

The Effect of Tdap Vaccine on the Burden of Pertussis in Vermont: 1994-2009

Until recently, pertussis has been on the rise since the 1980s in Vermont and nationwide. Historically Vermont has experienced a high incidence of pertussis compared with other states. The burden of disease has been largely experienced among pre-teens and adolescents, often part of middle or high school outbreaks. Although children are vaccinated for pertussis as part of the childhood vaccination series, immunity wanes 5-10 years after vaccination as children approach adolescence.

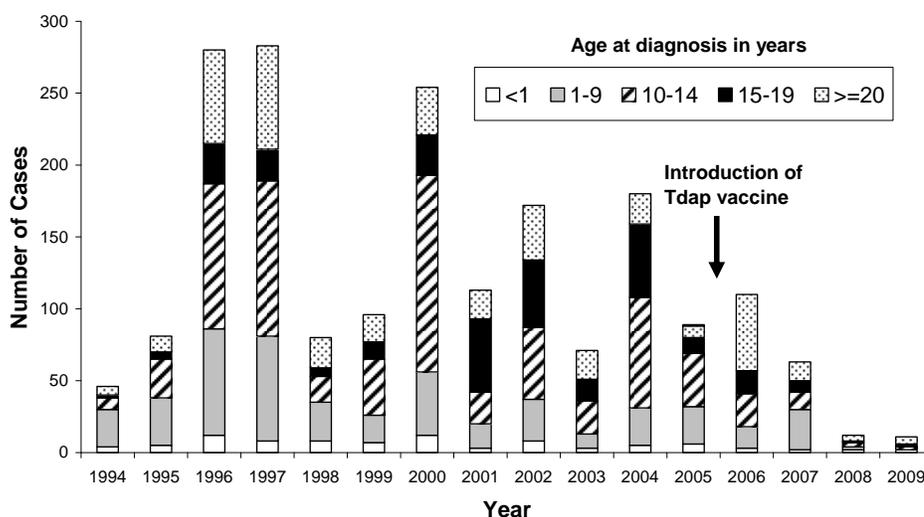
In 2005 a Tdap (tetanus, diphtheria, and acellular pertussis) vaccine was licensed and subsequently recommended to replace the Td (tetanus-diphtheria) booster in children 11-12 years of age. Tdap vaccine became available in Vermont in late 2005. By 2008, 49.2% of all Vermont children 13-17 years of age had received Tdap [note: coverage with either Td or Tdap in this age group is 79.8%; some older children received Td during their 11-12 year medical visit prior to the licensure of Tdap].

A single dose of Tdap is now also recommended for adults aged 19 to 64 in place of a Td booster. This is especially important for those in contact with infants younger than 12 months of age who may be too young to be fully vaccinated and who experience more severe disease.

Prior to the introduction of Tdap booster, pertussis incidence varied substantially from year to year with outbreak years typically occurring every 3-5 years. In 2008 and 2009 Vermont has enjoyed a low incidence of pertussis coinciding with increasing booster coverage rates among adolescents. These data suggest that decreased circulating pertussis among older children, adolescents and adults results in fewer cases among infants for whom pertussis can be life threatening.

Although pertussis incidence has been low statewide for the past two years, clinicians are encouraged to test and report clinically suspicious cases. Culture and PCR testing for pertussis are available at the Vermont Department of Health Laboratory.

Pertussis in Vermont 1994-2009



Contents:

Pertussis in Vermont

Chart: 2010 Selected Reportable Diseases

The *Infectious Disease Bulletin* can be viewed at: <http://healthvermont.gov/pubs/IDB/index.aspx>
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