COMMUNICABLE DISEASES INTELLIGENCE

ISSN 0725-3141 VOLUME 17 NUMBER 11 31 May 1993

CONTENTS

Editor: Robert Hall
Deputy Editor: Jenny Hargreaves

Editorial and Production Staff: Leslee Roberts, David Evans, Linda Halliday, Michelle Wood, Barbara Jenkins and Gloria Konig

CDI is produced fortnightly by:
AIDS/Communicable Diseases Branch
Department of Health, Housing, Local Government and Community Services
GPO Box 9848 Canberra ACT 2601
Fax: (06) 289 7791 Telephone: (06) 289 1555

DEPARTMENT OF HEALTH, HOUSING AND COMMUNITY SERVICES

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

NOTIFIABLE DISEASES SURVEILLANCE, 1917 TO 1991

(Robert Hall, AIDS/Communicable Diseases Branch, Department of Health, Housing, Local Government and Community Services, Canberra)

Notifiable diseases data are collected by States and Territories under their public health legislation. This legislation has required medical practitioners, and some other classes of people, to notify health authorities of certain communicable and other diseases. These data have been collected on a national basis since 1917. For the years 1917 to 1922 national data were published in the *Medical Journal of Australia*. From 1924 until the Second World War the data were published in *Health*, the journal of the former Commonwealth Department of Health. After the war the *Commonwealth Year Book* published the data and this has continued to the present. Additionally, the Commonwealth Department of Health and its successors have published an annual compilation of notifiable diseases data in the Department's *Annual Report*. These sources have been used to prepare an historical overview of notifiable diseases in Australia from 1917 to 1991.

A total of 157 different categories were used to collect notifiable diseases data during the period 1917 to 1991. Several of these are no longer recognised as independent nosological entities. For example 'encephalitis lethargica' and 'coastal fever' are not now used as diagnostic categories. Several of the categories represent stages in the evolution of diagnostic techniques to identify the same diseases. For example 'homologous serum jaundice' has evolved through 'serum hepatitis' to 'hepatitis B', and 'low fever' has evolved through 'enteric fever' to 'typhoid'. Accordingly, data presented here have been recoded to modern categories (Table 1).

For some diseases, case definitions have changed markedly. 'Arbovirus infection' has included the categories 'Ross River virus infection' and 'dengue' (and still includes these categories in some States and Territories). 'Dysentery' included 'bacillary dysentery' and 'amoebic dysentery' until 1945. 'Gonococcal infection' as presented here includes both gonorrhoea and other forms of gonococcal infection.

Not all of these categories have been uniformly notifiable in all States and Territories. Tuberculosis, for example, was notifiable only in its pulmonary form in some years and in some States and Territories, and was notifiable only in the metropolitan, Blue Mountains and Hunter areas of New South Wales in the 1920s. Frequently, diseases were notifiable only in endemic or epidemic areas. For example, from the 1920s to the Second World War, dengue was notifiable only in Western Australia and the Northern Territory. Artefactual overestimates of the rate of notification of some diseases will follow from this. Furthermore, data on some diseases have been collected by States and Territories but have not been compiled nationally. Data presented here are only for those diseases for which national compilations have been published. The Australian Capital Territory was known as the Federal Capital Territory from 1928 to 1937 and the Northern Territory as North Australia from 1931 to 1933.

The results presented here are adjusted rates of notification per 100,000 population per year. Population data estimates are those of the Australian Bureau of Statistics for each State and Territory as at mid-year for the years 1917 to 1991. Rate adjustment was performed by defining the denominator populations at risk as the total populations of those States and Territories where the disease was notifiable. They are crude rates and are not age-standardised nor adjusted for sex.

In 1963, the period under surveillance was changed from the calendar to financial year, and data for 1963 are only available for the period January to June. The

Table 1. Reclassification of categories used for notifiable diseases

Modern category	Previous categories
Brucellosis	Malta fever, undulant fever
Donovanosis	Granuloma, granuloma inguinale, granuloma pudendi
Hepatitis A	Infectious hepatitis, infective hepatitis
Hepatitis B	Homologous serum jaundice, serum hepatitis
Legionellosis	Legionnaires' disease
Leptospirosis	Weil's disease
Measles	Morbilli
Pertussis	Whooping cough
Poliomyelitis	Acute anterior poliomyelitis
Rheumatic fever	Acute rheumatism
Scarlet fever	Scarlatina
Shigellosis	Bacillary dysentery
Typhoid	Low fever, continued fever, enteric fever, typhoid fever

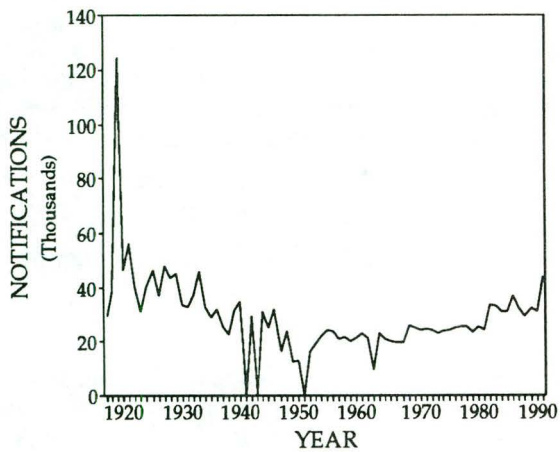
numbers of notifications for 1963 have been doubled to calculate adjusted rates for the whole year. Denominator populations for the financial years are the mid-year population estimates for the year at the start of the financial year. In 1970 the reporting period reverted to the calendar year.

Data are missing for the years 1941, 1943 and 1952 and do not appear to have been published. Data for the Northern Territory for 1942 to 1946 were suppressed.

Subject to the artefacts and uncertainties described above these results represent best estimates of Australian rates of notifiable diseases.

Over the 75 years 1917 to 1991 a total of 2,200,194 notifications was received by the routine disease notification system and compiled nationally. The peak number in any one year was 120,023 in 1919 with 89,941 notifications of influenza in that year. Recently there has been an increase in notifications (Figure 1).

Figure 1. Total notifications of notifiable diseases, Australia, 1917-1991



Vaccine preventable diseases

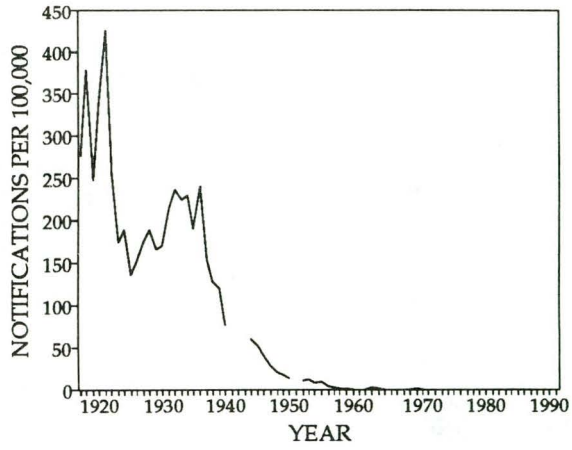
Diphtheria

Diphtheria has been notifiable in all States and Territories since the turn of the century and notifications have been nationally collated continuously since 1917. A peak incidence of reported diphtheria was reached in 1921 with 23,199 notifications for a notification rate of 425.5 per 100,000 population in that year. From 1936 there was a dramatic fall in the rate of notification to 0.006 per 100,000 in 1989 (Figure 2). Immunisation against diphtheria was introduced in the 1920s but was first only given to contacts of cases. In the early 1930s it was incorporated into school immunisation but widespread use occurred only from the 1940s. Diphtheria-tetanus-pertussis combined vaccine was introduced in 1953[1].

Measles

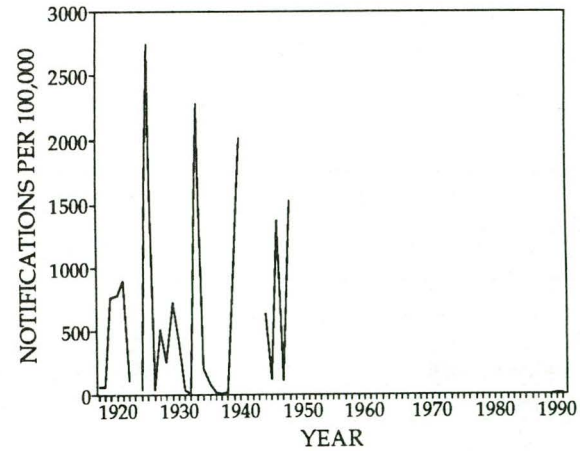
Measles became notifiable in South Australia in 1909[2], the Federal Capital Territory in 1929, North Australia

Figure 2. Annual adjusted rate of notifications of diphtheria, Australia, 1917-1991



in 1931 and Western Australia in 1940. Notifications were compiled nationally until 1948. Measles notifications were not reintroduced until the National Campaign Against Measles in the mid-1980s. During the period 1920 to 1949 there wide swings in the incidence of notified disease with a peak annual rate of 2,741.9 notifications per 100,000 in 1925 (14,804 notifications). This wide fluctuation in incidence is characteristic of measles in unimmunised populations. There was a dramatic decrease in the incidence of notified measles with 1.4 cases per 100,000 in 1989 and 8.0 per 100,000 in 1991. Measles vaccine was introduced in 1969 but it has taken many years to raise the immunisation level to even 80%[1].

Figure 3. Annual adjusted rate of notifications of measles, Australia, 1917-1991



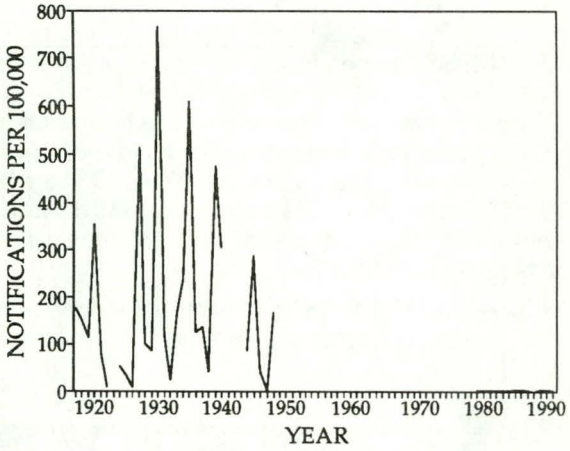
Mumps

Mumps was notifiable in South Australia from 1932 to 1937. The rate of notified mumps rose to a peak of 396.5 per 100,000 in 1934.

Pertussis

Pertussis was first notifiable in South Australia in 1909[2] and in the Territories from the early 1930s. National compilation of pertussis notifications ceased in 1949 and did not recommence until 1979. There was a dramatic fall in notified incidence from a peak of 767.3 per 100,000 population in 1930 to 1.1 per 100,000 in 1988 (Figure 3). Cumpston noted a 3 or 4 yearly periodicity in pertussis mortality[2] and this cyclic behaviour is also shown in the rate of notifications, where a period of 3-5 years is evident from peak to peak from 1917 to 1948 and again from 1979 to 1991. Pertussis immunisation was first used in the 1920s on an individual basis. Mass immunisation with pertussis vaccine did not start until the 1940s. Diphtheria-tetanus-pertussis vaccine was introduced in 1953. Current immunisation levels are still not adequate to abolish the cyclic behaviour of the disease and pertussis epidemics still occur with a 3-5 year periodicity, the last major episode being in 1989-90[3].

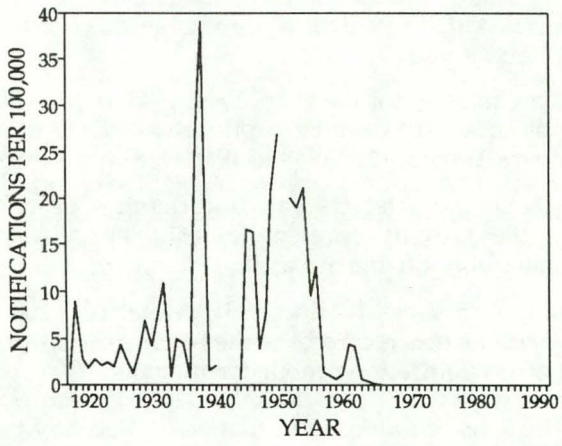
Figure 4. Annual adjusted rate of notifications of pertussis, Australia, 1917-1991



Poliomyelitis

Poliomyelitis was first made notifiable in 1911 in Tasmania with all States and Territories having this requirement by 1922. It has been continuously notifiable Australia wide ever since. A peak incidence of notified cases (39.1 per 100,000 population) occurred in 1938. The incidence of polio has fallen dramatically since 1952. There were epidemics in 1956 and 1961-62 and the last notified cases were in 1978 (two cases) and 1986 (one case) (Figure 5). Mass immunisation against polio was commenced in 1956, first with inactivated and subsequently with oral polio vaccine. The elimination of polio has been a major success of immunisation in Australia.

Figure 5. Annual adjusted rate of notifications of poliomyelitis, Australia, 1917-1991



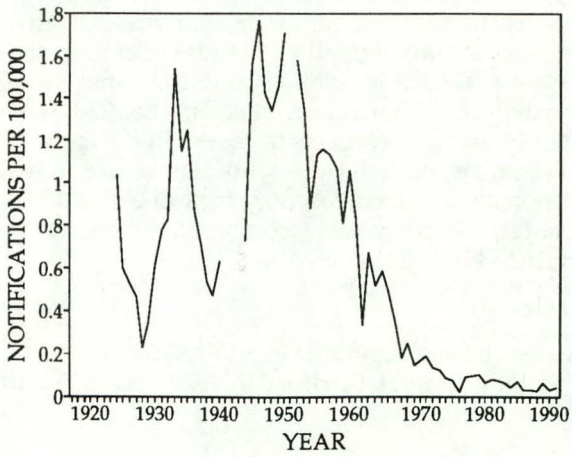
Rubella

Rubella was first notifiable in the ACT in 1942 and data were nationally collected until 1978. National collation was reintroduced in 1991. There was an epidemic in the ACT in 1943 with 93 cases to give an adjusted national rate of 653.9 per 100,000. In 1977 the national rate of 1.9 per 100,000 population was based on data from five States and Territories. Rubella vaccine was introduced in 1970[1] and has been given to girls usually at around the age of 12 years. The rubella control strategy was modified in 1989 with the adoption of combined measles-mumps-rubella (MMR) immunisation for all infants, and a second dose of MMR (for all children at age 10 to 16 years) was recommended in 1992.

Tetanus

Tetanus was first notifiable in Victoria in late 1921[2], in Western Australia from 1926 to 1931 and increasingly in States and Territories since the Second World War. The rate of notified tetanus reached a peak of 1.8 p 100,000 population in 1946. A steep decline in the ra of notified tetanus occurred between 1952 and the mid-1970s when the rate of notification levelled out at 0.03 to 0.1 per 100,000 population per year (Figure 6). Teta-

Figure 6. Annual adjusted rate of notifications of tetanus, Australia, 1917-1991



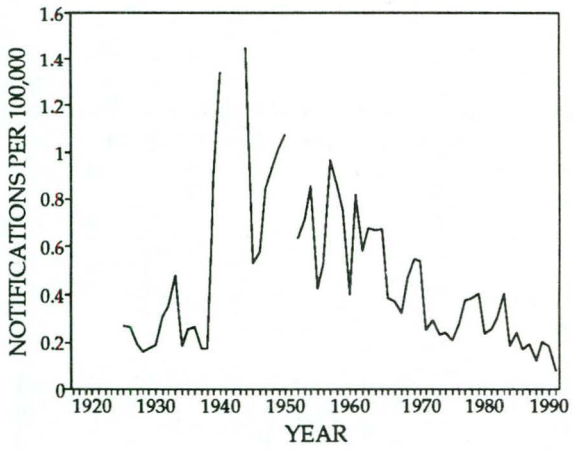
nus immunisation commenced in the 1930s but was not widespread until combined diphtheria-tetanus-pertussis vaccine was introduced in 1953.

Mycobacterioses

Leprosy

Although leprosy had been notifiable in the colonies in the 1880s and 1890s[2], national compilation of leprosy notifications did not start until 1925. The peak incidence of notified leprosy was in 1944 at 1.5 cases per 100,000 population, and this declined steadily to 0.04 notifications per 100,000 in 1991 (Figure 7).

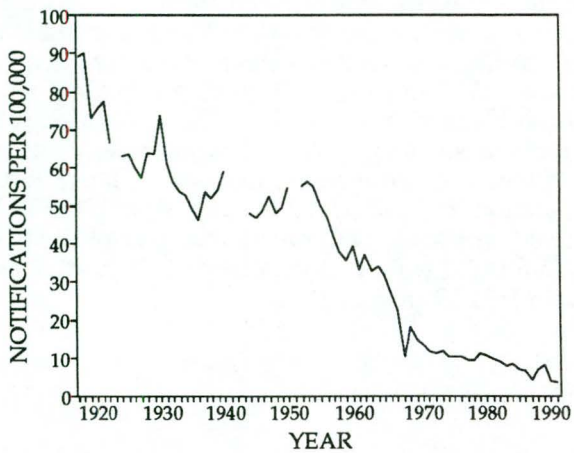
Figure 7. Annual adjusted rate of notifications of leprosy, Australia, 1917-1991



Tuberculosis

Tuberculosis became notifiable in all States just after the turn of century[2] and data are available from 1917. However, in the period 1917 to 1922, only pulmonary tuberculosis was notifiable, and between 1917 and 1928 the disease was only notifiable in some parts of New South Wales (in Metropolitan, Blue Mountains and Hunter Sanitary Districts). This geographical restriction has been ignored in the calculation of notification rates. In addition to the national collation of notifiable diseases data there has been a separate tuberculosis surveillance system since 1948. The tuberculosis system has higher case ascertainment and higher rates, and data have been described by Cheah[4,5]. The data presented here derive solely from routine surveillance of notifiable diseases. There was a steady decline of the incidence of notified tuberculosis from a peak of 90.2 cases per 100,000 population in 1918 to 3.4 per 100,000 1991. This decline accelerated from 1952 when the rate of notifications was 55.4 per 100,000 (Figure 8).

Figure 8. Annual adjusted rate of notifications of tuberculosis, Australia, 1917-1991

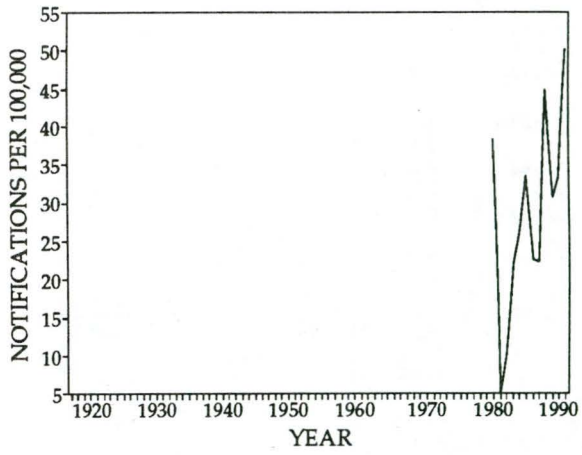


Enteric infections

Campylobacteriosis

Campylobacteriosis first became notifiable in South Australia in 1980. It has probably been markedly under-notified, but there was an increase in the rate of notifications from a low of 5.1 per 100,000 population in 1981 to 50.1 per 100,000 in 1991 (Figure 9).

Figure 9. Annual adjusted rate of notifications of campylobacteriosis, Australia, 1917-1991



Cholera

There was a total of 61 notified cases of cholera between 1917 and 1991. Forty-one of these cases occurred in 1972, when the rate of notifications was 0.3 per 100,000.

Infantile diarrhoea

Infantile diarrhoea was a notifiable disease between 1949 and 1978. Over that period the notification rate varied between 5.9 per 100,000 population of all ages in 1969-70, and 23.8 per 100,000 in 1975. Despite these fluctuations there was no apparent change in the underlying rate.

Dysentery

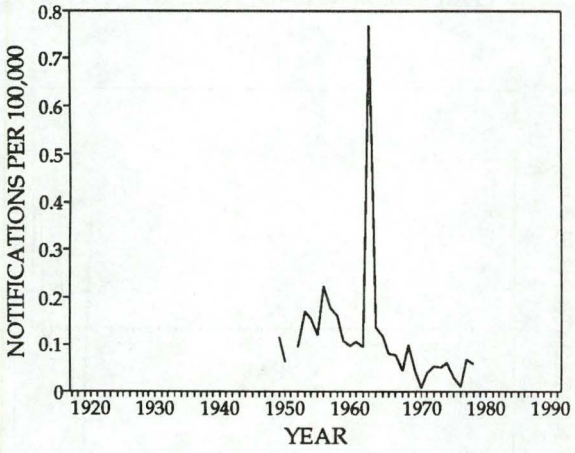
Dysentery was notifiable in several States and Territories and notification data were nationally compiled between 1917 and 1948. The category almost certainly captured several different modern nosological entities

such as 'amoebic dysentery', 'shigellosis' and 'typhoid'. Cumpston, writing in 1927, found it 'impossible, with the information now available, to form any precise opinion as to the nature of the condition known as dysentery'[2]. The notification rate fluctuated between 0.15 per 100,000 population in 1917 and 5.70 per 100,000 in 1947, with a peak of 4.5 per 100,000 also reported in 1932. Nationally compiled data for amoebic dysentery are available only for 1945, 1946, 1949 and 1950, during which period the annual notification rate averaged 1.1 per 100,000 population.

Paratyphoid

Paratyphoid notification data were compiled nationally under a separate category in 1920 and between 1949 and 1978. The notification rate peaked at 0.22 per 100,000 population in 1956, spiked in 1963 (42 cases notified in the first six months of that year), and then fell to 0.06 in 1978 (Figure 10).

Figure 10. Annual adjusted rate of notifications of paratyphoid, Australia, 1917-1991



Salmonellosis

Salmonellosis was first notifiable in Western Australia in 1949 and finally became notifiable in all States and Territories in 1976. There were 2.06 notifications per 100,000 population in 1949 and this increased 15-fold to 31.45 per 100,000 in 1991 (Figure 11).

Shigellosis

Shigellosis notifications were first nationally collated in 1945 under the category 'bacillary dysentery' and in 1979 as 'shigella infections'. In 1991 the category 'shigellosis' was adopted. No clear trend is apparent over this period, and there have been major fluctuations in notified incidence, the highest rate being 11.8 per 100,000 population in 1972, the lowest 2.70 per 100,000 in 1984 (Figure 12).

Figure 11. Annual adjusted rate of notifications of salmonellosis, Australia, 1917-1991

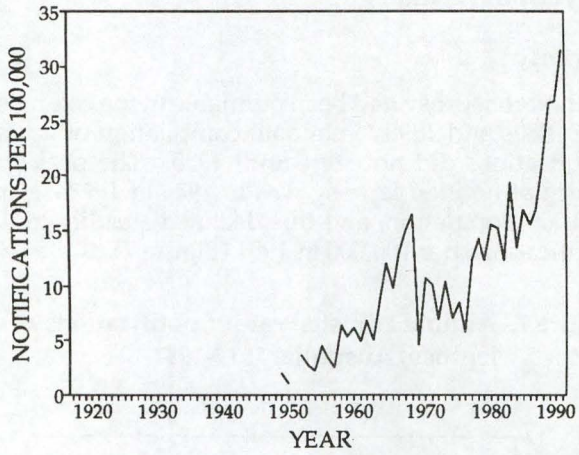
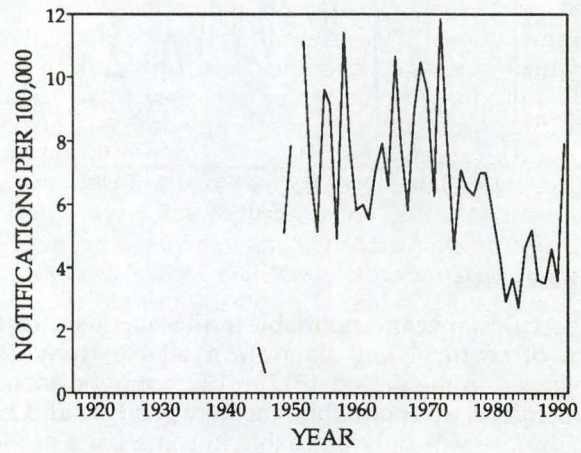


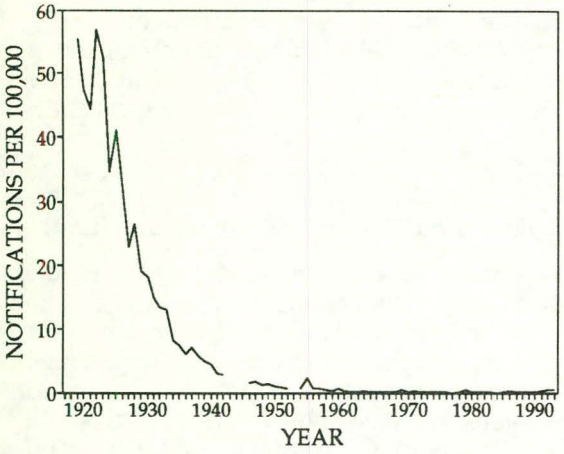
Figure 12. Annual adjusted rate of notifications of shigellosis, Australia, 1917-1991



Typhoid

The category 'typhoid' includes the categories 'continued fever', 'enteric fever' and 'low fever'. Low and continued fevers were derived from the Nosological Index adopted by the colony of Victoria in 1863[2] and were notifiable in several States and nationally collated between 1917 and 1922. Cumpston regarded both of these as being mostly typhoid[2]. The rate of notification of typhoid so categorised fell exponentially between 1917, when the notification rate was 55.5 per 100,000 population, and 1975 when it was 0.10 per 100,000. The notified incidence of typhoid rose fivefold between 1975 and 1991 to 0.51 notifications per 100,000 population in 1991 (Figure 13).

Figure 13. Annual adjusted rate of notifications of typhoid, Australia, 1917-1991

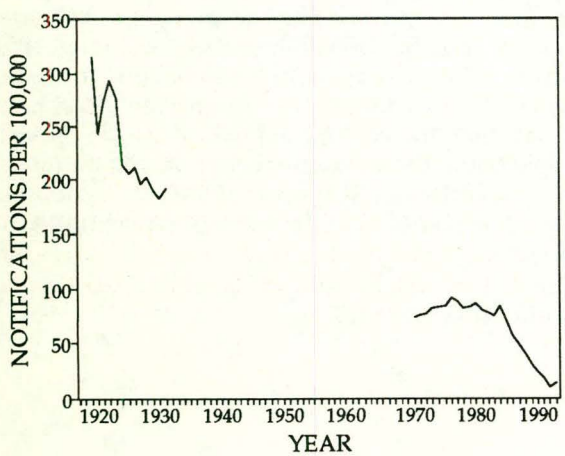


Sexually transmissible diseases

Gonococcal infection

The category 'gonococcal infection' includes gonorrhoea and other forms of gonococcal infections. The vast majority of these are gonorrhoea. Between 1916 and 1920, after a report of the Commonwealth Invalidity Committee, legislation was passed in five States requiring the notification of sexually transmissible diseases on an anonymous basis[2]. Regular publication of nationally collated gonococcal infection notifications commenced in 1922 and ceased in 1929, recommencing in 1968-69. Some data are available for the period 1917 to 1921[2]. The peak rate of notified gonococcal infection occurred in 1917 with 314.7 notifications per 100,000 in that year, falling to 183.2 per 100,000 in 1928. More recently, there was a peak, at 91.6 notifications per 100,000 population, in 1974. From 1982 there was a steep decrease in the notification rate from 84.4 per 100,000 in that year to 11.3 per 100,000 in 1990. Over that period the rate of decrease was between 14% and 40% per year. However, there was a reversal of this trend in 1991 with a 30% increase to 14.6 notifications per 100,000 (Figure 14).

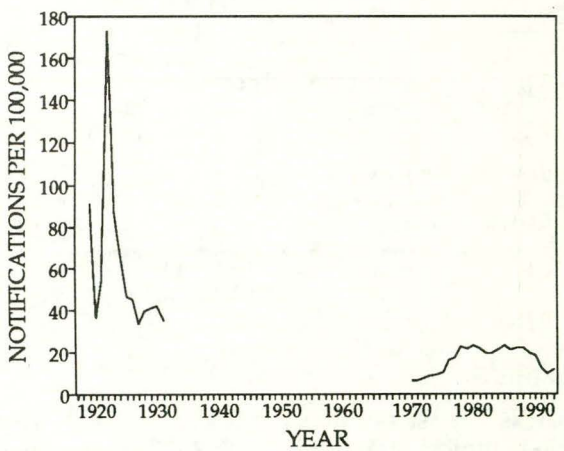
Figure 14. Annual adjusted rate of notifications of gonococcal infection, Australia, 1917-1991



Syphilis

Syphilis notifications are available for the periods between 1917 and 1929[2] and 1968-69 to 1991. The peak notification rate was in 1920 at 173.1 per 100,000. Since 1968 peak rates were in 1978 (23.1 notifications per 100,000 population) and 1983 (23.1 per 100,000). From 1986, there was a substantial decline of between 5% and 50% per year to 1990, when the incidence was 9.6 notifications per 100,000 population. In 1991 there was a 23% increase to 11.9 notifications per 100,000 (Figure 15).

Figure 15. Annual adjusted rate of notifications of syphilis, Australia, 1917-1991



Other sexually transmissible diseases

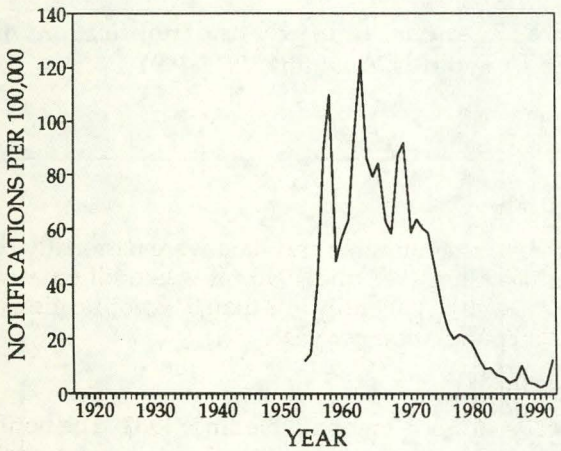
Data for other sexually transmissible diseases show no uniform pattern. Data are available for donovanosis for the period 1917 to 1925 and for chancroid, donovanosis and non-specific urethritis from 1978. The incidence of notified chancroid has fallen from 0.26 per 100,000 population in 1979 to 0 in 1991. Donovanosis incidence has shown no trend, fluctuating between 0.74 and 2.1 notifications per 100,000 population per year in the period 1979 to 1991. The incidence of notified non-specific urethritis fell from a peak of 100.5 cases per 100,000 population in 1982 to 16.9 per 100,000 when national collation of notifications of this disease ceased in 1990.

Hepatitides

Hepatitis A

Hepatitis A was first notifiable in four States and Territories in 1952. By 1961 the notified rate of this disease had reached 122.6 per 100,000 population. Between 1969-70 and 1990, there was a 21-fold decrease from 63.7 notifications per 100,000 to 3.1 per 100,000, followed by a fourfold rise in incidence in 1991 to 12.7 per 100,000 (Figure 16). Much of the incidence reported in 1991 was associated with homosexual men[17].

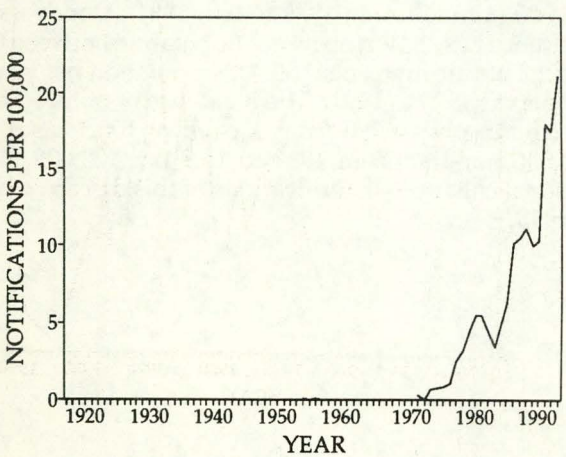
Figure 16. Annual adjusted rate of notifications of hepatitis A, Australia, 1917-1991



Hepatitis B

Hepatitis B first became notifiable (as 'homologous serum jaundice') in Victoria in 1952. There was a sharp increase from 0.66 notifications per 100,000 in 1971 to 21.1 per 100,000 in 1991 (Figure 17). However, these reports are likely to be mainly of prevalent cases and the true significance of this increase is not clear.

Figure 17. Annual adjusted rate of notifications of hepatitis B, Australia, 1917-1991



Hepatitis (not elsewhere classified)

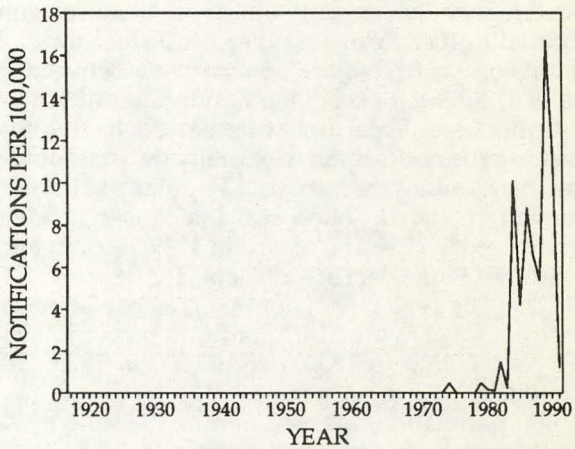
'Hepatitis not otherwise specified' has recently comprised mostly hepatitis C in those States or Territories where hepatitis C was not notifiable as a separate category. There was no clear trend between 1979 (when data first became available) and 1991, apart from a sharp increase in 1990 due to the recognition of hepatitis C as a separate clinical and pathological entity.

Vector-borne diseases

Arbovirus infection (not elsewhere classified)

A category for 'arbovirus infection' was included in the reports from 1971 when the infection was notifiable in all States and Territories except Queensland. The category in some jurisdictions includes 'Ross River virus infection' and in some 'dengue'. In 1971 no notifications were received but in 1989 a peak of 16.7 notifications per 100,000 was reached (Figure 18).

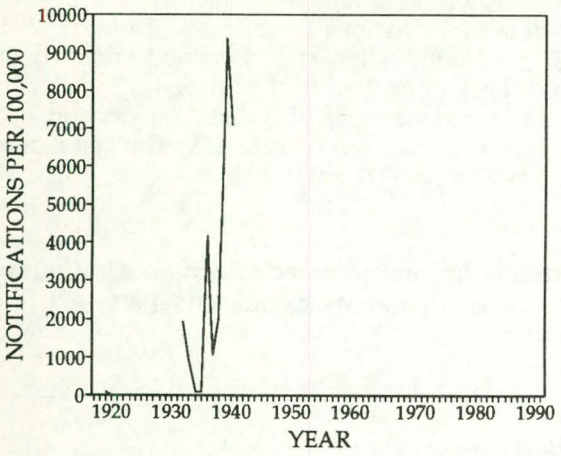
Figure 18. Annual adjusted rate of notifications of arbovirus infection, Australia, 1917-1991



Dengue

Dengue has generally been notifiable in States or Territories with a higher prevalence of disease. Data are available for Western Australia for the periods 1919 to 1930 and 1947 to 1968-69, North Australia/Northern Territory 1932 to 1968-69 and several States 1952 to 1968-69. The category was reintroduced for national data collection from 1991. In 1939 the incidence of notified dengue reached a peak of 9,325.7 cases per 100,000 population (a figure based on 585 notifications from the Northern Territory, where the denominator population recorded at the time excluded aborigines).

Figure 19. Annual adjusted rate of notifications of dengue, Australia, 1917-1991



Malaria

Malaria has been notifiable in most States and Territories, and the notifications have been nationally collated since 1917. Peak incidences of notified malaria were recorded in 1919, 1934 and 1946. In 1946, 5,496 notifications were received for a national malaria notification rate of 121.5 per 100,000 population (Figure 20). This major peak was recorded at the time as being due to cases in returned servicemen after the Second World War.

From 1952 there was a marked increase in the rate of notified malaria to 5.2 cases per 100,000 population in 1990 (Figure 21). It should be noted that case ascertainment of malaria in the routine surveillance of notifiable diseases is incomplete. The Australian Malaria Register reported 939 cases for 1991[8] compared with 790 cases in the National Notifiable Diseases Surveillance System.

Figure 20. Annual adjusted rate of notifications of malaria, Australia, 1917-1991

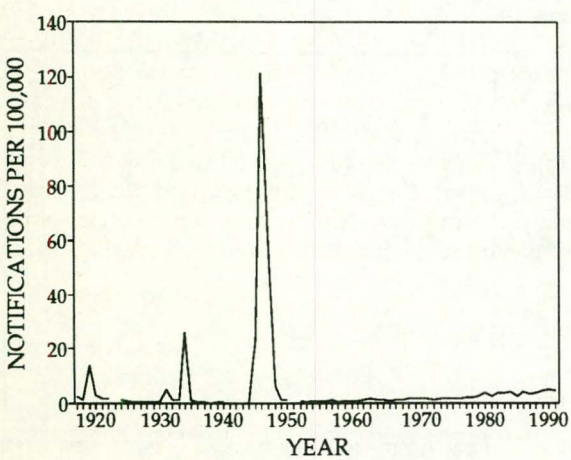
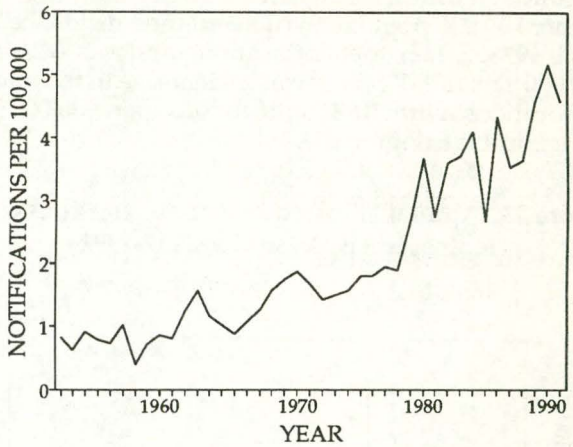


Figure 21. Annual adjusted rate of notifications of malaria, Australia, 1952-1991



Zoonoses

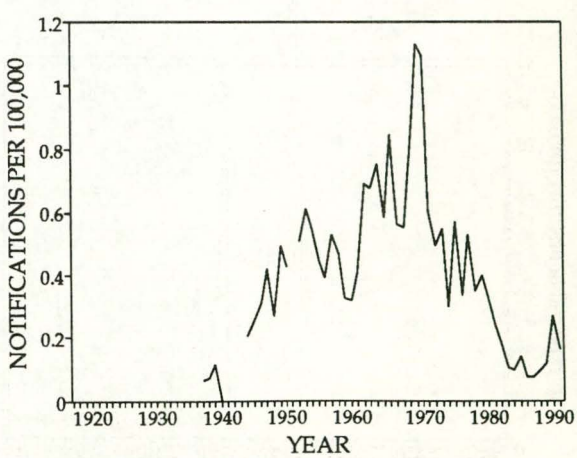
Anthrax

Anthrax was notifiable and data were nationally compiled between 1917 and 1990. It was notified at very low rates only, generally less than 0.08 notifications per 100,000 population per year.

Brucellosis

Brucellosis has been notifiable since 1937. The notification rate climbed steadily thereafter to reach a peak of 1.13 notifications per 100,000 in 1969-70. Since then the rate has declined, with a small peak of 0.27 per 100,000 in 1990 (Figure 22).

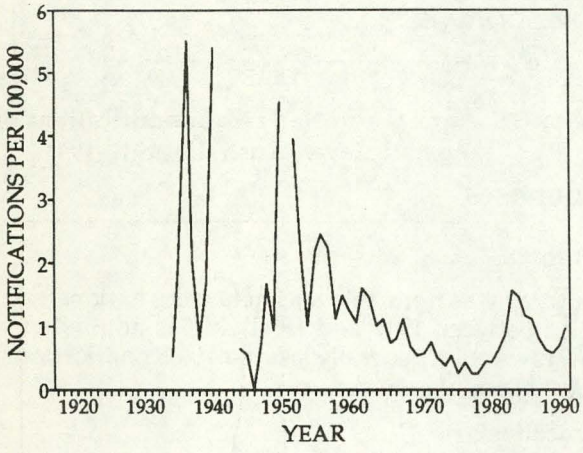
Figure 22. Annual adjusted rate of notifications of brucellosis, Australia, 1917-1991



Leptospirosis

Leptospirosis notifications have been nationally compiled since 1934, but the disease was notifiable only in Queensland until 1952, when the notification rate was 4.0 per 100,000 population. The notified incidence fell until 1978, when the notification rate was 0.26 per 100,000. From 1978 there was an increase in the rate of notifications with 0.98 notifications per 100,000 reported in 1991 (Figure 23).

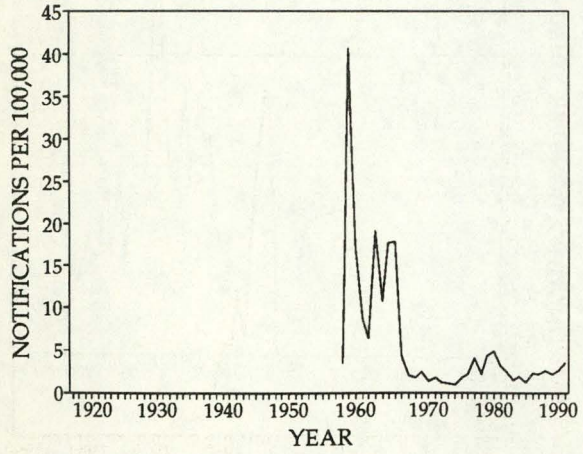
Figure 23. Annual adjusted rate of notifications of leptospirosis, Australia, 1917-1991



Q fever

Q fever notification data have been collected since 1952. Peaks in the incidence of notifications occurred in 1958 (3.48 per 100,000 population) and 1965-66 (17.9 per 100,000). There was a 132% increase in the notification rate from 1983 (1.48 per 100,000) to 1991 (3.44 per 100,000) (Figure 24). A vaccine against Q fever was introduced in 1989[9].

Figure 24. Annual adjusted rate of notifications of Q fever, Australia, 1917-1991

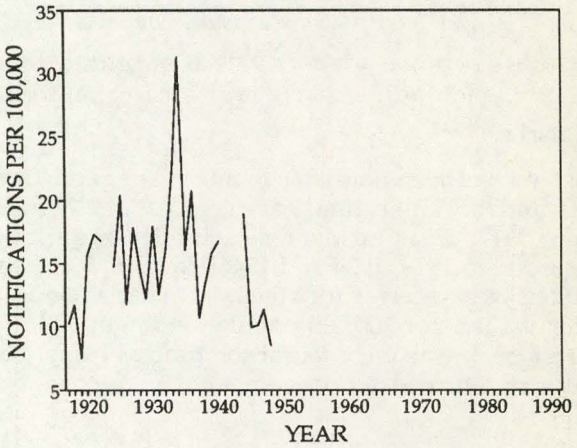


Other infections

Erysipelas

Erysipelas was notifiable from the turn of the century[2] and data were nationally compiled from 1917 until 1948. The notification rate remained fairly constant with a background rate of between 15 and 20 per 100,000 population per year until the Second World War when the rate fell (Figure 25). The last recorded rate was 8.46 per 100,000 in 1948.

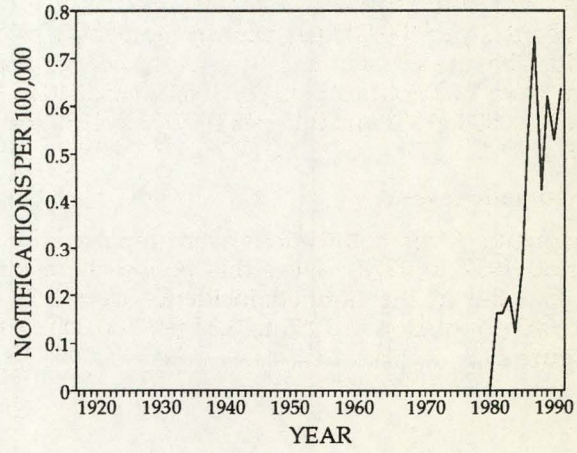
Figure 25. Annual adjusted rate of notifications of erysipelas, Australia, 1917-1991



Legionellosis

Legionellosis was first notifiable in 1979. There was a dramatic increase in the notification rate, with 0.64 cases per 100,000 population notified in 1991 (Figure 26).

Figure 26. Annual adjusted rate of notifications of legionellosis, Australia, 1917-1991

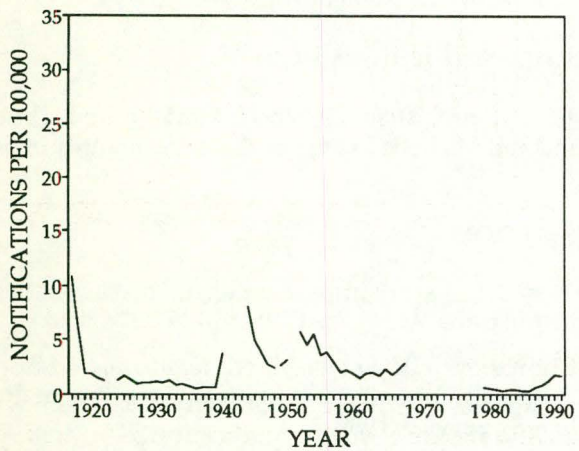


Meningitis, meningococcal infection

Meningitis was notifiable first in South Australia in 1902, and was notifiable in all States by 1915[2]. Notifications were collected under the category 'meningitis' from 1917 to 1948. The category 'meningococcal infection' was introduced in 1949 and retained until 1967-68, and reintroduced in 1979. The data presented here are from both sources, assuming meningitis before 1949 to have been due to *Neisseria meningitidis*. There was a marked peak of 33.1 notifications per 100,000 in 1942 (2,371 notifications were received from all States and Territories in that year), followed by a slow decline after the Second World War. From 1986 there was a fourfold increase in the rate of notifications from 0.33 per 100,000 population in that year to 1.73 per 100,000 in 1990 (Figure 27).

Peurperal fever

Figure 27. Annual adjusted rate of notifications of meningitis and meningococcal infection[1], Australia, 1917-1991



[1] Notifications to 1948 are of 'meningitis' and from 1949 are of 'meningococcal infection'.

Puerperal fever notifications were collected during the period 1917 to 1978. The rates presented here are calculated from the total population, including all ages and both sexes. There was an increase in the notified incidence from 3.5 cases per 100,000 population in 1917 to about 7 per 100,000 per year in the period 1935 to 1940. The rate fell dramatically after the Second World War from 7.62 notifications per 100,000 in 1940 to 0.64 per 100,000 in 1951 and 0.12 per 100,000 in 1978 (Figure 28).

Rheumatic fever

Rheumatic fever notifications were reported for the period 1952 to 1978. Over this period there was a 22-fold fall in the notified incidence from 6.38 per 100,000 population in 1955 to 0.27 per 100,000 in 1978 (Figure 29).

Figure 28. Annual adjusted rate of notifications of puerperal fever, Australia, 1917-1991

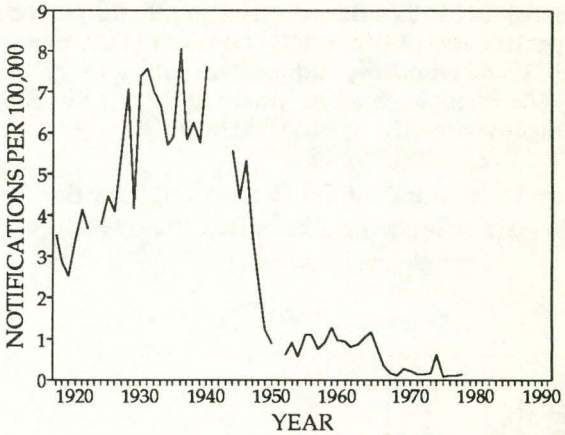
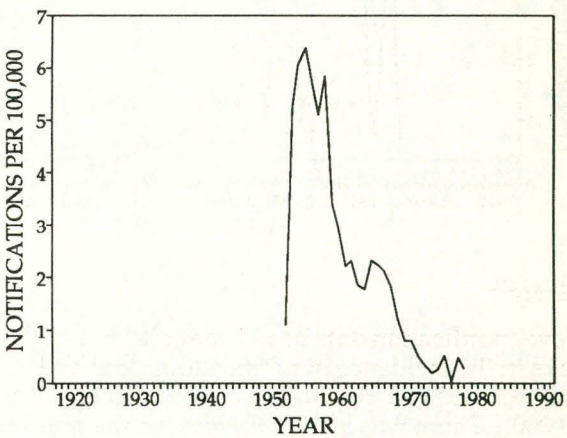


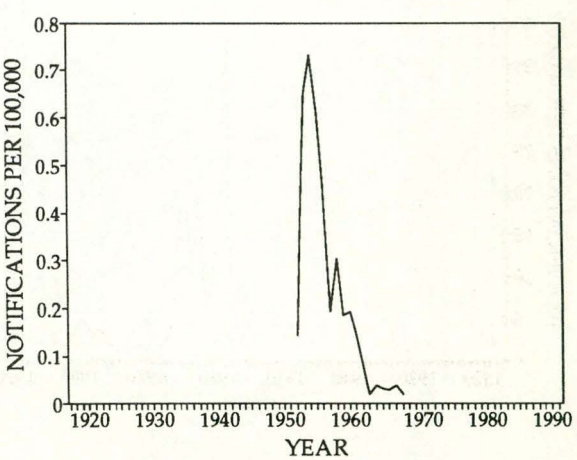
Figure 29. Annual adjusted rate of notifications of rheumatic fever, Australia, 1917-1991



Chorea

Chorea was separately notifiable from 1952 to 1967-68 and showed a decline, parallel to that for rheumatic fever, from 0.73 notifications per 100,000 in 1954 to 0.02 per 100,000 in 1967-68 (Figure 30).

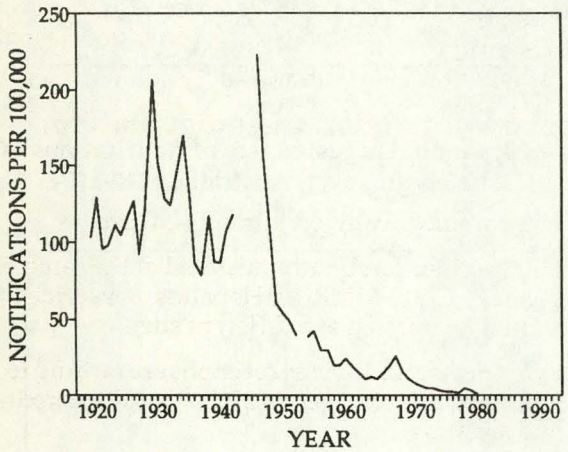
Figure 30. Annual adjusted rate of notifications of chorea, Australia, 1917-1991



Scarlet fever

Scarlet fever notification data were collected from 1898[2] and are available for the period 1917 to 1978. Before the Second World War, the notification rate fluctuated between 100 and 200 per 100,000 population per year. From 1944 (when the notification rate was 222.5 per 100,000) there was an exponential fall in the rate of notifications to 1.24 per 100,000 in 1978.

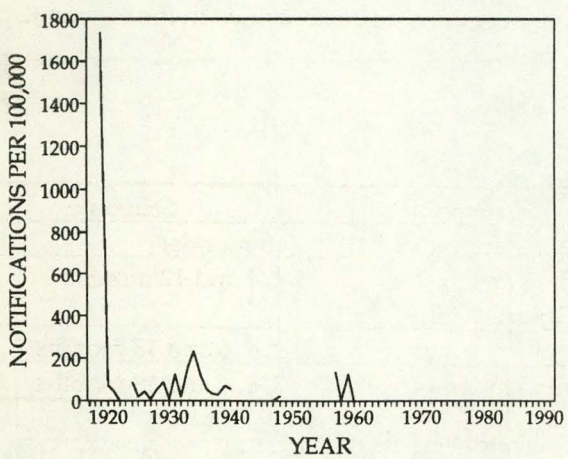
Figure 31. Annual adjusted rate of notifications of scarlet fever, Australia, 1917-1991



Influenza

Influenza was made notifiable in all States during the epidemic in 1919. In that year, 89,941 notifications of influenza were received, the highest number for any notifiable disease in any year since 1917. The rate of notification was 1,733.2 per 100,000 population. A smaller epidemic was recorded in 1934 with 230.0 notifications per 100,000 population. Influenza was made notifiable again in South Australia in August 1957. A total of 1,199 notifications was received that year for an uncorrected (for the fact that notifications were received for 4 months only) notification rate of 137.2 per 100,000 population. In 1959, the rate was 126.3 per 100,000.

Figure 32. Annual adjusted rate of notifications of influenza, Australia, 1917-1991



Data availability

Data presented in this article are available as an Excel spreadsheet file. The file contains numbers of notifications for each of the recoded categories by State and Territory and by year, Australian Bureau of Statistics mid-year population estimates by State and Territory and by year, national notification rates by recoded category by year and recoding rules. A copy (either 3½ or 5¼ inch disk) may be obtained from:

AIDS/Communicable Diseases Branch
Department of Health, Housing, Local Government and Community Services
GPO Box 9848
CANBERRA CITY ACT 2601.

It is intended to make these data available on the *CDI* Bulletin Board in the near future.

Acknowledgement

I wish to thank Michelle Wood, Marlene Keir, Lenore Cupitt and Michelle Jozing for the large quantity of data entry.

References

1. Feery B. Impact of immunization on disease patterns in Australia. *Med J Aust* 1981;(ii):172-176.
2. Cumpston JHL. Lewis MJ ed. *Health and Disease in Australia.* Canberra: Australian Government Publishing Service, 1989.
3. Pertussis - epidemic summer in Australia. *CDI* 1990;(6):4-8.
4. Tuberculosis briefs 1 - notification rates. *CDI* 1991;15:267-269.
5. Cheah D. Tuberculosis notification rates, Australia 1991. *CDI* 1992;16:398-400.
6. Cameron AS and Weinstein P. Alternative hepatitis for alternative sex: recent changes in hepatitis A and hepatitis B infection patterns in South Australia, *CDI* 1991;15:244-245.
7. Stewart T. A cluster of cases of hepatitis A in Victoria, *CDI* 1991;15:246.
8. Sleigh A, Srivivasa M, Cooper A, Forsyth S and Riley I. *Report of the Australian Malaria Register for 1991.* Herston: Tropical Health Program, The University of Queensland, 1992.
9. Weinstein P, Macaitas M and Cameron AS. Q fever a preventable disease: why not prevented? *CDI* 1992;16:447-448.

NHMRC STATEMENT ON HIB IMMUNISATION

This statement was recently published by the National Health and Medical Research Council, and is to be distributed to general practitioners and other interested persons. Further copies can be obtained from the address at the end of the text.

HIB IMMUNISATION

Four vaccines for the prevention of *Haemophilus influenzae* type b (Hib) infections have been approved for use in Australia (Table 1). One of these, PRP-D ('ProHIBit') is only approved for use in children over 18 months of age, but the more recently approved PRP-OMP ('PedvaxHIB'), HbOC ('HibTITER') and PRP-T ('Act-HIB') are suitable for use in infants from two months of age.

PRP-D is given as a single dose, PRP-OMP is given in a course of three doses at two, four and twelve months, whereas HbOC and PRP-T are given in a course of four doses at two, four, six and eighteen months. (The recommendations concerning the timing of booster doses may differ from that indicated in the product information. This has been done to fit in with the existing Australian childhood immunisation schedule.)

Overseas trials indicate that all three infant Hib vaccines (PRP-OMP, HbOC and PRP-T) provide a high level of protection.

Hib disease in Australia

Hib is the most common cause of bacterial meningitis in children in Australia. Hib also causes epiglottitis, bacteraemia, cellulitis, pneumonia and septic arthritis. The fatality rate from invasive Hib infections is about 5% and permanent neurological sequelae occur in up to 20% of survivors of Hib meningitis. The peak incidence of invasive Hib infection is between six and twelve months of age; about 40% of cases occur before eighteen months of age.

The risk of invasive Hib infection is greater in children attending child care than for those cared for at home. Aboriginal children are at five to six times greater risk of developing Hib disease, and they acquire it at a much younger age than do other children.

The success of Hib vaccines in several European countries indicates that they have the potential to eliminate Hib disease from Australia.

Recommended routine primary childhood schedule for Hib conjugate vaccines

The recommendations concerning the use of the four vaccines are in general agreement with those advocated by the manufacturers but there are some differences in timing of booster doses to fit in with the existing Australian childhood immunisation schedule (Tables 2 and 3).

Special information and guidelines for using HIB vaccines

- Hib vaccines are given intramuscularly.
- Hib vaccines can be administered at the same time as DTP, CDT, MMR or Hepatitis B vaccines but should be injected at a different site.
- Side effects and adverse reactions are rare; up to 5% will have a fever over 38.3°C or localised redness and swelling.
- Children who have had Hib infection before twenty-four months of age should be immunised against Hib because the antibody response to Hib infections in infants and young children is poor.
- Use the same vaccine for each dose in the primary series and preferably use the same vaccine for the booster dose as well.
- Defer Hib immunisation if a child has a febrile illness.
- The vaccine is contraindicated in anyone allergic to any component of the vaccine.
- Hib vaccines are conjugates of Hib polysaccharide (PRP) and immunogenic carrier protein (eg diphtheria toxoid in the case of PRP-D). However, the conjugate Hib vaccines do *not* confer protection against the antigen contained in the conjugate pro-

Table 1. Hib vaccines in Australia

Vaccine	Trade Name	Company	Schedule
PRP-D	ProHIBit	Pasteur Merieux	18 months
PRP-OMP	PedvaxHIB	Merck Sharp and Dohme (CSL)	2, 4 and 12 months
HbOC	HibTITER	Lederle	2, 4, 6 and 18 months
PRP-T	Act-HIB	Pasteur Merieux	2, 4, 6 and 18 months

tein — ie. Hib vaccines are not protective against tetanus, diphtheria or meningococcal infection.

- Aboriginal infants should be immunised with PRP-OMP vaccine. Based on overseas studies, it is expected that PRP-OMP will be the most effective vaccine for these high-risk infants.
- If the brand of conjugate Hib vaccine used for prior doses is unknown, the series should be recommenced. It is important that the child's immunisation record includes the brand of Hib vaccine used.

This and other NHMRC publications are available from:

The Publications Officer
National Health and Medical Research Council
GPO Box 9848
CANBERRA CITY ACT 2601

Phone: (06) 289 7646
Fax: (06) 289 6957
(24 hour availability)

APRIL 1993

Table 2. Primary immunisation schedule

Vaccine	Age at first dose (months)	Primary series	Age at booster dose (months)
PRP-OMP (PedvaxHIB)	2-6	Two doses, two months apart	12
HbOC (HibTITER)	2-6	Three doses, two months apart	18
PRP-T (Act-HIB)	2-6	Three doses, two months apart	18

Table 3. Immunisation schedule for older children

Vaccine	Age at first dose (months)	Primary series	Age at booster dose (months)
PRP-D (ProHIBit)	18-59	One dose	-
PRP-OMP (PedvaxHIB)	2-6	Two doses, two months apart	12
	7-11	Two doses, two months apart	18
	12-14	One dose	18
	15-59	One dose	-
HbOC (HibTITER)	2-6	Three doses, two months apart	18
	7-11	Two doses, two months apart	18
	12-14	One dose	18
	15-59	One dose	-
PRP-T (Act-HIB)	2-6	Three doses, two months apart	18
	7-11	Two doses, two months apart	18
	12-59	One dose	-

COMMENTARY

The following comment and the authors' reply have been received about the article 'A time bomb in north Queensland: case report of introduced malaria south of the nineteenth parallel', published in *CDI* 1993;**17**:211-213.

Comment

(John Walker, Department of Parasitology, and Richard Russell, Department of Medical Entomology, Centre for Infectious Diseases and Microbiology, Institute of Clinical Pathology and Medical Research, Westmead Hospital, Westmead, New South Wales)

The case report of introduced malaria south of the nineteenth parallel by Drs Murray-Smith and Weinstein (*CDI* 1993;**17**:211-213) requires comment for a number of reasons. First, there is doubt about whether the species involved in case 1 was *Plasmodium falciparum* or *P. vivax*. However, even if the diagnosis were correct, the facts of the case do not support the conclusion of local transmission. The incubation period for *P. falciparum* is between 7 and 27 days[1], not 9 to 14 days as claimed. (It is for this reason that we instruct travellers to take prophylaxis for 4 weeks after returning from malaria endemic regions.) Consequently, it is entirely feasible that the person involved in case 1 was infected in Papua New Guinea before coming to Australia.

Second, the authors imply that case 2 may have been the source of the infection of the mosquito involved in transmission. This possibility can only be accommodated by using a minimal sporogonic cycle of nine days for *P. falciparum*. Such rapid development of parasites in the mosquito only occurs at temperatures in the high 30s (at which there is significant mortality of both mosquitoes and parasites), and the average daily temperature in Charters Towers between 31 January and 12 February 1993 was 28°C (figure calculated from daily minima and maxima supplied by the Bureau of Metereology). At an average of 28°C the sporogonic cycle would have taken at least 12 days, probably longer. Thus a mosquito which fed on case 2 on the evening of 30 January (the first opportunity) would have been infective no sooner than the evening of 11 February. If case 1 had been infected at that time, the first day on which she would have shown symptoms of malaria would have been seven days later on 18 February. The patient actually presented with 'florid malaria' on 16 February. For these reasons, it is clear that case 2 was not the source of infection for the mosquito which infected case 1.

Further inaccuracies concern the Australian mosquito species referred to in the article. The authors state '*Anopheles farauti* s.l. and *An. punctulatus* are well documented vectors of malaria in northern Australia'. This is not true for *Anopheles punctulatus* which is generally accepted as not occurring on the Australian mainland; there is only a single disputed record from 1925 in the literature[2]. The authors also state that *An. annulipes* is not taken seriously as a vector by Bryan and Russell[3] who, in fact, stated that the species is '...a suspected but unproven vector. It is the only possible vector of the occasional cases of malaria which have been locally contracted in the southern areas of Australia...'. In both the reference on mosquitoes in southern Australia[4] quoted by Murray-Smith and Weinstein, and its more recent edition[5], *An. annulipes* is duly acknowledged as the species most likely to have been the vector of cases of malaria in southeastern Australia. This is also stated by Lee *et al*[2].

References

1. Coatney GR, Collins WE, Warren M and Contacos PG. *The primate malarias*. US Government Printing Office, 1971.
2. Lee DJ, Griffiths M, Debenham MJ, Bryan JH, Russell RC, Geary M, and Marks EN. Culicidae of the Australasian region. Canberra: Australian Government Publishing Service, 1987.
3. Bryan JH and Russell RC. Australasian malaria vectors. *Roy Soc Trop Med Hyg* 1983;77:278-279.
4. Russell R. Mosquitoes and mosquito-borne disease in southeastern Australia. Arbovirus Disease Control Committee, New South Wales Department of Health, 1990.
5. Russell RC. *Mosquitoes and mosquito-borne disease in southeastern Australia*. Revised edition. Department of Medical Entomology, Westmead Hospital, 1993.

Authors' reply

(S Murray-Smith, Bedside Manor, Charters Towers, Queensland, and P Weinstein, Department of Zoology, James Cook University, Queensland)

There is no doubt about the diagnosis in the laboratories from which pathology was requested; pathologists at Townsville General Hospital and Queensland State Health Laboratory, Brisbane, have reconfirmed their identificaiton of *Plasmodium falciparum* in their original specimens.

Based on the effect of temperature on the length of the sporogonic cycle, Drs Walker and Russell present a cogent argument as to why local transmission is less probable than we had implied. However, all extrapolated development times are by necessity probability statements, not facts. We emphasise our deliberate (yet apparently overlooked) use of the phraseologies 'not conclusive', 'could allow for replication' and 'circumstantial' evidence. It is the possibility of local transmission having occurred, not its proof beyond doubt, which draws attention to the public health issue we discuss.

Anopheles punctulatus is a major vector of malaria in the Australian region[1] and there is a record of it from the

Northern Territory[2], but we stand corrected in that it is not a 'documented vector' of malaria on the mainland.

We do not claim that Bryan and Russell[1] deny the role of *An. annulipes* in malaria transmission in southeastern Australia, but that given its ability to do so, they do not take it seriously enough as a general vector. They write:

> 'We are concerned that a number of textbooks and articles on malaria are perpetuating misunderstandings on the relative importance of the vectors of malaria in the Australian region. In most cases the major vectors are correctly listed as *Anopheles punctulatus, An. koliensis* and *An. farauti*'.

and later:

> 'We feel that the importance assigned to some other species is not justifiable.'

We argue that as a proven vector in the south, *An. annulipes* should be considered a major potential vector in the north, particularly inland. Parasite isolations are virtually non-existent for any species in these areas, and *An. annulipes* should be considered guilty until proven otherwise.

We wish to emphasise that the paper was written particularly to draw attention to what we feel is a current and underrated public health problem. With more clearly defined criteria for malaria receptivity in Australia, local practitioners could at least feel more confident in their management of controversial cases such as those we have reported.

References

1. Bryan JH and Russell RC. Australian malaria vectors. *Roy Soc Trop Med Hyg* 1983;77:278-279.
2. Hill GS. The distribution of anopheline mosquitoes in the Australian region with notes on some culicine species. *Proc R Soc Vic* 1925;37:61-77.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization and the Department of Foreign Affairs and Trade.

Diphtheria in the Russian Federation and Ukraine

The Russian Federation and Ukraine have been experiencing a resurgence of diphtheria over the last few years[1]. The current outbreak, which has now reached epidemic proportions, included 1,876 cases in the Russian Federation, and 1,101 cases in Ukraine in 1991. In 1992, there were 3,897 and 1,553 cases reported, respectively, and in the first quarter of 1993, the outbreak was still on the increase in both countries.

The incidence rate in 1992 in the Russsian Federation was 2.6 per 100,000 population, and there were 125 deaths recorded (death rate 0.07 per 100,000). The epidemic spread in most of the regions of the country. The highest incidence rates (from 8.7 to 17 per 100,000) were reported in the Saint Petersburg, Kaliningrad and Orlov regions, and in Moscow. Most (72.4%) of the 1992 cases were in persons over the age of 14 years, and the highest incidence rate was in children aged 7 to 14 years. Most deaths occurred in children aged from one to nine years (36 deaths) and adults aged 30 to 59 years (67 deaths).

In Moscow in 1991, the attack rate among immunised children was 5.3 per 100,000, and 33 per 100,000 in unimmunised children. The efficacy of the diphtheria vaccine has therefore been estimated to have been 84%.

The outbreak is believed to have resulted from the recent low levels of infant diphtheria toxoid immunisation coverage, which has been about 70% since 1986. The authorities are now conducting large-scale diphtheria immunisation to increase coverage among children and high risk groups.

There is a danger that the epidemic will spread to other European countries. Cases which were epidemiologically linked to the epidemic in the Russian Federation and Ukraine were diagnosed in 1992 and this year in Belarus, Latvia, Lithuania, Norway and Poland. The World Health Organization recommends that all travellers to the Russian Federation and Ukraine be immunised against diphtheria.

Typhoid in Western Samoa

There has been an increased number of cases of typhoid in Western Samoa recently. Prior to March 1992, cases were reported only sporadically, but there have been 36 confirmed cases this year and more than 200 possible cases in the last twelve months. The outbreak appears to be mainly connected to the consumption of contaminated food.

Cholera Update

Selangor State in Malaysia has recently been declared cholera infected. In a four day period in mid-May, six cases and three carriers (members of a food vendor's family) were confirmed. The incidence of cholera in Malaysia has been increasing throughout this year.

Elsewhere, cases have been reported for March, April and May from Argentina, Belize, Bolivia, Brazil, Cameroon, Chile, Colombia, Ecuador, El Salvador, Guatemala, Honduras, India, Malawi, Mexico, Mozambique, Nicaragua, Panama, Peru, Rwanda, Togo, Zambia and Zimbabwe.

Reference

1. Expanded programme on immunization. Outbreak of diphtheria, update. *WER* 1993;**68**:134-137.

CDI NOTICE TO READERS

Diagnosis and reporting of arbovirus infections in Australia - correction

Two corrections are required for the article 'Diagnosis and reporting of arbovirus infections in Australia', pulbished in *CDI* 1993;**17**:202-207.

First, the name of one of the authors was inadvertently omitted. He is L Smythe, of the Laboratory of Microbiology and Pathology, Queensland Health, Brisbane, Queensland, 4001.

Second, the '<' and '≥' signs were omitted from the definitions of low and moderate to high antibody titres. Those paragraphs should read:

(c) Low antibody titres = haemagglutination inhibition, <80; neutralisation, <80; complement fixation, <32; fluorescent antibody, <32; equivalent IgG ELISA values or titres, depending on individual methodology.

Moderate to high antibody titres = haemagglutination inhibition, ≥80; neutralisation, ≥80, complement fixation, ≥32; fluorescent antibody, ≥32; equivalent IgG ELISA values or titres, depending on individual methodology.

COMMUNICABLE DISEASES SURVEILLANCE

Laboratory Reporting Schemes

There were 1,617 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 12, 13 and 14), and 245 reports of isolates from normally sterile sites (LabDOSS, Tables 7 and 8).

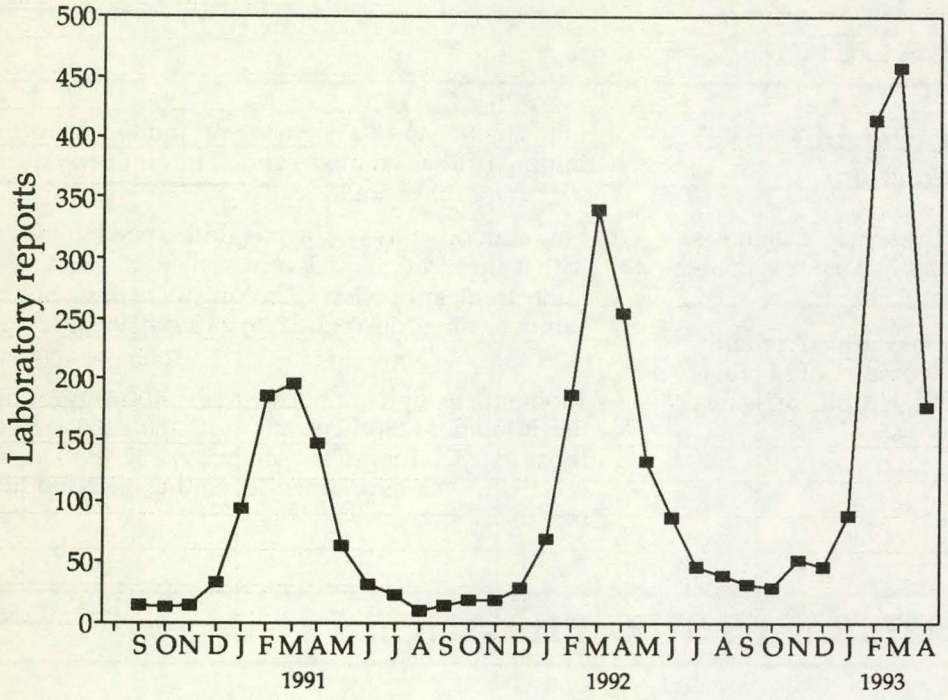
- **Measles** was reported for 8 patients, including six from Queensland. Four of the patients were less than one year old, 3 others were males (ages 12 years, 21 years, 37 years) and the other was a 24 year old female. A total of 111 reports of measles has been received so far this year (Table 1).
- There were 15 **rubella** reports this fortnight. Included were 3 reports in females in the age group 15 to 44 years, and 12 reports in males (one was 80 years old). There has been a total of 258 rubella reports for 1993 with an obvious decline in recent months.
- A total of 95 reports of **hepatitis C** was received. A history of hepatitis was recorded for 8 patients, 5 patients had a history of injecting drug use and one report was from a newborn whose mother was known to have hepatitis C.
- A case of **hepatitis E** was reported from Queensland in a 30 year old female with a history of hepatitis. This is the second case of hepatitis E reported to *CDI* and the first reported case using EIA techniques.
- There were 211 reports of **Ross River virus** infection. One patient, a 21 year old female from Dysart in Queensland, showed a fourfold rise in titre. The remainder were presumptive cases (IgM). Queensland had a total of 195 Ross River virus reports this fortnight (48 Cairns, 22 Mackay, 38 Townsville, 19 Rockhampton).

  Reports for Ross River virus for 1993 have come from Queensland (506), South Australia (330), Victoria (185), Western Australia (88), New South Wales (35), ACT (2), and Tasmania (1) (Figure 1).
- **Barmah Forest virus** was reported for 16 patients (all diagnoses were presumptive IgM). States for report-

Table 1. Measles laboratory reports, 1993, by State or Territory of reporting laboratory, and month of specimen collection

State or Territory	Jan	Feb	March	April	Total
ACT	0	1	0	0	1
NSW	15	7	4	6	32
Qld	9	3	3	10	25
SA	8	14	5	2	29
Tas	0	0	0	1	1
Vic	7	9	2	3	22
WA	0	1	0	0	1
Total	39	35	14	22	111

Figure 1. Ross River virus laboratory reports, September 1990 to April 1993, by month of specimen collection



ing laboratories were Western Australia (1) and Queensland (15).

- **Murray Valley encephalitis virus** was reported for 3 patients. They were case three, case five and case seven described in 'Preliminary report of Australian encephalitis in Western Australia and the Northern Territory, 1993' (*CDI* 1993; 16: 209-210).
- Fifty cases of **dengue 2** were reported from Queensland (45 of these were from the Townsville area and 2 from Cairns), bringing the total reported cases for the year to 70. During 1992 the number of reported cases of dengue type 2 peaked in June.
- Twelve cases of **untyped dengue** were also reported this fortnight. Nine of these cases were from the Townsville area.
- There were 64 reports of **cytomegalovirus** infection. Included was one case associated with congenital disease.
- **Parvovirus B19** infection was reported in four patients. All patients were female (20-35 year age group) and two reported skin disease.
- **Coxsackievirus A9** was reported in two newborns. In both cases the virus was isolated from CSF.
- **Coxsackievirus B1** was isolated from the CSF of a 9 month old male with a history of meningitis and the faeces and throat swab of a one year old male with a history of encephalitis.
- **Echovirus type 7** was reported in 2 males less than one year old. One of the patients had a history of meningitis and the virus was isolated from CSF. The total number of reported cases for this year has now reached 83, double that reached in any previous year since 1985, when 254 cases were reported (Figure 2). This year New South Wales has reported 41 cases, Victoria 15 cases and Western Australia one case.
- **Echovirus type 30** was isolated from 4 patients with history of meningitis. Two of the isolates were from CSF. Two of the reports were from Victoria and two from New South Wales.
- There were 14 reports of **influenza**. Ten **influenza A** were reported. Nine reports were single high titres and one showed a fourfold rise in titre. **Influenza B** was reported in 4 patients. Two were isolated in culture and 2 were reported as single high titres.
- **Parainfluenza type 2** has shown a seasonal increase in activity in April with 16 cases being reported to *CDI*. Thirty-two cases of parainfluenza type 2 have been reported so far this year. Twenty-three of the patients were less than three years of age and 10 of these were less than one year old.

Figure 2. Echovirus type 7 laboratory reports, 1982 to 1983, by year of specimen collection

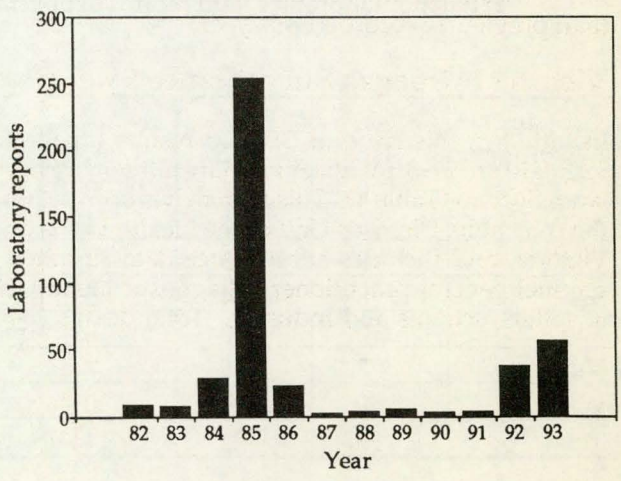


Table 2. Q fever laboratory reports, by State or Territory of reporting laboratory and month of specimen collection

State or Territory	Jan	Feb	March	April	Total
NSW	9	23	14	8	54
Qld	21	13	16	25	75
SA	1	2	1	0	4
Vic	3	0	2	1	6
WA	1	2	5	3	11
Total	35	40	38	37	150

Table 3. Australian Sentinel Practice Research Network, Weeks 20 and 21 1993

Condition	Week 20, to 16 May 1993		Week 21, to 23 May 1993	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	46	7.1	37	7.0
Measles	0	0	0	0
Rubella	1	0.2	0	0
Pertussis	0	0	1	0.2
Genital herpes	4	0.6	0	0
Gastroenteritis	82	12.6	65	12.4

- A total of 109 reports were received this fortnight for **respiratory syncytial virus,** bringing the total number of reported cases for April to 128.
- The 28 cases of **Q fever** reported came from laboratories in Queensland (25), New South Wales (1), Victoria(1) and Western Australia (1). The total number of reported cases of Q fever so far for the year is 150 with the majority of these coming from Queensland (Table 2).

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network collected data from 6,499 patient encounters in Week 20 and from 5,263 patient encounters in Week 21 (Table 3). For the last four weeks, the rates of reporting of both influenza and gastroenteritis have been at levels higher than previously recorded this year.

Victoria Influenza Surveillance System

Included in this issue of *CDI* are results for the first fortnight in 1993 for the Victorian Influenza Surveillance System (Table 4). This system has been set up by the Infectious Diseases Unit of the Health Department Victoria, and includes surveillance data supplied by sentinel general practitioners, diagnostic laboratories, hospitals, schools and industry. Total deaths (which usually increase during influenza epidemics) are also being monitored.

The rate of general practice consultations for influenza is similar to that recorded in the ASPREN Scheme this fortnight.

(Raina MacIntyre, Health Department Victoria)

Table 4. Victorian Influenza Surveillance System, fortnight 1, 1993

	Fortnight 1 3 to 14 May
General Practices (34) Influenza cases (per 100 patients seen)	16 (0.8)
Laboratories (2) Influenza cases	0
Hospitals (3) Admissions with influenza and/or pnuemonia (per 100 admissions)	14[1] (0.64)
Schools (30) Total absenteeism, Tuesday	1375 (10.6%)
Industry (2) Total absenteeism	97 (4.6%)
Deaths, total from all causes (per 10,000 population)	1361 (3.2)

1. Data missing from one hospital.

HIV and AIDS Surveillance

Methodological note

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

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting period indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is published in the quarterly *Australian HIV Surveillance Report*, available from the National Centre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst NSW 2010. Telephone: (02) 332 4648 Facsimile: (02) 332 1837.

HIV and AIDS diagnoses and deaths following AIDS reported for January 1993, as reported to 30 April 1993, are included in this issue of *CDI* (Tables 5 and 6).

Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by 8 laboratories. A total of 245 reports have been included: ICPMR Westmead 75, Liverpool Hospital 79, Tamworth Pathology 13, Royal North Shore Hospital 36, Nambour Hospital 3, Central Queensland Pathology Service 4, Northern Tasmanian Pathology Service 9, Royal Hobart Hospital 26.

Organisms reported 5 or more times from blood are detailed in Table 6. Other blood isolates not included in Table 6 were:

Gram positive: 3 *Streptococcus* Group A, 2 *Streptococcus* Group B, 2 *Streptococcus* Group G, 2 *Streptococcus pneumoniae* 1 *Streptococcus mitis*, 1 *Streptococcus sanguis*, 1

Table 4. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 January to 31 January 1993, by sex and State or Territory in which diagnosis was made

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA			
										This Period 1993	This Period 1992	Year to Date 1993	Year to Date 1992
HIV Diagnoses	Female	0	1	0	1	0	0	6	1	9	10	9	10
	Male	0	54	1	5	4	1	14	3	82	126	82	126
	Sex not reported	0	1	0	0	0	0	0	0	1	5	1	5
	Total[1]	0	56	0	6	4	1	20	4	92	141	92	141
AIDS Diagnoses	Female	0	0	0	0	0	0	0	0	0	1	0	1
	Male	0	21	1	2	2	0	4	2	32	48	32	48
	Total[1]	0	21	1	2	2	0	4	2	32	49	32	49
AIDS Deaths	Female	0	0	0	1	0	0	0	0	1	2	1	2
	Male	0	9	0	8	2	0	2	1	22	45	22	45
	Total[1]	0	9	0	9	2	0	2	1	23	47	23	47

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

Table 5. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 31 January 1993, by sex and State or Territory in which diagnoses was made

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	AUSTRALIA
HIV Diagnoses	Female	8	454	6	61	36	3	122	40	730
	Male	133	8793	65	1128	486	65	2772	605	14047
	Sex not reported	0	2026	0	0	0	0	64	0	2090
	Total[1]	141	11278	71	1192	522	68	2965	646	16883
AIDS Diagnoses	Female	2	75	0	14	9	2	17	9	128
	Male	43	2266	16	339	153	23	822	181	3843
	Total[1]	45	2346	16	354	162	25	842	190	3980
AIDS Deaths	Female	2	43	0	10	2	1	9	3	70
	Male	33	1420	6	222	91	13	566	115	2466
	Total[1]	35	1485	6	233	93	14	577	118	2541

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

Table 7. LabDOSS reports of blood isolates, by organism and clinical information

Organism	Total[1]	Clinical Information						Risk Factors				
		Bone/Joint	Lower respiratory	Endocarditis	Gastrointestinal	Urinary Tract	Skin	Surgery	Immunosuppressed	IV line	Perinatal	Neonatal
Staphylococcus aureus	36	2	1	1	1		8		8	10		1
MRSA	9							1		2		
Staphylococcus epidermidis	6[2]											
Staphylococcus coagulase negative	23						1		5	13		1
Escherichia coli	52		1		6	27	2	1	10	2		1
Klebsiella species[3]	10				1	1			1	2		
Acinetobacter species[4]	8				2				2	1		
Enterobacter species[5]	13				3		1			2		
Pseudomonas aeruginosa	8		1					1	1	2		1
Candida species[6]	9				2			1				

1. Only organisms with 5 or more reports are included in this table.
2. *Staphylococcus hominis* 1.
3. *Klebsiella pneumoniae* 5, *K. oxytoca* 1.
4. *Acinetobacter calcoaceticus* 7 (var 1 woffi 2, var anitratus 1).
5. *Enterobacter cloacae* 7, *E. aerogenes* 2, *E. agglomerans* 2.
6. *Candida albicans* 5, *C. tropicalis* 1, *C. parapsilosis* 1, *C. krusei* 1.

Table 8. LabDOSS reports of meningitis, by organism and age group

Organism	< 1 month	1-4 years	5-14 years	15-24 years	25-34 years	75 + years	Total
Neisseria meningitidis group C	1		2	1			4
Neisseria meningitidis group B				1			1
Cryptococcus neoformans					1	1	2
Haemophilus influenzae type b		2					2
Streptococcus group B	1						1
Streptococcus pneumoniae		1					1
Total	2	3	2	2	1	1	11

Streptococcus 'viridans', 2 *Streptococcus* species, 2 *Corynebacterium* species, 1 *Corynebacterium xerosis*, 3 *Enterococcus faecalis*, 1 *Enterococcus* species.

Gram negative: 4 *Proteus mirabilis*, 1 *Serratia* species, 1 *Citrobacter diversus*, 1 *Citrobacter freundii*, 1 *Citrobacter* species, 1 *Pseudomonas paucimobilis*, 2 *Pseudomonas* species, 2 *Haemophilus influenzae* type b (an 8 month old male and a 61 year old female), 1 *Morganella morganii*, 1 *Campylobacter jejuni*, 1 *Aeromonas hydrophila*, 1 *Xanthomonas maltophilia*.

Anaerobes: 3 *Propionobacterium* species (1 *P. acnes*), 1 *Prevotella* species.

Mycobacteria: 1 *Mycobacterium avium-intracellulare* complex, 1 *Mycobacterium* species.

CSF isolates and meningitis reports

Eleven reports of meningitis were received (Table 7). Four cases of meningococcal group C meningitis were reported by the South West Area Pathology Service, Liverpool. All cases were investigated by the South West Sydney Public Health Unit. There was no link between the patients, and all recovered from the illness.

Isolates from sites other than blood or CSF

Peritoneal dialysate: 1 *Staphylococcus aureus*, 1 *Staphylococcus epidermidis*.

Joint fluid: 5 *Staphylococcus aureus*, 1 *Enterobacter* species.

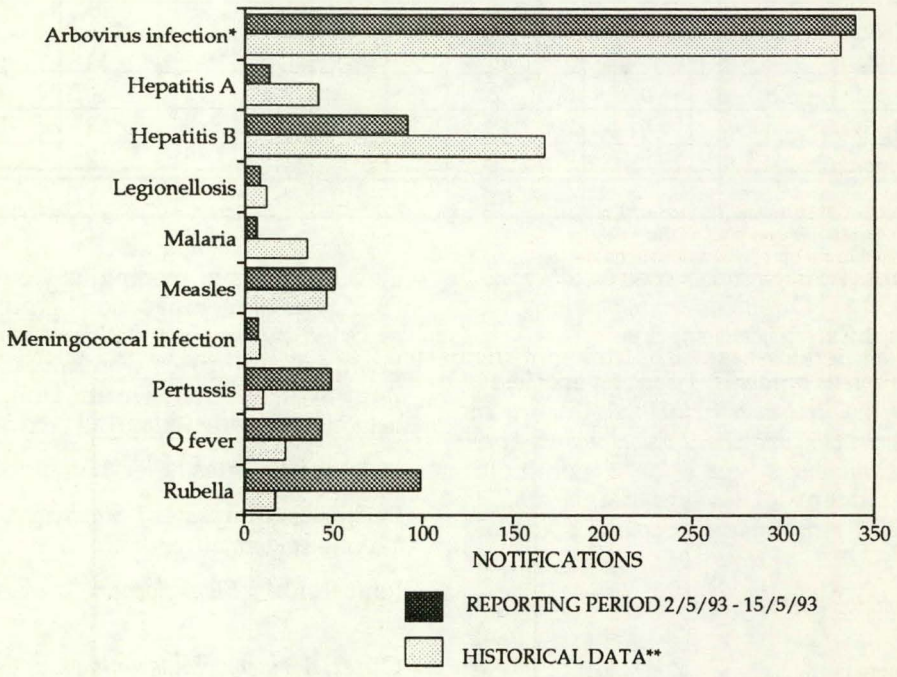
Other: 1 *Haemophilus influenzae* group b (55 year old female), 1 *Klebsiella oxytoca*, 1 *Pseudomonas aeruginosa*, 2 coagulase negative *Staphylococcus*, 1 *Streptococcus* group A, 1 *Streptococcus 'milleri'*, 1 *Mycobacterium tuberculosis*.

National Notifiable Diseases Surveillance System, 2 to 15 May 1993

A total of 1,930 reports were received for this period (Tables 9, 10 and 11, Figure 3).

- There were 290 reports received of notifications of **Ross River virus infection**. There were 140 males, 147 females and 3 sex not recorded. Ages reported ranged from the 0-4 to the 85-89 years age groups. In these reports onset dates were recorded as December in 1, February in 7, March in 32, April in 214 and May in 36. Locations were given as in statistical divisions in widespread areas of New South Wales, Queensland, South Australia, Victoria and northwestern Western Australia. There have been 3,936 notifications to date of Ross River virus infection in 1993.
- Twenty-four notifications of **dengue** were reported this period to bring the total for the year to 98. There were 11 males and 13 females in the 15-19 years to the 65-69 years age groups. Fifteen cases were reported from Townsville, 7 from Charters Towers and the location was unspecified in 2 cases. The onset dates were recorded as March (17) and April (7).
- **Gonococcal infection** was notified for 143 cases. Males comprised 103 notifications, females 38 and sex was not recorded in 2 cases. Recorded ages ranged from the 0-4 to the 55-59 years age groups.
- Fourteen reports of *Haemophilus influenzae* **type b infection** notifications were received. Six were males and 8 were females. Three were aged less than one year, 11 less than 5 years and one was in the 30-34 years age group. There was no apparent clustering of cases.
- Eighty-two notifications of **hepatitis A** were received. Fifty-two were recorded as male and 30 as female. The peak age-specific incidence of notifications was in the 25-29 years age group with 19 cases. Eighteen of the 82 were from the Brisbane statistical division, 13 from the Sydney statistical division, in 12 the place of residence was not recorded and the other cases were from 18 other statistical divisions.
- **Legionellosis** was reported for 9 cases, 7 males, one female and sex not recorded for one case. Ages ranged from the 45-49 to the 75-79 years age groups except for one case each in the 0-4 and the 35-39 years age groups. There were no apparent clusters.
- There were 3 notifications of **leptospirosis** received this period, all males in the 25-29 to 35-39 years age groups from rural areas.
- There was a single report of **listeriosis** in female in the 60-64 years age group.
- There were 7 reports of **malaria**, 4 males and 3 females. Locations were in the Canberra, Sydney, Brisbane, northern Queensland and Melbourne statistical divisions.

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



* Includes Ross River virus and Dengue

** 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.

- There were 51 reports of **measles** notifications. Of these, 28 were males and 23 were females. In 6 cases the age was recorded as less than one year, and the mean age was 9.5 years. There were 4 apparent clusters in separate postcode areas with 2 and 9 cases each. The intervals between onset dates for these apparent clusters ranged from the same day to 8 days. The outbreak in southern Tasmania is continuing with 19 cases in postcode areas in and south of Hobart.
- Eight reports of **meningococcal infection** were received. Of these, 6 were males and 2 were females. Recorded ages ranged from the 0-4 to the 40-44 years age groups. There was no apparent clustering of cases.
- **Pertussis** was notified for 49 cases. Twenty-four were males and 25 were females. Seven of these cases were aged less than one year and 15 were aged less than 5 years. There were 3 apparent clusters of 2 to 3 cases each, occurring in separate postcode areas. Intervals between the index and further cases ranged from onset on the same day to 14 days.
- There were 43 reports of notifications of **Q fever**. Of these, 37 were males and 6 were females. Recorded ages ranged from the 15-19 years to the 55-59 years age groups. Twenty-one cases were reported from rural Queensland and 19 from rural New South Wales.
- There is still an increased incidence of **rubella**, with 99 notifications reported. Sex was recorded as male for 71 and female for 28 (including 19 in the age group 15-44 years). Four cases were recorded as being aged less than one year. The mean age of cases notified was 22.0 years. There were 12 apparent clusters of 2 to 9 cases each in separate postcode areas.
- There were 95 notifications of **syphilis** received. Of these, 51 were males, 42 were females and sex was not recorded in 2 cases. The age was recorded as less than one year in 2 cases and less than 15 in 8 cases.
- A total of 34 notifications of **tuberculosis** was received this period. There were 22 males and 12 females and ages ranged from the 0-4 to the 75-79 age groups. Recorded onset dates were January (4), February (1), March (6), April (14) and May (9)

Table 9. Notifiable Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 2 to 15 May 1993

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1] This Period 1993	This Period 1992	Year to Date 1993	Year to Date 1992
Diphtheria	0	0	0	0	0	0	0	0	0	0	13	4
Measles	0	19	0	7	3	20	2	0	51	37	466	363
Mumps	0	0	NN	NN	NN	NN	0	0	0	1	0	12
Pertussis	2	17	0	20	2	3	3	2	49	10	567	179
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella[2]	2	8	0	80	5	0	4	0	99	13	1191	178
Tetanus	0	0	0	NN	0	0	0	0	0	0	3	6

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; ACT, NSW, Qld: rubella only.
NN Not Notifiable.

Table 10. Rarely Notified Diseases[1] for the reporting period 2 to 15 May 1993

DISEASES	Total This Period	Reporting States or Territories	Year to Date 1993
Botulism	0		0
Brucellosis	0		9
Chancroid	0		1
Cholera	0		2
Hydatid infection	0		13
Leprosy	0		4
Lymphogranuloma venereum	0		0
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 1987 to 1992.

Table 11. Other Notifiable Diseases[1], for the reporting period 2 to 15 May 1993

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2] This Period 1993	This Period 1992	Year to Date 1993	Year to Date 1992
Arbovirus infection (NEC)[3]	0	1	5	14	0	0	5	1	26	21	286	140
Ross River virus infection	0	23	9	209	13	NN	23	13	290	403	3936	3989
Dengue	0	-	2	22	-	NN	0	NN	24	2	98	13
Campylobacteriosis[4]	5	-	12	126	37	9	18	40	247	262	3010	3071
Chlamydial infection (NEC)[5]	3	NN	25	163	0	13	23	0	227	164	2123	2719
Donovanosis	0	NN	2	0	NN	NN	0	0	2	3	19	25
Gonococcal infection[6]	1	14	25	39	0	0	3	61	143	123	1111	1084
Haemophilus influenzae b infection[7]	0	5	NN	3	1	1	4	0	14	20	162	150
Hepatitis A	0	19	12	31	15	1	2	2	82	107	748	814
Hepatitis B	4	6	2	67	1	3	0	8	91	225	870	1794
Hepatitis C	5	2	10	79	NN	4	39	0	139	354	1861	2923
Hepatitis (NEC)	0	1	0	0	0	0	0	NN	1	7	30	20
Legionellosis	0	2	2	0	0	0	5	0	9	18	74	88
Leptospirosis	0	0	0	1	1	1	0	0	3	4	69	42
Listeriosis	0	0	NN	1	NN	0	0	0	1	3	17	17
Malaria	1	2	0	3	0	0	1	0	7	13	260	261
Meningococcal infection	0	2	0	4	0	0	1	1	8	6	83	62
Ornithosis	0	NN	0	0	2	0	0	1	3	1	37	36
Q fever	0	19	0	21	1	0	0	2	43	21	275	174
Salmonellosis (NEC)	1	37	13	104	10	1	7	25	198	209	2169	2378
Shigellosis[4]	0	-	2	3	4	0	1	3	13	30	359	243
Syphilis	0	24	31	31	0	0	0	9	95	99	815	952
Tuberculosis	3	8	0	5	2	2	13	1	34	25	301	273
Typhoid[8]	0	0	0	0	0	0	0	0	0	1	18	25
Yersiniosis (NEC)[4]	0	-	0	19	1	0	2	0	22	22	184	276

1. For HIV and AIDS, see Tables 4 and 5. For rarely notified diseases, see Table 10.
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.
   WA: includes 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. SA: only as 'bacterial meningitis'; meningococcal infection is separately notified; Tas: only as 'non-meningococcal meningitis'; Vic: epiglottitis and meningitis only.
8. NSW and Vic: includes paratyphoid.

NN Not Notifiable.
NEC Not Elsewhere Classified.
- Elsewhere Classified.

Table 8. Laboratory reports by State or Territory of reporting laboratory for the reporting period 6 to 19 May 1993, historical data[1], and total reports for the year

	STATE OR TERRITORY OF REPORTING LABORATORY ACT	NSW	Qld	Tas	Vic	WA	Total this fortnight	Historical data[1]	Total reported this year
MEASLES, MUMPS, RUBELLA									
Measles virus			6	1	1		8	7.7	162
Mumps virus			3	1			4	1.2	26
Rubella virus			14	1			15	5.8	501
HEPATITIS VIRUSES									
Hepatitis A virus		5	11		2	2	20	10.2	269
Hepatitis B virus	2	36	22		14	18	92	77.3	1,124
Hepatitis C virus	6	8	21	2		58	95	26.8	1,491
Hepatitis E virus			1				1	.0	1

Table 8. Laboratory reports by State or Territory of reporting laboratory for the reporting period 6 to 19 May 1993, historical data[1], and total reports for the year, continued

	STATE OR TERRITORY OF REPORTING LABORATORY						Total this fortnight	Historical data[1]	Total reported this year
	ACT	NSW	Qld	Tas	Vic	WA			
ARBOVIRUSES									
Ross River virus			195		3	13	211	119.3	1,245
Barmah Forest virus			15			1	16	14.3	115
Dengue type 2			50				50	1.0	70
Dengue not typed			11			1	12	2.2	26
MVE virus						3	3	.7	5
Flavivirus (unspecified)					1		1	.7	40
ADENOVIRUSES									
Adenovirus type 1		3					3	3.3	37
Adenovirus type 2	1	2			3		6	5.2	40
Adenovirus type 3		8			2		10	2.3	100
Adenovirus type 4		1					1	.8	53
Adenovirus type 5		2					2	1.5	18
Adenovirus type 7					1		1	.0	4
Adenovirus type 8		1					1	.8	10
Adenovirus type 12		1					1	.0	1
Adenovirus type 19					1		1	.5	2
Adenovirus type 40		2					2	.0	9
Adenovirus not typed/pending		13	26		7	2	48	34.2	526
HERPES VIRUSES									
Herpes simplex virus type 1		8	51	5	29	35	128	114.5	1,808
Herpes simplex virus type 2		20	81		33	58	192	140.3	2,134
Herpes simplex not typed/pending	2	20				2	24	31.0	273
Cytomegalovirus		5	40	1	18		64	66.7	701
Varicella-zoster virus		2	13		9	7	31	20.5	422
Epstein-Barr virus		2	33		4	6	45	59.0	820
Herpes virus group - not typed						1	1	4.7	13
OTHER DNA VIRUSES									
Parvovirus					1	3	4	2.8	60
PICORNA VIRUS FAMILY									
Coxsackievirus A9	1	1					2	.8	29
Coxsackievirus B1	1	2				1	4	.5	56
Coxsackievirus B3					1		1	.5	6
Coxsackievirus B5		1					1	1.7	34
Echovirus type 7		1			1		2	.3	83
Echovirus type 9		2					2	9.8	43
Echovirus type 11		2			1		3	.2	23
Echovirus type 14		1					1	.5	10
Echovirus type 22	1						1	.2	10
Echovirus type 30		2			2		4	.0	8
Poliovirus type 1 (uncharacterised)		1		1			2	2.0	25
Poliovirus type 2 (uncharacterised)		3					3	2.2	19
Poliovirus type 3 (uncharacterised)		1					1	1.3	13
Rhinovirus (all types)		9	10		10	8	37	21.0	326
Enterovirus type 71 (BCR)		1					1	.3	1
Enterovirus not typed/pending		3	27		7	6	43	27.3	312

Table 8. Laboratory reports by State or Territory of reporting laboratory for the reporting period 6 to 10 May 1993, historical data[1], and total reports for the year, continued

	STATE OR TERRITORY OF REPORTING LABORATORY						Total this fortnight	Historical data[1]	Total reported this year
	ACT	NSW	Qld	Tas	Vic	WA			
ORTHO/PARAMYXOVIRUSES									
Influenza A virus			8		1	1	10	20.2	58
Influenza B virus			1			3	4	4.3	29
Parainfluenza virus type 1					1		1	15.0	12
Parainfluenza virus type 2		1	8			2	11	6.5	32
Parainfluenza virus type 3		1	6		4	1	12	15.7	216
Respiratory syncytial virus	3	43	42	5	11	5	109	76.2	311
OTHER RNA VIRUSES									
HIV-1						2	2	1.7	37
HTLV-1						1	1	.7	6
Rotavirus		6	3	9	9	9	36	53.8	396
Calici virus		1					1	1.0	7
Norwalk agent					1		1	.7	8
Small virus (like) particle		2			1	1	4	3.3	25
OTHER									
Chlamydia trachomatis not typed	4	19	24	6		42	95	88.7	1,304
Chlamydia psittaci			2		2		4	2.7	42
Mycoplasma pneumoniae	1	7	30		24	3	65	21.7	899
Coxiella burnetii (Q fever)		1	25		1	1	28	9.3	201
Streptococcus group A			6				6	.0	118
Bordetella pertussis			2		1		3	.0	62
Bordetella species			3				3	.0	94
Cryptococcus species			1				1	.0	6
Treponema pallidum		15	1				16	.0	280
Echinococcus granulosus			3				3	.0	7
TOTAL	22	265	795	32	207	296	1,617	1,145.3	17,254

1. 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 9. Laboratory reports by clinical information for the reporting period 6 to 19 May 1993

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus								4				4	8
Mumps virus					1							3	4
Rubella virus							1	5		1		8	15
HEPATITIS VIRUSES													
Hepatitis A virus							8					12	20
Hepatitis B virus							27					65	92
Hepatitis C virus					1	1	7					86	95
Hepatitis E virus							1						1

Table 9. Laboratory reports by clinical information for the reporting period 6 to 19 May 1993, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
ARBOVIRUSES													
Ross River virus			1		1			8		90		111	211
Barmah Forest virus										8		8	16
Dengue type 2						1		7		3		39	50
Dengue not typed			1					1		1		9	12
MVE virus	3												3
Flavivirus (unspecified)												1	1
ADENOVIRUSES													
Adenovirus type 1		1										2	3
Adenovirus type 2					2							4	6
Adenovirus type 3						1		2	1			6	10
Adenovirus type 4						1							1
Adenovirus type 5					1							1	2
Adenovirus type 7					1								1
Adenovirus type 8									1				1
Adenovirus type 12												1	1
Adenovirus type 19									1				1
Adenovirus type 40						2							2
Adenovirus not typed/pending	1			1	13	18		2	3	1		9	48
HERPES VIRUSES													
Herpes simplex virus type 1					7			72	6		34	9	128
Herpes simplex virus type 2								82			104	6	192
Herpes simplex not typed/pending				1	1			13			2	7	24
Cytomegalovirus	1			1	11		6		1		1	43	64
Varicella-zoster virus	1	1			1			19				9	31
Epstein-Barr virus					2		1	2				40	45
Herpes virus group - not typed								1					1
OTHER DNA VIRUSES													
Parvovirus								2				2	4
PICORNA VIRUS FAMILY													
Coxsackievirus A9		1										1	2
Coxsackievirus B1	1	1										2	4
Coxsackievirus B3		1											1
Coxsackievirus B5												1	1
Echovirus type 7		1						1					2
Echovirus type 9		1				1							2
Echovirus type 11					1	1						1	3
Echovirus type 14												1	1
Echovirus type 22								1					1
Echovirus type 30		4											4
Poliovirus type 1 (uncharacterised)												2	2
Poliovirus type 2 (uncharacterised)		1				1						1	3
Poliovirus type 3 (uncharacterised)												1	1
Rhinovirus (all types)			1		33							3	37
Enterovirus type 71 (BCR)						1							1
Enterovirus not typed/pending	1	5			19	11						7	43

Table 9. Laboratory reports by clinical information for the reporting period 6 to 19 May 1993, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					3					1		6	10
Influenza B virus					2							2	4
Parainfluenza virus type 1					1								1
Parainfluenza virus type 2					9							2	11
Parainfluenza virus type 3	1		1		8							2	12
Respiratory syncytial virus					102	1						6	109
OTHER RNA VIRUSES													
HIV-1												2	2
HTLV-1												1	1
Rotavirus						36							36
Calici virus						1							1
Norwalk agent						1							1
Small virus (like) particle						4							4
OTHER													
Chlamydia trachomatis not typed					1						86	8	95
Chlamydia psittaci					3							1	4
Mycoplasma pneumoniae					40							25	65
Coxiella burnetii (Q fever)			1		1		1			2		23	28
Streptococcus group A												6	6
Bordetella pertussis					1							2	3
Bordetella species					2							1	3
Cryptococcus species		1											1
Treponema pallidum			1									15	16
Echinococcus granulosus												3	3
TOTAL	9	18	6	3	268	82	52	222	13	107	227	610	1617

Table 10. Laboratory reports by contributing laboratories for the reporting period 6 to 19 May 1993

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	22
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	129
	Prince Henry/Prince of Wales Hospitals, Sydney	12
	Royal Alexandra Hospital for Children, Camperdown	50
	South West Area Pathology Service, Liverpool	74
Queensland	Dr TB Lynch, Pathologist, Rockhampton	78
	Queensland Medical Laboratory, West End	215
	State Health Laboratory, Brisbane	502
Tasmania	Northern Tasmanian Pathology Service, Launceston	21
	Royal Hobart Hospital, Hobart	11
Victoria	Fairfield Hospital, Melbourne	155
	Royal Children's Hospital, Melbourne	52
Western Australia	Princess Margaret Hospital, Perth	20
	State Health Laboratory Services, Perth	276
TOTAL		1617