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COMMUNICABLE DISEASES NETWORK-AUSTRALIA
A National Network for Communicable Diseases Surveillance

GONOCOCCAL SURVEILLANCE, AUSTRALIA, 1 JANUARY TO 31 MARCH 1994

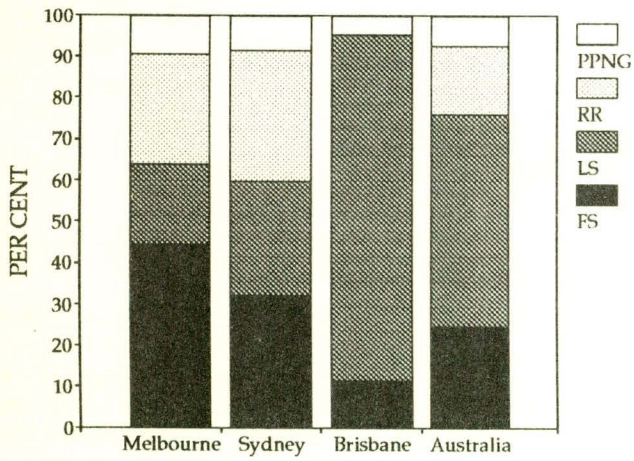
Derived from the Australian Gonococcal Surveillance Programme - AGSP; Co-ordinator JW Tapsall, The Prince of Wales Hospital, Sydney

For the first quarter of 1994, laboratories contributing to the Australian Gonococcal Surveillance Programme (AGSP) examined 420 isolates for their sensitivity to penicillin, ceftriaxone, spectinomycin and ciprofloxacin and for high-level resistance to tetracycline by standardised techniques. The number of strains tested, 420, was similar to the total examined in the previous quarter (427) but less than the 533 seen in the first quarter of 1993.

Significant differences in regional sensitivity patterns were observed particularly in the proportion of strains with chromosomally mediated penicillin resistance (CMRNG). The 69 strains of this type were seen in Sydney and Melbourne, but were not present in other centres. Penicillinase-producing *Neisseria gonorrhoeae* (PPNG) were more widely distributed and totalled 31 throughout Australia. (There were 44 infections with PPNG in the first quarter of 1993). Figure 1 compares the penicillin sensitivity of isolates in Sydney, Melbourne and Brisbane and for Australia as a whole. Figure 2 shows the same data for the corresponding period in 1993. The aggregated data for Australia does not reflect the regional differences noted above. Centres other than Sydney and Melbourne have a distribution of strains similar to that shown for Brisbane.

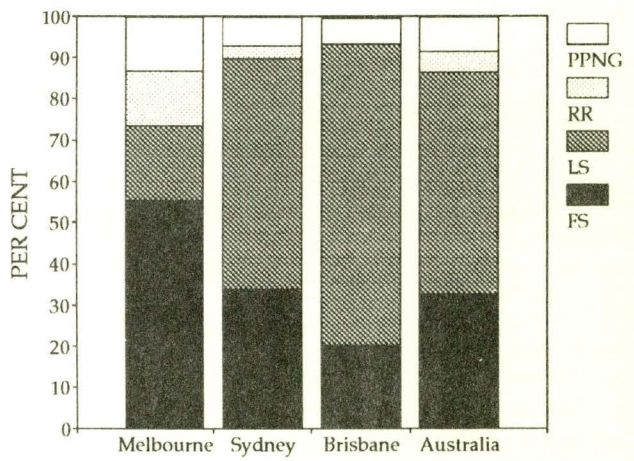
For the first time in many years an isolate resistant to spectinomycin was detected. The strain was isolated in Adelaide but details of acquisition were unavailable. Although all strains examined were sensitive to ceftriaxone, levels of resistance to this antibiotic appear to be rising slightly and isolates with minimal inhibi-

Figure 1. Proportional penicillin sensitivity of isolates of *Neisseria gonorrhoeae*, by centre and for Australia, 1 January to 31 March 1994



PPNG Penicillinase producing *Neisseria gonorrhoeae*.
RR Relatively resistant to penicillin, MIC ≥ 1.0mg/L.
LS Less sensitive to penicillin, MIC 0.06 - 0.5mg/L.
FS Fully sensitive to penicillin, MIC ≤ 0.03mg/L.

Figure 2. Proportional penicillin sensitivity of isolates of *Neisseria gonorrhoeae*, by centre and for Australia, 1 January to 31 March 1994



PPNG Penicillinase producing *Neisseria gonorrhoeae*.
RR Relatively resistant to penicillin, MIC ≥ 1.0mg/L.
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FS Fully sensitive to penicillin, MIC ≤ 0.03mg/L.

Table. Gonococcal isolates, 1 January to 31 March 1994, by centre and for Australia, by sex

	Melbourne	Sydney	Brisbane	Australia[1]
Male	79 (137)	127 (146)	82 (61)	318 (392)
Female	7 (15)	17 (11)	59 (30)	102 (67)
Male : female ratio	11.3:1 (9:1)	7.5:1 (13.3:1)	1.4:1 (2:1)	3.1:1 (5.8:1)

1. Figures from centres with smaller numbers of isolates are not shown separately, but are included in the total national figures.
2. Figures in parentheses are those reported for the same period in 1993.

Figure 3. Gonococcal isolates from males, by centre and for Australia, 1 January to 31 March 1994, by anatomical site

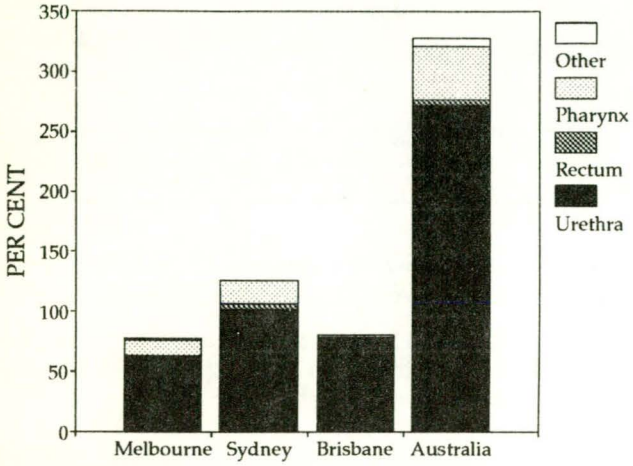
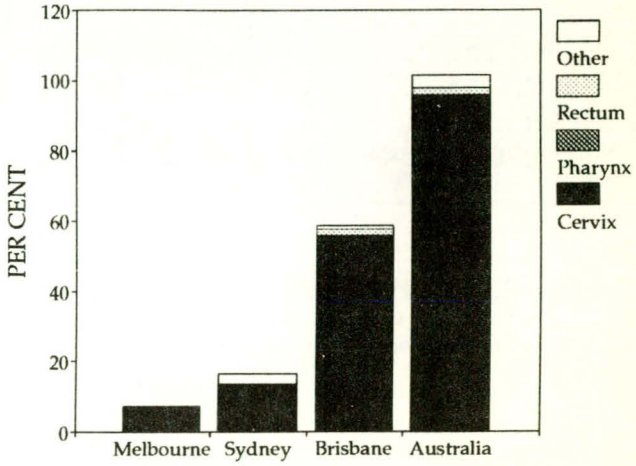


Figure 4. Gonococcal isolates from females, by centre and for Australia, 1 January to 31 March 1994, by anatomical site



tory concentrations (MICs) of 0.06mg/L were found in this period. Four strains only showed decreased susceptibility to ciprofloxacin and eight showed high-level tetracycline resistance (TRNG).

Data on the site of infection and the sex of infected patients for those centres with larger numbers of strains and for pooled national data are shown in Figures 3 and 4 and in the Table.

CROUP IN A DAY CARE CENTRE

Magnolia Cardona, Pam Whitehead, Western Sector Public Health Unit, Sydney, New South Wales

Introduction

Croup or laryngotracheobronchitis (LT) is an acute respiratory syndrome characterised by barking cough, respiratory stridor and low grade fever. Croup is the most common form of acute airway obstruction in children aged six months to six years[1], with a peak occurrence in children under two years of age. It usually runs an uncomplicated, self-limiting course lasting two to five days, although occasionally presents with otitis media, sinusitis or bacterial pneumonia. Although susceptibility is universal and recurrence is common, severity of symptoms is greater in children, infants and the elderly.

Differential diagnoses include pertussis, acute epiglottitis[2], asthma, foreign body and even diphtheria[3]. The major causal agents are the parainfluenza viruses[4], but respiratory syncytial virus, adenoviruses, rhinoviruses and coxsackieviruses have also been implicated. Laboratory diagnosis based on the isolation of the aetiologic agent from respiratory secretions in cell culture or identification of viral antigen or antibodies is not routine in mild cases because no specific treatment is available for the common agents. Therefore, clinical judgement is of crucial importance in early diagnosis and in management of potential complications.

The modes of transmission associated with the main aetiological agents are direct oral contact, contact with utensils soiled with respiratory secretions and droplet spread. Thus, avoiding contact with infective oral and nasal secretions, exclusion of sick children, limiting overcrowding and maintaining high standards of hygiene seem the most effective way of preventing spread.

Investigation

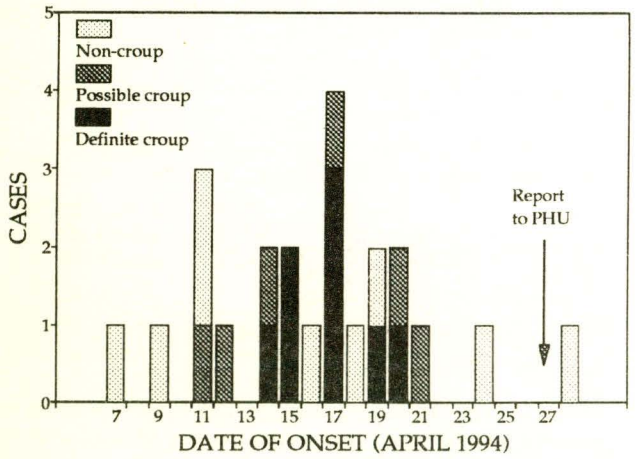
On 27 April 1994, the director of a day care centre reported six cases of croup, three of whom had been hospitalised, to the Western Sector Public Health Unit (PHU) in Parramatta, New South Wales. Although croup is not a notifiable condition in New South Wales, the occurrence of an unusually high number of cases, some requiring hospitalisation, warranted further investigation. The purpose of the investigation was to determine if there was an outbreak, assess its extent and detect additional (perhaps undiagnosed) cases in order to exclude them from the centre.

Within 24 hours of the first report to the PHU we gave parents of all children enrolled at the centre a self-administered questionnaire containing questions on demographics of the child, onset and characteristics of any respiratory illness, confirmation of diagnosis by a general practitioner (GP), exclusion from the day care centre and illness in family members or other contacts. Parents were asked to call the PHU once the questionnaire was completed and responses were then

Table. Agreement between working case definition and GP diagnosis for 23 ill children seen by GPs

GP diagnosis	Working case definition			
	Definite croup	Possible croup	Non-croup respiratory illness	Total
Definite	5	2	1	8
Possible	0	4	1	5
Non-croup respiratory illness	0	6	4	10
Total	5	12	6	23

Figure. GP diagnosed cases of respiratory illness in a day care centre, 7 to 28 April 1994, by date of onset and GP diagnosis



ascertained by telephone. Reminder calls were made in an attempt to enhance the response rate.

In order to identify further cases, we developed a working case definition on the basis of the most common symptoms associated with croup reported in the literature[5,6]. Any child for whom a parent reported a history of fever and inspiratory/ expiratory stridor and barking cough was considered a 'definite' case. Any child presenting with two of these three symptoms was considered a 'possible' case.

No laboratory investigations were performed.

Results

The day care centre operated with a weekly capacity of 76 children aged under five years. Children were allocated to one of four rooms according to their age group. Not all children attended the centre every day.

Thirty-five of the parents (46%) called the PHU within seven days of being given the questionnaire; these included the parents of eight well children and those of 27 (77%) children who had experienced various respiratory conditions in the previous three weeks, including croup, ear infections, common cold and asthma. Children from each room (age group) were affected: four (15%) were less than 18 months of age, three (11%) were 18-23 months old, 13 (48%) were 24-35 months old and seven (26%) were aged 36-60 months.

Twenty-three (85%) of these 27 had consulted their local GP. The distribution of symptoms for these ill children was barking cough 21 (78%), fever 16 (59%) and inspiratory/expiratory stridor 10 (37%).

Onset for all GP diagnosed croup, possible croup and non-croup respiratory illness cases was between 14 and 20 April 1994 (Figure). Three children required hospitalisation; they were admitted for a maximum of three days and had no complications. Clinical management of croup by GPs included humidifiers, antipyretics and cough syrups. Antibiotics were mostly prescribed in cases of middle ear infection (14). Five of the eight cases of GP diagnosed croup had a sibling with a respiratory illness subsequent to the onset of symptoms.

Perfect agreement between GP diagnosis and our working definition was good at 56.5% (13/23) with weighted Kappa= 0.55, and 95% confidence interval = 0.24 - 0.86 (Table). Among the 27 children with respiratory illness, local GPs diagnosed eight cases of croup and five cases of possible croup, whereas using our working case definition there were five 'definite' cases and 12 'possible' cases. Our case definition identified six possible cases among children diagnosed by GPs as having non-croup respiratory illness and four additional possible cases who were not seen by a GP. However, one case diagnosed as croup and one diagnosed as possible croup by GPs were not included under our working case definition.

A total of 28% of all children attending the centre (21/76) were absent from the facility between 9 and 28 April. In general, parents took the initiative of removing children from the centre shortly after onset of symptoms, although a few children were actively excluded by the centre's staff. Periods of absence ranged from one to fourteen days, with the variation explained by the erratic attendance of some children rather than by the severity of their illness.

No further cases of croup were reported after 28 April 1994.

Public health action

Close liaison with the director of the centre was established from the time of initial report of the cases. Fact sheets advising parents on the mode of transmission

and preventive measures were sent to the centre for distribution to all parents within 24 hours. Staff from the PHU reinforced messages on preventive measures to responding parents during the interviews. Children with incomplete immunisation were referred to their GP for further advice.

Feedback on the findings of the investigation was sent to the centre's staff for future reference.

Discussion

In this outbreak of croup, the disease ran a mild course in most children and mainly affected those over two years of age (74% of ill children). We were unable to calculate attack rate by age group as information on non-respondents was not available. Although the pattern of disease onsets suggested a common source outbreak with one aetiological agent, no specimens were tested, so, it was not possible to determine which cases of both croup and non-croup respiratory illness were related.

A combination of irregular attendance of children at the centre and parental perception of the low severity of the condition were likely to be responsible for the poor response rate. It is probable that most of the non-respondents were parents of unaffected children as it would be unlikely that the staff were unaware of a severe case for which no response was received.

In this, like many outbreak investigations, public health authorities were first alerted only after most cases had occurred and recovered. By that stage no further exclusions or investigation of contacts was required, as there had been no new croup cases for a week. Earlier use of a working case definition may have proved helpful at detecting undiagnosed cases, and interrupting transmission and preventing potential complications by excluding infected children. Our case definition based on parental reports of conventional symptoms cited in the literature was in good agreement with GP diagnosis of definite cases and suggested the occurrence of four additional 'possible' cases who did not consult a GP. In the absence of a gold standard for clinical diagnosis of croup and the lack of laboratory evidence to support diagnosis in this outbreak, we have no way of confirming whether the additional six 'possible croup' cases identified by our working case definition were in fact distinct respiratory illnesses or part of a single outbreak of respiratory illness, with differing manifestations.

Acknowledgments

Thanks are due to the day care centre staff and parents for their co-operation, to Cissy Chow for input in the early stages of the investigation, to Louisa Jorm for advice on the draft of this paper and to all members of the Western Sector PHU for taking phone calls from concerned parents.

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MENINGITIS DUE TO *NEISSERIA MENINGITIDIS* RELATIVELY RESISTANT TO PENICILLIN

Chris Coulter[1], *David Paterson*[2], *Sandra Miller*[1], *Mee Len Thong*[1], *Anthony Allworth*[2]

Neisseria meningitidis relatively resistant to penicillin has been reported in Europe, Africa and North America, but never previously in Australia. We report a case of meningitis due to *N. meningitidis* which was relatively resistant to penicillin.

Case report

A 14 year old boy was admitted to the intensive care ward of Royal Brisbane Hospital on August 25, 1994 with fevers, headache, neck stiffness and decreased level of consciousness. Purpuric skin lesions were observed, although his digits were not threatened by gangrene. Full blood examination revealed a neutrophil leukocytosis (white cell count 24.3 x 10^9/L, neutrophils 23.0 x 10^9/L). The prothrombin time was elevated (25 seconds), but there was no evidence of disseminated intravascular coagulation. Blood cultures were performed. Microscopic examination of buffy coat revealed diplococci, consistent with *N. men-*

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ingitidis. Computed tomography of the head showed features of raised intracranial pressure, so a lumbar puncture was not performed.

Notably he had a past history of meningitis due to *N. meningitidis* group Y in January 1993, which was treated with intravenous penicillin for ten days and rifampicin for two days. On that occasion *N. meningitidis*, which was fully sensitive to penicillin, was grown from blood and cerebrospinal fluid. Prior to that time he had also suffered recurrent otitis media and lower respiratory tract infections, although their frequency had diminished as he reached his teenage years.

Blood cultures grew *N. meningitidis* group B within 24 hours. Identification was performed using the Vitek NHI card (bioMerieux Vitek, Inc.) incubated at 35°C for four hours. *N. meningitidis* was identified with a confidence level of 98%. This was confirmed by the formation of acid in serum sugars glucose and maltose, incubated for 18 hours at 35°C in air. The result was further confirmed by positive γ-glutamylaminopeptidase and proline aminopeptidase incubated for four hours at 35°C in air. Negative results were obtained from *o*-nitrophenyl-β-D-galactosidase (OPNG) and tributyrin tests (Rosco Diagnostica).

Routine agar dilution sensitivity testing revealed that the organism was of intermediate susceptibility to penicillin, with a minimal inhibitory concentration (MIC) of >0.125 mg/L but <1.0 mg/L. β-lactamase production was not detected (Nitrocefin method).

The E test method, which has been previously described as an appropriate susceptibility test for evaluation of *N. meningitidis* isolates[1,2], confirmed that the organism was relatively resistant to penicillin. When measured by the E test (AB Biodisk) with 18 hours' incubation in 5% CO_2 at 35°C, the MIC to penicillin was 0.38mg/L. The MIC for cefotaxime was also determined by the E test method and was found to be 0.016 mg/L.

The patient was treated initially with cefotaxime and penicillin, and then changed to cefotaxime alone. He received ten days' of the third generation cephalosporin and four doses of rifampicin (600mg, twelve hours apart). He made a prompt recovery. Investigations into the cause of his recurrent meningococcal meningitis are being pursued.

Discussion

N. meningitidis, relatively resistant to penicillin, was first identified in Spain in 1987[3]. It has been defined as having a penicillin MIC of 0.1-1.0 mg/L.[3] Since the late 1980s, relative resistance to penicillin has also been described in Africa, Greece and the United Kingdom[4-6]. The first case in the United States was reported in October 1992, although subsequent retrospective analysis has identified three additional cases from 1991[7,8]. No cases have previously been reported from Australia.

Jackson et al[8] from the Centers for Disease Control and Prevention found a prevalence of relative resistance of 3-4% in the United States. Each of their three resistant cases had an MIC of 0.125 mg/L. Jones and Kaczmarski[6] have recently reviewed 1297 invasive meningococcal infections in England and Wales in 1993. Seventy-six (6%) of the isolates had MICs in the range of 0.16 to 1.28 mg/L. They stated 'this degree of reduced susceptibility is not clinically important when (high) doses of penicillin are given', but did not give details of the success of using penicillin alone for these infections.

Nationwide surveillance to monitor trends in antimicrobial susceptibility of *N. meningitidis* in Australia is prudent given the emergence of relative resistance to penicillin here.

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CDI editorial comment

In response to the emergence of antibiotic resistance in *Neisseria meningitidis*, the National *Neisseria* Network was established in 1993 to enhance surveillance of meningococcal infections in Australia. Meningococcal Reference Laboratories in each State and in the ACT pool data from analysis of strains from blood and CSF samples. The analysis includes both antibiotic susceptibility testing, and serotyping and sub-serotyping to enable epidemiological analysis.

Laboratories are encouraged to refer meningococcal isolates to the Meningococcal Reference Laboratories, as listed in *CDI* 1993;17:573.

OUTBREAK OF SEVERE RESPIRATORY DISEASE IN HUMANS AND HORSES DUE TO A PREVIOUSLY UNRECOGNISED PARAMYXOVIRUS

Linda Selvey, Communicable Diseases, Queensland Health and National Centre for Epidemiology and Population Health; John Sheridan, Communicable Diseases, Queensland Health

This is a brief report of a new paramyxovirus infection (morbilliform group) involving humans and horses. Hendra, a residential suburb of Brisbane, Queensland, is situated close to two racecourses and includes many houses with stables on their premises. In early September, a pregnant mare had been moved from a spelling paddock to one such stable when it was noted to be unwell. Two days later the mare died.

Five days after the death of the mare a stablehand became ill with an influenza-like illness characterised by high fever and myalgia with few respiratory symptoms. The following day the horse trainer became ill with similar symptoms to the stablehand. Both the stablehand and the horse trainer had had close contact with the dying mare. The horse trainer was noted to have attempted to force feed the mare, which involved placing his bare hand into the sick mare's mouth.

Eight to eleven days after the death of the mare a number of horses in the stable became sick and several died after a brief illness. A total of 14 horses died overall, including the index case. All but one had been associated with the same stable; the other died in the stable next door. The predominant autopsy finding in the horses was heavy wet lungs, with a histopathological picture of interstitial pneumonia. There was little evidence of pathology in other organ systems.

The stablehand remained ill for over two weeks and has been gradually recovering, although he has maintained a low grade fever. The horse trainer, however, continued to deteriorate and seven days after the onset of symptoms he required ventilation. He died six days later. The predominant finding at autopsy was heavy, wet lungs and the lung histopathology was consistent with interstitial pneumonia. There was very little pathology in other organ systems with the exception of some renal tubular necrosis. During the course of his illness and after death, the horse trainer was tested for a variety of microorganisms, including *Legionella*. No bacterial organism was cultured from his blood, bronchial aspirate or lung. Hantavirus serology was performed in three different institutions, and antibodies to any of the known hantaviruses (including Muerto Canyon virus, recently identified in the United States) were not detected in serum from either the horse trainer or the stablehand.

Queensland Health was notified of the situation on the day following ventilation of the horse trainer. Following a visit to the Hendra site, efforts were made to curb possible further transmission of the infectious agent by improving hygiene and trapping rodents.

A paramyxovirus of the morbilliform group was cultured from the lungs of six of the dead horses at the Australian Animal Health Laboratory in Geelong. Characterisation of this virus by sequence analysis is currently under way. Horses infected with cultured virus have died rapidly with similar clinical and pathological findings to the original dead horses. A virus has been cultured from the horse trainer's kidney tissue and samples have been sent to Geelong for characterisation.

Virus neutralisation and immunofluorescence assays have been developed to detect antibodies against the paramyxovirus. Both the horse trainer and the stablehand were found to have had high titres of antibodies in the neutralisation assay. Other persons who had close association with the horses have also been tested and one has been found to have an equivocally positive result at this stage. Further testing is in process.

In summary, this is a report of a newly recognised paramyxovirus which has apparently caused severe respiratory disease in both humans and horses. The mode of transmission and the origin of the virus is as yet unknown but it would appear that close contact with blood or discharges from the nose or the mouth are necessary for virus transmission. At 14 October, no new cases had been reported in humans or horses since September 23.

HUMAN PLAGUE IN 1992

Reproduced from the World Health Organization's Weekly Epidemiological Record 1994;69:8-10, 67

During 1992, nine countries reported a total of 1758 cases of human plague (including 198 deaths) to the World Health Organization. In 1991, plague was reported by 10 countries, with human cases totalling 1966, of which 133 were fatal (Table 1). In 1992, the global case-fatality rate was 8.7% as compared with an average of 10.4% per year in the previous 10 years.

During the period 1978 to 1992, 14,856 cases with 1451 deaths were notified in 21 countries (Table), six of them (Brazil, Madagascar, Myanmar, the United Republic of Tanzania, the United States and Vietnam) reported human plague practically every year. The highest numbers of plague cases were recorded in 1984, 1988 and 1990-1992. Over the last decade (1983-1992) 61% of the cases (7290) and 77% of the deaths (961) were reported from Africa.

Africa

On the African continent, human plague was reported in two countries in 1992, Madagascar and Zaire, giving a total of 588 cases (166 deaths).

As in previous years, plague in Madagascar (198 cases, 29 deaths) was recorded in four provinces: Antananarivo, Fianarantsoa, Mahajanga and Toamasina. A tendency to increased incidence of plague in Madagascar has been observed since 1988. As in 1991, the majority of cases were recorded in Antananarivo Province (61 cases, 19 deaths) and Fianarantsoa Province (99 cases, 5 deaths). Peaks in plague incidence were observed in January-May and November-December.

The total number of plague cases reported from Zaire was 390, with 140 deaths. A preliminary report from this country was that human plague continued to be recorded in Ituri Sub-region (Upper Zaire Province) affecting five Rural Health Zones: Logo (125 cases, 47 deaths), Rimba (11 cases, four deaths), Nyarembe (22 cases, nine deaths), Rethy (54 cases, 19 deaths), and Bunia (two cases, one death). The three major clinical forms of the disease - bubonic, septicaemic and pulmonary - were registed in 1992. Cases were reported from January to September with a major incidence noted during May-June (nearly 60% of the annual total).

The Americas

In the Americas, a total of 158 plague cases (six deaths) were reported by three countries: Brazil (25 cases), Peru (120 cases, four deaths) and the United States (13 cases, two deaths).

In Brazil, plague cases were reported in Bahia State in six municipalities (Anguera, Central, Feira de Santana, Ipecaeta, Itaberaba and Santo Estevao). Twenty-five cases occurred from February to June, with most cases reported in June.

In Peru, 118 of the 120 cases occurred in Cajamarca Department (San Miguel Province): 96 cases (one death) in San Gregorio District, 14 cases (two deaths) in Bolivar District, five cases in Nanchoc District and three cases in Carahuasi District. The other two cases were reported from Piura Department (Morropon Province).

Table. Human plague cases and deaths reported in the world, 1987 to 1992, by region and year

	Africa		Americas		Asia		World total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1978	203	15	97	5	485	14	785	34
1979	251	15	23	2	387	16	661	33
1980	86	22	142	7	283	29	511	58
1981	59	19	128	12	13	0	200	31
1982	290	43	182	4	821	1	753	48
1983	594	59	225	12	248	21	1067	92
1984	650	59	500	42	206	6	1356	107
1985	215	41	128	9	178	8	521	58
1986	729	90	162	19	118	6	1009	115
1987	853	198	88	9	119	8	1060	215
1988	1109	138	52	5	210	10	1371	153
1989	305	54	30	0	425	49	760	103
1990	704	98	48	6	502	29	1254	133
1991	1719	118	21	0	226	15	1966	133
1992	588	166	158	6	1012	26	1758	198

In the United States, plague cases were recorded in seven states. California (Fresno County), Idaho (Owyhee County), Nevada (Douglas County), Utah (Utah County) and Wyoming (Sheridan County) reported one case each. In Arizona, three cases of plague were registered in Apache County and one case in Pima County. In New Mexico, two cases were recorded in Santa Fe County and one case in Albuquerque and San Miguel Counties. Cases of plague occurred from April to November, with most cases reported in July and August. Distribution of plague cases by age was from two to 68 years, with a predominance of males (12 patients out of 13).

Asia

In Asia, human plague was reported in four countries: China, Mongolia, Myanmar and Vietnam, with a total of 1012 cases including 26 deaths.

The number of plague cases reported from China was 35, with six deaths. No epidemiological details were provided.

In Mongolia, plague cases were recorded in Arkhangai Aimak (five cases, two deaths), Uvs (two cases, both fatal), Uvurhangai (four cases) and Baganur (one case). All the 12 persons were infected with plague in July and August and were amateur marmot hunters.

In Myanmar, 528 cases of plague (three fatal) were reported from Magway (236 cases, three deaths) and Sagaing (292 cases) Divisions.

In Vietnam, 437 cases of plague were notified, 13 of which were fatal. No epidemiological details were provided.

CDI editorial comment

During 1993, plague was reported to the World Health Organization by Madagascar (cases occurring each month), the United States (cases between April and July), Uganda (167 cases and 18 deaths reported in April and May), Mongolia (cases mainly in June, July and August), Peru (228 cases and 14 deaths) and Zaire (259 cases and 62 deaths between August and December).

For 1994, Madagascar has reported cases for each month, the United States has reported cases mainly between April and July, Peru has reported 420 cases and 19 deaths between January and May, there were two suspected cases reported from Zaire in June, and the recent outbreaks in India and Mozambique (see Overseas Briefs, below, for more details).

At 29 September 1994, all or parts of the following areas were considered to be plague infected by the World Health Organization: Antananarivo, Antisiranana, Fianarantsoa, Mahajanga and Toamasina Provinces in Madagascar; Tanga Region in the United Republic of Tanzania; Western Region in Uganda; Haut Zaire Province in Zaire; La Paz Department in Bolivia; Bahia and Paraiba States in Brazil; Cajamarca, La Libertad, Lambayeque and Piura Departments in Peru; Gia-Lai-Cong Tum, Lam Dong and Phu Khan Provinces in Vietnam and Gujarat and Maharashtra States in India[1,2].

Epidemics of plague occurred in Australia in the early part of this century, connected with shipping and port facilities[3]. Cases were reported for New South Wales, Victoria, Queensland, South Australia and/or Western Australia every year between 1900 and 1909 (1212 cases in total). In 1921-22, there were 127 cases reported from several areas of Queensland, and 35 cases in the Sydney area of New South Wales. The last case recorded in Australia was a sporadic one in Sydney in July 1923. All the cases that occurred in Australia were considered to be bubonic (and thus associated with foci of epizootic plague in rodents), except for some in Queensland in 1905 and some in New South Wales in 1906.

References

1. Infected areas as at 15 September 1994. *Wkly Epidemiol Rec* 1994;69:278-280.
2. Newly infected areas as at 29 September 1994. *Wkly Epidemiol Rec* 1994;69:292.
3. Cumpston, JHL. MJ Lewis, ed. *Health and disease in Australia.* Canberra: Australian Government Publishing Service, 1989.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization, ESR:Health, New Zealand, PHLS Communicable Disease Surveillance Centre, London, England.

Plague in India

In the second week of October, the number of suspect plague cases in India continued to diminish and there was no evidence of any new outbreak. Only serologically confirmed cases are now being reported; there had been 730 cases and 56 deaths at 12 October:

Gujarat State - Surat, 118 cases, 52 deaths
Other districts, 6 cases
Maharasthtra State - Beed, 449 cases
Other districts, 35 cases
Delhi Territory, 67 cases, 3 deaths
Madya Pradesh, 9 cases
Uttar Pradesh, 10 cases
Haryana, one case
Karnataka, 35 cases, one death.

The outbreak in Maharashtra State was of bubonic plague and was considered to be under control by the end of September. Including suspect cases, over 1400 cases had been reported at 7 October. The outbreak in Gujarat State involved pneumonic spread; there had been over 3700 cases (including suspect cases) reported at 7 October. For the country overall, there have been reports of over 5600 cases (including suspect cases) since the beginning of the outbreaks. Plague had been last reported in India in 1966.

Surat District in Gujarat State and Beed District in Maharashtra State have been declared infected.

Plague in Mozambique

An outbreak of suspected plague has been reported from Inhamgoma locality, Nutarara District (Tete Province). A total of 127 suspect cases of bubonic plague and three deaths were reported for the period 2 to 29 September. The last plague cases reported in Mozambique were in the same area in 1978 when 12 cases were reported.

Influenza in New Zealand

Influenza A H_3N_2 continues to predominate in New Zealand. Strains analysed have been shown to be A/Beijing/32/92-like.

National immunisation campaign in the United Kingdom

A national campaign to immunise children aged five to 16 years with the combined measles and rubella vaccine (MR) is to be carried out in the United Kingdom in November 1994. The campaign aims to prevent a measles epidemic (perhaps of 100,000 to 200,000 cases and 50 deaths) predicted for 1995, and improve rubella immunity (especially in males). By offering immediate vaccination to girls who did not receive measles-mumps-rubella vaccine (MMR) but have not reached the age (10 to 14 years) when schoolgirls currently receive rubella vaccine, it will enable the school rubella program to cease. Children will be invited for immunisation, irrespective of a history of measles or rubella disease or vaccination; in those who are immune, the vaccine will act as a booster.

Dengue and dengue haemorrhagic fever in Laos

An epidemic of dengue and dengue haemorrhagic fever has been occurring in Laos. Until 26 July 1994, 375 cases had been reported (most in June and July), with three deaths. All but ten were reported from the Vientiane Municipality; 367 (98%) were in children under the age of 16 years and 245 (71%) were less than 11 years old. There have been four viral isolates identified, two as dengue 1 and two as dengue 2. Control measures undertaken have included systematic destruction of larval breeding sites, recommendations for the use of mosquito nets during the daytime and national radio and television information campaigns.

Cholera update

The Ukraine reported 670 cases and 17 deaths occurring in September in Simferopol (Republic of Crimea), Cheson, Nicolaev and Odesskaya. Simferopol and Cheson have been added to the infected areas list.

Albania has reported 170 cases and five deaths in the period 9 to 16 September. Kucove and Berat in Berat Province and Librazhd in Librazhd Province have been declared infected areas. Control measures including extensive water chlorination and a health education campaign are being undertaken.

Kambia District in the Northern Province in Sierra Leone has also been declared infected.

Cases have been reported for July, August and September from Afghanistan, Albania, Azerbaijan, Benin, Brazil, Cambodia, Cameroon, Chad, China, Cote d'Ivoire, Dagestan, El Salvador, Ghana, Guinea, Hong Kong, India, Liberia, Malawi, Mexico, Moldova, Mozambique, Niger, Nigeria, Philippines, Rwanda-Zaire (8786 cases and 545 deaths in the refugee camps to 13 August), Sierra Leone, Somalia, Singapore, Tajikstan, Uganda and Ukraine.

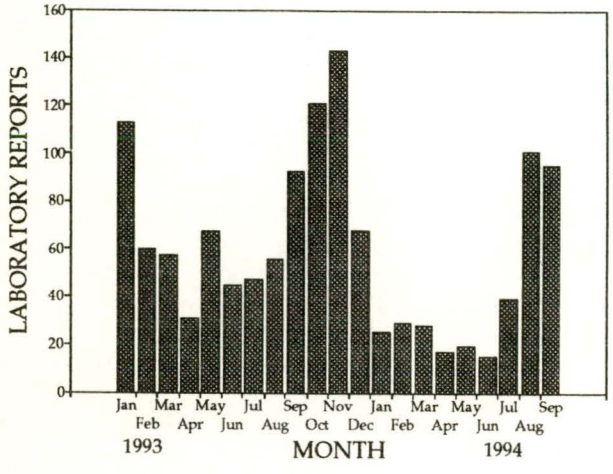
COMMUNICABLE DISEASES SURVEILLANCE

Virology and Serology Reporting Scheme

There were 2675 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 7, 8 and 9). This fortnight we welcome Royal Prince Alfred Hospital to the Scheme.

- Ninety-two reports of **measles** were received this period, 55 males and 37 females, 68 of whom were in the 5 to 24 year age group. Included was a 12 year old male with a diagnosis of SSPE (high titre in CSF and serum). Diagnosis of the other 91 cases was by IgM detection. The number of reports continued to rise through the month of September.
- **Rubella** was reported for 139 patients this fortnight, 40 females, 18 of whom were in the 15 to 44 year age group, and 99 males. One hundred and twenty-five reports were from Queensland. Diagnosis was by IgM detection (137) and fourfold rise in titre (2). An increased number of reports was received for the months of August and September (Figure 1).
- Sixteen reports of **hepatitis A** were received, 9 males and 7 females, age range 5 to 44 years. Included was a nurse from Victoria.
- Positive **hepatitis B** serology was reported for 129 patients this fortnight, 72 males and 55 females (2 sex not stated). Seventy-four patients were in the 25 to 44 year age group, and 22 in the 15 to 24 year age group. Included were 11 pregnant females, one injecting drug user, one haemodialysis patient and the index case in a needlestick injury. This virus was also reported for a 46 year old male prisoner, 7 and 9 year old male siblings, and for a 50 year old female failed renal transplant recipient.

Figure 1. Rubella laboratory reports, 1993 to 1994, by month of specimen collection



- Positive **hepatitis C** serology was reported for 303 patients this fortnight, 161 males and 137 females (5 sex not stated). Two hundred and twenty-two reports were for the 25 to 44 year age group, and 35 for the 15 to 24 year age group. Included were 26 injecting drug users, one of whom reported needle sharing 3 months previously, 4 pregnant females, one haemophiliac, one patient who reported a history of blood transfusion and one alcoholic with liver disease.
- **Ross river virus infection** was reported for 24 patients this period, Queensland (19), Western Australia (2), New South Wales (one), Northern Territory (one), South Australia (one). All diagnoses were by IgM detection.
- Eight reports of **Barmah forest virus** were received this fortnight, all diagnosed by IgM detection. Specimen collection dates were in late August, early September and one in late July.
- A report of **untyped dengue virus** was received for a 48 year old male who had a febrile illness with rash whilst visiting the Philippines (diagnosis by IgM detection).
- **Kunjin virus** was diagnosed by IgM detection for a 29 year old male from Nhulunbuy in the Northern Territory who reported lethargy and joint pain (specimen collected late August).
- **Untyped flavivirus** was diagnosed by IgM detection (specimen collection date August) for a 57 year old male from Toorbul, Queensland.
- Seventy-seven reports of **adenovirus** were received this fortnight, 45 virus isolations, 31 antigen detections and one single high titre. Twenty patients were under the age of one year and 37 were in the under 4 year age group. Included was **untyped adenovirus** detected by immunofluorescence in the nasopharynx of a 14 month old female with maple syrup urine disease.
- **Herpes simplex virus type 1** was reported for 215 patients this fortnight, 192 isolations and 23 antigen detections.
- Two hundred and eighty-three reports of **herpes simplex virus type 2** were received this fortnight, diagnosed by virus isolation (275) and antigen detection (8).
- There were 82 reports of **cytomegalovirus** this fortnight, 47 virus isolations, 3 antigen detections, 31 IgM detections and one fourfold rise in titre. Included were 28 injecting drug users, 3 transplant recipients, 2 immunosuppressed patients, one with a malignancy and 18 pregnant females. This virus was also diagnosed by nucleic acid detection in the CSF of a 25 year old female with CNS disease.

- Nine reports of **parvovirus** were received this fortnight, 7 females (6 in the 15 to 44 year age group) and 2 males.
- Seventy-four reports of **rhinovirus** were received this fortnight, all diagnosed by virus isolation. Sixty-two patients were under the age of 4 years. An increased number of reports was received for the months of July and August (Figure 2).
- **Influenza A** was reported for 69 patients this fortnight including one H_3N_2 strain. Included were 36 males and 33 females, 23 over the age of 65 years. Diagnosis was by antigen detection (5), virus isolation (12), fourfold rise in titre (13), IgM detection (2) and single high titre (37). Included was virus detection by immunofluorescence in the nasopharynx of a 3 year old female with malignant disease. Reports were received from the Australian Capital Territory (one), Victoria (19), Western Australia (23), Queensland (9), New South Wales (6), South Australia (5) and the Northern Territory (6). A total of 352 reports was received for the month of August (Figure 3).
- No reports of **influenza B** were received this period.
- **Parainfluenza virus type 1** was reported for 2 patients this period, both under the age of 4 years. Diagnosis was by virus isolation.
- Thirty reports of **parainfluenza virus type 3** were received this fortnight, 14 in the under one year age group and a total of 23 under the age of 4 years. Diagnosis was by virus isolation (12), antigen detection (16), single high titre (one) and fourfold rise in titre (one).
- Two hundred and ninety-five reports of **respiratory syncytial virus (RSV)** were received this fortnight, 62 for patients under the age of 4 years. The number of reports continued to fall during the month of September after peaking in July. Diagnosis was by virus isolation (105), antigen detection (169), single high titre (18) and fourfold rise in titre (3). Included was a one month old male who was ventilated, a male who also had rotavirus and a 3 year old male whose sibling also had RSV.
- **Rotavirus** was reported for 251 patients this period, 128 males and 122 females (one sex not stated). One hundred and ninety-nine patients were less than 4 years of age, 52 being in the under one year age group. The number of reports peaked in August.
- One hundred and twenty-six reports of ***Chlamydia trachomatis*** were received this fortnight, 44 males and 82 females. One hundred and eighteen patients were in the 15 to 44 year age group. Included was a 19 year old female with pelvic inflammatory disease. Diagnosis was by culture (80), antigen detection (44) and single high titre (2).
- Sixty reports of ***Mycoplasma pneumoniae*** were received this period, 27 males and 33 females, 44 under the age of 14 years. Included was a 4 year old

Figure 2. Rhinovirus laboratory reports, 1989 to 1993 average and 1994, by month of specimen collection

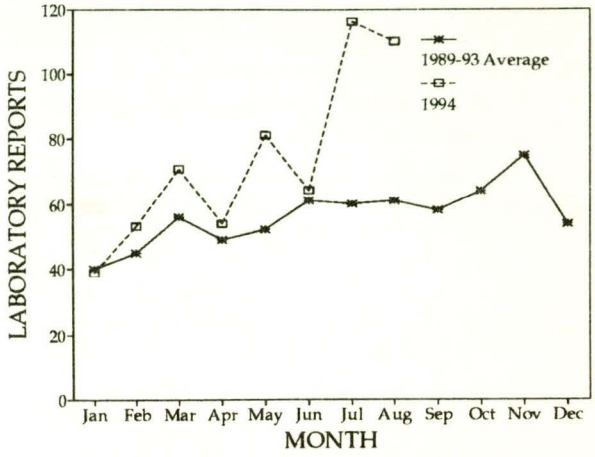


Figure 3. Influenza A laboratory reports, 1992 to 1994, by year and month of specimen collection

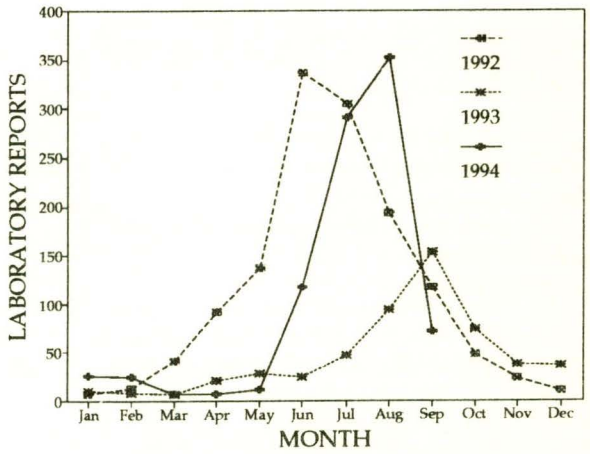


Figure 4. *Mycoplasma pneumoniae* laboratory reports, 1992 to 1994, by month of specimen collection

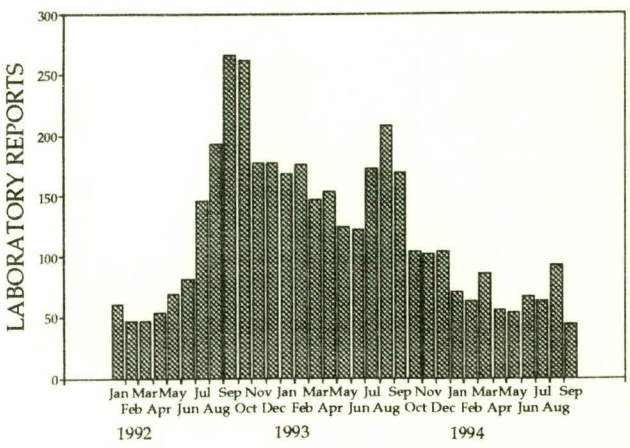


Table 1. Australian Sentinel Practice Research Network, weeks 38 and 39 1994

Condition	Week 38, to 25 September 1994		Week 39, to 2 October 1994	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	95	10.1	89	10.1
Measles	1	0.1	2	0.2
Chickenpox	30	3.2	22	2.5
Pertussis	3	0.3	1	0.1
Gastroenteritis	132	14.0	145	16.4

male with Guillain Barré syndrome and a 2 year old male with CNS disease. Reports are continuing at a low level compared with the peak in spring 1992 (Figure 4).

- ***Bordetella* species** was reported for 66 patients this period, 58 *Bordetella* pertussis, 7 *Bordetella* species and one *Bordetella* parapertussis. Included were 33 males and 32 females, age range one month to 99 years.
- Positive **syphilis** serology was reported for 10 patients this period, 6 males and 4 females.

Australian Sentinel Practice Research Network

Data for weeks 38 and 39 are included in this issue of *CDI* (Table 1). There were 10,012 consultations reported for week 38 and 9457 for week 39. The overall rate of influenza reporting did not decline further again this fortnight, remaining at the same level as in week 36 and in May this year.

The rate of reporting of pertussis this fortnight was not as high as in the previous few weeks.

National Influenza Surveillance 1994

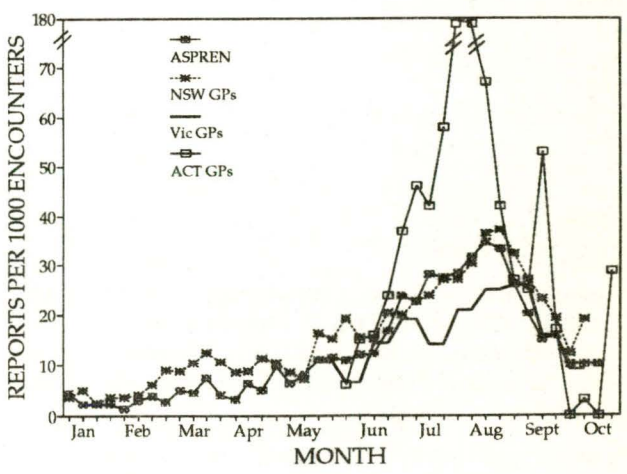
Australian Capital Territory Department of Health; Australian Defence Force; Australian Sentinel Practice Research Network; Communicable Diseases Intelligence Virology and Serology Reporting Scheme Contributing Laboratories; New South Wales Department of Health; Telecom Australia; Victorian Department of Health and Community Services; World Health Organization (WHO) Collaborating Centrefor Influenza Reference and Research, Melbourne

Overall this fortnight, there has been a marked decline in laboratory reports of influenza A, although they continue to be received from all parts of the country. The rate of influenza reporting from sentinel general practitioner surveillance has also declined. Absenteeism rates have remained fairly stable.

Sentinel general practitioner surveillance (Figure 5)

- The **Australian Sentinel Practice Research Network** There were 10,012 consultations reported for week 38 and 9457 for week 39. The rate of influenza reporting has declined since early September. Rates fell particularly in Queensland and Tasmania and rose in Victoria and Western Australia.
- The **Australian Capital Territory Sentinel General Practitioner Scheme** reported 366 consultations for the week ending 1 October and 204 consultations for the week ending 8 October. There were 0 influenza cases reported for the week ending 1 October and 6 for the week ending 10 September (29 per 10000 consultations).
- **New South Wales** sentinel general practitioners reported 8879 consultations in the week ending 18 September and 7049 consultations for the week ending 26 September. Influenza was reported at rates of 12.3 and 19 per 1000 consultations, respectively. The reporting rates have continued to decline in recent weeks.

Figure 5. Sentinel general practitioner influenza cases per 1000 encounters, by week and scheme



Absenteeism surveillance (Figure 6)

- **Telecom Australia Absenteeism Surveillance** reported absenteeism rates of 0.9% on 28 September and 0.3% on 5 October. There are reporting delays in the Telecom absenteeism surveillance system such that recent data do not reflect total absenteeism. Data for the period March to August are more complete (Figure 6).
- The **Australian Capital Territory Schools Absenteeism Surveillance** reported absenteeism rates of 4.5% on Tuesday 11 October. The absenteeism rate has decreased since August.

Laboratory surveillance

- The ***CDI* Virology and Serology Reporting Scheme** has received 907 reports of **influenza A** so far this year, 606 other than single high titres. Sixty-five isolates have been identified as H_3N_2 subtypes (others not subtyped). The number of reports declined markedly in the month of September (Figure 7). **Influenza A** was reported for 69 patients this fortnight including one H_3N_2 strain. Included were 36 males and 33 females, 23 over the age of 65 years. Diagnosis was by antigen detection (5), virus isolation (12), fourfold rise in titre (13), IgM detection (2) and single high titre (37). Included was virus detection by immunofluorescence in the nasopharynx of a 3 year old female with malignant disease. Reports were received from the Australian Capital Territory (one), Victoria (19), Western Australia (23), Queensland (9), New South Wales (6), South Australia (5) and the Northern Territory (6). Influenza A reports peaked in August, a total of 352 being received for this month.
- A total of 43 reports of **influenza B** have been received this year, 21 with diagnoses other than single high titre (Figure 8). No reports of **influenza B** were received this period.

Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by 5 laboratories. There were 188 reports of recent sepsis:

New South Wales: South West Area Pathology Health Service Liverpool 37; ICPMR Westmead 64.
South Australia: Institute of Medical and Veterinary Science 68.
Tasmania: Northern Tasmanian Pathology Service 8; Royal Hobart Hospital 11.

Organisms reported 5 or more times from blood are detailed in Table 2. Other blood isolates not included in Table 2 were:

Gram positive: 2 *Corynebacterium* species, 4 *Staphylococcus epidermidis*, 2 Group A *Streptococcus* (one isolated from a 53 year old male with severe necrotising fasciitis), 3 Group B *Streptococcus*, 1 *Streptococcus sanguis*, 2 *Streptococcus* 'viridans'.

Gram negative: 2 *Acinetobacter* species, 1 *Enterobacter cloacae*, 2 *Enterobacter* species, 1 *Haemophilus influenzae*

Figure 6. Absenteeism rates per 100 employees or students, by week and scheme

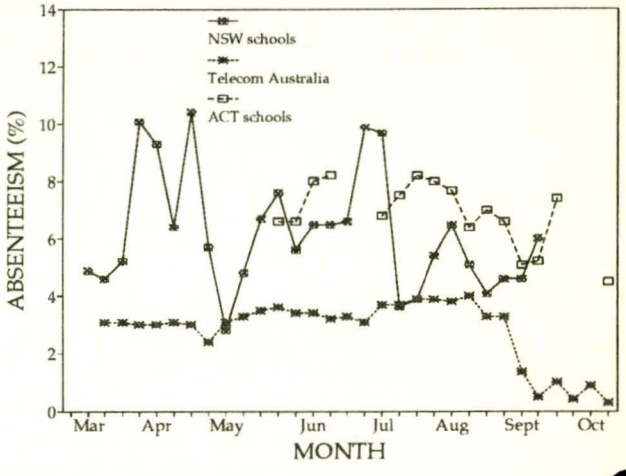


Figure 7. Influenza A laboratory reports, 1994, by method of diagnosis and week of specimen collection

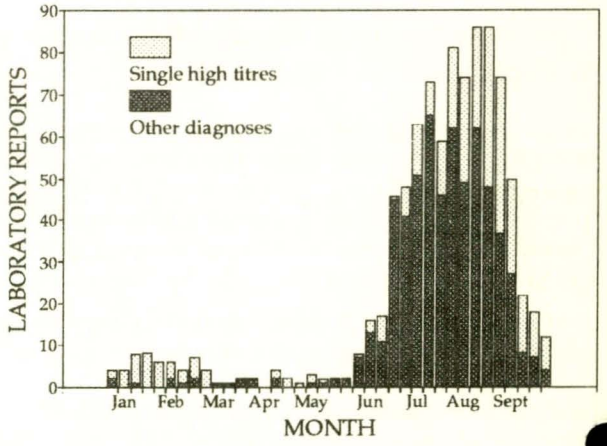


Figure 8. Influenza B laboratory reports, 1994, by method of diagnosis and week of specimen collection

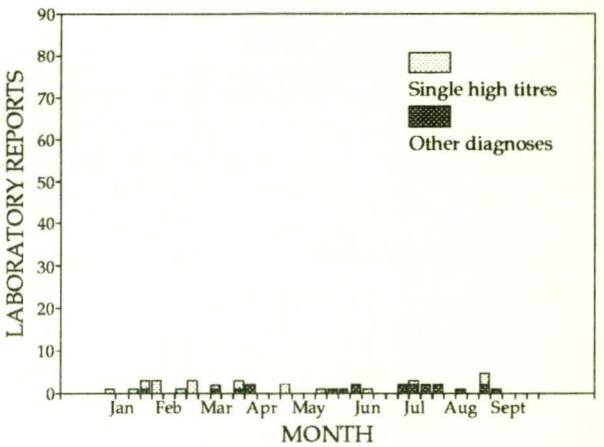


Table 2. LabDOSS reports of blood isolates, by organism and clinical information

Organism	Clinical information						Risk factors					Total[1]
	Bone/Joint	Lower respiratory	Endocarditis	Gastrointestinal	Urinary tract	Skin	Surgery	Immunosuppressed	IV line	Hospital acquired	Neonatal	
Staphylococcus aureus	1	1	2	1	1	2	5	3	5	2		34[2]
Staphylococcus coagulase negative							2	3	2			10
Enterococcus faecalis			2	1	1	1	2	1				7
Streptococcus pneumoniae		9			1			4				18
Streptococcus species		1	1	1			2	3				9
Escherichia coli				5	8		1	8	1	1		27
Proteus species					2	1	2	1				6

1. Only organisms with 5 or more reports are included in this table.
2. MRSA 3.

Table 3. LabDOSS reports of meningitis and/or CSF isolates, by organism and age group

	1-11 months	1-4 years	15-24 years	25-34 years	35-44 years	45-54 years	75+ years	Total
Neisseria meningitidis	2[1]							2
Staphylococcus aureus						1		1
Streptococcus pneumoniae	2	1						3

1. Serogroups not available.

(isolated from a 78 year old South Australian female), 2 *Klebsiella oxytoca*, 4 *Klebsiella pneumoniae*, 2 *Klebsiella* species, 1 *Proteus mirabilis*, 3 *Pseudomonas aeruginosa*, 2 *Pseudomonas* species, 1 *Salmonella* species, 2 *Salmonella* Typhi (both patients reported recent overseas travel), 4 *Serratia* species, 3 *Xanthomonas maltophilia*, 1 *Neisseria sicca*.

Anaerobes: 1 *Bacteroides fragilis*, 1 *Clostridium perfringens*, 1 *Peptostreptococcus* species, 1 *Veillonella* species.

Fungi: 2 *Candida albicans*, 2 *Candida* species.

Most reports were for elderly persons (Figure 9).

Meningitis and/or CSF isolate reports

There were 6 reports of meningitis and/or CSF isolates (Table 3).

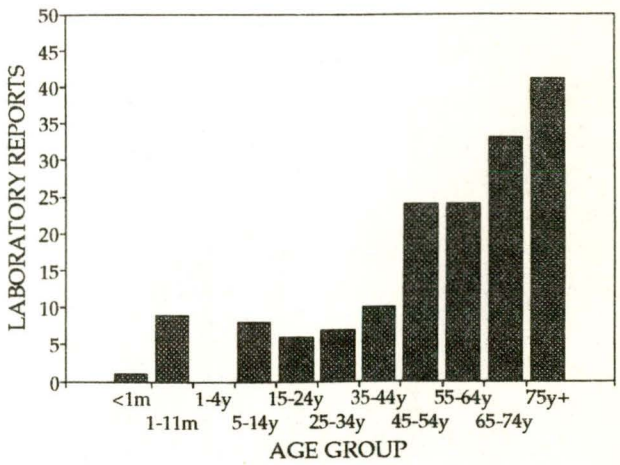
Isolates from sites other than blood or CSF

Joint fluid: 1 *Staphylococcus aureus*.

Peritoneal fluid: 1 *Enterobacter* species.

Other: 1 *Bacteroides fragilis*, 2 *Escherichia coli*, 1 *Klebsiella oxytoca*, 1 *Proteus mirabilis*, 4 *Staphylococcus aureus*, 1 *Staphylococcus* coagulase negative, 1 *Streptococcus* Group C, 1 *Streptococcus milleri*, 1 *Morganella morganii*, 3 *Streptococcus* species.

Figure 9. LabDOSS reports of blood isolates, by age group



National Notifiable Diseases Surveillance System, 18 September to 1 October 1994

There were 1861 notifications received for the period (Figure 12 and Tables 4, 5 and 6). No notifications were received from New South Wales due to revisions being made to the New South Wales Infectious Diseases Surveillance System.

- Twenty-four notifications of **Ross River virus infection** were received; 17 cases were male and 7 were female. Recorded ages were between the 10-14 and the 80-84 years age group. Thirteen of the cases were resident in the Statistical Division of Brisbane. Onset dates were in August (one) and September (23).
- A single notification of **brucellosis** was received for a male in the 25-29 years age group.
- There were 84 notifications of **gonococcal infection** received; 51 cases were male and 33 were female. Recorded ages were between the 0-4 and 55-59 years age group. There were 4 cases aged less than 10 years and a single case aged less than one year.
- There were two cases of ***Haemophilus influenzae* type b infection** reported. One case was a male in the 5-9 year age group and the other case was a female aged less than one year. Onset dates were in September.
- Thirty-five notifications of **hepatitis A** were received; 21 cases were male and 14 were female. Cases were aged between the 0-4 and the 60-64 years age group with 77% of the cases aged less than 40 years.
- There were 13 reports of incident cases of **hepatitis B**; 8 cases were male and 5 were female. Recorded ages were between the 15-19 and the 50-54 years age group.
- A single notification of **hydatid infection** was received for a female in the 35-39 years age group.
- Six cases of **legionellosis** were reported; 2 cases were male and 4 were female. Recorded ages were between the 20-24 and the 80-84 years age group. The year to date data show a male to female ratio of 2.5:1 with the highest number of notifications recorded for males in the 60-64 years age group (Figure 10). All recorded onset dates were in September.
- There were 2 notifications of **leptospirosis** received; both cases were male. Cases were in the 20-24 and the 50-54 years age groups respectively.
- There were 27 notifications of **malaria** in the period; 14 cases were male and 13 cases were female. The year to date data show a male to female ratio of 2.2:1 with the highest number of notifications recorded for males in the 20-24 years age group (Figure 11). Recorded ages were between the 10-14 and the 65-69 years age group. Eight cases were resident in the 'malaria receptive zone'. Recorded onset dates were April (one), June (5), July (9), August (8), and September (4).
- One hundred and forty-three cases of **measles** were reported; 80 cases were male, 62 cases were female and the sex of one case was unrecorded. Recorded ages were between the 0-4 and the 40-44 years age group with 86% (123) of cases aged less than 20 years. There were 22 apparent clusters of between 2 and 11 cases each in the same postcode area. Apparent clusters were in the Northern Territory (one), Queensland (20), and South Australia (one).
- Seven cases of **meningococcal infection** were reported; 4 cases were male and 3 were female. Cases were aged between the 0-4 and the 15-19 years age groups, all with recorded onset dates in September. There were no apparent clusters.

Figure 10. Legionellosis notifications, January to September 1994, by age group and sex

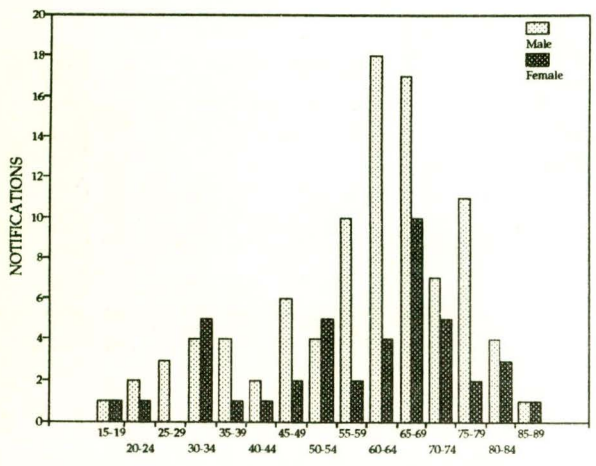
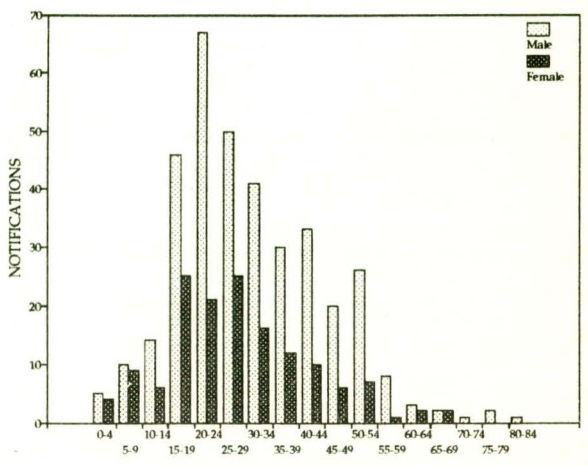
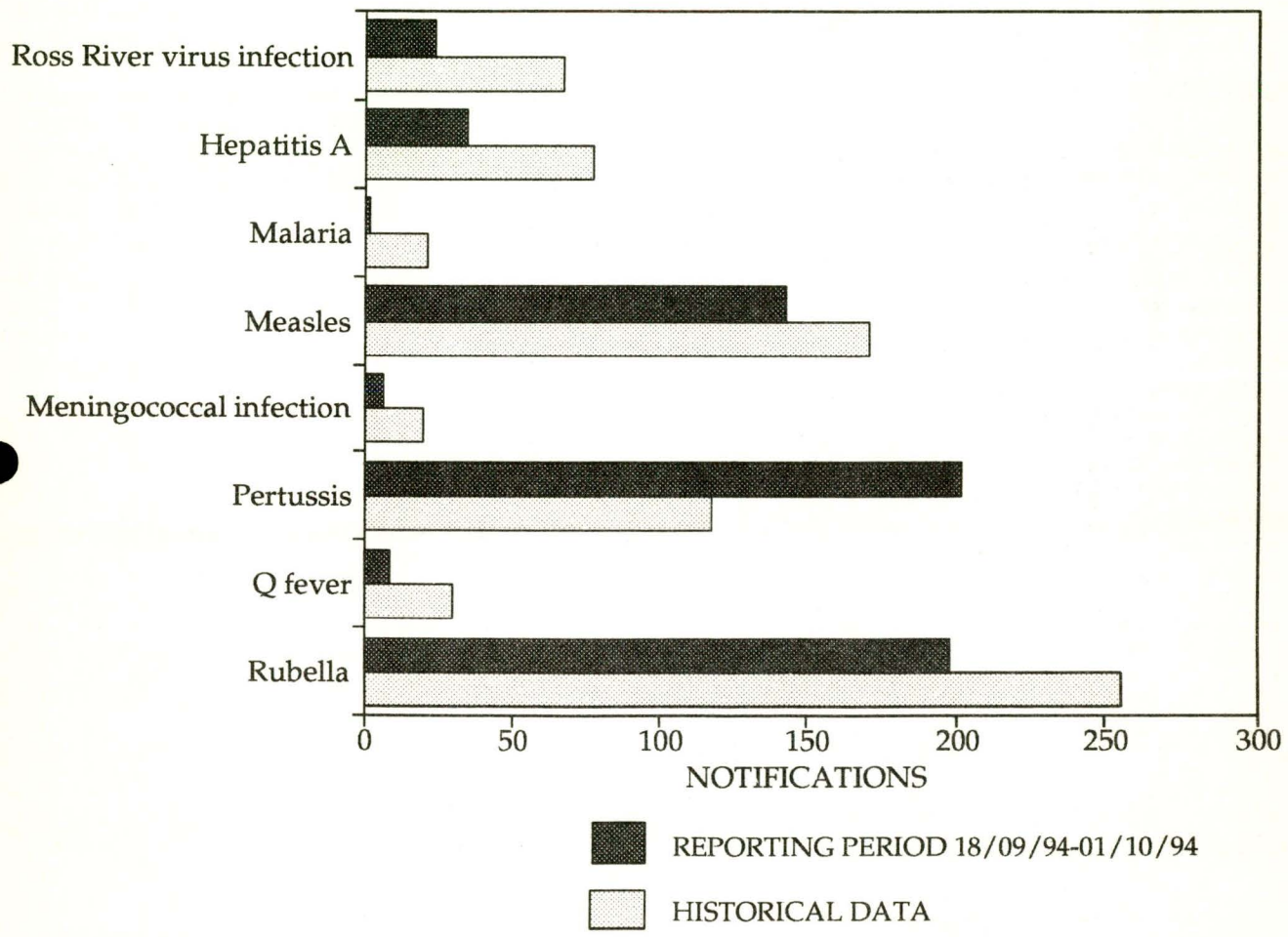


Figure 11. Malaria notifications, January to September 1994, by age group and sex



- There were 202 notifications of **pertussis** received; 91 cases were male and 111 were female. Recorded ages were between the 0-4 and the 85-89 years age group with 12 cases aged less than one year. There were 32 apparent clusters of between 2 and 7 cases each in the same postcode area. Apparent clusters were in Queensland (18), South Australia (10), and Western Australia (4).
- Nine cases of **Q fever** were reported; 7 cases were male and 2 cases were female. Cases were aged between the 15-19 and the 60-64 years age groups.
- There were 198 notifications of **rubella** received; 134 cases were male, 60 cases were female, and the sex of 4 cases was unrecorded. Cases were aged between the 0-4 and the 65-69 years age group with 24 cases in females in the 15-44 years age group. There were 43 apparent clusters of 2 or more cases each in the same postcode area. There was one cluster of 24 cases in rural Queensland.
- Forty-nine cases of **syphilis** were reported; 21 cases were male, 25 cases were female, and the sex of 3 cases was unrecorded. Cases were aged between the 15-19 and the 65-69 years age group.
- There were 18 notifications of **tuberculosis** received; 12 cases were male and 6 cases were female. Cases were aged between the 15-19 and the 80-84 years age group. Onset dates were in May (2), July (1), August (5), and September (10).
- A single notification of **typhoid** as received for a female in the 20-24 years age group. The onset date was in September.
- Seventeen cases of **yersiniosis** were reported; 6 cases were male and 11 were female. Cases were aged between the 0-4 and the 65-69 years age group.

Figure 12. Selected National Notifiable Diseases Surveillance System reports, and historical data[1]



1. The historical data are the averages of the number of notifications in 6 previous 2-week reporting periods: the corresponding periods of the last 2 years and the periods immediately preceding and following those.

Table 4. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by State and Territory health authorities in the period 18 September to 1 October 1994

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1] This period 1994	This period 1993	Year to date 1994	Year to date 1993
Diphtheria	0	0	0	0	0	0	0	0	0	0	23	0
Haemophilus influenzae b infection	0	0	0	1	1	0	0	0	2	11	150	328
Measles	3	0	11	118	4	1	3	3	143	289	3106	2214
Mumps	0	0	NN	NN	0	NN	0	0	0	3	15	12
Pertussis	0	0	1	95	57	0	28	21	202	247	3966	1811
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella[2]	1	0	1	150	2	0	9	35	198	194	1438	2410
Tetanus	0	0	0	NN	0	0	0	0	0	0	13	9

1. 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.
2. NT, Tas: CRS only.

NN Not Notifiable.

Table 5. Notifications of other diseases[1] received by State and Territory health authorities in the period 18 September to 1 October 1994

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2] This period 1994	This period 1993	Year to date 1994	Year to date 1993
Arbovirus infection												
Ross River virus infection	0	1	0	22	1	NN	0	0	24	54	3748	5022
Dengue	0	-	0	0	-	NN	0	0	0	39	16	669
NEC[3]	0	0	0	13	0	0	0	0	13	14	498	465
Campylobacteriosis[4]	6	-	12	83	82	20	107	38	348	271	7228	5786
Chlamydial infection (NEC)[5]	2	NN	19	98	24	11	0	20	174	145	4840	4954
Donovanosis	0	NN	5	2	NN	NN	0	0	7	5	80	47
Gonococcal infection[6]	0	0	28	30	3	0	0	23	84	63	2168	2126
Hepatitis A	0	0	5	16	4	0	4	6	35	70	1476	1519
Hepatitis B incident	-	0	0	1	1	1	6	4	13	11	312	214
Hepatitis B unspecified	21							16	37	65	637	1510
Hepatitis C incident	-	0	0	-	0	-	-	-	0	1	14	20
Hepatitis C unspecified	0		0	92		6	159	45	302	284	6577	5376
Hepatitis (NEC)	8	0	0	0	0	0	0	NN	8	1	154	60
Legionellosis	0	0	0	1	0	0	4	1	6	0	162	138
Leptospirosis	0	0	0	1	0	0	1	0	2	9	102	126
Listeriosis	0	0	0	0	0	0	0	0	0	1	22	34
Malaria	2	0	0	22	2	0	1	0	27	16	564	476
Meningococcal infection	1	0	0	3	0	0	3	0	7	31	285	264
Ornithosis	0	NN	0	0	0	0	0	0	0	1	66	63
Q fever	0	0	0	6	2	0	1	0	9	33	488	675
Salmonellosis (NEC)	0	0	8	34	23	5	25	9	104	99	4274	3561
Shigellosis[4]	0	-	13	3	2	0	5	6	29	14	566	572
Syphilis	3	0	19	13	4	0	0	10	49	58	1654	1741
Tuberculosis	1	0	0	7	1	0	9	0	18	39	790	777
Typhoid[7]	0	0	0	0	0	1	0	0	1	1	32	52
Yersiniosis (NEC)[4]	0	-	0	12	5	0	0	0	17	14	326	351

1. For HIV and AIDS, see Tables 2 and 3 *CDI* 1994;18:482-483. For rarely notified diseases, see Table 6.
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. SA, Tas: includes Ross River virus and dengue.
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 and Vic includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 6. Notifications of rare[1] diseases received by State and Territory health authorities in the period 18 September to 1 October 1994

DISEASES	Total this period	Reporting States or Territories	Year to date 1994
Botulism			0
Brucellosis	1	Qld	17
Chancroid			0
Cholera			3
Hydatid infection	1	Vic	35
Leprosy			8
Lymphogranuloma venereum			0
Plague			0
Rabies			0
Yellow fever			0
Other viral haemorrhagic fevers			0

1. Fewer than 50 cases of each of these diseases were notified each year during the period 1988 to 1993.

Table 7. Virology and serology laboratory reports by State or Territory[1] for the reporting period 25 September to 5 October 1994, historical data[2], and total reports for the year

	State or Territory [1]								Total this fortnight	Historical data [2]	Total reported this year
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA											
Measles virus			1	63	26		2		92	18.8	829
Rubella virus		3		125				11	139	43.2	539
HEPATITIS VIRUSES											
Hepatitis A virus		3		8			2	3	16	16.0	288
Hepatitis B virus	1	18		49	6		23	32	129	96.8	1,945
Hepatitis C virus	7	23	1	41	94	15	21	101	303	170.8	4,713
ARBOVIRUSES											
Ross River virus		1	1	19	1			2	24	16.2	1,454
Barmah Forest virus			1	6				1	8	5.7	196
Dengue not typed	1								1	1.2	20
Kunjin virus			1						1	.3	1
Flavivirus (unspecified)				1					1	2.5	13
ADENOVIRUSES											
Adenovirus type 1					4		1		5	4.2	54
Adenovirus type 2					1				1	6.5	44
Adenovirus type 3					1		2		3	7.2	39
Adenovirus type 5					2				2	1.5	13
Adenovirus not typed/pending	1	13	1	15	9		18	9	66	57.0	1,004
HERPES VIRUSES											
Herpes simplex virus type 1		7	2	83	29	1	58	35	215	151.3	3,733
Herpes simplex virus type 2	2	9		120	24	1	38	89	283	199.5	4,136
Herpes simplex not typed/pending	4	8		2				2	16	35.8	513
Cytomegalovirus		4		43	1	1	22	11	82	64.2	1,349
Varicella-zoster virus	1	1		25	16	1	5	12	61	33.5	794
Epstein-Barr virus		5	1	42	23		6	4	81	57.8	1,091

Table 7. Virology and serology laboratory reports by State or Territory[1] for the reporting period 25 September to 5 October 1994, historical data[2], and total reports for the year, continued

	State or Territory [1]								Total this fortnight	Historical data [2]	Total reported this year
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA			
OTHER DNA VIRUSES											
Parvovirus			1	6	1		1		9	5.0	66
PICORNA VIRUS FAMILY											
Coxsackievirus B4					2				2	.2	14
Echovirus type 6							1		1	.8	52
Echovirus type 30					2		2		4	3.2	262
Poliovirus type 3 (uncharacterised)					1				1	1.2	11
Rhinovirus (all types)		1		34			30	9	74	38.2	823
Enterovirus not typed/pending	1	3	3	35			10	23	75	32.7	1,078
ORTHO/PARAMYXOVIRUSES											
Influenza A virus	1	6	6	8	5		19	23	68	53.5	922
Influenza A virus H_3N_2				1					1	3.2	66
Parainfluenza virus type 1								2	2	1.0	533
Parainfluenza virus type 3		1		8	8		4	9	30	32.0	275
Parainfluenza virus typing pending						2	1		3	1.3	61
Respiratory syncytial virus	4	12		58	59	16	110	36	295	106.2	3,309
OTHER RNA VIRUSES											
HIV-1				5				1	6	3.8	72
Rotavirus	69	38		4	33	5	87	15	251	152.3	1,699
Small virus (like) particle		2							2	2.2	23
OTHER											
Chlamydia trachomatis not typed	4	13		47	30	3	1	28	126	102.0	1,966
Chlamydia species		4			1				5	.7	15
Mycoplasma pneumoniae	1	3		24	10	1	20	1	60	97.2	775
Coxiella burnetii (Q fever)		1		3	3		1		8	15.2	227
Streptococcus group A		2		44					46	5.5	246
Yersinia enterocolitica							1		1	.5	17
Bordetella pertussis				5			32	21	58	11.3	488
Bordetella parapertussis								1	1	.0	2
Bordetella species		1		6					7	7.3	191
Treponema pallidum	2	7		1					10	18.8	320
TOTAL	99	189	19	931	392	46	518	481	2,675	1,685.2	36,281

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 clinical information for the reporting period 25 September to 5 October 1994

	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA												
Measles virus			1				59			1	31	92
Rubella virus							65		4		70	139
HEPATITIS VIRUSES												
Hepatitis A virus						9					7	16
Hepatitis B virus						23					106	129
Hepatitis C virus						50					253	303
ARBOVIRUSES												
[illegible]ss River virus									4		20	24
Barmah Forest virus									3		5	8
Dengue not typed											1	1
Kunjin virus									1			1
Flavivirus (unspecified)											1	1
ADENOVIRUSES												
Adenovirus type 1				1							4	5
Adenovirus type 2				1								1
Adenovirus type 3				1				2				3
Adenovirus type 5				2								2
Adenovirus not typed/pending				27	25		2	1			11	66
HERPES VIRUSES												
Herpes simplex virus type 1				17			130	8		49	11	215
Herpes simplex virus type 2							87			189	7	283
Herpes simplex not typed/pending				2			5			5	4	16
Cytomegalovirus			1	35	2		2		2	1	39	82
Varicella-zoster virus				1			46			1	13	61
[illegible]stein-Barr virus				4		1					76	81
OTHER DNA VIRUSES												
Parvovirus							3		1		5	9
PICORNA VIRUS FAMILY												
Coxsackievirus B4				2								2
Echovirus type 6	1	1										2
Echovirus type 30	1	4										5
Poliovirus type 3 (uncharacterised)											1	1
Rhinovirus (all types)				70			1				3	74
Enterovirus not typed/pending	1	3	4	45	2		3				18	76
ORTHO/PARAMYXOVIRUSES												
Influenza A virus				45			1		3		19	68
Influenza A virus H_3N_2				1								1
Parainfluenza virus type 1				2								2
Parainfluenza virus type 3				27	1						2	30
Parainfluenza virus typing pending				3								3
Respiratory syncytial virus				278			1				16	295

Table 8. Virology and serology laboratory reports by clinical information for the reporting period 25 September to 5 october 1994, continued

	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
OTHER RNA VIRUSES												
HIV-1											6	6
Rotavirus					250						1	251
Small virus (like) particle					1						1	2
OTHER												
Chlamydia trachomatis not typed				1				2		93	30	126
Chlamydia species				1							4	5
Mycoplasma pneumoniae			2	45							13	60
Coxiella burnetii (Q fever)											8	8
Streptococcus group A				7			9		3		27	46
Yersinia enterocolitica									1			1
Bordetella pertussis				55							3	58
Bordetella parapertussis				1								1
Bordetella species				5							2	7
Treponema pallidum											10	10
TOTAL	3	8	8	679	281	83	414	13	22	339	828	2675

Table 9. Virology and serology laboratory reports by contributing laboratories for the reporting period 25 September to 5 October 1994

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	101
New South Wales	Prince Henry/Prince of Wales Hospitals, Sydney	12
	Royal Alexandra Hospital for Children, Camperdown	25
	Royal Prince Alfred Hospital, Camperdown	11
	South West Area Pathology Service, Liverpool	96
Queensland	Nambour Hospital	8
	Queensland Medical Laboratory, West End	767
	State Health Laboratory, Brisbane	201
South Australia	Institute of Medical and Veterinary Science, Adelaide	393
Tasmania	Northern Tasmanian Pathology Service, Launceston	7
	Royal Hobart Hospital, Hobart	36
Victoria	Monash Medical Centre, Melbourne	63
	Royal Children's Hospital, Melbourne	300
	Victorian Infectious Diseases Reference Laboratory, Fairfield Hospital	158
Western Australia	Princess Margaret Hospital, Perth	94
	State Health Laboratory Services, Perth	403
TOTAL		2675