Editorial: Measles elimination in Australia

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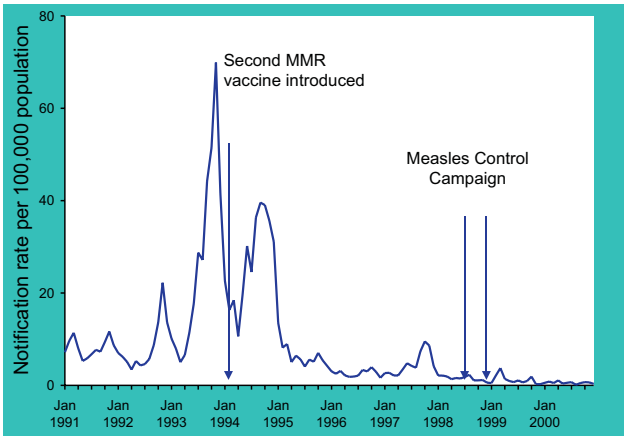
Measles is the most important cause of vaccine-preventable death in the world. In 1998, there were an estimated 30 million measles cases and 880,000 measles-associated deaths worldwide with 85 per cent of deaths occurring in Africa and South East Asia.[1] In recent years a dramatic reduction in measles incidence and the elimination of endemic measles transmission has been achieved in a number of countries using a variety of vaccination strategies.[2]

In Australia, measles reports to the National Notifiable Diseases Surveillance System (NNDSS) are at low levels as the result of important vaccination initiatives over the past few years. The Measles Control Campaign (August to November 1998) vaccinated 1.7 million children with a second dose of the measles-mumps-rubella (MMR) vaccine (Figure 1). As a result, immunity to measles among children increased from 84 per cent to 94 per cent which was estimated to have averted 17,500 cases of measles.[3]

Figure 1. Notification rate of measles, Australia, 1991 to 2000, by date of notification



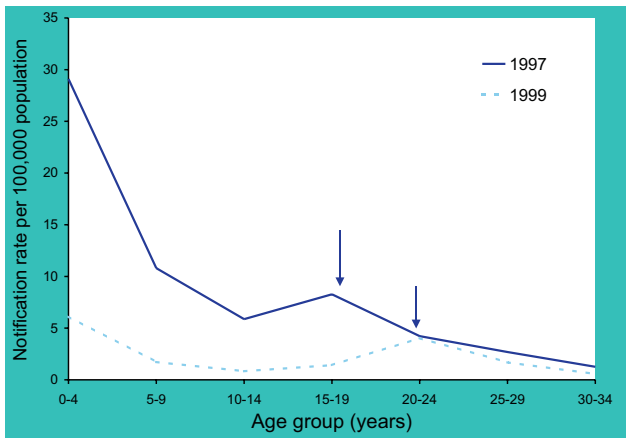
There is a 'missed middle' of young adults born between 1975 and 1981 however, who have neither been vaccinated nor been exposed to wild measles virus. In the past few years Australia has recorded measles outbreaks among young adults, often associated with an index case who has travelled to countries with high rates of measles.[4,5] This is supported by the shift seen in the peak age-specific notification rates for measles in Australia, from infants in the early 1990s to young adults at the end of the decade (Figure 2).

Measles susceptibility among young adults is discussed in 2 articles in this issue of the *Communicable Diseases Intelligence*. If interruption of endemic measles transmission is to be achieved in Australia, 92-95 per cent of the whole community must be immune to measles.[6] The question that Kelly et al and Gidding et al address is — has this level of immunity been achieved in young adults?[7,8] In Victoria, measurements of anti-measles antibodies in blood samples taken in 1999 show that fewer young adults born between 1975 and 1981 have antibodies to measles (74%) than either younger or older age groups. Nationally, 88.9 per cent of 18 to 22 year-olds are immune, compared with 98.3 per cent of those more than 30 years of age. Both studies seem to indicate that increasing the vaccination coverage of this age cohort must be a high priority for effective measles control in Australia. The recent decision to promote measles vaccination among 18-30 year-olds in Australia and to increase vaccine coverage by offering free MMR vaccine through private and public health services will be an important step towards improving coverage rates in this age group.

Hospitals should be aware of their responsibility to report cases of measles to health authorities. Lawrence and colleagues compared Victorian hospital discharge data and Victorian Enhanced Measles Surveillance data over an 18 month period in 1997-1998 and found 8 hospitalised cases of rash illness, identified as measles in the discharge summaries, not reported to the State surveillance authorities.[9] This finding highlights the fact that surveillance data are always an estimate of the total disease incidence and are usually an under-estimate. Increased professional and public awareness that measles is a disease of significant public health importance will need to be maintained to eliminate measles from Australia.

Evidence is accumulating that endemic transmission of measles in Australia is being interrupted. All measles cases in Western Australia in 1999-2000 (Dowse, Communicable Diseases Control Conference, April 2001, abstract 58) were imported from overseas or epidemiologically linked to imported cases. Using measles virus genotyping, Lambert and colleagues have shown that endemic measles virus strains are no longer circulating in Victoria. Instead, sporadic introduction of imported strains is responsible for limited focal spread (Lambert, Communicable Diseases Control Conference, April 2001, Abstract 60). If one accepts that measles elimination should be defined as a situation in which endemic transmission has stopped, sustained transmission cannot occur (because the proportion of

Figure 2. Age-specific notifications rates for measles, Australia, 1997 to 1999



susceptible people is sufficiently low), and secondary spread from importations will end naturally without intervention,[10] then Australia may have already achieved measles elimination.

References

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