Outbreak of pertussis, 1 January to 31 March 2009

Surveillance Branch, Office of Health Protection

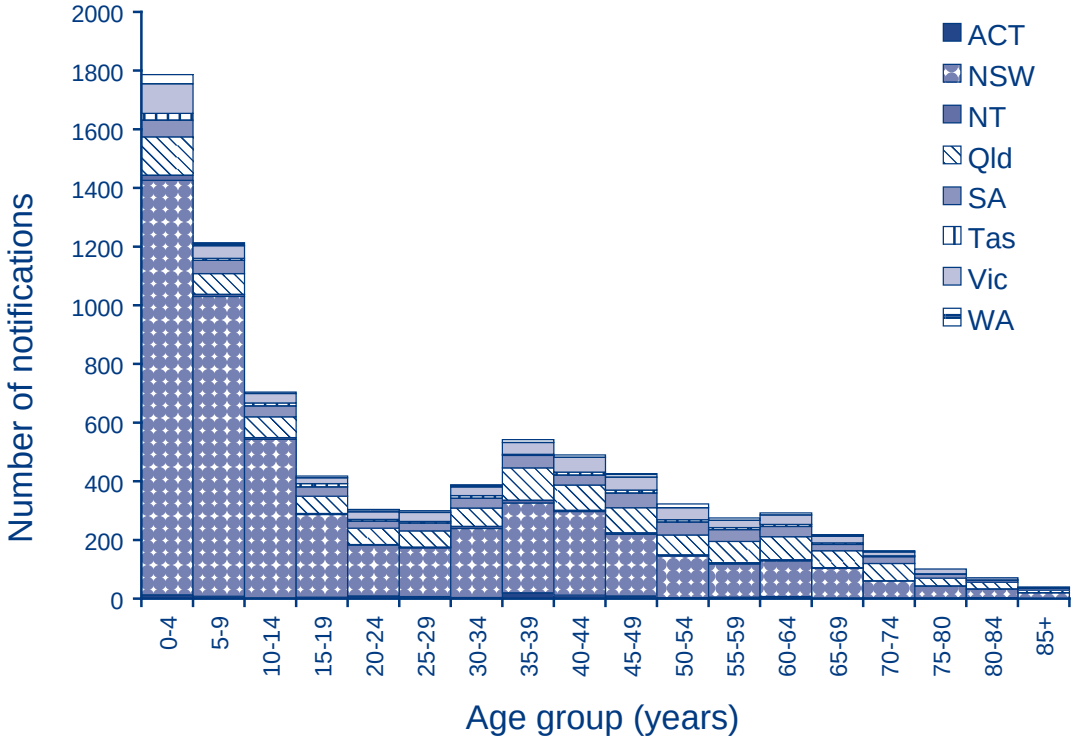
Pertussis (whooping cough) is an acute bacterial infection of the respiratory tract cause by *Bordetella pertussis*. The initial catarrhal stage has an insidious onset with an irritating cough that gradually becomes paroxysmal, usually within 1–2 weeks and lasting for 1–2 months or longer. Paroxysms can be followed by a characteristic high-pitched inspiratory whoop.[1] Transmission is by direct contact with droplets from respiratory mucous membranes of infected persons. In highly vaccinated populations, adults and adolescents are recognised as significant reservoir of infection due to waning immunity,[2,3] with parents having been identified as the source of infection in more than 50% of cases in infant pertussis cases.[4,5,6] As maternal antibodies do not provide reliable protection against pertussis, the maximal risk of infection and severe morbidity is for those infants too young to have received at least 2 vaccine doses.[7]

Between 1 January and 31 March 2008, 8,058 cases of pertussis were reported to the National Notifiable Diseases Surveillance System (NNDSS). Cases were reported from all states and territories, with the majority reported by New South Wales (n=5,265) and Queensland (n=1,187). The number of notifications for this quarter was 5.2 times more than in the same period in 2008 (n=1,554) and 4.8 times the 5 year-to-date mean for this quarter (1,677). The annualised notification rate for this quarter of 153 cases per 100,000 population was significantly higher than for the same period in 2008 (30 cases per 100,000 population, with a rate ratio of 5.1.

The highest number of notifications was observed in the 0–4 year age group (n=1,786; 22%), followed by the 5–9 year age group (n=1,213; n=15%) (Figure). Infants aged less than 6 months continue to represent just over 3% of total notifications.

Fifty-six per cent of cases were female (n=4,548) and 43% were male (n=3,482). There were 24 cases for which no gender was recorded. The average age in this quarter was 26 years with ages ranging from 3 weeks of age to 88 years at the time of diagnosis.

Figure: Notifications of pertussis, Australia, 1 January to 31 March 2009, by state or territory and age group



There were 3 infant deaths recorded in NNDSS for this quarter. The youngest, from New South Wales, was 4 weeks of age at onset of illness, was admitted to hospital and died in intensive care.[8] The infant was too young to be vaccinated. The other 2 infants that died in Australia were eligible for vaccination and each had received 1 dose of pertussis-containing vaccine.

In December 2008 and January 2009 NSW Health issued public health alerts to healthcare providers and the public to raise awareness about the increase in pertussis. On 10 March 2009 NSW Health announced that in order to help protect babies, it had arranged for a free vaccination through GPs for all new parents, grandparents and people who care for new babies.

An information mail out about the free vaccine was prepared for all new parents across New South Wales and GPs were contacted to encourage vaccination.

This follows the introduction in the Northern Territory in October 2008 of a funded booster vaccination for new mothers who gave birth in a hospital. More recently, in mid-April 2009, the Australian Capital Territory commenced a funded program for 3 months providing a booster vaccination for all parents and grandparents of children aged less than 12 months of age.

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