

Communicable Diseases Surveillance

Legionellosis

Legionella pneumophila was first discovered in 1977 after an outbreak of pneumonia occurred at a Philadelphia hotel hosting the American Legion Convention. There were 221 cases of pneumonia and 34 people died. The illness became known as Legionnaires' disease. Pontiac fever, an acute febrile illness without pneumonia, has also been serologically linked to *L. pneumophila* and other *Legionella* species. There have now been 34 *Legionella* species and over 50 serogroups identified¹.

Legionellosis includes all infections caused by *Legionella* species. Risk factors for infection include cigarette smoking, chronic lung disease, advanced age and immunosuppression. The family Legionellaceae is widely distributed in aquatic environments and soil¹. Outbreaks have been linked to aerosols from cooling towers, evaporative condensers, air conditioners and spa pools^{1,2}. In Australia, *L. longbeachae* has been associated with potting mix¹.

There have been 1,041 notifications of legionellosis in Australia since 1991. Similar numbers of cases were reported each year (Figure 1). The male:female ratio over this period was 2.3:1, with 60% of cases in males aged 40 years or older (Figure 2).

L. pneumophila has been reported to be responsible for about 90% of legionellosis infections¹, however this does not appear to be the case in Australia. Since 1995, 255 notifications (65%) have provided species identification (Figure 3). Of those where species identification was provided, the majority were *L. pneumophila* but a substantial proportion (34%) were *L. longbeachae*. Even if all of those that have not been speciated were *L. pneumophila*, 22% of legionellosis notifications would still be attributed to *L. longbeachae*. While this may be a reporting bias, it may also reflect an epidemiological difference in the incidence of legionellosis in Australia.

References

1. Mandell GL, Bennett JE, Dolin R, editors. *Mandell, Douglas and Bennett's principles and practice of infectious diseases*. Fourth edition. New York: Churchill Livingstone, 1995.
2. Jernigan DB, Hoffman J, Cetron MS *et al*. Outbreak of Legionnaires' disease among cruise ship passengers exposed to a contaminated whirlpool spa. *Lancet* 1996; 347:494-499.

Figure 1. Legionellosis notifications by month of onset, 1991 to 1997

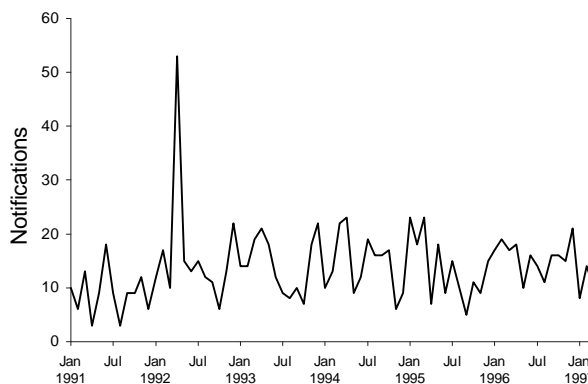


Figure 2. Legionellosis notifications by age group and sex, 1991 to 1997

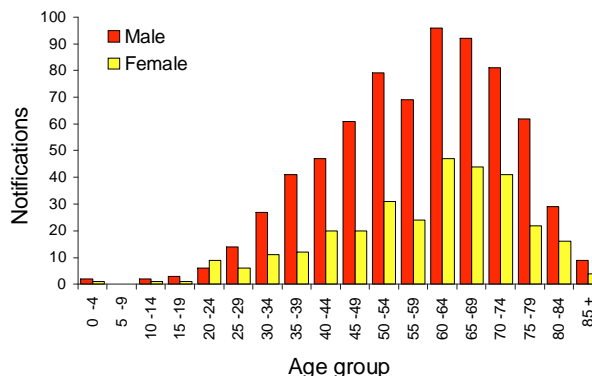
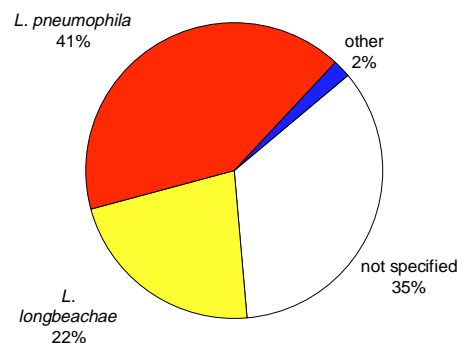


Figure 3. Legionellosis notifications by species, January 1995 to April 1997



National Notifiable Diseases Surveillance System

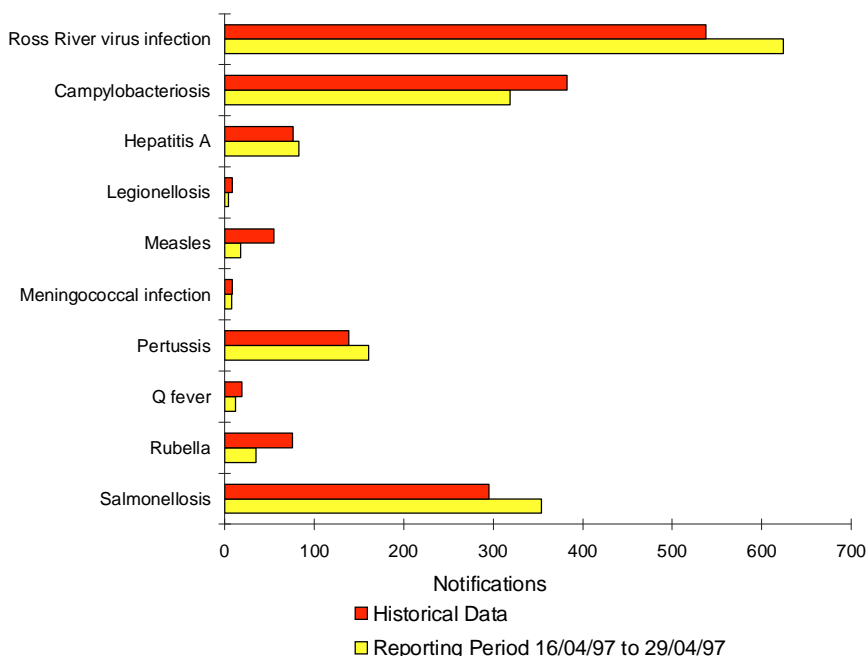
The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia New Zealand. The system coordinates the national surveillance of more than 40 communicable diseases or disease groups endorsed by the National Health and Medical Research Council (NHMRC). Notifications of these diseases 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 16 to 29 April 1997

There were 2,694 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 4).

There were 161 reports of pertussis infection received in this reporting period. The majority of notifications were received from New South Wales (54) and Victoria (33). Fifty-three per cent of reports were for the 0 - 14 years age range and females represented 58 per cent of all cases. Although reports continue to trend downwards from a peak reached in December 1996, pertussis notifications continued at a high level in the first three months of 1997 (Figure 5).

Figure 4. Selected National Notifiable Diseases Surveillance System reports, and historical data¹



- 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.

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 16 to 29 April 1997

Disease ^{1,2}									This period 1997	This period 1996	Year to date 1997	Year to date 1996
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0
<i>Haemophilus influenzae</i> type B	0	0	0	0	0	0	0	0	0	1	18	18
Measles	3	2	0	3	0	0	9	1	18	23	151	170
Mumps	0	1	0	NN	1	0	1	1	4	5	59	44
Pertussis	0	54	0	19	27	3	33	25	161	90	2696	1098
Rubella	1	0	0	18	0	1	13	2	35	78	510	1011
Tetanus	0	0	0	0	0	1	0	0	1	0	3	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.

Table 2. Notifications of other diseases received by State and Territory health authorities in the period 16 to 29 April 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) ^{3,4}	0	1	0	0	0	0	6	6	13	6	125	60
Barmah Forest virus infection	0	10	0	26	0	0	10	-	46	71	282	419
Campylobacteriosis ⁵	13	-	3	113	73	7	67	43	319	403	3789	3910
Chlamydial infection (NEC) ⁶	7	NN	12	158	0	6	83	40	306	274	2708	2284
Dengue	1	2	0	10	0	-	0	1	15	2	185	19
Donovanosis	0	NN	0	0	NN	0	0	0	0	2	9	19
Gonococcal infection ⁷	0	22	20	92	0	0	12	50	196	101	1441	1155
Hepatitis A	0	31	0	30	2	0	16	4	83	113	1352	895
Hepatitis B incident	0	2	1	1	0	0	0	7	11	9	111	76
Hepatitis C incident	0	0	0	-	0	0	-	-	0	1	5	12
Hepatitis C unspecified	9	NN	9	119	NN	1	2	17	157	349	2582	2995
Hepatitis (NEC)	0	0	0	0	0	0	0	NN	0	2	8	10
Legionellosis	1	1	0	0	1	0	1	0	4	11	55	68
Leptospirosis	0	1	0	2	0	0	1	1	5	16	44	85
Listeriosis	0	0	0	0	0	0	1	3	4	1	38	17
Malaria	1	6	0	36	0	0	0	1	44	41	250	265
Meningococcal infection	0	5	1	3	1	0	2	1	13	10	108	82
Ornithosis	0	NN	0	0	0	0	0	0	0	4	22	29
Q Fever	0	4	0	8	0	0	0	0	12	18	178	154
Ross River virus infection	2	174	10	261	65	1	69	42	624	778	4254	6000
Salmonellosis (NEC)	2	54	6	103	32	1	120	36	354	236	3466	2364
Shigellosis ⁵	0	-	2	10	10	0	4	3	29	20	334	227
Syphilis	0	10	0	9	0	0	1	1	21	48	410	486
Tuberculosis	0	8	2	6	1	0	10	7	34	41	325	384
Typhoid ⁸	0	0	0	1	0	0	0	0	1	0	32	45
Yersiniosis (NEC) ⁵	0	-	1	7	0	0	1	0	9	8	119	96

- For HIV and AIDS, see *CDI* 1997;21:97. For rarely notified diseases, see Table 3.
- 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.
- Tas: includes Ross River virus and dengue.
- NT, Vic and WA: includes Barmah Forest virus.
- NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.
- WA: genital only.
- NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.
- NSW, Vic: includes paratyphoid.
- 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 16 to 29 April 1997

Disease ²	Total this period	Reporting States or Territories	Total notifications 1997
Brucellosis	2	Qld	14
Chancroid			1
Cholera			1
Hydatid infection	1	NSW	8
Leprosy	1	Qld	7

- Fewer than 60 cases of each of these diseases were notified each year during the period 1988 to 1996.
- 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 rubella infection continue to decline, with 35 cases in this reporting period compared with 78 in the same period in 1996. The majority of cases occurred in Victoria (13) and Queensland (18), with males representing 71% of all cases. Total notifications to date in 1997 are 510 compared with 1,011 notifications in the same period in 1996. Figure 6 illustrates the seasonal nature of the peaks in rubella infection and also the comparatively small peak for the second half of 1996.

Reports of Ross River virus infection remain at a high level, with 624 reports received this period. The majority of reports in this period were from Queensland (261) and New South Wales (174). Fifty-eight per cent of reports were for the 25 - 49 years age range. Total notifications so far for 1997 remain below the total for the corresponding period in 1996.

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 (ASPREN), the Department of Human Services, Victoria, the Department

of Health, New South Wales and the 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 data from Australia Post. For further information see *CDI 1997;21:126*.

Sentinel general practitioner surveillance

The ASPREN consultation rate rose slightly this fortnight (Figure 7). However Tropical Influenza Surveillance in the Northern Territory has recorded a marked decline in consultation rate in recent weeks.

No data were available from Victoria and New South Wales this fortnight.

Laboratory surveillance

Laboratory reports of influenza rose in early April (Figure 8), with 213 laboratory reports received so far for 1997. Of these, 17% were for influenza A, 35% for influenza B and 48% were untyped. The male:female ratio was 1:1 and 43% of reports were for adults over the age of 65 years.

Figure 5. Pertussis notifications, 1994 to 1997, by month of onset

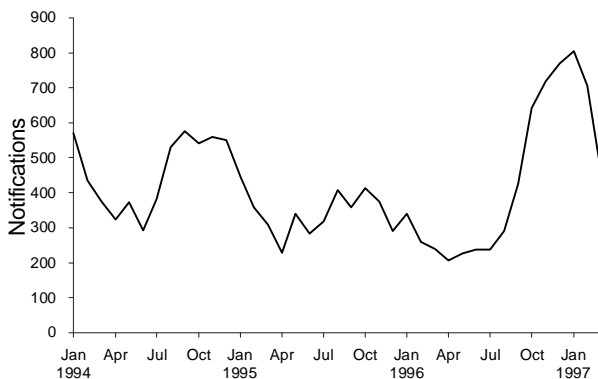


Figure 6. Rubella notifications, 1991 to 1997, by month of onset

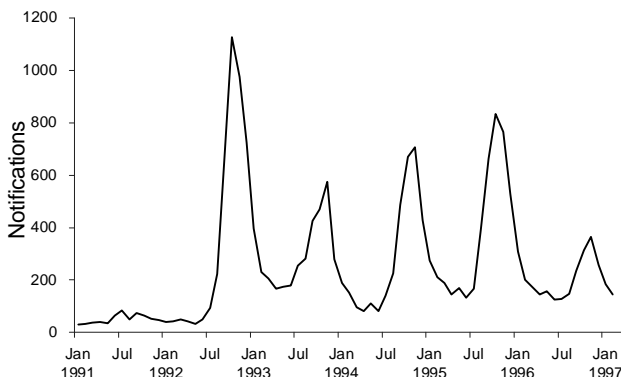


Figure 7. Sentinel general practitioner influenza consultation rates, 1997, by week and scheme

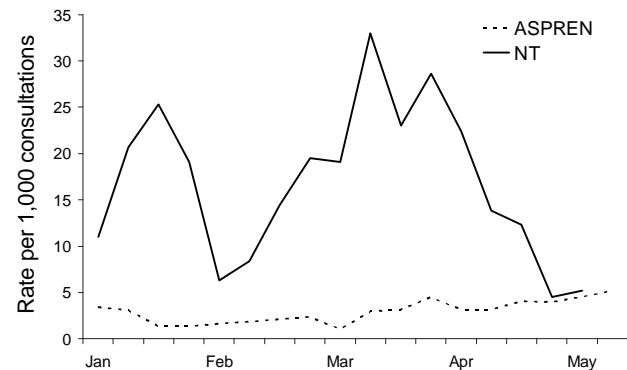
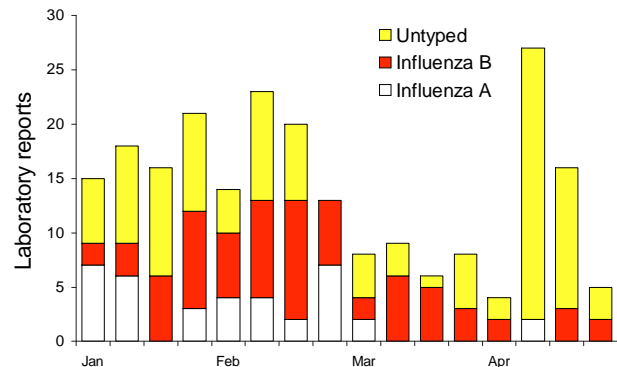


Figure 8. Laboratory reports of influenza, 1997, by week and type



Absenteeism surveillance

Australia Post recorded national absenteeism rates of 2.8% and 2.2% for the most recent two weeks, similar to previous weeks.

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network (ASPREN) comprises 99 sentinel general practitioners from throughout the country. Approximately 9,000 consultations are recorded each week for 12 conditions. 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.

Data for weeks 16 and 17 ending 20 and 27 April respectively are included in this issue of CDI (Table 4). The consultation rates for gastroenteritis have continued at the relatively low levels experienced during the last 3 months. The consultation rates for chickenpox, after rising during the summer period, have remained low, similar to the autumns of 1995 and 1996. Consultation rates for HIV testing (both patient- and doctor-initiated) have remained steady over recent weeks. Consultation rates for Ross River virus infection, measles, rubella and pertussis have remained low during 1997.

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 1,256 reports received in the CDI Virology and Serology Laboratory Reporting Scheme this period (Tables 5 and 6).

Laboratory reports of Barmah Forest virus appear to be declining, although further reports are expected for April

Figure 9. Barmah Forest virus laboratory reports, 1995 to 1997, by month of specimen collection

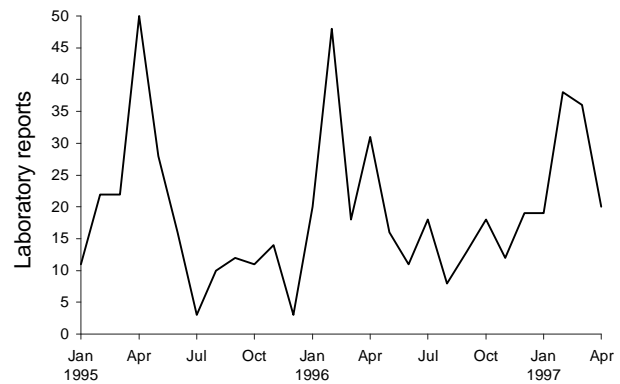
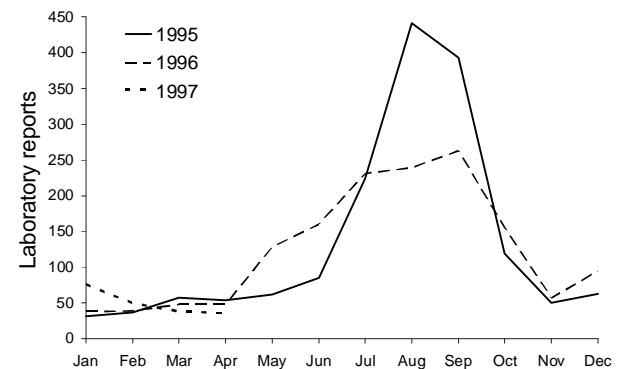


Figure 10. Rotavirus laboratory reports, 1995 to 1997, by month of specimen collection



(Figure 9). There were 35 reports received this period, the majority were from Queensland (29) and the Northern Territory (4).

Laboratory reports of rotavirus remain low but are expected to increase in the coming months (Figure 10). There were 32 reports received this period, with the majority from Western Australia (21) and South Australia (8). Eighty-one per cent of reports were for children under five years of age.

Table 4. Australian Sentinel Practice Research Network reports, weeks 14 and 15, 1997

Condition	Week 16, to 20 April 1997		Week 17, to 27 April 1997	
	Reports	Rate per 1,000 encounters	Reports	Rate per 1,000 encounters
Chickenpox	8	1.3	13	2.1
Gastroenteritis	74	11.6	78	12.7
HIV testing (doctor initiated)	5	0.8	7	1.1
HIV testing (patient initiated)	10	1.6	10	1.6
Influenza	29	4.5	32	5.2
Measles	2	0.3	0	0.0
Pertussis	0	0.0	0	0.0
Ross River virus infection	4	0.6	1	0.2
Rubella	1	0.2	1	0.2

Table 5. Virology and serology laboratory reports by State or Territory¹ for the reporting period 10 to 23 April 1997, historical data², and total reports for the year

	State or Territory ¹							Total this fortnight	Historical data ²	Total reported in <i>CDI</i> in 1997
	NSW	NT	Qld	SA	Tas	Vic	WA			
Measles, mumps, rubella										
Measles virus						1		1	2.7	25
Mumps virus				1			1	2	2.3	17
Rubella virus		1	24					25	14.5	364
Hepatitis viruses										
Hepatitis A virus		2	27	1		2	2	34	15.3	382
Arboviruses										
Ross River virus	13	13	143	63		9	26	267	196.0	1,517
Barmah Forest virus	1	4	29				1	35	10.8	148
Dengue not typed		1						1	0.3	38
Flavivirus (unspecified)			6					6	2.8	19
Adenoviruses										
Adenovirus type 3				1				1	2.3	14
Adenovirus type 5				1				1	0.2	3
Adenovirus type 40							2	2	1.5	8
Adenovirus type 41							1	1	0.2	1
Adenovirus not typed/pending	4		6	6	1	1	5	23	39.5	371
Herpes viruses										
Cytomegalovirus	5		48	3		6	8	70	62.8	494
Varicella-zoster virus	6	1	29	7		8	5	56	46.0	607
Epstein-Barr virus	11	1	79	22		4	5	122	73.0	1,232
Other DNA viruses										
Parvovirus	1			1		12	1	15	3.3	171
Picornavirus family										
Coxsackievirus B4	1							1	0.0	3
Echovirus type 7					1			1	0.2	16
Rhinovirus (all types)	5		16	1		2		24	25.5	261
Enterovirus not typed/pending	2		22				2	26	34.7	282
Ortho/paramyxoviruses										
Influenza A virus			1			1		2	11.3	147
Influenza B virus	1					1	3	5	2.3	117
Influenza virus - typing pending				22				22	0.0	127
Parainfluenza virus type 1				1				1	14.5	38
Parainfluenza virus type 2			5			1		6	13.7	31
Parainfluenza virus type 3	3			1		1	1	6	15.7	340
Parainfluenza virus typing pending				25				25	0.3	160
Respiratory syncytial virus	18		18	2		10	8	56	77.8	362
Other RNA viruses										
Rotavirus	2		1	8			21	32	23.7	346
Astrovirus						1		1	0.2	6
Norwalk agent						4		4	1.7	53
Other										
<i>Chlamydia trachomatis</i> not typed	15	6	134	20	3	15	24	217	122.8	1,982
<i>Chlamydia psittaci</i>						3		3	3.7	36
<i>Chlamydia</i> species	1		3			1		5	3.7	16
<i>Mycoplasma pneumoniae</i>	24	3	44	1		9	3	84	18.5	746
<i>Coxiella burnetii</i> (Q fever)	8		18					26	5.2	130
<i>Rickettsia tsutsugamushi</i>			1					1	0.0	5
<i>Bordetella pertussis</i>	2		21			8	8	39	14.3	914
<i>Legionella pneumophila</i>			4					4	0.7	7
<i>Legionella</i> species		1	2					3	0.0	8
TOTAL	123	33	681	187	5	100	127	1,256	864.0	11,544

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 6. Virology and serology laboratory reports by contributing laboratories for the reporting period 10 to 23 April 1997

State or Territory	Laboratory	Reports
New South Wales	Institute of Clinical Pathology and Medical Research, Westmead	34
	The New Children's Hospital, Westmead	19
	Royal Prince Alfred Hospital, Camperdown	10
	South West Area Pathology Service, Liverpool	22
Queensland	Queensland Medical Laboratory, West End	698
	State Health Laboratory, Brisbane	54
South Australia	Institute of Medical and Veterinary Science, Adelaide	186
Tasmania	Royal Hobart Hospital, Hobart	5
Victoria	Microbiological Diagnostic Unit, University of Melbourne	15
	Monash Medical Centre, Melbourne	19
	Royal Children's Hospital, Melbourne	12
	Victorian Infectious Diseases Reference Laboratory, Fairfield	53
Western Australia	PathCentre Virology, Perth	88
	Princess Margaret Hospital, Perth	41
TOTAL		1,256