

# Communicable diseases surveillance

## Highlights for 3rd quarter, 2003

Communicable disease surveillance highlights report on data from various sources, including the National Notifiable Diseases Surveillance System (NNDSS) and several disease specific surveillance systems that provide regular reports to Communicable Diseases Intelligence. These national data collections are complemented by intelligence provided by State and Territory communicable disease epidemiologists and/or data managers. This additional information has enabled the reporting of more informative highlights each quarter.

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. NNDSS collates data on notifiable communicable diseases from State or Territory health departments. The Virology and Serology Laboratory Reporting Scheme (LabVISE) is a sentinel surveillance scheme which collates information on laboratory diagnosis of communicable diseases. In this report, data from the NNDSS are referred to as 'notifications' or 'cases', and those from ASPREN are referred to as 'consultations' or 'encounters' while data from the LabVISE scheme are referred to as 'laboratory reports'.

Figure 1 shows the changes in disease notifications with an onset in the third quarter of 2003, compared with the 5-year mean of the same period. Disease notifications outside the 5-year mean plus or minus two standard deviations are marked with an asterisk. Barmah Forest virus and chlamydial infection notifications exceeded the five-year mean plus two standard deviations while notifications of Q fever was below two standard deviations of the 5-year mean. The number of cryptosporidiosis notifications, a condition notifiable since 2001, was lowest compared

with the same quarter in the last two years. The rest of the notifiable diseases were within the expected range of the historical data.

### Bloodborne diseases

#### Hepatitis B

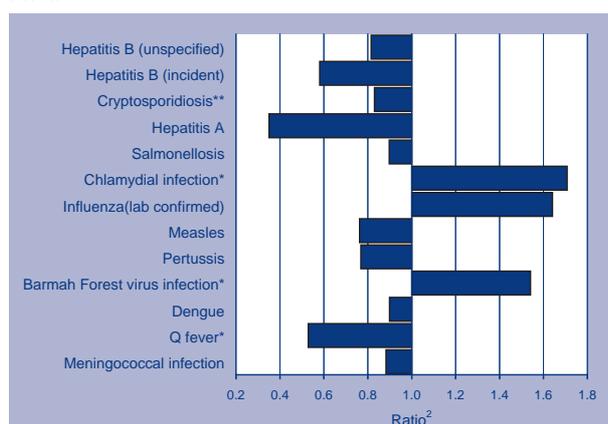
There were 58 incident cases of hepatitis B infection notified in the third quarter of the year; a notification rate of 1.2 cases per 100,000 population. The notification rate of incident hepatitis B has been stable at 1–2 cases per 100,000 population since 1998. The number of cases of hepatitis B unspecified that were notified during the third quarter was 1,581, representing a notification rate of 32.2 cases per 100,000 population. This is 29 per cent lower than the rate reported in 2002 (44 cases per 100,000 population) which was the highest since 1998.

### Gastrointestinal diseases

#### Salmonellosis

A total of 987 cases of salmonellosis (a notification rate of 20 cases per 100,000 population) were notified to the National Notifiable Diseases Surveillance System (NNDSS) during the third quarter of 2003. This represents a drop of 39 per cent from the previous quarter nationally, which is consistent with the seasonal pattern of salmonellosis notification, peaking in the first quarter of the year and declining during the third quarter. Compared with the same quarter of 2002, there was a 14 per cent decrease in the number of notifications of salmonellosis nationally. The Australian Capital Territory and the Northern Territory were the exception with a 30 per cent and a 77 per cent increase, respectively, compared with the same quarter of 2002.

**Figure 1. Selected<sup>1</sup> diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 July to 30 September 2003 with historical data<sup>2</sup>**



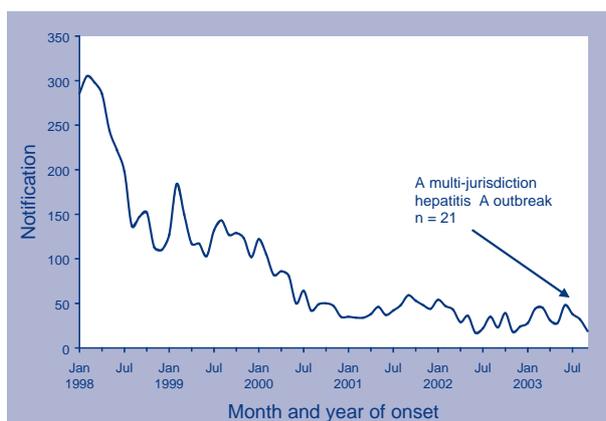
- Selected diseases are chosen each quarter according to current activity.
  - Ratio of current quarter total to mean of corresponding quarter for the previous five years.
- \* Notifications above or below the 5-year mean plus or minus two standard deviations for the same period.
- † Notifications above or below the 2-year mean for the same period.

### Hepatitis A: notifications and an update on a multi-jurisdictional outbreak investigation

There were 85 (1.7 per 100,000 population) cases of hepatitis A reported to the NNDSS with an onset in the third quarter of 2003; representing a drop of 17 per cent from the previous quarter. Twenty-five per cent of cases notified during the previous quarter were linked to a hepatitis A outbreak that occurred at an interstate gathering in the Northern Territory. The outbreak, which affected 21 persons including two hospitalisations, lasted from 18 May to 5 June 2003. The Department of Health and Human Services, Tasmania led the investigation into the outbreak. Sally Munnoch, Epidemiologist at the Department of Health and Human Services, Tasmania, reported that the investigation into the outbreak concluded that there was epidemiological evidence for an association between the consumption of coleslaw at the gathering and illness. The investigation could not establish how the contamination of the coleslaw occurred, whether it was via a contaminated ingredient, or from an infected food handler. No microbiological evidence, either from environmental or food samples, were found.

Hepatitis A notification in the third quarter was 65 per cent lower than the historical 5-year mean (Figures 1 and 2). Notifications of hepatitis A have steadily decreased between 1998 and 2002 from 13.3 to 2 cases per 100,000 population. At 1.7 cases per 100,000 population, this quarter represents a further decline of notifications of hepatitis A.

**Figure 2. Notifications of hepatitis A infections, Australia, 1998 to September 2003**



### Vaccine preventable diseases

#### Measles

Twenty-five cases of measles, nine in New South Wales, 10 in South Australia, four in Queensland and one each in the Northern Territory and Victoria, were reported in the third quarter of 2003. No cases of measles were reported from Tasmania, the Australian Capital Territory or Western Australia for the third consecutive quarter.

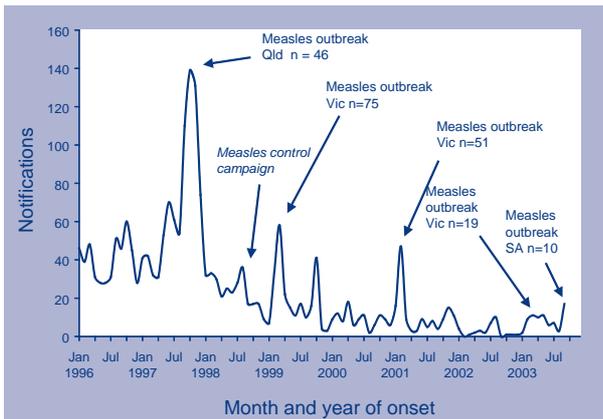
Seven of the nine cases in New South Wales were part of a cluster, reported in the previous quarter, and linked to a 29-year-old male index case suspected to have been infected during recent travel in Nepal. Of the seven linked cases two persons were immunised, two were partially immunised, one had a history of measles infection and no information was available for the remaining cases.

In South Australia the 10 cases of measles, six male and four female (median age 22.5 years, range 11 to 32 years), were linked to an index case with recent travel to New Zealand. Within a month of the onset of illness in the index case (31 August 2003), a fourth generation of transmission of the infection was identified. Those affected included four unvaccinated (two of whom were children aged 11 and 13 years), four partially vaccinated and two of unknown vaccination status. Celia Cooper, from the Department of Human Services, South Australia, said that to control the spread of the infection, public health authorities traced 2,000 potential contacts of identified cases. Other public health measures in response to the outbreak included issuing health alerts to general practitioners and infection control practitioners at metropolitan and rural hospitals, media releases, and alerting interstate public health authorities where identified cases had visited.

The four measles cases in Queensland (age range 23 to 32 years) were from the Whitsundays and were linked to an index case, an Italian tourist. All four cases and the index case were unimmunised for measles.

Figure 3 shows the trend in measles notifications received by NNDSS since 1996. The trend shows a gradual decline in notifications marked with periodic spikes representing outbreaks. The majority of these outbreaks were linked to either visitors or Australians with a recent history of travel,<sup>1,2,3</sup>

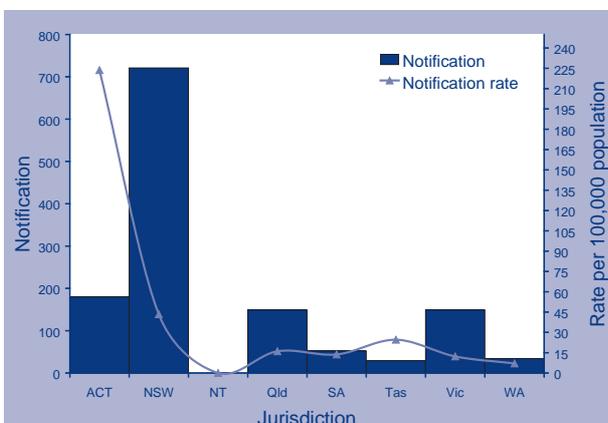
**Figure 3. Notifications and reported outbreaks of measles, Australia, 1996 to September 2003**



**Pertussis**

There were 1,314 cases of pertussis notified this quarter, a notification rate of 27 cases per 100,000 population. Although the number of notifications represents a rise of 58 per cent on the previous quarter, it was within the range of the historical data (Figure 1). All jurisdictions, with the exception of Western Australia and the Northern Territory, experienced increases from the last quarter. The Australian Capital Territory and Tasmania experienced the highest percentage increase from the previous quarter (253% and 142% respectively). In the Australian Capital Territory a number of pertussis outbreaks were reported during this quarter, and the notification rate was eight times the national level (Figure 4).

**Figure 4. Notifications and rate per 100,000 population of pertussis, Australia, July to September 2003, by jurisdiction**

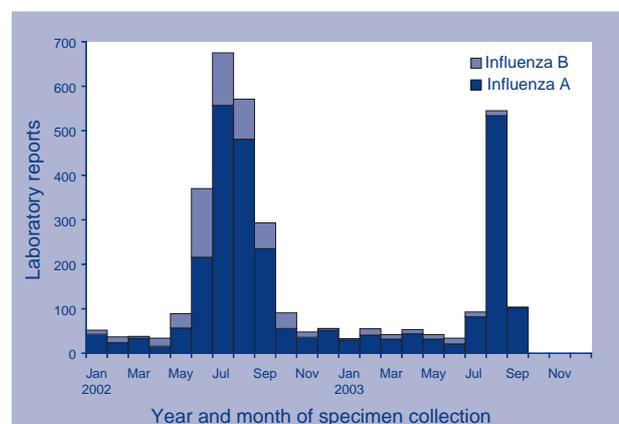


**Influenza**

The influenza season peaked in the third quarter of the year with 2,967 cases of laboratory-confirmed cases reported to the NNDSS. This year's influenza season was characterised by:

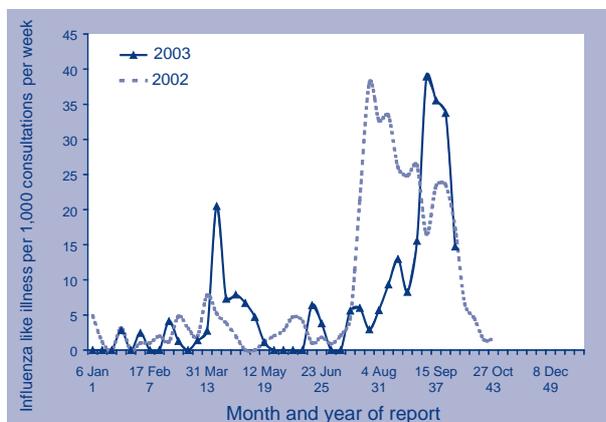
- (a) A rapid rise in influenza activity in August when 47 per cent of cases for the year to date were reported. Nevertheless, notification was 15 per cent lower than the same period in 2002.
- (b) The rate of clinical presentations of influenza-like illness (ILI) per 1,000 consultations per week during the peak period was higher in 2003 (24 cases per 1,000 consultations per week) than in the peak period of 2002 (18 cases per 1,000 consultations per week). The peak ILI periods in 2003 and in 2002 were during the week ending 24 August and during the week ending on 20 July, respectively.
- (c) Reports received by the Laboratory Virology and Serology Reporting Scheme (LabVISE) show that there were significantly fewer influenza B viruses detected in 2003 season compared with 2002. The ratio of influenza A to B was 30:1 during the third quarter, and 11:1 for the year to date. This was the highest A:B ratio seen since 1998 and significantly higher than the previous year when the A:B ratio was 5:1 in the third quarter of the year, and 3:1 for the year to date in September (Figure 5).

**Figure 5. Laboratory reports of influenza A and B to LabVISE, Australia, 1 January 2002 to 30 September 2003, by month of specimen collection**



Influenza activity in the tropical north of Australia peaked during the week ending on 8 September. The rate of clinical presentation of ILI for the third quarter of 2003 was 22 cases per 1,000 consultations per week, higher than the rate of 12 ILI per 1,000 consultations per week reported in the same period of 2002 (Figure 6). The peak ILI rate in 2003 was 38 cases per 1,000 consultations per week, higher than the peak ILI rate in 2002 (33 ILI per 1,000 consultations per week, during the week ending on 11 August).

**Figure 6. Consultation rates of influenza-like illness reported to the Northern Territory Influenza Surveillance, Australia, 2002 and 2003, by week**



## Vectorborne diseases

### Dengue

There were 32 cases of dengue reported to NNDSS in the third quarter of 2003, an 88 per cent decline compared to the previous quarter. There has been considerable public health activity to control the disease in Queensland where 85 per cent of notifications in the previous quarter originated. In this state, notifications dropped by 92 per cent from the previous quarter. Compared to the same quarter of 2002, the over all number of notifications was 18 per cent lower, but in Queensland and Victoria was higher by 70 per cent and 100 per cent respectively.

### Barmah Forest virus

The number of notifications for Barmah Forest virus during the third quarter of 2003 was 163, a rate of 15 cases per 100,000 population. The number of notifications represents a 79 per cent drop from the previous quarter, consistent with the seasonal pattern. However, compared to the historical data (Figure 1), the number of notifications surpasses the expected number for the same period. The highest increase in notifications from the same period of 2002 occurred in New South Wales and Queensland—increase by 16 per cent and 119 per cent respectively.

## Zoonoses

### Q fever

In the third quarter of 2003, 79 cases of Q fever were reported to NNDSS; a 33 per cent drop from the previous quarter. In comparison to the historical data, the reported number of Q fever notification was lower than the expected range.

Q fever has long been associated with work in the Australian stock industry, and abattoir workers have been an occupational group at a high risk of infection. Since October 2000, as part of a Commonwealth funded program, abattoir workers and shearers have been eligible for free vaccination against Q fever. In a second phase of the program, which commenced in October 2001, other workers in the beef, sheep and dairy industries may also be vaccinated. Complementing the program, a register of the immune status of individual workers has been maintained on behalf of the livestock industry, Work Cover groups, and state and Commonwealth Departments of Health.

Figure 7 illustrates the trends in Q fever notifications between 1992 and 2003 for New South Wales, Queensland and Victoria, and national totals. The changes in notifications of Q fever may be the result of a combination of control program activities and a natural variability in the disease prevalence.

## Other bacterial infections

### Meningococcal infections

There were 202 cases of meningococcal infection notified in the third quarter, an increase of 96 per cent on the last quarter. Meningococcal infection reaches its seasonal peak in the third quarter of the year (spring). The number of cases in the third quarter 2003 were 19 per cent less from the same period last year, and 12 per cent lower than the historical mean.

Fifty-two per cent of notifications of meningococcal infection were serotype B, 31 per cent C and 17 per cent unknown or other serotypes. Fifteen deaths from meningococcal infection were reported, five due to serotype B, nine due to serotype C, and one due to other serotypes.

For the year to date 404 cases of meningococcal infections, resulting in 25 deaths, were reported to the Communicable Diseases Network Australia. Of the 25 deaths, 28 per cent were due to serotype B, 56 per cent due to serotype C and 16 per cent due to unknown serotype. Nationally, the ratio for serotypes B to C for the year to date was 1.7:1.

### With thanks to:

Craig Davies, Queensland Health,

Celia Cooper, Department of Human Services, South Australia

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Mark Bartlett, New South Wales Health Department

Sally Munnoch, Department of Health and Human Services, Tasmania

### References

1. Andrews R. Measles outbreak among young adults in Victoria. *Commun Dis Intell* 2001;25:12.
2. Davidson N, Andrews R, Riddell M, Leydon J, Lynch P. A measles outbreak among young adults in Victoria, February 2001. *Commun Dis Intell* 2002;26:273-278.
3. Lambert SB, Morgan ML, Riddell MA, Andrews MA, Kelly H, Leydon JA, *et al.* Measles outbreak in young adults in Victoria, 1999. *Med J Aust* 2000;173:467-471.

**Figure 7. Q fever notifications, Australia and, Queensland, New South Wales and Victoria, 1992 to September 2003**

