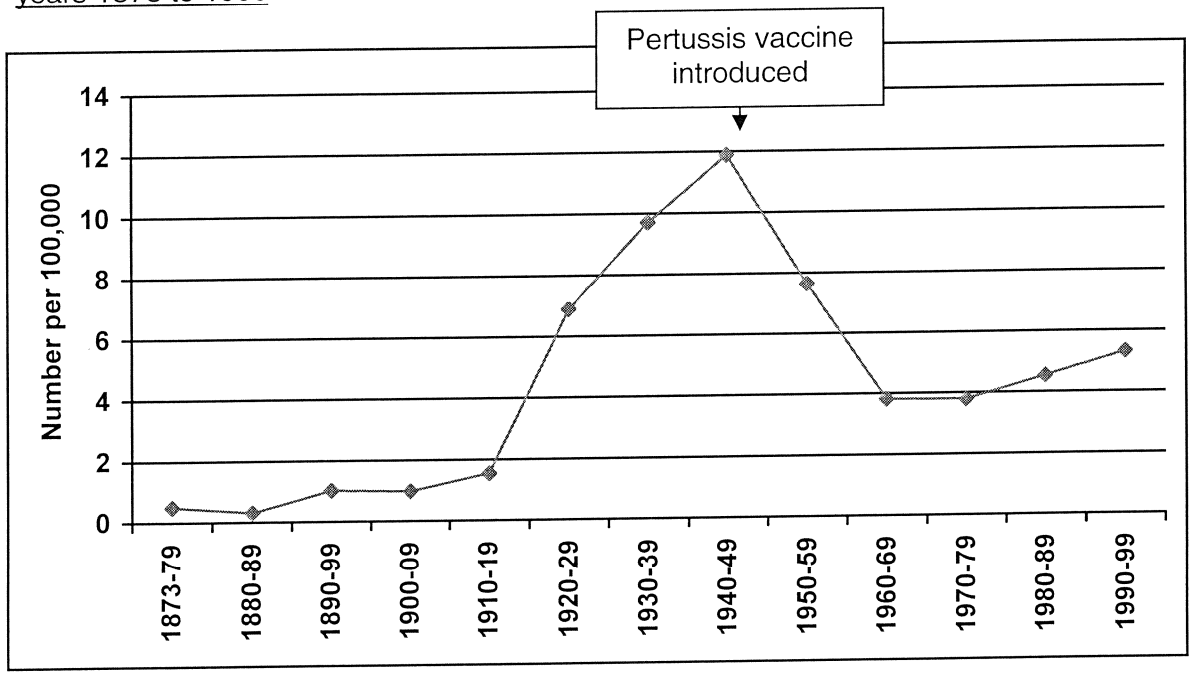
Active surveillance of infants hospitalised with pertussis in New Zealand

Background to Study

The hospital admission rate for pertussis has been increasing steadily in New Zealand since the 1970s. The figure shows the increase in pertussis hospital discharge rates that occurred prior to mass immunisation, the subsequent decline during the 1950s and 1960s and, since then, the steady increase in pertussis hospital discharge rates. This increase has occurred despite sequential changes in the immunisation schedule that have increased the number of doses of vaccine that each child should receive. The increase has been due predominantly to an increase in pertussis hospital discharge rates for infants.

Figure. Average annual pertussis hospital discharge rate per decade per 100,000 person years 1873 to 1999



Based upon the experience in other countries, the reported pertussis hospital admission rate in New Zealand, which is based upon a passive notification system, is likely to be an underestimate. For example, in the United States it has been estimated that only one quarter to one third of all hospital admissions for pertussis are identified as such. Thus our current statistics are likely to underestimate disease burden.

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 describe any geographical variation in disease severity
3) To describe the methods currently used to diagnose pertussis and the time to diagnosis.

CASE DEFINITION

Any infant (less than 12 months of age) admitted to hospital in the previous month with a diagnosis of pertussis, based on either laboratory confirmation or clinical features.

Follow-up of positive returns

A questionnaire requesting further details will be completed. This can be completed either by the notifying paediatrician or by the research fellow who will be employed on this project.

We are conscious of the potential for there to be a substantial number of cases notified during this surveillance period and we do not wish this study to be a burden. If multiple cases are being notified from any hospital we request that a list of these be kept to enable the research fellow to subsequently visit and complete the questionnaires.

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