



# COMMUNICABLE DISEASES INTELLIGENCE

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## CONTENTS

| ARTICLES  | Page |
|---|------|
| Annual Report of the National Notifiable Diseases Surveillance System, 1994 | 542  |
| Equine morbillivirus in Queensland  | 575  |
| <b>OVERSEAS BRIEFS</b>  | 576  |
| <b>COMMUNICABLE DISEASES SURVEILLANCE</b>                                   | 576  |

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

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## ANNUAL REPORT OF THE NATIONAL NOTIFIABLE DISEASES SURVEILLANCE SYSTEM, 1994

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### Introduction

Notification of cases of certain communicable diseases to the health authorities of the States and Territories has been required for over one hundred years in most parts of Australia<sup>1</sup>. Last century, diseases were notifiable mainly for quarantine purposes, and emphasis was on smallpox, typhoid, cholera, plague and yellow fever. As knowledge of communicable disease aetiology and epidemiology have increased, and control methods other than quarantine have been developed, the lists of notifiable diseases have changed and expanded<sup>2</sup>. In the early part of this century, the lists of notifiable diseases were expanded to include diphtheria, pulmonary tuberculosis, pertussis, poliomyelitis and malaria among others and, in more recent years, to include diseases such as hepatitis A, hepatitis B, hepatitis C, Ross River virus infection, HIV infection and salmonellosis.

Notification of communicable disease is an important contribution to public health, as it prompts investigation and appropriate actions to control the spread of the diseases and enables monitoring of the effectiveness of existing control activities. Many communicable disease control activities are initiated at local government or State level, necessitating local and State-based surveillance activities. However, for many diseases, national surveillance is also appropriate, for example to undertake control activities in outbreaks which affect more than one jurisdiction, to monitor the need for or impact of national control programs (for example, for vaccine preventable diseases of childhood, sexually transmissible diseases and hepatitis C), to guide National Health and Medical Research Council (NHMRC) and other national disease control policy development (for example, for tuberculosis), to describe the current epidemiology of rare diseases for which there are only a few notifications in each State (for example, leprosy), to assist in national quarantine activities and to enable reporting of surveillance data to the World Health Organization and for other international collaborations.

In recognition of these needs for timely and accurate national communicable disease surveillance information, the National Notifiable Diseases Surveillance System (NNDSS) was established in its current format in 1991, under the auspices of the Communicable Diseases Network Australia New Zealand. It monitors the occurrence and some risk factors for communicable diseases in Australia through national compilation of notifications of the diseases made to the health authorities of the States and Territories. Forty-three diseases or disease categories are included, largely as recommended by the NHMRC<sup>3</sup>.

This is the fourth annual report of the NNDSS in its current format; previous reports were for cases reported in 1991<sup>4</sup>, 1992<sup>5</sup> and 1993<sup>6</sup>.

### Methods

Notifications of communicable disease were compiled and collated continuously through 1994 by the States and Territories. On a fortnightly basis, they sent computerised line listings of their notifications for the calendar year to date to the AIDS/Communicable Diseases Branch of the Department of Human Services and Health, for national dataset compilation, analysis and publication in *Communicable Diseases Intelligence* and to guide national control activities. The national dataset included fields for a unique identifying number; the disease; the age, sex, Aboriginality and postcode of residence of the case; the date of onset of the disease and the date of report to the State or Territory health authority.

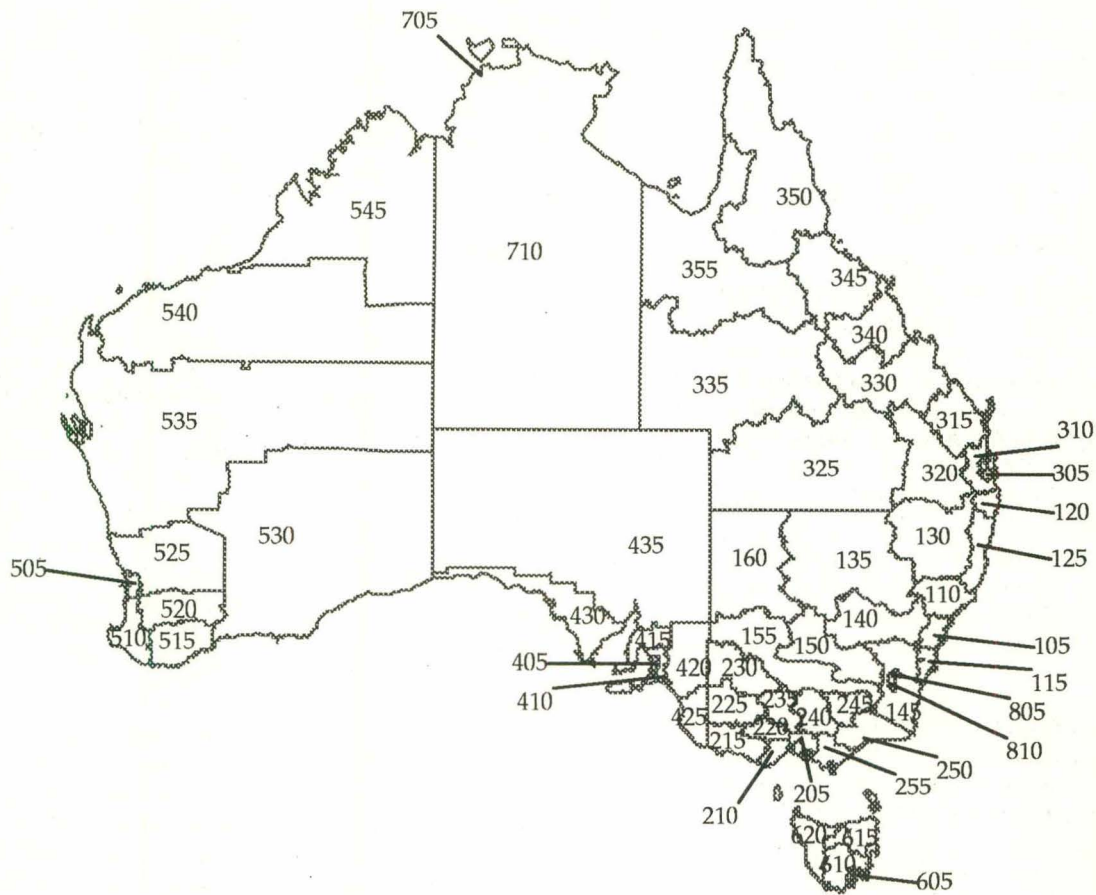
The final 1994 datasets were provided by the States and Territories between June and September 1995. They were converted to the standard format where necessary using Epi Info v6.02, Turbo Pascal, dBase IV and Visual Basic. Missing data and apparent errors such as an onset date after a report date were corrected where possible and duplicate records deleted, in consultation with the States and Territories.

Notification rates were determined using Excel v5.0 spreadsheets and the 1994 mid-year estimated resident population denominator data from the Australian Bureau of Statistics. Data used were the estimated populations of the States and Territories, the Statistical Divisions and by age group and sex for Australia. National rates were adjusted, as appropriate, by excluding the populations of States and Territories where diseases were not notifiable or otherwise classified for the entire year.

Most analysis of the notifications was based on the date of report, for example, the notifications reported for each age group and sex are those with report dates in 1994. They include some notifications with onset dates in 1993 but exclude notifications with report dates in 1995 and onset dates in 1994. For analysis of seasonal trends, notifications have been reported by month of onset, and notifications with 1994 onset which were reported in 1995 have been differentiated in the graphs. These notifications reported in 1995 have not been confirmed by the States and Territories and are regarded as provisional.

Notifications were allocated to the Australian Bureau of Statistics' Statistical Divisions (Figure 1) for mapping

Figure 1. ABS Statistical Divisions



| Statistical Division         |  | Population | Statistical Division |                       | Population | Statistical Division |                      | Population |
|------------------------------|--|------------|----------------------|-----------------------|------------|----------------------|----------------------|------------|
| Australian Capital Territory |  |            | Queensland continued |                       |            | Victoria             |                      |            |
| 805                          | Canberra                               | 300476     | 315                  | Wide Bay-Burnett      | 216086     | 205                  | Melbourne            | 3197815    |
| 810                          | Australian Capital Territory - balance | 391        | 320                  | Darling Downs         | 203537     | 210                  | Barwon               | 230796     |
| New South Wales              |  |            | 325                  | South West            | 28770      | 215                  | Western District     | 101311     |
| 105                          | Sydney                                 | 3736698    | 330                  | Fitzroy               | 179169     | 220                  | Central Highlands    | 140701     |
| 110                          | Hunter                                 | 551447     | 335                  | Central West          | 13081      | 225                  | Wimmera              | 52842      |
| 115                          | Illawarra                              | 363813     | 340                  | Mackay                | 116288     | 230                  | Mallee               | 82606      |
| 120                          | Richmond-Tweed                         | 194317     | 345                  | Northern              | 192381     | 235                  | Loddon-Campaspe      | 181322     |
| 125                          | Mid-North Coast                        | 257080     | 350                  | Far North             | 195716     | 240                  | Goulburn             | 156952     |
| 130                          | Northern                               | 187362     | 355                  | North West            | 37767      | 245                  | Ovens-Murray         | 93150      |
| 135                          | North Western                          | 118633     | South Australia      |                       |            | 250                  | East Gippsland       | 68040      |
| 140                          | Central West                           | 173516     | 405                  | Adelaide              | 1076130    | 255                  | Gippsland            | 169930     |
| 145                          | South Eastern                          | 177809     | 410                  | Outer Adelaide        | 102221     | Western Australia    |                      |            |
| 150                          | Murrumbidgee                           | 150262     | 415                  | Yorke and Lower North | 44688      | 505                  | Perth                | 1238842    |
| 155                          | Murray                                 | 110602     | 420                  | Murray Lands          | 66912      | 510                  | South West           | 157648     |
| 160                          | Far West                               | 27699      | 425                  | South East            | 62027      | 515                  | Lower Great Southern | 50003      |
| Northern Territory           |  |            | 430                  | Eyre                  | 32714      | 520                  | Upper Great Southern | 21705      |
| 705                          | Darwin                                 | 78055      | 435                  | Northern              | 84679      | 525                  | Midlands             | 50936      |
| 710                          | Northern Territory -balance            | 92818      | Tasmania             |                       |            | 530                  | South Eastern        | 53040      |
| Queensland                   |  |            | 605                  | Greater Hobart        | 194212     | 535                  | Central              | 61239      |
| 305                          | Brisbane                               | 1454412    | 610                  | Southern              | 33345      | 540                  | Pilbara              | 43459      |
| 310                          | Moreton                                | 558668     | 615                  | Northern              | 133155     | 545                  | Kimberley            | 24192      |
|                              |  |            | 620                  | Mersey-Lyell          | 111752     |                      |                      |            |

were not available for most of the Northern Territory's notifications, so the mapped notification rates are for the Northern Territory as a whole. Numerator and denominator data for the two Statistical Divisions in the Australian Capital Territory were combined, as the population for the Australian Capital Territory balance Statistical Division was small, and rates mapped for the jurisdiction as a whole. In South Australia, numerator and denominator data were similarly combined for chlamydial infection, gonococcal infection and syphilis for the Statistical Divisions of Northern, Yorke and Lower North, and Eyre, and for the Statistical Divisions of South East and Murraylands.

Maps were prepared using Map Info v1.0 and graphs using Quattro Pro v1.0.

### Notes on interpretation

The notifications compiled by the NNDSS may be influenced by a number of factors which should be considered when interpreting the data. The proportion of all cases notified (case ascertainment or sensitivity) is unknown, and may vary from disease to disease, from State to State and with time. Methods of surveillance vary, with differing requirements for notification by diagnosing doctors, laboratories and hospitals. There may be better case ascertainment for diseases for which laboratory confirmation is necessary in jurisdictions which have mandatory reporting by laboratories. Conversely, diseases which can be only clinically diagnosed may be underestimated in jurisdictions which do not require cases other than laboratory-confirmed cases to be notified, or they may be overestimated if clinical case definitions are not highly specific for the disease. For some diseases such as hepatitis B, many infections are asymptomatic and are not diagnosed or reported. There may be better case ascertainment for rarer, more serious diseases than for common diseases without frequent serious sequelae. Additionally, although the NHMRC has recommended uniform surveillance case definitions<sup>3</sup>, the States and Territories may use definitions suited to local purposes or predating the NHMRC definitions.

The undetermined sensitivities and specificities of the System mean that comparisons of notification rates reported for different diseases, for the States and Territories and for different reporting years should be made with caution.

Postcode information is well reported but, as it is usually the postcode of residence, it may not always represent the place of acquisition or diagnosis of the disease or the area in which public health actions were taken in response to the notification. Duplicate checking between the State datasets was not possible so there may be some duplicate reports if patients moved from one jurisdiction to another and were notified in both. In some cases, mapped notification rates may be higher than notification rates reported for the States and Territories as the former is based on postcode information and the latter on reporting State or Territory. Some Statistical Divisions have small populations (Figure 1),

so small numbers of cases may be reflected as high notification rates in these areas.

The data are limited as they do not include risk factor information other than age, sex, Aboriginality and postcode of residence. Age and sex are well reported, but the completeness of Aboriginality information varies by disease and from State to State. Other risk factor information is compiled in datasets supplementary to the NNDSS, for *Haemophilus influenzae* type b infection, tuberculosis, non-tuberculosis mycobacterial infection and hepatitis C only, and are reported separately.

Some States and Territories reported notifications of HIV infection and non-tuberculosis mycobacterial infection in addition to the diseases included in this report. National HIV and AIDS surveillance is conducted by the National Centre in HIV Epidemiology and Clinical Research, who have reported separately<sup>7</sup>. The non-tuberculosis mycobacterial infection notifications are included in the National Mycobacterial Surveillance System which also reports separately.

### Notifications overall

The States and Territories contributed a total of 61,726 notifications to the NNDSS for 1994 (Table 1), at an overall rate of 345.9 per 100,000 population (Table 2). This represented an increase of 1.02% in total notifications and an increase of 1.01% in the overall crude notification rate compared with 1993 (Table 3). The number of notifications has remained similar over the last three years, in contrast with the increase that occurred between the late 1980s and 1992 which coincided with changes in notification legislation and surveillance arrangements in most States and Territories (Figure 1).

Some records had data missing in some fields. Most notably, Aboriginality was reported for only 31.4% of notifications. This varied from State to State and with disease, but allowed for notification rates for the Aboriginal population to be determined for some diseases and some jurisdictions. Information on sex was miss-

Figure 2. Total notifications, 1985 to 1994, by year

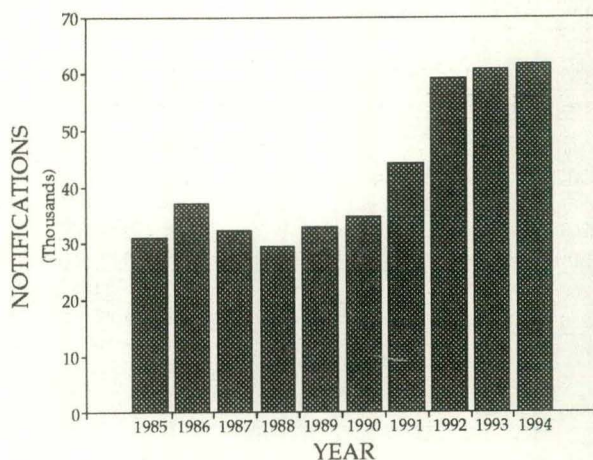


Table 1. National Notifiable Diseases Surveillance System reports, 1994, by State or Territory and disease

| DISEASE  | ACT  | NSW  | NT   | Qld   | SA   | Tas             | Vic   | WA   | Total |
|--|------|------|------|-------|------|-----------------|-------|------|-------|
| Arbovirus infection                            |      |      |      |       |      |                 |       |      |       |
| Ross River virus infection                     | 1    | 337  | 312  | 3141  | 28   | -               | 58    | 97   | 3974  |
| Dengue <sup>1</sup>                            | 0    | 0    | 6    | 3     | 1    | -               | 6     | 1    | 17    |
| NEC <sup>2</sup>                               | 0    | 46   | 34   | 457   | 0    | 24              | 17    | 9    | 587   |
| Botulism                                       | 0    | -    | NN   | NN    | 0    | 0               | 0     | NN   | 0     |
| Brucellosis                                    | 0    | 4    | 0    | 27    | 0    | 0               | 3     | 0    | 34    |
| Campylobacteriosis <sup>3</sup>                | 308  | -    | 324  | 2109  | 2318 | 503             | 3479  | 1076 | 10117 |
| Chancroid                                      | 0    | 0    | 0    | 0     | NN   | 0               | 0     | 0    | 0     |
| Chlamydial infection (NEC)                     | 93   | NN   | 722  | 2524  | 732  | 295             | 1306  | 847  | 6519  |
| Cholera  | 0    | 0    | 0    | 2     | 0    | 0               | 1     | 0    | 3     |
| Diphtheria                                     | 0    | 0    | 0    | 0     | 0    | 0               | 0     | 0    | 0     |
| Donovanosis                                    | 0    | NN   | 68   | 30    | NN   | 0               | 0     | 19   | 117   |
| Gonococcal infection <sup>4</sup>              | 8    | 358  | 736  | 708   | 156  | 8               | 154   | 843  | 2971  |
| <i>Haemophilus influenzae</i> type b infection | 1    | 63   | 1    | 38    | 19   | 4               | 32    | 11   | 169   |
| Hepatitis A                                    | 17   | 561  | 68   | 803   | 54   | 10              | 154   | 227  | 1894  |
| Hepatitis B                                    | -    | 81   | 26   | 49    | 34   | 2               | 96    | 39   | 327   |
| Hepatitis C - incident <sup>5</sup>            | 6    | 33   | -    | -     | 4    | -               | -     | -    | 43    |
| Hepatitis C - unspecified <sup>5</sup>         | 428  |      | 301  | 3177  |      | 53 <sup>8</sup> | 3523  | 1416 | 8898  |
| Hepatitis (NEC)                                | 0    | 5    | 0    | 15    | 4    | 0               | 18    | NN   | 42    |
| Hydatid infection                              | 2    | 20   | 1    | 8     | 3    | 1               | 19    | 2    | 56    |
| Legionellosis                                  | 0    | 62   | 5    | 21    | 26   | 1               | 44    | 20   | 179   |
| Leprosy  | 0    | 3    | 1    | 2     | 0    | 0               | 3     | 2    | 11    |
| Leptospirosis                                  | 1    | 13   | 2    | 59    | 5    | 3               | 40    | 0    | 123   |
| Listeriosis                                    | 1    | 8    | 0    | 13    | 3    | 0               | 8     | 1    | 34    |
| Lymphogranuloma venereum                       | 0    | NN   | 0    | 0     | NN   | 0               | 2     | NN   | 2     |
| Malaria  | 24   | 188  | 40   | 297   | 31   | 13              | 83    | 27   | 703   |
| Measles  | 114  | 1484 | 402  | 2483  | 70   | 32              | 177   | 133  | 4895  |
| Meningococcal infection                        | 7    | 142  | 5    | 92    | 19   | 5               | 58    | 55   | 383   |
| Mumps <sup>6</sup>                             | 5    | 10   | 3    | NN    | 7    | NN              | 62    | 7    | 94    |
| Ornithosis                                     | 1    | NN   | 0    | 3     | 19   | 3               | 57    | 2    | 85    |
| Pertussis                                      | 19   | 1516 | 138  | 1937  | 982  | 26              | 447   | 568  | 5633  |
| Plague   | 0    | 0    | 0    | 0     | 0    | NN              | 0     | 0    | 0     |
| Poliomyelitis                                  | 0    | 0    | 0    | 0     | 0    | 0               | 0     | 0    | 0     |
| Q fever  | 0    | 267  | 0    | 286   | 29   | 0               | 77    | 8    | 667   |
| Rabies   | 0    | NN   | 0    | 0     | 0    | 0               | 0     | 0    | 0     |
| Rubella <sup>7</sup>                           | 51   | 123  | 49   | 2053  | 81   | 0               | 211   | 747  | 3315  |
| Salmonellosis (NEC)                            | 44   | 1053 | 475  | 1450  | 488  | 119             | 1055  | 599  | 5283  |
| Shigellosis <sup>3</sup>                       | 8    | -    | 127  | 148   | 63   | 2               | 87    | 289  | 724   |
| Syphilis                                       | 16   | 1016 | 451  | 549   | 43   | 2               | 143   | 104  | 2324  |
| Tetanus  | 0    | 4    | 0    | 0     | 8    | 0               | 1     | 2    | 15    |
| Tuberculosis                                   | 9    | 409  | 31   | 113   | 57   | 14              | 309   | 82   | 1024  |
| Typhoid  | 1    | 17   | 3    | 2     | 2    | 2               | 7     | 16   | 50    |
| Viral haemorrhagic fever (NEC)                 | 0    | 0    | 0    | 0     | 0    | 0               | 0     | 0    | 0     |
| Yellow fever                                   | 0    | 0    | 0    | 0     | 0    | 0               | 0     | 0    | 0     |
| Yersiniosis (NEC) <sup>3</sup>                 | 0    | -    | 1    | 291   | 97   | 1               | 21    | 3    | 414   |
| Total  | 1165 | 7823 | 4332 | 22890 | 5450 | 1123            | 11758 | 7252 | 61726 |

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere classified.

1. Western Australia: notifiable since 24 June 1994.

2. Tasmania: includes Ross River virus infection and dengue.

3. New South Wales: only as 'foodborne disease' or 'gastroenteritis in an institution'.

4. Northern Territory, Queensland, South Australia and Victoria: includes gonococcal neonatal ophthalmia.

5. States and Territories reported notifications of incident cases only and/or all notifications.

6. Northern Territory: compiled since September 1994 and notifiable since 22 December 1994.

7. Tasmania: congenital rubella syndrome only.

8. A further 241 cases of unspecified hepatitis C were notified in Tasmania but not reported to the NNDSS for incorporation into the national dataset.

**Table 2. National Notifiable Disease Surveillance System notification rates per 100,000 population, 1994, by State or Territory and disease**

| DISEASE  | ACT   | NSW   | NT     | Qld   | SA    | Tas   | Vic   | WA    | Total |
|--|-------|-------|--------|-------|-------|-------|-------|-------|-------|
| Arbovirus infection                            |       |       |        |       |       |       |       |       |       |
| Ross River virus infection                     | 0.3   | 5.6   | 182.3  | 98.3  | 1.9   | -     | 1.3   | 5.7   | 22.9  |
| Dengue <sup>1</sup>                            | 0     | 0     | 3.5    | 0.1   | 0.1   | -     | 0.1   | 0.1   | 0.1   |
| NEC <sup>2</sup>                               | 0     | 0.8   | 19.9   | 14.3  | 0     | 5.1   | 0.4   | 0.5   | 3.3   |
| Botulism                                       | 0     | -     | NN     | NN    | 0     | 0     | 0     | NN    | 0     |
| Brucellosis                                    | 0     | 0.1   | 0      | 0.8   | 0     | 0     | 0.1   | 0     | 0.2   |
| Campylobacteriosis <sup>3</sup>                | 102.4 | -     | 189.3  | 66.0  | 157.7 | 106.5 | 77.7  | 63.2  | 85.8  |
| Chancroid                                      | 0     | 0     | 0      | 0     | NN    | 0     | 0     | 0     | 0     |
| Chlamydial infection (NEC)                     | 30.9  | NN    | 421.9  | 79.0  | 49.8  | 62.5  | 29.2  | 49.8  | 55.3  |
| Cholera  | 0     | 0     | 0      | 0.1   | 0     | 0     | 0     | 0     | 0     |
| Diphtheria                                     | 0     | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0     |
| Donovanosis                                    | 0     | NN    | 39.7   | 1.0   | NN    | 0     | 0     | 1.1   | 1.1   |
| Gonococcal infection <sup>4</sup>              | 2.7   | 5.9   | 430.1  | 22.2  | 10.6  | 1.7   | 3.4   | 49.5  | 16.7  |
| <i>Haemophilus influenzae</i> type b infection | 0.3   | 1.0   | 0.6    | 1.2   | 1.3   | 0.9   | 0.7   | 0.7   | 1.0   |
| Hepatitis A                                    | 5.7   | 9.3   | 39.7   | 25.1  | 3.7   | 2.1   | 3.4   | 13.3  | 10.6  |
| Hepatitis B                                    | -     | 1.3   | 15.2   | 1.5   | 2.3   | 0.4   | 2.1   | 2.3   | 1.9   |
| Hepatitis C - incident <sup>5</sup>            | 2.0   | 0.6   | -      | -     | 0.3   | -     | -     | -     | 0.6   |
| Hepatitis C - unspecified <sup>5</sup>         | 142.2 |       | 175.9  | 99.4  |       | 11.2  | 78.7  | 83.2  | 86.2  |
| Hepatitis (NEC)                                | 0     | 0.1   | 0      | 0.5   | 0.3   | 0     | 0.4   | NN    | 0.3   |
| Hydatid infection                              | 0.7   | 0.3   | 0.6    | 0.3   | 0.2   | 0.2   | 0.4   | 0.1   | 0.3   |
| Legionellosis                                  | 0     | 1.0   | 2.9    | 0.7   | 1.8   | 0.2   | 1.0   | 1.1   | 1.0   |
| Leprosy  | 0     | 0.1   | 0.6    | 0.1   | 0     | 0     | 0.1   | 0.1   | 0.1   |
| Leptospirosis                                  | 0.3   | 0.2   | 1.2    | 1.9   | 0.3   | 0.6   | 0.9   | 0     | 0.7   |
| Listeriosis                                    | 0.3   | 0.1   | 0      | 0.4   | 0.2   | 0     | 0.2   | 0.1   | 0.2   |
| Lymphogranuloma venereum                       | 0     | NN    | 0      | 0     | NN    | 0     | 0.4   | NN    | 0     |
| Malaria  | 8.0   | 3.1   | 23.4   | 9.3   | 2.1   | 2.8   | 1.9   | 1.6   | 3.9   |
| Measles  | 37.9  | 24.5  | 234.9  | 77.7  | 4.8   | 6.8   | 4.0   | 7.8   | 27.4  |
| Meningococcal infection                        | 2.3   | 2.4   | 2.9    | 2.9   | 1.3   | 1.1   | 1.3   | 3.2   | 2.2   |
| Mumps <sup>6</sup>                             | 1.7   | 0.2   | 1.8    | NN    | 0.5   | NN    | 1.4   | 0.4   | 0.5   |
| Ornithosis                                     | 0.3   | NN    | 0      | 0.1   | 1.3   | 0.6   | 1.3   | 0.1   | 0.7   |
| Pertussis                                      | 6.3   | 25.1  | 80.6   | 60.6  | 66.8  | 5.5   | 10.0  | 33.4  | 31.6  |
| Plague   | 0     | 0     | 0      | 0     | 0     | NN    | 0     | 0     | 0     |
| Poliomyelitis                                  | 0     | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0     |
| Q fever  | 0     | 4.4   | 0      | 9.0   | 2.0   | 0     | 1.7   | 0.5   | 3.7   |
| Rabies   | 0     | NN    | 0      | 0     | 0     | 0     | 0     | 0     | 0     |
| Rubella <sup>7</sup>                           | 17.0  | 2.0   | 28.6   | 64.2  | 5.5   | 0     | 4.7   | 43.9  | 18.6  |
| Salmonellosis (NEC)                            | 14.6  | 17.4  | 277.6  | 45.4  | 33.2  | 25.2  | 23.6  | 35.2  | 29.6  |
| Shigellosis <sup>3</sup>                       | 2.7   | -     | 74.2   | 4.6   | 4.3   | 0.4   | 1.9   | 17.0  | 6.1   |
| Syphilis                                       | 5.3   | 16.8  | 263.5  | 17.2  | 2.9   | 0.4   | 3.2   | 6.1   | 13.0  |
| Tetanus  | 0     | 0.1   | 0      | 0     | 0.5   | 0     | 0     | 0.1   | 0.1   |
| Tuberculosis                                   | 3.0   | 6.8   | 18.1   | 3.5   | 3.9   | 3.0   | 6.9   | 4.8   | 5.7   |
| Typhoid  | 0.3   | 0.3   | 1.8    | 0.1   | 0.1   | 0.4   | 0.2   | 0.9   | 0.3   |
| Viral haemorrhagic fever (NEC)                 | 0     | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0     |
| Yellow fever                                   | 0     | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0     |
| Yersiniosis (NEC) <sup>3</sup>                 | 0     | -     | 0.6    | 9.1   | 6.6   | 0.2   | 0.5   | 0.2   | 3.5   |
| Total  | 387.2 | 129.3 | 2531.4 | 716.0 | 366.2 | 237.7 | 262.7 | 426.1 | 345.9 |

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere classified.

1. Western Australia: notifiable since 24 June 1994.
2. Tasmania: includes Ross River virus infection and dengue.
3. New South Wales: only as 'foodborne disease' or 'gastroenteritis in an institution'.

4. Northern Territory, Queensland, South Australia and Victoria: includes gonococcal neonatal ophthalmia.
5. States and Territories reported notifications of incident cases only and/or all notifications.
6. Northern Territory: compiled since September 1994 and notifiable since 22 December 1994.
7. Tasmania: congenital rubella syndrome only.

**Table 3. National Notifiable Diseases Surveillance System reports and notification rates per 100,000 population per year, 1991 to 1994, by year<sup>1</sup> and disease**

| DISEASE  | 1991             |                  | 1992          |                  | 1993          |                  | 1994          |                  |
|--|------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|
|  | Notifications    | Rate per 100,000 | Notifications | Rate per 100,000 | Notifications | Rate per 100,000 | Notifications | Rate per 100,000 |
| Arbovirus infection                            |                  |                  |               |                  |               |                  |               |                  |
| Ross River virus infection                     | 3532             | 22.9             | 5630          | 36.5             | 5428          | 31.6             | 3974          | 22.9             |
| Dengue   | 46               | 0.3              | 366           | 2.2              | 690           | 4.5              | 17            | 0.1              |
| NEC  | 201              | 1.2              | 303           | 1.8              | 578           | 3.3              | 587           | 3.3              |
| Botulism <sup>2</sup>                          | NN               | NN               | 0             | 0                | 0             | 0                | 0             | 0                |
| Brucellosis                                    | 28               | 0.2              | 29            | 0.2              | 20            | 0.1              | 34            | 0.2              |
| Campylobacteriosis                             | 8672             | 75.8             | 9135          | 54.2             | 8111          | 69.6             | 10117         | 85.8             |
| Chancroid                                      | 0                | 0                | 5             | 0.1              | 1             | 0                | 0             | 0                |
| Chlamydial infection (NEC)                     | 4044             | 48.7             | 6293          | 56.6             | 6500          | 55.8             | 6159          | 55.3             |
| Cholera  | 0                | 0                | 3             | 0                | 6             | 0                | 3             | 0                |
| Diphtheria                                     | 8                | 0                | 14            | 0.1              | 1             | 0                | 0             | 0                |
| Donovanosis                                    | 72               | 0.8              | 78            | 1.0              | 67            | 0.7              | 117           | 1.1              |
| Gonococcal infection                           | 2530             | 14.6             | 2908          | 17.3             | 2811          | 15.9             | 2971          | 16.7             |
| <i>Haemophilus influenzae</i> type b infection | 549              | 3.5              | 501           | 3.0              | 396           | 2.2              | 169           | 1.0              |
| Hepatitis A                                    | 2195             | 12.7             | 2109          | 12.5             | 2006          | 11.4             | 1894          | 10.6             |
| Hepatitis B                                    | 108              | 1.8              | 133           | 2.3              | 278           | 2.2              | 327           | 1.9              |
| Hepatitis C - incident                         | -                | -                | -             | -                | 30            | 0.4              | 43            | 0.6              |
| Hepatitis C - unspecified                      | 4116             | 29.0             | 8812          | 63.6             | 7542          | 73.9             | 8898          | 86.2             |
| Hepatitis (NEC)                                | 338              | 2.2              | 70            | 0.5              | 72            | 0.5              | 42            | 0.3              |
| Hydatid infection                              | 44               | 0.3              | 38            | 0.2              | 32            | 0.2              | 56            | 0.3              |
| Legionellosis                                  | 110              | 0.6              | 185           | 1.1              | 178           | 1.0              | 179           | 1.0              |
| Leprosy  | 13               | 0.1              | 16            | 0.1              | 15            | 0.1              | 11            | 0.1              |
| Leptospirosis                                  | 169              | 1.0              | 159           | 0.9              | 178           | 1.0              | 123           | 0.7              |
| Listeriosis                                    | 44               | 0.3              | 38            | 0.3              | 53            | 0.3              | 34            | 0.2              |
| Lymphogranuloma venereum                       | 0                | 0                | 3             | 0                | 1             | 0                | 2             | 0                |
| Malaria  | 790              | 4.6              | 712           | 4.2              | 688           | 3.9              | 703           | 3.9              |
| Measles  | 1380             | 8.0              | 1425          | 8.5              | 4536          | 25.7             | 4895          | 27.4             |
| Meningococcal infection                        | 285              | 1.6              | 292           | 1.7              | 378           | 2.1              | 383           | 2.2              |
| Mumps <sup>2</sup>                             | NN               | NN               | 23            | 0.2              | 28            | 0.2              | 94            | 0.5              |
| Ornithosis                                     | 136              | 1.2              | 94            | 0.9              | 98            | 0.8              | 85            | 0.7              |
| Pertussis                                      | 337              | 1.9              | 739           | 4.4              | 3990          | 22.6             | 5633          | 31.6             |
| Plague   | 0                | 0                | 0             | 0                | 0             | 0                | 0             | 0                |
| Poliomyelitis                                  | 0                | 0                | 0             | 0                | 0             | 0                | 0             | 0                |
| Q fever  | 595              | 3.4              | 543           | 3.2              | 889           | 5.0              | 667           | 3.7              |
| Rabies   | 0                | 0                | 0             | 0                | 0             | 0                | 0             | 0                |
| Rubella  | 620              | 3.6              | 3810          | 22.6             | 3812          | 21.6             | 3315          | 18.6             |
| Salmonellosis (NEC)                            | 5440             | 31.4             | 4614          | 27.4             | 4731          | 26.8             | 5283          | 29.6             |
| Shigellosis                                    | 902              | 7.9              | 694           | 6.2              | 708           | 6.1              | 724           | 6.1              |
| Syphilis                                       | 2053             | 11.8             | 2695          | 16.0             | 2305          | 13.1             | 2324          | 13.0             |
| Tetanus  | 7                | 0                | 14            | 0.1              | 10            | 0.1              | 15            | 0.1              |
| Tuberculosis                                   | 834 <sup>3</sup> | 4.8              | 970           | 5.8              | 1071          | 6.1              | 1024          | 5.7              |
| Typhoid  | 89               | 0.5              | 50            | 0.3              | 72            | 0.4              | 50            | 0.3              |
| Viral haemorrhagic fever (NEC)                 | 0                | 0                | 0             | 0                | 0             | 0                | 0             | 0                |
| Yellow fever                                   | 0                | 0                | 0             | 0                | 0             | 0                | 0             | 0                |
| Yersiniosis (NEC)                              | 515              | 4.6              | 567           | 3.4              | 459           | 3.9              | 414           | 3.5              |
| Total  | 44155            | 254.7            | 59156         | 351.1            | 60745         | 344.0            | 61726         | 345.9            |

NEC Not Elsewhere Classified.

NN Not notifiable.

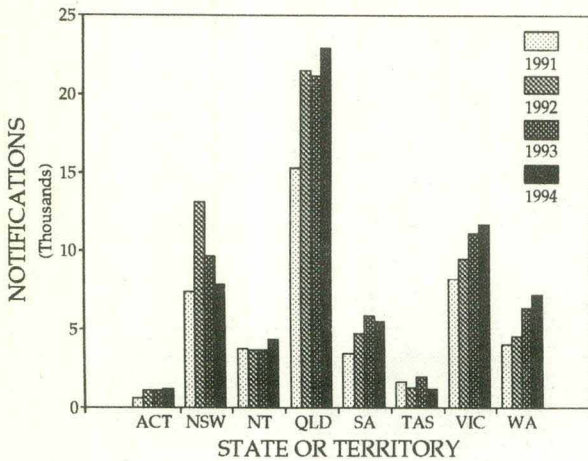
- Elsewhere classified.

1. Not all diseases were notifiable in every State and Territory every year.

2. Botulism and mumps notifications have been collated nationally only since 1992.

3. Includes notifications from Victoria that were not included in the Annual Report for 1991.

**Figure 3. Total notifications, 1991 to 1994, by year and State or Territory**



ing for 601 notifications (0.97%), age for 900 (1.45%), and postcode of residence for 2314 (3.75%). The proportion of reports with missing data in these fields also varied by State and disease.

The highest number of notifications was contributed by Queensland (22,890 or 37.1% of the total for Australia). There was an increase in notifications from the Australian Capital Territory, the Northern Territory, Queensland, Victoria and Western Australia compared with 1993, and decreases for the other States (Figure 2). The highest overall crude notification rates were for the Northern Territory (2531.4 per 100,000, compared with 2161.9 in 1993) and Queensland (716.0 per 100,000, compared with 678.1 in 1993). Differences in the diseases which are notifiable, in surveillance methods and in the incidence of disease contribute to these differences in notification rates between jurisdictions and reporting years.

The highest number of reports was received for campylobacteriosis (10,117 notifications), unspecified hepatitis C (8898) and chlamydial infection, not elsewhere classified (6519), giving notification rates of 85.8 per 100,000, 86.2 per 100,000, and 55.3 per 100,000 respectively. Disease-specific notification rates varied widely by jurisdiction, with the highest crude rates reported from the Northern Territory for gonococcal infection (430.1 per 100,000) and for chlamydial infection, not elsewhere classified (421.9 per 100,000).

There have been marked changes in notification totals and crude notification rates for several diseases during the four years in which the NNDSS has been operating in its current format (Table 3). Most marked have been the decrease in *Haemophilus influenzae* type b infection notification rates over the four year period, the decrease in dengue notifications for 1994 compared with 1992 and 1993, and the increases in notification rates for arbovirus, not elsewhere classified, meningococcal infection and pertussis since 1991.

The remainder of this report describes the individual notifiable diseases in the order presented in Table 1.

### Arbovirus infection - Ross River virus infection

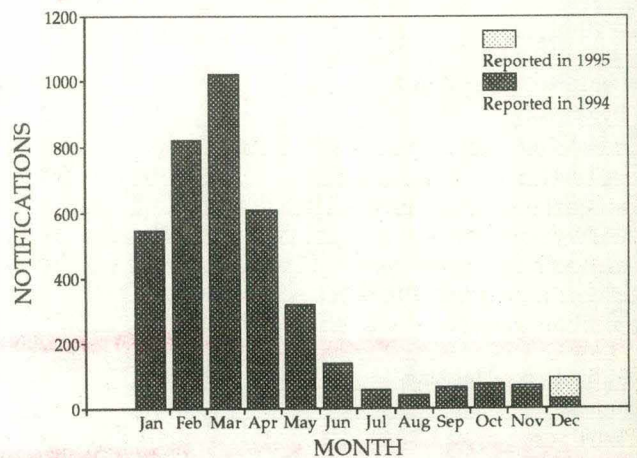
There were 3974 notifications of Ross River virus infection in 1994. The annual adjusted rate of 22.9 per 100,000 population was lower than that in 1993 (31.6 per 100,000 population) and 1992 (36.5 per 100,000 population) but the same as that in 1991.

As in previous years there was a marked seasonal trend with the highest number of notifications having onset dates in February (819) and March (1021) (Figure 4).

The proportion of cases in males and females was approximately the same with a male:female ratio of 1.0:1.1. As seen in previous years, there was a bell shaped age distribution curve with the peak notification rates in the 30-54 years age group (Figure 5).

The highest rates of notification were reported for Statistical Divisions in Queensland and the Northern Territory with the highest rates recorded for Northern

**Figure 4. Notifications of Ross River virus infection with onset dates in 1994, by month of onset**



**Figure 5. Annual adjusted rate of notification of Ross River virus infection per 100,000 population, 1994, by age group and sex**

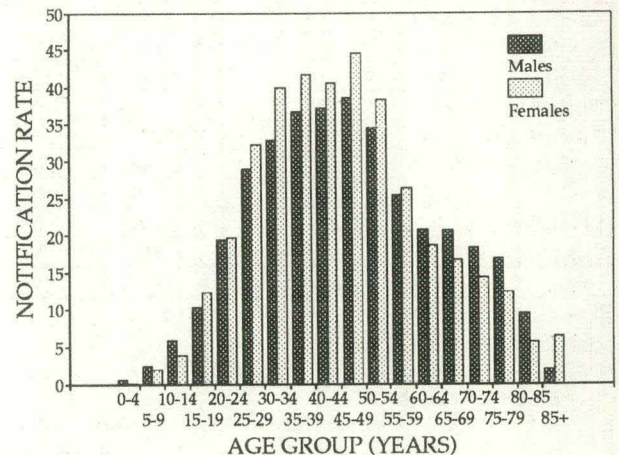
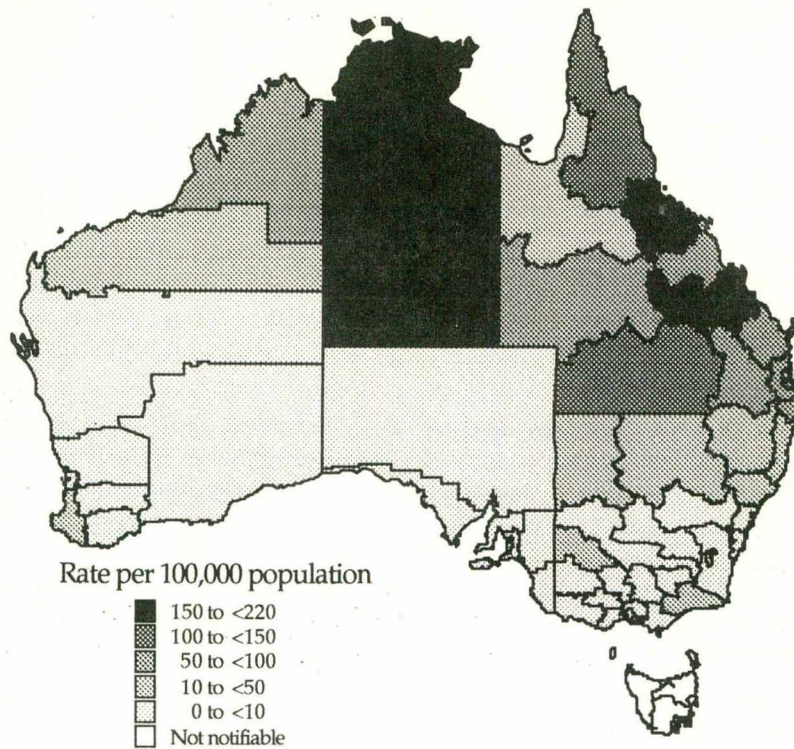


Figure 6. Annual rate of notification of Ross River virus infection per 100,000 population, 1994, by Statistical Division of residence



Queensland (211.6 per 100,000 population), the Northern Territory (183.2 per 100,000 population) and Fitzroy Queensland (166.3 per 100,000 population) (Figure 6). While there have been high rates of notifications from Queensland for the last four years, in 1993 there was epidemic activity in Victoria and in 1992 there was epidemic activity in Western Australia.

**Arbovirus infection - dengue**

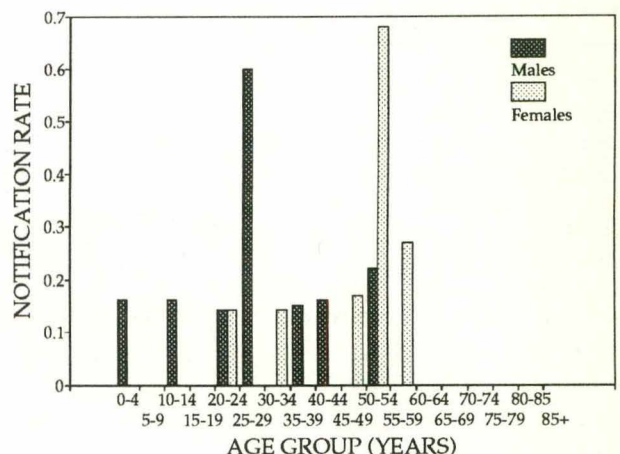
There were only 17 notifications of dengue received in 1994. This compared with 690 notifications in 1993, when there was epidemic activity in Queensland. The annual adjusted notification rate was 0.1 per 100,000 population. The cases occurred sporadically throughout the year.

The male:female ratio was 1.4:1.0 with notifications reported between the 0-4 and the 55-59 years age groups (Figure 7). Cases were reported for residents of the Northern Territory, South Australia, Western Australia, Victoria, and Queensland. All cases were known to have been imported.

**Arbovirus infection - not elsewhere classified**

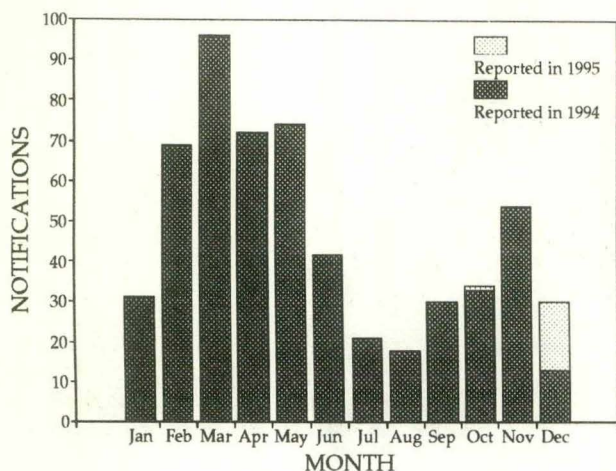
This classification includes Ross River virus infection and dengue in Tasmania, and may include other infections throughout Australia caused by alphaviruses—Sindbis virus and Barmah Forest virus, and flaviviruses—Murray Valley encephalitis, Kunjin, Kokobera and Stratford viruses.

Figure 7. Annual adjusted rate of notification of dengue per 100,000 population, 1994, by age group and sex

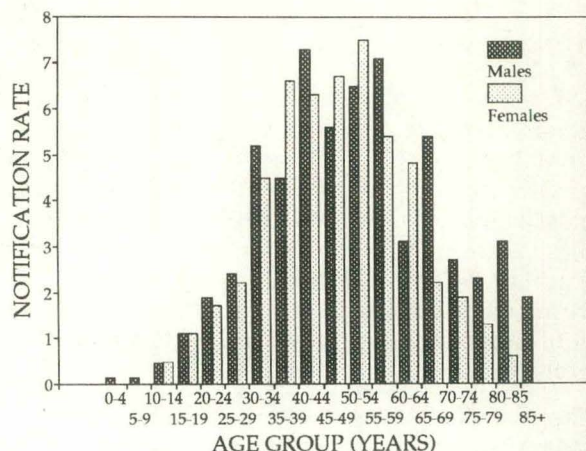


There were 587 cases of arbovirus (not elsewhere classified) reported in 1994. The annual rate of notification in 1994 (3.3 per 100,000 population) was the same as that in 1993 and slightly higher than that in the previous two years. As in previous years there was seasonal variation with the peak number of notifications occurring in late autumn and spring (Figure 8). These peaks may reflect the epidemiology of different viruses within the category, but probably largely reflect Bar-

**Figure 8.** Notifications of arbovirus infection (not elsewhere classified) with onset dates in 1994, by month of onset



**Figure 9.** Annual rate of notification of arbovirus infection (not elsewhere classified) per 100,000 population, 1994, by age group and sex

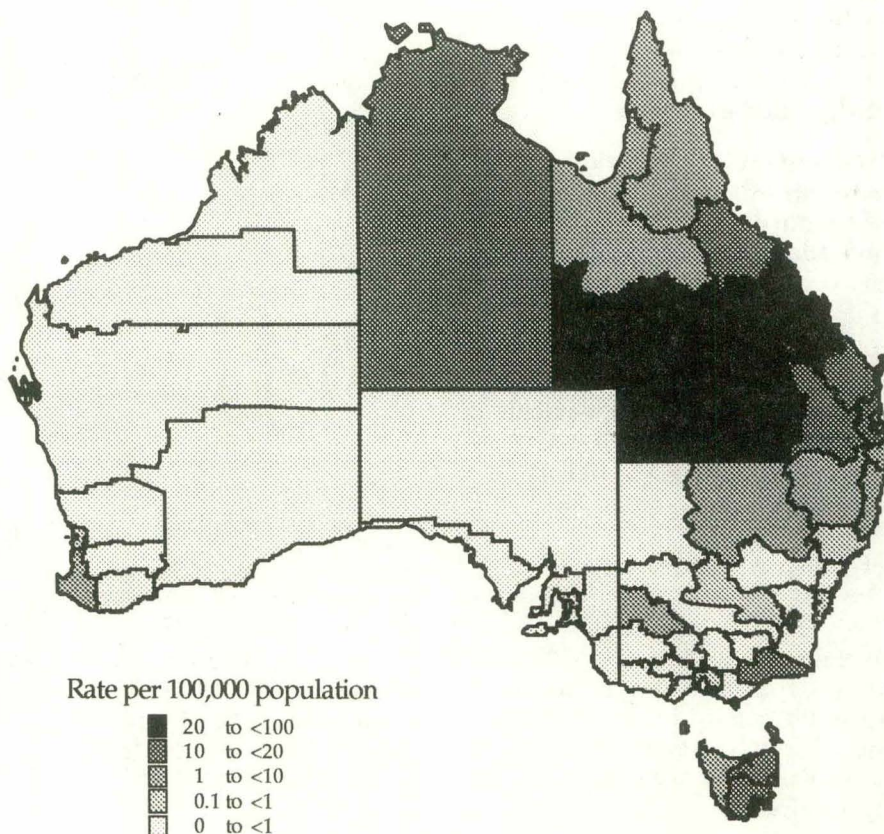


mah Forest virus activity; peaks in reports of Barmah Forest virus received by the *CDI* Virology and Serology Reporting Scheme in 1994 also occurred between March and May and in November<sup>8</sup>.

The number of notifications in males in males was similar to that in females with a male:female ratio of 1.0:1.1. There was a bell shaped age distribution curve with the highest rates of notifications reported in the 35-59 year age group (Figure 9).

There were cases reported from all jurisdictions with the exception of South Australia and the Australian Capital Territory. The highest rates of notifications were recorded for residents of Statistical Divisions of Queensland (Figure 10) with the highest rate recorded for Central West Queensland (91.7 per 100,000 population). The distribution of cases was similar to that seen in the previous four years with the exception of 1993 when there was a higher rate in Victoria.

**Figure 10.** Annual rate of notification of arbovirus infection (not elsewhere classified) per 100,000 population, 1994, by Statistical Division of residence



**Botulism**

There were no cases of botulism reported in 1994. There have been no notifications of this disease reported since the NNDSS began surveillance in 1992.

**Brucellosis**

There were 34 reports of brucellosis in 1994, markedly more than the 20 reported for 1993. The notification rate was 0.2 per 100,000. There was a seasonal pattern to the notifications (Figure 11) with most reported in the months from August to December. This reflected the seasonality of notifications from Queensland, which reported 27 of the cases (80%). Most notifications were from Queensland Statistical Divisions with the highest notification rates reported for the Central West Statistical Division.

The male:female ratio was 5.6:1.0 (Figure 12). Most cases were reported for the 20-49 year age group with the highest age group and sex-specific notification rates reported for males in the 25-29 years age group (0.88 per 100,000) and the 45-49 years age group (0.65 per 100,000).

**Campylobacteriosis**

There were 10,117 cases of campylobacteriosis reported in 1994. As in previous years, campylobacteriosis has one of the highest annual adjusted rates of notification (85.8 per 100,000 population). This rate is considerably higher than rates reported for any of the previous three years (Table 3). In New South Wales, campylobacteriosis was only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.

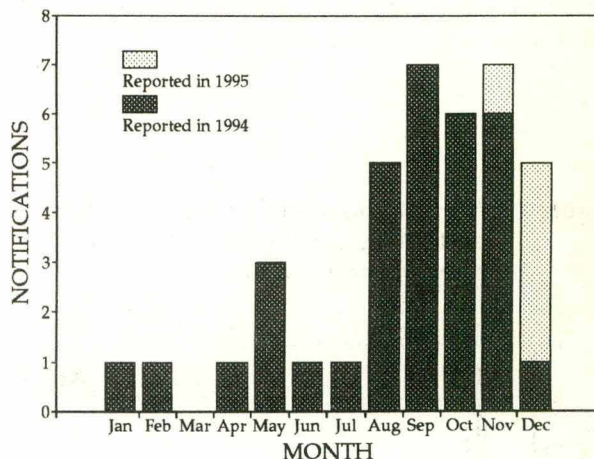
Notifications by month of reported onset show only a slight decline in numbers of cases through the winter months, followed by a marked rise in the last three months of the year (Figure 13).

There was a male:female ratio in reported cases of 1.15:1.00. The highest rates of notification were seen in the 0-4 years age group (males 329.1 per 100,000 population; females 260.3 per 100,000 population) (Figure 14).

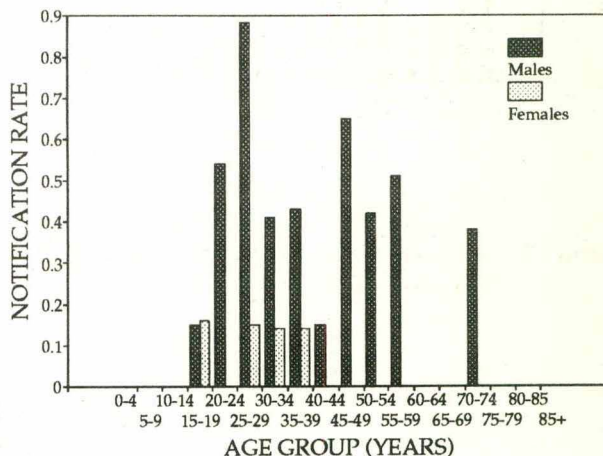
Campylobacteriosis was reported from all jurisdictions where it was notifiable. A disproportionately high rate (189.3 per 100,000 population) was noted in residents of the Northern Territory. Notification rates above 100 per 100,000 population were also reported for most parts of South Australia, including the Statistical Divisions of Adelaide and Outer Adelaide. In Victoria high rates were reported for the Western District Statistical Division and for East Gippsland (152.0 and 107.3 per 100,000 population respectively), and in Tasmania for the Northern Statistical Division (164.5 per 100,000 population) (Figure 15).

Of those States and Territories reporting Aboriginality, notification rates in Aboriginal persons were higher in the Northern Territory (280.0 per 100,000 population) and Western Australia (97.2 per 100,000 population) than the rates for the respective State or Territory as a

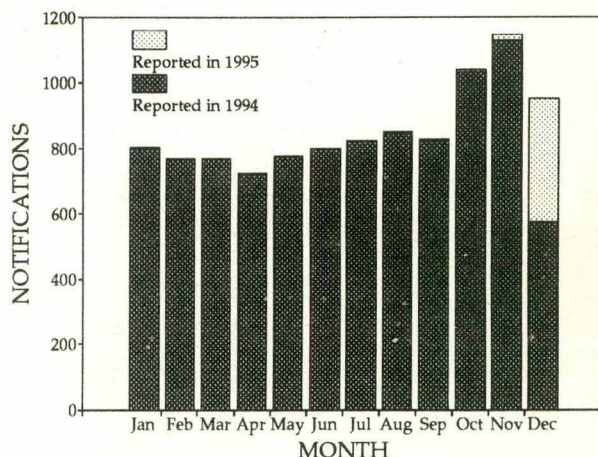
**Figure 11. Notifications of brucellosis with onset dates in 1994, by month of onset**



**Figure 12. Annual rate of notification of brucellosis per 100,000 population, 1994, by age group and sex**



**Figure 13. Notifications of campylobacteriosis with onset dates in 1994, by month of onset**

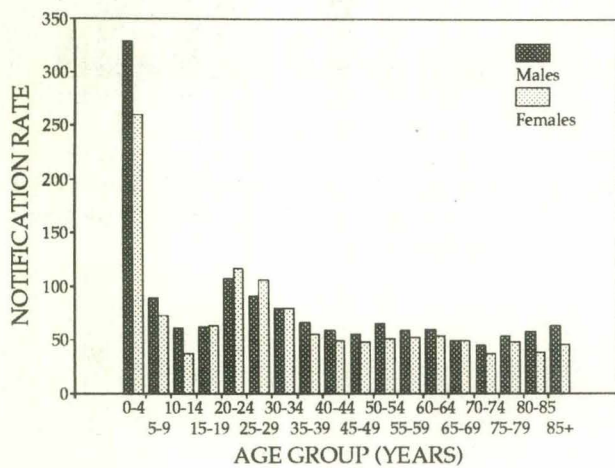


whole. The rate was lower in South Australia (70.6 per 100,000 population).

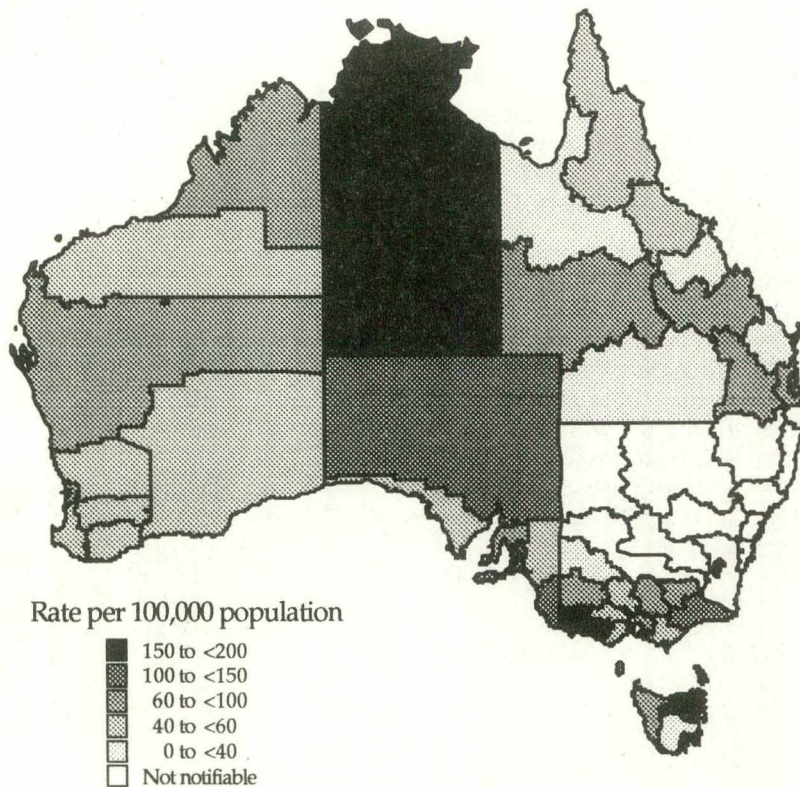
**Chancroid**

There were no cases of chancroid reported in 1994. A single case was reported in 1993.

**Figure 14. Annual rate of notification of campylobacteriosis per 100,000 population, 1994, by age group and sex**



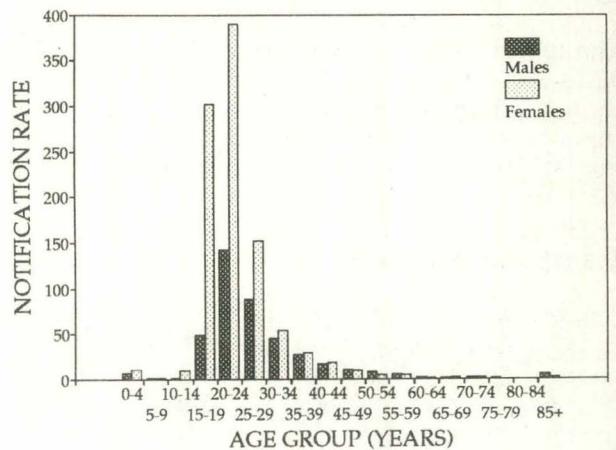
**Figure 15. Annual rate of notification of campylobacteriosis per 100,000 population, 1994, by Statistical Division of residence**



**Chlamydial infection (not elsewhere classified)**

Chlamydial infection (not elsewhere classified) was not a notifiable disease in New South Wales in 1994. In Western Australia only genital chlamydial infection is notifiable. A total of 6519 notifications of chlamydial infection was received in 1994, all jurisdictions other than New South Wales being represented. As in 1991, 1992 and 1993, chlamydial infection had one of the highest annual adjusted rates of notification (55.3 per 100,000 population) for a notifiable disease. This rate

**Figure 16. Annual rate of notification of chlamydial infection per 100,000 population, 1994, by age group and sex**



did not change substantially over the four year period (Table 3). No seasonal trend in notifications is apparent.

There was a male:female ratio in reported cases of 1.0:2.4 with disproportionately high notification rates of 302.6 and 389.5 per 100,000 population reported for females in the age groups 15-19 years and 20-24 years respectively (Figure 16).

Notification rates above 200 per 100,000 population were reported across northern Australia, for the Northern Territory, the Statistical Divisions of the Pilbara and Kimberley in Western Australia, and the Statistical Divisions of North West and Far North in Queensland (Figure 17).

Of those States and Territories reporting Aboriginality for most notifications (South Australia, Western Australia and the Northern Territory) the rates in Aboriginal persons were two to eight times as high as the rates reported for the populations of the respective State or Territory as a whole.

### Cholera

There were three reports of cholera in 1994, two from Queensland and one from Victoria. All cases were male, one in the 0-4 year age group, one in the 25-29 year age group and one in the 60-65 year age group. One case was thought to have been acquired in Bali and one in El Salvador.

### Diphtheria

There were no cases of diphtheria reported for 1994. This was the first year since 1979 that there were no notifications of this disease.

### Donovanosis

Donovanosis was not a notifiable disease in New South Wales or South Australia in 1994. A total of 117 notifications was received from Queensland, Western Australia and the Northern Territory (Table 1), but none from the other States and Territories.

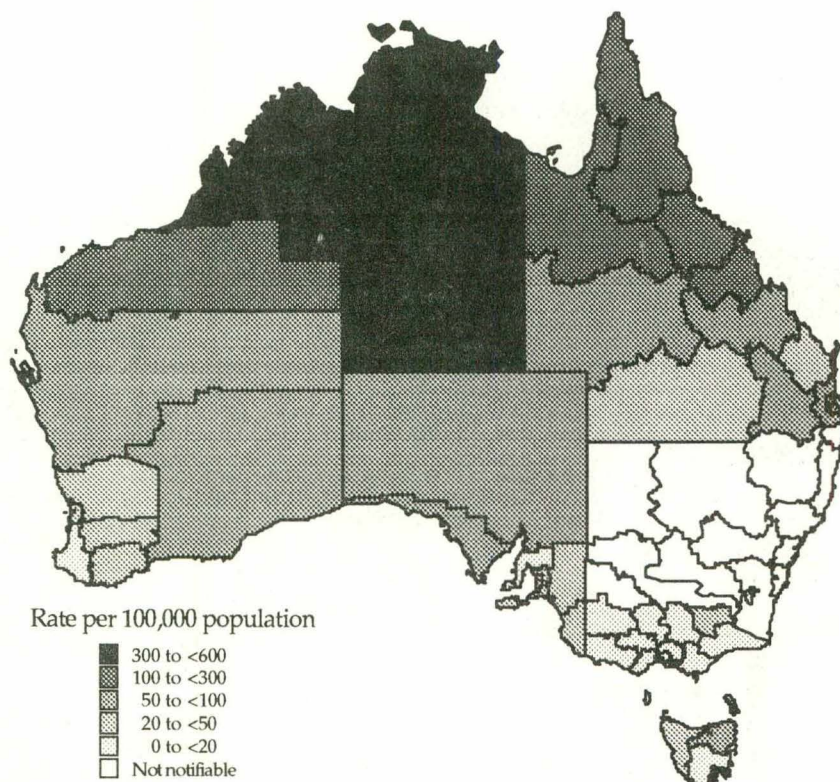
The male:female ratio in notified cases was 1.0:2.1 and 78% of notifications were for persons in the age range 15-39 years (39.8 and 28.9 per 100,000 population respectively).

The highest rates of notification were from the Northern Territory and the Kimberley Statistical Division of Western Australia (Figure 18). In all but six of the 87 cases notified from the Northern Territory and Western Australia, those affected were reported as Aboriginal.

### Gonococcal infection

In the Northern Territory, Queensland, South Australia and Victoria, notifications of gonococcal infection include cases of gonococcal neonatal ophthalmia as well as sexually transmitted infection. In 1994, a total of 2971 notifications of gonococcal infection were received from all jurisdictions (Table 1), the annual notification rate of 16.7 per 100,000 population being

Figure 17. Annual rate of notification of chlamydial infection per 100,000 population, 1994, by Statistical Division of residence



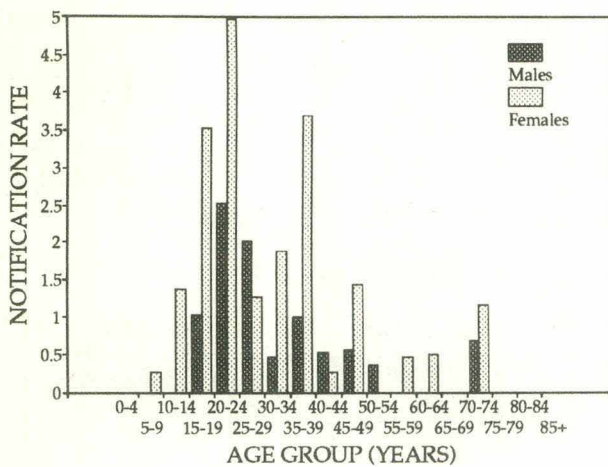
comparable to rates observed for the previous three years (Table 3). No seasonal trend of notifications was apparent.

There was wide geographical variation in the rate of notification of gonococcal infection (Table 2; Figure 19). High notification rates (above 150 per 100,000 population) were reported across northern Australia, for the Northern Territory, and the Statistical Divisions of the Pilbara and Kimberley in Western Australia, and

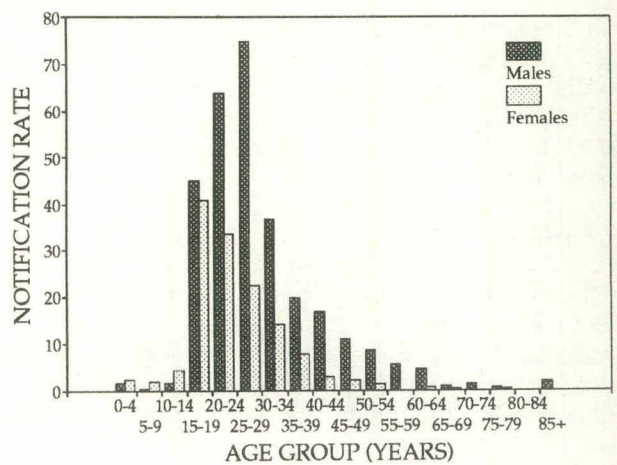
of North West and Far North Queensland. The highest rate, 1864 per 100,000 population, was reported for the Kimberley Statistical Division.

The male:female ratio of 2.2:1.0 was also comparable to previously observed male:female ratios. Male notification rates were higher than female rates in all age groups except the three youngest five year age groups, up to 14 years (Figure 20).

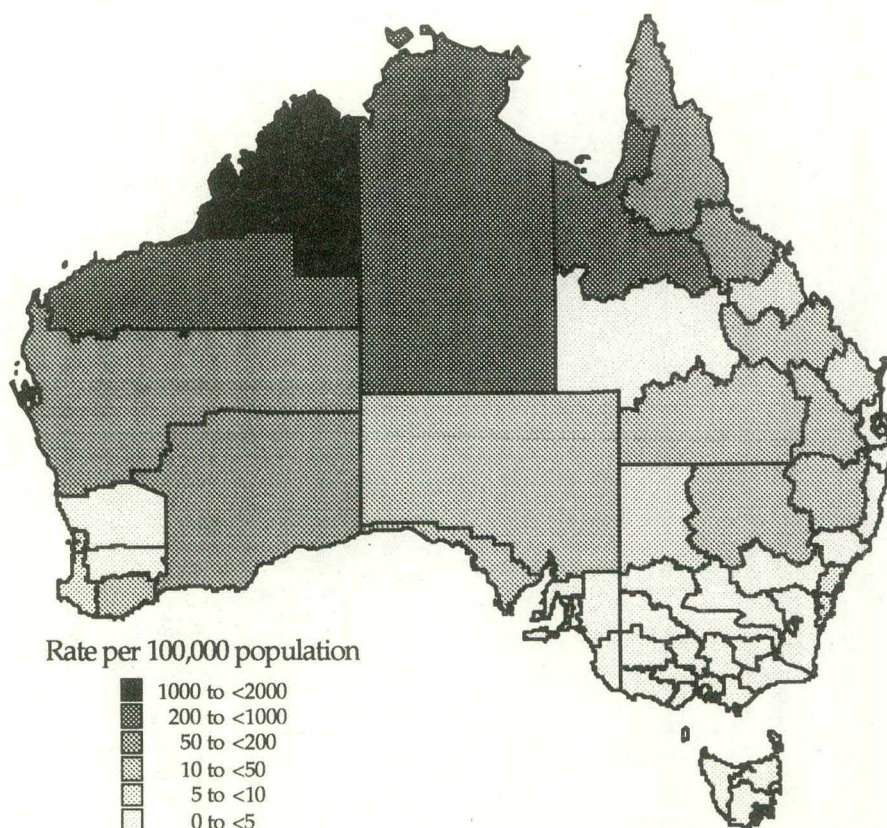
**Figure 18. Annual adjusted rate of notification of donovanosis per 100,000 population, 1994, by age group and sex**



**Figure 20. Annual rate of notification of gonococcal infection per 100,000 population, 1994, by age group and sex**



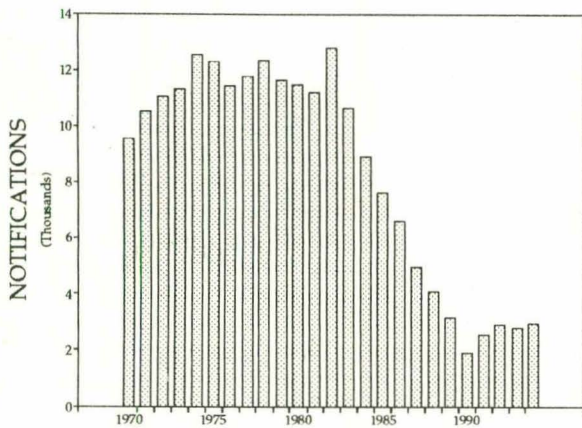
**Figure 19. Annual rate of notification of gonococcal infection per 100,000 population, 1994, by Statistical Division of residence**



Very high rates of notification were reported for Aboriginal populations in Western Australia (1416 per 100,000 population), the Northern Territory (1145 per 100,000) and South Australia (495 per 100,000).

The number of notifications for 1994 (2971) is the highest for five years (Table 3), although still far below the peak number for recent years of 12,806 recorded in 1982 (Figure 21).

Figure 21. Notifications of gonococcal infection, 1970 to 1994, by year



**Haemophilus influenzae type b infection**

There were 169 cases of *Haemophilus influenzae* type b infection (Hib) notified in 1994, with an annual rate of 1.0 per 100,000 population. The notification rate has declined steadily since the introduction of conjugate Hib vaccines in 1992 when the rate was 3.0 per 100,000 population. In children under the age of five years there was a 76% reduction in the number of notifications between 1992 and 1994 (Figure 22).

Figure 22. Notifications of *Haemophilus influenzae* type b infection with onset dates from 1992 to 1994, by month of onset and age group

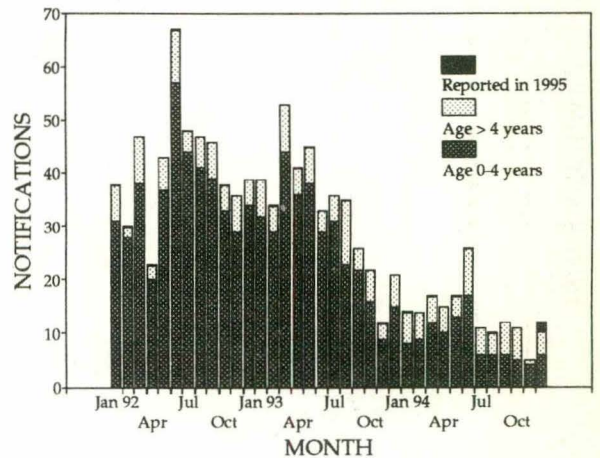
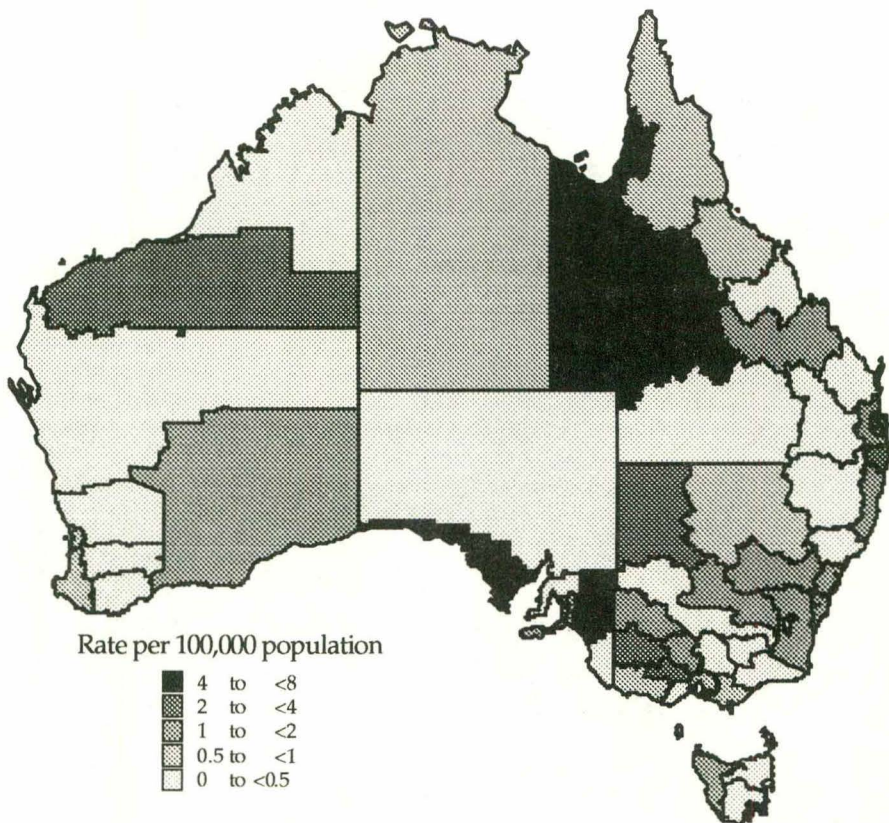
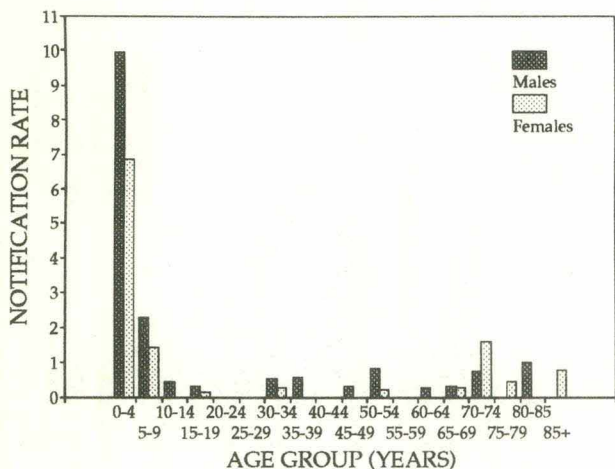


Figure 23. Annual rate of notification of *Haemophilus influenzae* type b infection per 100,000 population, 1994, by Statistical Division of residence



Notification rates of Hib did not exceed 8.0 per 100,000 population in any Statistical Division in Australia (Figure 23). The highest notification rates per 100,000 population were in the Statistical Divisions of Central West Queensland (7.6), Northwest Queensland (7.9), Eyre, South Australia (6.1) and Murraylands, South Australia (6.0), but these all represented very small numbers of cases occurring in small populations.

**Figure 24. Annual rate of notification of *Haemophilus influenzae* type b infection per 100,000 population, 1994, by age group and sex**



The male:female ratio was 1.6:1.0. The notification rate was highest in the 0-4 years age group with a rate of 8.4 per 100,000 population, 10.0 in males and 6.8 in females (Figure 24). In 1992 the rate in the same age group was 33.6 per 100,000 population. Nineteen per cent of cases occurred in children under the age of one year compared with 26% in 1992.

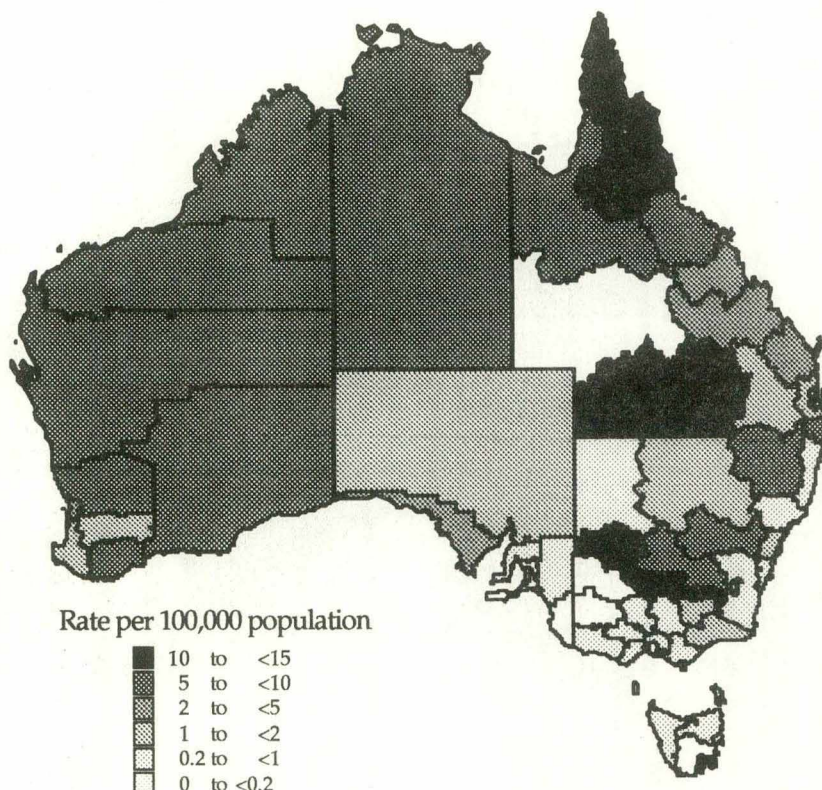
### Hepatitis A

There were 1894 notifications of hepatitis A during 1994. The annual notification rate was 10.6 per 100,000 population, a slight decrease on the rate of 11.4 per 100,000 reported the previous year.

The highest notification rates were received from the Northern Territory (39.7 per 100,000 population) and Queensland (25.1 per 100,000). Residents of Far North and South West Queensland and the Murray Statistical Division of Victoria (Figure 25) reported higher rates than other parts of the country.

There was no apparent seasonal trend in the notifications (Figure 26). Overall the male:female ratio was 1.4:1.0. The age group specific notification rates were highest for males in the 5-9 and 25-29 year age ranges (Figure 27) with rates of 22.3 and 24.7 per 100,000 population respectively. For females the highest age group specific rate of 19.2 per 100,000 was reported for the 5-9 year age group. Overall notification rates declined with age.

**Figure 25. Annual rate of notification of hepatitis A per 100,000 population, 1994, by Statistical Division of residence**

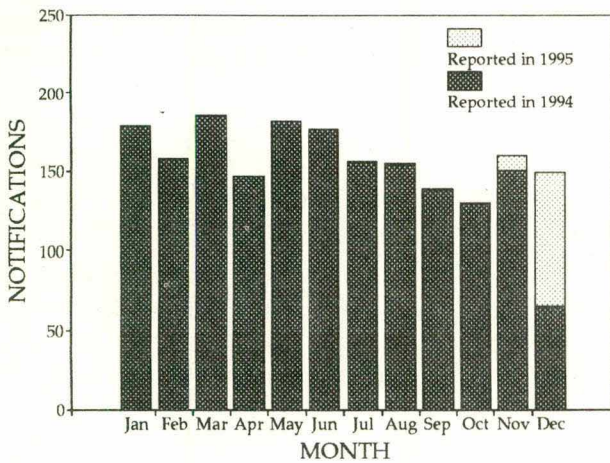


### Hepatitis B

All States and Territories except the Australian Capital Territory reported incident cases of hepatitis B in 1994, a total of 327 being reported for the year. This corresponds to a notification rate of 1.9 per 100,000 population and is a decrease on the rates of 2.3 and 2.2 per 100,000 reported in 1992 and 1993 respectively.

Overall the Northern Territory and the Kimberley Statistical Division of Western Australia reported the highest notification rates (Figure 28).

Figure 26. Notifications of hepatitis A with onset dates in 1994, by month of onset



The male:female ratio was 1.6:1.0. The highest age group specific notification rates were reported for males aged 20-24 years (5.3 per 100,000 population) and 25-29 years (6.6 per 100,000) (Figure 29). For females the highest rate was reported for the 15-19 year age range (5.9 per 100,000).

### Hepatitis C

A total of 43 reports of incident hepatitis C was received from the Australian Capital Territory, New South Wales and South Australia in 1994. This corresponded

Figure 27. Annual rate of notification of hepatitis A per 100,000 population, 1994, by age group and sex

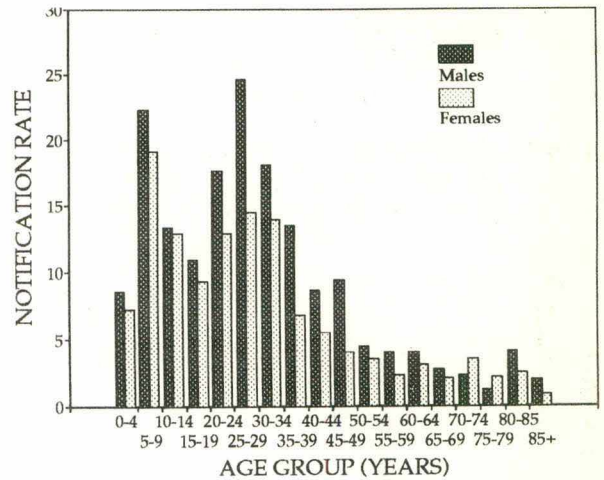
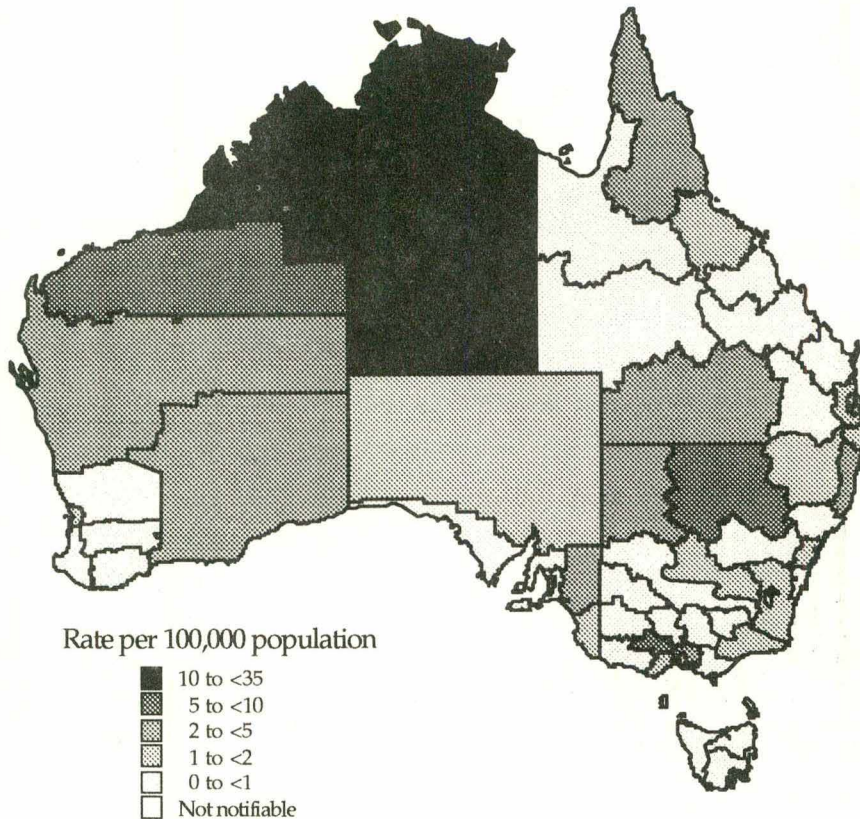
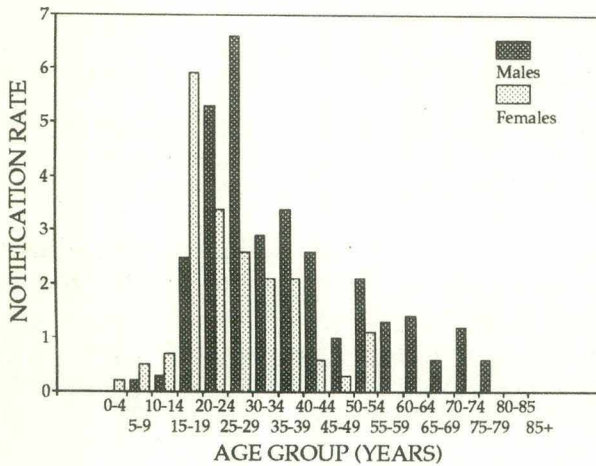


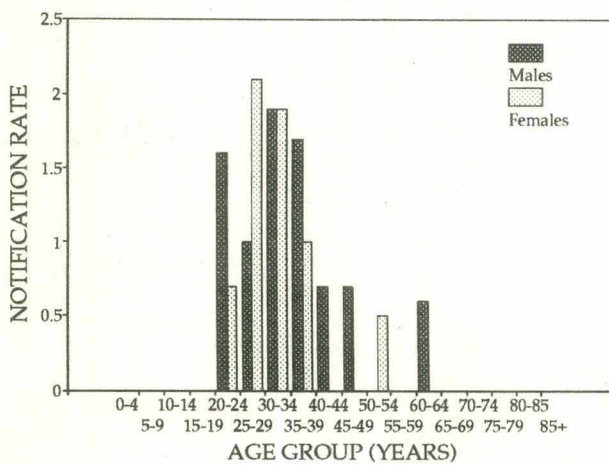
Figure 28. Annual rate of notification of hepatitis B per 100,000 population, 1994, by Statistical Division of residence



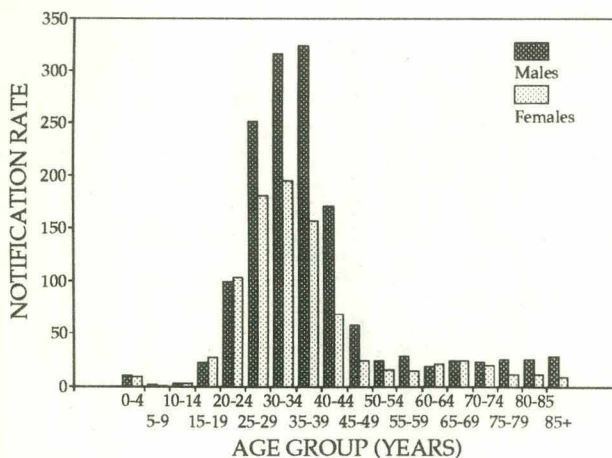
**Figure 29. Annual adjusted rate of notification of hepatitis B per 100,000 population, 1994, by age group and sex**



**Figure 30. Annual adjusted rate of notification of hepatitis C (incident) per 100,000 population, 1994, by age group and sex**



**Figure 31. Annual adjusted rate of notification of hepatitis C (unspecified) per 100,000 population, 1994, by age group and sex**



to an adjusted annual notification rate of 0.6 per 100,000 population. The male:female ratio was 1.3:1.0 and all cases were in the 20-64 year age range (Figure 30.). As infection with this virus is frequently asymptomatic this is an underestimation of the incidence of hepatitis C infection.

Unspecified hepatitis C was reported mainly by those States and Territories not reporting incident cases. There were 8898 cases of unspecified hepatitis C reported for 1994 for an annual adjusted notification rate of 86.2 per 100,000 population. As unspecified notifications do not differentiate between acute, chronic and past infection it is probable that these figures are representative of testing patterns rather than newly acquired infection. The male:female ratio was 1.6:1.0 and the highest notification rates were reported for persons in the 25-44 year age range. In contrast with the incident cases of hepatitis C, there were cases reported in both the less than 20 years and the more than 64 years age groups (Figure 31).

**Hepatitis (not elsewhere classified)**

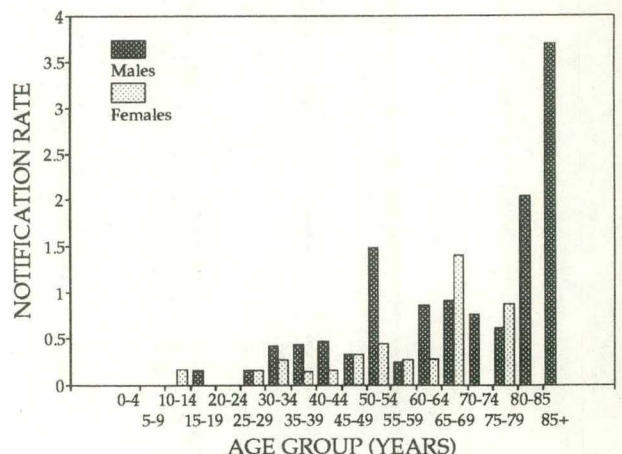
A total of 42 reports of other viral hepatitis were received for 1994. They may have included cases of hepatitis D and hepatitis E.

**Hydatid infection**

Hydatid infection was reported for 56 patients in 1994 (0.3 per 100,000), more than have been reported in recent years. The male:female ratio was 1.75:1.0 and the highest age group and sex-specific notification rates were in males in the 50-54 years age group and the over 80 years age group (Figure 32). There were only two reports for persons under the age of 25 years.

Notifications were for rural and metropolitan Statistical Divisions, as has been the pattern since 1991<sup>9</sup>.

**Figure 32. Annual rate of notification of hydatid infection per 100,000 population, 1994, by age group and sex**



### Legionellosis

This classification includes notifications of infections caused by all *Legionella* species. There were 179 notifications received in 1994 with an annual rate of 1.0 case per 100,000 population. This rate is similar to that seen in the previous four years.

A peak number of notifications overall was recorded in April, however, in South Australia, Western Australia, and the Northern Territory the highest number of notifications were received in the spring (Figure 33). This pattern may reflect the epidemiology of the different species of *Legionella*; *L. pneumophila* infections have been reported to peak in the autumn and *L. longbeachae* infections in the spring.

Figure 33. Notifications of legionellosis with onset dates in 1994, by month of onset

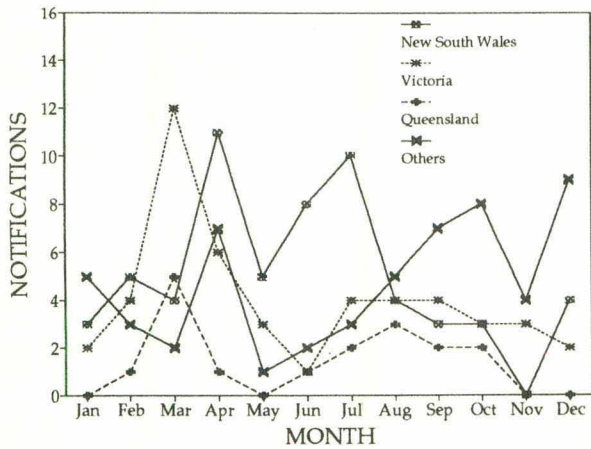
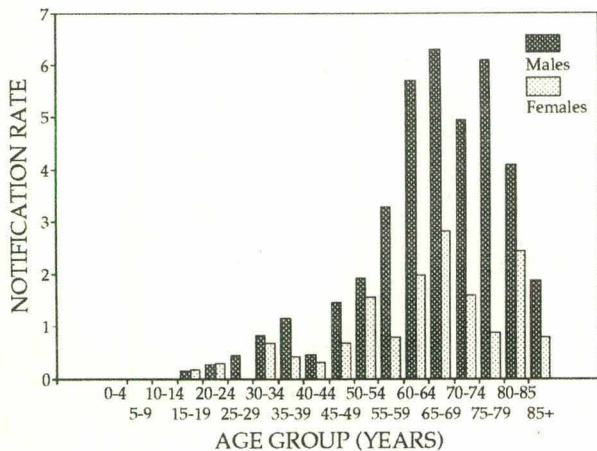


Figure 34. Annual rate of notification of legionellosis per 100,000 population, 1994, by age group and sex



No notifications were received from the Australian Capital Territory and there was only one notification from Tasmania. The highest numbers of reports were received from New South Wales (60), Victoria (48), South Australia (28), and Western Australia (20).

The male:female ratio was 2.2:1.0. The notification rate by age group increased disproportionately in males aged greater than 45 years with a peak notification rate recorded for males in the 65-69 years age group (6.3 per 100,000 population) (Figure 34).

### Leprosy

There were 11 reports of leprosy in 1994 from five States and Territories, and a notification rate of 0.1 per 100,000 population, the same as for the last few years. Seven reports were for males and four for females. The reported ages ranged from the 10-14 years age group to the 70-74 years age group.

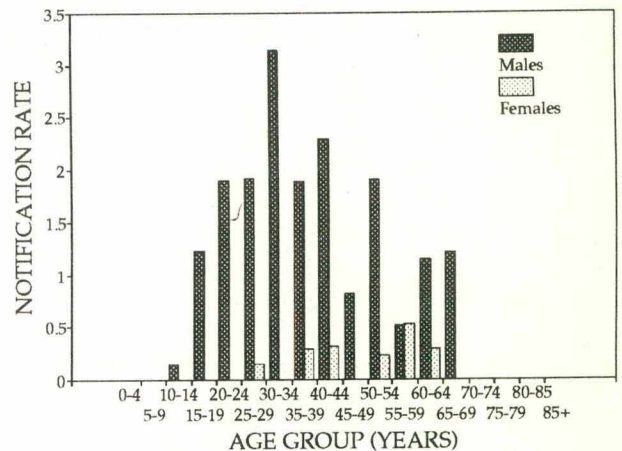
### Leptospirosis

There were 123 notifications of leptospirosis in 1994, made at a rate of 0.7 per 100,000 population, less than the rate for recent years. Many more males were reported than females (male:female ratio 12.7:1.0). Most reports were for the 15-54 years age group and the highest age group and sex specific rates were for males in the 30-34 year age group (3.13 per 100,000) (Figure 35).

A seasonal pattern was apparent, with 52 cases (41%) having onset in the first quarter of the year (Figure 36).

Most notifications were from Queensland and Victoria (Figure 37); the highest notification rates were reported for the Statistical Divisions of Western District in Victoria (10.9 per 100,000), Southwest Queensland (10.4) and Far North Queensland (12.8).

Figure 35. Annual rate of notification of leptospirosis per 100,000 population, 1994, by age group and sex



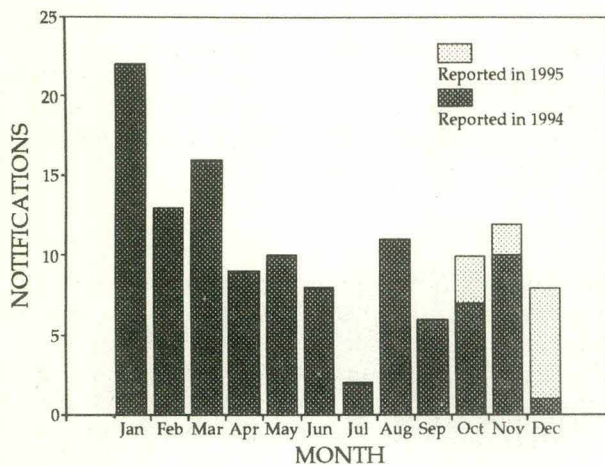
**Listeriosis**

Listeriosis was notified for 34 persons in 1994, from all States and Territories except the Northern Territory. The notification rate was 0.2 per 100,000, about the same as for the period 1991 to 1993. The male:female ratio was 1.1:1.0. Cases were reported for most age

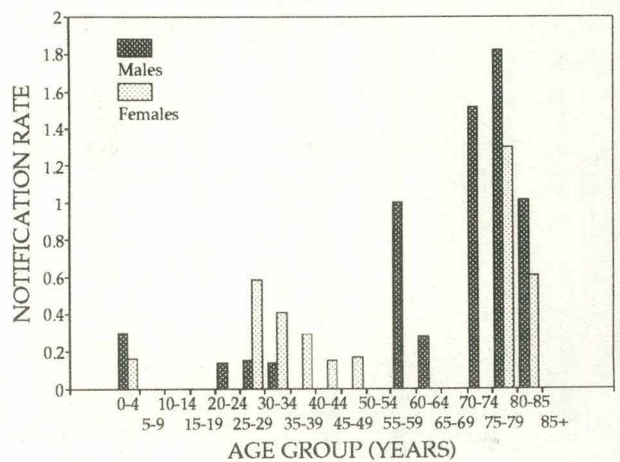
groups from the 0-4 years age group to the 80-84 years age group (Figure 38), but the highest age group and sex specific rates were for the 75-79 years age group (males 1.8 per 100,000 and females 1.3 per 100,000).

Twenty of the reports had onset in the warmer months of January, November and December (Figure 39).

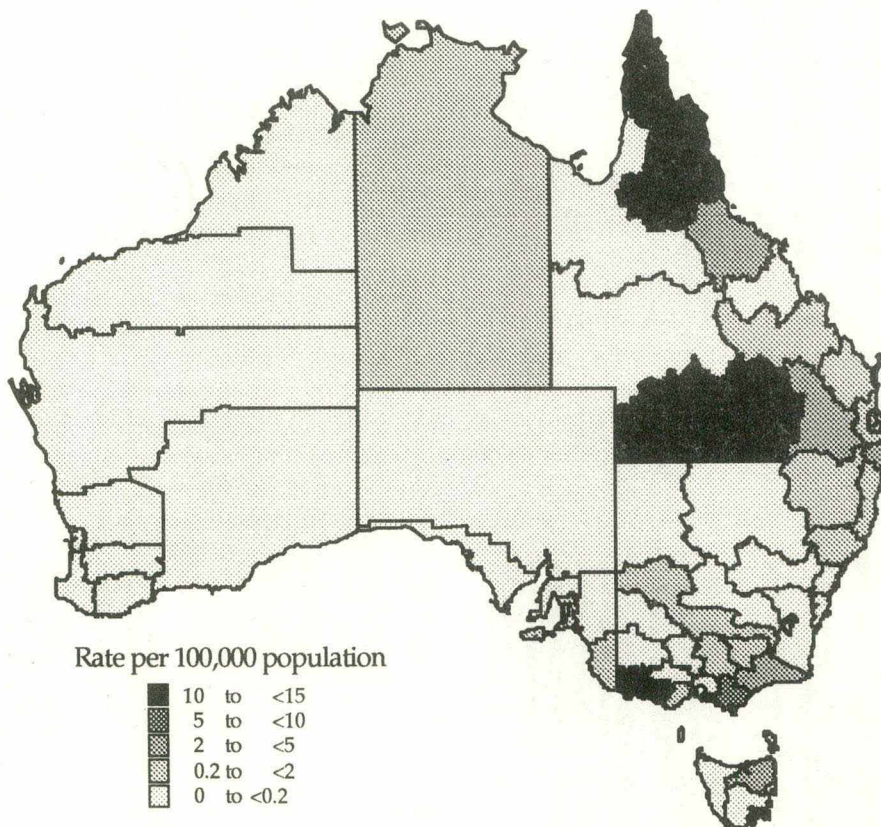
**Figure 36. Notifications of leptospirosis with onset dates in 1994, by month of onset**



**Figure 38. Annual rate of notification of listeriosis per 100,000 population, 1994, by age group and sex**



**Figure 37. Annual rate of notification of leptospirosis per 100,000 population, 1994, by Statistical Division of residence**



### Lymphogranuloma venereum

Lymphogranuloma venereum was not a notifiable disease in New South Wales, Western Australia or South Australia in 1994. Two cases were reported from Victoria in 1994, one male and one female. A single case had been notified from Victoria the previous year.

### Malaria

Seven hundred and three notifications of malaria were received in 1994 with an annual notification rate of 3.9 notifications per 100,000 population. This rate is similar to that recorded for the last four years. There were no reports of locally acquired cases.

Figure 39. Notifications of listeriosis with dates in 1994, by month of onset

Figure 40. Notifications of malaria with onset dates in 1994, by month of onset

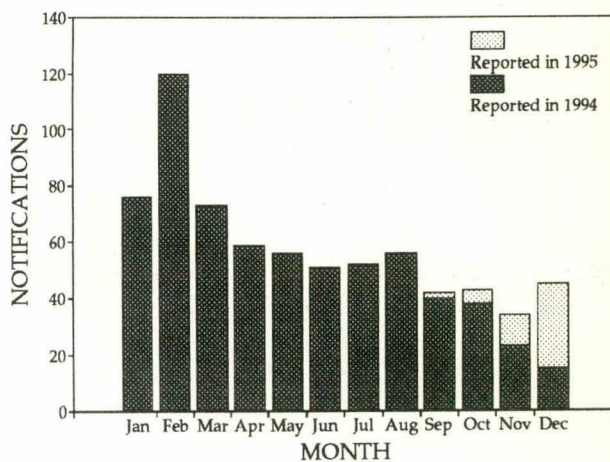
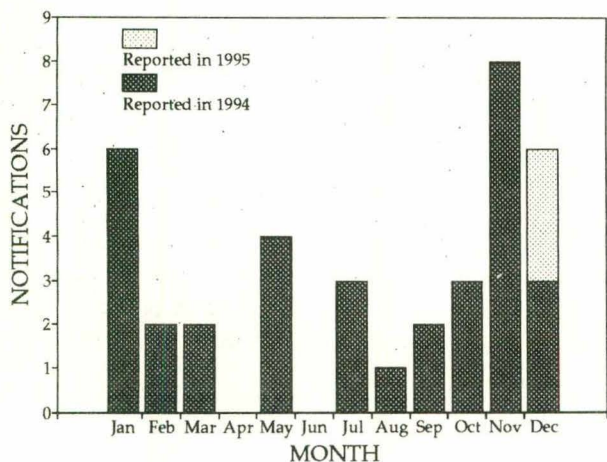
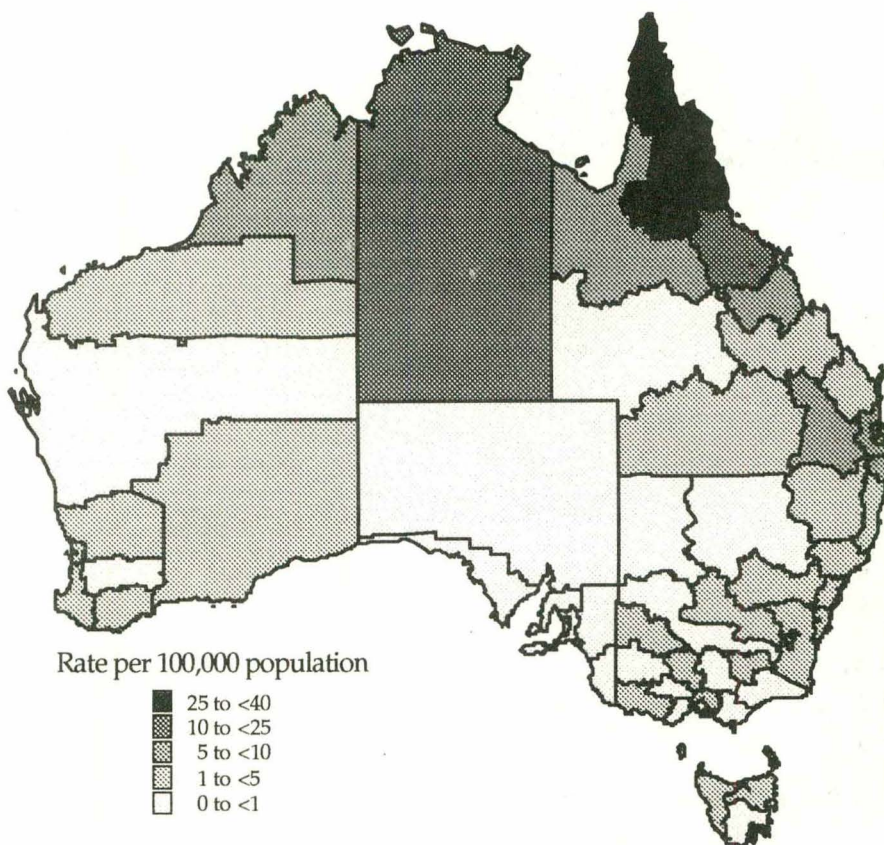
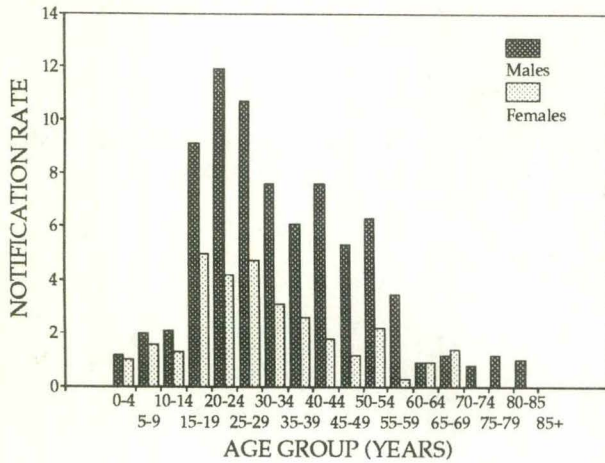


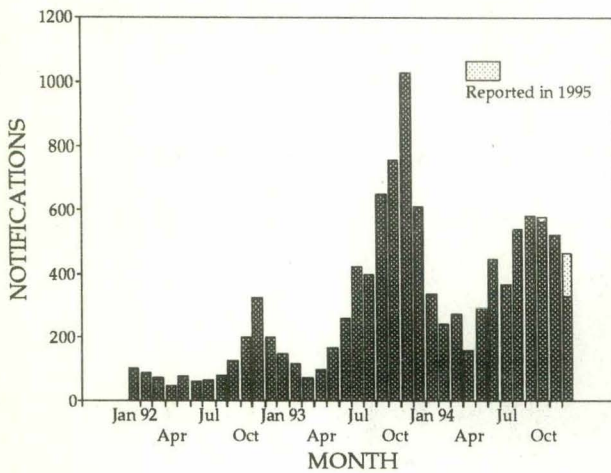
Figure 41. Annual rate of notification of malaria per 100,000 population, 1994, by Statistical Division of residence



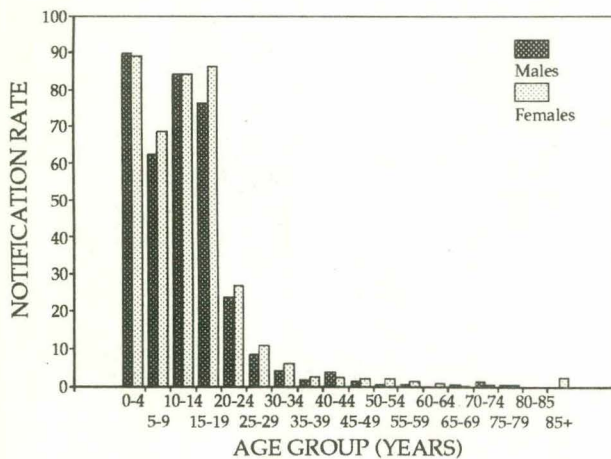
**Figure 42. Annual rate of notification of malaria per 100,000 population, 1994, by age group and sex**



**Figure 43. Notifications of measles with onset dates from 1992 to 1994, by month of onset**



**Figure 44. Annual rate of notification of measles per 100,000 population, 1994, by age group and sex**



There was a marked seasonal variation with the highest number of reports occurring in February (Figure 40). This pattern was seen in most jurisdictions but was most marked in the Northern Territory and in Queensland where 25% and 21% of notifications, respectively, had onset dates in February.

As seen in previous years the highest rates of notifications were recorded for residents of the Statistical Divisions of Far North Queensland (36.3 per 100,000 population), North Queensland (22.9 per 100,000 population), and the Northern Territory (23.4 per 100,000 population) (Figure 41).

A higher proportion of notifications was recorded for males with a male:female ratio of 2.5:1.0. The age group and sex specific notification rates showed disproportionately higher rates for males in the 20-54 years age group with the highest rate recorded for males in the 20-24 years age group (11.9 per 100,000 population) (Figure 42).

**Measles**

The epidemic of measles which commenced in 1992 continued into 1994 with 4895 cases being reported (Figure 43). The annual notification rate was 27.4 per 100,000 population, higher than the rates for both 1993 (25.7 per 100,000 population) and 1992 (8.5 per 100,000 population). Notifications were highest from August to November, with 2226 cases being reported in this period.

The male:female ratio was 1.0:1.0. Eighty-four per cent of all cases were reported in those aged less than 20 years, with the highest notification rate in children aged 0-4 years (90.0 per 100,000 population) (Figure 44). There were 393 cases reported for children under the age of one year.

Notification patterns varied between States and Territories, with Queensland reporting large numbers of cases in the middle of the year, the Northern Territory having a peak in August and notifications in New South Wales rising sharply late in the year (Figure 45).

**Figure 45. Notifications of measles with onset dates in 1994, by State or Territory and month of onset**

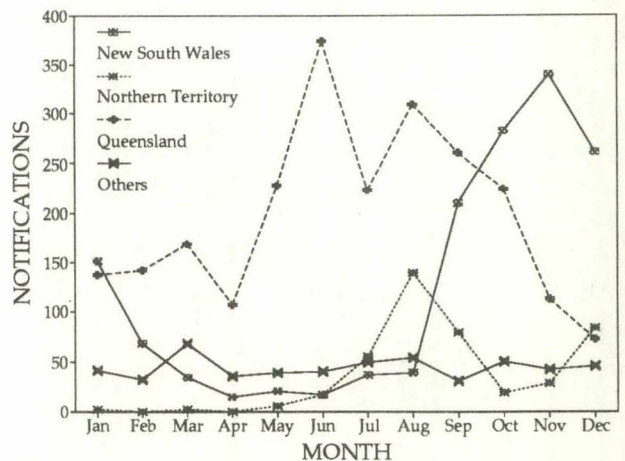
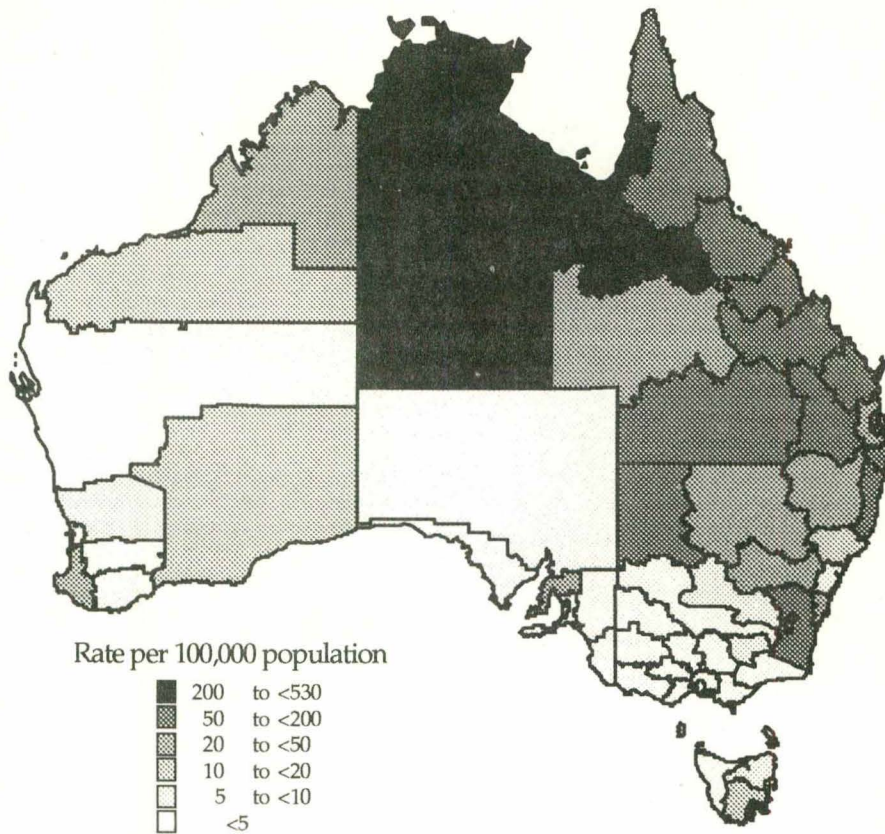


Figure 46. Annual rate of notification of measles per 100,000 population, 1994, by Statistical Division of residence

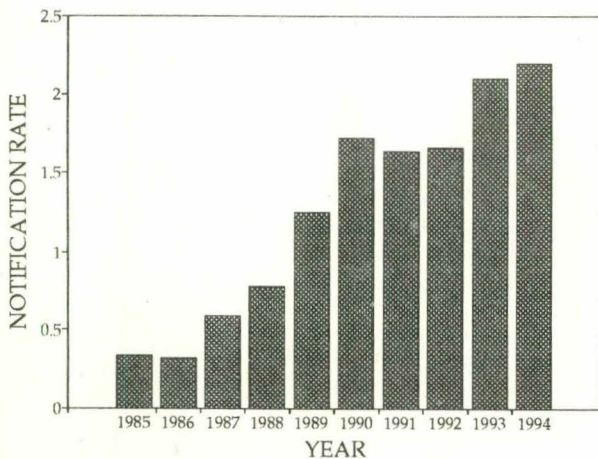


Notification rates were highest for the Statistical Divisions of Northwest Queensland (521.6 per 100,000 population) and the Northern Territory (237.0 per 100,000 population) (Figure 46).

**Meningococcal infection**

There were 383 notifications of meningococcal infection in 1994, made at a rate of 2.2 per 100,000. Notifications of meningococcal infection have in-

Figure 47. Annual rate of notification of meingoccal infection per 100,000, 1985 to 1994, by year



creased in most years in the last decade. The notification rate has similarly increased from about 0.3 in 1985 and 1986 to over 2.0 per 100,000 in 1993 and 1994 (Figure 47).

There was a marked seasonal pattern, with 226 (58%) of cases having onset between June and October 1994 (Figure 48). This seasonality was apparent in all the States which reported more than 10 cases (all but the

Figure 48. Notifications of meningococcal infection with onset dates in 1994, by month of onset

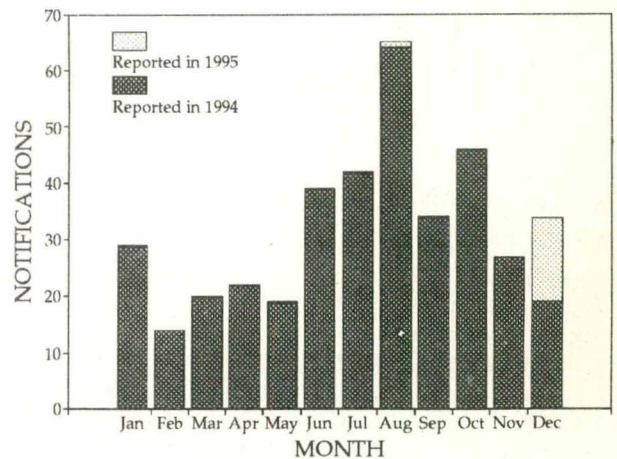


Figure 49. Annual rate of notification of meningococcal infection per 100,000 population, 1994, by Statistical Division of residence

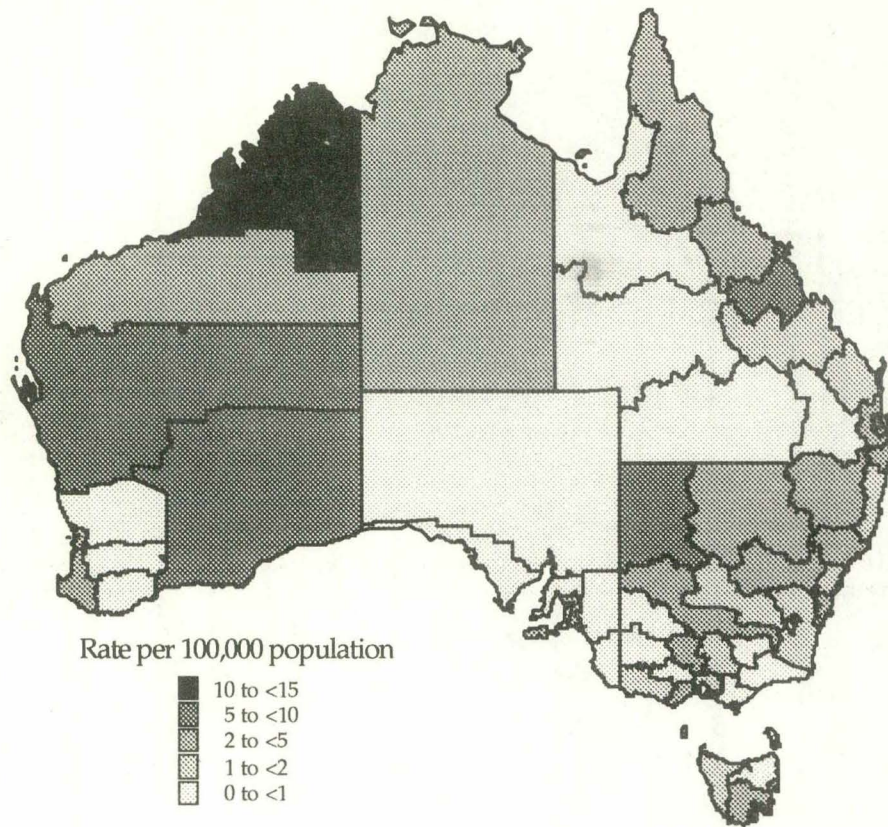
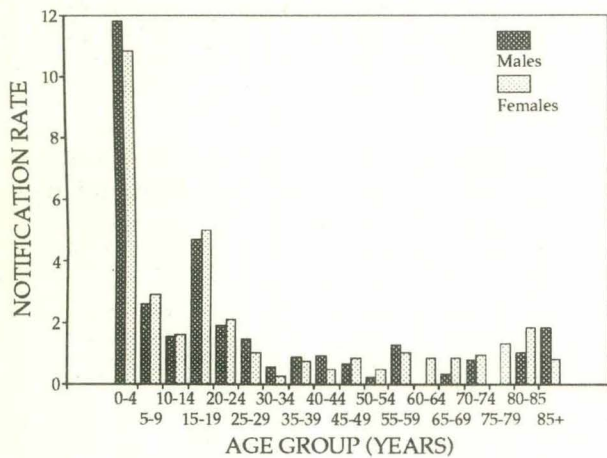


Figure 50. Annual rate of notification of meningococcal infection per 100,000 population, 1994, by age group and sex



Australian Capital Territory, the Northern Territory and Tasmania).

Notifications were received from all States and Territories; the highest notification rate was 2.9 per 100,000, in the Northern Territory and Queensland. Statistical Divisions for which there were high notification rates were Kimberley in Western Australia (12.4 per 100,000), Southeastern in Western Australia (9.4) and Far West in New South Wales (7.2) (Figure 49).

The male:female ratio was 1.0:1.0. Cases were reported for all age groups (Figure 50) and there were two peaks in the age group-specific rates, one in the 0-4 years age group (11.3 per 100,000) and the other in the 15-19 years age group (4.9 per 100,000).

In New South Wales, South Australia and Western Australia, where Aboriginality was reported for most cases, the notification rate in Aboriginal persons was 13.0 per 100,000, about six times the rate for Australia overall.

The National *Neisseria* Network reported 216 *Neisseria meningitidis* isolates in 1994; 116 (53.7%) were serogroup B, 90 (41.7%) were serogroup C and there were a few reports of other serogroups<sup>10</sup>.

### Mumps

Mumps was notifiable in all States and Territories except Queensland and Tasmania. There were 94 cases reported, with an annual rate of 0.5 per 100,000 population. The majority of cases (66%) were reported from Victoria. More cases occurred in the second half of the year than in the first half (Figure 51).

The overall male:female ratio was 1.2:1.0, and in the 0-4 years age group the ratio was 3.8:1.0. The notification rate was highest in the 0-4 years age group (1.9 cases per 100,000 population) (Figure 52). Case numbers were small in all age groups.

Figure 51. Notifications of mumps with onset dates in 1994, by month of onset

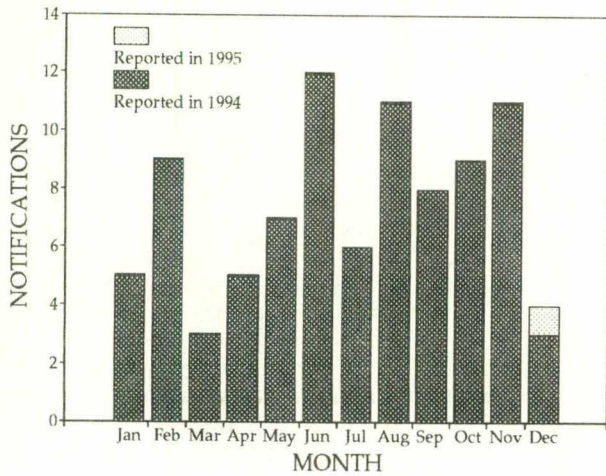


Figure 52. Annual rate of notification of mumps per 100,000 population, 1994, by age group and sex

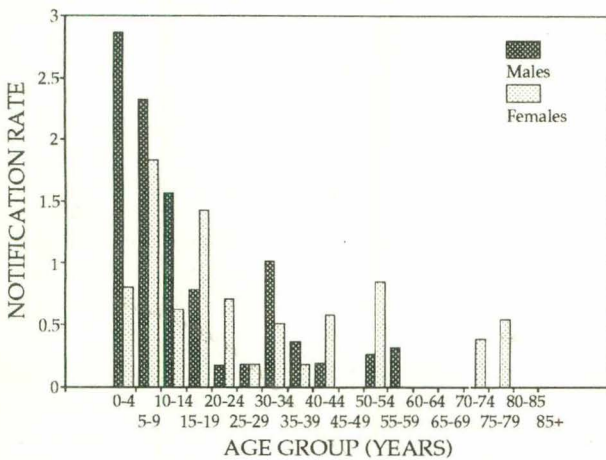


Figure 53. Notifications of pertussis with onset dates from 1992 to 1994, by month of onset

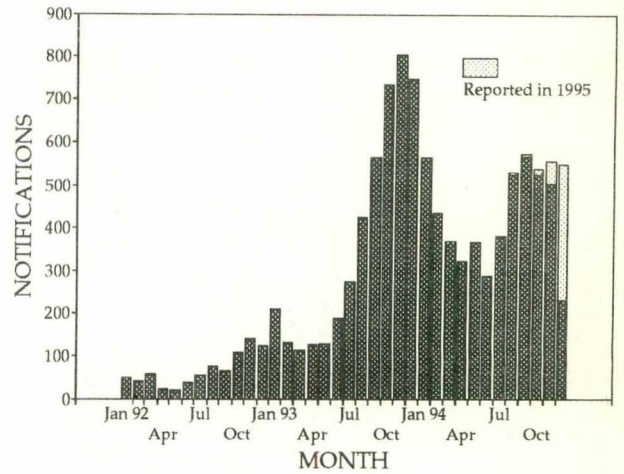
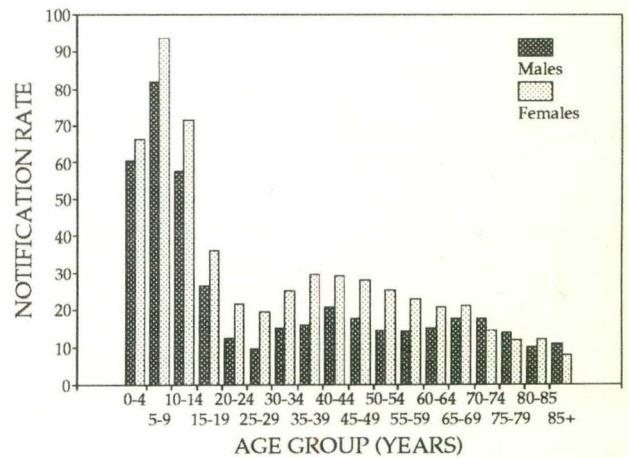


Figure 54. Annual rate of notification of pertussis per 100,000 population, 1994, by age group and sex



**Ornithosis**

Ornithosis was notifiable in all States and Territories with the exception of New South Wales. There were 85 cases reported with an annual adjusted rate of 0.7 per 100,000 population. This rate is similar to that observed in the last four years (Table 3). There was no marked seasonal variation.

The male:female ratio was 1.0:1.0 with cases aged between the 5-9 and the 85+ years age groups. The highest rate of notification was reported for males in the 60-64 years age group (2.2 per 100,000 population).

**Pertussis**

Epidemic activity of pertussis continued in 1994, with 5633 cases reported and an annual notification rate of 31.6 per 100,000 population. Notifications have remained very high since 1993 (Figure 53).

The male:female ratio was 1.0:1.3 (Figure 54). Notification rates were highest in those aged less than 15 years. The highest notification rate was in those aged 5-9 years (87.7 per 100,000 population), but the rate was also high in children aged less than five years (63.3 per 100,000 population). Two hundred and eighty-eight cases were children aged less than one year.

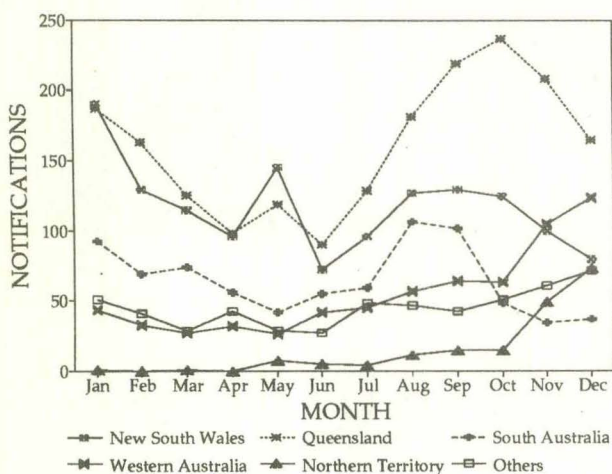
Seasonal patterns varied between States and Territories over the year, with peaks occurring in late winter in Queensland and South Australia, and notifications rising sharply late in the year in the Northern Territory and Western Australia (Figure 56).

Notification rates for the year varied across the country (Figure 57). Rates were highest in the Statistical Divisions of Richmond-Tweed, New South Wales (197.1 per 100,000 population), Darling Downs, Queensland (133.6 per 100,000 population) and Far North Queensland (102.7 per 100,000 population).

**Plague**

There were no notifications of plague in 1994. The last notification of this disease in Australia was in 1923.

**Figure 56. Notifications of pertussis with onset dates in 1994, by State or Territory and month of onset**



**Poliomyelitis**

No cases of poliomyelitis were notified in Australia in 1994. The last case of this disease reported to the NNDSS was in 1986.

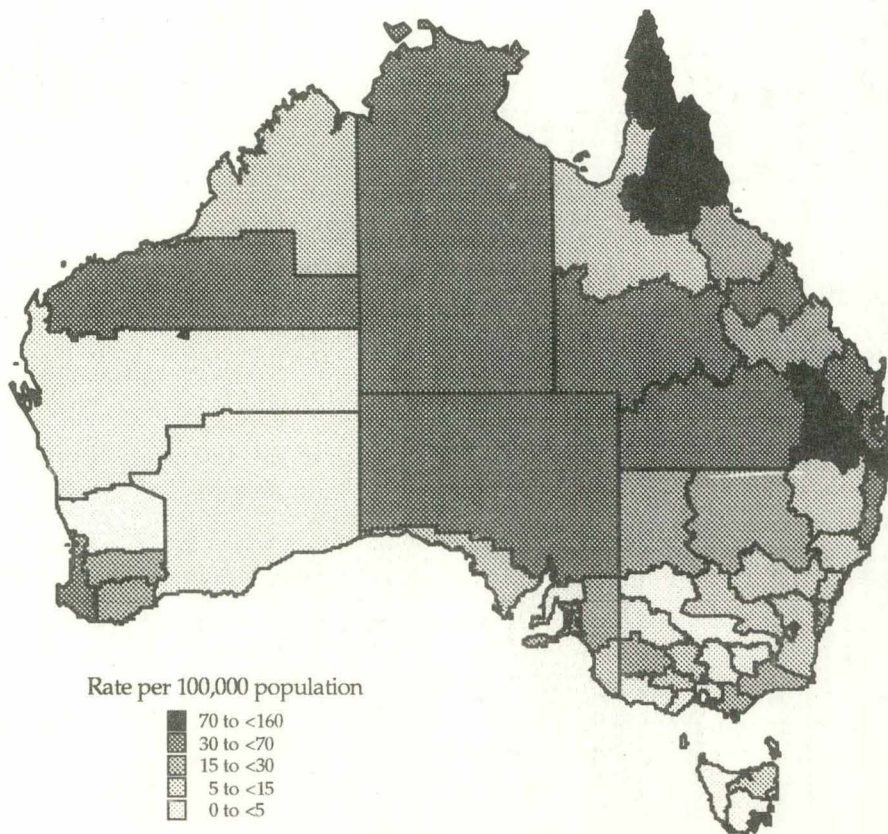
**Q fever**

There were 667 cases of Q fever reported in 1994, with an annual rate of 3.7 per 100,000 population. More cases were reported with an onset in May and June than in other months (Figure 58).

No cases were reported from the Australian Capital Territory, the Northern Territory or Tasmania. The majority of cases were reported from New South Wales and Queensland, as in previous years. The highest rates occurred in the Statistical Divisions of Southwest Queensland (156.4 per 100,000 population) and Central West Queensland (122.3 per 100,000 population) (Figure 59).

The male:female ratio was 5.1:1.0. The highest rates occurred in males aged between 15 and 34 years of age, with a peak of 14.7 per 100,000 population in males in the 25 to 29 years age group (Figure 60).

**Figure 57. Annual rate of notification of pertussis per 100,000 population, 1994, by Statistical Division of residence**



**Rabies**

There were no notifications of rabies in 1994.

**Rubella**

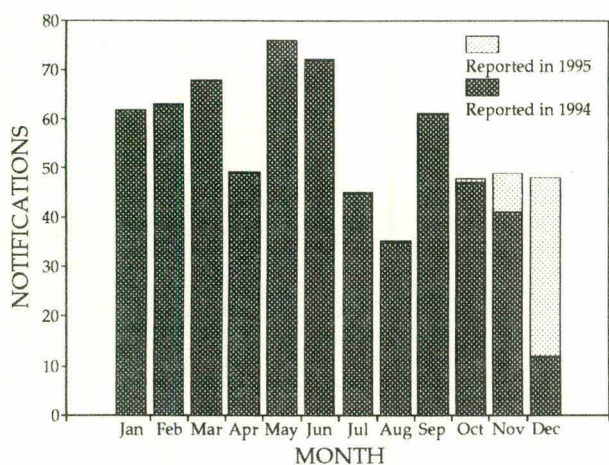
Epidemic rubella activity continued to occur in 1994, as it had in the previous two years. A total of 3315 cases, including three cases of congenital rubella syndrome, were reported. In Tasmania rubella was notifiable only

as congenital rubella syndrome and no cases were reported. The annual rate of notification was 18.6 per 100,000 population.

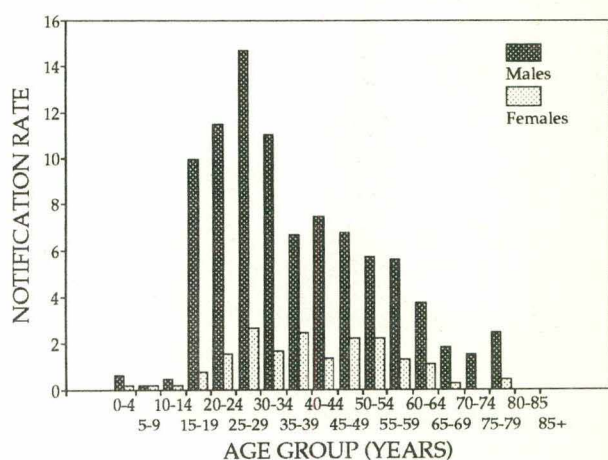
Notifications peaked in October and November, consistent with the seasonal pattern of previous years (Figure 61). The male:female ratio was 2.0:1.0.

There was a wide geographical distribution of rubella reports, with Queensland and Western Australia both reporting a rate of notifications above 40 per 100,000

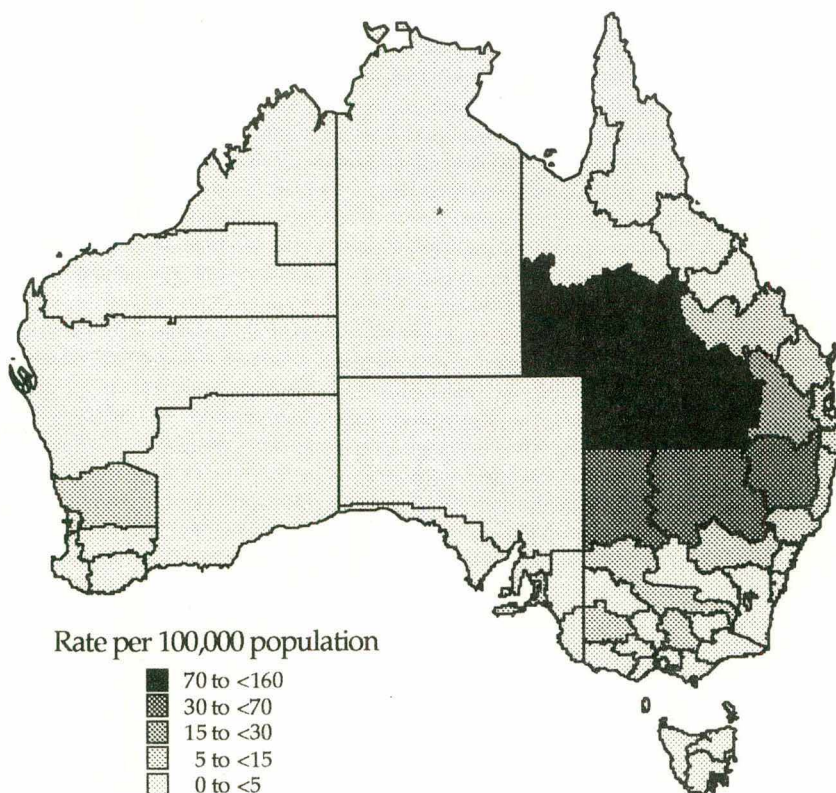
**Figure 58. Notifications of Q fever with onset dates in 1994, by month of onset**



**Figure 60. Annual rate of notification of Q fever per 100,000 population, 1994, by age group and sex**



**Figure 59. Annual rate of notification of Q fever per 100,000 population, 1994, by Statistical Division of residence**



population (Figure 62). Rates were highest in the Statistical Divisions of Darling Downs, Queensland (149.4 per 100,000 population), Pilbara, Western Australia (87.4 per 100,000 population) and Southeastern Western Australia (79.2 per 100,000 population).

The highest notification rate occurred in the 15-19 years age group (69.7 per 100,000 population), with the rate in males being 108.3 per 100,000 population and the rate

in females 26.7 per 100,000 population (Figure 63). There were 486 cases reported in women aged between 15 and 45 years. Surveillance of cases of congenital rubella syndrome conducted through the Australian Paediatric Surveillance Unit recorded seven cases born in 1994<sup>11</sup>.

Figure 61. Notifications of rubella with onset dates from 1992 to 1994, by month of onset

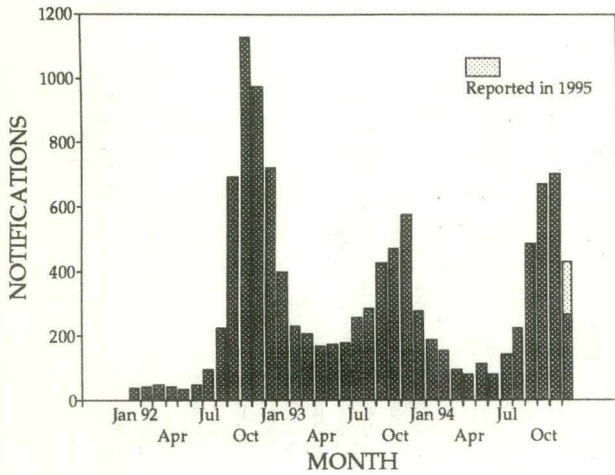


Figure 63. Annual rate of notification of rubella per 100,000 population, 1994, by age group and sex

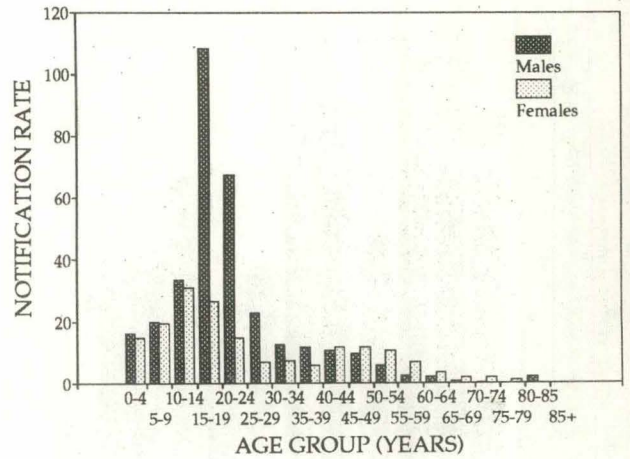
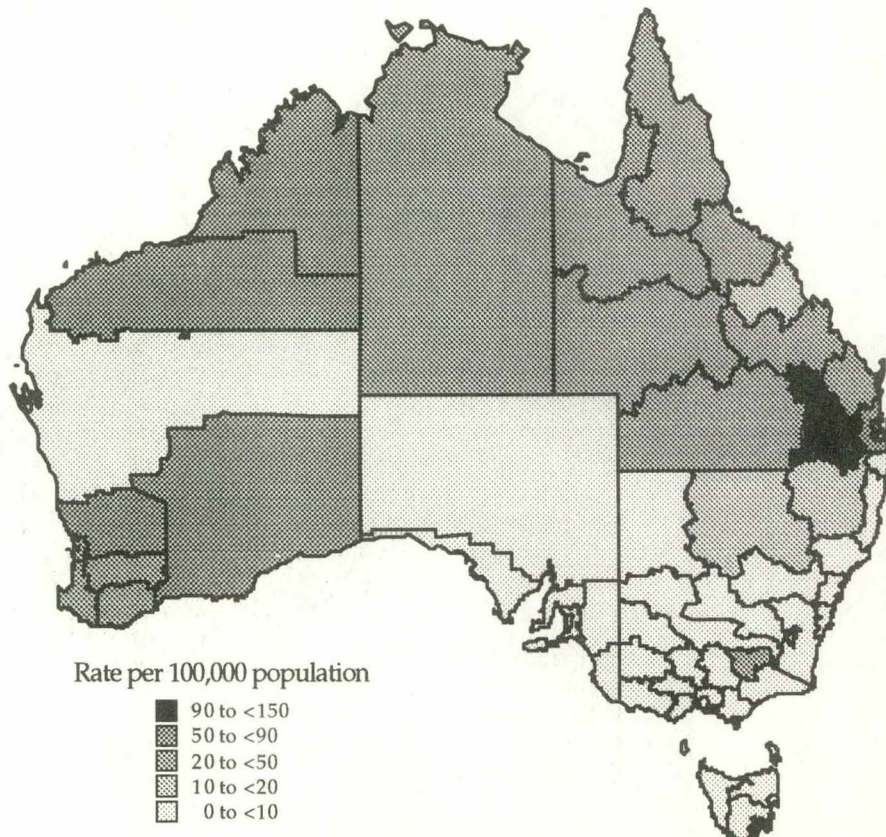


Figure 62. Annual rate of notification of rubella per 100,000 population, 1994, by Statistical Division of residence

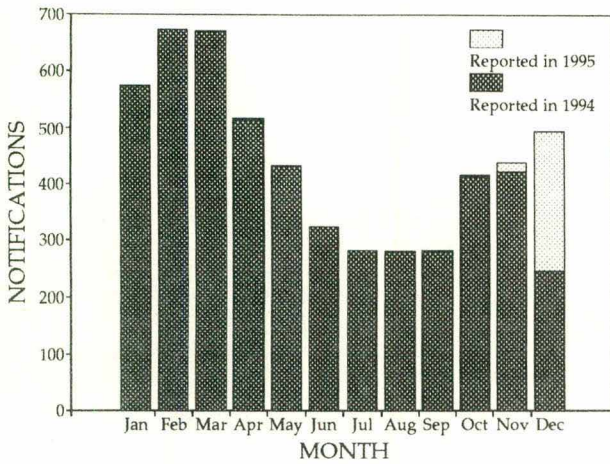


**Salmonellosis (not elsewhere classified)**

A total of 5283 cases of salmonellosis (not elsewhere classified) was reported in 1994, the annual notification rate of 29.6 per 100,000 population being slightly higher than for either of the previous two years.

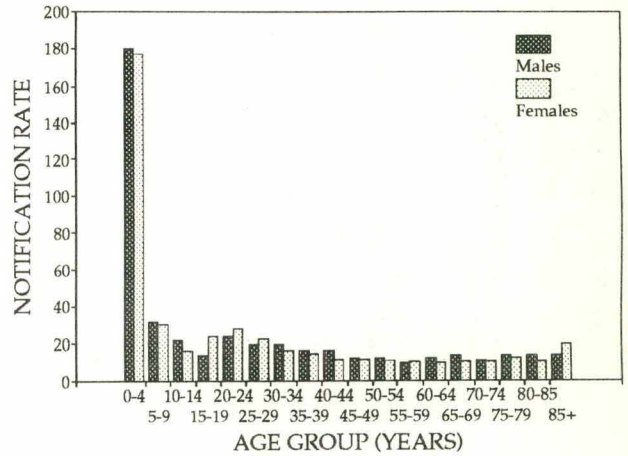
As in previous years, a seasonal trend was noted with a higher number of notifications reported as having month of onset in the warmer months (Figure 64).

**Figure 64. Notifications of salmonellosis (not elsewhere classified) with onset dates in 1994, by month of onset**

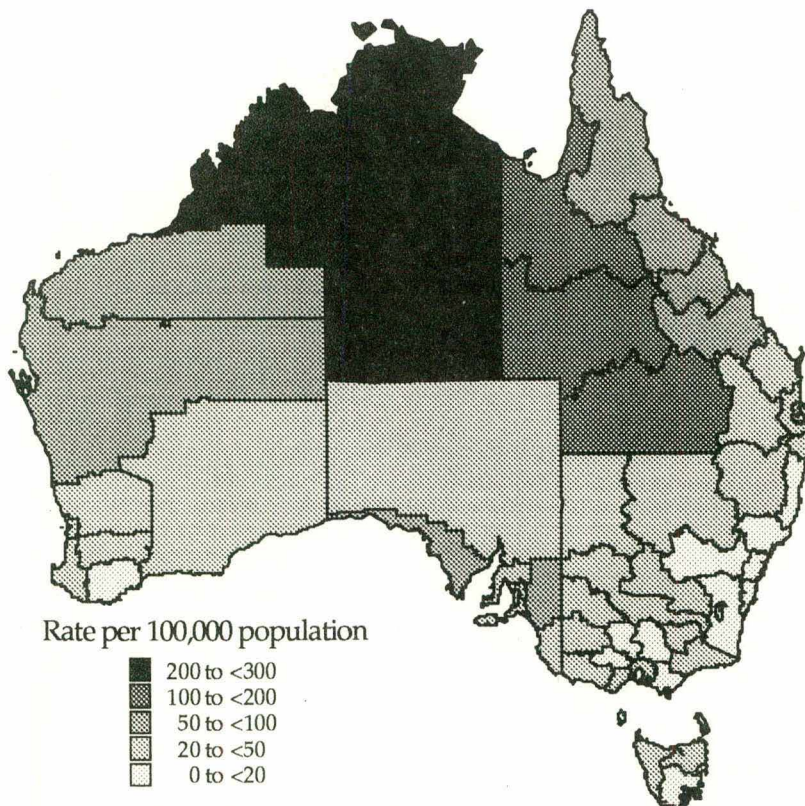


Salmonellosis (not elsewhere classified) was reported for residents of all Statistical Divisions, with higher rates being generally observed in the northern parts of Australia. The highest rates were observed for residents of the Northern Territory and the Kimberley Statistical Division of Western Australia (both 289 per 100,000 population) (Figure 65).

**Figure 66. Annual rate of notification of salmonellosis (not elsewhere classified) per 100,000 population, 1994, by age group and sex**



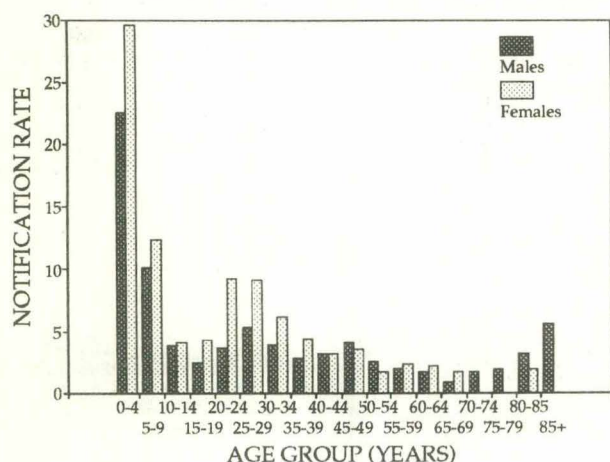
**Figure 65. Annual rate of notification of salmonellosis (not elsewhere classified) per 100,000 population, 1994, by Statistical Division of residence**



There was a male:female ratio in reported cases of 1.0:1.0. By far the highest rates of notification were seen in the 0-4 years age group (males 180.1 per 100,000 population; females 176.9 per 100,000 population) (Figure 66).

Of those States and Territories reporting Aboriginality for most or all notifications (the Northern Territory, Western Australia and South Australia), rates of notification for Aboriginal persons were two to five times the rates for the respective State or Territory as a whole.

**Figure 67. Annual adjusted rate of notification of shigellosis per 100,000 population, 1994, by age group and sex**

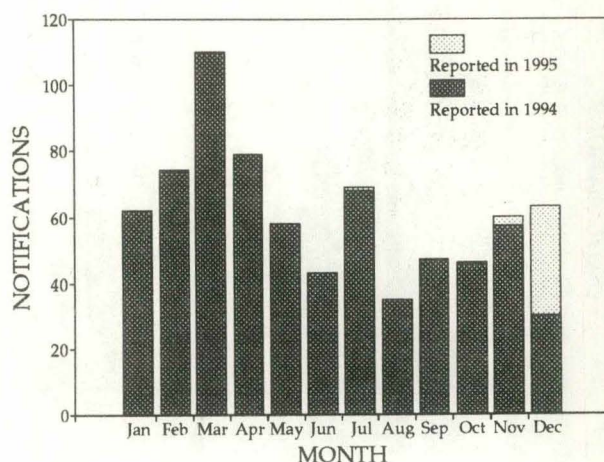


### Shigellosis

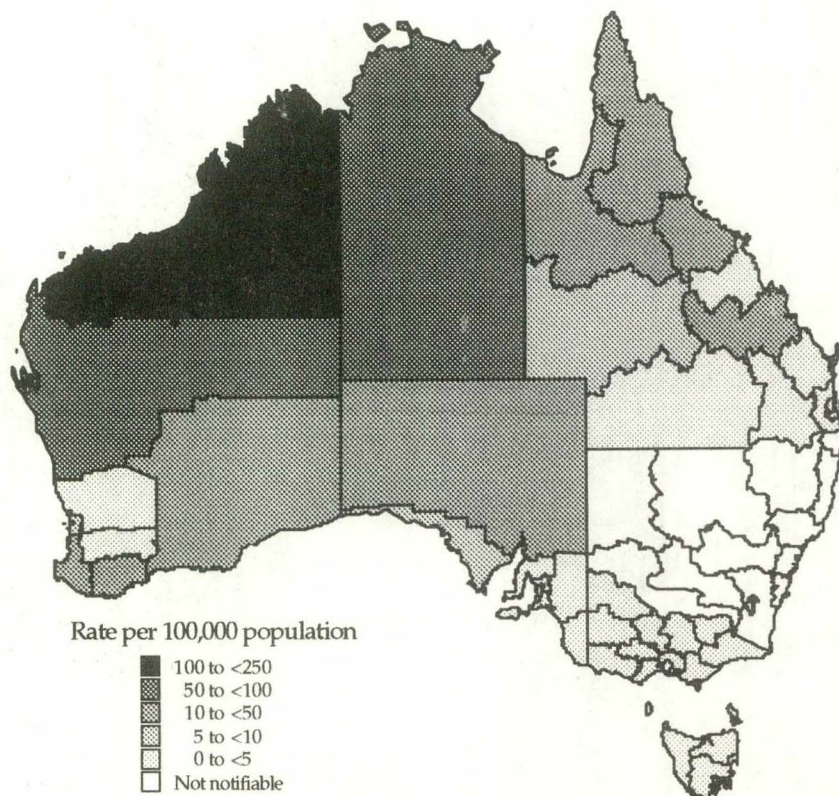
Shigellosis was notified for 724 persons in 1994, from all States and Territories except New South Wales, where it was only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'. The notification rate was 6.1 per 100,000, the same as in 1993.

The male:female ratio was 1.0:1.3 (Figure 67). Peaks in age group and sex-specific rates occurred in males in the 0-4 years age group (22.6 per 100,000) and in females

**Figure 69. Notifications of shigellosis with onset dates in 1994, by month of onset**



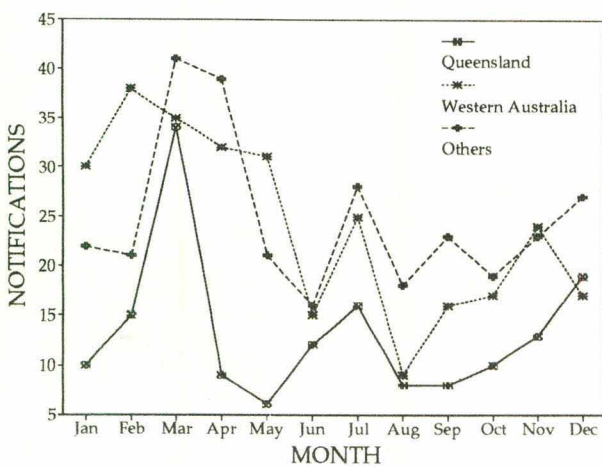
**Figure 68. Annual rate of notification of shigellosis per 100,000 population, 1994, by Statistical Division of residence**



in the same age group (29.6 per 100,000). The highest notification rates were reported for the Statistical Divisions of Kimberley in Western Australia (223 per 100,000), Pilbara in Western Australia (120 per 100,000) and for the Northern Territory (80 per 100,000) (Figure 68).

Most cases were reported in the first half of the year, with a peak of 110 reports in March (Figure 69). This coincided with the seasonal peaks in the States with the most reports of shigellosis, Queensland and Western Australia (Figure 70).

**Figure 70. Notifications of shigellosis with onset dates in 1994, by State or Territory and month of onset**



In the Northern Territory, South Australia and Western Australia, where Aboriginality was reported for most cases, the overall notification rate in Aboriginal persons was 199 per 100,000, about 33 times the rate for Australia overall.

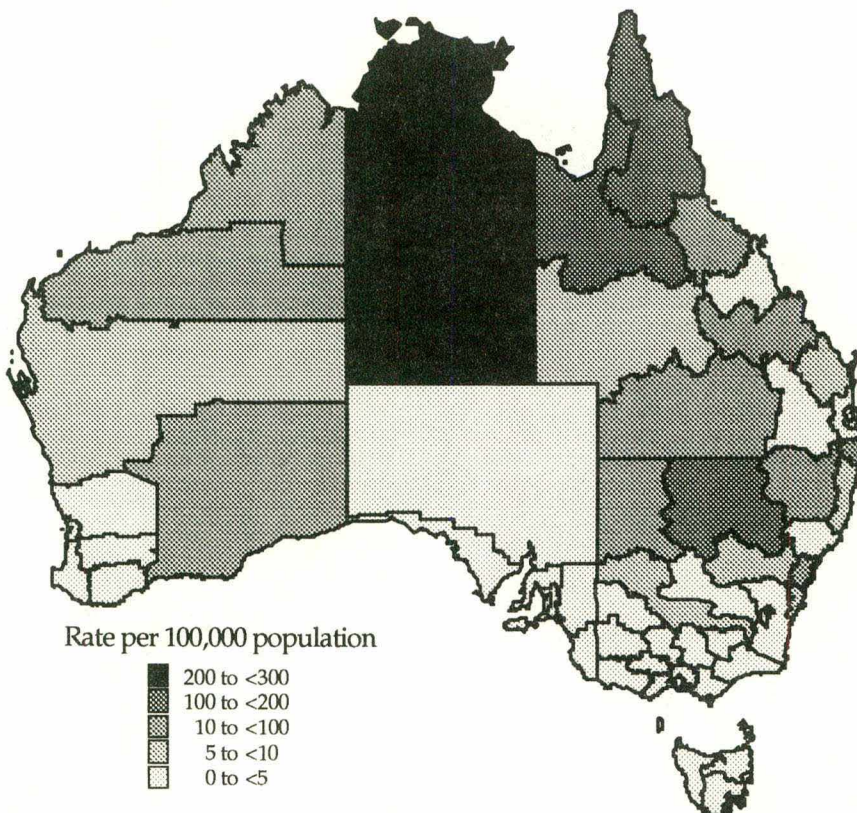
**Syphilis**

A total of 2324 notifications were received in 1994 (Table 1), the annual rate being 13.0 per 100,000 population. This is similar to the rates observed for 1991 and 1993 (12.2 and 13.1 per 100,000 respectively) but lower than the rate reported for 1992 (16.0 per 100,000) (Table 3). No seasonal trend was observed in reported onset dates for notified cases.

There was wide geographical variation in the rate of notification of syphilis (Table 2; Figure 71). High notification rates (above 100 per 100,000 population) were reported for the Northern Territory, the Statistical Divisions of North West and Far North in Queensland, and the Northwestern Statistical Division of New South Wales. The highest rate, 282.7 per 100,000 population, was reported for the Northern Territory. The rate for the Statistical Division of Kimberley in Western Australia was 95.0 per 100,000 population.

Sex was not specified in nearly 3% of notified cases. For the remainder of the notifications, the male:female ratio was 1.2:1.0. Rates were much higher in females than males for the age groups from 10-14 years to 20-24 years, and were much higher in males than females in the age group 35-39 years and older age groups (Figure 72). In some jurisdictions, notifications have

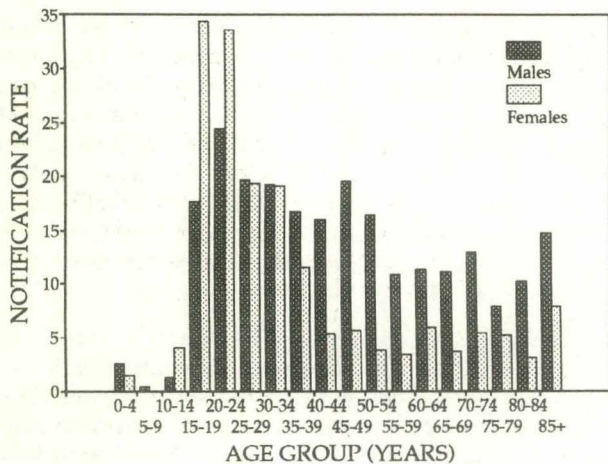
**Figure 71. Annual rate of notification of syphilis per 100,000 population, 1994, by Statistical Division of residence**



included reports of cases other than of recent infection. In consequence, caution should be exercised in interpreting the data, especially those relating to age specific rates in older age groups.

High rates of notification were reported for Aboriginal populations in the Northern Territory (913 per 100,000 population), South Australia (217 per 100,000), New South Wales (154 per 100,000), and in Western Australia and Queensland (both 114 per 100,000 population).

**Figure 72. Annual rate of notification of syphilis per 100,000 population, 1994, by age group and sex**



**Tetanus**

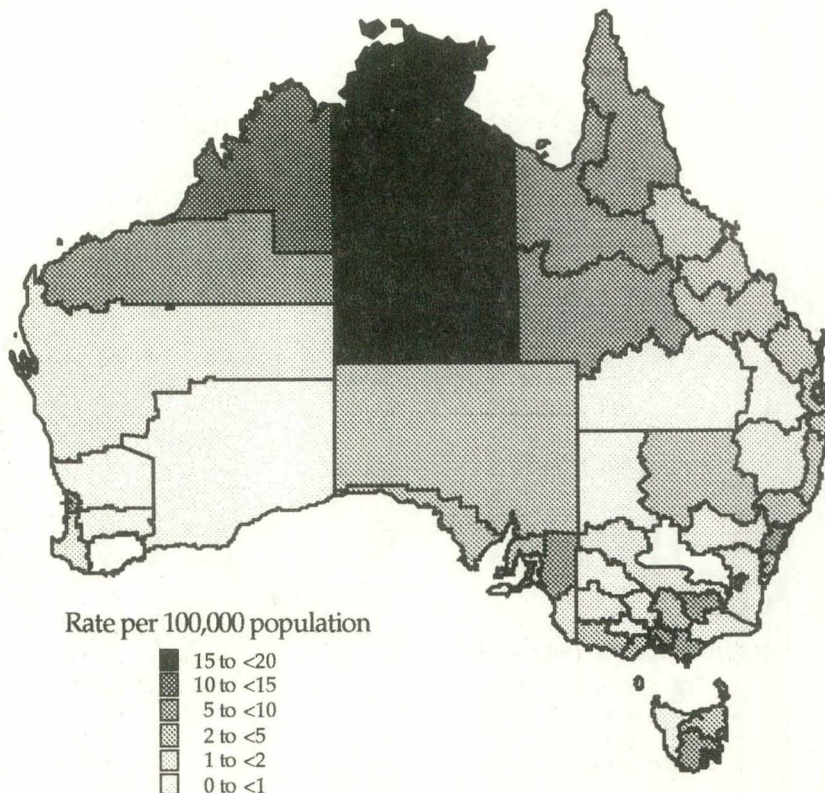
Tetanus was notifiable in all States and Territories. There were 15 notifications in 1994 from four States (New South Wales, South Australia, Victoria and Queensland). This was more notifications than for any year since 1979. All cases were aged over 39 years and 60% of cases were 75 years or older. The male:female ratio was 1.0:1.5.

**Tuberculosis**

There were 1024 notifications of tuberculosis in 1994, made at a rate of 5.7 per 100,000, less than the rate for 1993. Notifications were received from all States and Territories, with the highest number from New South Wales (409) and the highest rate from the Northern Territory (19.1 per 100,000). Statistical Divisions for which there were high notification rates were Kimberley in Western Australia (12.4 per 100,000), Pilbara in Western Australia (9.2) and Sydney in New South Wales (9.2) (Figure 73).

The male:female ratio was 1.1:1.0 (Figure 74). There were two peaks in age group-specific rates, one in the 25-29 years age group (7.8 per 100,000) and the other in the 80-84 years age group (23.2 per 100,000). The highest age group and sex-specific notification rate was males aged over 85 years (35 per 100,000). There was no apparent seasonal trend in onset dates reported for the notifications.

**Figure 73. Annual rate of notification of tuberculosis per 100,000 population, 1994, by Statistical Division of residence**

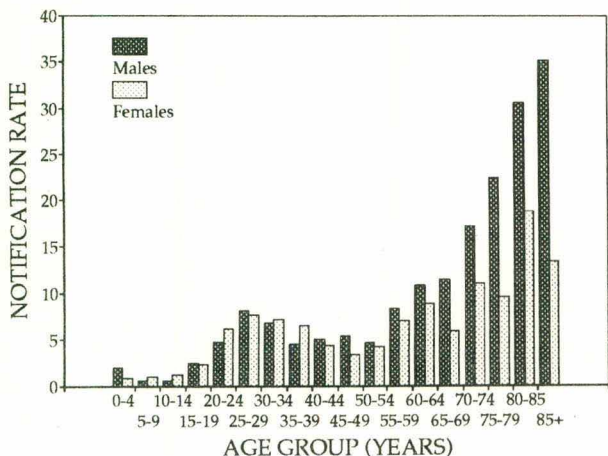


Aboriginality was reported for most cases in New South Wales, the Northern Territory, Queensland, South Australia and Western Australia. The overall notification rate for Aboriginal persons was 12.5 per 100,000 in these jurisdictions, more than twice the rate for Australia overall.

### Typhoid

There were 50 cases of typhoid notified in 1994 at a rate of 0.3 per 100,000 population. The male:female ratio

**Figure 74. Annual rate of notification of tuberculosis per 100,000 population, 1994, by age group and sex**



was 1.1:1.0, with most cases (32) and the highest notification rates in the 15-29 years age group. There was no apparent seasonal trend. Forty-seven of the 53 reports of typhoid made to the National *Salmonella* Surveillance Scheme for 1994 were known to have been acquired overseas<sup>12</sup>.

### Yellow fever and other viral haemorrhagic fevers

There were no notifications of these diseases in 1994.

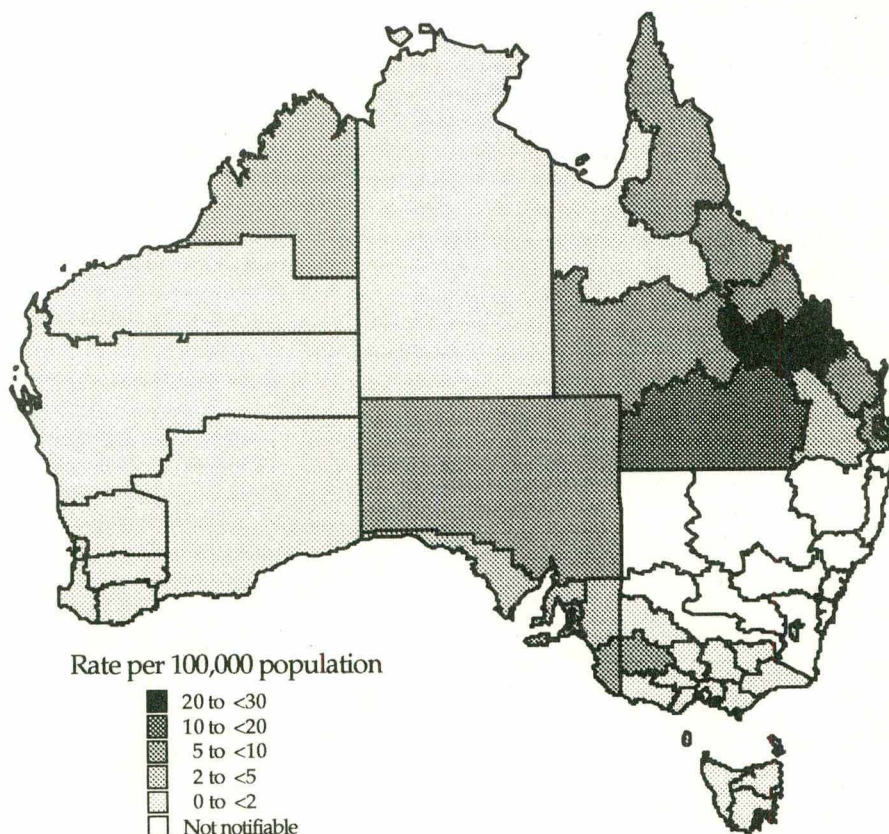
### Yersiniosis

Yersiniosis was notified for 414 persons in 1994, from all States and Territories except the Australian Capital Territory, and New South Wales, where it was only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'. Most were from Queensland as a whole and from Queensland Statistical Divisions (Fitzroy 26.8 per 100,000 and Southwest 10.4 per 100,000) (Figure 75).

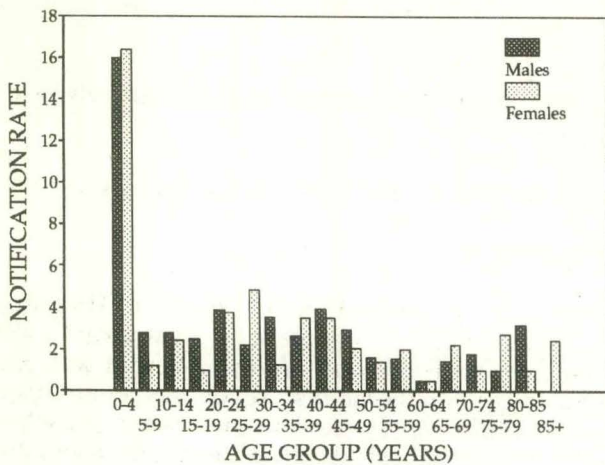
The male:female ratio was 1.1:1.0 (Figure 76). The highest number of notifications was for the 0-4 years age group (140 or 33.8% of the total). The highest age group and sex-specific notification rates were for males in the 0-4 years age group (16.0 per 100,000) and for females in the same age group (16.4 per 100,000).

Most cases had onset in the first half of the year (Figure 77); there was a peak of 59 cases in March. This coincided with the peak in reports from Queensland (Figure 78), which reported 69% of the total.

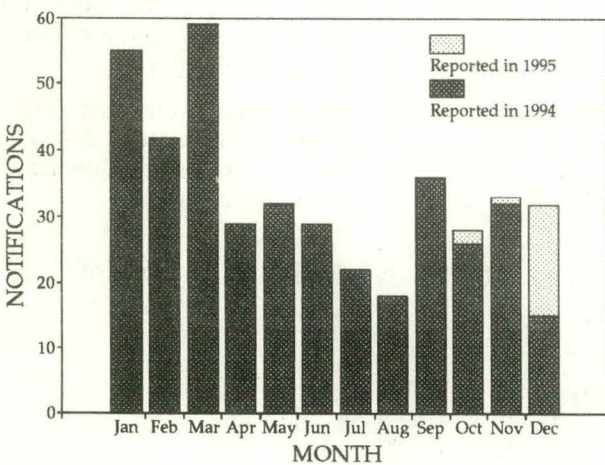
**Figure 75. Annual rate of notification of yersiniosis per 100,000 population, 1994, by Statistical Division of residence**



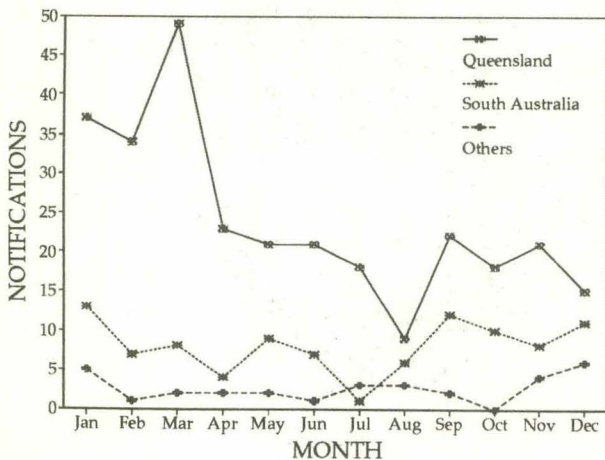
**Figure 76. Annual adjusted rate of notification of yersiniosis per 100,000 population, 1994,**



**Figure 77. Notifications of yersiniosis with onset dates in 1994, by month of onset**



**Figure 78. Notifications of yersiniosis with onset dates in 1994, by State or Territory and month of onset**



**Acknowledgments**

The Communicable Diseases Network Australia New Zealand thanks the clinicians, laboratories, hospitals and others who provided the notifications which have made this report possible. The members of the Network participating in the NNDSS are Scott Cameron (South Australian Health Commission), Jag Gill (Health Department of Western Australia), Rob Menzies (New South Wales Health Department), Doris Zonta (Australian Capital Territory Department of Health and Community Care), Avner Misrachi (Tasmanian Department of Health), Vicki Krause (Territory Health Services, Northern Territory), John Carnie (Victorian Department of Community Services and Health) and John Sheridan (Queensland Department of Health).

We also thank Kim Moser for her contribution of excellent desk-top publishing to this report.

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## EQUINE MORBILLIVIRUS IN QUEENSLAND

Tony Allworth<sup>1</sup>, John O'Sullivan<sup>1</sup>, Linda Selvey<sup>2</sup> and John Sheridan<sup>2</sup>.

In September 1994 there was an outbreak of a previously undescribed virus, equine morbillivirus (EMV) involving humans and horses<sup>1</sup> in Hendra, a residential suburb of Queensland. The outbreak resulted in the death of one human case and 14 horses.

On Saturday 21 October 1995, a 35 year old male horse breeder from Mackay in Queensland died with an acute severe encephalitis. Antibodies to EMV have been detected in his serum.

The man lived on a property with his wife who is a veterinary surgeon. The couple bred horses and also farmed sugar cane. In August 1994 (a month prior to the outbreak of EMV in southern Queensland) two horses died on the property. An autopsy was performed on both animals by the veterinary surgeon who was assisted by her husband.

Horse A was a 12 month old mare with a respiratory illness and some renal involvement. The horse died within 24 hours of becoming ill. Cause of death was 'avocado poisoning'. Specimens from this horse are currently being tested for EMV.

Horse B developed neurological symptoms and died between seven and 10 days after horse A. It is possible that he licked secretions from Horse A. Death was reported to have been due to a 'brown snake bite'. Direct fluorescent antibody and PCR tests on tissue blocks from this horse have confirmed that it was infected with EMV.

The recent human case first became ill in August-September 1994 (after the death of horses A and B). He had a mild meningo-encephalitis which improved with antibiotics. CSF examination showed a neutrophilic pleocytosis suggestive of a viral infection. He subsequently experienced persistent fatigue. Stored serum collected at this time is currently being tested for EMV. He also had a hospital admission in January 1995 for an apparently unrelated condition.

In mid-September 1995 he had an encephalitis-like illness. There were no respiratory symptoms. He had a grand mal seizure, developed 'status epilepticus' and was transferred to the Royal Brisbane Hospital on 30 September 1995. He became comatose and required ventilation. Magnetic resonance imaging showed extensive patchy cerebral disease. No focal lesions were observed. He had no respiratory symptoms until he developed an aspiration pneumonia. Major clinical findings in the outbreak last year were respiratory. In contrast this case appears to have had mainly neurological involvement.

Serum collected on 2 October 1995 had a titre of 1/16 to EMV. A second serum sample collected on 13 October 1995 had a titre of 1/1024 to EMV by serum neutralisation test, a 64-fold rise in titre. An ELISA test has determined the antibody class to be IgG. PCR on CSF was also positive for EMV. Autopsy specimens are currently being tested for EMV.

The wife of the man has been tested and found to be seronegative for EMV. There has been no apparent outbreak of disease on the property, nor any other outbreaks suggestive of EMV in Queensland since the Hendra outbreak.

The Queensland Department of Health in collaboration with the Department of Primary Industry and Energy are undertaking an extensive epidemiological investigation. All individuals who have had a possible exposure to the virus in either episode are being tested for evidence of EMV infection. This includes all concerned hospital staff involved in the care of the case. Animal investigations include tracing of all movements of horses on and off the property since July 1994, serology to determine their serostatus with respect to EMV and testing of other animals on the property.

### Reference

1. Selvey L, Sheridan J. Outbreak of severe respiratory disease in humans and horses due to a previously unrecognised paramyxovirus. *Comm Dis Intell* 1994;18:499.

### CDI editorial comment

A Fact Sheet<sup>1</sup> for Veterinarians issued by the the Department of Primary Industries, Queensland makes the following recommendations in relation to possible contact with equine morbillivirus:

'Practitioners and staff handling suspect animals or carcasses should wear overalls, boots, gloves, a face mask and eye protection and take normal hygiene precautions. Particular care should be taken to avoid contamination of any cuts or abrasions.

The following disinfection procedures are recommended for viruses of the Paramyxoviridae. Thorough cleaning with soap or detergent followed by exposure to a 2-3% concentration of available chlorine (sodium or calcium hypochlorite), or Virkon 2%, or 2% sodium hydroxide or 0.2% citric acid.'

1. Queensland Department of Primary Industries. Update on Morbillivirus Infection. 25 October 1995

1. Royal Brisbane Hospital  
2. Communicable Diseases Branch, Queensland Department of Health

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## OVERSEAS BRIEFS

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

### Venezuelan equine encephalitis in Colombia

Venezuelan Equine Encephalitis (VEE) appeared in Venezuela in April 1995 and spread westward, with the first cases in Colombia recognised in August at the common border of the two countries<sup>1</sup>. The virus was probably transferred in a viraemic equine or human and spread from there to the western coast of La Guajira State.

Between 1 September and 12 October 1995, a total of 12,403 patient visits for Venezuelan equine encephalitis (VEE) were reported from La Guajira State. The actual number of incident cases, estimated from epidemiological surveys, may exceed 45,000, and attack rates have ranged to 57% in some towns. The outbreak has spread south-west along the coastline at a rate of about 5km each day. In coastal towns entomological surveys have detected large populations of the vector mosquito *Aedes taeniorhynchus*. The outbreak has also affected inland areas where extensive breeding habitats for *Psorophora confinnis* have been identified.

Because VEE virus has been recovered from pharyngeal cultures in 40% of patients and aerosols of VEE virus have infected laboratory personnel, direct human to human transmission of VEE virus may be possible. However, it is unknown whether infectious VEE aerosols or respiratory droplets can be produced by infected humans. Additionally, human to human transmission by mosquitoes may occur during some epidemics, as suggested in previous outbreaks. Household surveys conducted in Colombia have, however, found no evidence of direct person to person transmission during this outbreak.

Although the VEE outbreak has spread rapidly through La Guajira, control measures have contained the outbreak within this northern-most State of Colombia, with no evidence of human cases in adjoining Magdalena and Cesar states. Public health efforts have

focused on equine vaccination and mosquito control. In the area beyond the advance of the outbreak, approximately 5000 equines in La Guajira have been vaccinated with TC-83 vaccine; in neighbouring Magdalena and Cesar states, 20,000 and 70,000 equines, respectively, have been vaccinated.

### Influenza in the Northern Hemisphere

Influenza A isolates have been reported from France, Canada, the Czech Republic, Switzerland and the United Kingdom in recent weeks. There has been no reports of epidemic activity for the season so far, although there has been a report of an outbreak in a boarding school in England with an attack rate of 19%.

### Cholera update

The Islamic Republic of Iran has reported a total of 1669 cases and 49 deaths from cholera for the period 24 July to 6 October. Most cases occurred in the provinces of East Azerbaijan, Ardebil, West Azerbaijan and Kordestan and these provinces have been added to the infected area list.

Unconfirmed reports have been received of large numbers of cases of cholera in North Korea, and of spread of the disease into South Korea. Several North Korean cities, including Pyongyang, have been reported to have been quarantined. The South Korean government is reported to have quarantined several villages and ordered two primary schools to close indefinitely. Twenty-five cases had been confirmed in South Korea by 12 September.

Cholera cases have been reported since June from Afghanistan, Burkino Faso, Burundi, Cameroon, Cape Verde, China, Costa Rica, Cote d'Ivoire, Ecuador, El Salvador, Ghana, Guinea, India, Iran, Japan, Laos, Liberia, Mali, Mexico, Moldova, the Russian Federation, Romania, Sierra Leone, Singapore, Tanzania, Togo, Uganda, Ukraine, Vietnam and Zaire.

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## COMMUNICABLE DISEASES SURVEILLANCE

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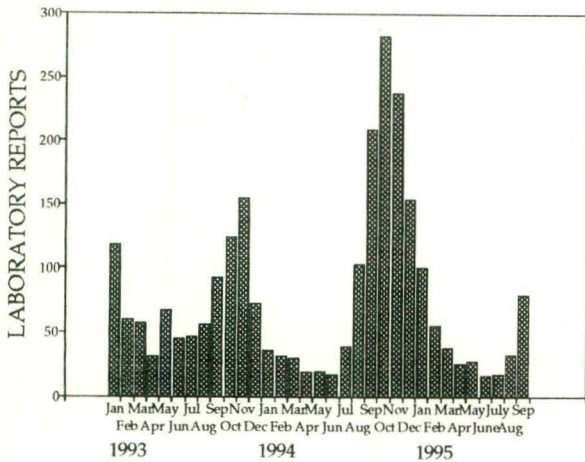
### Virology and Serology Reporting Scheme

There were 1566 reports received in the CDI Virology and Serology Reporting Scheme this fortnight (Tables 7, 8 and 9).

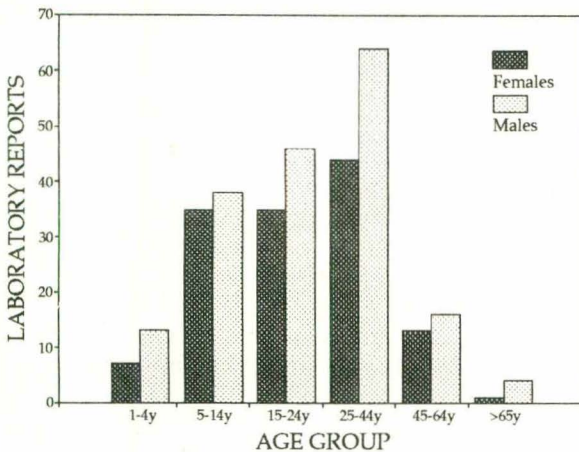
- Three reports of measles were received this period. The number of reports received remains low.

- Rubella was reported for 78 patients this period diagnosed by fourfold rise in titre (3) and IgM detection (75). Included were 16 females (7 in the 15 to 44 year age group) and 62 males. Also included was a 4 day old male for whom congenital infection was reported (IgM detected). The number of reports received rose in the month of September (Figure 1).

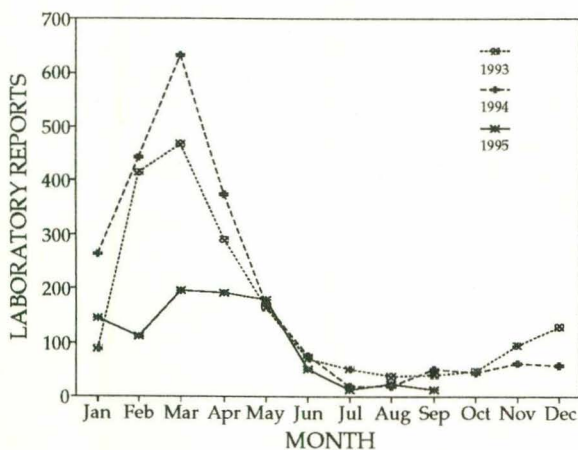
**Figure 1. Rubella laboratory reports, 1993 to 1995, by month of specimen collection**



**Figure 2. Hepatitis A laboratory reports, 1995, by age group and sex**

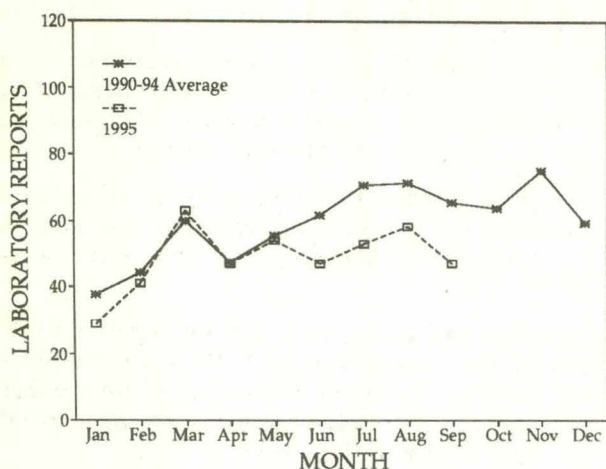


**Figure 3. Ross River virus laboratory reports, 1993 to 1995, by month and year of specimen collection**



- **Hepatitis A** was reported for 33 patients this period 31 of whom were from Queensland. A total of 325 reports has been received for the year to date of which 34% were for patients in the 25 to 44 year age group (Figure 2). The male:female ratio was 1.3:1.0.
- Positive **hepatitis B** serology was reported for 75 patients this fortnight, including 43 males and 32 females. A total of 52 was in the 15 to 44 year age range. Included were 2 pregnant females.
- Two hundred and thirty-three reports of positive **hepatitis C** serology were received this period. Included were 30 injecting drug users and 2 pregnant females.
- **Ross River virus** was reported for 15 patients this period from Queensland (10), the Northern Territory (4) and New South Wales (one). The number of reports being received remains low as is usual for the time of year (Figure 3).
- Twelve reports of **Barmah Forest virus** were received this fortnight including 10 from Queensland. Few reports have been received in recent months.
- Seventeen reports of **adenovirus** were received this period diagnosed by virus isolation (11) and antigen detection (6). Included was virus isolation from the nasopharynx of a female infant who died of SIDS.
- **Herpes simplex virus type 1** was reported for 146 patients this fortnight. Diagnosis was by virus isolation (137), antigen detection (8) and IgM detection (one).
- One hundred and ninety-three reports of **herpes simplex virus type 2** were received this period, 192 diagnosed by virus isolation and one by IgM detection.
- Sixty-one reports of **cytomegalovirus** were received this period. Diagnosis was by virus isolation (30), antigen detection (4), nucleic acid detection (one) and IgM detection (26). Included were 3 HIV/AIDS patients, 3 transplant recipients and 2 other immunocompromised patients. Also included was a one year old female with paralysis (virus isolation from nasopharynx), a 33 year old HIV positive male with unspecified nervous system disease (virus isolation from CSF) and a 34 year old male (nucleic acid detection in CSF).
- **Varicella-zoster virus** was reported for 40 patients this period. Diagnosis was by virus isolation (8), antigen detection (21) and IgM detection (11).
- **Rhinovirus** was reported for 15 patients this period, 12 of whom were under the age of 5 years. The number of reports remains low for the time of year (Figure 4).
- **Influenza A** was reported for 13 patients this fortnight. Diagnosis was by virus isolation (one), antigen detection (5), single high titre (6) and IgM detection (one). Reports were received from

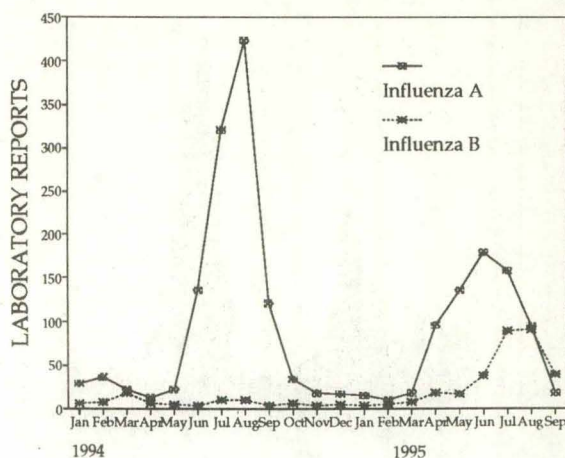
Figure 4. Rhinovirus laboratory reports, 1990 to 1994 average and 1995, by month of specimen collection.



Queensland (8), Tasmania (2) and Victoria (3). A total of 731 reports has been received for the year to date. Ninety-two isolates were identified as being H<sub>1</sub>N<sub>1</sub> subtypes and 9 as H<sub>3</sub>N<sub>2</sub> subtypes. The number of reports received continues to decline (Figure 5).

- Seventeen reports of **influenza B** were received this fortnight. Diagnosis was by virus isolation (3), antigen detection (4) and single high titre (10). Reports were received from New South Wales (one), Queensland (13) and Victoria (one). A total of 314 reports has been received so far this year for 157 males and 154 females. The number of reports received fell in September following a marked rise in the months of July and August (Figure 5).
- Parainfluenza virus type 3** was reported for 35 patients this fortnight, 18 of whom were under the age of one year and a total of 32 under 5 years of age. Diagnosis was by virus isolation (11) and antigen detection (24). Included was a one year old male with encephalitis.
- Thirty-three reports of **respiratory syncytial virus (RSV)** were received this fortnight. Method of diagnosis included virus isolation (10), antigen detection (19) and single high titre (4). The number of reports received fell in the month of September.
- Rotavirus** was reported for 117 patients this period including 71 males and 44 females (2 sex not stated, male:female ratio 1.6:1.0). Ninety-four reports (80%) were for patients 4 years of age or under. The number of reports fell in the month of September.
- Chlamydia trachomatis** was reported for 137 patients this period diagnosed by isolation (23), antigen detection (46) and nucleic acid detection (68). Included were 46 males and 91 females, 133 of whom were aged 15 to 44 years.
- Twenty-one reports of **Mycoplasma pneumoniae** were received this period for 6 males and 14 fe-

Figure 5. Influenza A and B laboratory reports, 1994 to 1995, by month of specimen collection.



males (one sex not stated, male:female ratio 0.4:1.0) all in the one to 44 year age group. The number of reports received remains at a low level.

- Sixty-one reports of **Bordetella** were received this period including 11 *Bordetella pertussis* and 50 *Bordetella* species. The number of reports continued to rise through the month of September.

### Australian Sentinel Practice Research Network

Data for week 40 (ending 8 October) and week 41 (ending 15 October) are included in this issue of *CDI* (Table 1). There were 6884 consultations reported for week 40 and 6386 for week 41. The influenza reporting rate fell markedly this fortnight. The rubella reporting rates continued to be higher than has been usual in recent months.

### An outbreak of respiratory disease in Victoria

An outbreak of respiratory disease has been reported from Victoria. Included are 15 cases with onset dates from 4 September to the 14 October. Nine persons have been admitted to the local community hospitals. A 53 year old male died on 19 October.

Symptoms include fever, headache, myalgia and most cases had pneumonic changes on chest X-ray. Preliminary serology on seven of the 15 cases suggest a diagnosis of psittacosis. Some patients have reported contact with wild birds. The Department of Health and Community Services is conducting a case-control study to determine common exposure and risk factors. In addition they are conducting further investigations in collaboration with the Department of Conservation and Natural Resources, the Department of Agriculture and local government.

**Table 1. Australian Sentinel Practice Research Network, weeks 40 and 41, 1995**

| Condition       | Week 40, to 8 October 1995 |                          | Week 41, to 15 October 1995 |                          |
|-----------------|----------------------------|--------------------------|-----------------------------|--------------------------|
|                 | Reports                    | Rate per 1000 encounters | Reports                     | Rate per 1000 encounters |
| Influenza       | 49                         | 7.1                      | 23                          | 3.6                      |
| Rubella         | 4                          | 0.6                      | 7                           | 1.1                      |
| Measles         | 1                          | 0.1                      | 0                           | 0                        |
| Chickenpox      | 14                         | 2.0                      | 6                           | 0.9                      |
| Pertussis       | 5                          | 0.7                      | 1                           | 0.2                      |
| Gastroenteritis | 111                        | 16.1                     | 81                          | 12.7                     |

**Sterile Sites Surveillance (LabDOSS)**

Data for this four weekly period have been provided by 11 laboratories. There were 349 reports of significant sepsis:

**New South Wales:** South Western Area Pathology Service 77; Prince of Wales Hospital, Sydney 51; Royal North Shore Hospital 39.

**Tasmania:** Royal Hobart Hospital 25; Northern Tasmanian Pathology Service 12.

**Queensland:** Nambour General Hospital 11; Sullivan, Nicholaides and Partners 22; Ipswich General Hospital 36; Central Queensland Pathology 7.

**Australian Capital Territory:** Woden Valley Hospital 32.

**Northern Territory:** Alice Springs Hospital 37.

Organisms reported 5 or more times from blood are detailed in Table 2.

Other blood isolates not included in Table 2 were:

**Gram positive:** 3 *Bacillus* species, 1 *Corynebacterium jeikeium*, 4 *Corynebacterium* species, 1 *Corynebacterium diphtheriae*, 1 *Enterococcus faecium*, 1 *Enterococcus* species, 1 *Listeria monocytogenes* (83 year old immunocompromised male), 1 *Micrococcus kristinae*, 1 *Streptococcus* Group A, 3 *Streptococcus* Group B (two newborn males and a 47 year old female), 4 *Streptococcus* Group G and 1 *Streptococcus* species.

**Gram negative:** 2 *Branhamella catarrhalis*, 1 *Campylobacter jejuni*, 1 *Campylobacter* species, 1 *Comamonas acidivorans*, 1 *Enterobacter aerogenes*, 1 *Enterobacter cloacae*, 1 *Haemophilus parainfluenzae*, 3 *Klebsiella oxytoca*, 3 *Klebsiella* species, 4 *Morganella morganii*, 1 *Neisseria meningitidis* (4 year old female), 1 *Pasteurella* species, 3 *Proteus mirabilis*, 1 *Providencia* species, 1 *Providencia stuarti*, 3 *Pseudomonas* species, 1 *Salmonella* species, 4 *Serratia marcescens* 1 *Sphigomonas paucimobilis* and 2 *Xanthomonas maltophilia*.

**Anaerobes:** 1 *Bacteroides* species and 1 *Propionibacterium acnes*.

**Fungi:** 1 *Candida albicans* and 1 *Candida* species.

There were 139 (46% of total) blood isolates reported for patients over the age of 65 years (Figure 6).

**Hospital acquired blood isolates**

A total of 31 isolates was reported as being hospital acquired. The most commonly reported organisms were *Staphylococcus aureus* (11, including 5 MRSA) and *Staphylococcus epidermidis* (4).

**Meningitis and/or CSF isolate reports**

There were 13 reports of meningitis and/or CSF isolates. Included were 3 *Neisseria meningitidis* (1 year old male and a 2 month old female both with serogroup B and a 17 year old female), 1 *Haemophilus influenzae* (one year old male), 2 *Staphylococcus aureus* (including a 32 year old male with a fracture of the thoracic spine following a football injury, MRSA), 1 *Staphylococcus coagulase negative*, 1 *Staphylococcus epidermidis*, 3 *Streptococcus pneumoniae*, 1 *Streptococcus sanguis* and 1 *Cryptococcus neoformans*.

**Isolates from sites other than blood or CSF**

**Joint fluid:** 13 reports were received this period including 7 *Staphylococcus aureus* (1 MRSA), 1 *Staphylococcus capitis*, 3 *Staphylococcus coagulase negative*, 1 *Streptococcus* Group A and 1 *Streptococcus* Group G.

**Peritoneal dialysate:** 6 reports were received. Included was 1 *Curvularia lunata*, 1 *Serratia marcescens*, 2 *Escherichia coli*, 1 *Staphylococcus aureus* and 1 *Streptococcus* species.

**Figure 6. LabDOSS reports of blood isolates, by age group**

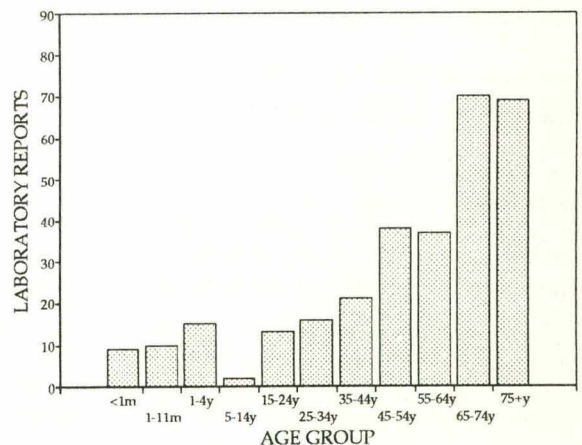


Table 2. LabDOSS reports of blood isolates, by organism and clinical information

| Organism                                 | Clinical information |                   |              |                  |               |      | Risk factors |                  |         |          | Total <sup>1</sup> |
|--|----------------------|-------------------|--------------|------------------|---------------|------|--------------|------------------|---------|----------|--------------------|
|  | Bone/Joint           | Lower respiratory | Endocarditis | Gastrointestinal | Urinary tract | Skin | Surgery      | Immunosuppressed | IV line | Neonatal |                    |
| <i>Staphylococcus aureus</i>             | 1                    |                   |              |                  |               |      | 10           | 11               | 6       |          | 74 <sup>2</sup>    |
| <i>Staphylococcus epidermidis</i>        |                      |                   |              |                  |               |      | 1            | 9                | 1       |          | 18                 |
| <i>Staphylococcus coagulase negative</i> |                      |                   |              |                  |               |      | 3            | 3                | 1       | 2        | 32                 |
| <i>Enterococcus faecalis</i>             |                      |                   |              |                  |               |      |              |                  | 1       |          | 7                  |
| <i>Streptococcus pneumoniae</i>          |                      |                   |              |                  |               |      |              | 2                |         |          | 33                 |
| <i>Escherichia coli</i>                  | 1                    |                   | 1            |                  | 1             |      | 1            | 11               | 2       |          | 49                 |
| <i>Acinetobacter</i> species             |                      |                   |              | 1                |               |      | 2            |                  |         |          | 5                  |
| <i>Klebsiella pneumoniae</i>             |                      |                   |              |                  |               |      | 1            | 3                | 1       |          | 10                 |
| <i>Pseudomonas aeruginosa</i>            |                      |                   |              |                  |               |      | 1            | 2                |         |          | 10                 |

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

2. Including 12 MRSA

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

|  | 1-11<br>mths | 1-4<br>years | 15-24<br>years | 25-34<br>years | 45-54<br>years | 65-74<br>years | 75+<br>years | Total |
|--|--------------|--------------|----------------|----------------|----------------|----------------|--------------|-------|
| <i>Neisseria meningitidis</i>            | 2            |              | 1              |                |                |                |              | 3     |
| <i>Haemophilus influenzae</i>            |              | 1            |                |                |                |                |              | 1     |
| <i>Staphylococcus aureus</i>             |              |              |                | 1              |                | 1              |              | 2     |
| <i>Staphylococcus coagulase negative</i> |              |              |                | 1              |                |                |              | 1     |
| <i>Staphylococcus epidermidis</i>        | 1            |              |                |                |                |                |              | 1     |
| <i>Streptococcus sanguis</i>             |              |              | 1              |                |                |                |              | 1     |
| <i>Haemophilus influenzae</i>            |              | 1            |                |                |                |                |              | 1     |
| <i>Streptococcus pneumoniae</i>          |              | 2            |                | 1              |                |                |              | 3     |
| <i>Cryptococcus neoformans</i>           |              |              |                |                | 1              |                |              | 1     |

**Pleural fluid:** 3 reports of organisms isolated from pleural fluid were received this period, 2 *Staphylococcus aureus* and 1 *Streptococcus sanguis*.

**Other:** 1 *Cryptococcus neoformans*, 2 *Escherichia coli*, 1 *Klebsiella* species, 1 *Proteus* species, 3 *Staphylococcus aureus*, 1 *Staphylococcus epidermidis*, 2 *Streptococcus* Group D, 1 *Streptococcus* Group F, 1 *Streptococcus pneumoniae* and 1 *Streptococcus* species.

### National Notifiable Diseases Surveillance System, 1 to 14 October 1995

There were 1190 notifications received for the period (Tables 4, 5 and 6, and Figure 8). As no notifications have been received from Queensland or the Northern Territory in respect of the current reporting period, caution is required in the interpretation of the Figure.

- There were two notifications of **Ross River virus infection**; both cases were female, both were from the age group 40-44 years, and both were notified from Western Australia. Dates of onset were re-

ported as during August and September (one case in each month).

- There was one notification of **brucellosis**; a male in the age group 55-59 years, reported from Victoria.
- There were 342 notifications of **campylobacteriosis**; 183 cases were male, 158 cases were female, and the sex of one case was not reported. Cases were reported from all age groups, with 29% of cases being aged less than 5 years.
- There were 33 notifications of **gonococcal infection** received; 31 cases were male and two cases were female. Of the total, 9 cases were reported from New South Wales, 2 cases from South Australia, 10 cases from Victoria and 12 cases from Western Australia. Recorded ages were from all age groups in the range from 15-19 years to 45-49 years, with one case in the 55-59 years age group, and one male aged less than one year; 55% of the cases were aged between 15 and 29 years.
- One case of ***Haemophilus influenzae* type b infection** was reported during the period, a female in the

- age group 70-74 years; the case was reported from Western Australia.
- Eighteen cases of **hepatitis A** were reported; 10 cases were male and 6 cases were female. The cases were from most of the age groups 15-19 years to 55-59 years, with one case over 85 years of age. Cases were reported only from New South Wales and Victoria.
- Two cases of **hepatitis B** were reported; both were males, from the age groups 15-19 years and 35-39 years.
- One case of **hepatitis C (incident)** was reported, a male from the age group 20-24 years.
- Two notifications of **legionellosis** were received. Both cases were female, one from New South Wales and one from Western Australia. Their ages were recorded as being from the 60-64 and 80-84 years age groups.
- Two cases of **leptospirosis** were reported. Both were males, one from each of the age groups 25-29 years and 40-44 years. Both cases were reported from country Victoria.
- One case of **listeriosis** was reported during the period, a female in the age group 70-74 years; the case was reported from New South Wales.
- There were 7 notifications of **malaria** received; all cases were male. Recorded ages were between 3 years and 60 years. Reported onset dates were in August (one case), September (5 cases) and October (one case). All cases were reported from capital cities (Melbourne, Sydney and Perth).
- Twenty-six cases of **measles** were reported; 21 cases were male and 5 cases were female. All cases but one were aged between 0 and 25 years, with 4 cases reported for children aged less than 2 years, and 11 cases in the age range 11-19 years. There were two apparent clusters of 2 cases each in the same postcode area, in New South Wales and Western Australia respectively.
- There were 9 cases of **meningococcal infection** reported; 4 cases were male and 5 cases were female. The cases were aged between 0 and 44 years, with 6 cases being in the age group 0-4 years. There were no apparent clusters of cases.
- There were 78 notifications of **pertussis**; 34 cases were male and 44 cases were female. All age-groups between 0-4 years and 55-59 years were represented, with one case from the 65-69 years age group, and 3 cases aged in the 80s. Two cases were aged less than one year, and 9 more less than 5 years. There were 10 apparent clusters of between 2 and 4 cases each in the same postcode area. Apparent clusters were in New South Wales (4), Victoria (one), South Australia (2), Tasmania (2) and Western Australia (one).

- One notification of **Q fever** were received from country Victoria; a male in the age group 25-29 years.
- There were 172 cases of **rubella** reported; 126 cases were male, 43 cases were female, and the sex of 3 cases was not recorded. Recorded ages of cases were from all age groups between 0 and 59 years. Fifteen cases were reported for females in the age range from 15 to 44 years. Almost half of the cases (81) were reported in males 10-24 years of age.
- There were 82 cases of **salmonellosis** reported; 37 cases were male and 45 cases were female. The cases were from all but one of the age groups 0-4 years to 70-74 years; 32% of the cases were aged less than 5 years.
- Twenty-one cases of **syphilis** were reported; 9 cases were male, 11 cases were female, and the sex of one case was not reported. One case was aged under one year. The other cases were from all age groups between 10-14 and 70-74 years.
- There were 36 cases of **tuberculosis** reported; 18 cases were male, 17 cases were female and the sex of one case was not reported. All age groups from 15-19 years to 70-74 years were represented, with 6 cases aged in their 80s. The dates of onset were reported as being in the months of June (3 cases), July (one), August (4), September (16) and October (11 cases). To the end of September, 814 cases had been notified during 1995. Adjusting for the time period and using 1995 age-specific population estimates, notification rates show 3 peaks, in the 0-4 years age group, in males and females in their 30s, and in the elderly (Figure 7). Very high rates are seen in elderly males.
- Six cases of **yersiniosis** were reported; 3 cases were male and 3 were female. The age groups of the cases ranged from 0-4 years to 40-44 years.

Figure 7. Adjusted annual notification rates of tuberculosis per 100,000 population, 1995, by age group and sex

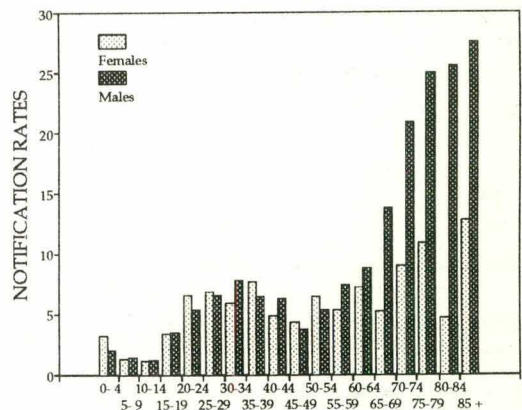
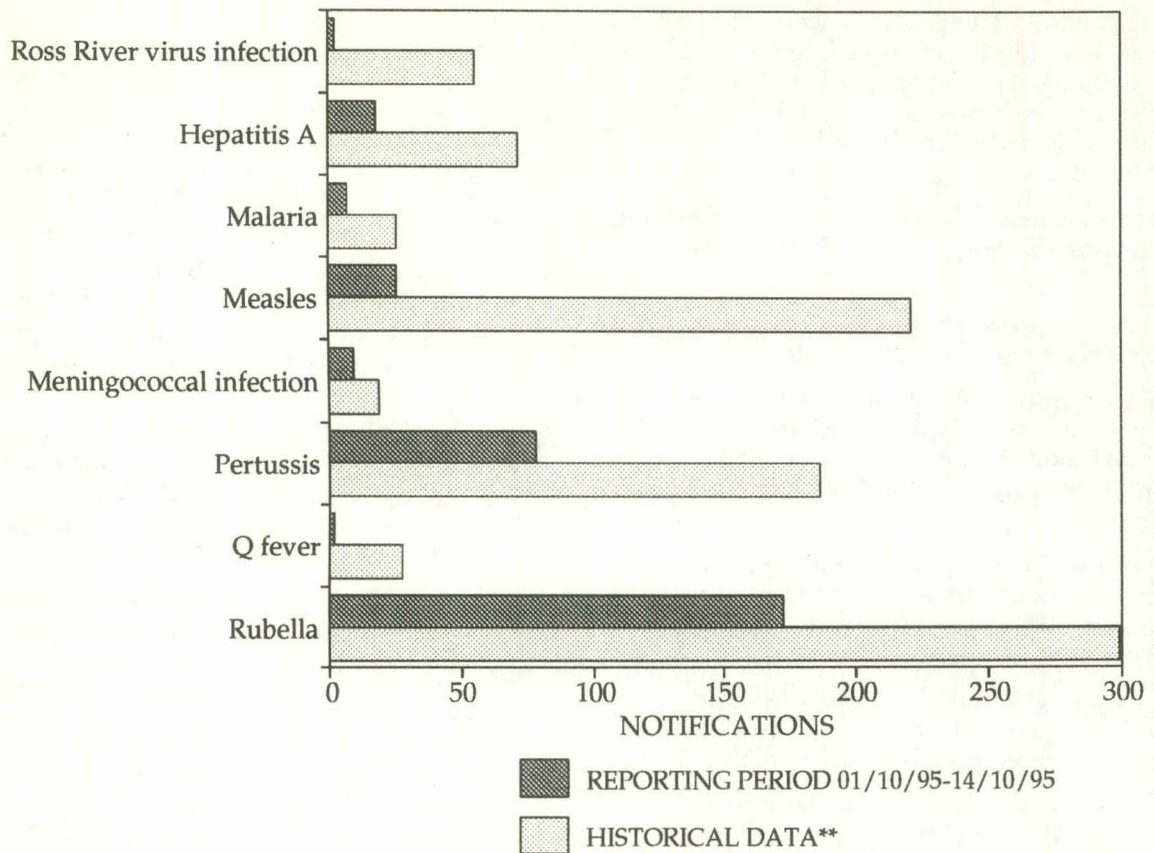


Figure 8. Selected National Notifiable Diseases Surveillance System reports, and historical data<sup>1</sup>

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 4. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by State and Territory health authorities in the period 1 to 14 October 1995

| DISEASES                                  | ACT | NSW | NT | Qld | SA | Tas | Vic | WA | TOTALS FOR AUSTRALIA <sup>1</sup> |                  |                   |                   |
|---|-----|-----|----|-----|----|-----|-----|----|-----------------------------------|------------------|-------------------|-------------------|
|   |     |     |    |     |    |     |     |    | 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                 |
| <i>Haemophilus influenzae</i> b infection | 0   | 0   |    |     | 0  | 0   | 0   | 1  | 1                                 | 3                | 56                | 145               |
| Measles                                   | 2   | 10  |    |     | 0  | 1   | 7   | 6  | 26                                | 288              | 1097              | 3529              |
| Mumps                                     | 0   | 0   |    | NN  | 1  | 0   | 0   | 1  | 2                                 | 5                | 52                | 72                |
| Pertussis                                 | 0   | 31  |    |     | 24 | 7   | 10  | 6  | 78                                | 256              | 3136              | 4254              |
| Poliomyelitis                             | 0   | 0   | 0  |     | 0  | 0   | 0   | 0  | 0                                 | 0                | 0                 | 0                 |
| Rubella                                   | 9   | 33  |    |     | 1  | 8   | 89  | 32 | 172                               | 208              | 2117              | 1677              |
| Tetanus                                   | 0   | 0   |    |     | 0  | 0   | 0   | 0  | 0                                 | 1                | 3                 | 11                |

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 5. Notifications of other diseases<sup>1</sup> received by State and Territory health authorities in the period 1 to 14 October 1995**

| DISEASES                                | ACT | NSW | NT | Qld | SA  | Tas | Vic | WA | TOTALS FOR AUSTRALIA <sup>2</sup> |                  |                   |                   |  |
|---|-----|-----|----|-----|-----|-----|-----|----|-----------------------------------|------------------|-------------------|-------------------|--|
|   |     |     |    |     |     |     |     |    | This period 1995                  | This period 1994 | Year to date 1995 | Year to date 1994 |  |
| Arbovirus infection                     |     |     |    |     |     |     |     |    |                                   |                  |                   |                   |  |
| Ross River virus infection              | 0   | 0   |    |     | 0   | -   | 0   | 2  | 2                                 | 35               | 2294              | 3797              |  |
| Dengue                                  | 0   | 0   |    |     | 0   | -   | 0   | 0  | 0                                 | 1                | 0                 | 16                |  |
| NEC <sup>3</sup>                        | 0   | 2   |    |     | 0   | 0   | 0   | 1  | 3                                 | 12               | 740               | 479               |  |
| Campylobacteriosis <sup>4</sup>         | 16  | -   |    |     | 121 | 6   | 142 | 57 | 342                               | 442              | 8082              | 7498              |  |
| Chlamydial infection (NEC) <sup>5</sup> | 0   | NN  |    |     | 6   | 1   | 50  | 37 | 94                                | 227              | 4550              | 5119              |  |
| Donovanosis                             | 0   | NN  |    |     | NN  | 0   | 0   | 1  | 1                                 | 8                | 60                | 87                |  |
| Gonococcal infection <sup>6</sup>       | 0   | 9   |    |     | 2   | 0   | 10  | 12 | 33                                | 104              | 2308              | 2293              |  |
| Hepatitis A                             | 0   | 12  |    |     | 0   | 0   | 6   | 0  | 18                                | 60               | 1111              | 1544              |  |
| Hepatitis B                             | 0   | 0   |    |     | 0   | 0   | 2   | 0  | 2                                 | 15               | 262               | 269               |  |
| Hepatitis C incident                    | -   | 1   |    |     | 0   | -   | -   | -  | 1                                 | 7                | 82                | 32                |  |
| Hepatitis C unspecified                 | 5   |     |    |     |     | 6   | 169 | 54 | 234                               | 367              | 7196              | 7158              |  |
| Hepatitis (NEC)                         | 0   | 0   |    |     | 0   | 0   | 0   | NN | 0                                 | 1                | 31                | 34                |  |
| Legionellosis                           | 0   | 1   |    |     | 0   | 0   | 0   | 1  | 2                                 | 7                | 146               | 147               |  |
| Leptospirosis                           | 0   | 0   |    |     | 0   | 0   | 2   | 0  | 2                                 | 12               | 98                | 103               |  |
| Listeriosis                             | 0   | 1   |    |     | 0   | 0   | 0   | 0  | 1                                 | 1                | 51                | 20                |  |
| Malaria                                 | 0   | 1   |    |     | 0   | 0   | 3   | 3  | 7                                 | 22               | 478               | 595               |  |
| Meningococcal infection                 | 0   | 2   |    |     | 1   | 0   | 6   | 0  | 9                                 | 22               | 290               | 306               |  |
| Ornithosis                              | 0   | NN  |    |     | 0   | 0   | 0   | 0  | 0                                 | 3                | 98                | 65                |  |
| Q fever                                 | 0   | 0   |    |     | 0   | 0   | 1   | 0  | 1                                 | 32               | 347               | 542               |  |
| Salmonellosis (NEC)                     | 0   | 8   |    |     | 20  | 7   | 29  | 18 | 82                                | 127              | 4784              | 4213              |  |
| Shigellosis <sup>4</sup>                | 0   | -   |    |     | 1   | 0   | 1   | 1  | 3                                 | 31               | 604               | 595               |  |
| Syphilis                                | 0   | 13  |    |     | 0   | 1   | 4   | 3  | 21                                | 77               | 1573              | 1837              |  |
| Tuberculosis                            | 1   | 4   |    |     | 1   | 2   | 24  | 4  | 36                                | 51               | 860               | 805               |  |
| Typhoid <sup>7</sup>                    | 0   | 0   |    |     | 0   | 0   | 0   | 0  | 0                                 | 1                | 32                | 42                |  |
| Yersiniosis (NEC) <sup>4</sup>          | 0   | -   |    |     | 5   | 0   | 0   | 1  | 6                                 | 17               | 254               | 338               |  |

- For HIV and AIDS, see Tables 2 and 3. CDI 1995; 19: 528. For rarely notified diseases, see Table 6.
- Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.
- Tas: includes Ross River virus and dengue.
- NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.

- WA: genital only.
  - NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.
  - NSW, Vic: includes paratyphoid.
- NN Not Notifiable.  
 NEC Not Elsewhere Classified.  
 - Elsewhere Classified.

**Table 6. Notifications of rare<sup>1</sup> diseases received by State and Territory health authorities in the period 1 to 14 October 1995**

| DISEASES                        | Total this period | Reporting States or Territories | Year to date 1995 |
|---------------------------------|-------------------|---------------------------------|-------------------|
| Botulism                        | 0                 |                                 | 0                 |
| Brucellosis                     | 1                 | Vic                             | 22                |
| Chancroid                       | 0                 |                                 | 2                 |
| Cholera                         | 0                 |                                 | 5                 |
| Hydatid infection               | 0                 |                                 | 28                |
| Leprosy                         | 0                 |                                 | 6                 |
| Lymphogranuloma venereum        | 0                 |                                 | 1                 |
| Plague                          | 0                 |                                 | 0                 |
| Rabies                          | 0                 |                                 | 0                 |
| Yellow fever                    | 0                 |                                 | 0                 |
| Other viral haemorrhagic fevers | 0                 |                                 | 0                 |

- Fewer than 60 cases of each of these diseases were notified each year during the period 1988 to 1994.

Table 7. Virology and serology laboratory reports by State or Territory<sup>1</sup> for the reporting period 5 to 19 October 1995, historical data<sup>2</sup>, and total reports for the year

|  | State or Territory 1 |     |    |     |    |     |     |    | Total this fortnight | Historical data <sup>2</sup> | Total reported this year |
|--|----------------------|-----|----|-----|----|-----|-----|----|----------------------|------------------------------|--------------------------|
|  | ACT                  | NSW | NT | Qld | SA | Tas | Vic | WA |                      |                              |                          |
| <b>MEASLES, MUMPS, RUBELLA</b>         |                      |     |    |     |    |     |     |    |                      |                              |                          |
| Measles virus                          |                      |     |    | 2   |    |     | 1   |    | 3                    | 54.0                         | 271                      |
| Mumps virus                            |                      |     |    | 1   |    |     |     |    | 1                    | 3.0                          | 61                       |
| Rubella virus                          |                      | 18  |    | 58  |    |     | 2   |    | 78                   | 70.7                         | 659                      |
| <b>HEPATITIS VIRUSES</b>               |                      |     |    |     |    |     |     |    |                      |                              |                          |
| Hepatitis A virus                      |                      |     | 1  | 31  |    |     | 1   |    | 33                   | 10.3                         | 383                      |
| Hepatitis B virus                      | 1                    |     | 4  | 62  |    |     | 8   |    | 75                   | 80.5                         | 1,936                    |
| Hepatitis C virus                      | 15                   | 16  | 5  | 174 |    | 8   | 14  | 1  | 233                  | 200.2                        | 4,813                    |
| <b>ARBOVIRUSES</b>                     |                      |     |    |     |    |     |     |    |                      |                              |                          |
| Ross River virus                       |                      | 1   | 4  | 10  |    |     |     |    | 15                   | 20.0                         | 1,019                    |
| Barmah Forest virus                    |                      | 1   | 1  | 10  |    |     |     |    | 12                   | 5.0                          | 213                      |
| <b>ADENOVIRUSES</b>                    |                      |     |    |     |    |     |     |    |                      |                              |                          |
| Adenovirus not typed/pending           |                      | 5   |    | 3   |    |     | 3   | 6  | 17                   | 56.8                         | 720                      |
| <b>HERPES VIRUSES</b>                  |                      |     |    |     |    |     |     |    |                      |                              |                          |
| Herpes simplex virus type 1            |                      | 11  | 1  | 109 |    | 2   | 21  | 2  | 146                  | 162.8                        | 3,979                    |
| Herpes simplex virus type 2            |                      | 15  | 5  | 140 |    |     | 33  |    | 193                  | 194.7                        | 4,201                    |
| Herpes simplex not typed/pending       | 5                    | 6   |    |     |    |     |     |    | 11                   | 26.7                         | 378                      |
| Cytomegalovirus                        |                      | 12  |    | 26  |    | 2   | 9   | 12 | 61                   | 65.0                         | 1,233                    |
| Varicella-zoster virus                 |                      | 4   | 1  | 28  | 1  |     | 6   |    | 40                   | 39.7                         | 875                      |
| Epstein-Barr virus                     | 1                    | 8   | 2  | 80  |    |     | 9   |    | 100                  | 54.0                         | 1,560                    |
| <b>OTHER DNA VIRUSES</b>               |                      |     |    |     |    |     |     |    |                      |                              |                          |
| Parvovirus                             |                      |     |    | 2   |    |     |     |    | 2                    | 3.8                          | 98                       |
| <b>PICORNA VIRUS FAMILY</b>            |                      |     |    |     |    |     |     |    |                      |                              |                          |
| Coxsackievirus A9                      |                      | 1   |    |     |    |     |     |    | 1                    | 1.5                          | 6                        |
| Poliovirus type 1 (uncharacterised)    |                      | 1   |    |     |    |     |     |    | 1                    | 2.2                          | 18                       |
| Poliovirus type 2 (uncharacterised)    |                      | 1   |    |     |    |     |     |    | 1                    | .8                           | 7                        |
| Rhinovirus (all types)                 |                      | 3   |    |     |    |     | 12  |    | 15                   | 43.3                         | 547                      |
| Enterovirus not typed/pending          |                      | 1   |    | 10  |    |     | 5   |    | 16                   | 43.3                         | 738                      |
| <b>ORTHO/PARAMYXOVIRUSES</b>           |                      |     |    |     |    |     |     |    |                      |                              |                          |
| Influenza A virus                      |                      |     |    | 8   |    | 2   | 3   |    | 13                   | 40.2                         | 656                      |
| Influenza B virus                      |                      | 1   |    | 13  |    |     |     | 3  | 17                   | 29.5                         | 318                      |
| Parainfluenza virus type 2             |                      |     |    |     |    |     | 1   |    | 1                    | 1.7                          | 173                      |
| Parainfluenza virus type 3             | 1                    | 3   |    | 9   |    |     | 15  | 7  | 35                   | 31.7                         | 666                      |
| Parainfluenza virus type 4             |                      |     |    | 1   |    |     |     |    | 1                    | .0                           | 2                        |
| Parainfluenza virus typing pending     |                      |     |    |     |    |     | 1   |    | 1                    | 1.7                          | 36                       |
| Respiratory syncytial virus            | 2                    | 6   |    | 6   |    | 3   | 4   | 12 | 33                   | 125.0                        | 3,692                    |
| <b>OTHER RNA VIRUSES</b>               |                      |     |    |     |    |     |     |    |                      |                              |                          |
| HIV-1                                  | 1                    | 1   |    | 7   |    | 1   |     |    | 10                   | 4.2                          | 93                       |
| Rotavirus                              | 25                   | 19  |    | 1   |    | 2   | 55  | 15 | 117                  | 133.3                        | 1,496                    |
| <b>OTHER</b>                           |                      |     |    |     |    |     |     |    |                      |                              |                          |
| <i>Chlamydia trachomatis</i> not typed | 3                    | 8   | 4  | 97  |    |     | 24  | 1  | 137                  | 84.3                         | 2,105                    |
| <i>Chlamydia</i> spp typing pending    |                      | 1   |    |     |    |     |     |    | 1                    | .3                           | 4                        |
| <i>Mycoplasma pneumoniae</i>           |                      | 1   |    | 17  |    |     | 3   |    | 21                   | 49.7                         | 258                      |
| <i>Coxiella burnetii</i> (Q fever)     |                      | 4   |    | 5   |    |     |     |    | 9                    | 16.5                         | 156                      |
| <i>Staphylococcus edipermidis</i>      |                      |     |    | 1   |    |     |     |    | 1                    | .0                           | 1                        |
| <i>Streptococcus</i> group A           |                      | 2   | 7  | 33  |    |     |     |    | 42                   | 17.7                         | 475                      |
| <i>Bordetella pertussis</i>            |                      |     |    |     |    |     | 11  |    | 11                   | 28.5                         | 507                      |

**Table 7. Virology and serology laboratory reports by State or Territory<sup>1</sup> for the reporting period 5 to 19 October 1995, historical data<sup>2</sup>, and total reports for the year, continued**

|                                  | State or Territory 1 |     |    |     |    |     |     |    | Total this fortnight | Historical data <sup>2</sup> | Total reported this year |
|----------------------------------|----------------------|-----|----|-----|----|-----|-----|----|----------------------|------------------------------|--------------------------|
|                                  | ACT                  | NSW | NT | Qld | SA | Tas | Vic | WA |                      |                              |                          |
| <i>Bordetella</i> species        |                      | 5   |    | 45  |    |     |     |    | 50                   | 7.7                          | 170                      |
| <i>Leptospira</i> species        |                      |     |    | 1   |    |     |     |    | 1                    | .5                           | 19                       |
| <i>Treponema pallidum</i>        |                      |     | 6  | 2   |    |     |     |    | 8                    | 17.0                         | 445                      |
| <i>Toxoplasma gondii</i>         |                      |     |    | 2   |    |     |     |    | 2                    | 2.5                          | 108                      |
| <i>Strongyloides stercoralis</i> |                      |     |    |     |    |     | 1   |    | 1                    | .0                           | 15                       |
| <b>TOTAL</b>                     | 54                   | 155 | 41 | 994 | 1  | 20  | 242 | 59 | 1,566                | 1,730.2                      | 35,110                   |

1. State or Territory of postcode, if reported, otherwise State or Territory of reporting laboratory.

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

**Table 8. Virology and serology laboratory reports by clinical information for the reporting period 5 to 19 October 1995**

|                                     | Encephalitis | Meningitis | Other CNS | Congenital | Respiratory | Gastrointestinal | Hepatic | Skin | Eye | Muscle/joint | Genital | Other/unknown | Total |
|-------------------------------------|--------------|------------|-----------|------------|-------------|------------------|---------|------|-----|--------------|---------|---------------|-------|
| <b>MEASLES, MUMPS, RUBELLA</b>      |              |            |           |            |             |                  |         |      |     |              |         |               |       |
| Measles virus                       |              |            |           |            |             |                  |         | 1    |     |              |         | 2             | 3     |
| Mumps virus                         |              |            |           |            |             |                  |         |      |     | 1            |         |               | 1     |
| Rubella virus                       |              |            |           | 1          | 1           |                  |         | 19   |     | 1            |         | 56            | 78    |
| <b>HEPATITIS VIRUSES</b>            |              |            |           |            |             |                  |         |      |     |              |         |               |       |
| Hepatitis A virus                   |              |            |           |            |             | 1                | 24      |      |     |              |         | 8             | 33    |
| Hepatitis B virus                   |              |            |           |            |             |                  | 6       |      |     |              | 1       | 68            | 75    |
| Hepatitis C virus                   |              |            |           |            | 1           | 3                | 15      |      |     | 1            |         | 213           | 233   |
| <b>ARBOVIRUSES</b>                  |              |            |           |            |             |                  |         |      |     |              |         |               |       |
| Ross River virus                    |              |            |           |            |             |                  |         |      |     | 2            |         | 13            | 15    |
| Barmah Forest virus                 |              |            |           |            |             |                  |         |      |     | 3            |         | 9             | 12    |
| <b>ADENOVIRUSES</b>                 |              |            |           |            |             |                  |         |      |     |              |         |               |       |
| Adenovirus not typed/pending        |              |            |           |            | 9           | 6                |         |      | 1   |              |         | 1             | 17    |
| <b>HERPES VIRUSES</b>               |              |            |           |            |             |                  |         |      |     |              |         |               |       |
| Herpes simplex virus type 1         |              |            |           |            | 5           |                  |         | 67   | 4   |              | 63      | 7             | 146   |
| Herpes simplex virus type 2         |              |            |           |            |             |                  |         | 17   |     |              | 166     | 10            | 193   |
| Herpes simplex not typed/pending    |              |            |           |            |             |                  |         | 8    |     |              | 3       |               | 11    |
| Cytomegalovirus                     |              |            | 4         |            | 26          |                  | 1       |      |     | 1            |         | 29            | 61    |
| Varicella-zoster virus              |              |            | 1         |            |             |                  |         | 19   |     |              | 1       | 19            | 40    |
| Epstein-Barr virus                  |              |            |           |            | 9           |                  |         | 3    |     |              |         | 88            | 100   |
| <b>OTHER DNA VIRUSES</b>            |              |            |           |            |             |                  |         |      |     |              |         |               |       |
| Parvovirus                          |              |            |           |            |             |                  |         | 2    |     |              |         |               | 2     |
| <b>PICORNA VIRUS FAMILY</b>         |              |            |           |            |             |                  |         |      |     |              |         |               |       |
| Coxsackievirus A9                   |              |            |           |            |             | 1                |         |      |     |              |         |               | 1     |
| Poliovirus type 1 (uncharacterised) |              |            |           |            |             | 1                |         |      |     |              |         |               | 1     |
| Poliovirus type 2 (uncharacterised) |              |            |           |            |             | 1                |         |      |     |              |         |               | 1     |
| Rhinovirus (all types)              |              |            |           |            | 15          |                  |         |      |     |              |         |               | 15    |
| Enterovirus not typed/pending       |              | 1          |           |            | 3           | 1                |         | 4    |     | 1            |         | 6             | 16    |

**Table 8. Virology and serology laboratory reports by clinical information for the reporting period 5 to 19 October 1995, continued**

|  | Encephalitis | Meningitis | Other CNS | Congenital | Respiratory | Gastrointestinal | Hepatic   | Skin       | Eye      | Muscle/joint | Genital    | Other/unknown | Total       |
|--|--------------|------------|-----------|------------|-------------|------------------|-----------|------------|----------|--------------|------------|---------------|-------------|
| <b>ORTHO/PARAMYXOVIRUSES</b>           |              |            |           |            |             |                  |           |            |          |              |            |               |             |
| Influenza A virus                      |              |            |           |            | 9           |                  |           |            |          |              |            | 4             | 13          |
| Influenza B virus                      |              |            |           |            | 8           |                  |           |            |          |              |            | 9             | 17          |
| Parainfluenza virus type 2             |              |            |           |            | 1           |                  |           |            |          |              |            |               | 1           |
| Parainfluenza virus type 3             | 1            |            |           |            | 33          |                  |           |            |          |              |            | 1             | 35          |
| Parainfluenza virus type 4             |              |            |           |            | 1           |                  |           |            |          |              |            |               | 1           |
| Parainfluenza virus typing pending     |              |            |           |            | 1           |                  |           |            |          |              |            |               | 1           |
| Respiratory syncytial virus            |              |            |           |            | 29          |                  |           |            |          |              |            | 4             | 33          |
| <b>OTHER RNA VIRUSES</b>               |              |            |           |            |             |                  |           |            |          |              |            |               |             |
| HIV-1                                  |              |            |           |            |             |                  |           |            |          |              |            | 10            | 10          |
| Rotavirus                              |              |            |           |            |             | 111              |           |            |          |              |            | 6             | 117         |
| <b>OTHER</b>                           |              |            |           |            |             |                  |           |            |          |              |            |               |             |
| <i>Chlamydia trachomatis</i> not typed |              |            |           |            | 1           |                  |           | 1          |          |              | 102        | 33            | 137         |
| <i>Chlamydia</i> spp typing pending    |              |            |           |            | 1           |                  |           |            |          |              |            |               | 1           |
| <i>Mycoplasma pneumoniae</i>           |              |            |           |            | 7           |                  |           |            |          |              |            | 14            | 21          |
| <i>Coxiella burnetii</i> (Q fever)     |              |            |           |            |             |                  |           |            |          |              |            | 9             | 9           |
| <i>Staphylococcus edipermidis</i>      |              |            |           |            |             |                  |           |            |          |              |            | 1             | 1           |
| <i>Streptococcus</i> group A           |              |            |           |            | 1           |                  |           | 1          |          | 4            |            | 36            | 42          |
| <i>Bordetella pertussis</i>            |              |            |           |            | 9           |                  |           |            |          |              |            | 2             | 11          |
| <i>Bordetella</i> species              |              |            |           |            | 22          |                  |           |            |          |              |            | 28            | 50          |
| <i>Leptospira</i> species              |              |            |           |            |             |                  |           |            |          |              |            | 1             | 1           |
| <i>Treponema pallidum</i>              |              |            |           |            |             |                  |           |            |          |              | 8          |               | 8           |
| <i>Toxoplasma gondii</i>               |              |            |           |            |             |                  |           |            |          |              |            | 2             | 2           |
| <i>Strongyloides stercoralis</i>       |              |            |           |            |             |                  |           |            |          |              |            | 1             | 1           |
| <b>TOTAL</b>                           | <b>1</b>     | <b>1</b>   | <b>5</b>  | <b>1</b>   | <b>192</b>  | <b>125</b>       | <b>46</b> | <b>142</b> | <b>5</b> | <b>14</b>    | <b>344</b> | <b>690</b>    | <b>1566</b> |

**Table 9. Virology and serology laboratory reports by contributing laboratories for the reporting period 5 to 19 October 1995**

| STATE OR TERRITORY           | LABORATORY   | REPORTS     |
|------------------------------|--|-------------|
| Australian Capital Territory | Woden Valley Hospital, Canberra                          | 55          |
| New South Wales              | Royal Alexandra Hospital for Children, Camperdown        | 12          |
|                              | Royal North Shore Hospital, St Leonards                  | 50          |
|                              | Royal Prince Alfred Hospital, Camperdown                 | 22          |
| Queensland                   | Nambour Hospital   | 1           |
|                              | Queensland Medical Laboratory, West End                  | 1109        |
| Tasmania                     | Royal Hobart Hospital, Hobart                            | 20          |
| Victoria                     | Microbiological Diagnostic Unit, University of Melbourne | 18          |
|                              | Monash Medical Centre, Melbourne                         | 41          |
|                              | Royal Children's Hospital, Melbourne                     | 128         |
|                              | Unipath Laboratories                                     | 52          |
| Western Australia            | Princess Margaret Hospital, Perth                        | 58          |
| <b>TOTAL</b>                 |  | <b>1566</b> |