

# Communicable diseases surveillance

## Highlights for 4th quarter, 2002

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 fourth quarter of 2002, compared with the 5-year fourth quarter mean. Disease notifications above or below the 5-year mean, plus- or minus- two standard deviations are marked with an asterisk. There were no diseases where the number of cases reported was two standard deviations above the mean of the same reporting period in the last 5 years in the current quarter. The reports of hepatitis C (unspecified), leptospirosis and tuberculosis were two standard deviations below the 5-year mean in this quarter. These and other disease trends are discussed below with additional commentary provided by State and Territory health authorities.

Due to difficulties in data transmission this quarter, Victorian data for sexually transmissible infections were not updated (Table 2).

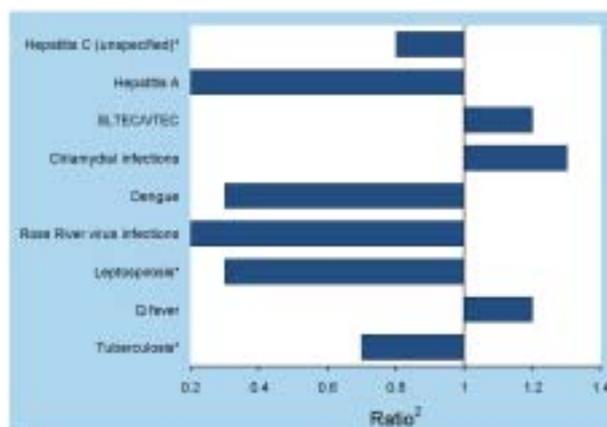
### Gastrointestinal disease

#### Salmonellosis

There were 3 per cent more cases of salmonellosis in the fourth quarter 2002 than there were in the fourth quarter of 2001 (Table 2). Notifications from October to December 2002 were the second highest fourth quarter on record since 1998. Salmonellosis notifications are generally lowest in the winter months and show a peak in March (Figure 2). There have been several major *Salmonella* cluster investigations around Australia this quarter. The Hunter Public Health Unit investigated an outbreak of *S. Montevideo* in Newcastle that was traced back to Egyptian tahini imported by a company based in Sydney. Tahini is a paste made from sesame seeds and used as an ingredient for humus. To date there have been 43 notified cases, 32 of these cases had eaten kebabs. The investigation lead to a consumer-level recall of products containing the tahini.

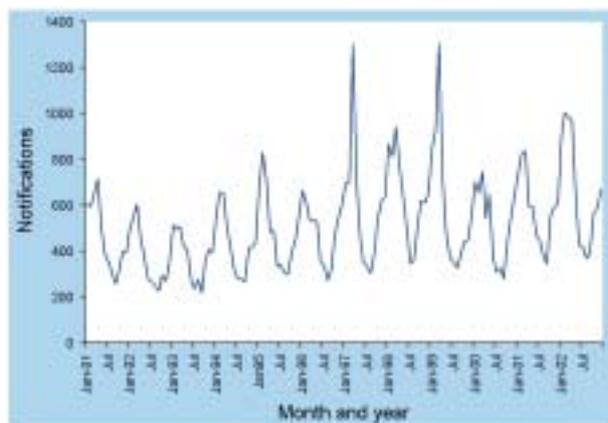
The New South Wales Department of Health identified an increase in the number of *S. Potsdam* cases notified in early December. Other jurisdictions reported similar increases and an investigation was undertaken by OzFoodNet to determine the source of the outbreak. The cases were spread from the mid-north coast of New South Wales to Tasmania in the south and South Australia in the west. There are approximately 60 cases to date. All jurisdictions have conducted hypothesis-generating questionnaires. The source of the outbreak remains unclear.

**Figure 1. Selected<sup>1</sup> diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 October to 31 December 2002, with historical data<sup>2</sup>**



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

**Figure 2. Trends in notifications of salmonellosis, Australia, 1991 to 2002, by month of onset**



In October 2002, the South Australian Communicable Disease Control Branch investigated an outbreak of *Salmonella* Typhimurium phage type 99 associated with the consumption of cream filled cakes from a metropolitan bakery. In total, 111 environmental swabs and food samples were collected from the bakery. Of these, a composite sample of six piping bags yielded *Salmonella* Typhimurium phage type 99. An environmental investigation revealed that reusable piping bags were being used to pipe raw meat and cream products.

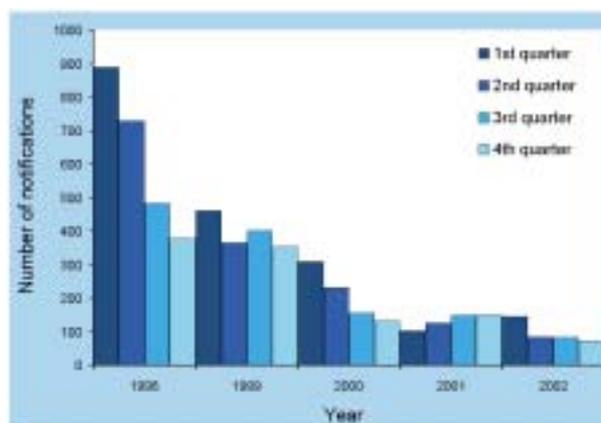
In October, four laboratory-confirmed cases (three males and one female aged between one and five years) of *Salmonella* Typhimurium PT170 infection were reported among attendees of a child care centre located on the Sunshine Coast, Queensland. The centre conducted a chicken hatching program over a two week period in September. Children were allowed to handle the chickens. The supplier of the chicken hatching equipment obtained their eggs from a local hatchery. *Salmonella* Typhimurium PT170 was detected in two poultry breeder sheds operated by the hatchery.

### Hepatitis A

Hepatitis A notifications have been decreasing over the past five years. Notifications are typically highest in the first quarter and lowest in the final quarter (Figure 3). The lowest number of notifications for any quarter over the past five years were reported in the final quarter of 2002. Even though notifications have been low, the Northern Sydney Public Health Unit investigated a cluster of 8 cases of hepatitis A linked to a yum cha restaurant. The cases had all eaten in the restaurant in late September. An inspection of the premises did not identify any high-risk food preparation practices. The staff of the restaurant were interviewed and agreed to blood tests for hepatitis A serology. No evidence of recent acute infection was found in any of the food handlers.

Detailed interviews were conducted with the cases and other patrons, but no obvious source of infection was identified. A similar outbreak occurred at a restaurant in south-eastern Sydney in 1997. In that outbreak, a case control study found that the likely source was undercooked prawns imported from Burma. While the exact cause of the current hepatitis A outbreak in northern Sydney remains unclear it is likely that the cause was from the ingestion of food contaminated with hepatitis A, although the route of contamination is undefined. Given the negative serology from food handlers, it would seem most likely that a food product was contaminated through exposure to human effluent.

**Figure 3. Notifications of hepatitis A infection, Australia, 1998 to 2002, by quarter of notification**



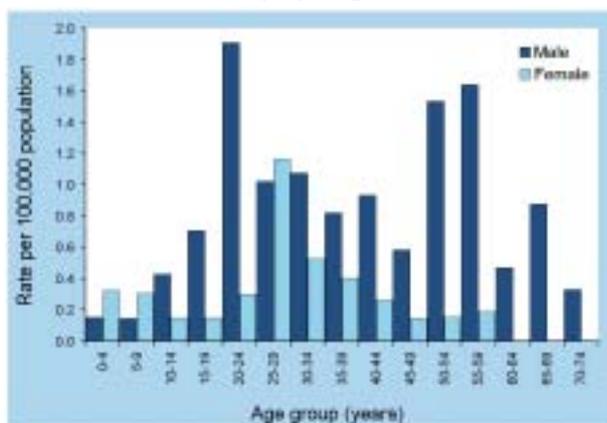
## Vectorborne diseases

### Malaria

Of the 108 cases of malaria reported to NNDSS this quarter, 10 were part of an outbreak in Far North Queensland. The outbreak occurred during the first two weeks of October among tourists who camped at Noah Beach in the Daintree National Park.<sup>1</sup> The individual believed to be the source of the outbreak stayed at the campsite for 4 days in late September and was diagnosed with *Plasmodium vivax* malaria the day after he left Noah Beach. He had a history of travel to Africa in 2002 and Indonesia in 2001. The Tropical Public Health Unit conducted mosquito trapping in the area and found a large number of *Anopheles farauti*, which can transmit malaria in northern Queensland. Fogging was undertaken at Kuranda as three of the cases lived there and *Anopheles* mosquitoes were found there.

Of all notifications of malaria, from October to December 2002, the majority of people with malaria were males (74%). The notification rates of malaria were highest in males aged 20–24 years, 50–54 and 55–59 years (Figure 4). The highest notification rate of malaria in females was in the 25–29 year age group.

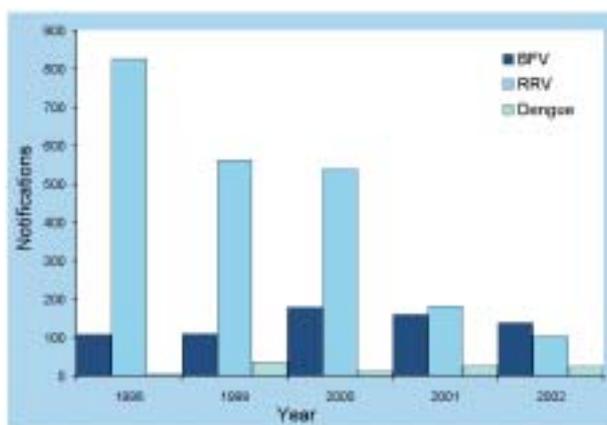
**Figure 4. Notification rates of malaria, Australia, 1 October to 31 December 2002, by age group and sex**



**Other vectorborne diseases**

Ross River virus infections have decreased steadily over the past five years, from 826 notifications in 1998 to 104 notifications in 2002 (Figure 5). Barmah Forest virus infections have remained fairly stable in the fourth quarter, while the number of notifications of dengue virus infections have fluctuated from four in 1998 to 36 in 1999. The fluctuations in dengue notifications are attributable to the outbreak in Cairns, Mossman and Port Douglas in 1997 to 1999.<sup>2</sup>

**Figure 5. Notifications of Ross River virus infections, Barmah Forest virus infections and dengue virus infections, Australia, 1 October to 31 December, by year of notification**



*Other bacterial infections*

**Tuberculosis**

Precautionary screening for tuberculosis was carried out across Australia from October 2002, after a worker from a resort in Queensland was diagnosed with tuberculosis. The Queensland Department of Health was given the responsibility of collating the national figures from the screening. Approximately 1,500 people have been offered screening, 26 in the Australian Capital Territory, 575 in New South Wales, 8 in the Northern Territory, 347 in Queensland, 21 in Tasmania, 102 in South Australia, 407 in Victoria, 33 in Western Australia and 42 people from overseas. Queensland Health are currently collating figures, but to date there is no evidence of local transmission of tuberculosis from the worker to people attending the resort.

*Other non-notifiable diseases*

**Viral gastroenteritis**

Viral gastroenteritis outbreaks were reported throughout Australia this quarter. Western Australia received several reports of probable or confirmed norovirus (Norwalk-like virus) gastroenteritis outbreaks in institutions in the fourth quarter of 2002, as well as evidence of a high incidence in the community.

In October 2002, a child-care centre reported 34 cases of a vomiting illness in children over the previous 12 days. Secondary spread in households and other features suggested a norovirus outbreak, and PCR tests on faecal specimens collected from some children confirmed human calicivirus infection.

Later in the month, an investigation was commenced when 10 people presented overnight at a public hospital emergency department with diarrhoea and vomiting. Another nine were treated at another public hospital within the same 24-hour period. Cases ranged in age from 12 to 94 years, with 13 females and 6 males. All cases reported profuse vomiting and diarrhoea, accompanied by abdominal pain, with median duration of illness being 3 days. Secondary cases occurred in staff members in both hospitals, and two cases had previous known contact with persons with a similar illness. No commonalities in food consumption, or places visited or eaten at, could be identified. Faecal specimens from two of the cases were positive for calicivirus by PCR testing. The investigation concluded that most, if not all, of the cases were community-acquired norovirus infection.

In November, an outbreak of gastroenteritis in a nursing home was confirmed to be due to norovirus infection. Twenty-one of 40 residents reported illness (attack rate: 52%). Six staff members also experienced gastroenteritis, and there was a secondary spread in the families of two staff members. Three of four specimens were positive for norovirus by PCR testing. No food sources were identified. Similar outbreaks in several other nursing homes were reported around the same time, as well as an outbreak in a group of teachers who had participated in a professional development day.

### *LabVISE*

During the period October to December 2002, 17 participating laboratories (5 in New South Wales, 3 each in Western Australia and Victoria, 2 each in Queensland and Tasmania and one each in South Australia and the Australian Capital Territory), contributed 5,136 reports to LabVISE. Although there were no contributing laboratories in the Northern Territory, samples from this jurisdiction were included in reports from participating reference laboratories.

Of the 5,136 reports received, 3,289 (64%) were of viral infections and the remainder (1,847) were bacterial, spirochaete, fungal, protozoan or helminthic infections. Of the viral infections, reports of rotavirus (590 reports) represented 18 per cent of all viral identifications. The number of norovirus reports to LabVISE has doubled from 138 reports in 2001 to 268 reports in 2002. Among reports of non-viral pathogens, *Chlamydia trachomatis* (916 reports) represented 50 per cent of the total.

### **With thanks to:**

Craig Davis and Robyn Pugh, Queensland Department of Health

Rod Givney, Department of Human Services, South Australia

Jeremy McAnulty, Julie Hunt, Jennie Musto and Amanda Christensen, New South Wales Health Department

Gary Dowse and Minda Sarna, Health Department of Western Australia

Graham Tallis and Lynne Brown, Department of Human Services, Victoria

Vicki Krause and Peter Markey, Centre for Disease Control, Department of Health and Community Services, Northern Territory

Louise Carter, ACT Department of Health and Community Services, Australian Capital Territory

Avner Misrachi, Department of Health and Human Services, Tasmania

### *References*

1. Lawrence J. European travellers affected by the outbreak of *Plasmodium vivax* malaria in Northern Queensland, Australia. *Eurosurveillance* 2002 ([www.eurosurveillance.org/ew/2002/021121.asp#2](http://www.eurosurveillance.org/ew/2002/021121.asp#2))
2. Blumer C, Roche P, Spencer J, Lin M, Milton A, Bunn C, *et al.* Australia's notifiable diseases status, 2001: annual report of the National Notifiable Diseases Surveillance System. *Commun Dis Intell* 2003;27:1-78.