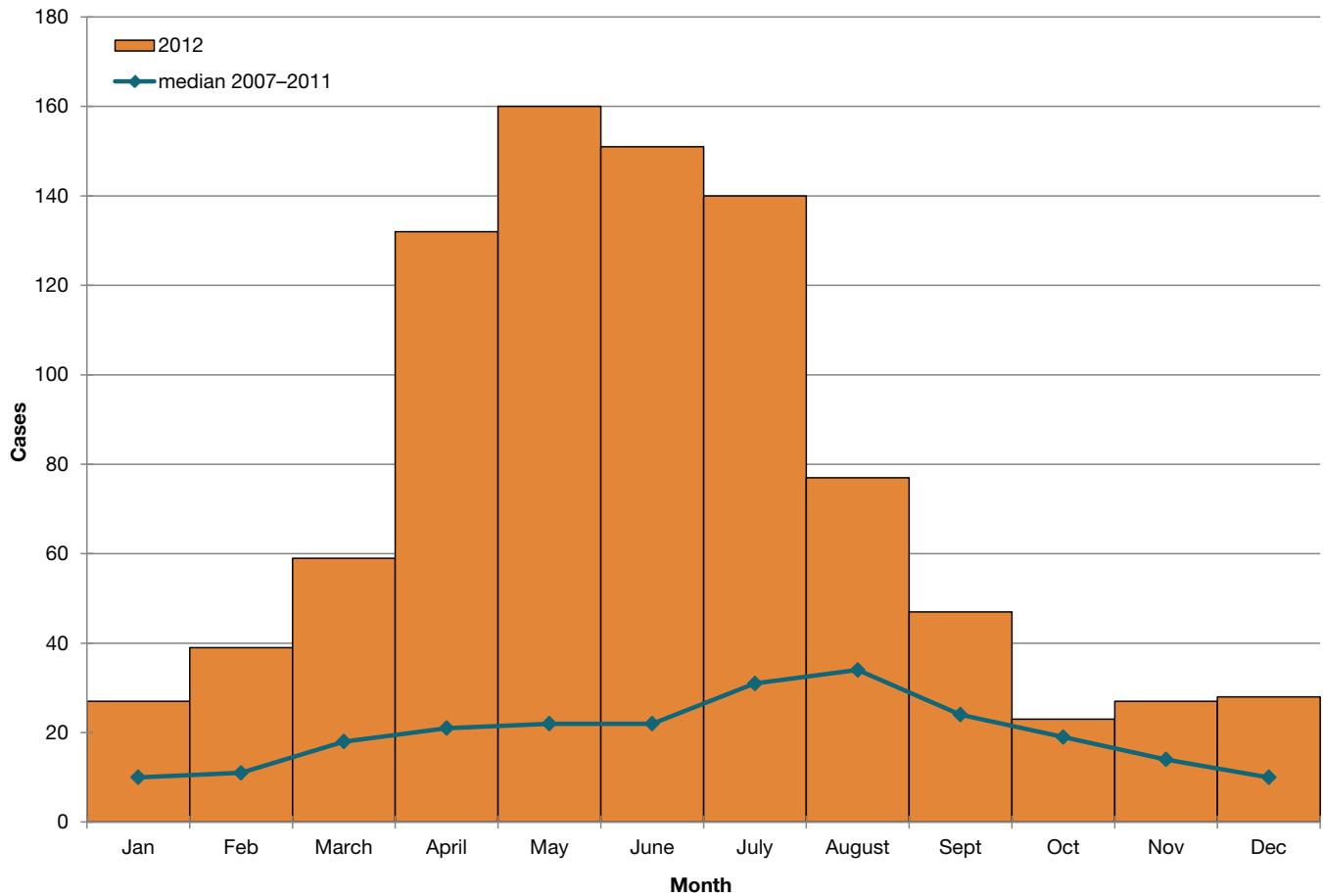
The greatest increase in incidence in recent years has been in adolescents and adults. Since 2003, 51% of pertussis cases reported in Oregon have been in children >10 years of age. Immunity wanes with time, so adolescents and adults need a Tdap booster shot, both to protect themselves and to avoid spreading it to vulnerable infants. All persons ≥ 10 (including persons ≥ 65) years of age who have not already received Tdap are advised to get a single dose. Pregnant women should receive Tdap during the 2nd or 3rd trimester of each pregnancy, ideally between 27 and 36 weeks' gestation) so that they can develop antibodies to pertussis and pass them to their babies before birth. Health care workers in particular are encouraged to be vaccinated. Children need a series of five DTaP vaccinations before kindergarten, starting at 2 months of age.

Since 2010, with funding from the Centers for Disease Control and Prevention, Oregon launched the Metropolitan Area Pertussis Surveillance (MAPS), enhancing surveillance for pertussis in Clackamas, Multnomah and Washington counties. Each reported case is investigated extensively, and standardized data are collected. It is hoped that these data will guide future developments in regional and national public health policy.

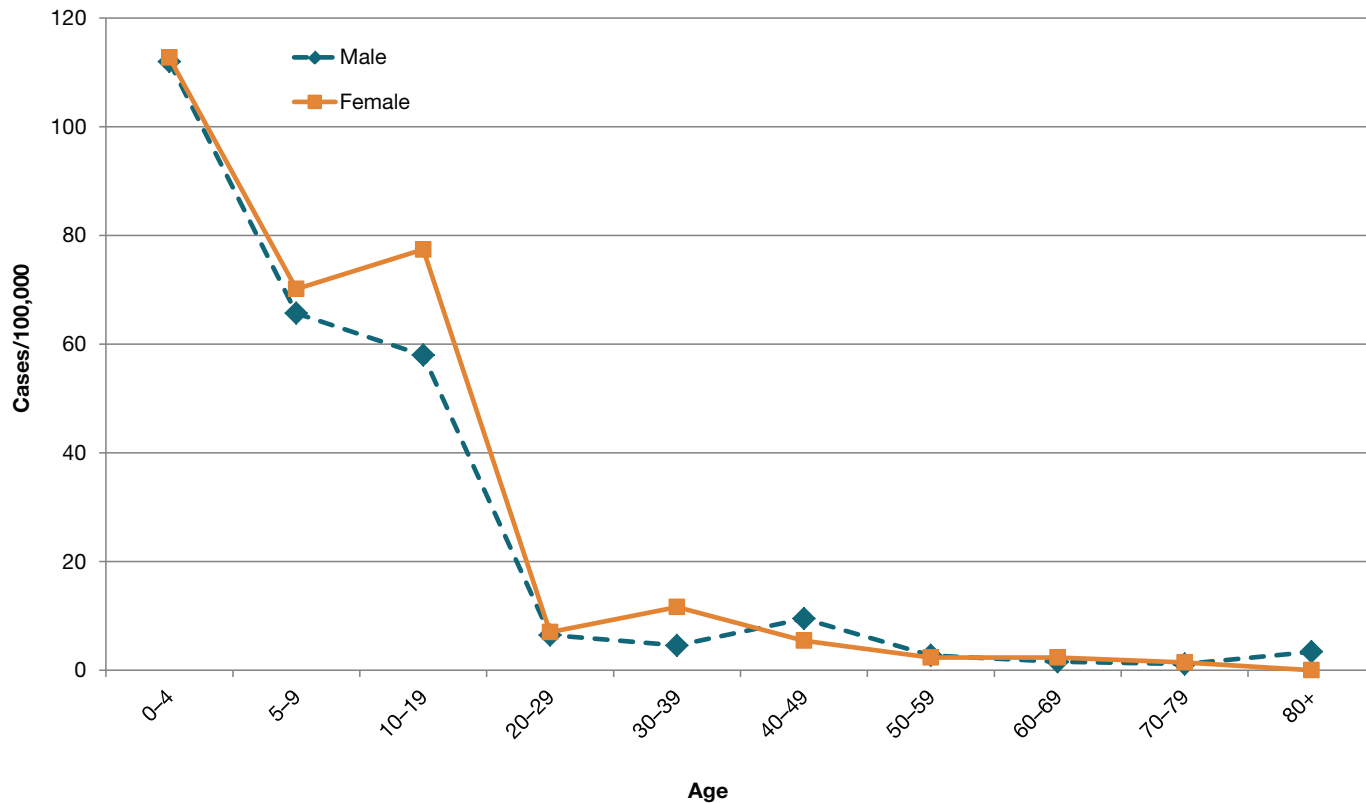
Pertussis by year: Oregon, 1988–2012



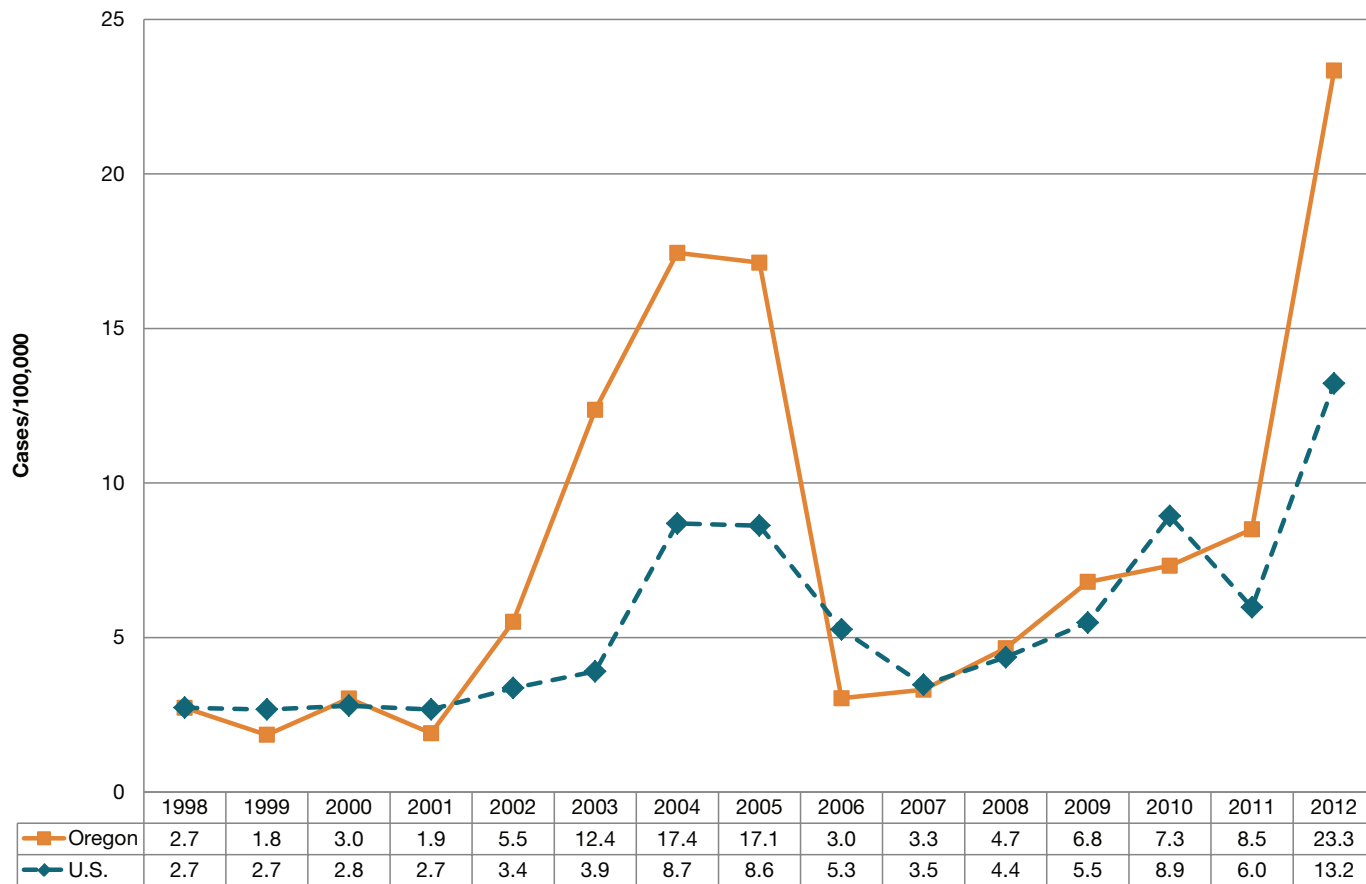
Pertussis by onset month: Oregon, 2012



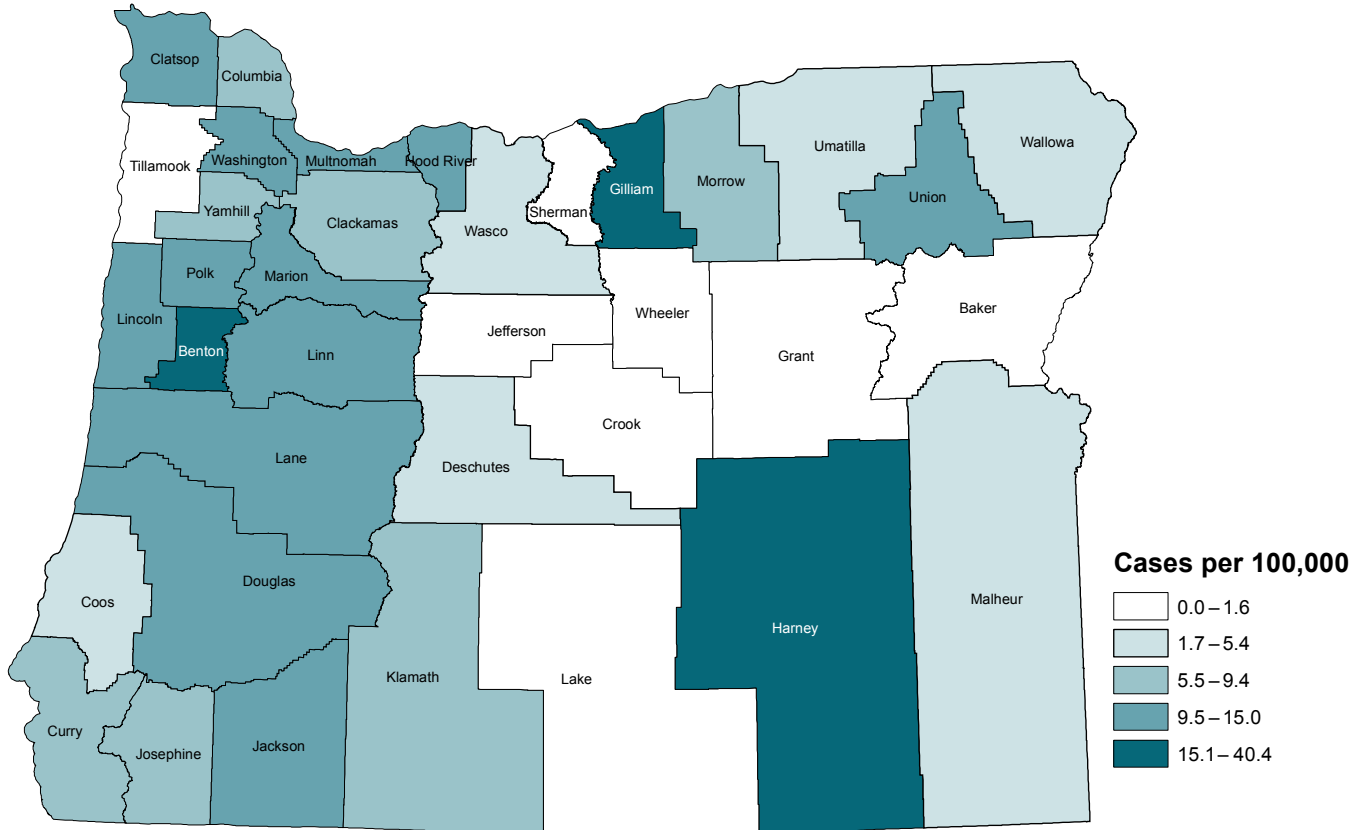
Incidence of pertussis by age and sex: Oregon, 2012



Incidence of pertussis: Oregon vs. nationwide, 1998–2012



Incidence of pertussis by county of residence: Oregon, 2003–2012



Prevention

- Immunization is the best way to prevent pertussis.
- Cover your cough and wash your hands.
- Keep babies away from anyone who is coughing.