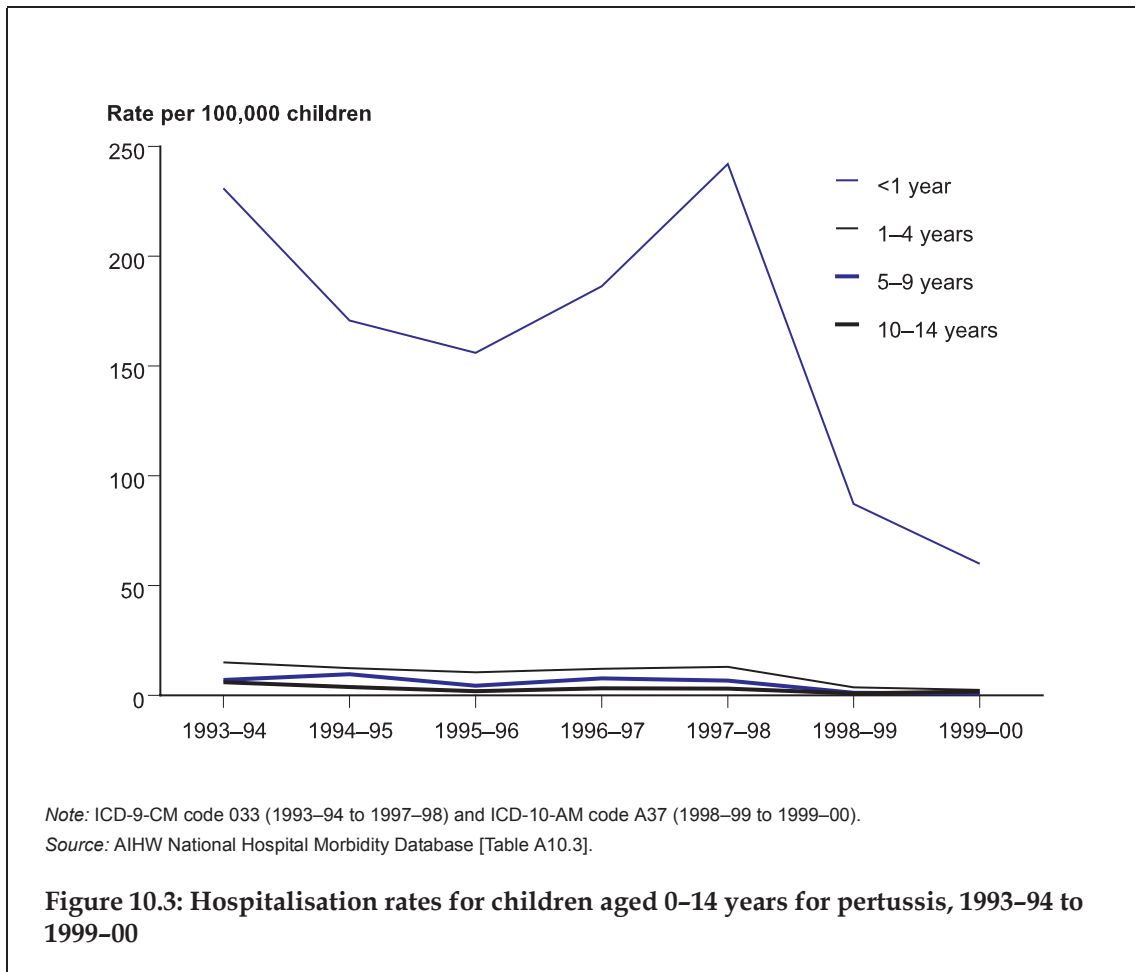


- The average annual notification rate for pertussis in children aged 0–14 years was 72.1 per 100,000 children (67.8 for boys and 76.7 for girls). The rate was lowest in 1999 and highest during the 1997 epidemic. During 1997, five boys and one girl died of complications of this disease.
- In 2000, the notification rate for pertussis in children aged 0–4 years was 35.3 per 100,000 children.
- In all years except 1999 and 2000, the rate was highest among infants. The rate was lowest among children aged 1–4 years, in all years.
- During 1993 and 1994, the rates for children aged 5–9 years were higher than the rates for children aged 10–14 years. From 1995 to 1998, there was little difference in rates between these two age groups. It has been suggested that changes in the relative rates of notification for children aged 5–9 years and 10–14 years may be the outcome of the introduction of an additional booster dose of pertussis vaccine for preschoolers in 1994 (McIntyre et al. 2000).

Time series in hospitalisation rates for children aged 0–14 years for pertussis are shown in Figure 10.3.

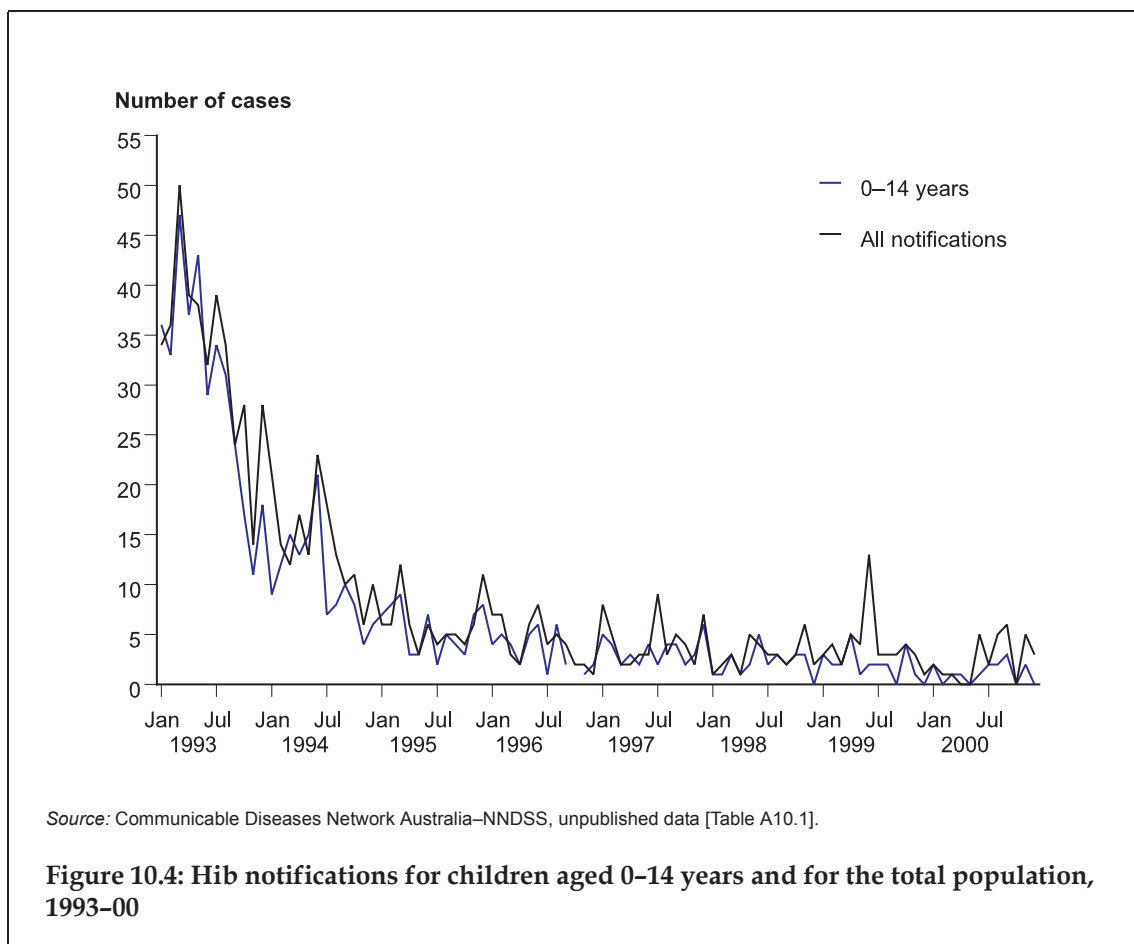


- There were 4,123 hospitalisations of children aged 0-14 years for pertussis in the period 1993-94 to 1999-00, an average of 589 hospitalisations per year. The average rate of hospitalisation was 15.6 per 100,000 children. The highest rate (23.4 per 100,000) occurred in 1997, the year with the highest notifications.
- Infants accounted for the overwhelming majority of hospitalisations, with an average rate of 154.6 per 100,000. This is expected because the disease is more severe in very young children.
- The hospitalisation rate for infants has decreased substantially over the review period, from 230.8 to 59.9.

Between 1993 and 2000, 8 children died from pertussis. All were infants, with 6 male and 2 female deaths.

***Haemophilus influenzae* type b infection (Hib)**

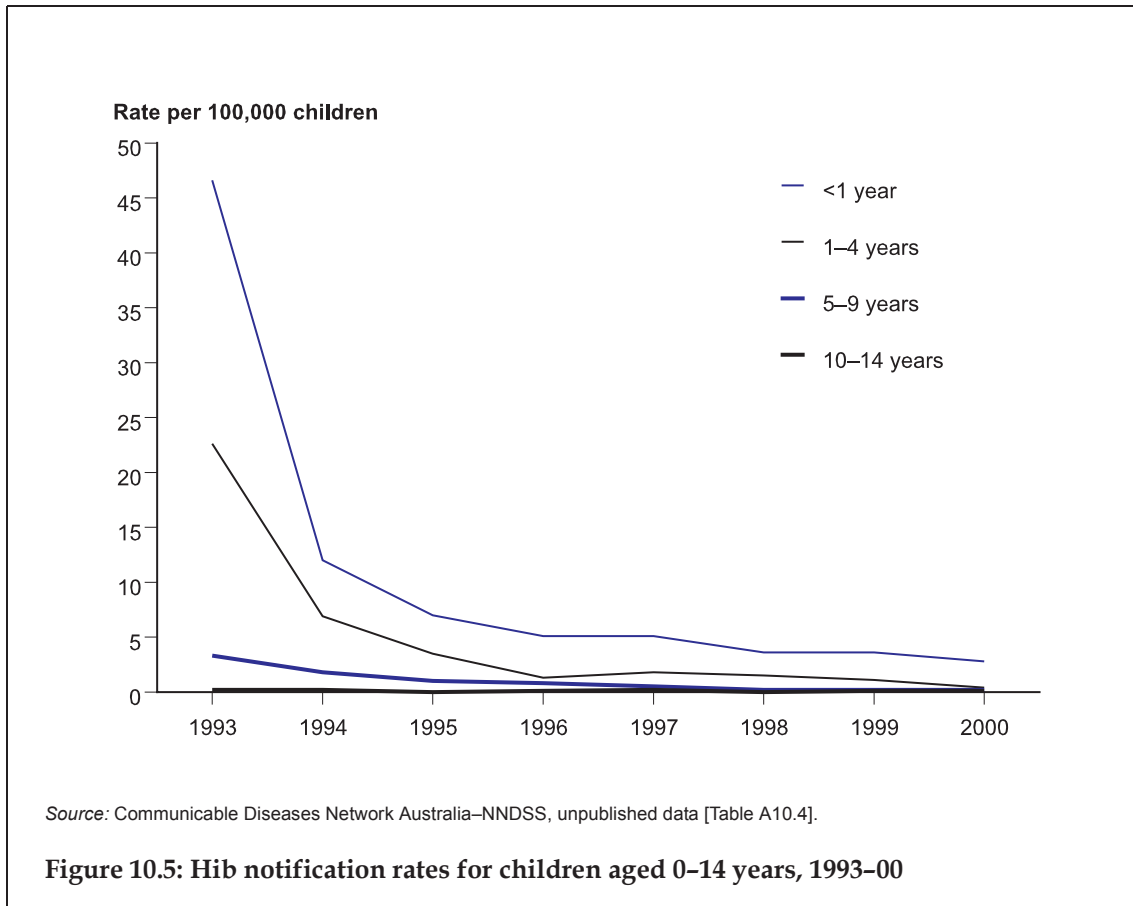
Haemophilus influenzae type b may result in serious illness in young children, with complications including meningitis, epiglottitis (inflammation of the epiglottis) and pneumonia (NHMRC 2000). Meningitis and epiglottitis are often fatal if not treated. Long-term effects from non-fatal cases may include deafness and intellectual impairment. Prior to the introduction of a vaccine in 1993, Hib infections were an important cause of mortality and morbidity. As there are no ICD codes which specify *Haemophilus influenzae* type b as the causative organism, *Haemophilus influenzae* meningitis and acute epiglottitis were used to identify presumed Hib cases in all hospital and mortality data. Hib causes virtually all cases of acute epiglottitis in children (NHMRC 1997a). Similarly, the more serious cases of *Haemophilus influenzae* meningitis requiring hospitalisations or causing death are likely to be type b infections.



- Between 1993 and 2000, there were 855 notifications of Hib. Of these, 82% were for children aged 0–14 years. Among children, 55% of the notifications were for boys. The majority of Hib notifications among children aged less than 15 years (85%) were for children aged less than 5 years.
- There has been a dramatic decline in the notifications of Hib, corresponding with the introduction of Hib vaccination as part of the standard childhood immunisation schedule in 1993.

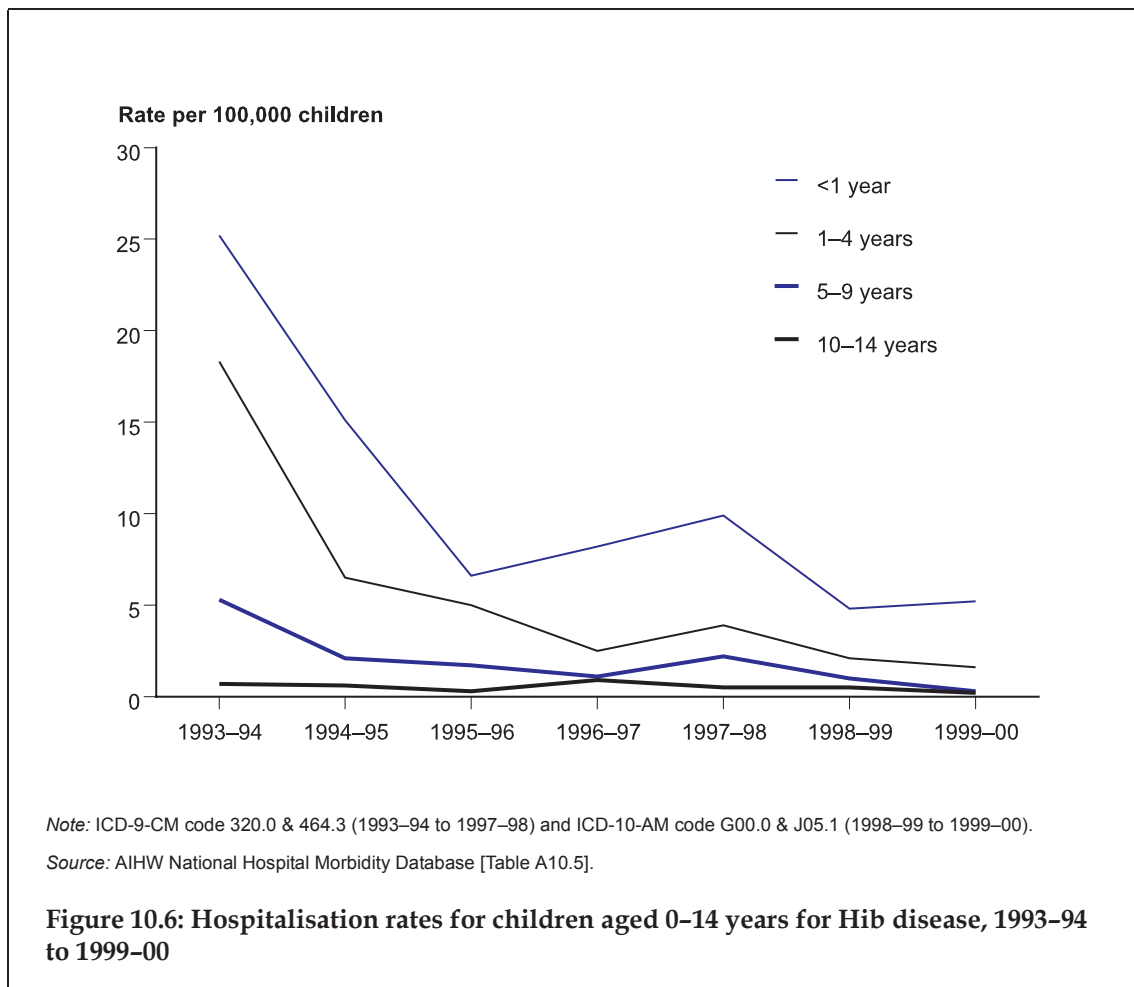
The indicator for Hib notifications is the number of notifications for Hib in children aged 0–4 years in a given year as a rate per 100,000 children aged 0–4 years.

Time series in Hib notification rates for children aged 0–14 years are shown in Figure 10.5.



- Between 1993 and 2000, the highest notification rates for Hib were for children aged 0–4 years. In 2000, the rate for this age group was 0.9 per 100,000 children.
- The introduction of vaccination was most important in the reduction in the number of Hib cases in children aged less than 5 years. In 1993, notification rates were 46.6 per 100,000 infants and 22.6 per 100,000 children aged 1–4 years. By 2000, the rates were 2.8 for infants and 0.4 for children aged 1–4 years.

Time series in hospitalisation rates for children aged 0–14 years for Hib disease are shown in Figure 10.6.



- Between 1993-94 and 1999-00, there were 831 hospitalisations for Hib disease: 57% were for *Haemophilus influenzae* meningitis and 43% were for acute epiglottitis.
- Over this period, the hospitalisation rate decreased by 90% from 8.6 to 0.9 per 100,000 children.
- Infants had the highest hospitalisation rates for Hib disease over this period, followed by children aged 1-4 years.

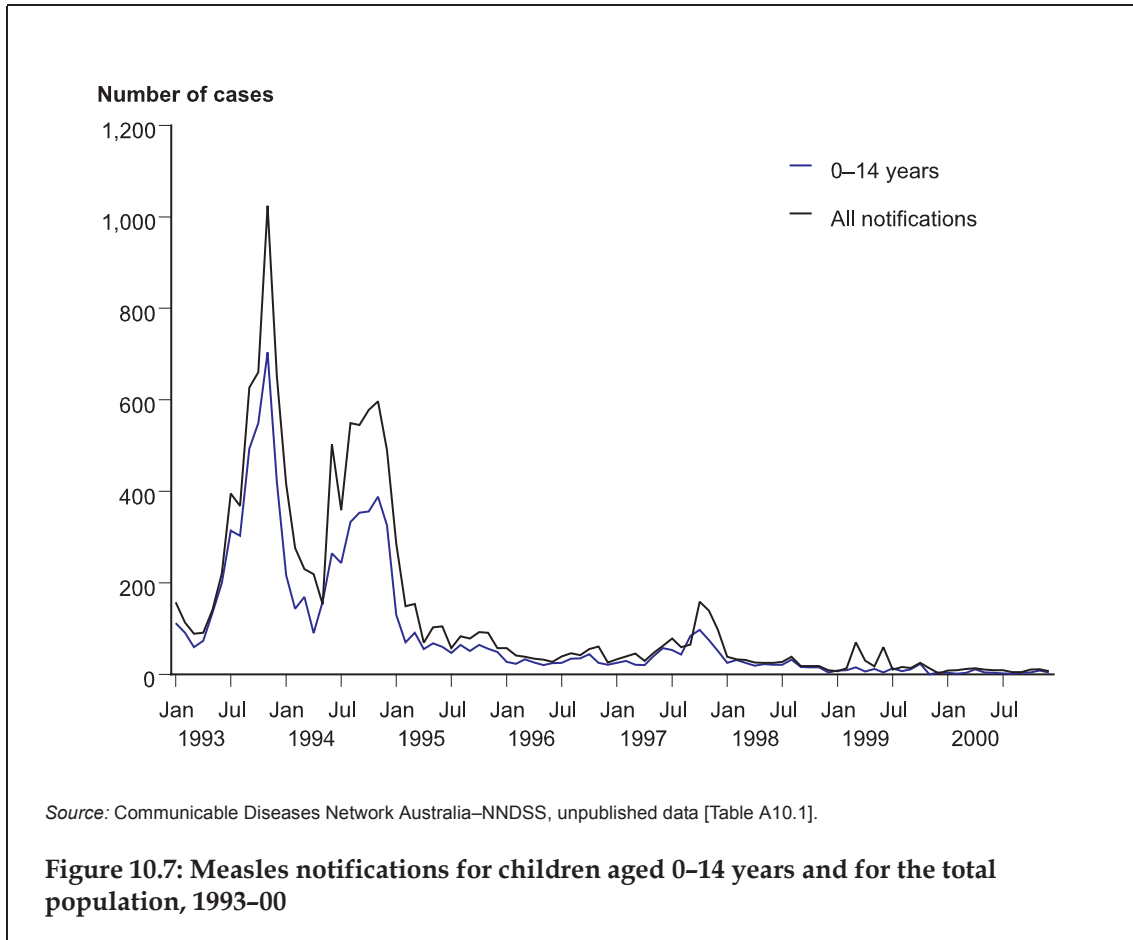
Between 1993 and 2000, 16 children died from Hib disease – the majority (88%) were from *Haemophilus influenzae* meningitis.

Measles

Measles is a highly infectious viral illness. It is often a serious disease which may be complicated by otitis media, broncho-pneumonia and encephalitis. Measles encephalitis has a high mortality rate (10-15% of cases), while a high proportion (15-40%) of survivors have permanent brain damage (NHMRC 2000). Subacute sclerosing panencephalitis (SSPE) is a late complication of measles that is always fatal (see page 127).

Measles vaccination first became available in Australia in 1968. A two-dose measles/mumps/rubella (MMR) vaccination strategy for children and adolescents was implemented in 1994. In 1998, as part of the Australian Measles Control Campaign, all

primary school children were offered a dose of MMR vaccine regardless of their immunisation status. This coincided with the lowering of the recommended age for the second dose of MMR vaccine from 10–16 years to 4–5 years of age (McIntyre et al. 2000).



- Measles accounted for the second highest number of notifications of all vaccine-preventable diseases between 1993 and 2000. Over this period there were 12,815 measles notifications, of which 8,635 (67%) were for children 0–14 years. More than half of these notifications (57%) were for children aged 5–14 years.
- The last major measles epidemic in Australia occurred in 1993 and 1994. In those two years there were 4,536 and 4,915 notifications, respectively. The highest number of cases notified in the last 4 years was in 1997 (852 cases).

The indicator for measles notifications is the number of notifications for measles in children aged 0–14 years in a given year as a rate per 100,000 children.

Time series in measles notification rates for children aged 0–14 years are shown in Figure 10.8.