Communicable Diseases Surveillance

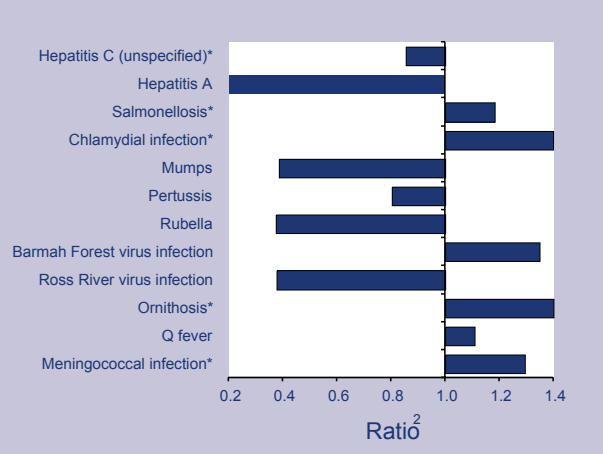
Highlights for 2nd quarter, 2002

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 second quarter of 2002, compared with the 5-year second quarter mean. Disease notifications above or below the 5-year mean, plus- or minus- two standard deviations are marked with an asterisk. 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 were salmonellosis, chlamydial infections, ornithosis and meningococcal infections. The reports of unspecified hepatitis C 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.

Figure 1. Selected[1] diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 April to 30 June 2002 with historical data[2]



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.

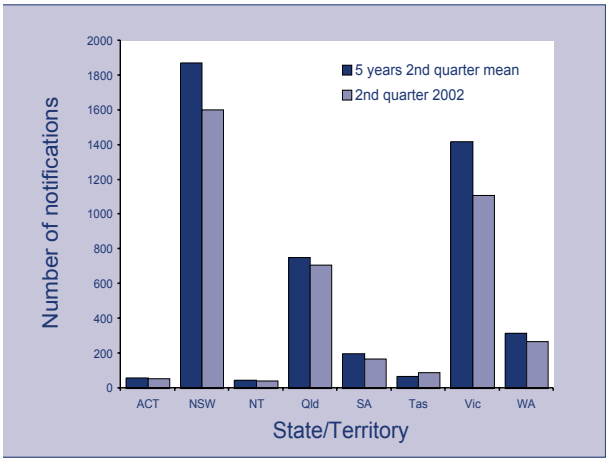
* Notifications above or below the 5-year mean for the same period plus- or minus- two standard deviations.

Bloodborne viruses

The number of unspecified hepatitis C infections in Australia has been stable since 1995 when this disease began to be separately notified. Figures from this quarter indicate a decline in unspecified hepatitis C infection, from 4,745 cases in the last 5-year mean for the second quarter to 4,058 reports for the second quarter this year. The number of notifications of unspecified hepatitis C infections are lower than the 5-year mean for every State and Territory, except Tasmania (Figure 2). The reasons for the decline are still unclear, however the decreases may be related to the improvement of surveillance practices, such as more frequent checking for duplication. It may also be that there is a smaller pool of infected individuals who have not been previously diagnosed. More time is required to determine whether this trend continues.

Incident hepatitis C notifications have also decreased from the mean of 86 cases for the second quarter based on the last 5 years' data, to 63 cases for the current quarter.

Figure 2. Notifications of unspecified hepatitis C for the second quarter 2002 compared with the 5-year mean, Australia, by State or Territory



Gastrointestinal disease

Cryptosporidiosis

The number of cryptosporidiosis notifications has fallen sharply, from 2,115 cases in the first quarter of 2002 to 580 cases in the current quarter. The decline was mainly due to the easing of outbreaks of cryptosporidiosis in Queensland, where 1,635 cases were reported in the previous quarter compared with 277 cases in this quarter. Since cryptosporidiosis only became nationally notifiable in 2001, there is no 5-year mean with which to compare the data from this quarter. The national notification rate was 12 cases per 100,000 population. The highest reporting rate was received from the Northern Territory (77 cases per 100,000 population), followed by Queensland (31 cases per 100,000 population) and Western Australia (12 cases per 100,000 population). Of the 2,695 cases of cryptosporidiosis reported with an onset date in the first 6 months of this year, 1,368 (51%) were children aged under 5 years.

Salmonellosis

The number of notifications of salmonellosis for this quarter was higher (1,943 cases) than the previous 5-year average for the same period (1,642 cases) (Figure 1). The national notification rate was 40 cases per 100,000 population, and the highest rate was reported from the Northern Territory (174 cases per 100,000 population), followed by Queensland (71 cases per 100,000 population) and South Australia (41 cases per 100,000 population).

Three major outbreaks of salmonellosis occurred in Victoria in the second quarter 2002. The first outbreak occurred in an aged care hostel in Melbourne in early April. *Salmonella* Typhimurium phage type 9 was isolated from 10 faecal specimens of the 13 patients who had specimens collected. The Victorian Department of Human Services and local government staff visited the premises and identified problems with food handling and processing. Local government environmental health officers collected food samples and environmental swabs and supervised a clean-up. No bacterial pathogens were isolated from any samples collected from the premises. The source of the outbreak was not identified.

The second outbreak occurred in June 2002, when 11 cases of ampicillin resistant *Salmonella* Typhimurium 135 were identified. Two of the reporting doctors noted that their patients had consumed pork rolls prior to the onset of disease. An investigation was initiated and a total of 26 cases were confirmed, with a further 6 suspected cases identified. Of the cases interviewed, 19 were linked to a small bakery, and all had consumed pork rolls on the same day in June. The pork rolls were made in the bakery and contained chicken liver pate (made at the bakery), egg butter made with raw eggs and oil, sliced pork loaf, cucumber, carrot and coriander. Local government authorities inspected the premises, suspended the production of pork rolls and collected food samples and environmental swabs. All food samples collected from the bakery were negative for bacterial pathogens and the primary source of the outbreak was not identified.

An outbreak of *Salmonella* Typhimurium U290 occurred in rural Victoria. Ten cases were identified and all but one had eaten pastries with cream products from the same bakery, 1–2 days before the onset of illness. A case-control study supported an association between illness and the consumption of cream and custard products from the bakery (OR indeterminate, 95%CI 13.3–∞). Departmental staff visited the site and collected samples of cream products, raw eggs, raw meat and swabs from a piping bag. Some problems with food preparation were identified. Food handlers were interviewed and three reported gastrointestinal illness, one with onset approximately 3–4 weeks prior and two with onsets within 1–2 days after the confirmed cases. All had continued to work while symptomatic. No *Salmonellae* were isolated from any of the samples collected and the primary source of the outbreak was not identified. Clean-up procedures were undertaken at the premises and advice given about safe food handling and preparation.

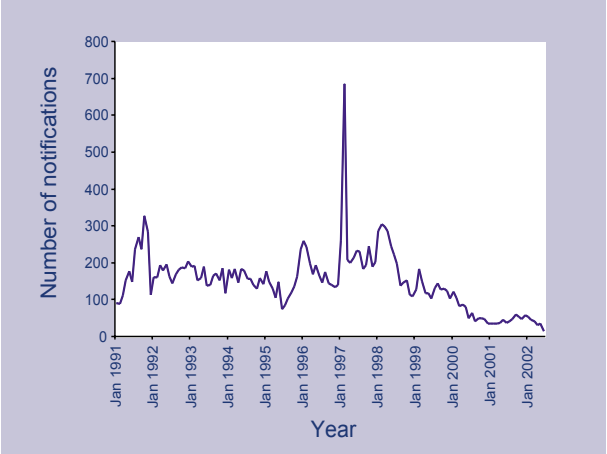
The Northern Territory has reported an increase in *Salmonella* Ball during the first 6 months of 2002 and the cause of this increase is still under investigation by the jurisdiction's health authority.

South Australia reported a large outbreak of *Salmonella* Typhimurium 8 in April 2002. A total of 78 cases were identified and 45 of those cases tested positive for S. Typhimurium 8. Food samples collected from the restaurant contained S. Typhimurium 8. A case control study was conducted and a caesar salad purchased from a restaurant in metropolitan Adelaide was implicated.

Other foodborne disease

The number of hepatitis A notifications has decreased from 141 cases in the first quarter 2002 to 80 cases reported in the current quarter, which is the lowest number of hepatitis A notifications on record (Figure 3). The national notification rate was 1.7 cases per 100,000 population with a male to female ratio of 2:1. The notifications occurred more frequently in the 20–39 years age group (38/80; 48%).

Figure 3. Notifications of hepatitis A, Australia, 1991 to 2002



In early June, a Victorian meat manufacturer recalled one of its products after tests determined the presence of *Listeria monocytogenes* in the product. Although there were 17 cases of listeriosis reported for the year to date in Australia with an onset date in the second quarter 2002, none of the cases of listeriosis were associated with consuming the meat product.

Vaccine preventable diseases

Measles

No cases of measles were reported in Tasmania, the Northern Territory, Western Australia, South Australia or the Australian Capital Territory during this quarter. Queensland reported one measles case in a partially vaccinated 2-year-old child with no history of overseas travel.

A cluster of 3 cases of measles was identified in Victoria during May and June 2002. A 29-year-old male was identified as the first case. He had not travelled in the incubation period and had an uncertain vaccination status. The second case was a 28-year-old male who was unvaccinated. Follow-up of contacts for the second case found that his 19-year-old sister had earlier reported a measles-like illness, later confirmed as measles. The sister worked in the same street where the first case lived and they may have had contact.

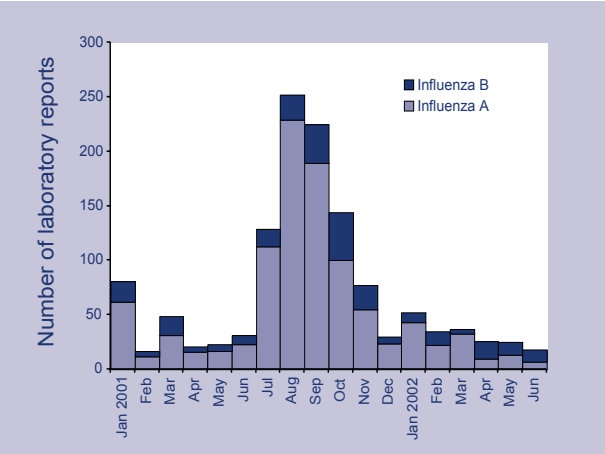
New South Wales reported 2 cases of measles this quarter. The first case was a 1-year-old unvaccinated child who had recently travelled to Pakistan and the second case was in a 1-year-old child with partial vaccination.

Influenza

There were 554 notifications of laboratory-confirmed influenza to the NNDSS during the quarter. The notification rate was highest in South Australia (31 cases per 100,000 population) where there was an outbreak of influenza type A in a health care facility. One hundred and forty-three cases were identified on a clinical basis, but only 9 were laboratory confirmed. Victoria also experienced two influenza outbreaks in schools. The first outbreak, which had onset of symptoms over 10 days, occurred in students who attended a residential camp. A total of 36 cases were identified (31 students, one teacher, one parent and 3 siblings), two of which were identified by PCR as influenza B/Hong Kong virus. The second outbreak occurred amongst secondary school students, where 100 cases of influenza-like illness were identified. Specimens were collected from 8 students and influenza B/Hong Kong virus was detected in two of the cases.

The emergence of influenza B has been observed in reports to LabVISE this quarter. The number of influenza B isolates (116 reports) has exceeded the number of reports for influenza A this quarter (Figure 4). The ratio of influenza A:B was 1:1.6 in the second quarter, but the year to date ratio is 1.4:1.

Figure 4. Laboratory reports of influenza A and B to LabVISE, Australia, 2001 to 2002, by month of specimen collection



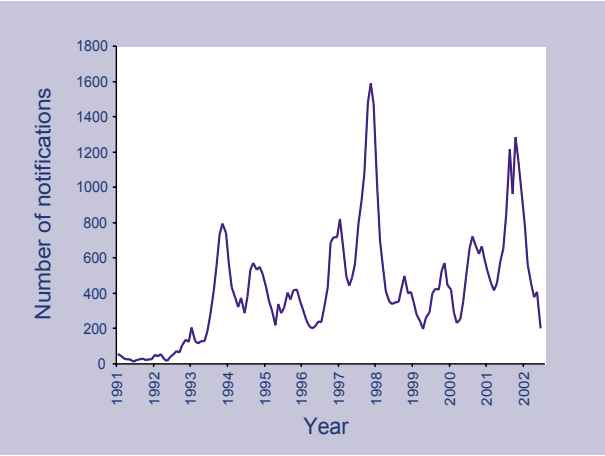
Circulation of the influenza B/Hong Kong strain has been largely absent around the world since the early 1990s. However, an outbreak of influenza B/Hong Kong strain recently occurred in Texas, United States of America.[1] The outbreak occurred late in the Northern Hemisphere influenza season with cases reported up until late May 2002. A total

of 74 laboratory-confirmed cases were identified. The exact number of cases in the community are not known as doctors are not required to report influenza in Texas. In our region, New Zealand has reported 5 cases of influenza B/Hong Kong for May and June.[2] The WHO Collaborating Centre for Reference and Research in Influenza has indicated that the current Southern Hemisphere vaccines, containing influenza B/Sichuan-like component, is expected to have reduced effectiveness against influenza B/Hong Kong-like strains. However, antibody responses to the B/Hong Kong strain have been observed in adults vaccinated with the current influenza vaccine.[3] Simonsen *et al*[4] analysed mortality data since 1972/73 season examining the number of deaths associated with influenza and pneumonia. Influenza seasons where influenza A was the dominant strain tended to be more severe (caused more deaths) than the seasons when influenza B was predominant.

Pertussis

The number of pertussis notifications received this quarter (987 cases) was lower than the 5-year mean for the second quarter (1,231 cases). The 5-year mean includes the epidemic of pertussis that occurred in 1997, but the number of notifications from this quarter is one of the lowest since mid–1993 (Figure 5).

Figure 5. Notifications of pertussis, Australia, 1991 to 2002



Vectorborne disease

This reporting period represents the third consecutive quarter with increased reporting of Barmah Forest virus (BFV) infection. A total of 329 cases of infection with BFV were reported during the current notification period, compared to a mean of 244 cases with onset dates in the same period for the previous 5 years (Figure 1). The disease was reported in five jurisdictions — New South Wales, the Northern Territory, Queensland, Victoria and Western Australia. However, the increase mainly occurred in New South Wales, where numbers rose from 93 cases of BFV infection in the previous quarter to 183 cases in the current quarter, of which 86 resided in the Hunter region.

The outbreak of Ross River virus (RRV) infection in Tasmania, reported last quarter, extended into April. A total of 53 cases were recorded during the outbreak, the majority of which were from the eastern urban fringes of Hobart. The outbreak was mainly due to an extensive rainfall in early summer period followed by a warm dry end to summer.

Zoonoses

Ornithosis

In early June, the New South Wales Health Department (NSW Health) started an investigation of an apparent outbreak of pneumonia in the Blue Mountains approximately 100km west of Sydney. The local doctors and hospitals notified NSW Health of a substantial increase in cases of pneumonia since mid-March 2002, among local residents aged between 15 and 75 years who live in the Blue Mountains.[5]

Approximately 80 cases of pneumonia were identified and the patients were asked to provide convalescent serology for testing for a range of infections, including psittacosis. Presumptive serological evidence of psittacosis was observed in 16 of 21 cases using *Chlamydia* genus IgG and IgA EIA followed by microimmunofluorescence. [5]

Q fever

During June, 9 cases of Q fever related to occupational exposure at an abattoir in south-western Victoria were notified to the Victorian Department of Human Services. The workplace had participated in a mass-screening program in the previous year but had subsequently taken on a large number of new employees. The abattoir was also receiving increased numbers of animals from Q fever endemic areas of New South Wales. Screening of new employees was organised following the outbreak with a further 11 of the 118 (9.3%) screened employees having clinical and serological evidence of recent infection. The total number of cases of Q fever related to the abattoir was twenty. There were no reports of clinical illness in previously vaccinated workers.

Other bacterial infections

Legionellosis

The total number of notifications in this quarter (79 cases) was lower than the previous 5-year mean (101 cases) for the same notification period. The cases were aged between 13 and 91 years with a male to female ration of 1.9:1. A 56-year-old male died as the result of *L. longbeachae* infection in Western Australia during this quarter.

The data on *Legionella* spp. was available for 19 cases only, of which 16 were *L. longbeachae* and three were *L. pneumophilia*. LabVISE received a total of 72 legionellosis notifications for the first 6 months of 2002, of which 21 (29.2%) were *L. longbeachae* and 46 (63.9%) were *L. pneumophilia*.

There were 2 major outbreaks of legionellosis in Victoria this quarter. During a 3-week period in April, a total of 8 cases of legionellosis (*L. pneumophila* serogroup 1) were notified in patients with recent history of exposure to a specific area within the Melbourne central business district (CBD). Cases were aged between 29 and 85 years. Three of the cases worked in the central CBD, two visited the region as a part of their work duties and the other 3 cases were casual visitors only. A total of 32 cooling towers in the area were investigated. Only one tower tested positive for *L. pneumophila* serogroup 1.

A second outbreak in Victoria occurred during a 2-week period in May. A total of 8 cases of legionellosis (*L. pneumophila* serogroup 1) were notified, all of which had recently visited a shopping district in the inner west of Melbourne. Cases were aged between 51 and 84 years, with a male:female ratio of 3:1. Four cases were local residents and another three were regular visitors. The eighth case made a single trip to the area. All premises with cooling tower systems in the shopping district and two fountains were investigated. One cooling tower tested positive for *Legionella* species but the organism isolated was identified as *L. spiritensis.* No source of the *L. pneumophila* serogroup 1 has been found.

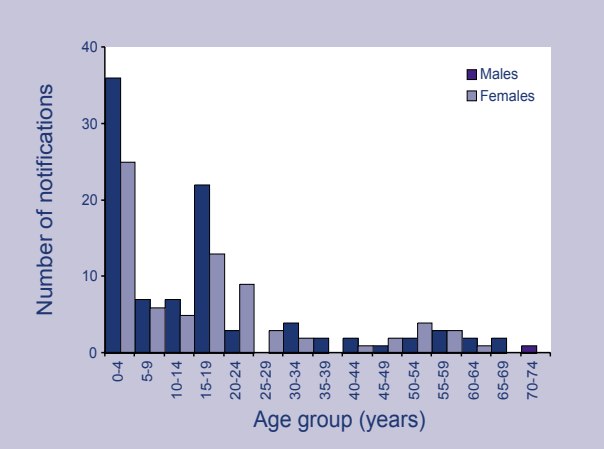
Meningococcal disease

During this quarter, there were 166 notifications of meningococcal disease reported to the NNDSS, which is an increase from the last 5-year mean for the second quarter (128 cases). The majority of notifications of meningococcal disease occurred in the 0–4 years age group and the 15–19 years age group (Figure 6). In these age groups, the number of males with meningococcal disease was higher than the number of females. However, in the 25–29 year age group, all of the reported meningococcal cases were female.

There were two clusters of meningococcal disease in Victoria. The first cluster was comprised of two university students in the same faculty who were infected with serogroup C strains. Close contacts of the students were given antibiotics and nearly 300 people at the university were given conjugate meningococcal group C vaccine. The second cluster occurred in the same child-care centre where two children were diagnosed with meningococcal disease (serogroup C). Other children in the child-care centre, staff and relatives were given antibiotics and 68 people were vaccinated with the conjugate meningococcal group C vaccine.

The national rate of meningococcal notifications was 3.4 cases per 100,000 population for this quarter. The jurisdictions with the highest rates were the Northern Territory and Tasmania (8 cases per 100,000 population). Of the 4 cases reported in the Northern Territory, two were from the same community (but with an onset date one month apart) and the other two cases were sporadic. In response to recent cases, Tasmania undertook a campaign to raise awareness about the signs and symptoms of meningococcal disease and ways to reduce the spread of the disease. A meningococcal disease immunisation campaign was implemented in Tasmania and further details are available from the Tasmanian Department of Health and Human Services.

Figure 6. Notifications of meningococcal disease, Australia, 1 April to 30 June 2002, by age group and sex



LabVISE

During the period April to June 2002, 12 participating laboratories (4 in New South Wales; 3 in Victoria; 3 in Western Australia and one in both Queensland and Tasmania) contributed 4,194

reports to LabVISE by the date of specimen collection. Although there were no contributing laboratories from the Northern Territory, samples from this jurisdiction were included in the reports from participating reference laboratories. Of the 4,194 reports received, 2,686 (64%) were of viral infections and the remainder (1,508 reports) were bacterial, spirochaete, fungal, protozoan or helminthic infections. Of the viral infections, ortho/paramyxoviruses (including influenza A and B, parainfluenza and respiratory syncytial virus) were the most frequently reported group of viral infections, accounting for 37% of viral reports. Herpesviruses (including herpes type 6, cytomegalovirus, varicella-zoster and Epstein-Barr virus) accounted for 26 per cent of viral reports. *Chlamydia* species (801 reports) accounted for more than half of all reports (53%) of non-viral infections.

During the period April to June, LabVISE received reports of 188 cases of influenza virus, 100 cases of adenovirus, 141 cases of parainfluenza, 700 cases of respiratory syncytial virus (RSV) and 79 cases of rhinovirus. Trends in the reporting of influenza and other respiratory viruses over the period 1991 to 2002 are shown in Figure 7. The patterns of seasonal variation were similar for influenza virus and RSV activities, usually with peak notifications in the winter season (June to September in Australia). The seasonal pattern of respiratory viruses shows that the peak was earlier and broader than the influenza virus peak. The distribution of reports by age shows that both RSV and influenza virus was highest in children aged 0–4 years (Figure 8).

Figure 7. Number of laboratory reports to LabVISE of influenza virus and respiratory syncytial virus, Australia, 1991 to 2002

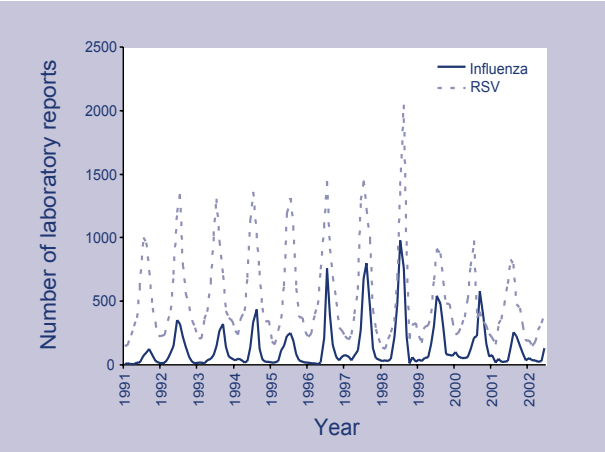
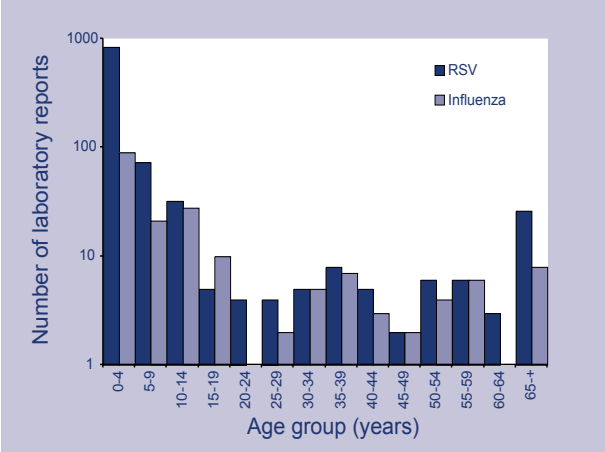


Figure 8. Number of laboratory reports to LabVISE of respiratory syncytial virus and influenza virus, Australia, 1 April to 30 June 2002, by age group and virus



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References

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2. Influenza in New Zealand (http://www.esr.cri.nz/frame.html?content=/flu/) 28 June 2002.

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4. Simonsen L, Clarke M, Williamson D, Stroup D, Arden N, Schonberger L. The impact of influenza epidemics on mortality: introducing a severity index. *Am J Pub Health* 1997;87:1944–1950.

5. Psittacosis, Gardeners — Australia (New South Wales). ProMED mail (www.promedmail.org), 13 June 2002, Archive number 20020613.4484.