

BACKGROUND

Pertussis (whooping cough) is a preventable respiratory illness caused by the bacterium *Bordatella pertussis*. Despite the availability of a new acellular pertussis vaccine and immunisation coverage approaching 90% (for the three primary doses of DTP in pre-school children), pertussis continues to cause significant morbidity and mortality in Australian children.

Between 1993 and 1998, notification rates for children aged 0-4 years and 5-14 years with pertussis, were 58 per 100,000 and 87 per 100,000, respectively. Infants less than one year of age accounted for the highest rate of notifications (106 per 100,000), hospitalisations (207 per 100,000) and all associated deaths (nine deaths, rate 0.1 per 100,000). Monitoring hospitalised pertussis in infancy through the APSU will provide important clinical information on the epidemiology of pertussis in those less than 12 months of age and will enhance data collected through other mechanisms.

OBJECTIVES:

1. To determine the burden of disease from hospitalised pertussis, with special emphasis on the duration of hospitalisation, use of intensive care, death and disability
2. To identify the contribution of co-morbidities to susceptibility to and severity of pertussis
3. To determine where possible, the source of infection and the age and immunisation history of patients, family members and 'coughing contacts'
4. To describe the methods currently used to diagnose pertussis and the time to diagnosis

CASE DEFINITION AND REPORTING INSTRUCTIONS

Any child ≤ 12 months of age admitted to hospital with either culture confirmed pertussis or a discharge diagnosis of pertussis (without culture confirmation).

1. Culture Confirmed pertussis (including PCR)

Any child, regardless of clinical symptoms in whom there is isolation of *Bordatella pertussis* in culture or identification of *Bordatella pertussis* by PCR from a specimen obtained from the respiratory tract.

2. Discharge diagnosis of pertussis (without culture confirmation)

- a) Any hospitalised child with symptoms compatible with pertussis and contact with a laboratory proven case
or
- b) Any hospitalised child with symptoms compatible with pertussis in whom there is:
 Detection of *Bordatella pertussis* – specific antibody in a specimen from the respiratory tract or Detection of *Bordatella pertussis* – specific IgA in serum
 NB: The sensitivity of commercially available *Bordatella pertussis* – specific IgA tests is particularly low in children <2 years and, in persons of any age, may be negative in greater than 50% of proven cases).
or
- c) Any hospitalised child in whom pertussis is the discharge diagnosis or after later review is considered the most likely diagnosis, based on clinical features alone (Table 1)

Table 1. Clinical features of pertussis

1. A cough lasting two weeks or more with one or more of the following:
 - Paroxysms of coughing
 - Inspiratory 'whoop' without other apparent cause or
 - Post-tussive vomiting without other apparent cause
 - Apnoea and/or cyanosis
2. Infants may present with apnoea or cyanosis without the above features

NB: A history of contact with a coughing individual is important and that individual should also be appropriately investigated.

NB: All cases of pertussis must also be notified to the appropriate Public Health Department.

FOLLOW-UP OF POSITIVE RETURNS

A questionnaire requesting further details will be forwarded to clinicians who report a case of hospitalised pertussis to the APSU.

A copy of the questionnaire is enclosed for your information.

INVESTIGATOR CONTACT DETAILS (*Principal Investigator)

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