

Communicable diseases surveillance

Highlights for 3rd quarter, 2005

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.

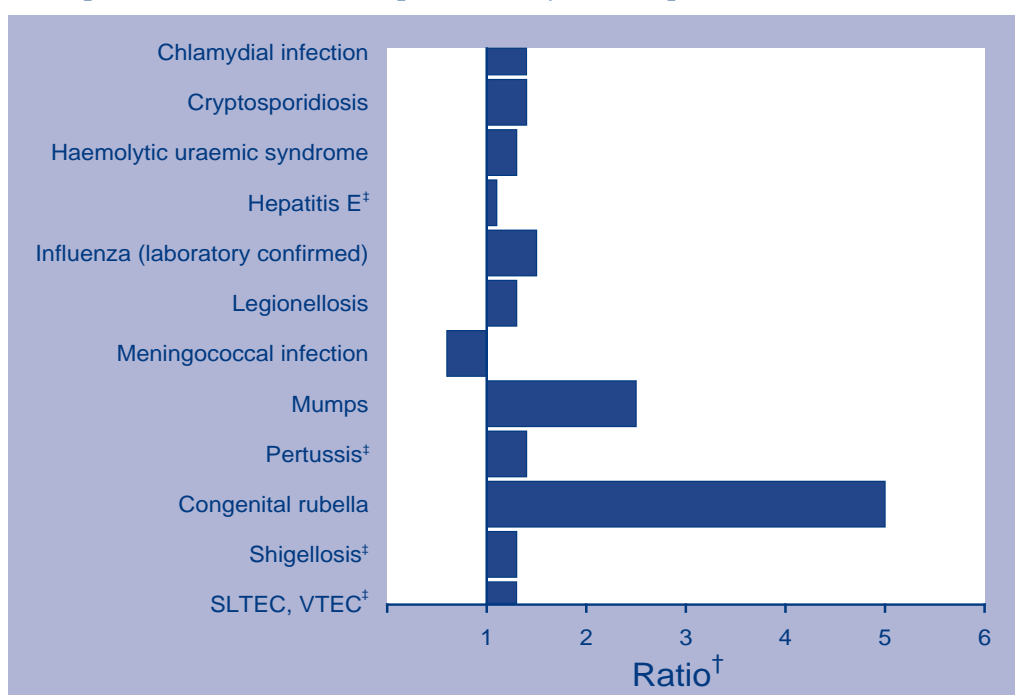
The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. NNDSS collates data on notifiable communicable diseases from State or Territory health departments. The Virology and Serology Laboratory Reporting Scheme (LabVISE) is a sentinel surveillance scheme which collates 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 select disease notifications with an onset in the third quarter of 2005 compared with the five-year mean for the same period. The number of notifications received in the quarter was above the five-year mean for hepatitis D, cryptosporidiosis, Shiga-like toxin-producing *Escherichia coli*/verotoxin-producing *E. coli* (STLEC/VTEC), haemolytic uraemic syndrome, hepatitis E, shigellosis, gonococcal infection, chlamydial infection, salmonella infection, laboratory-confirmed influenza,

mumps, pertussis, congenital rubella, syphilis, congenital syphilis, Barmah Forest virus infection, Ross River virus infection and legionellosis. The number of notifications received was below the five-year mean for meningococcal infection.

The number of notifications of the following diseases were above the five-year mean plus two standard deviations: hepatitis E, pertussis, shigellosis and STLEC/VTEC (Figure 1).

Figure 1. Selected* diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 July to 30 September 2005 with historical data†



* 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 two standard deviations for the same period.

Gastrointestinal illnesses

Botulism

One case of infant botulism in a 5-month-old male from Queensland was reported in this quarter. The source of infection was unknown.

Cryptosporidiosis

There were 311 notifications of cryptosporidiosis during the quarter which is 1.4 times the five-year mean for the same period. The majority of cases were reported by New South Wales and Victoria (87 cases each), and Queensland (64).

Two hundred and thirty-eight notifications (76.5%) were identified as *Cryptosporidium parvum* infection which is the most important species in human disease.¹ There was no species information provided for the remaining 23.5 per cent of cases.

Shiga-like toxin-producing *Escherichia coli* verotoxin-producing *E. coli*

Thirteen notifications of SLTEC/VTEC were received during the quarter, which is 1.3 times the five-year mean for the same period. South Australia notified four cases, Victoria reported three, and New South Wales, Queensland and Western Australia reported two cases each. Of the five cases with serotype information, two were *E. coli* serotype O157, two were serotype O26 and one was serotype O77.

Hepatitis E

Four notifications of hepatitis E were received in the quarter. There were two cases each from New South Wales and Queensland. Two of the four cases were acquired overseas and the place of acquisition was unknown for the other cases. There have been 28 cases for the year to date in 2005.

Shigellosis

There were 137 notifications of shigellosis during the quarter, which is 1.3 times the five-year mean for the same period. The notifications were from the Northern Territory (36), Western Australia (31), New South Wales (24), and Victoria (21).

Ten per cent (14/137) of cases were reported as imported from overseas, 36 per cent were locally acquired and the place of acquisition of the rest was unknown (54%). Thirty per cent (41/137) of cases occurred in children aged under five years, and 23 per cent (32/137) were in the 15–34 year age range. Of the 137 notifications, 65 (47%) were notifications of *Shigella sonnei*, and 60 (44%) were *Shigella flexneri*. Twelve cases did not have subtyping information.

Sexually transmissible infections

Chlamydial infection

During the quarter there were 9,003 notifications of chlamydial infection received from states and territories, which is 1.4 times the five-year mean for the same period. The majority of these notifications were reported by New South Wales (2,372), Queensland (2,226), Victoria (1,853) and Western Australia (1,377).

Thirty-eight per cent (3,416/9,003) of the total number of infections occurred in the 20–24 year age group and 23 per cent (2,099/9,003) occurred in the 15–19 year age group. The highest rate of chlamydial infection (307 cases per 100,000 population) occurred in females in the 20–24 year age group. The highest rate in males was 179 cases per 100,000 population in the same age range.

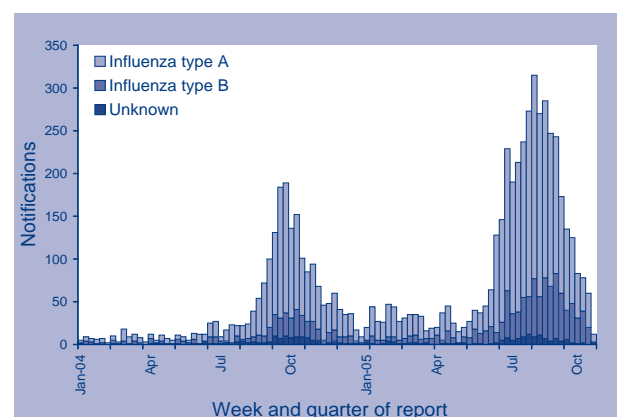
Vaccine preventable diseases

Laboratory confirmed influenza

There were 2,814 cases of laboratory-confirmed influenza in the third quarter of 2005. This was one and a half times the five-year mean for the same period.

One thousand two hundred and fifty-three cases were from Queensland, 603 from New South Wales, 355 from Western Australia and 318 from Victoria. Seventy-four per cent of the national laboratory-confirmed influenza notifications were type A, 22 per cent were type B, one per cent were mixed infections (mainly from New South Wales), and three per cent were of unknown type. During this quarter, influenza notifications peaked for 2005, with 315 notifications in the week ending 9 August. In 2004, the greatest number of notifications was 189 in the week ending 28 September (Figure 2).

Figure 2. Notifications of laboratory confirmed influenza, Australia, 1 January 2004 to 31 October 2005



Mumps

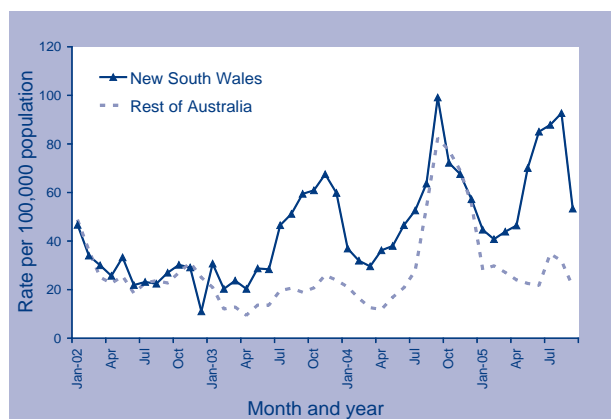
There were 73 notifications of mumps in the third quarter of 2005, which is 2.4 times the five-year mean for the same period. The majority of cases were reported from Queensland (34), New South Wales (21) and Western Australia (10). Of the 73 cases, 41 (56%) cases were reported from the 20–34 year age range.

There were 10 mumps cases notified in the Perth metropolitan area, compared to three in the corresponding period in 2004. Six cases were aged between 19 and 24 years, and four cases were aged over 35 years. Three cases with onset dates within a four week period were students at the same university, two of whom resided at different residential colleges. No epidemiological links could be established between any of the students, however, two had returned from overseas trips recently and hence may have imported the infection coincidentally. Public health response included isolation of the students, contact tracing and promotion of the measles-mumps-rubella vaccination for students residing at the colleges.

Pertussis

For the third quarter, 3,056 pertussis notifications were received, which is 1.4 times the five-year mean for the same period. Of these 1,749 (57%) cases were reported from New South Wales where the pertussis notification rate has remained greater than the overall Australian rate since 2003 and has mirrored national trends (Figure 3).

Figure 3. Notification rates of pertussis, New South Wales compared to the rest of Australia, 1 January 2002 to 30 September 2005



Three per cent (92 cases) of the 3,056 notifications were reported in infants less than one year of age. Rates of pertussis infection were generally highest in the over 55 year age groups, and were generally higher in females than in males.

Congenital rubella

One case of congenital rubella was reported from Victoria this quarter. The child's mother was born overseas, and during pregnancy was found to have no immunity to rubella so was vaccinated after delivery. There are some doubts concerning this diagnosis that will be followed up with further laboratory testing in several months. The last reported case prior to this occurred in March 2004.

Other bacterial infections

Legionellosis

Eighty-one cases of legionellosis were notified this quarter, of which 24 were from Queensland, 21 from New South Wales and 13 each from South Australia and Western Australia. This is 1.3 times the five-year mean for the same period.

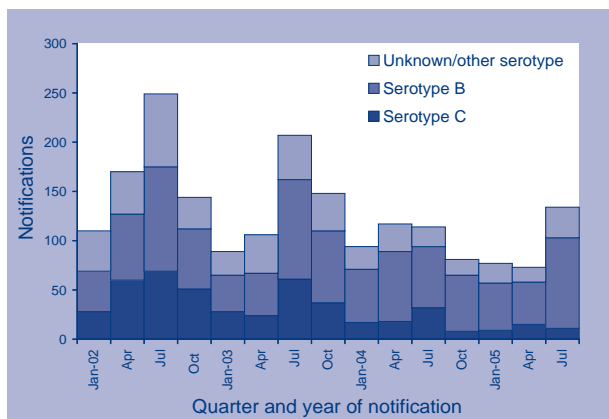
Of the 81 cases, 45 cases (55%) were *Legionella pneumophila* and 30 were *Legionella longbeachae* (37%). Forty-seven cases (58%) occurred in males giving a 1.3:1 male to female ratio.

Meningococcal infection

There were 135 notifications of meningococcal infection in Australia in the third quarter of 2005. This number is well below the five-year mean for this period (208 notifications) although this is the peak season. There were 38 cases in New South Wales, 36 in Victoria, 20 in Queensland and 19 in Western Australia.

Meningococcal B infection accounted for 92 (68%) notifications this quarter, and 11 (8%) cases were meningococcal C infection. In previous years, the proportion of meningococcal C infections notified in the third quarter has been between 27 per cent and 29 per cent (Figure 4). Twenty per cent of the cases this quarter were not typed. There were four cases of W135 and one case of 29-E, imported from New Zealand. In Australia, the last reported case of 29-E serotype prior to this occurred in 1997.

Figure 4. Notifications of meningococcal disease, Australia, 1 January 2002 to 30 September 2005



In Victoria in August there were three separate instances of epidemiologically-linked cases of invasive meningococcal disease. The first occurred in two children aged two and three years, respectively, who attended the same family day care centre. The first case was laboratory-confirmed as serogroup B while the second case, with a date of onset seven days after the first case, was classified as probable. Both cases had been vaccinated with serogroup C vaccine.

The second outbreak occurred in two vaccinated children aged 8 and 10 years who attended the same small primary school. The first case was laboratory-confirmed as serogroup B and the second, with an onset three days after the first case, was confirmed by serology only as culture and polymerase chain reaction tests were negative.

The third outbreak involved two females aged 17 and 44 years with the same date of onset. Both had attended a family reunion six days earlier and both cases were confirmed as serogroup B.

References

1. Kosek M, Alcantara C, Lima AAM, Guerrant RL. Cryptosporidiosis: an update. *Lancet Infect Dis* 2001;1:262-268.

Acknowledgements

Thanks to James Fielding (DHS, Victoria) and Carolien Giele (WA Health) for their contributions.