AUSTRALIA

COMMUNICABLE DISEASES INTELLIGENCE

ISSN 0725-3141 VOLUME 19 NUMBER 17 21 August 1995

CONTENTS

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COMMONWEALTH DEPARTMENT OF HUMAN SERVICES AND HEALTH

AN OUTBREAK OF INFLUENZA AT A MELBOURNE PRIMARY SCHOOL

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Introduction

On Tuesday 4 April 1995, the Chief Health Officer in the Victorian Department of Health and Community Services received a telephone call from the bursar of a metropolitan Melbourne primary school. The bursar reported that 133 of the approximately 360 students enrolled at the school and seven of the 24 staff members were absent due to illness. The symptoms reported were fever, headache, coughing, lethargy and in some cases vomiting. The Infectious Diseases Unit was asked to investigate this outbreak to identify the causative agent(s) of the illness and commence any possible preventive action. Further investigation was also undertaken to determine the impact of the outbreak on the school, using absenteeism as a measure of morbidity.

The primary school was in a low socio-economic area with 87% of the students coming from non-English speaking backgrounds. There were 14 separate classes in the school, two preparatory classes and composite 1-2, 3-4 and 5-6 classes. The school was preparing to go on first term holidays from Saturday 8 April until Sunday 23 April inclusive.

Methods

The school was asked to compile a list of names and telephone numbers of fifteen of the absent children. This list comprised a convenience sample of children with English speaking parents who lived close to the school. The families of children on the list were telephoned to get permission to visit and take throat swabs from affected individuals. Of the fifteen families telephoned, ten agreed to a visit, one didn't speak English, one mother was unable to come to the telephone and three did not answer. Ten homes were visited, fifteen throat swabs were collected and questionnaires were completed for thirteen students, one affected teacher and one affected mother. The throat swabs were delivered to the World Health Organization Collaborating Centre for Influenza Reference and Research at CSL Limited for testing for influenza viruses late on the afternoon of 4 April. Influenza had been suspected as the causative agent because of the symptoms reported by affected children, and the high absenteeism rate reported by the bursar.

The case definition for determining the impact of this illness on the school population was based on absenteeism because the large number of different languages spoken by parents of the students made it not feasible to get reliable, detailed clinical histories for each child. Information including name, sex, date of birth, classroom group and days absent between 6 March and 28 April was collected for each student at the school. The demographic data were obtained from the school's computer. Absenteeism data was compiled by going through individual class rolls at the school and transcribing data for the period of interest which was from at least one week prior to symptoms being identified in any student to a week after absenteeism rates had returned to usual levels. Absenteeism of two or more consecutive days during the period 23 March to 7 April was presumed to represent illness associated with the outbreak of illness.

Data were analysed with Epi Info v6.02 software and further data manipulations were completed using QuatroPro v6.0. A chi square test for trend was done to examine if attack rate varied by one year age groups.

Results

Six of the fifteen throat swabs yielded influenza A of the H_1 subtype. Preliminary typing of the virus indicated that it was A/Texas/36/91-like. No other viruses were detected in the throat swabs.

In the eleven days leading up to the increase in student absenteeism, 25% of students were absent for at least one day and spent an average of 1.9 days away from school. During the period 23 March until 7 April (which encompassed 12 school days) 56% of students were absent for at least one day with absenteeism averaging three days. The rate of absenteeism began to rise from 23 March with a dramatic increase on 30 and 31 March (Figure 1). In the week preceding the term holidays absenteeism was more than five times the usual rate.

Figure 1. Students absent from the school, 7 March to 28 April, by day

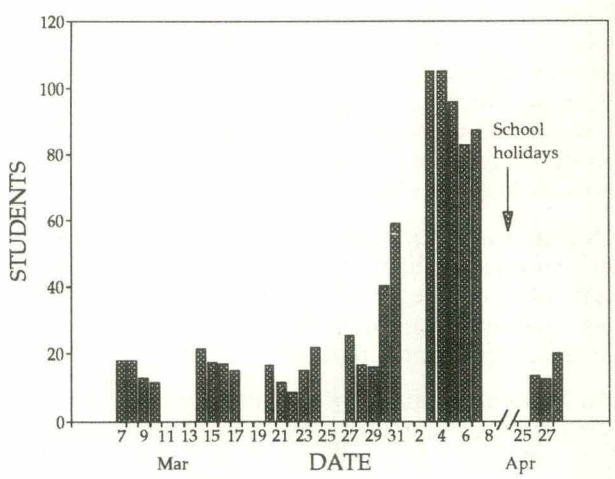


Table. Children affected, by class

	Number affected	Per cent affected
Prep	24	57
1-2	57	54
3-4	40	37
5-6	25	25
Total	146	42

Of the 351 students at the school 146 were affected (absent from school for two or more consecutive days). The attack rate was not significantly different between the sexes; 37% of females and 44% of males were affected. The table shows the number and per cent of students affected in each grade. Each affected student's first day of absenteeism by grade is shown in Figure 2. The level 1-2 grade and the level 3-4 grade were the first to be affected followed by the preparatory classes; the 5-6 grades were not markedly affected by the outbreak. Figure 3 shows the percent of students affected by age with a line of best fit which gives a visual representation of the relationship between age and attack rate. A chi-square test for trend showed younger children were more likely to have been ill than older children ($\chi^2 = 20.52, p < 0.001$). Twenty-nine per cent of the teachers at the school (seven of 24) also met the case definition.

Discussion

This was a preseasonal outbreak of influenza A of the H_1 subtype that apparently affected 42% of the students and 29% of the teachers in a Melbourne primary school. There was an inverse relationship between attack rate and age with students four to five years old having an attack rate about double that of students aged 10 or above. Children aged 10 years or more had the same attack rate as seen among the teachers.

The inverse relationship between attack rate and age may indicate that an increasing proportion of older children had had previous exposure to a virus of similar antigenic structure to the virus responsible for this outbreak. For most children, first exposure to the influenza virus is likely to occur in pre-school, which would have been about seven years ago for the older children, who had similar attack rates to the adults. This is consistent with the last influenza A H_1 outbreak in Victoria which occurred in 1988, and was due to A/Victoria/36/88-like viruses. Since that time the H_1 subtype has been absent from isolates of the influenza virus collected in Victoria.

Overall the attack rates were not as high as those seen in a Mount Gambier primary school in South Australia last year[1]. In the South Australian outbreak the virus was of the H_3N_2 subtype and attack rates were similar in all age groups of children.

An influenza immunisation campaign is conducted in Victoria from March to May to promote influenza vaccination for those individuals in high risk groups,

Figure 2. Affected students, by class and first day of absence

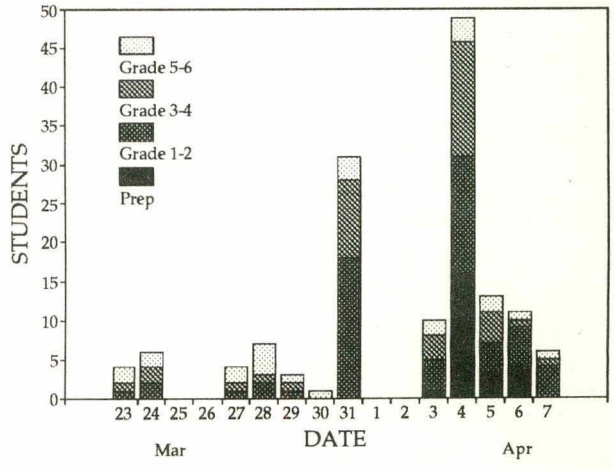
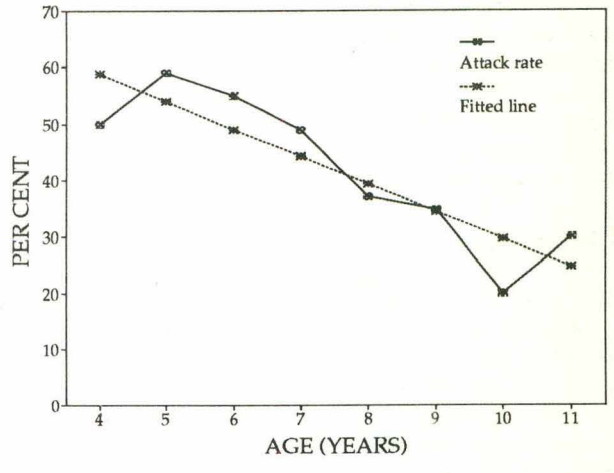


Figure 3. Attack rates and fitted line, by age



which do not include healthy children[2]. Several studies have been conducted elsewhere to assess the value of school children receiving influenza vaccine with varying results, depending, for example, on the extent of antigenic drift of the virus[3,4,5].

There is also an extensive influenza surveillance system in place in Victoria which includes sentinel general practices, hospital admissions data, laboratory data, and total death data, conducted from May to August each year. However, the influenza outbreak described here was unseasonably early and therefore occurred prior to the commencement of surveillance for 1995. If we consider how early in the season both this outbreak and the outbreak during March in the Northern Territory[5] occurred, the timing of administration of vaccine to high risk groups may need to be reassessed throughout Australia.

The school sent a letter home to all parents on 30 March, when one child had presented with apparently severe symptoms, requesting that children with symptoms be

kept at home. It is unknown whether this action had any effect on the outbreak. The school was closed from Saturday 8 April until Sunday 23 April inclusive because of term holidays, and the absenteeism rate returned to normal following this timely break. However, it may also have returned to normal without the closure of the school, as most children would have been exposed to the virus prior to the end of term. Benenson[6] states that the closing of individual schools during an influenza outbreak is not an effective control measure as it is generally done too late and only because of high student and staff absenteeism.

During the influenza outbreak a large proportion of the staff members was affected and there was considerable pressure placed on the remaining members of staff. There was also significant disruption to normal classroom routines which had implications for the ongoing education of the unaffected students. Influenza outbreaks often necessitate parents taking care of sick children and therefore also have an impact on workforce productivity. Such an outbreak has significant repercussions on the entire extended school community and serves to emphasise the public health importance of continuing research aimed at the control of the influenza virus.

Acknowledgments

I would like to acknowledge Alan Hampson from the World Health Organization Collaborating Centre for Influenza Reference and Research for his support and timely processing of the samples, the staff from the school involved for their patience and support during data collection, Rory Wilby for assistance with collection of throat swabs and Mahomed Patel for his advice during the preparation of this document.

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SENTINEL REPORTING ON INFLUENZA-LIKE ILLNESS IN THE ILLAWARRA, NEW SOUTH WALES

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Introduction

Sentinel surveillance networks provide 'listening posts' for timely reporting of conditions not normally notifiable under public health legislation. They do not provide complete incidence data but give an indication of changing patterns of disease and a valuable 'early warning system' for health professionals.

The Illawarra Sentinel Surveillance Network for influenza-like illness consists of Sentinel General Practitioner (GP) Surveillance and Sentinel School Surveillance.

The Sentinel GP Surveillance has been monitoring influenza-like illness and other specified conditions on a weekly basis since June 1990. The network consists of 14 doctors (5% of all doctors in the area) practising in the Illawarra (a coastal area of New South Wales, south of Sydney) between Helensburgh in the north and Gerringong in the south. In 1994 it monitored a total of 72,871 consultations with the average of 1400 consultations per week. Of these total consultations, 8095 were for a condition included in the surveillance program.

For 1992, 1993 and 1994 influenza immunisation was included in the conditions for surveillance by the sentinel GPs. The Illawarra Public Health Unit was interested in monitoring those receiving influenza immunisation in the community to ascertain whether it was the targeted 'at risk' or the 'worried well' who were being immunised. Immunisation of the fit and well is inadvisable, partly because naturally acquired influenza immunity may provide protection for many years, compared with the short term effects of the immunisation.

The Sentinel School Surveillance monitored weekly school absentee rates in schools in four geographical (northern, central, western and southern) areas of the Illawarra during the winter months of 1992, 1993 and 1994.

Methods

Influenza presentations, school absentee rates and influenza immunisation were monitored through the sentinel GP and school surveillance networks in 1994.

Weekly data entry sheets containing information on the total number of clients seen by the GP during the week, the number of cases of monitored conditions and the age and sex of the cases were completed by the sentinel surveillance GPs and returned to the Illawarra Public Health Unit.

The clinical criteria for influenza-like illness diagnosis was all of the following:

- cough
- myalgia
- no abnormal respiratory physical signs other than inflammation of nasal mucous membranes and throat
- two of the following:

  sudden onset (<12 hours); rigors; chills or fever; prostration or weakness; influenza in close contacts.

As it was possible for patients under the age of 65 years to belong to an at risk group (for example, with chronic debilitating disease), doctors were asked to indicate if the client receiving the influenza vaccination was under 65 years and also belonged to an at risk category.

The data was then entered onto an Epi Info database at the Public Health Unit. The data were analysed and rates calculated per 1000 consultations.

Weekly absentee numbers were collated from the four participating sentinel schools, and the overall per cent absent calculated.

Results

There were 385 sentinel consultations for influenza-like illness in 1994. The peak period was the month of August (Figure 1). In 1993 the peak was from July to September, in 1992 there was an early peak, in June-July, and in 1991 there was a small peak in August-September.

The majority (35%) of sentinel reports of influenza-like illness were in the 25 to 44 year age group (Figure 2). Fewer than 4% of cases were reported in the over 65 years age group which is an 'at risk' group targeted for influenza immunisation.

Information collected by sentinel GPs in 1994 shows that GPs were starting to offer influenza immunisation in March with the demand peaking in April, which included 'Influenza Awareness Week' (Figure 3).

Figure 1. Consultations for influenza-like illness per 1000 consultations, 1994, by week

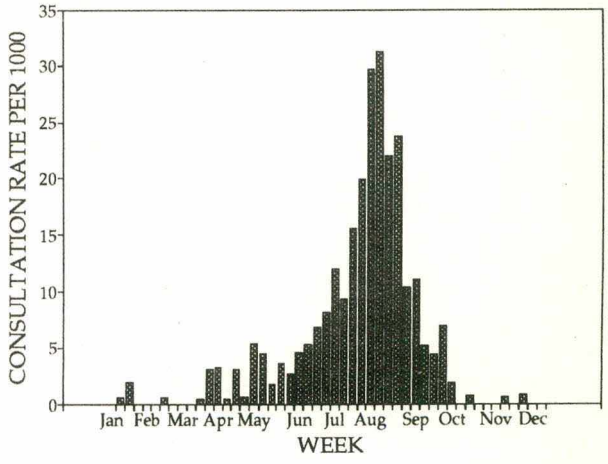


Figure 2. Sentinel GP cases of influenza-like illness, by age group and sex, 1994

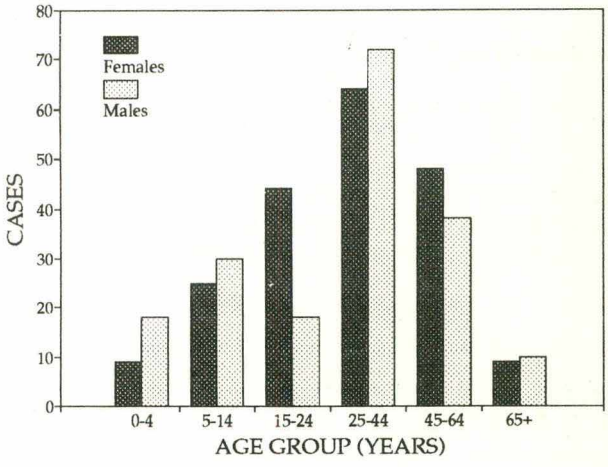


Figure 3. Consultations for influenza immunisation reported per 1000 consultations, 1994, by week

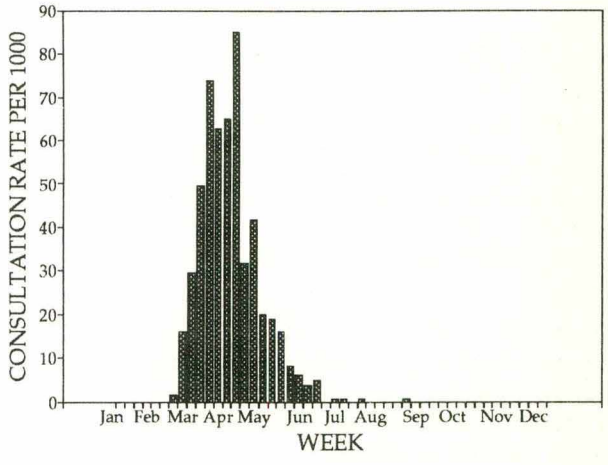
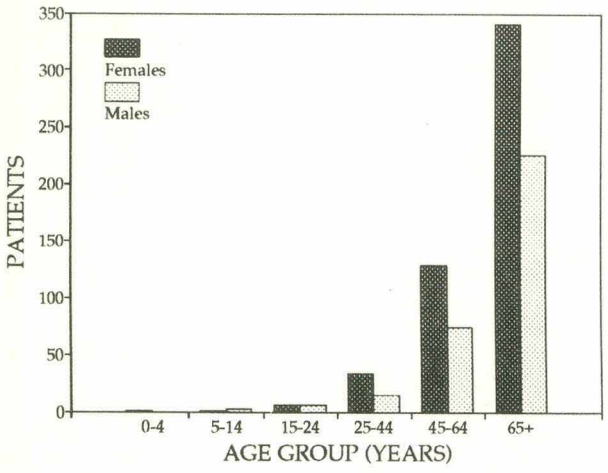


Figure 4. Patients receiving influenza immunisation, by age group and sex



There was then a gradual decrease in immunisations over May and June just before the rise in reports of influenza-like illness in July.

The majority of patients receiving influenza immunisation were in the over 65 years age group (Figure 4). More females than males in all age groups were immunised and approximately 50% of persons under 65 years of age being immunised also belonged to an at risk category.

During the months of May, June, July, August and September 1994, absentee rates were collected from sentinel schools in the Illawarra. Absenteeism ranged between about 3% and 8% throughout the season and there was no increase at the time of the peak in consultations for influenza-like illness in August.

Discussion

The sentinel surveillance has provided the Illawarra Public Health Unit and the community with useful data on the pattern of influenza-like illness. No virological confirmation of the clinically diagnosed influenza-like illness has been obtained, however, the seasonal patterns have reflected the pattern of reports of laboratory-confirmed influenza in Australia[1], with a mild season in 1991 and an early season in 1992. The sentinel surveillance has also provided information on the peak time of administration of influenza immunisations, and the age, sex and at risk category of the patients receiving the vaccinations. It appears that in the Illawarra 80% of influenza immunisations were given to those most likely to benefit - the elderly and others at risk, and that less than 4% of sentinel general practitioners consultations for influenza-like illness occured in this group.

Reference

1. National Influenza Surveillance 1994. *Comm Dis Intell* 1994;**18**:261-267.

CDI editorial comment

The rates of school student absenteeism reported prior to the influenza outbreak in the Melbourne school in the first article in this fortnight's *CDI*, in the Illawarra Sentinel School Surveillance and in the National Influenza Surveillance in 1994 and this year have all been between about 5 and 10% in the winter months. It appears that although there is some variation, these levels may represent a rate of absenteeism unaffected by influenza activity. If sentinel school surveillance reports absenteeism rates markedly higher than 10% (as reported during the Melbourne school outbreak and the South Australian school outbreak[1] last year), it may be more likely to be an indication of influenza activity in the wider population, or at least in the wider school aged population.

Reference

1. Selden S, Cameron S. Influenza A outbreak at a Mount Gambier junior primary school, South Australia. *Comm Dis Intell*;**18**:357-360.

HEPATITIS E IN A TRAVELLER

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A case of acute hepatitis E occurring in a traveller returning from Asia is presented to highlight the necessity of testing for this agent.

Case report

A thirty-year-old Caucasian female travelled to Delhi on 23 November 1994 and began 'backpacking' through various parts of India. She entered Nepal on 9 January 1995, and continued though various villages. She flew to Bangkok on 23 January 1995, and stayed at hostels until travelling to Sydney on 7 February 1995. She ate local food throughout her travels. Her medications included chloroquine, proguanil and ohehr medications that can affect liver functions. Her prior medical history was unremarkable.

She developed anorexia, jaundice and pruritus on 21 February 1995. The next day she developed herpes zoster, and consulted her local doctor. Blood tests were performed on 23 February. The white cell count was $6.4x10^9$/L (reference range [RR] 4-$11x10^9$/L), neutrophils $2.3x10^9$/L, band forms $0.45x10^9$/L, lymphocytes $1.5x10^9$/L, and atypical lymphocytes $2.1x10^9$/L. The serum bilirubin was 100μM (RR 0-20μM), protein

71g/L (RR 60-80g/L), albumin 37g/L (RR 38-55g/L), AST 1236U/L (RR 0-40U/L), ALT 1140U/L (RR 0-40U/L), SAP 295U/L (RR 30-115U/L), and γGT 72U/L (RR 0-45U/L). Hepatitis A virus (HAV) IgM and hepatitis B surface antigen (HB_sAg) were not detected, and the patient was referred to Liverpool Hospital on 24 February.

Examination revealed moderate icterus, but no hepatic decompensation, and mild herpes zoster. Repeat liver function tests revealed similar abnormalities to the first. The patient was allowed home, and subsequently recovered fully.

The following results were obtained on serum taken on 24 February at Liverpool, using the Roche Cobas Core EIA system: HAV IgM negative, HB_sAg negative, cytomegalovirus (CMV) IgG positive but IgM negative, Epstein-Barr virus (EBV) IgM negative. Hepatitis C virus (HCV) antibody was not detected by the Murex anti-HCV third generation EIA.

Subsequently the serum from 23 February was tested by the Viral Diagnostic and Referral Laboratory Pty Ltd for anti-HEV IgG, using the Abbott HEV EIA rDNA kit. The result was strongly positive. A similar result was obtained by Westmead Hospital on the Liverpool serum using the same kit.

Comment

Hepatitis E is common in Third World countries, and travellers visiting such nations may acquire infection with it[1]. The first reported Australian case involved a ten-year-old boy who had just returned from Pakistan[2]. Since that time, other cases have been reported, primarily in persons returning from endemic areas[3,4,5], although transmission may occur in the Top End[6]. Any person returning from an endemic area with acute hepatitis should be routinely tested for antibody against hepatitis E.

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CDI editorial comment

In most States and Territories, hepatitis E has been made a notifiable disease in recent years or is notifiable as 'viral hepatitis, not elsewhere classified'. Hepatitis E notifications are currently included in the National Notifiable Diseases Surveillance System as 'hepatitis (not elsewhere classified)', however, it is expected that they will be reported separately in the near future.

The *CDI* Virology and Serology Reporting Scheme has received reports of hepatitis E since 1992. There has been a total of 24 reports, including 13 in which a risk factor of overseas travel was included. Fifteen reports have been for males and nine for females. Patients were aged in the range 10 to 57 years, with 16 aged between 20 and 40 years.

HANSEN'S DISEASE SURVEILLANCE IN QUEENSLAND

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Introduction

The last major review of Hansen's disease (leprosy) in Australia was published in *CDI* in 1982. Between January 1982 and December 1994, a further 67 cases of Hansen's disease were notified in Queensland; 12 of these were originally diagnosed elsewhere (Northern Territory, United Kingdom, India, Papua New Guinea), and are not considered further. In this paper, I review some of the epidemiological features of the 55 cases originally diagnosed, and notified in Queensland.

Methods

Hansen's disease is a notifiable disease. All notifications were reviewed by the author, detailed and held in a computerised database. Information collected on each case included age, sex, race, place of birth and classification of the disease at the time of diagnosis, based on both clinical and histological features.

Table 1. Notifications of Hansen's disease in Queensland, 1982 to 1994, by year, sex and race

Year	Sex		Race				Total
	Male	Female	Aboriginal or Torres Strait Islander	Caucasian	Vietnamese	Other	
1982	4	5	2	3	4	0	9
1983	6	7	9	3	0	1	13
1984	2	0	1	1	0	0	2
1985	0	1	0	0	0	1	1
1986	2	1	1	0	0	2	3
1987	1	0	1	0	0	0	1
1988	3	2	3	1	0	1	5
1989	0	2	2	0	0	0	2
1990	3	1	2	0	1	1	4
1991	1	0	0	0	0	1	1
1992	4	1	1	0	0	4	5
1993	4	1	2	1	0	2	5
1994	4	0	2	0	0	2	4
Total	34	21	26	9	5	15	55

Results

A total of 34 males and 21 females were notified with Hansen's disease in Queensland from 1982 to 1994 (Table 1). In Queensland, Hansen's disease is both an endemic and imported disease; its endemicity is most marked in the Aboriginal and Torres Strait Islander population with 15 Aboriginal persons and 11 Torres Strait Islanders diagnosed with the disease. Of the six Australian born Caucasians, only one had no history of residence in endemic countries outside Australia. This individual, with lepromatous leprosy, had spent considerable time in the Northern Territory.

There was no clear epidemiological trend in numbers over the past 30 years (Figure 1). The increase in notifications in the decade 1975 to 1984 was largely due to Aboriginal (27) and Torres Strait Islander (10) notifications, but since 1983, these numbers have remained low. The Aboriginals and Torres Strait Islanders were younger, in general, than the others at the time of diagnosis (Figure 2), reflecting the different epidemiology of the disease in this population.

The clinical classification of the disease at the time of diagnosis was tuberculoid or borderline for most cases (Table 2) and nine cases were lepromatous. Most cases were diagnosed by histology or bacteriology (Table 3). The four patients with solely a clinical diagnosis were all pure neuritic cases, diagnosed on probability only, and without histological or bacteriological confirmation.

Figure 1. Notifications of Hansen's disease, Queensland, 1965 to 1994, by 5 year period

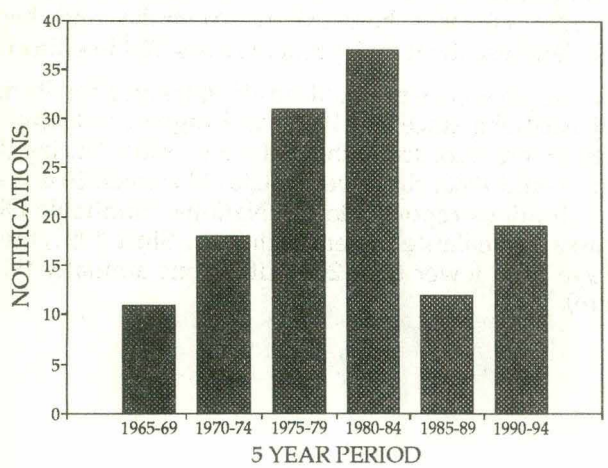


Figure 2. Notifications of Hansen's disease, Queensland, 1982 to 1994, by age group and race

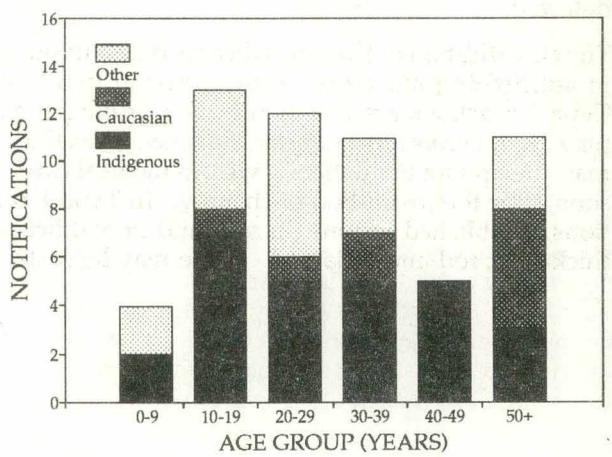


Table 2. Notifications of Hansen's disease in Queensland, 1982 to 1994, by disease classification

Disease classification	Notifications
Indeterminate	2
Tuberculoid	15
Borderline	29
Lepromatous	9
Total	55

Table 3. Notifications of Hansen's disease, Queensland, 1982 to 1994, by means of diagnosis

Means of diagnosis	Notifications
Histology	40
Bacteriology	11
Clinical	4
Total	55

Discussion

Hansen's disease remains endemic in tropical Australia, and there is a small, but significant, number of imported cases, mainly but not universally from South-East Asia. It is difficult to know how long the disease has been present before the diagnosis is established, but clearly the willingness of medical practitioners to undertake skin biopsy (and the skill of pathologists in recognising what is, after all, a rare disease) are fundamentally important. Any chronic skin disease of uncertain aetiology deserves a biopsy.

All patients now receive standard World Health Organization recommended multidrug therapy. This therapy, with combinations of rifampicin, clofazimine and dapsone, remains the treatment of choice. Both minocycline (but not other tetracyclines) and ofloxacin show significant anti-mycobacterial effect, though their place in the management of Hansen's disease is at present uncertain.

The clinical classification of leprosy (particularly as paucibacillary or multibacillary) is important in determining duration of treatment, and into tuberculoid, borderline or lepromatous for anticipating the development of neuritis. In borderline Hansen's disease, neuritis affects peripheral nerves (ulnar, median, radial, common peroneal and posterior tibial, facial and great auricular nerves especially) which are often thickened and tender. Any tender nerve indicates active neuritis, and steroids are needed. In lepromatous patients, neuritis is often subclinical, slow and progressive, and it may be many years - even after treatment is finished - before significant neuropathy is detected.

The classification of Hansen's disease is also important in anticipating reactions. These occur in two forms: Type 1 reactions are common in borderline patients, may occur before any treatment has been given (indeed may precipitate the patient's visit to medical care), or soon after the institution of therapy. In Type 1 reactions, established lesions (in skin and nerve) become thickened, red and inflamed. There may be systemic symptoms. Acute neuritis may present as a foot drop, wrist drop or facial palsy. Acute neuritis presenting as part of a reaction is an emergency, requiring splinting of the affected limb (if possible) to prevent further damage to nerves, and large doses of steroids (to reduce the inflammatory reaction in the nerve). Type II reactions (sometimes called erythema nodosum leprosum, or ENL) occur most commonly in patients at the lepromatous end of the spectrum, usually months or years after the institution of therapy. Patients present with erythema nodosum, systemic symptoms - especially fever - and any of the numerous other possible effects - iritis, scleritis, orchitis, neuritis arthritis, albuminuria, and teno-synovitis. In chronic cases, the patient is ill and may become cachexic. Type II reactions are the ones which respond to thalidomide.

Hansen's disease in Australia is both endemic and imported and is an important cause of potentially preventable deformity. Early diagnosis and early institution of multi-drug therapy will prevent significant neurological damage; a high index of suspicion in dealing with atypical skin lesions is the key to prevention.

Reference

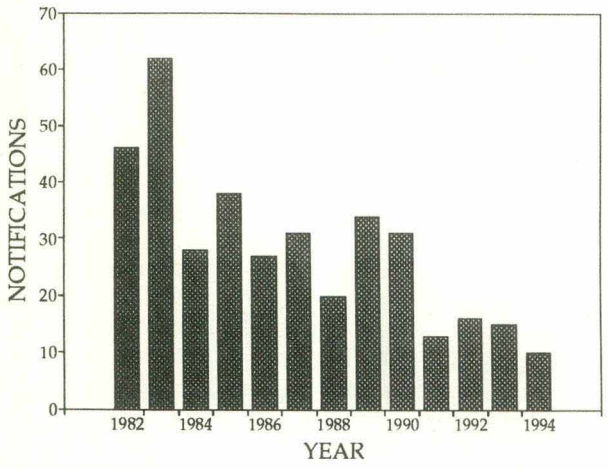
1. Leprosy surveillance and update. *Comm Dis Intell* 1982;(17):2-4.

CDI editorial comment

Disease caused by infection with *Mycobacterium leprae* is known as leprosy or Hansen's disease; the National Health and Medical Research Council and the Communicable Diseases Network of Australia and New Zealand use the term leprosy, as does *CDI* in editorial.

Leprosy has been notifiable in all States and Territories of Australia since the 1930s and highest notification rates were recorded in the 1940s and 1950s. During the 1970s and 1980s there were totals of between 20 and 62 notifications reported to the National Notifiable Diseases Surveillance System each year. Since 1991, there have been fewer than 20 notifications annually (Figure).

Figure. Leprosy notifications in Australia, 1982 to 1994, by year



There have been 58 leprosy notifications since 1991, received from all States and Territories except South Australia and Tasmania. Thirty-eight have been for males and 20 for females (male:female ratio 1.9:1.0). Most (30) have been for persons in the 25 to 44 year age group.

Thalidomide has been used to treat recurrent erythema nodosum leprosum on a limited basis in recent years in the United States[1]. It is not currently available in Australia.

Reference

1. Gelber RH. Leprosy (Hansen's disease). In *Mandell, Douglas and Bennett's principles and practices of infectious diseases.* 4th ed. Mandell GL, Bennett JE, Dolin R, editors. New York: Churchill Livingstone, 1995:2243-2250.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization (WHO), the Department of Foreign Affairs and Trade and the Program for Monitoring Emerging Diseases.

Yellow fever in Peru

An outbreak of yellow fever caused 440 cases and 169 deaths from the first week of January to the first week of July in Peru. Only one case was reported in the week ending 9 July. No cases of urban transmission have been documented.

Dengue in Venezuela

From the beginning of the year to 15 July, Venezuela reported 11,808 cases of dengue fever including 2433 cases of dengue haemorrhagic fever, 13 of whom died. Dengue 4 has been the predominant serotype. Control measures undertaken have included public information campaigns, insecticide spraying and treatment of vector breeding sites.

Dysentery in Equatorial Guinea

A severe outbreak of dysentery has been reported from the central African country of Equatorial Guinea, with 600 cases and 104 deaths. A total of 363 cases was reported from four off-shore districts (Baney, Malabo, Riaba and Luba) and 237 cases from the inland areas of Ebibiyin and Micomesenge. The causative organism was determined to be *Shigella dysenteriae* type 1. The WHO is working with UNICEF, the French Ministry of Cooperation and the national public health authorities to control the epidemic.

Cholera update

The cholera outbreak in the Ukraine has caused 368 cases and seven deaths since the first case was diagnosed on 4 June 1995. The two southern provinces of Nikolayev and Kherson have been affected, with most cases in and around the city of Nikolayev. It is reported that the River Youzhnyi Bug and its estuary are the main sources of the disease, and health education efforts have been targetted at alerting the local population to the dangers of drinking unsafe water and eating fish that has not been properly cooked. There have also been reports of cholera spreading from the Ukraine into neighbouring Moldova.

There have been recent unconfirmed reports of cholera in North Korea. An outbreak apparently began in May in the north and has since spread to other parts of the country.

Cholera cases have been reported since March from Angola, Argentina, Belize, Bukino Faso, Burundi, Cameroon, Cape Verde, Costa Rica, Ecuador, El Salvador, Ghana, Guinea, Honduras, India, Kenya, Laos, Liberia, Mali, Mexico, Nicaragua, Peru, the Russian Federation, Sierra Leone, Singapore, Somalia, Uganda, Ukraine and Zaire.

CDI NOTICES TO READERS

Understanding childhood immunisation

A booklet about childhood immunisation has recently been released by the Commonwealth Department of Human Services and Health. The booklet called *Understanding childhood immunisation* is designed to help parents make decisions about their child's immunisation based on accurate information.

Topics covered in the booklet include the diseases prevented by immunisation, common questions that parents have about immunity and getting their child immunised, and side effects and what to do about them. The booklet also includes the National Health and Medical Research Council's recommended vaccination schedule.

The easy to read booklet is available free of charge and can be ordered from the AIDS/Communicable Diseases Branch publication line. To order a copy, phone (06) 289 8101 and leave your name and address details after the recorded message. A booklet will be forwarded to you within four weeks.

An outbreak of *Salmonella* gastroenteritis in the Australian Capital Territory, February-March 1995 - addendum

An addendum is required for the article *An outbreak of Salmonella gastroenteritis in the Australian Capital Territory, February-March 1995*, published in *CDI* 1995;**19**:392-395. Those acknowledged should have included Simon Rockcliffe and the staff of the Microbiology Unit in the Australian Capital Territory Government Analytical Laboratory.

Specimens and VTEC isolates for the APSU HUS study

The Microbiological Diagnostic Unit in the Department of Microbiology at the University of Melbourne is facilitating surveillance of haemolytic uraemic syndrome (HUS) through the Australian Paediatric Surveillance Unit (APSU). As part of this study, it is seeking specimens from patients with HUS and isolates of VTEC and other relevant *E. coli*.

Specimens sought are

- faeces, bacterial or serum specimens from patients with HUS to seek evidence of VTEC
- any VTEC isolates (all sources) for characterisation
- any *E. coli* O157, O111, O116, O26, O113 isolates (VTEC or not - all sources).

In order to facilitate the collection of the specimens and isolates, the Commonwealth Department of Human Services and Health has made the following arrangements possible when air transport of specimens is required.

- Phone (03) 9344 5713 and request a pre-paid transport kit. Everything you need will be provided.
- Queries on this system should be directed to Geoff Hogg, page 016 373 344.

We hope that this simple system will encourage all laboratories and clinicians to submit timely specimens and isolates of interest.

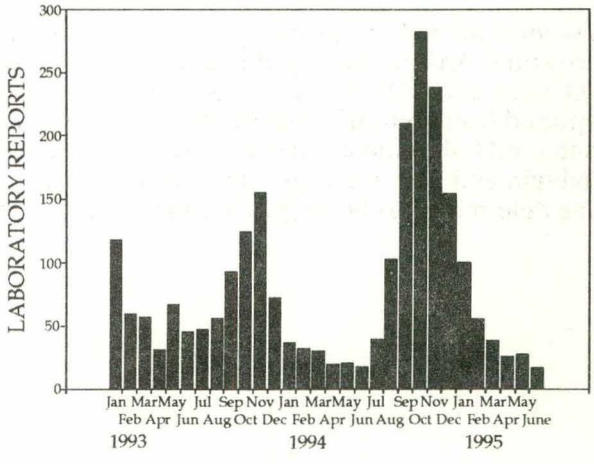
COMMUNICABLE DISEASES SURVEILLANCE

Virology and Serology Reporting Scheme

There were 1355 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 6, 7 and 8).

- **Measles** was reported for 3 patients this fortnight including a 13 year old male with encephalitis and a one year old male with meningitis. The number of reports received remains low.
- **Rubella** was reported for 3 patients this period including a 32 year old pregnant female at 14 weeks gestation with a rash, a 2 year old female and a 17 year old male. The number of reports received for the month of June was the lowest since June 1994 (Figure 1).

Figure 1. Rubella laboratory reports, 1993 to 1995, by month of specimen collection



- **Hepatitis A** was reported for 5 patients this period, 3 males and 2 females, all in the 25 to 64 year age range.
- Positive **hepatitis B** serology was reported for 56 patients this fortnight including 38 males and 15 females (3 sex not stated), 35 in the 25 to 44 year age group. Included were 3 pregnant females.
- Eighty-five reports of positive **hepatitis C** serology were received this period. Included were 2 injecting drug users, one haemodialysis patient, one transplant recipient, one pregnant female and a patient with a history of occupational exposure. Two source persons in needlestick injuries and 3 persons who had sustained needlestick injuries were also included. Fifty-nine cases were male and 25 female (one sex not stated). Fifty-eight reports were for the 25 to 44 year age group.
- No reports of **Ross River virus** were received this period. To the end of July a total of 877 reports had been received for the year to date, compared with an average for the previous 5 years of 1032 reports for same period. For 1995, 442 patients were reported to be male and 433 female (male:female ratio 1.0:1.0), 459 (52%) being in the 25 to 44 year age group (Figure 2).
- Forty reports of **adenovirus** were received this fortnight. Diagnosis was by virus isolation (26), antigen detection (12) and single high titre (2). Included was adenovirus **type 19** isolated from the eye of a 29 year old male and adenovirus **type 26** isolated from the skin of a 51 year old male.
- **Herpes simplex virus type 1** was reported for 103 patients this fortnight. Diagnosis was by virus isolation (99) and antigen detection (4).
- One hundred and seven reports of **herpes simplex virus type 2** were received, diagnosed by virus isolation (103) antigen detection (3) and nucleic acid detection (one).
- Untyped **herpes simplex virus** was reported for 15 patients this fortnight including a 19 year old pregnant female with acute hepatitis.
- Fifty-two reports of **cytomegalovirus** were received this period. Diagnosis was by virus isolation (39) and IgM detection (13). Included was virus isolation from the urine of an 11 month old female with microcephaly. Also included were 2 HIV positive patients, 2 injecting drug users, one haemodialysis patient, 3 transplant recipients, 5 pregnant females and one case with a history of occupational exposure.
- **Epstein-Barr** virus was reported for 36 patients this fortnight. Included were 12 males and 23 females, 16 (44%) of whom were in the 15 to 24 year age group. This virus was reported for an 18 year old female renal transplant recipient (in rejection), a 23 year old female with a ruptured spleen and a 4 year old with tonsillitis.
- **Echovirus type 30** was isolated from the CSF of a 92 year old female with meningitis.
- Two reports of **enterovirus type 71** were received this fortnight including a one month old Victorian male with a petechial rash.
- **Rhinovirus** was reported for 23 patients, all but 3 of whom were under the age of 5 years. The number of reports is low for the time of year.
- **Influenza A** was reported for 71 patients this fortnight including 17 reports of subtype H_1N_1. Diagnosis was by virus isolation (33, specimen collection dates from late June to late July), antigen detection (one), fourfold rise in titre (one), and single high titre (36). Reports were received from New South Wales (33), Queensland (23), South Australia (5), Victoria (9) and Western Australia (one). A total of 544 reports has been received for the year to date including 300 males and 240 females (4 sex not stated, male:female ratio 1.25:1.0). Sixty-six isolates have been identified as being H_1N_1 subtypes and 5 as H_3N_2 subtypes. There was an early start to the influenza season this year compared with the previous 2 years (Figure 3).

Figure 2. Ross River virus laboratory reports, 1995, by age group and sex

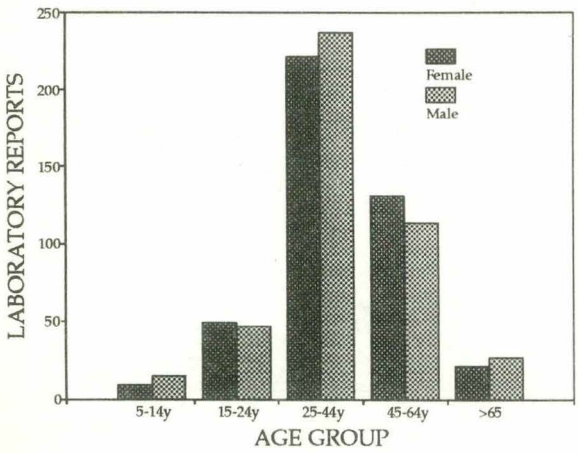


Figure 3. Influenza A laboratory reports, 1993 to 1995, by month of specimen collection

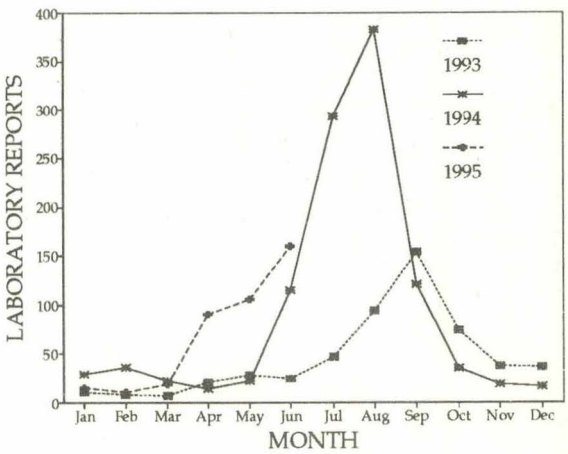


Figure 4. Parainfluenza virus type 3 laboratory reports, 1990 to 1994 average and 1995, by month of specimen collection

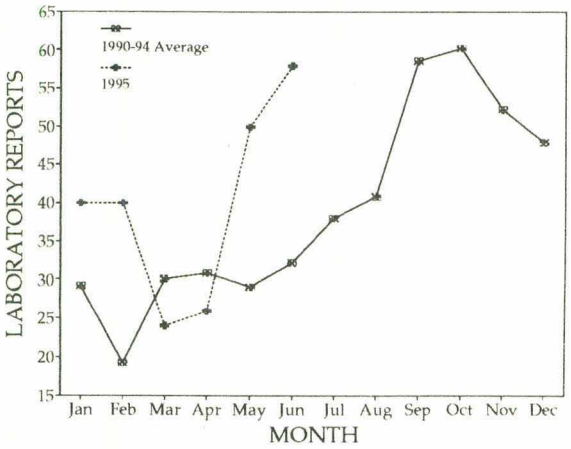
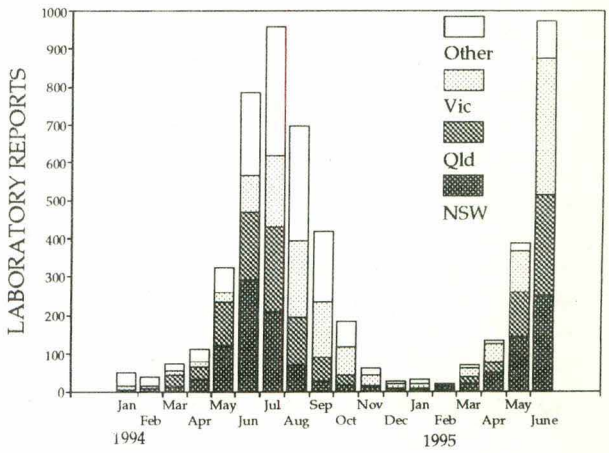


Figure 5. RSV laboratory reports, 1994 to 1995, by State or Territory and month of specimen collection



- Twenty-one reports of **influenza B** were received this fortnight. Diagnosis was by virus isolation (14, specimen collection dates from late June to early August), antigen detection (one) and single high titre (6). Reports were received from the Australian Capital Territory (one), New South Wales (9), Queensland (7), South Australia (one) and Victoria (3). A total of 120 reports has been received so far this year (59 males and 59 females), 46 (38%) of whom were under the age of 5 years.
- Six reports of **parainfluenza virus type 2** were received this period, all for patients under the age of 5 years. Diagnosis was by virus isolation (5) and antigen detection (one). The number of reports received continues to decline after peaking in the month of April.
- **Parainfluenza virus type 3** was reported for 32 patients this fortnight, all but 3 under the age of 5 years. Diagnosis was by virus isolation (21) and antigen detection (11). The number of reports is high for the time of year (Figure 4).
- Four hundred and fifty-three reports of **respiratory syncytial virus (RSV)** were received this fortnight, 416 (70%) for patients under one year of age and 124 (27%) in the one to 4 year age group. Method of diagnosis included virus isolation (180), antigen detection (268), fourfold rise in titre (one) and single high titre (4). Included was a 3 month old female with bicuspid atresia. The number of reports continues to rise (Figure 5).
- **Rotavirus** was reported for 106 patients this period including 68 males and 38 females (male:female ratio 1.8:1.0). Ninety-four cases (89%) were 4 years of age or under. The number of reports received remains below average for the time of year, a total of 325 having been received for the year to date to the end of June compared to an average of 485 reports for the same period in the previous 5 years.
- ***Chlamydia trachomatis*** was reported for 31 patients this period including 12 males and 18 females. Diagnosis was by virus isolation (18), antigen detection (12) and single high titre (one).
- ***Bordetella pertussis*** was reported for 7 patients this period, 5 females and 2 males in the one to 44 year age range. The number of reports remains low.

Australian Sentinel Practice Research Network

Data for week 30 (ending 30 July) and week 31 (ending 6 August) are included in this issue of *CDI* (Table 1). There were 7816 consultations reported for week 30

Table 1. Australian Sentinel Practice Research Network, weeks 30 and 31, 1995

Condition	Week 30, to 30 July 1995		Week 31, to 6 August 1995	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	218	27.9	195	27.0
Rubella	2	0.3	4	0.6
Measles	1	0.1	1	0.1
Chickenpox	8	1.0	16	2.2
Pertussis	4	0.5	4	0.6
Gastroenteritis	102	13.1	104	14.4

and 7214 for week 31. The influenza reporting rate was about the same this fortnight as last fortnight. The highest rates were reported from Queensland and Victoria and there were few reports received from New South Wales, the Australian Capital Territory, Tasmania, Western Australia and the Northern Territory. Reports of gastroenteritis continue to be made at a rate of between 10 and 15 per 1000 consultations, with no apparent seasonal pattern.

National Influenza Surveillance 1995

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

Overall the rate of influenza reporting has remained stable this fortnight.

Sentinel general practitioner surveillance (Figure 6)

- The **Australian Sentinel Practice Research Network** reported 27 reports per 1000 encounters for the weeks ending 30 July and 6 August, similar rates to those reported in previous weeks. The rate of reporting for influenza-like illness continued to rise in Queensland this period, whilst that for New South Wales fell. The reporting rate in other States and Territories remained stable.
- The **Victorian sentinel general practitioners' reporting scheme** had a consultation rate for influenza-like illness of 13 per 1000 encounters this period.
- **New South Wales sentinel general practitioners** reported a rate of 31 per 1000 consultations for the week ending 30 July, a decrease on the reported rates earlier in the month.
- The **Australian Capital Territory Sentinel General Practitioner Scheme** reported a rise in the consultation rates for influenza like illness from 14 to 22 per 1000 encounters for the weeks ending 6 and 13 August respectively.

Absenteeism surveillance (Figure 7)

- **Australia Post** reported a national absenteeism rate of 2.7%, 2.8% and 2.8% for the weeks ending 30 July and 6 and 13 August, similar to rates reported in previous weeks. There was little variation in the rate of reporting for each of the States and Territories compared with previous reporting periods.
- **New South Wales Schools Absenteeism Surveillance** reported rates of 6.8% and 6.5% for the weeks ending 30 July and 6 August respectively, a consistent reduction on the rates reported during June and early July.
- The **Australian Capital Territory Schools Absenteeism Surveillance** rate has risen to 8.2% for the week ending 15 August.

Laboratory surveillance (Figures 8 and 9)

- **Influenza A** was reported for 71 patients this fortnight including 17 reports of subtype H_1N_1. Diagnosis was by virus isolation (33, specimen collection dates from late June to late July), antigen detection (one), fourfold rise in titre (one), and single high titre (36). Reports were received from New South Wales (33), Queensland (23), South Australia (5), Victoria (9) and Western Australia (one). A total of 544 reports has been received for the year to date including 300 males and 240 females (4 sex not stated, male:female ratio 1.25:1.0). Sixty-six isolates were identified as being H_1N_1 subtypes and 5 as H_3N_2 subtypes.

Figure 6. Sentinel general practitioner influenza reports per 1000 encounters, 1995, by week

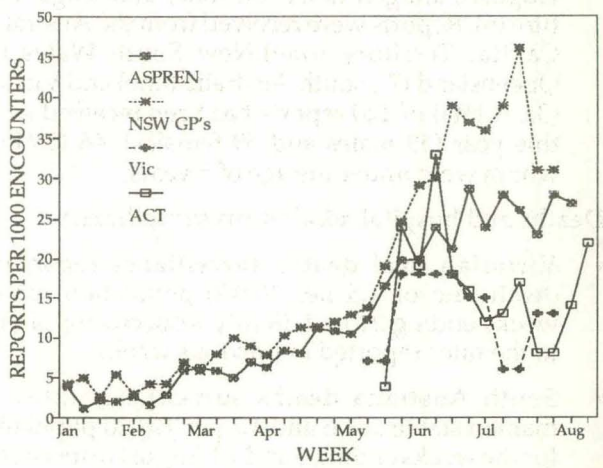


Figure 7. Absenteeism reports, 1995, by week and scheme

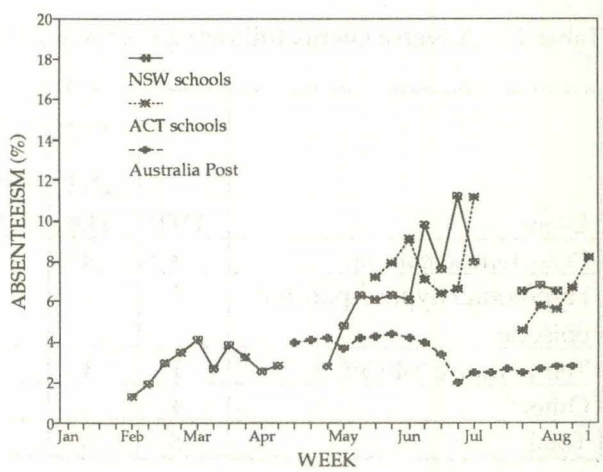


Figure 8. Influenza A laboratory reports, 1995, by method of diagnosis and week of specimen collection

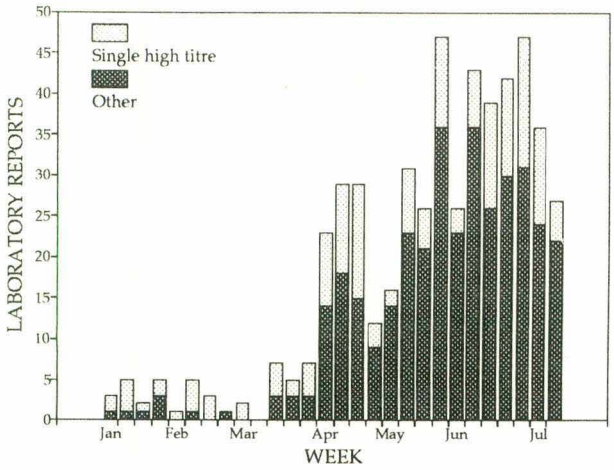
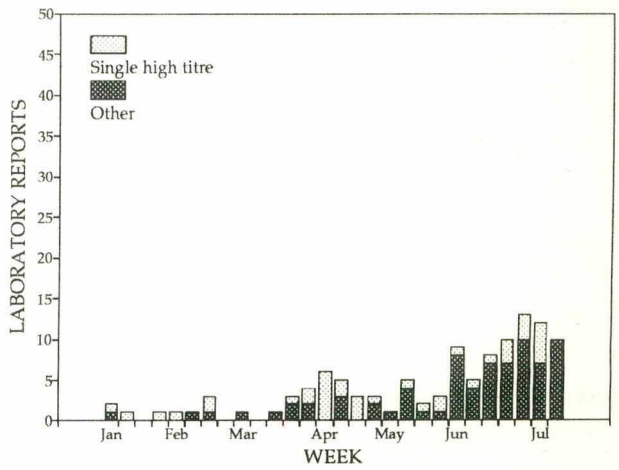


Figure 9. Influenza B laboratory reports, 1995, by method of diagnosis and week of specimen collection



- Twenty-one reports of **influenza B** were received this fortnight. Diagnosis was by virus isolation (14, specimen collection dates from late June to early August), antigen detection (one) and single high titre (6). Reports were received from the Australian Capital Territory (one),New South Wales (9), Queensland (7), South Australia (one) and Victoria (3). A total of 120 reports has been received so far this year (59 males and 59 females), 46 (38%) of whom were under the age of 5 years.

Deaths and hospital admissions surveillance

- **Victorian total deaths surveillance** reported a death rate of 1.5 per 10,000 population for the weeks ending 21 and 28 July respectively, similar to the rates reported in previous weeks.
- **South Australia deaths surveillance** rates remained stable at 1.6 and 1.7 per 10,000 population for the weeks ending 6 and 13 August respectively.
- **Victorian hospital admissions surveillance** reported admission rates for influenza and/or pneumonia of 1 per 100 patients for the last fortnight, similar to that reported in the previous period.

Surveillance of Serious Adverse Events Following Vaccination

The Serious Adverse Events Following Vaccination Surveillance Scheme is a national surveillance scheme which monitors the serious adverse events which occur rarely following vaccination. More details on the Scheme were published in *CDI* 1995;**19**:273-274.

Acceptance of a report does not imply a causal relationship between the administration of the vaccine and the medical outcome or that the report has been verified as to the accuracy of its contents.

It is estimated that 250,000 doses of vaccines are administered to Australian children under the age of 6 years every month.

Results for the reporting period 9 July 1995 to 5 August 1995

There were 18 reports of serious adverse events following vaccination for the reporting period 9 July to 5 August 1995. Reports were for episodes which occurred between January and July 1995, received from the Australian Capital Territory (one), New South Wales (10), the Northern Territory (one) and Victoria

Table 2. Adverse events following vaccination for the period 9 July to 5 August 1995

Event	Vaccines						Reporting States or Territories	Total reports for this period
	DTP	DTP Hib	DTP OPV Hib	CDT Hib	MMR	Hep B		
Persistent screaming	3	4	1			1	NSW, NT, Vic	9
Hypotonic/hyporesponsive episode				1			NSW	1
Temperature ≥ 40.5°C	1	1					NSW	2
Other	4				1	1	ACT, NSW, Vic	6
Total	8	5	1	1	1	2		18

(6). Reports were not received from Tasmania or Queensland. South Australia and Western Australia have not yet commenced reporting.

Of the 18 reports, 9 were cases of persistent screaming, one of a hypotonic/hyporesponsive episode, 2 of a temperature of 40.5°C or more and 6 were other events temporally associated with vaccination (Table 2). Of the 6 'other' cases, 3 were large localised reactions (2 following DTP vaccine, one following hepatitis B vaccine), one was a hypotensive episode following DTP vaccine, one was of fever and collapse following DTP vaccine and one was of fever, lethargy and balance loss following MMR vaccine. Most events were associated with DTP alone or DTP in combination with other vaccines.

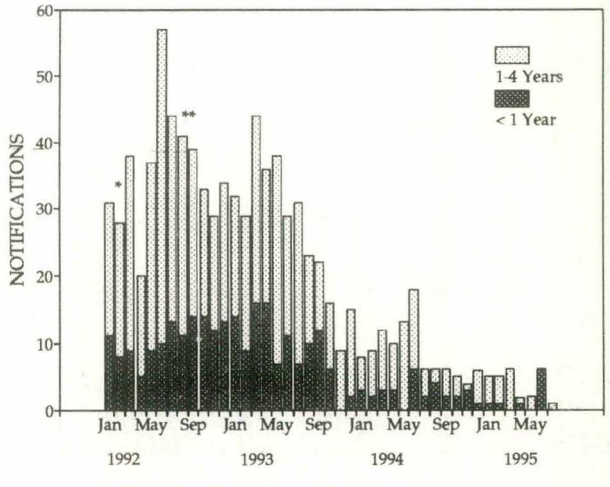
Events associated with DTP alone or DTP or CDT in combination with other vaccines were associated with the first (one), second (4), third (4), fourth (2) and fifth (2) doses. Events were also associated with second and third doses of hepatitis B vaccine and first dose of MMR. Dose number was not reported for two cases. Four children were hospitalised, two with fever, one with a hypotonic/hyporesponsive episode and one with a hypotensive episode. One non-hospitalised child had not fully recovered at the time the initial report was sent in; all other cases were fully recovered.

National Notifiable Diseases Surveillance System 23 July 1995 to 5 August 1995

There were 2026 notifications received in the period. (Tables 3, 4 and 5 and Figure 11)

- Two cases of **Barmah Forest virus infection** were reported. One case was a male in the 35-39 years age group and one was a female in the 60-64 years age group.
- There were 63 notifications of **Ross River virus infection**; 37 cases were male and 26 cases were female. Recorded ages were between the 10-14 and the 70-74 years age groups.
- There were four cases of **dengue** reported; 2 cases were male and 2 cases were female. Recorded ages were between the 20-24 and the 45-49 years age groups.
- A single case of **brucellosis** was reported in a male in the 15-19 years age group.
- There were 458 notifications of **campylobacteriosis**; 231 cases were male, 222 were female, and the sex of 5 was unrecorded. Cases were aged between the 0-4 and the 90-94 years age groups with 24% of cases in the 0-4 years age group.
- Two cases of **cholera** were reported. Both were females in the 45-49 years age group who had recently returned from overseas.
- There were 102 cases of **gonococcal infection;** 65 cases were male and 37 cases were female. Recorded ages were between the 15-19 and the 70-74 years age groups.
- Two cases of ***Haemophilus influenzae*** **type b infection** were reported. Both cases were males. Recorded ages were less than one year and 5 years. A few cases continue to be notified each month (Figure 10).
- Thirty notifications of **hepatitis A** were received; 15 cases were male and 15 were female. Recorded ages were between the 5-9 and the 65-69 years age groups.
- There were 10 cases of **hepatitis B**; 9 were male and one was female. Recorded ages were between the 15-19 and the 60-64 years age groups.
- Nine incident cases of **hepatitis C** were reported; 5 were male and 4 were female. Recorded ages were between the 20-24 and the 30-34 years age groups.
- Two notifications of **hydatid infection** were received. One case was a male in the 70-74 years age group and the other a female in the 50-54 years age group.
- There were 4 notifications of **legionellosis**; 3 cases were male and one was female. Recorded ages were between the 30-34 and the 85-89 years age groups.
- Fourteen cases of **leptospirosis** were reported; 11 cases were male and 2 were female. The cases were aged between the 20-24 and the 70-74 years age groups. The majority of cases were resident in rural Statistical Divisions in Queensland.
- Two cases of **listeriosis** were reported, both for males. Recorded ages were in the 50-54 and the 65-69 years age groups.
- Thirty-one cases of **malaria** were reported; 21 cases were male and 10 cases were female. The cases were aged between the 5-9 and the 60-64 years age groups. Onset dates were in April (2), May (6), June (7), and July (16). Three cases were resident in the 'malaria receptive zone'.

Figure 10. *Haemophilus influenzae* type b infection notifications by age group and month of onset

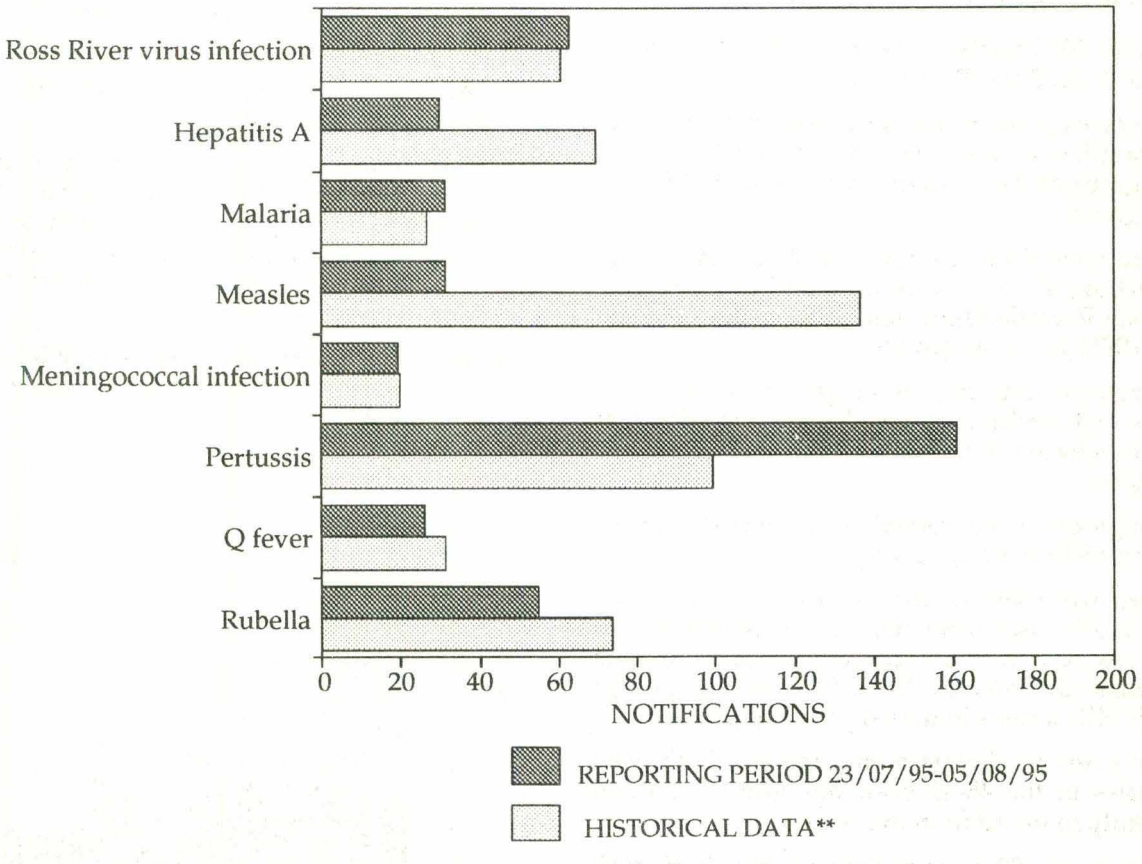


* PRP-D approved in February 1992.

** Infant vaccine approved in September 1992.

- There were 31 notifications of **measles**; 8 cases were male and 15 cases were female. Recorded ages were between the 0-4 and the 70-74 years age group with 6 cases aged less than one year. There was a single apparent cluster of two cases resident in the same postcode area in Tasmania.
- There were 19 cases of **meningococcal infection** reported; 13 were male and 6 were female. Recorded ages were between the 0-4 and the 75-79 years age groups with 5 cases aged less than one year.
- One hundred and sixty-one cases of **pertussis** were reported; 57 cases were male and 104 were female. The cases were aged between the 0-4 and the 85-89 years age groups with a mean age of 22.5 years. A single case was reported in a child aged less than one year. There were 23 apparent clusters of between 2 and 11 cases each resident in the same postcode area. Apparent clusters were in the Northern Territory (one), New South Wales (8), Victoria (one), Queensland (11), and Tasmania (one).
- There were 25 notifications of **Q fever**; 23 cases were male and 2 were female. Recorded ages were in the 15-19 and the 50-54 years age groups.
- Fifty-five cases of **rubella** were reported; 35 cases were male, 18 were female, and the sex of 2 was not reported. Cases were aged between the 0-4 and the 45-49 years age groups with 11 in females in the 15-44 years age group.
- There were 157 cases of **salmonellosis** reported; 85 were male, 70 were female, and the sex of 2 was not reported.
- Sixty-three notifications of **syphilis** were received; 35 cases were male, 26 were female, and the sex of 2 was not reported. The cases were aged between the 0-4 and the 75-79 years age groups with 2 aged less than one year.
- There were 41 cases of **tuberculosis** reported; 23 were male and 18 were female. Recorded ages were between the 0-4 and the 80-84 years age groups.
- Three cases of **typhoid** were reported; 2 were male and one was female. The cases were aged between the 10-14 and the 20-24 years age groups.
- Fifteen notifications of **yersiniosis** were received; 12 cases were male and 3 were female. Cases were aged between the 0-4 and the 65-69 years age groups.

Figure 11. Selected National Notifiable Diseases Surveillance System reports, and historical data[1]



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.

Table 3. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by State and Territory health authorities in the period 23 July to 5 August 1995

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1] This period 1995	This period 1994	Year to date 1995	Year to date 1994
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae b infection	0	1	0	0	0	1	0	0	2	8	47	120
Measles	3	6	1	8	0	6	6	1	31	192	940	2250
Mumps	1	0	0	NN	0	0	0	1	2	1	40	13
Pertussis	0	56	2	77	6	4	15	1	161	177	2510	3087
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella	1	5	0	15	2	7	19	6	55	87	1185	940
Tetanus	0	0	0	0	0	0	0	0	0	0	3	7

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.

NN Not Notifiable.

Table 4. Notifications of other diseases[1] received by State and Territory health authorities in the period 23 July to 5 August 1995

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2] This period 1995	This period 1994	Year to date 1995	Year to date 1994
Arbovirus infection												
Ross River virus infection	0	4	3	52	1	-	0	3	63	26	2234	3653
Dengue	0	0	1	3	0	-	0	0	4	1	19	13
NEC[3]	0	3	0	24	0	0	2	0	29	9	688	450
Campylobacteriosis[4]	10	-	22	114	131	26	97	58	458	402	6168	5622
Chlamydial infection (NEC)[5]	3	NN	58	80	5	5	41	39	231	240	3736	4581
Donovanosis	0	NN	2	0	NN	0	0	0	2	3	52	63
Gonococcal infection[6]	0	2	19	45	2	0	12	22	102	103	1806	1886
Hepatitis A	0	2	1	20	1	0	4	2	30	64	945	1201
Hepatitis B	0	0	0	5	1	0	4	0	10	10	225	194
Hepatitis C incident	-	1	0	-	8	-	-	-	9	3	64	11
Hepatitis C unspecified	27		1	155		0	177	28	388	322	5440	5391
Hepatitis (NEC)	0	1	0	0	0	0	0	NN	1	6	25	27
Legionellosis	0	1	0	1	0	0	1	1	4	12	121	114
Leptospirosis	0	2	0	11	0	0	1	0	14	1	83	86
Listeriosis	0	1	0	0	0	0	1	0	2	1	42	18
Malaria	6	3	0	17	2	0	2	1	31	34	410	463
Meningococcal infection	0	3	2	5	1	0	3	5	19	30	211	193
Ornithosis	0	NN	0	0	0	0	3	0	3	4	81	57
Q fever	0	11	0	11	0	0	3	0	25	26	281	428
Salmonellosis (NEC)	2	25	15	52	12	4	31	16	157	152	4240	3618
Shigellosis[4]	1	-	10	16	1	1	6	2	37	27	525	487
Syphilis	0	22	20	17	0	0	4	0	63	69	1350	1556
Tuberculosis	0	11	2	1	6	1	19	1	41	40	635	615
Typhoid[7]	0	1	0	1	0	1	0	0	3	1	26	27
Yersiniosis (NEC)[4]	0	-	0	10	1	0	1	3	15	11	226	282

1. For HIV and AIDS, see Tables 2 and 3 *CDI* 1995;19:405-406. For rarely notified diseases, see Table 5.
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. 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, Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 5. Notifications of rare[1] diseases received by State and Territory health authorities in the period 23 July to 5 August 1995

DISEASES	Total this period	Reporting States or Territories	Year to date 1995
Botulism	0		0
Brucellosis	1	Qld	19
Chancroid	0		2
Cholera	2	ACT 1, Qld 1	3
Hydatid infection	2	NSW	22
Leprosy	0		4
Lymphogranuloma venereum	0		1
Plague	0		0
Rabies	0		0
Yellow fever	0		0
Other viral haemorrhagic fevers	0		0

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

Table 6. Virology and serology laboratory reports by State or Territory[1] for the reporting period 27 July to 9 August 1995, 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					2		3	21.0	258
Mumps virus		1					1		2	4.0	49
Rubella virus		2					1		3	18.3	526
HEPATITIS VIRUSES											
Hepatitis A virus		3					2		5	14.7	288
Hepatitis B virus	3	13		8	9	1	22		56	84.2	1,502
Hepatitis C virus	16				50	13	6		85	210.5	3,566
ARBOVIRUSES											
Barmah Forest virus					1				1	2.7	188
Flavivirus (unspecified)							1		1	3.7	32
ADENOVIRUSES											
Adenovirus type 5							1		1	1.0	5
Adenovirus type 8							2		2	1.3	19
Adenovirus type 19							1		1	.2	1
Adenovirus type 46							1		1	.0	4
Adenovirus not typed/pending		3		16	7	1	6	2	35	43.8	562
HERPES VIRUSES											
Herpes simplex virus type 1	1	4		20	24	1	52	1	103	159.0	3,063
Herpes simplex virus type 2		1		17	37		52		107	180.0	3,153
Herpes simplex not typed/pending	10	3			1		1		15	24.2	312
Cytomegalovirus	3	5		10	5	1	24	4	52	72.0	964
Varicella-zoster virus	1	1		3	3		11		19	33.8	680
Epstein-Barr virus		6			20	3	7		36	42.0	1,223

Table 6. Virology and serology laboratory reports by State or Territory[1] for the reporting period 27 July to 9 August 1995, 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			
PICORNA VIRUS FAMILY											
Coxsackievirus B4		1							1	.3	2
Echovirus type 30		1							1	4.2	43
Poliovirus type 1 (uncharacterised)		2							2	1.0	13
Rhinovirus (all types)		3					20		23	36.2	418
Enterovirus type 71 (BCR)							2		2	.0	27
Enterovirus not typed/pending		4		9			3		16	39.7	595
ORTHO/PARAMYXOVIRUSES											
Influenza A virus		29		11	5		8	1	54	71.3	498
Influenza A virus H_1N_1		4		12			1		17	.0	66
Influenza B virus	1	9		7	1		3		21	23.2	124
Parainfluenza virus type 1					2				2	15.7	26
Parainfluenza virus type 2				5			1		6	7.0	164
Parainfluenza virus type 3	1	2		10	6		9	4	32	19.0	405
Parainfluenza virus typing pending						2			2	4.0	22
Respiratory syncytial virus	31	67		93	62	30	85	85	453	396.0	2,751
OTHER RNA VIRUSES											
Rotavirus		8		12	19	4	40	23	106	148.2	739
Norwalk agent							1		1	.3	9
Small virus (like) particle		1							1	1.0	8
OTHER											
Chlamydia trachomatis not typed	1	4			8	2	15	1	31	83.3	1,545
Chlamydia psittaci					2		1		3	3.2	99
Chlamydia species					1				1	.5	39
Mycoplasma pneumoniae		1					1		2	54.8	205
Coxiella burnetii (Q fever)					2		5		7	11.7	138
Rickettsia tsutsugamushi							1		1	.0	1
Rickettsia spp - other							1		1	.3	6
Bordetella pertussis							7		7	14.0	429
Helicobacter pylori		4							4	.0	4
Treponema pallidum		16							16	19.3	376
Toxoplasma gondii		9					2		11	2.2	103
Schistosoma species							1		1	.0	58
Strongyloides stercoralis			2						2	.0	10
TOTAL	68	208	2	233	265	58	400	121	1,355	1,872.7	25,318

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 7. Virology and serology laboratory reports by clinical information for the reporting period 27 July to 9 August 1995

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus	1	1										1	3
Mumps virus												2	2
Rubella virus								1				2	3
HEPATITIS VIRUSES													
Hepatitis A virus												5	5
Hepatitis B virus							20			1		35	56
Hepatitis C virus							33				1	51	85
ARBOVIRUSES													
Barmah Forest virus												1	1
Flavivirus (unspecified)												1	1
ADENOVIRUSES													
Adenovirus type 5					1								1
Adenovirus type 8									2				2
Adenovirus type 19									1				1
Adenovirus type 46								1					1
Adenovirus not typed/pending					16	15			1			3	35
HERPES VIRUSES													
Herpes simplex virus type 1					14			58	4		25	2	103
Herpes simplex virus type 2		1						23			79	4	107
Herpes simplex not typed/pending					1			5			5	4	15
Cytomegalovirus			1	1	17		1		1			31	52
Varicella-zoster virus								16		1		2	19
Epstein-Barr virus												36	36
PICORNA VIRUS FAMILY													
Coxsackievirus B4						1							1
Echovirus type 30		1											1
Poliovirus type 1 (uncharacterised)					1	1							2
Rhinovirus (all types)					22							1	23
Enterovirus type 71 (BCR)								2					2
Enterovirus not typed/pending			1		8	2						5	16
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					23							31	54
Influenza A virus H_1N_1					17								17
Influenza B virus					13	1						7	21
Parainfluenza virus type 1					2								2
Parainfluenza virus type 2					6								6
Parainfluenza virus type 3					29			1				2	32
Parainfluenza virus typing pending					2								2
Respiratory syncytial virus			1		431							21	453

Table 7. Virology and serology laboratory reports by clinical information for the reporting period 27 July to 9 August 1995, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
OTHER RNA VIRUSES													
Rotavirus						106							106
Norwalk agent						1							1
Small virus (like) particle						1							1
OTHER													
Chlamydia trachomatis not typed					1			3			26	1	31
Chlamydia psittaci					2							1	3
Chlamydia species					1								1
Mycoplasma pneumoniae												2	2
Coxiella burnetii (Q fever)												7	7
Rickettsia tsutsugamushi												1	1
Rickettsia spp - other												1	1
Bordetella pertussis					7								7
Helicobacter pylori												4	4
Treponema pallidum												16	16
Toxoplasma gondii					1							10	11
Schistosoma species												1	1
Strongyloides stercoralis												2	2
TOTAL	1	3	3	1	615	128	54	110	9	2	136	293	1355

Table 8. Virology and serology laboratory reports by contributing laboratories for the reporting period 27 July to 9 August 1995

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	77
New South Wales	Prince Henry/Prince of Wales Hospitals, Sydney	96
	Royal Alexandra Hospital for Children, Camperdown	52
	Royal North Shore Hospital, St Leonards	48
Queensland	Nambour Hospital	19
	State Health Laboratory, Brisbane	214
South Australia	Institute of Medical and Veterinary Science, Adelaide	265
Tasmania	Northern Tasmanian Pathology Service, Launceston	21
	Royal Hobart Hospital, Hobart	35
Victoria	Microbiological Diagnostic Unit, University of Melbourne	4
	Monash Medical Centre, Melbourne	38
	Royal Children's Hospital, Melbourne	139
	Unipath Laboratories	48
	Victorian Infectious Diseases Reference Laboratory, Fairfield Hospital	178
Western Australia	Princess Margaret Hospital, Perth	121
TOTAL		1355