

6. Invasive meningococcal disease

Surveillance objectives

The objectives of invasive meningococcal disease surveillance are to:

- Ensure appropriate management of cases;
- Ensure prompt identification of all relevant contacts and the institution of appropriate public health responses;
- Ensure the prompt identification of outbreaks of invasive meningococcal disease and the rapid institution of control measures;
- Monitor the epidemiology of invasive meningococcal disease in terms of time, person, place and serogroup;
- Monitor the effectiveness of current control measures, including the impact of the invasive meningococcal serogroup C vaccine program, and to provide an evidence base for further review of guidelines.

Summary of notifications

A total of 75 confirmed and 11 probable cases of invasive meningococcal disease were notified in 2006, compared to the 81 confirmed and eight probable cases notified in 2005. Forty-six cases (53 per cent) were males and the remainder were females. Cases ranged in age from two months to 90 years; 27 (31 per cent) were aged less than five years (15 of which were aged less than one year) and there were 17 cases aged between 15 and 19 years inclusive (figure 22). The median age of notified cases was 16 years.

Residents of Southern Metropolitan and Eastern Metropolitan Regions accounted for nearly half of the cases

although notification rates were highest for Loddon Mallee Region and Barwon-South Western Region (figure 23).

Infections due to *Neisseria meningitidis* serogroup B were most common, accounting for 73 per cent of the cases (n=63). All three cases of serogroup C infection were in adults aged 24, 26 and 73 years. There were five and two cases due to infections with serogroups W135 and Y respectively; isolates from

two cases were unable to be typed. The remaining 11 probable cases were diagnosed on the basis of clinical evidence only.

Four of the notified cases died as a result of their infections, corresponding to a case fatality rate of five per cent. Two cases aged two and 19 years were due to serogroup B disease and two cases aged six months and 87 years were due to serogroup W135.

Figure 22: Notified cases and notification rates of invasive meningococcal disease by age group and sex, Victoria, 2006

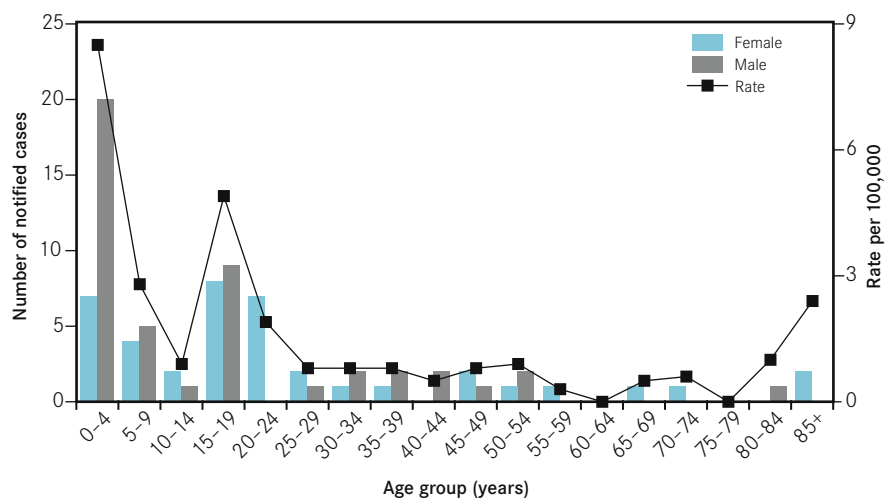
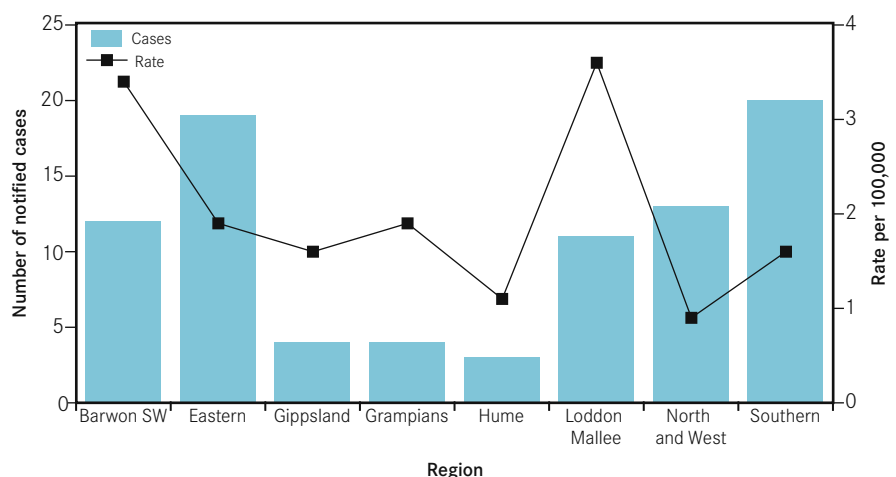


Figure 23: Notified cases and notification rates of invasive meningococcal disease by region, Victoria, 2006



Risk factors

Risk factor data were not routinely collected.

Outbreak investigations

Two clusters of serogroup B invasive meningococcal disease were identified in June and September of 2006, involving three and two cases respectively. Cases and contacts in each cluster were managed in accordance with the *Guidelines for the early clinical and public health management of meningococcal disease in Australia*.

The first cluster of epidemiologically linked cases involved a six-month-old male (onset 29 May), his six-year-old female relative (onset 15 June) whose time was spent between the household of the six-month-old male and that of the third case, a 19-month-old male (onset 2 June). It is speculated that the six-month-old and the 19-month-old were exposed to a carrier of *N. meningitidis* in the days after 27 May when extended family and friends congregated following the death (from an unrelated illness) of an elderly family member. The six-month-old had a mild illness and was only identified after presenting to hospital – as a contact of the six-year-old – for clearance antibiotics. All three cases had the same Por profile.

The second cluster involved a six-month-old female (onset 21 August) and her five-year-old brother (onset 26 September). Clearance antibiotics were administered to contacts from three families with which the five-year-old spent time. Members from two of these families received clearance antibiotics after the first case was notified but the third family was not indicated at that time, suggesting a carrier existed within the third family.

Comment

For the first time since the introduction of the National Meningococcal C Immunisation Program in 2003 there were no cases of serogroup C disease in age groups eligible for funded vaccine in 2006. Furthermore, the number of notified cases of serogroup C disease was the lowest since at least 1991 – after peaking at 88 in 2002 – and there have been no deaths due to this serogroup since 2004. Meningococcal C vaccine is available through the National Immunisation Program for all children at 12 months of age. Vaccines that protect against serogroup B disease are not currently available in Australia.