

Communicable Diseases Surveillance

Respiratory syncytial virus

Respiratory syncytial virus (RSV) is a paramyxovirus of the genus *pneumovirus*. It occurs worldwide and is the major cause of lower respiratory tract infection in infants and young children. It is the predominant cause of bronchiolitis in these age groups, but can also cause pneumonia, croup, bronchitis, otitis media and febrile upper respiratory tract infections (URTIs). In older children and adults, RSV generally causes milder disease, most commonly manifest as URTI or tracheobronchitis. It can cause severe lower respiratory tract disease in those with pre-existing heart or lung disease or who are debilitated, aged or immune suppressed.

Susceptibility to the infection is universal. Maternal immunity provides incomplete passive protection which wanes by the age of 6-7 months. Primary infection occurs early in life, with 95% seropositivity by two years of age. However, the resulting immunity is incomplete and repeated infections are common. The most severe illness from RSV infection occurs at the extremes of age, and it is more common in males than females, and in children from lower socio-economic groups. There is some evidence that breast-feeding can reduce the risk of infection.

The incubation period is 2-8 days and in most infants the duration of the illness is 7-21 days. Viral shedding in adults and older children lasts for 1-12 days, but in infants it can continue for several weeks after symptoms subside.

RSV is transmitted directly by the inhalation of airborne droplets, and indirectly by being carried to the mucous membranes of the nose and eyes, by hands and articles contaminated with respiratory secretions. Nosocomial spread occurs and there are high attack rates in child-care centres.

In Australia, RSV is not nationally notifiable and sentinel surveillance is undertaken through the Virology and Serology Laboratory Reporting Scheme (LabVISE). Reports for the last 5 years have shown regular peaks in

July each year (Figure 1). This is consistent with the worldwide pattern of annual outbreaks in winter and spring with an unusually predictable and regular pattern. As reporting for July 1997 is incomplete at the time of writing, the anticipated peak for 1997 is not yet reflected in the figure. There has been an increase in the total number of RSV reports each year. This however, may reflect increases in both the amount of testing for RSV, and numbers of laboratories reporting to the scheme, rather than a real increase in the incidence of infection.

The age and sex of patients for 1997 has been similar to that observed over the past 5 years. For 1997 the male:female ratio was 1.3:1, and of the reports where age is known, 65% were for children under one year of age, and 96% were for children under 5 years of age (Figure 2). As testing for RSV is most likely to be carried out for patients with the most severe illness, the age profile reflects the pattern of occurrence of severe disease rather than the pattern of occurrence of RSV infection in the community.

Those most at risk of severe disease should avoid exposure. Transmission in the community, hospitals and child-care centres can be reduced by avoiding overcrowding and using good hygiene practices such as covering of the mouth and nose when sneezing and coughing, washing hands after nose blowing, disposing promptly of materials soiled with nose and throat discharges, and not sharing eating and drinking utensils. Children should be excluded from child-care centres only while unwell.

National Notifiable Diseases Surveillance System

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia New Zealand. The system coordinates the national surveillance of more than 40 communicable diseases or disease groups

Figure 1. Respiratory syncytial virus laboratory reports, 1994 to 1997, by month of specimen collection

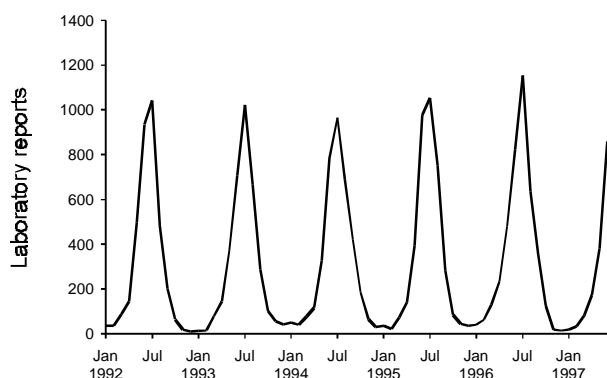


Figure 2. Respiratory syncytial virus laboratory reports, 1997, by age group and sex

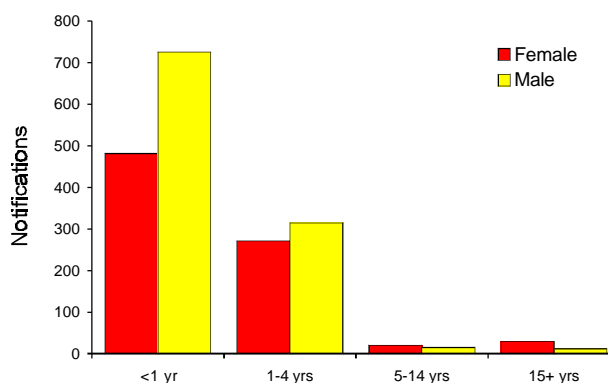
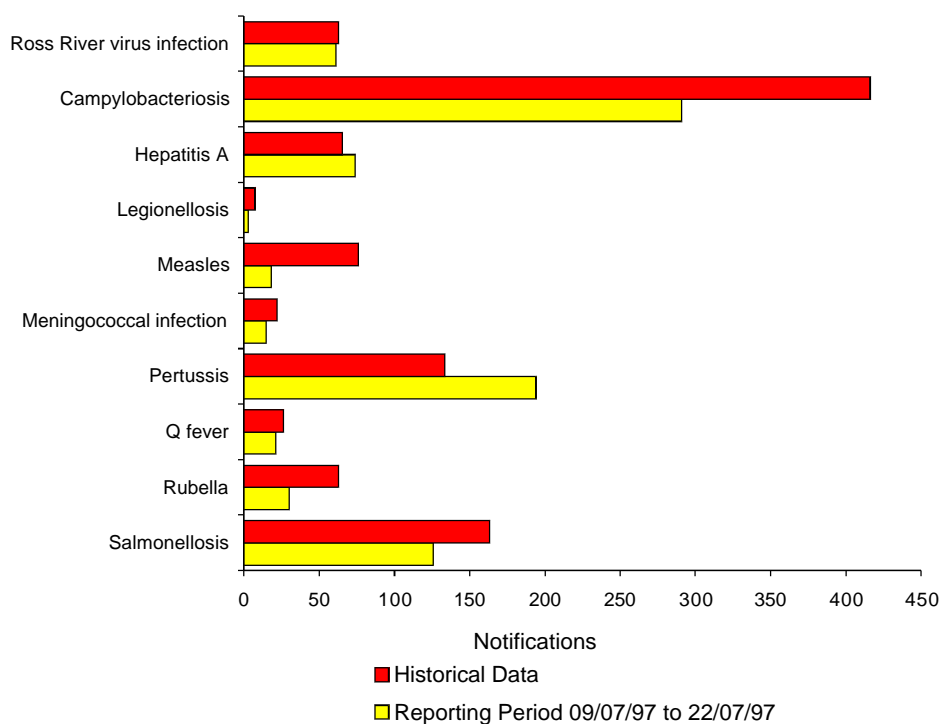


Figure 3. Selected National Notifiable Diseases Surveillance System reports, and historical data¹



1. The historical data are the averages of the number of notifications in 9 previous 2-week reporting periods, the corresponding periods of the last 3 years and the periods immediately preceding and following those.

Figure 4. Meningococcal notifications, 1992 to 1997, by month of onset

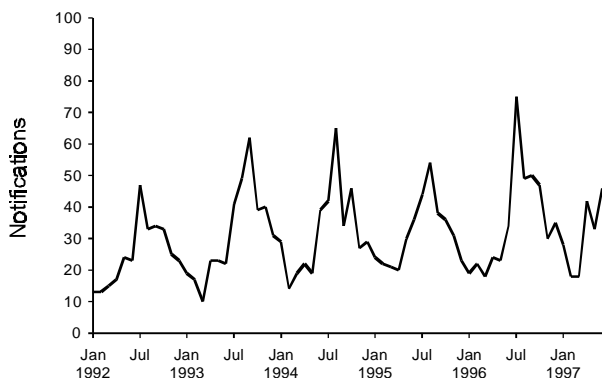
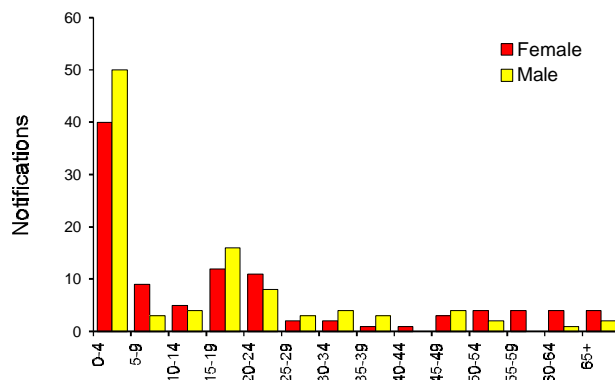


Figure 5. Meningococcal notifications, 1997, by age group and sex.



endorsed by the National Health and Medical Research Council (NHMRC). Notifications of these diseases are made to State and Territory health authorities under the provisions of their respective public health legislations. De-identified core unit data are supplied fortnightly for collation, analysis and dissemination. For further information, see CDI 1997;21:5.

Reporting period 9 July to 22 July 1997

There were 1,765 notifications received for this two week period (Tables 1, 2 and 3). The numbers of reports for

selected diseases have been compared with historical data for corresponding periods in the previous three years (Figure 3).

There were 248 notifications of pertussis this period, which is higher than the number recorded in the historical data.

The number of notifications of meningococcal disease has risen in recent months (Figure 4). We can expect a further increase in the coming months. Of the 203 notifications received for the year to date, most were for cases in the 0 - 4 years age group (Figure 5). The male:female ratio for this age group was 1.25:1 compared to 1:1 overall.

Table 1. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by State and Territory health authorities in the period 9 to 22 July 1997

Disease ^{1,2}	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 1997	This period 1996	Year to date 1997	Year to date 1996
Diphtheria	0	0	0	0	0	0	0	0	0	0	0 ³	0
<i>Haemophilus influenzae</i> type b	0	0	0	0	0	1	1	0	2	5	25	32
Measles	1	4	0	3	4	0	15	6	33	14	253	225
Mumps	0	0	1	NN	0	0	3	1	5	4	95	53
Pertussis	0	64	0	22	44	5	47	21	203	98	3523	1489
Rubella	0	1	1	16	1	0	12	1	32	78	668	1288
Tetanus	0	0	0	2	0	0	0	0	2	0	6	1

NN. Not Notifiable

1. No notifications of poliomyelitis have been reported since 1986.

2. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision, so there may be discrepancies

between the number of new notifications and the increment in the cumulative figure from the previous period.

3. The reported case of diphtheria (*CDI* 1997;21:13) has since been found to be non-toxicogenic.

Table 2. Notifications of other diseases received by State and Territory health authorities in the period 9 to 22 July 1997

Disease ^{1,2}	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 1997	This period 1996	Year to date 1997	Year to date 1996
Arbovirus Infection (NEC) ³	0	1	2	0	0	0	1	1	5	3	107	72
Barmah Forest virus infection	0	4	-	14	0	0	0	0	18	35	455	583
Campylobacteriosis ⁴	14	-	7	147	78	13	118	53	430	382	5643	5521
Chlamydial infection (NEC) ⁵	7	NN	23	152	0	4	76	68	330	318	3990	3502
Dengue	0	0	0	1	0	-	0	0	1	0	190	23
Donovanosis	0	NN	0	0	NN	0	0	1	1	1	15	26
Gonococcal infection ⁶	0	10	58	37	0	0	10	49	164	142	2224	1827
Hepatitis A	1	68	6	28	3	0	4	1	111	87	1755	1235
Hepatitis B incident	0	1	2	0	0	0	2	3	8	6	188	110
Hepatitis C incident	0	0	0	-	0	0	-	-	0	0	5	16
Hepatitis C unspecified	11	NN	12	133	NN	10	154	15	335	486	4379	4543
Hepatitis (NEC)	0	0	0	0	0	0	1	NN	1	0	10	10
Legionellosis	0	3	0	1	2	0	0	4	10	5	87	91
Leptospirosis	0	0	0	10	0	0	0	0	10	16	68	125
Listeriosis	0	0	0	0	0	0	0	0	0	3	44	27
Malaria	0	4	7	31	0	0	1	4	47	37	412	388
Meningococcal infection	1	6	1	4	0	0	5	3	20	18	171	132
Ornithosis	0	NN	0	0	0	0	2	0	2	2	34	42
Q Fever	0	14	0	19	0	0	2	1	36	35	293	249
Ross River virus infection	0	71	10	99	8	0	8	7	203	168	5929	7098
Salmonellosis (NEC)	5	17	12	58	13	2	34	21	162	209	4249	3290
Shigellosis ⁴	0	-	1	7	1	1	6	16	32	31	463	336
Syphilis	2	19	7	11	0	0	0	4	43	48	613	709
Tuberculosis	0	6	4	4	1	0	13	2	30	56	472	559
Typhoid ⁷	0	0	0	0	0	0	2	0	2	1	42	50
Yersiniosis (NEC) ⁴	0	-	0	4	2	0	1	0	7	14	150	131

1. For HIV and AIDS, see Tables 4 and 5. For rarely notified diseases, see Table 3.

2. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.

3. NT: includes Barmah Forest virus.

4. NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.

5. WA: genital only.

6. NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.

7. NSW, Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified

- Elsewhere Classified.

Table 3. Notifications of rare¹ diseases received by State and Territory health authorities in the period 9 to 22 July 1997

Disease ²	Total this period	Reporting States or Territories	Total notifications 1997
Brucellosis			17
Chancroid			1
Cholera			2
Hydatid infection	1	Qld	21
Leprosy			7

1. Fewer than 60 cases of each of these diseases were notified each year during the period 1988 to 1996.
2. No notifications have been received during 1997 for the following rare diseases: botulism, lymphogranuloma venereum, plague, rabies, yellow fever, or other viral haemorrhagic fevers.

Notifications of campylobacteriosis for 1997 were highest for the 0-4 years age group (Figure 6). More males were reported than females, with an overall male:female ratio of 1.2:1. The number of notifications of campylobacteriosis received for the year to date is 5,880.

National Influenza Surveillance, 1997

Three types of data are included in National Influenza Surveillance, 1997. These are sentinel general practitioner surveillance conducted by the Australian Sentinel Practice Research Network, Department of Human Services, Victoria, Department of Health, New South Wales and Department of Health and Community Services, Northern Territory; laboratory surveillance data from the Communicable Diseases Intelligence Virology and Serology Laboratory Reporting Scheme, LabVISE, and the World Health Organization Collaborating Centre for Influenza Reference and Research; and absenteeism surveillance conducted by Australia Post. For further information about these schemes, see *CDI 1997; 21:126*.

Overall influenza activity continued to rise this fortnight, although the sentinel general practitioner consultation rate recorded by the Department of Health, New South Wales, was lower than that seen in late June. Reports of both influenza A and B were received. The majority of reports this period were for influenza A. The epidemic of influenza B throughout May, June and July this year is declining, and influenza A activity remains high.

Laboratory Surveillance

Two hundred and thirty-seven reports of influenza virus were recorded by the LabVISE scheme this fortnight. Of these, 123 were for influenza A, 94 for influenza B and 20 were untyped (Figure 7). An epidemic of influenza B has occurred this season, which is consistent with the two-yearly pattern for influenza B outbreaks. Data for the months of May and June demonstrate higher numbers of influenza B reports than the other epidemic years; 1993 and 1995. The influenza A:influenza B ratio in 1993 and

Figure 6. Campylobacteriosis notifications, 1997, by age group and sex.

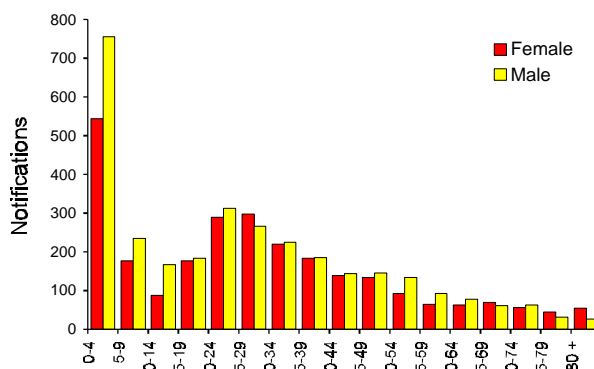


Figure 7. Laboratory reports of influenza, 1997, by type and week of specimen collection

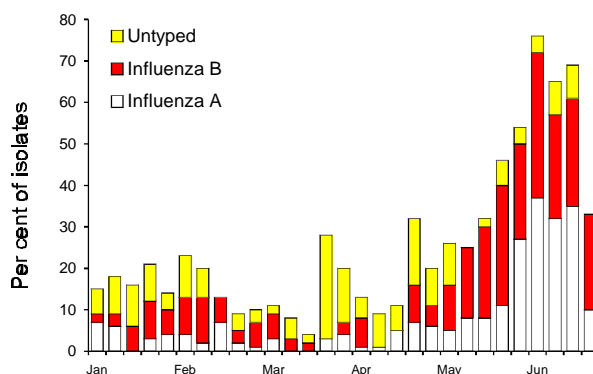
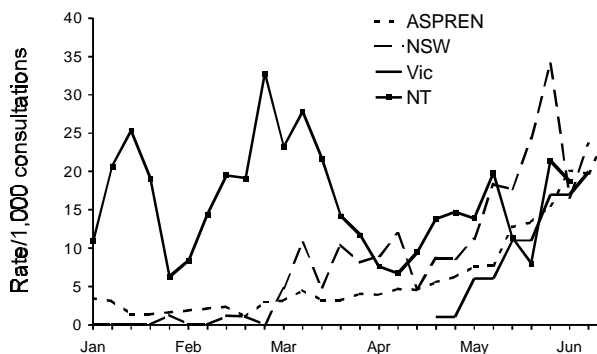


Figure 8. Sentinel general practitioner influenza consultation rates, 1997, by week and scheme



1995 was 0.8:1 and 2:1 respectively. This is in contrast to the ratio in the non-epidemic years of 1994 and 1996; when it was 14:1 and 21:1 respectively. The ratio for 1997 to date is 0.8:1, again demonstrating that an epidemic of influenza B has occurred this year. Reports of both influenza A and B are predominantly in the younger age groups.

Sentinel General Practitioner Surveillance

Consultation rates for influenza-like illness from the New South Wales scheme decreased during early July, after peaking at 34 per 1,000 encounters in the latter part of June (Figure 8). The Department of Human Services, Victoria, recorded a rate of 20 consultations per 1,000 encounters for the first 2 weeks of July. Consultation rates for influenza-like illness in the ASPREN scheme rose again in the last two weeks to 25 cases per 1,000 consultants. Updated data from the Northern Territory were not available for this period.

Absenteeism Surveillance

Australia Post recorded a national absenteeism rate of 2.9%. This has remained stable throughout the season so far.

HIV and AIDS Surveillance

National surveillance for HIV disease is coordinated by the National Centre in HIV Epidemiology and Clinical Research (NCHECR), in collaboration with State and Territory health authorities and the Commonwealth of Australia. Cases of HIV infection are notified to the National HIV Database on the first occasion of diagnosis in Australia, by either the diagnosing laboratory (ACT, New South Wales, Tasmania, Victoria) or by a combination of laboratory and doctor sources (Northern Territory, Queensland, South Australia, Western Australia). Cases of AIDS are notified through the State and Territory health authorities to the National AIDS Registry. Diagnoses of both HIV infection and AIDS are notified with the person's date of birth and name code, to minimise duplicate notifications while maintaining confidentiality.

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is

Table 4. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 to 31 March 1997, by sex and State or Territory of diagnosis

										Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 1997	This period 1996	Year to date 1997	Year to date 1996
HIV diagnoses	Female	2	1	0	2	1	0	2	0	8	11	22	24
	Male	1	12	2	8	1	0	14	1	39	73	171	200
	Sex not reported	0	6	0	0	0	0	0	0	6	0	12	2
	Total ¹	3	19	2	10	2	0	16	1	53	84	205	226
AIDS diagnoses	Female	0	1	0	0	0	0	1	0	2	4	4	6
	Male	0	7	1	0	1	0	5	0	14	72	56	182
	Total ¹	0	8	1	0	1	0	6	0	16	76	60	188
AIDS deaths	Female	0	0	0	0	0	0	0	0	0	0	3	8
	Male	0	7	0	3	1	0	4	2	17	58	52	143
	Total ¹	0	7	0	3	1	0	4	2	17	58	55	151

1. Persons whose sex was reported as transsexual are included in the totals.

Table 5. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 31 March 1997, by sex and State or Territory

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
HIV diagnoses	Female	21	483	4	108	46	4	182	76	924
	Male	178	10426	91	1740	607	78	3545	812	17477
	Sex not reported	0	2055	0	0	0	0	28	0	2083
	Total ¹	199	12978	95	1853	653	82	3764	891	20515
AIDS diagnoses	Female	7	150	0	34	19	2	57	19	288
	Male	80	4127	28	710	302	39	1468	319	7073
	Total ¹	87	4288	28	746	321	41	1532	340	7383
AIDS deaths	Female	2	107	0	27	14	2	39	13	204
	Male	52	2918	22	499	206	26	1151	232	5106
	Total ¹	54	3031	22	528	220	28	1196	246	5325

1. Persons whose sex was reported as transsexual are included in the totals.

Table 6. Australian Sentinel Practice Research Network reports, weeks 28 and 29, 1997

Condition	Week 28, to 13 July 1997		Week 29, to 20 July 1997	
	Reports	Rate per 1,000 encounters	Reports	Rate per 1,000 encounters
Chickenpox	9	1.4	8	1.1
Gastroenteritis	52	7.9	66	8.9
HIV testing (doctor initiated)	6	0.9	6	0.8
HIV testing (patient initiated)	13	2.0	11	1.5
Influenza	166	25.2	187	25.2
Measles	0	0.0	1	0.1
Pertussis	1	0.2	1	0.1
Ross River virus infection	0	0.0	0	0.0
Rubella	1	0.2	1	0.1

published in the quarterly *Australian HIV Surveillance Report*, available from the National Centre in HIV Epidemiology and Clinical Research,

376 Victoria Street, Darlinghurst NSW 2010. Telephone: (02) 9332 4648 Facsimile: (02) 9332 1837.

HIV and AIDS diagnoses and deaths following AIDS reported for March 1997, as reported to 30 June 1997, are included in this issue of *CDI* (Tables 4 and 5).

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network (ASPREN) currently comprises 107 general practitioners from throughout the country. Up to 9,000 consultations are reported each week, with special attention to 12 conditions chosen for sentinel surveillance. Of these, *CDI* reports the consultation rates for chickenpox, gastroenteritis, HIV testing (doctor initiated), HIV testing (patient initiated), influenza, measles, pertussis, Ross River virus infection and rubella. For further information, including case definitions, see *CDI* 1997;21:6.

Australian Sentinel Practice Research Network

Data for weeks 28 and 29 ending 13 and 20 July respectively are included in this issue of *CDI* (Table 6). The rate of reporting for gastroenteritis has remained stable in recent weeks whilst that for chickenpox has fallen. The consultation rates for measles, pertussis and rubella remain low.

LabVISE

The Virology and Serology Laboratory Reporting Scheme, *LabVISE*, is a sentinel reporting scheme. Twenty-one laboratories contribute data on the laboratory identification of viruses and other organisms. Data are collated and published in *Communicable Diseases Intelligence* each fortnight. These data should be interpreted with caution as the number and type of reports received is subject to a number of biases. For further information, see *CDI* 1997;21:8-9.

There were 1,550 reports received in the *CDI* Virology and Serology Laboratory Reporting Scheme this period (Tables 7 and 8).

Figure 9. Parvovirus laboratory reports, 1995 to 1997, by month of specimen collection

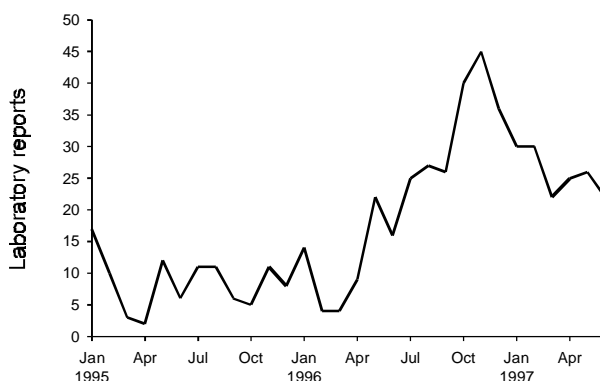


Figure 10. Parvovirus notifications, 1997, by age group and sex

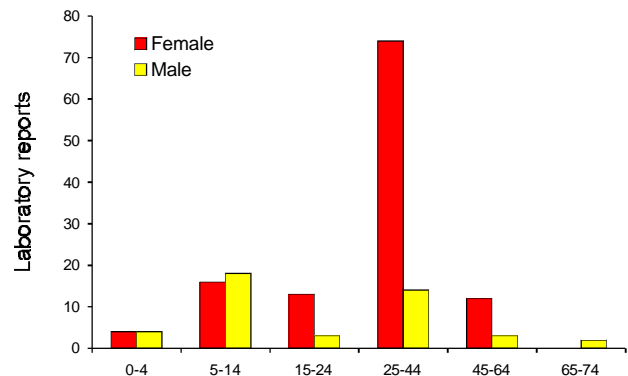


Figure 11. Parainfluenza virus laboratory reports, 1995 to 1997, by type and month of specimen collection

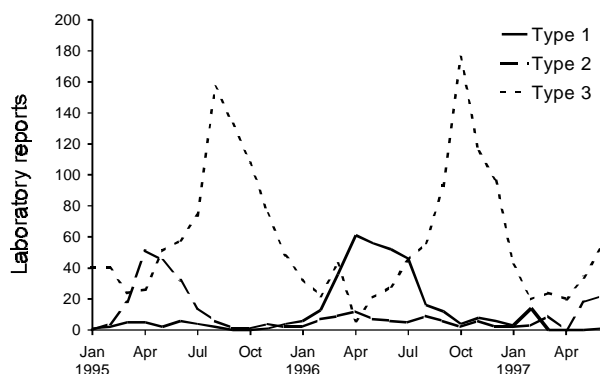
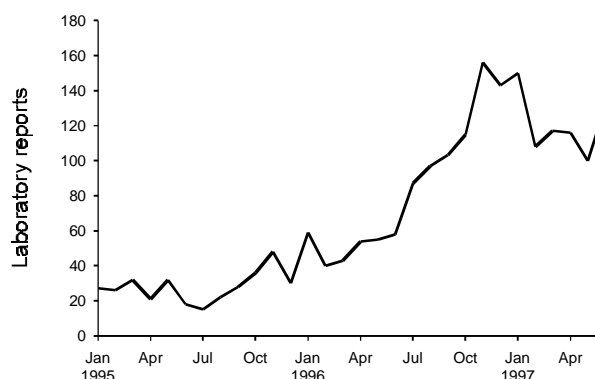


Figure 12. Mycoplasma pneumoniae laboratory reports, 1995 to 1997, by month of specimen collection



The number of parvovirus reports has declined after peaking in November 1996 (Figure 9). There were 17 laboratory reports of parvovirus this fortnight. For the year to date there have been 167 reports received. Most were females in the 25 - 44 years age group (Figure 10).

Thirty-eight reports of parainfluenza virus were received this period. These included parainfluenza virus type 1(1), type 2(3), type 3(30) and untyped (4) (Figure 11). The number of reports of parainfluenza virus type 3 has risen recently with 29 (97%) patients below 14 years of age. We can expect more reports in the coming months as they usually peak in September/October.

Eighty-seven reports of rotavirus were received this period for 46 males and 38 females. Eighty-two per cent of

reports were for children under 5 years of age. The number of reports remains average for the time of year.

Laboratory reports of *Mycoplasma pneumoniae* have remained high since late 1996 (Figure 12). There were 73 reports received in the last fortnight. The male:female ratio was 1:2, with 71% in patients under 25 years of age.

Table 7. Virology and serology laboratory reports by State or Territory¹ for the reporting period 3 to 16 July 1997, historical data², and total reports for the year

	States or Territory ¹							Total this fortnight	Historical data ²	Total reported in CDI in 1997
	ACT	NSW	Qld	SA	Tas	Vic	WA			
Measles, mumps, rubella										
Measles virus						1		1	2.3	37
Mumps virus						1		1	1.3	23
Rubella virus	3		2	2			1	8	13.2	404
Hepatitis viruses										
Hepatitis A virus	7	3	4	2		1	1	18	10	499
Arboviruses										
Ross River virus			4	1				5	18.7	1,954
Barmah Forest virus			1					1	6.2	187
Adenoviruses										
Adenovirus type 1				2		1		3	0.8	17
Adenovirus type 7						1		1	0.7	5
Adenovirus not typed/pending	6	5	1	9		18	7	46	41.8	573

Table 7. Virology and serology laboratory reports by State or Territory¹ for the reporting period 3 to 16 July 1997, historical data², and total reports for the year, continued

	States or Territory ¹							Total this fortnight	Historical data ²	Total reported in CDI in 1997
	ACT	NSW	Qld	SA	Tas	Vic	WA			
Herpes viruses										
Cytomegalovirus	5	4	11	3		12	7	42	57.3	715
Varicella-zoster virus	5	1	13	7	2	28	2	58	33.8	860
Epstein-Barr virus	7	12	17	21		5	10	72	59.2	1,654
Other DNA viruses										
Parvovirus		2	1	5		9		17	5.2	236
Picornavirus family										
Coxsackievirus A9	3							3	0.2	3
Coxsackievirus A16	2							2	0.2	8
Echovirus type 5	1							1	0	5
Echovirus type 9	1							1	0.5	1
Poliovirus type 2 (uncharacterised)				1		1		2	0.3	10
Poliovirus type 3 (uncharacterised)		1						1	0.3	3
Rhinovirus (all types)				1		3		4	29.5	368
Enterovirus not typed/pending			2					2	30.5	372
Ortho/paramyxoviruses										
Influenza A virus	1	43		2		68	8	122	147.2	352
Influenza A virus H3N2							1	1	7.3	2
Influenza B virus	2	7	4	2	1	41	37	94	11.5	353
Influenza virus - typing pending				20				20	0	214
Parainfluenza virus type 1				1				1	12.3	41
Parainfluenza virus type 2				1		2		3	8.3	80
Parainfluenza virus type 3	1	1	1	7		12	8	30	28	466
Parainfluenza virus typing pending				4				4	1.5	185
Respiratory syncytial virus	54	80	19	42	11	294	83	583	525.2	2,094
Paramyxovirus (unspecified)						9		9	0.3	12
Other RNA viruses										
Rotavirus	6	1		9		63	8	87	87.7	608
Norwalk agent						5		5	1	65
Other										
<i>Chlamydia trachomatis</i> not typed	53	10	31	22	6	4	76	202	116.7	3,031
<i>Chlamydia psittaci</i>					1	3		4	2.7	46
<i>Chlamydia</i> species		2						2	0.7	21
<i>Mycoplasma pneumoniae</i>	4	36	20	5		4	4	73	21.8	1,072
<i>Coxiella burnetii</i> (Q fever)		2	1					3	6.5	214
<i>Rickettsia tsutsugamushi</i>						1		1	0.5	17
<i>Bordetella pertussis</i>	2	1	3			10		16	9.7	1,093
<i>Cryptococcus</i> species	1							1	0.2	13
TOTAL	164	211	135	169	21	597	253	1,550	1,301.00	17,913

1. State or Territory of postcode, if reported, otherwise State or Territory of reporting laboratory.
2. The historical data are the averages of the numbers of reports in 6 previous 2 week reporting periods, the corresponding periods of the last 2 years and the periods immediately preceding and following those.

Table 8. Virology and serology laboratory reports by contributing laboratories for the reporting period 3 to 16 July 1997

State or Territory	Laboratory	Reports
Australian Capital Territory	The Canberra Hospital, Canberra	188
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	64
	Royal Prince Alfred Hospital, Camperdown	18
	South West Area Pathology Service, Liverpool	91
Queensland	Queensland Medical Laboratory, West End	146
South Australia	Institute of Medical and Veterinary Science, Adelaide	168
Tasmania	Royal Hobart Hospital, Hobart	19
Victoria	Microbiological Diagnostic Unit, University of Melbourne	2
	Monash Medical Centre, Melbourne	95
	Royal Children's Hospital, Melbourne	315
	Victorian Infectious Diseases Reference Laboratory, Fairfield	190
Western Australia	Princess Margaret Hospital, Perth	162
	Western Diagnostic Pathology	92
TOTAL		1550