
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 Australia¹. 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 expanded². 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 NHMRC³.

This is the fourth annual report of the NNDSS in its current format; previous reports were for cases reported in 1991⁴, 1992⁵ and 1993⁶.

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.

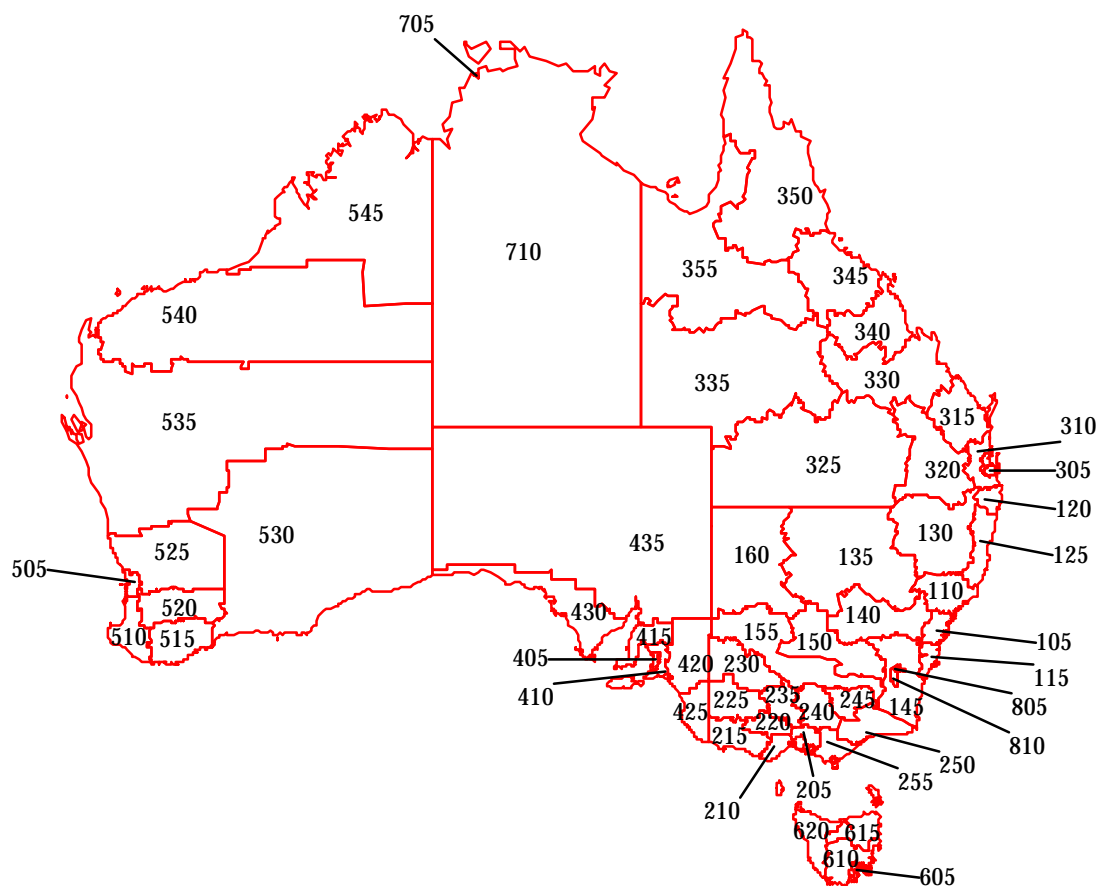
The final 1994 datasets were provided by the States and Territories between June and September 1995. They were converted to the standard format where necessary using Epi Info v6.02, Turbo Pascal, dBase IV and Visual Basic. Missing data and apparent errors such as an onset date after a report date were 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	315	Wide Bay-Burnett	205	Melbourne
810	Australian Capital Territory - balance	320	Darling Downs	210	Barwon
	391	325	South West	215	Western District
New South Wales		330	Fitzroy	220	Central Highlands
105	Sydney	335	Central West	225	Wimmera
110	Hunter	340	Mackay	230	Mallee
115	Illawarra	345	Northern	235	Loddon-Campaspe
120	Richmond-Tweed	350	Far North	240	Goulburn
125	Mid-North Coast	355	North West	245	Ovens-Murray
130	Northern	South Australia		250	East Gippsland
135	North Western	405	Adelaide	255	Gippsland
140	Central West	410	Outer Adelaide	Western Australia	
145	South Eastern	415	Yorke and Lower North	505	Perth
150	Murrumbidgee	420	Murray Lands	510	South West
155	Murray	425	South East	515	Lower Great Southern
160	Far West	430	Eyre	520	Upper Great Southern
Northern Territory		435	Northern	525	Midlands
705	Darwin	Tasmania		530	South Eastern
710	Northern Territory -balance	605	Greater Hobart	535	Central
Queensland		610	Southern	540	Pilbara
305	Brisbane	615	Northern	545	Kimberley
310	Moreton	620	Mersey-Lyell		

using postcodes of residence of the patients. Postcodes 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 definitions³, 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 separately⁷. 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

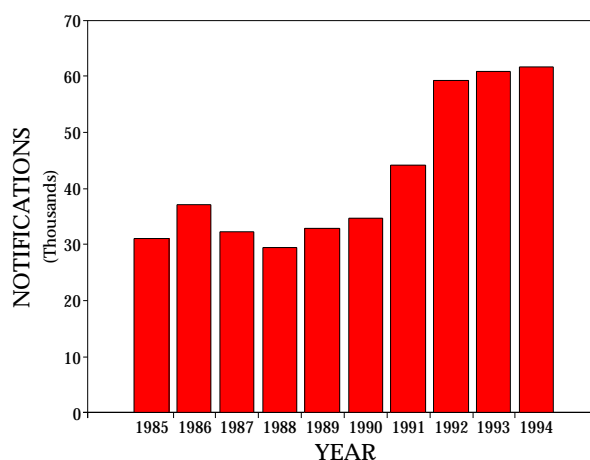


Table 1. National Notifiable Diseases Surveillance System reports, 1994, by State or Territory and disease

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 ¹	0	0	6	3	1	-	6	1	17
NEC ²	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 ³	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 ⁴	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 ⁵	6	33	-	-	4	-	-	-	43
Hepatitis C - unspecified ⁵	428		301	3177		53 ⁸	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 ⁶	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 ⁷	51	123	49	2053	81	0	211	747	3315
Salmonellosis (NEC)	44	1053	475	1450	488	119	1055	599	5283
Shigellosis ³	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) ³	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 ¹	0	0	3.5	0.1	0.1	-	0.1	0.1	0.1
NEC ²	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 ³	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 ⁴	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 ⁵	2.0	0.6	-	-	0.3	-	-	-	0.6
Hepatitis C - unspecified ⁵	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 ⁶	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 ⁷	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 ³	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) ³	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 year¹ 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 ²	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 ²	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 ³	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

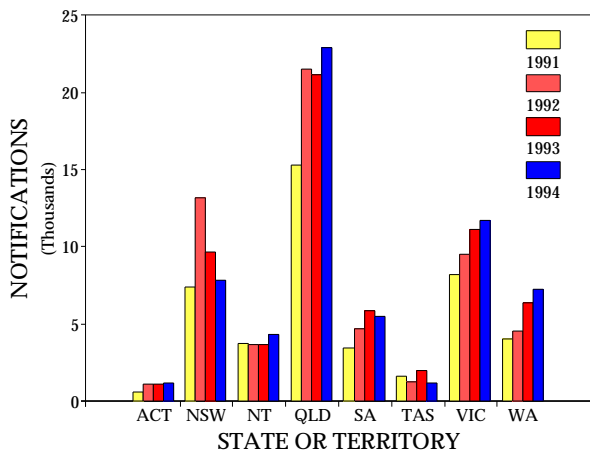
NEC Not Elsewhere Classified.

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

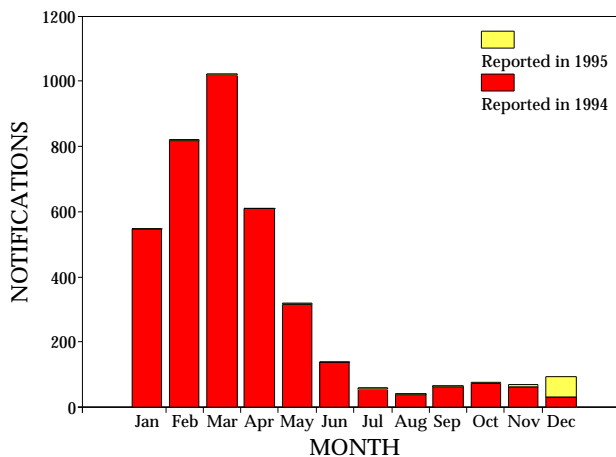


Figure 5. Annual adjusted rate of notification of Ross River virus infection per 100,000 population, 1994, by age group and sex

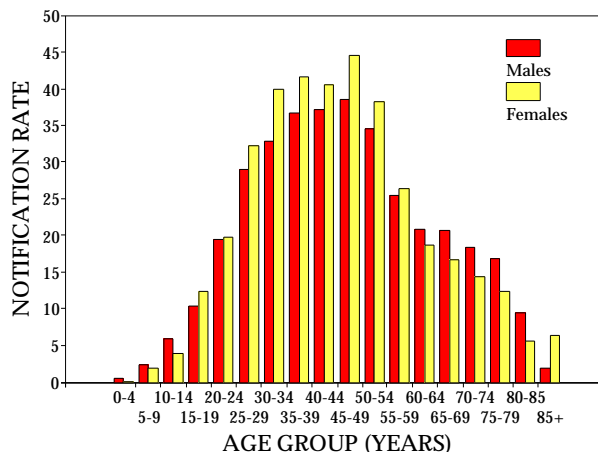
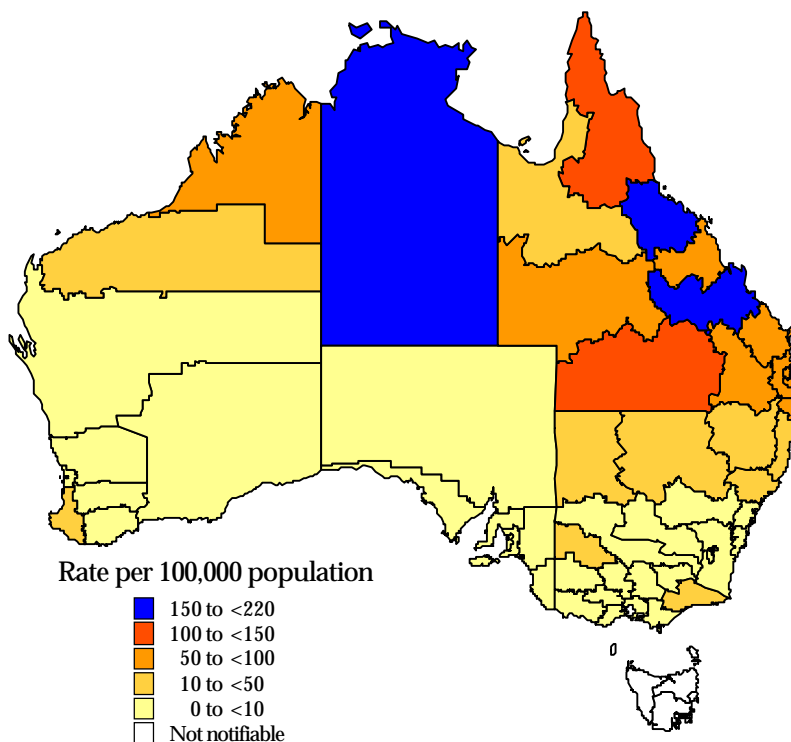


Figure 6. Annual rate of notification of Ross River virus infection per 100,000 population, 1994, by Statistical Division of residence



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

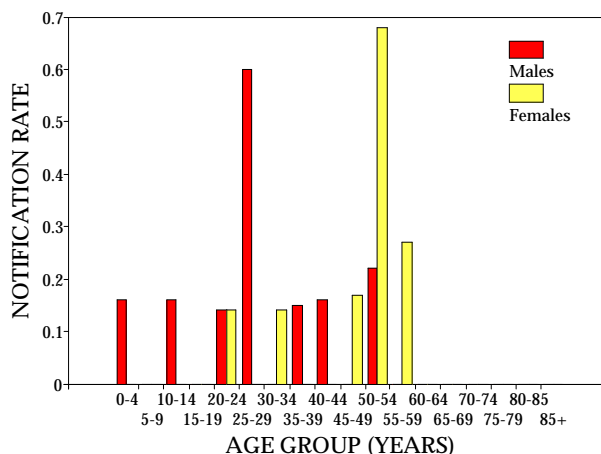
There were only 17 notifications of dengue received in 1994. This compared with 690 notifications in 1993, when there was epidemic activity in Queensland. The annual adjusted notification rate was 0.1 per 100,000 population. The cases occurred sporadically throughout the year.

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 Barmah Forest virus activity; peaks in reports of Barmah Forest virus received by the CDIVirology and Serology

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

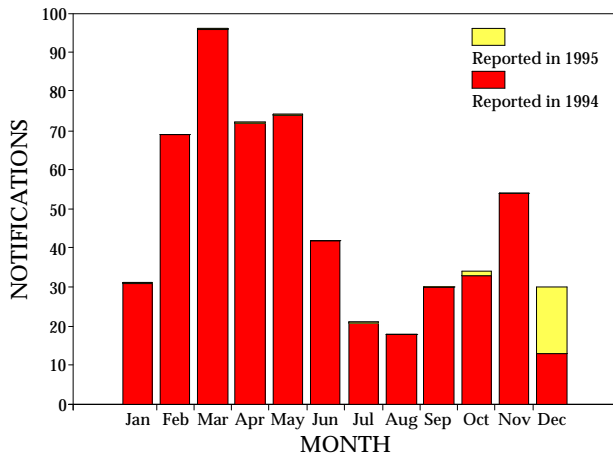
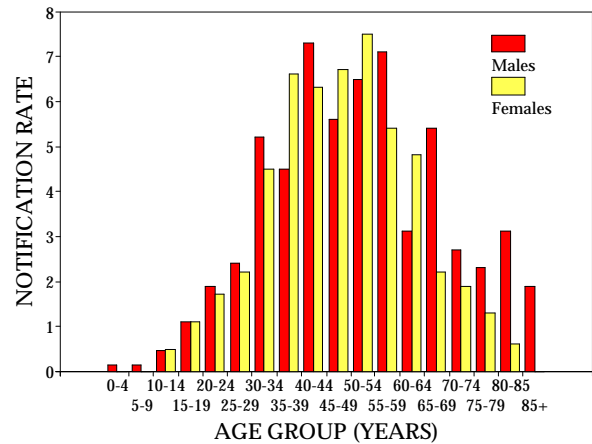


Figure 9. Annual rate of notification of arbovirus infection (not elsewhere classified) per 100,000 population, 1994, by age group and sex



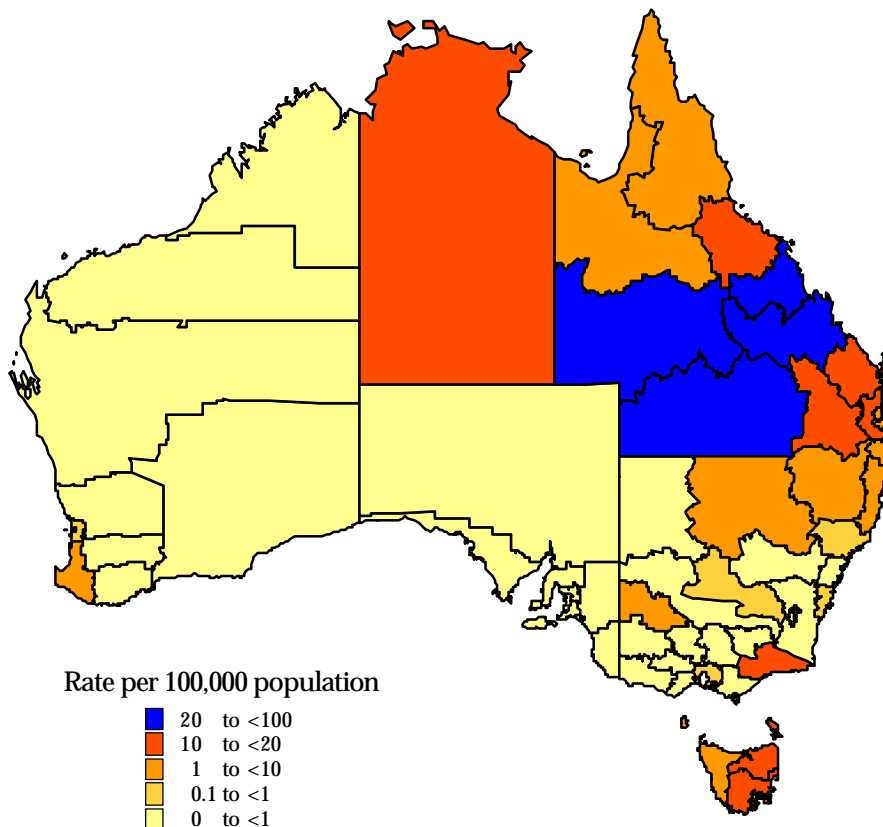
Reporting Scheme in 1994 also occurred between March and May and in November⁸.

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

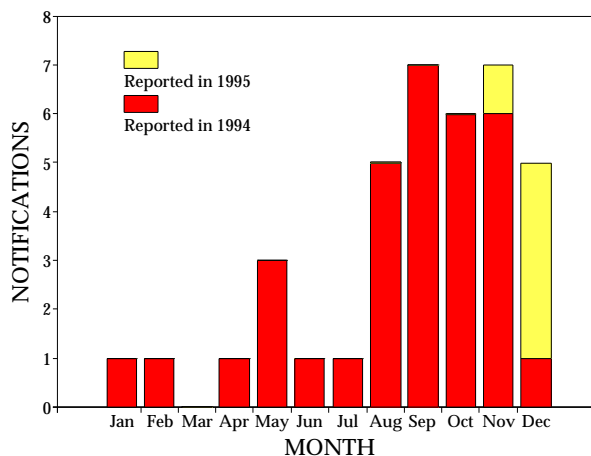


Figure 12. Annual rate of notification of brucellosis per 100,00 population, 1994, by age group and sex

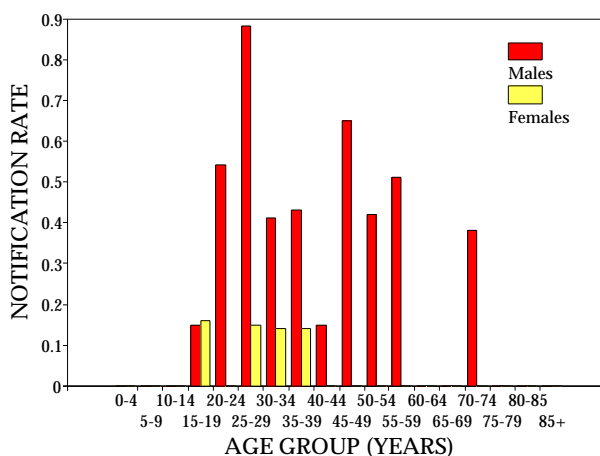
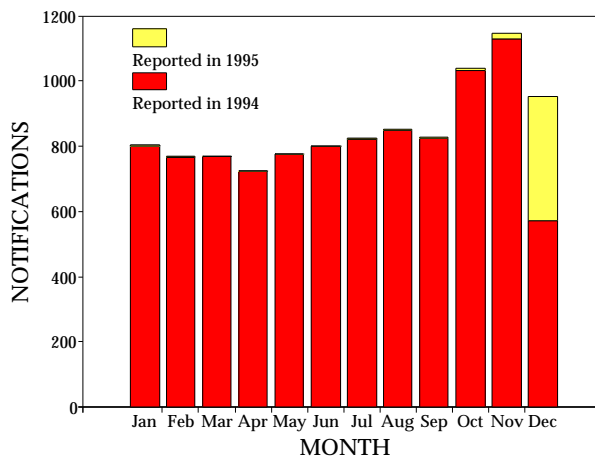


Figure 13. Notifications of campylobacteriosis with onset dates in 1994, by month of onset

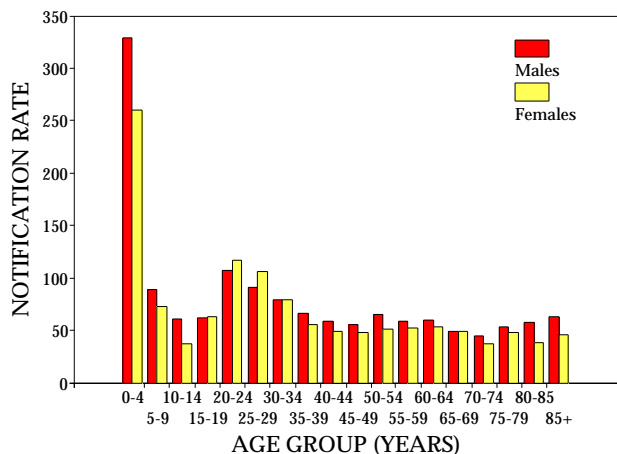


whole. The rate was lower in South Australia (70.6 per 100,000 population).

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 100,00 population, 1994, by age group and sex



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

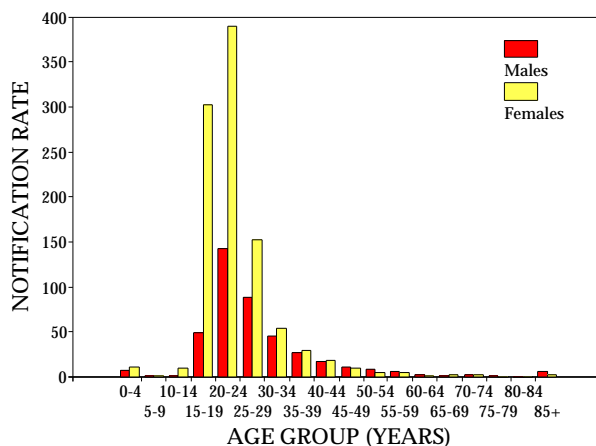
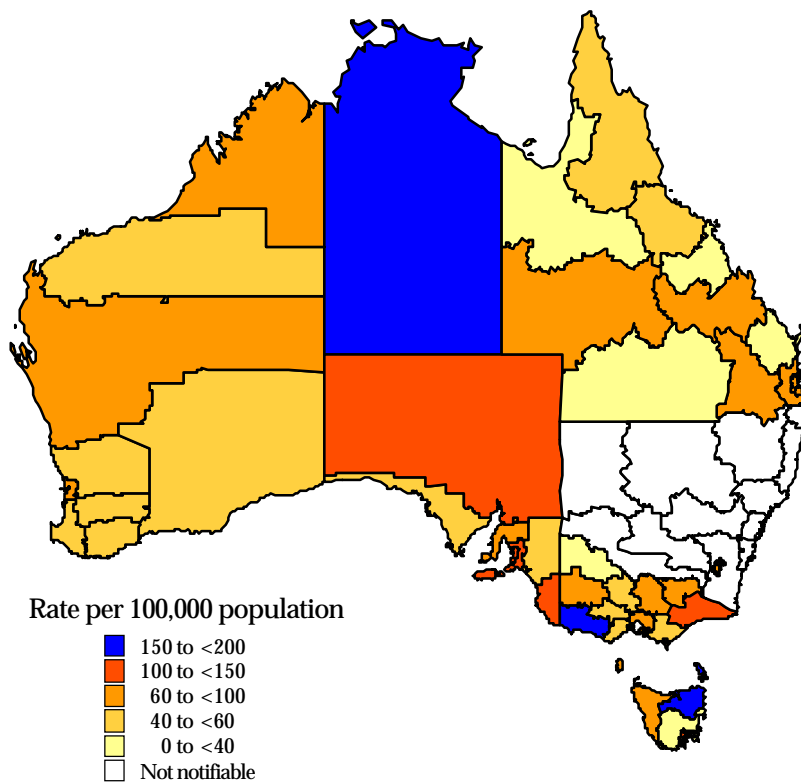


Figure 15. Annual rate of notification of campylobacteriosis per 100,000 population, 1994, by Statistical Division of residence



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.

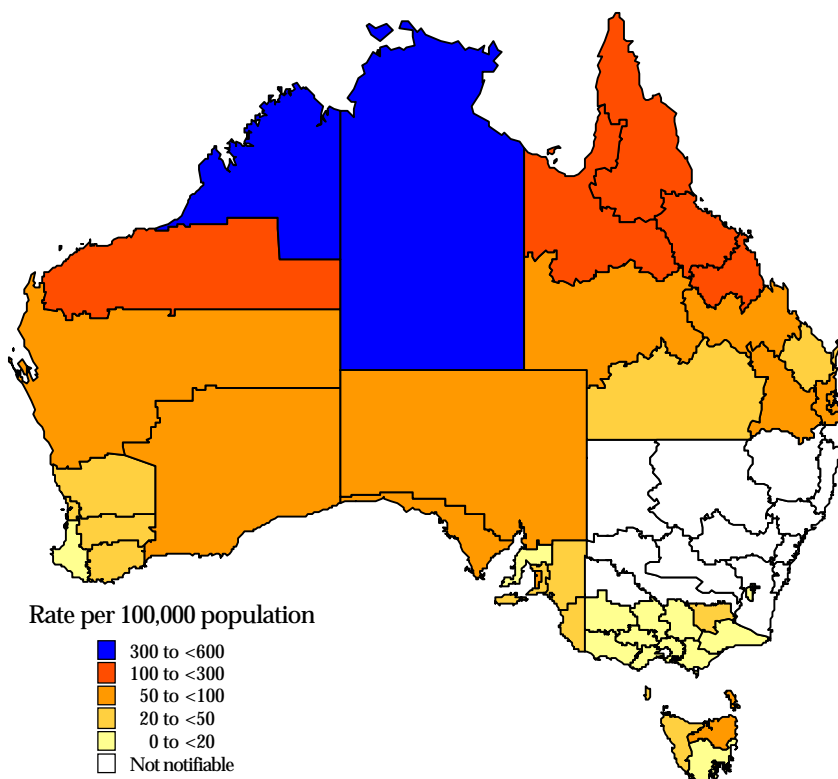
The male:female ratio in notified cases was 1.0:2.1 and 78% of notifications were for persons in the age range 15-39 years (39.8 and 28.9 per 100,000 population respectively).

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

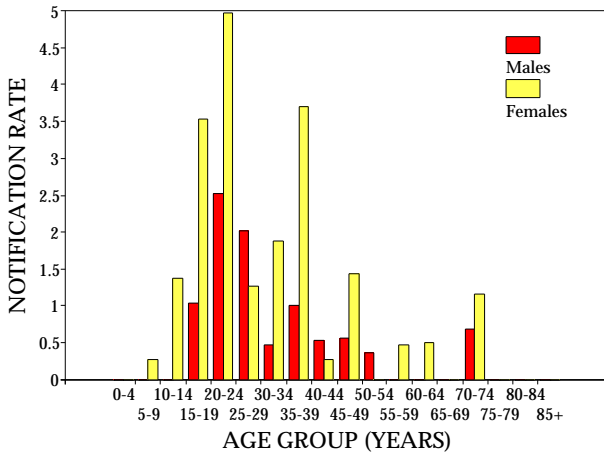


Figure 20. Annual rate of notification of gonococcal infection per 100,000 population, 1994, by age group and sex

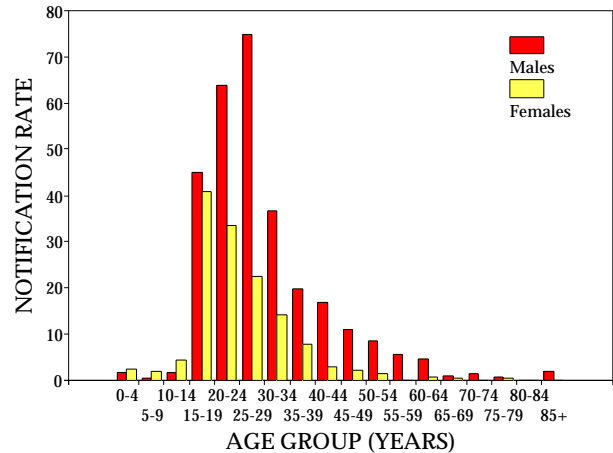
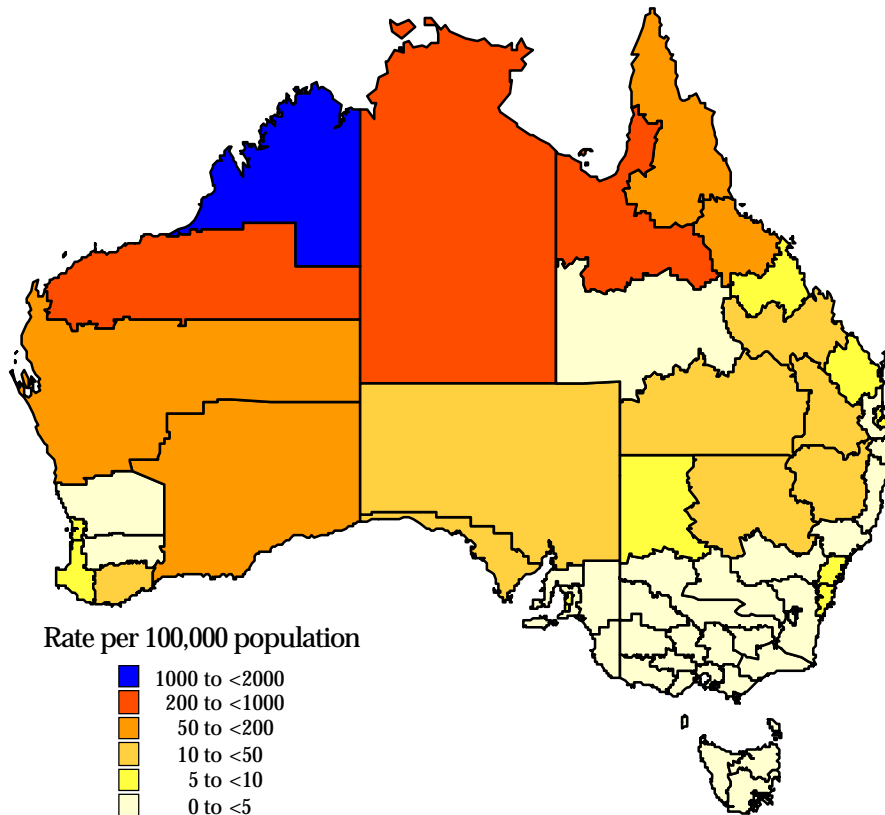


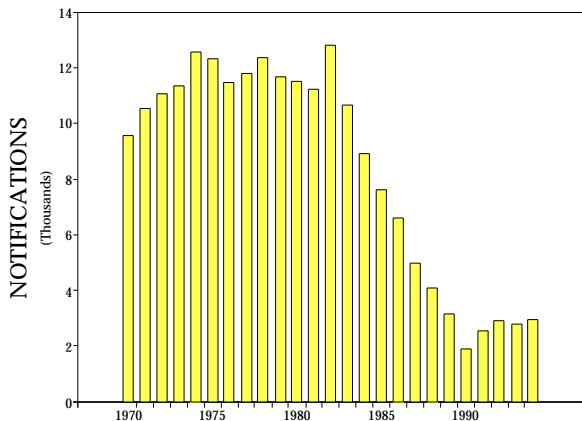
Figure 19. Annual rate of notification of gonococcal infection per 100,000 population, 1994, by Statistical Division of residence



Very high rates of notification were reported for Aboriginal populations in Western Australia (1416 per 100,00 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

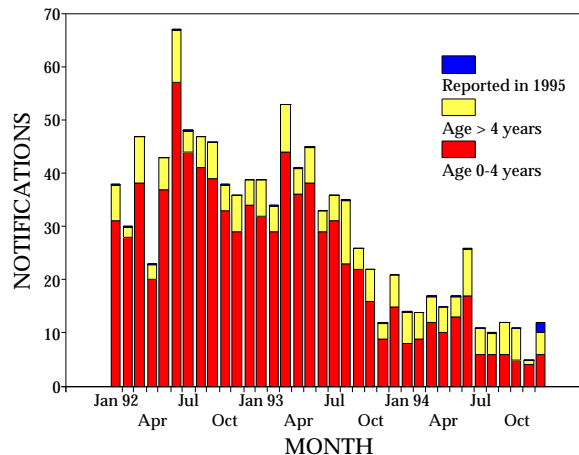
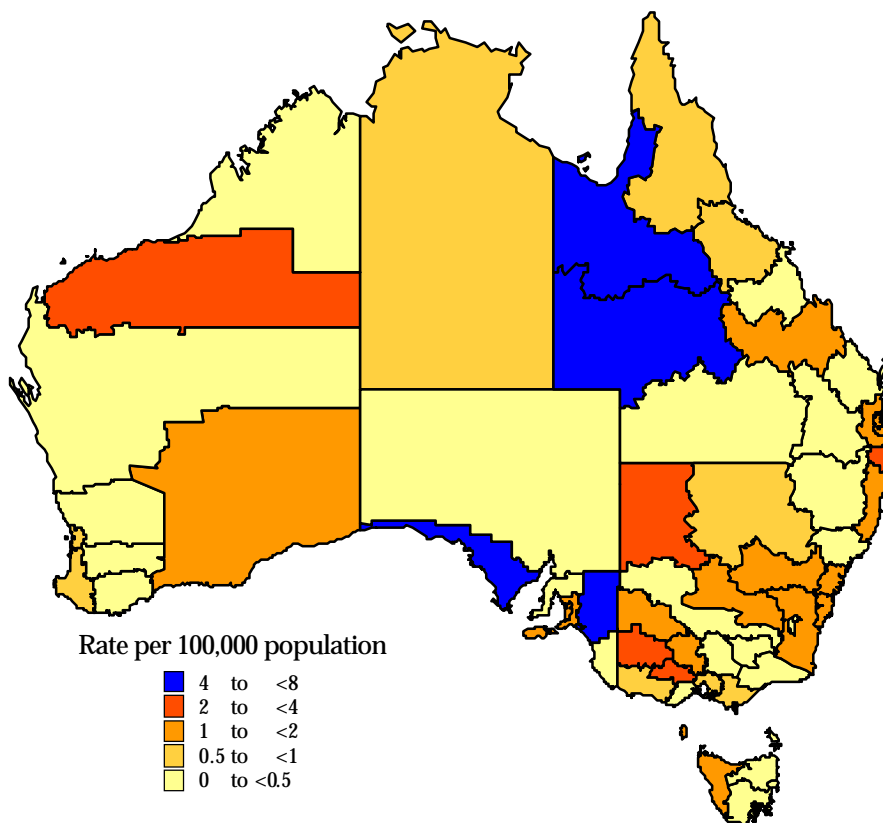
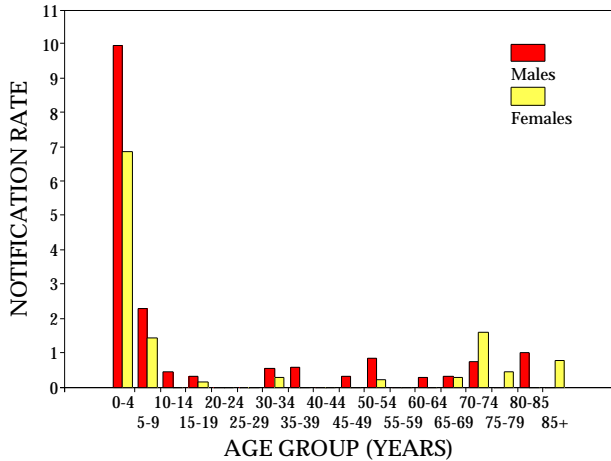


Figure 23. Annual rate of notification of Haemophilus influenzae type b infection per 100,000 population, 1994, by Statistical Division of residence



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.

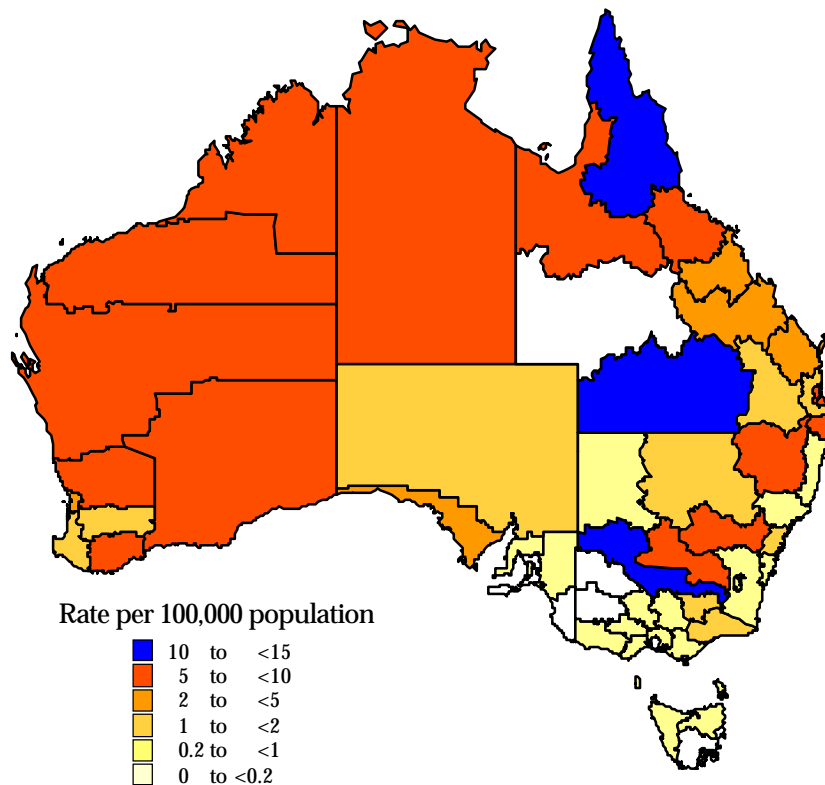
Hepatitis A

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

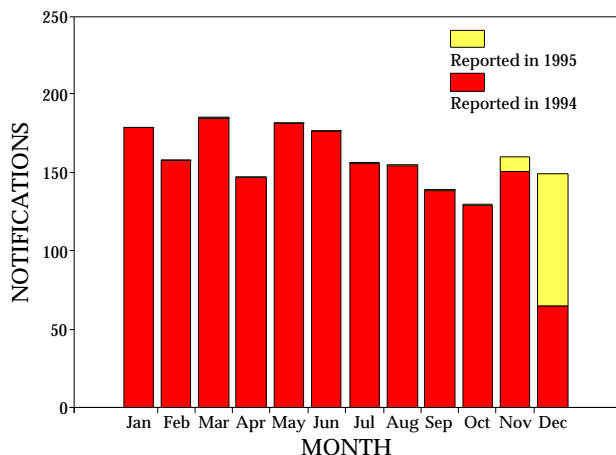


Hepatitis B

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

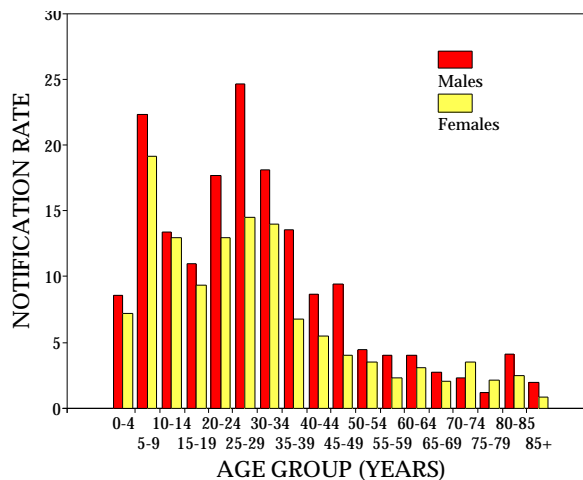


Figure 28. Annual rate of notification of hepatitis B per 100,000 population, 1994, by Statistical Division of residence

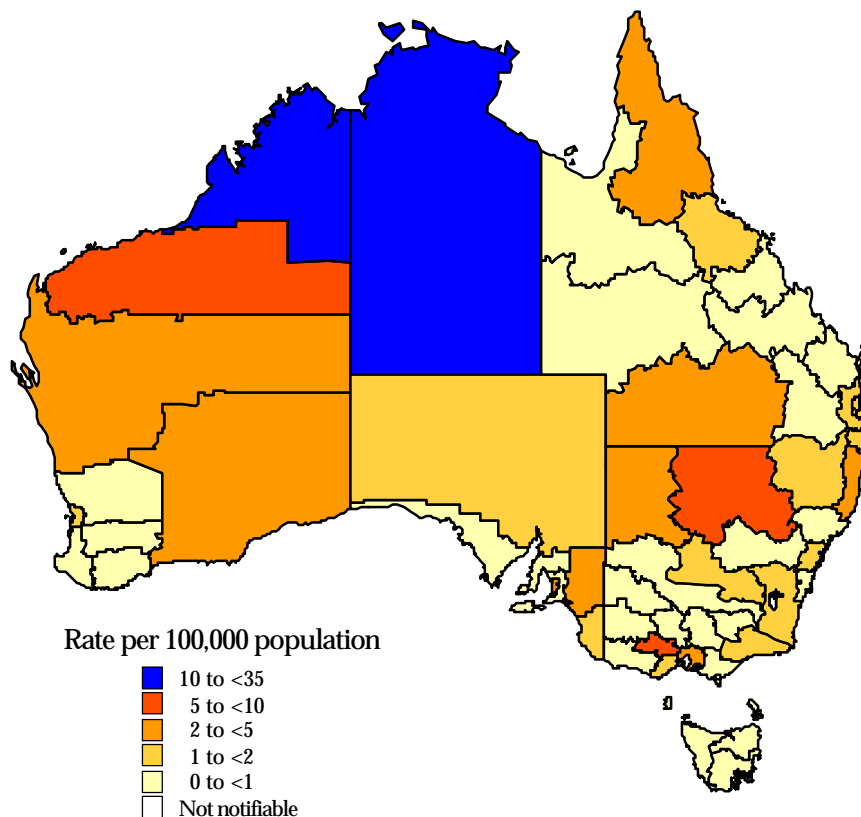


Figure 29. Annual adjusted rate of notification of hepatitis B per 100,000 population, 1994, by age group and sex

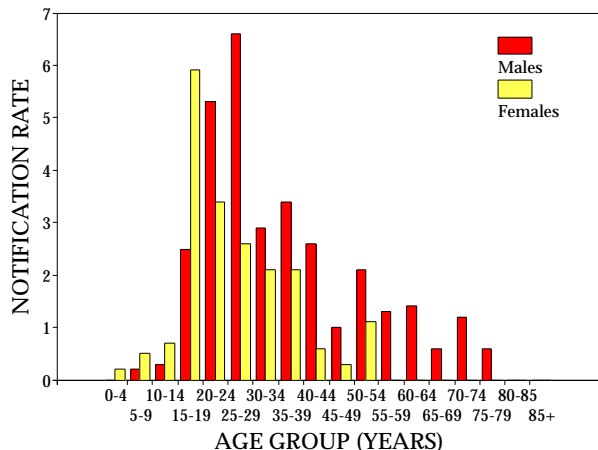


Figure 30. Annual adjusted rate of notification of hepatitis C (incident) per 100,000 population, 1994, by age group and sex

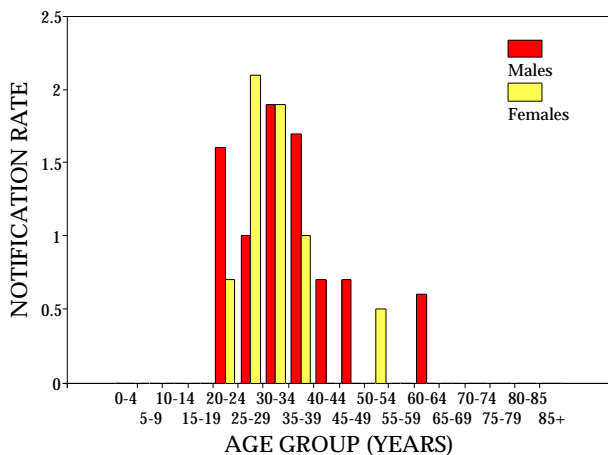
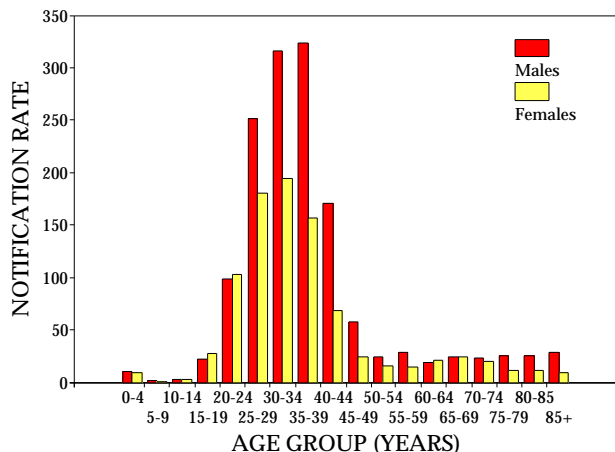


Figure 31. Annual adjusted rate of notification of hepatitis C (unspecified) per 100,000 population, 1994, by age group and sex



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)

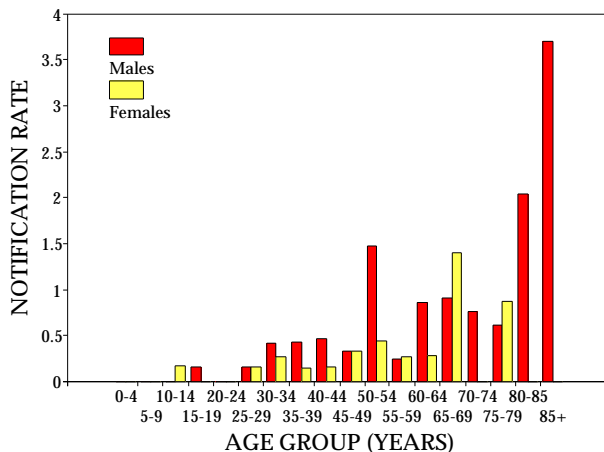
A total of 42 reports of other viral hepatitis were received for 1994. They may have included cases of hepatitis D and hepatitis E.

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 1991⁹.

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

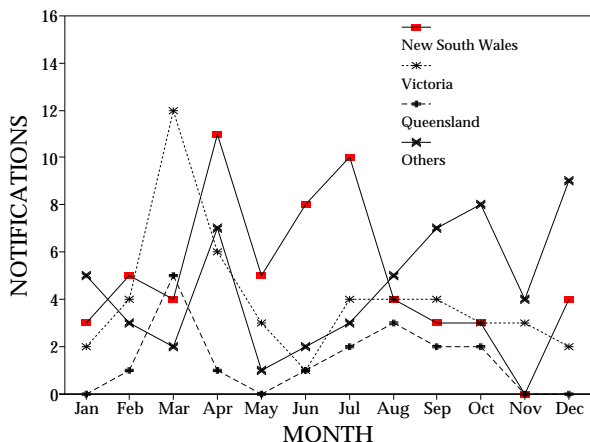
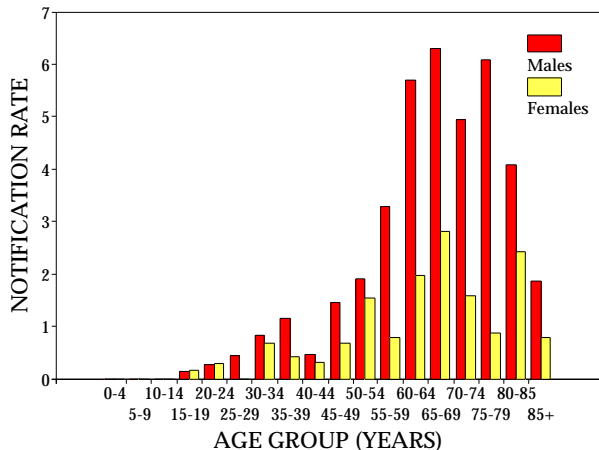


Figure 34. Annual rate of notification of legionellosis per 100,000 population, 1994, by age group and sex



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.

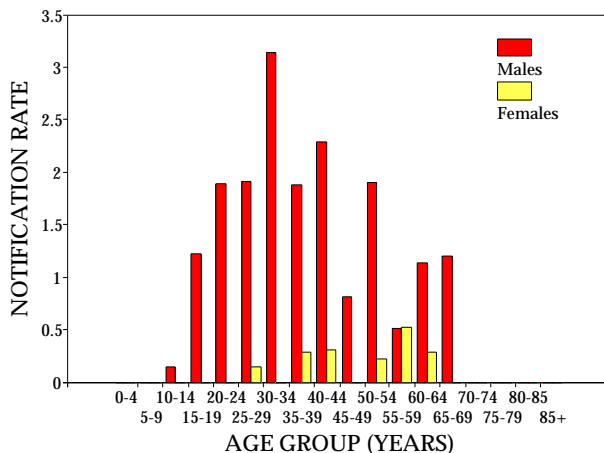
Leptospirosis

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

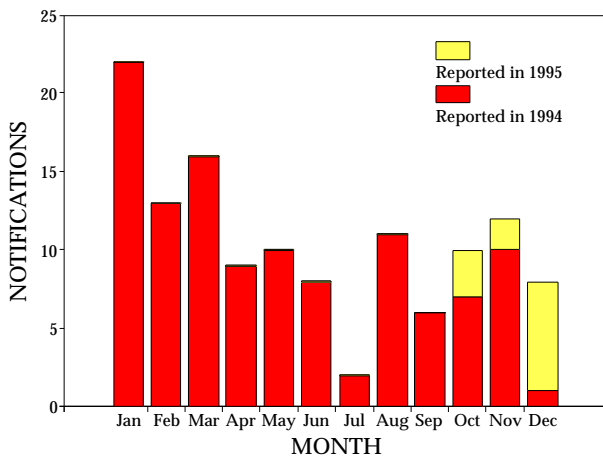


Figure 38. Annual rate of notification of listeriosis per 100,000 population, 1994, by age group and sex

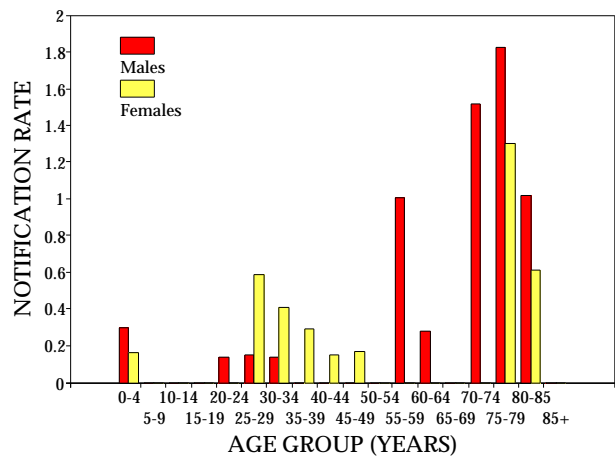
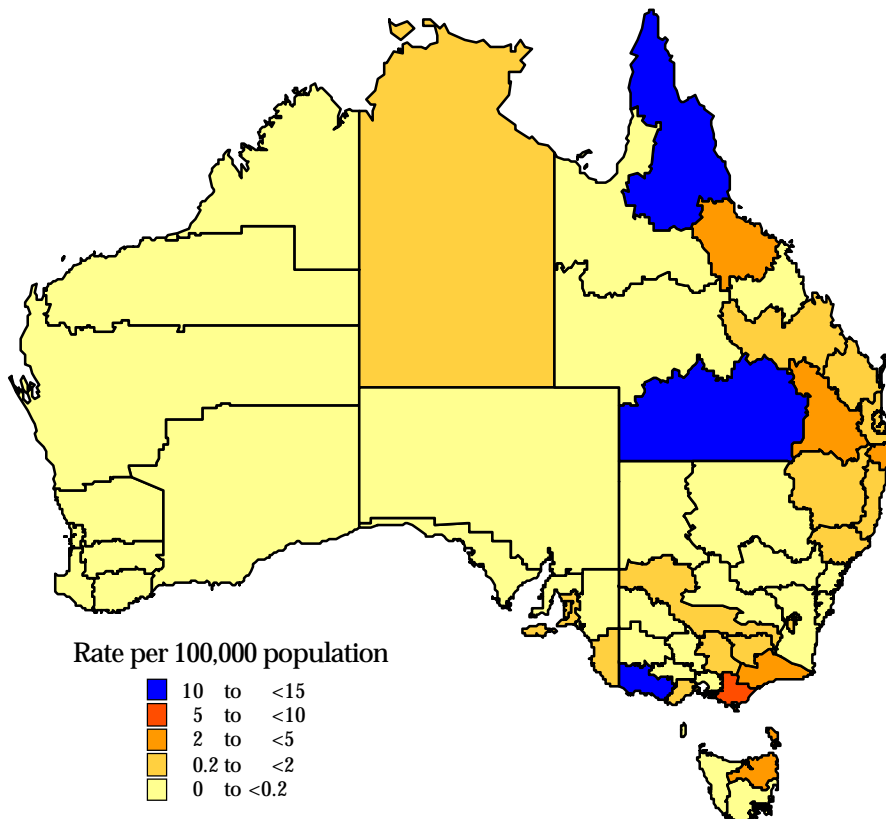


Figure 37. Annual rate of notification of leptospirosis per 100,000 population, 1994, by Statistical Division of residence



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

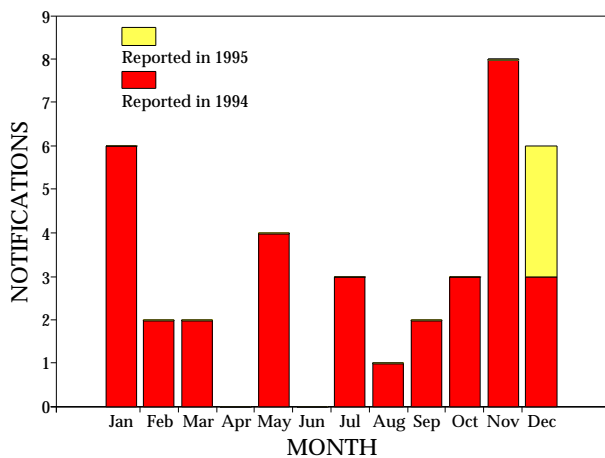


Figure 40. Notifications of malaria with onset dates in 1994, by month of onset

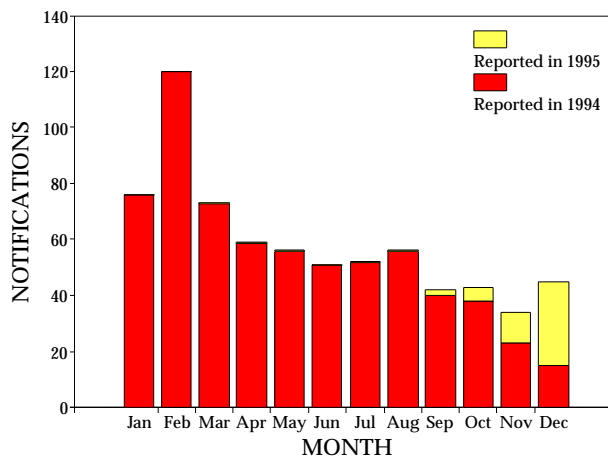


Figure 41. Annual rate of notification of malaria per 100,000 population, 1994, by Statistical Division of residence

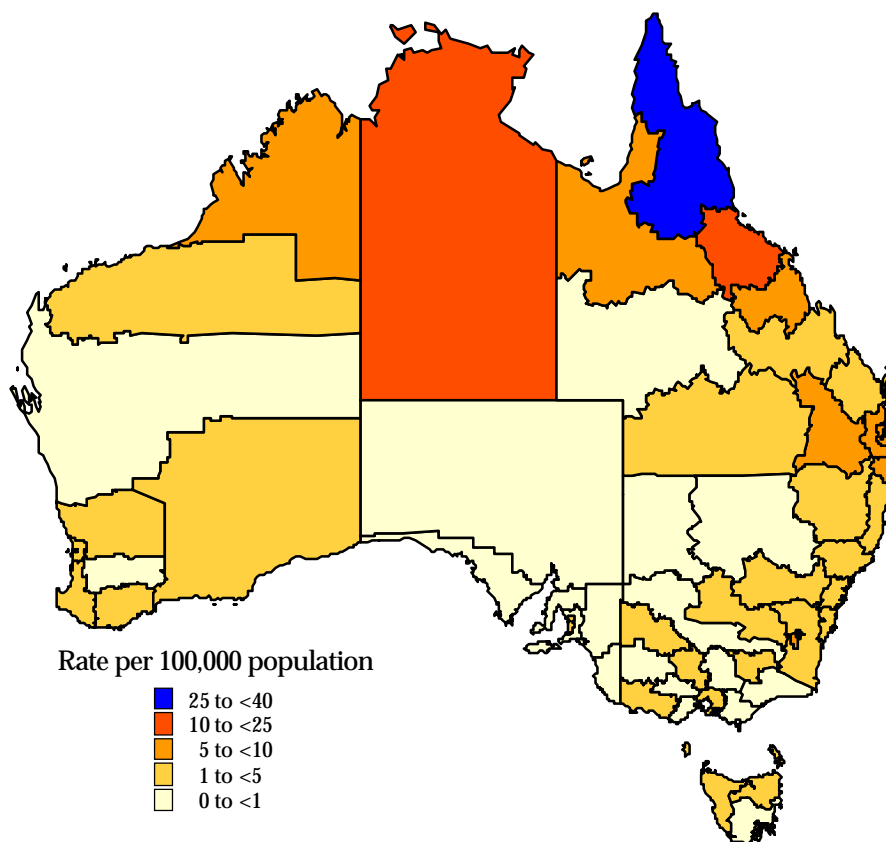
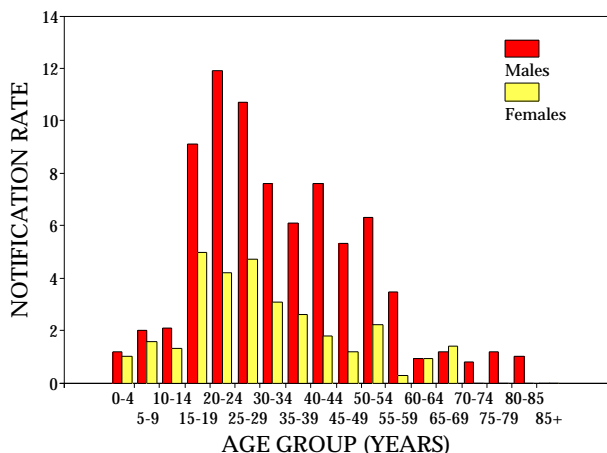


Figure 42. Annual rate of notification of malaria per 100,000 population, 1994, by age group and sex



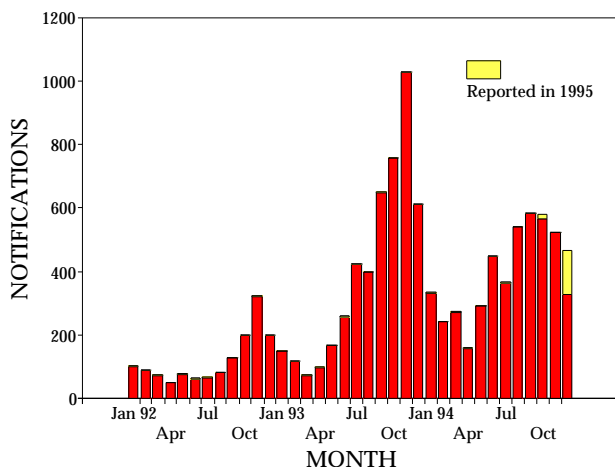
There was a marked seasonal variation with the highest number of reports occurring in February (Figure 40). This pattern was seen in most jurisdictions but was most marked in the Northern Territory and in Queensland where 25% and 21% of notifications, respectively, had onset dates in February.

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

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



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

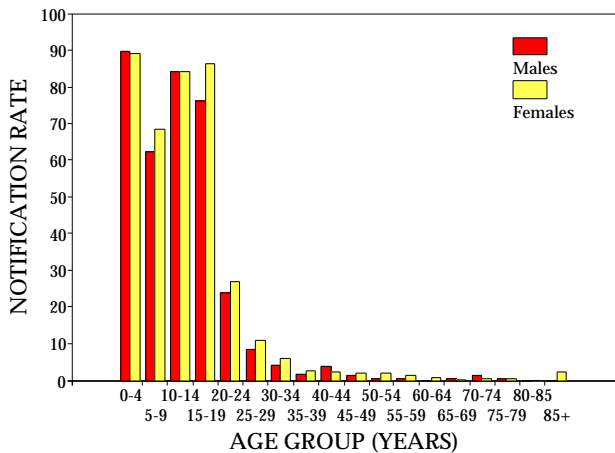


Figure 45. Notifications of measles with onset dates in 1994, by State or Territory and month of onset

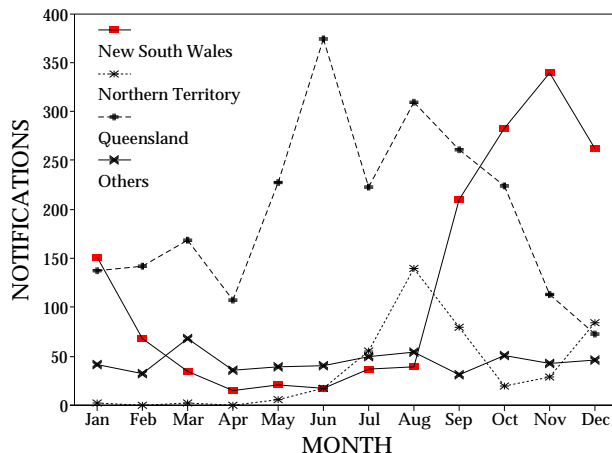
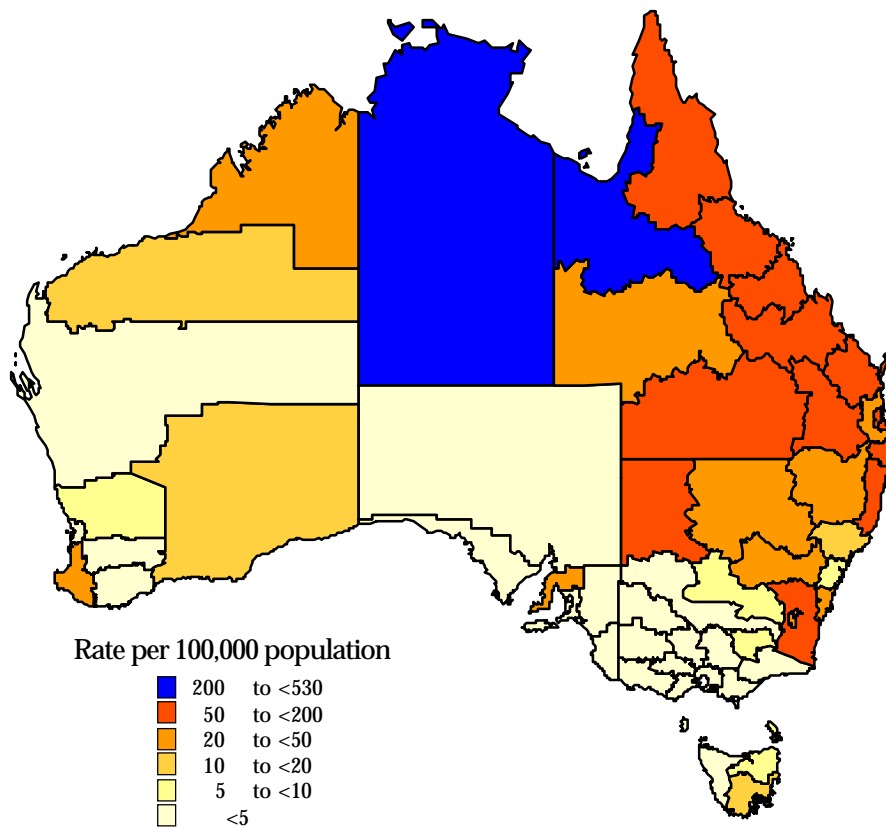


Figure 46. Annual rate of notification of measles per 100,000 population, 1994, by Statistical Division of residence

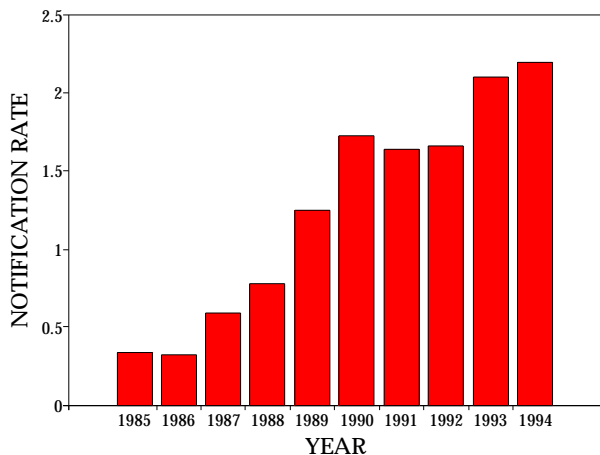


Notification rates were highest for the Statistical Divisions of Northwest Queensland (521.6 per 100,000 population) and the Northern Territory (237.0 per 100,000 population) (Figure 46).

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 meingococcal 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

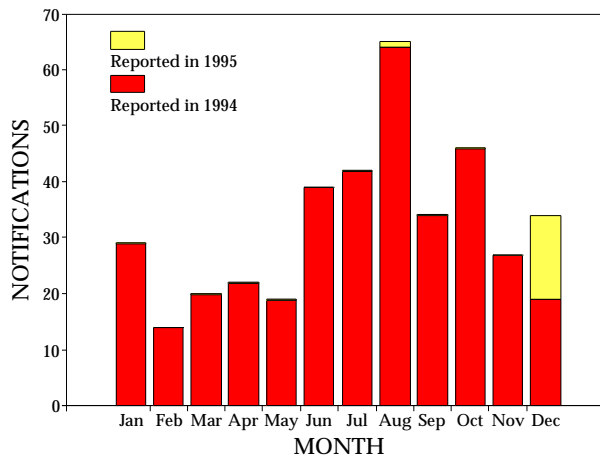


Figure 49. Annual rate of notification of meningococcal infection per 100,000 population, 1994, by Statistical Division of residence

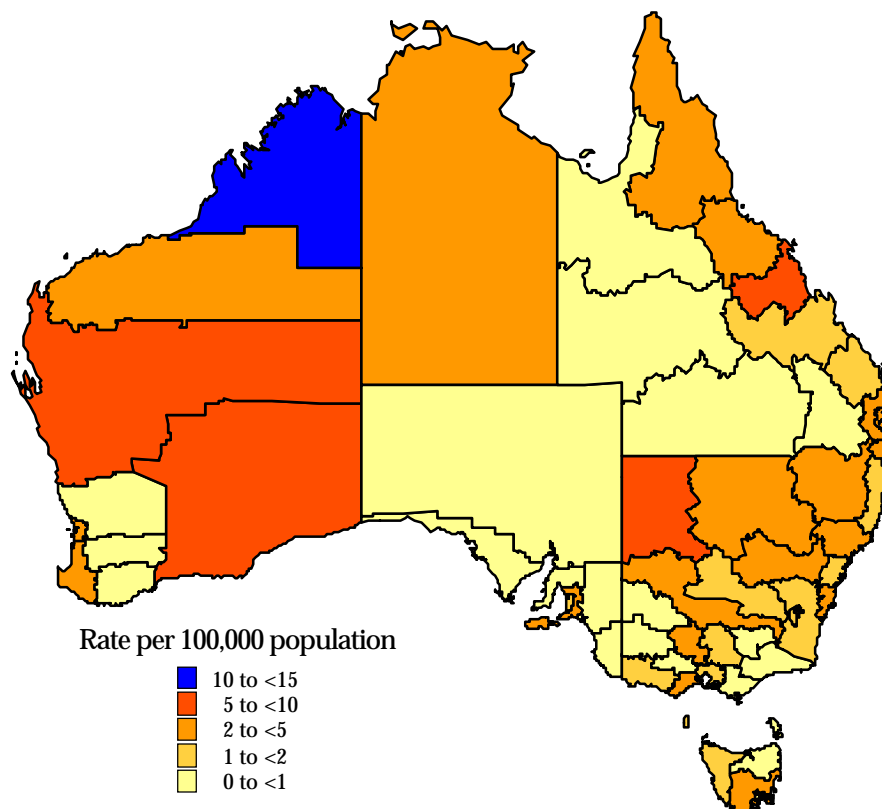
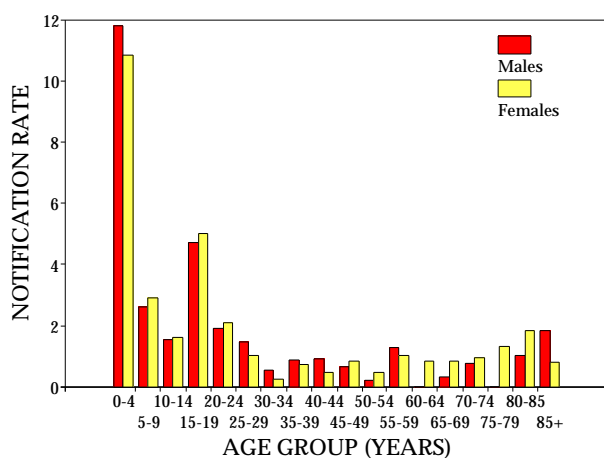


Figure 50. Annual rate of notification of meningococcal infection per 100,000 population, 1994, by age group and sex



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 serogroups¹⁰.

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

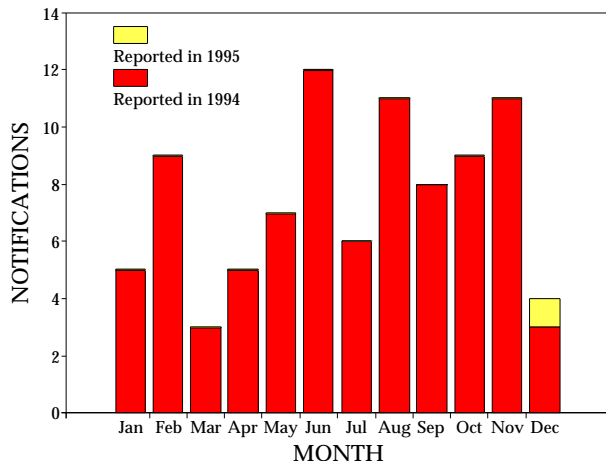
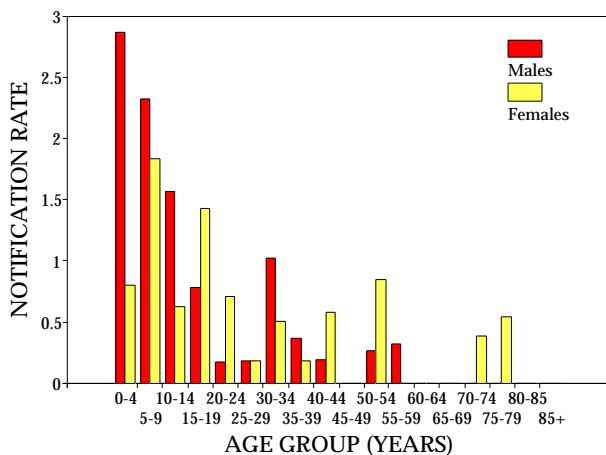


Figure 52. Annual rate of notification of mumps per 100,000 population, 1994, by age group and sex



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).

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

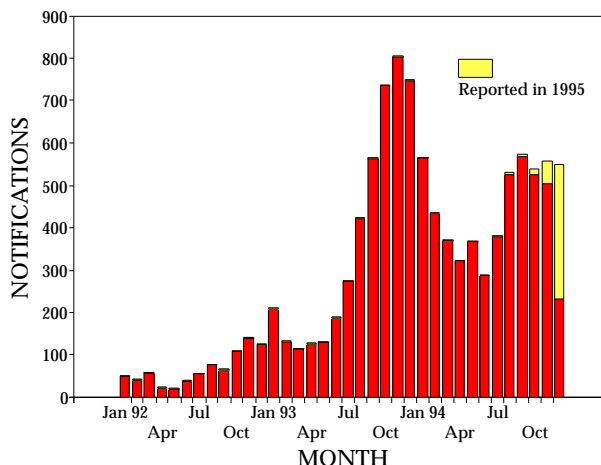
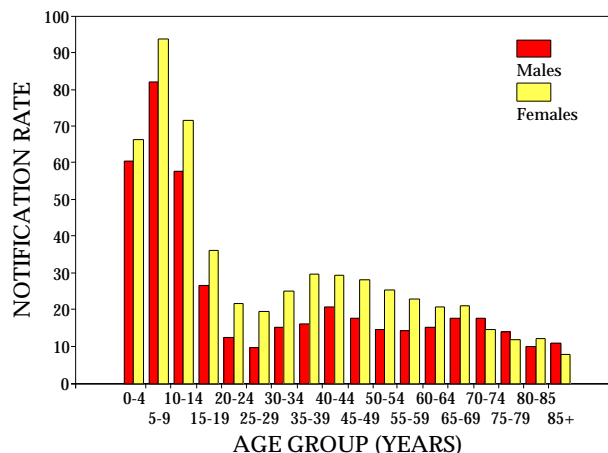


Figure 54. Annual rate of notification of pertussis per 100,000 population, 1994, by age group and sex



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).

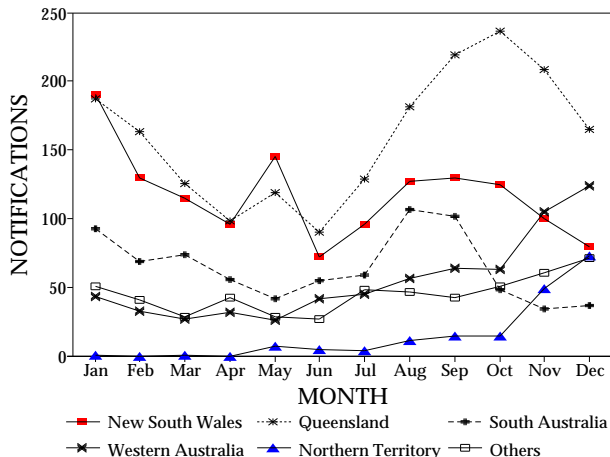
Plague

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

Poliomyelitis

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

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



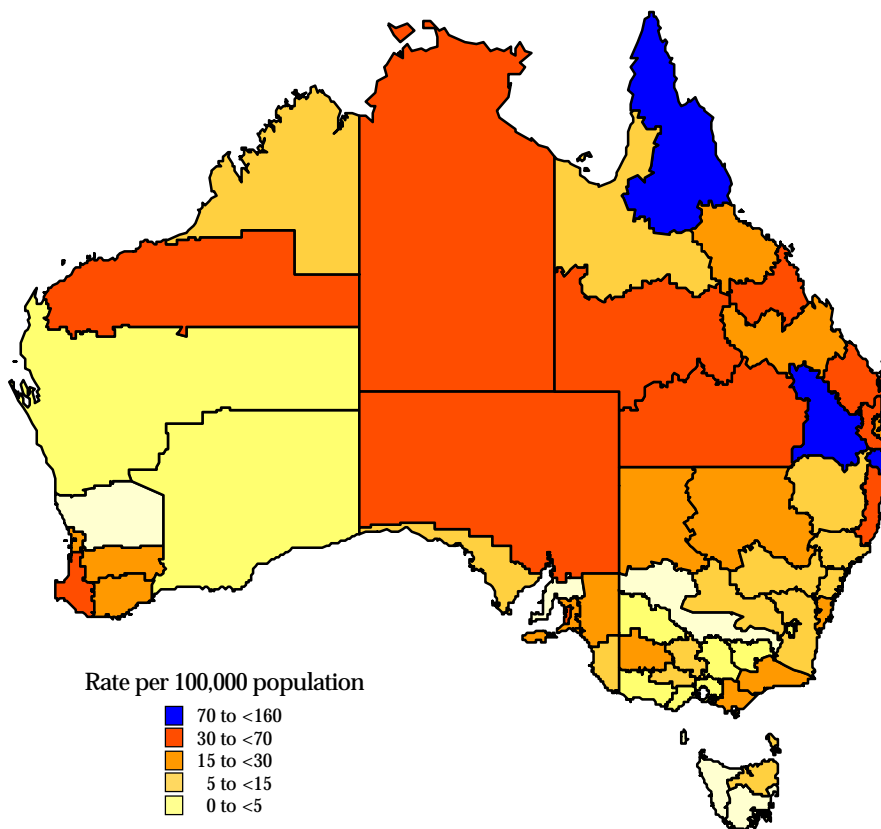
Q fever

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

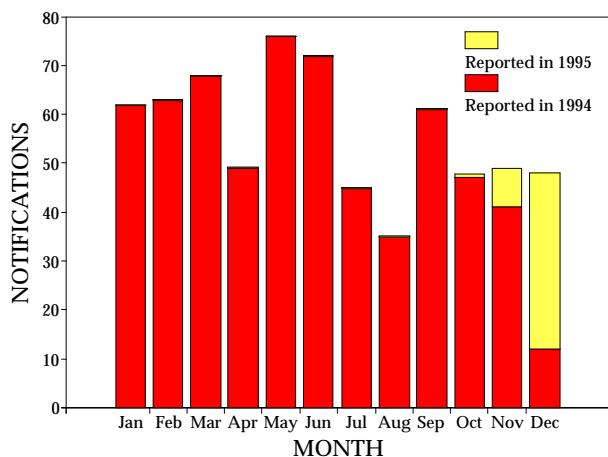


Figure 60. Annual rate of notification of Q fever per 100,000 population, 1994, by age group and sex

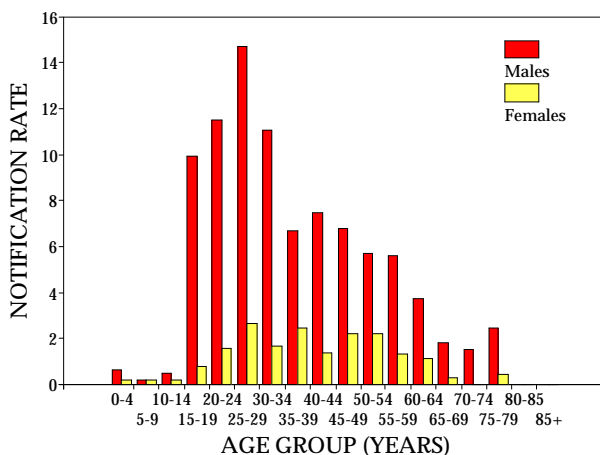
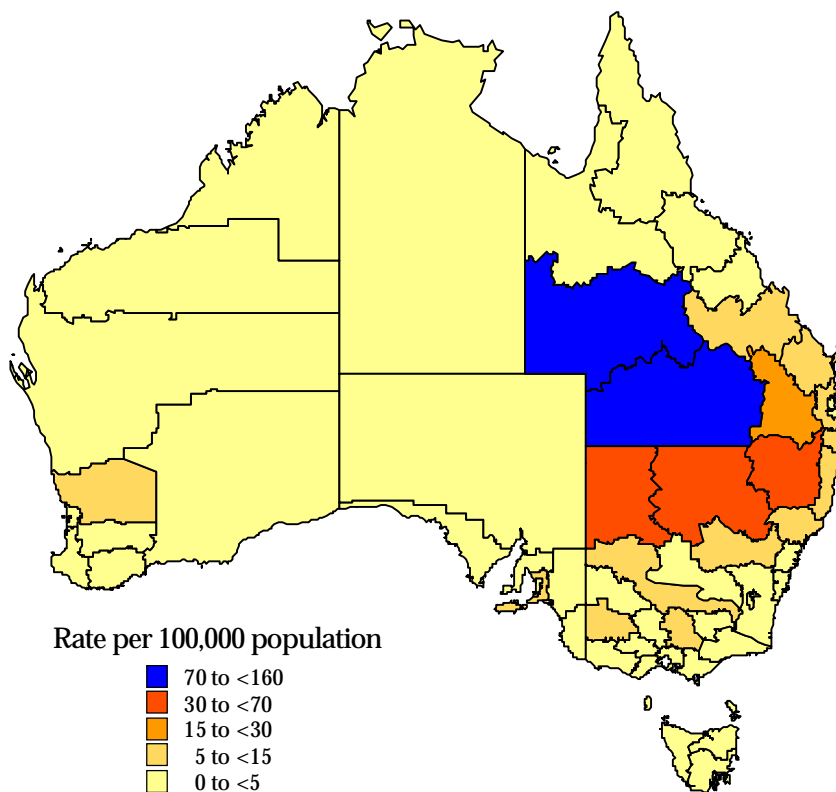


Figure 59. Annual rate of notification of Q fever per 100,000 population, 1994, by Statistical Division of residence



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 1994¹¹.

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

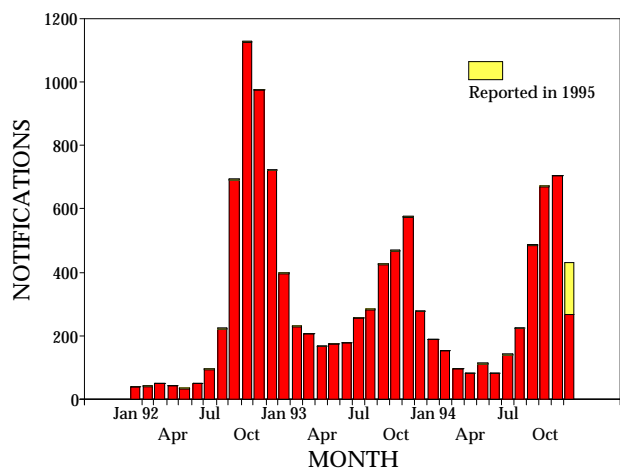


Figure 63. Annual rate of notification of rubella per 100,000 population, 1994, by age group and sex

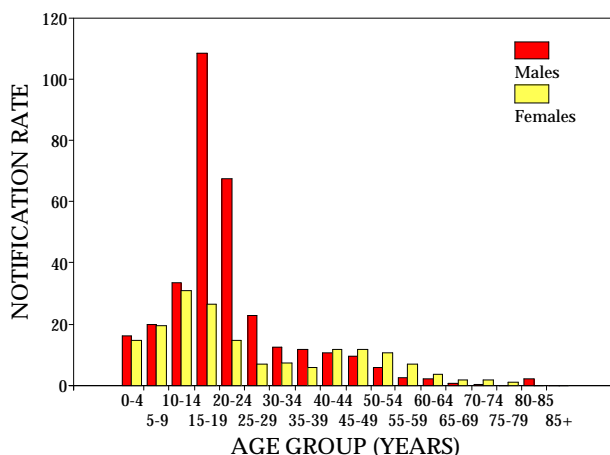
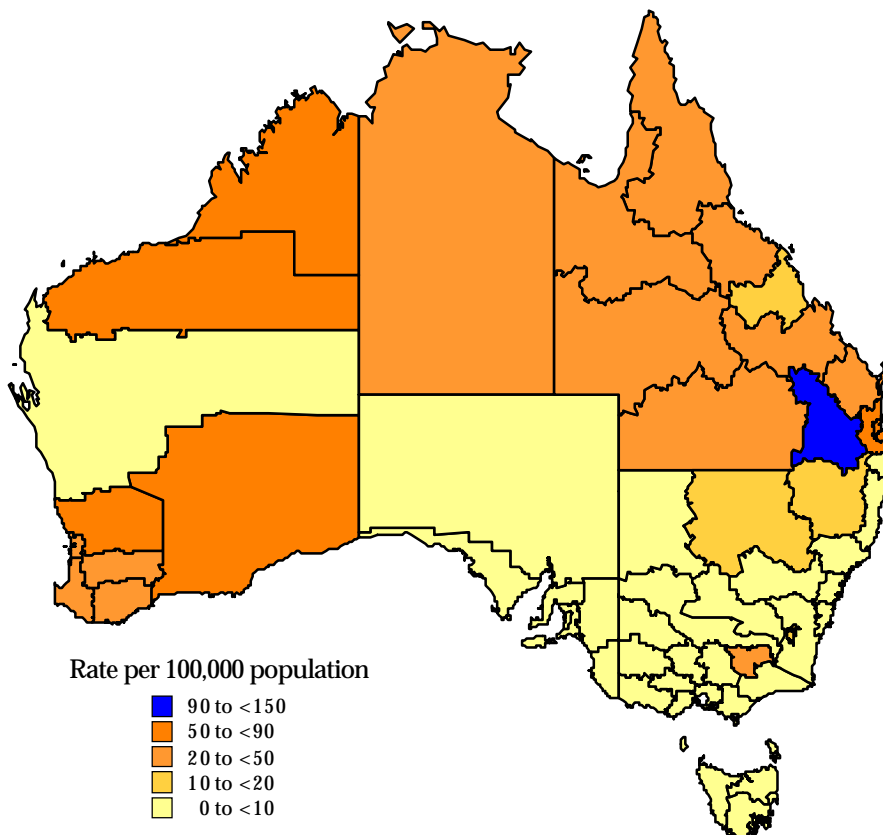


Figure 62. Annual rate of notification of rubella per 100,000 population, 1994, by Statistical Division of residence

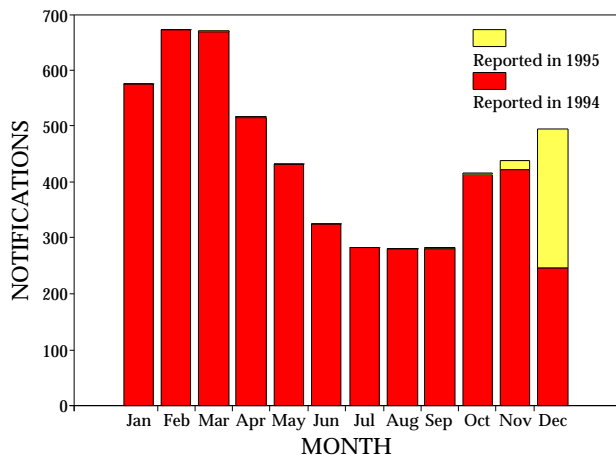


Salmonellosis (not elsewhere classified)

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

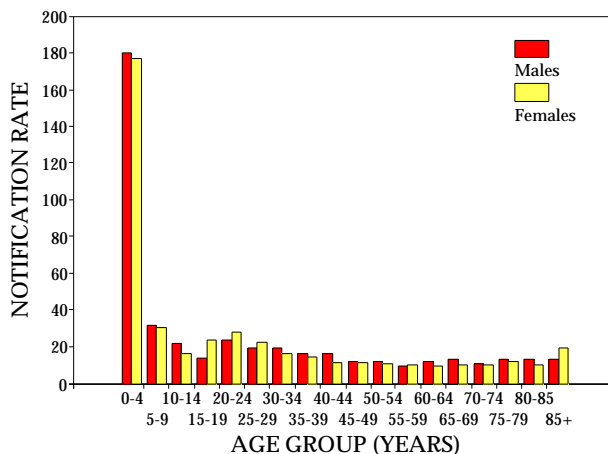
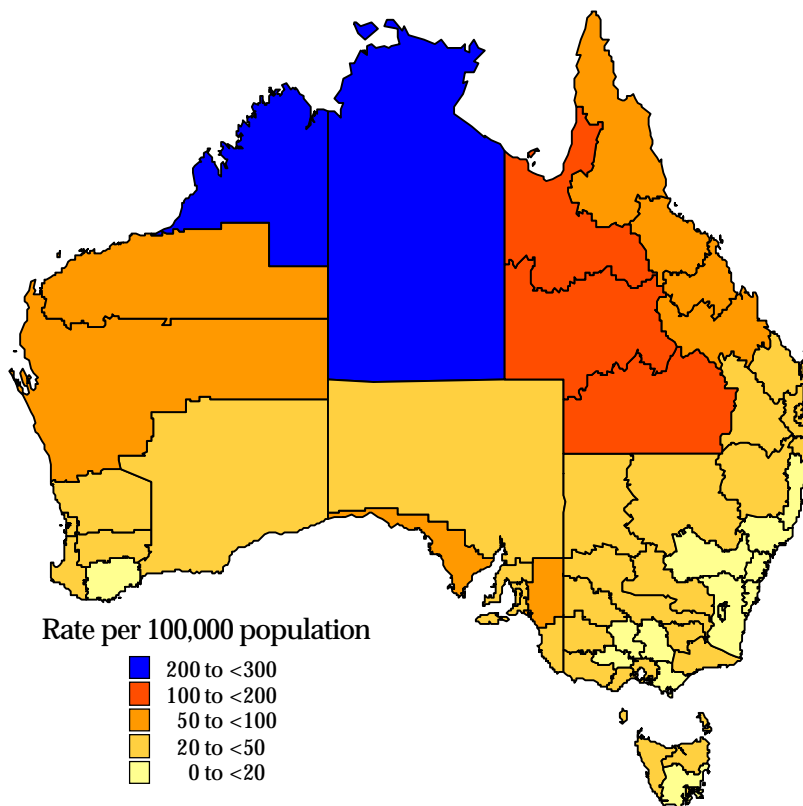


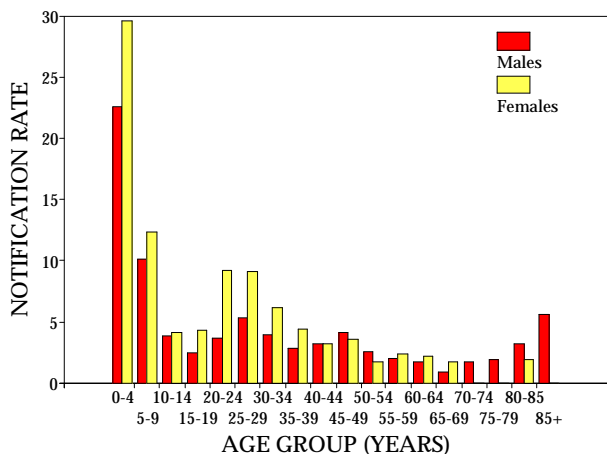
Figure 65. Annual rate of notification of salmonellosis (not elsewhere classified) per 100,000 population, 1994, by Statistical Division of residence



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

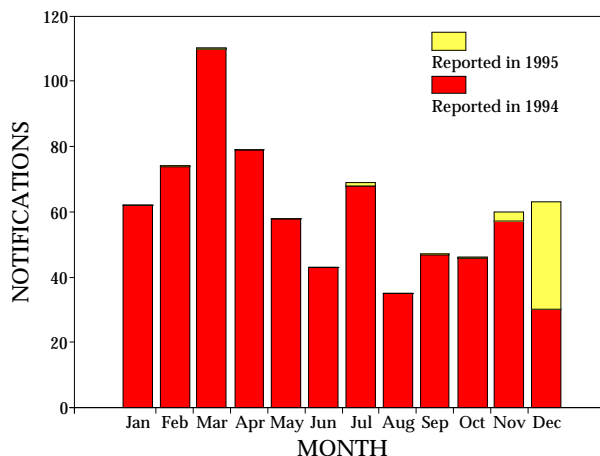
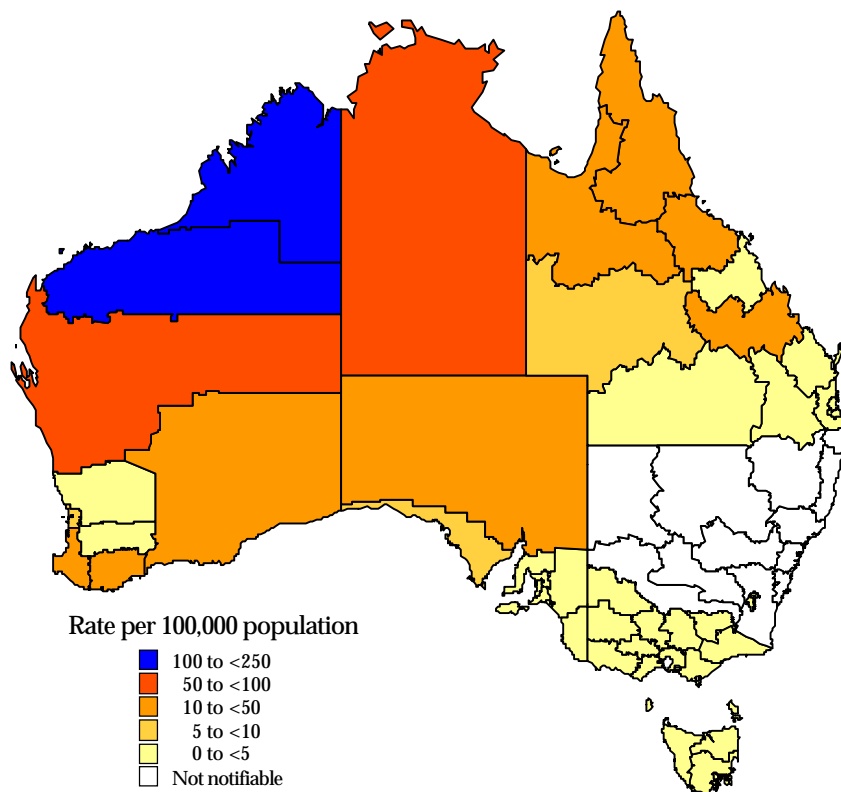


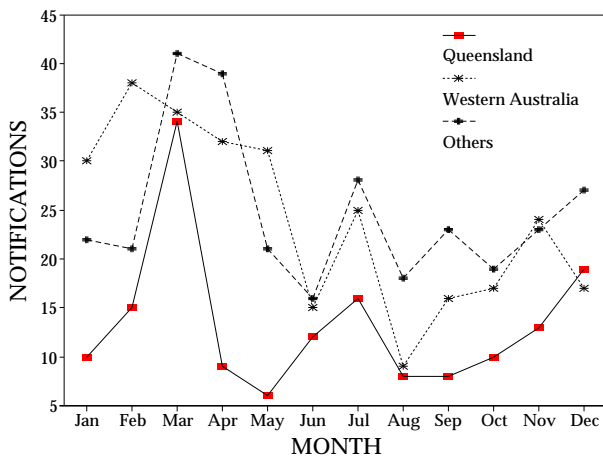
Figure 68. Annual rate of notification of shigellosis per 100,000 population, 1994, by Statistical Division of residence



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.

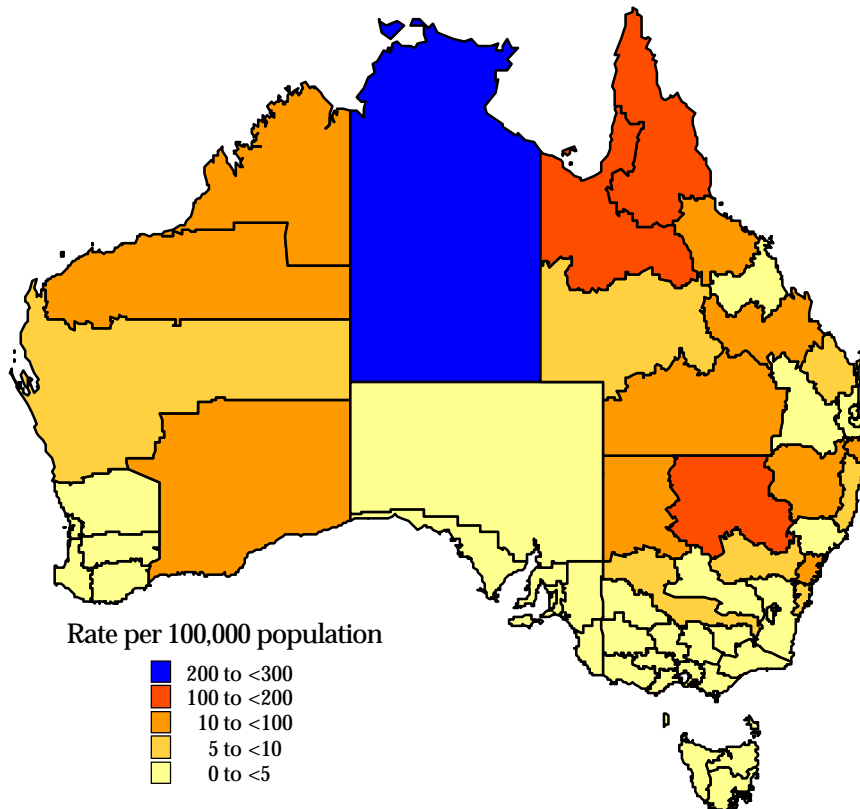
Syphilis

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

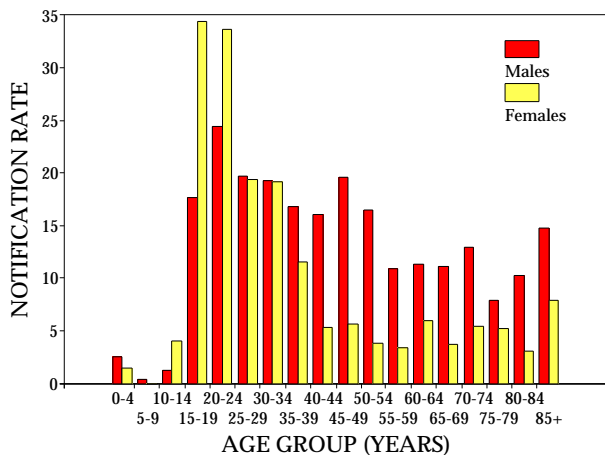
Figure 71. Annual rate of notification of syphilis per 100,000 population, 1994, by Statistical Division of residence



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

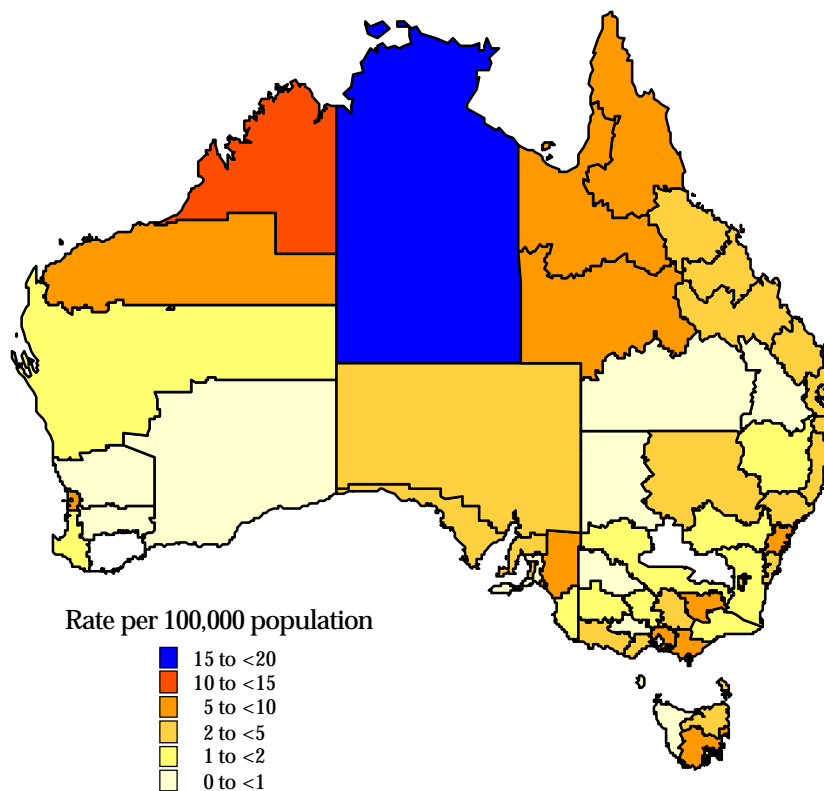
Tetanus was notifiable in all States and Territories. There were 15 notifications in 1994 from four States (New South Wales, South Australia, Victoria and Queensland). This was more notifications than for any year since 1979. All cases were aged over 39 years and 60% of cases were 75 years or older.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

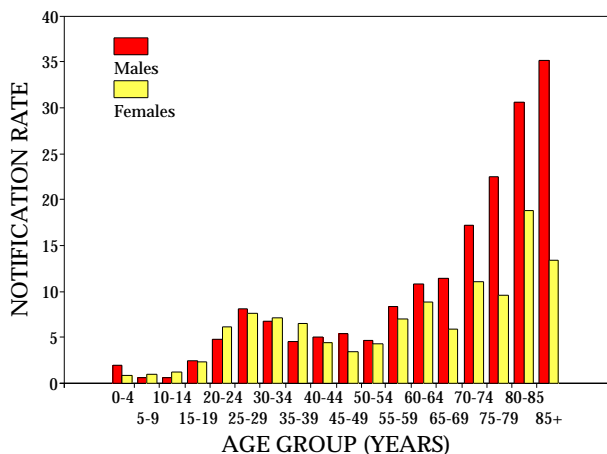


Aboriginality was reported for most cases in New South Wales, the Northern Territory, Queensland, South Australia and Western Australia. The overall notification rate for Aboriginal persons was 12.5 per 100,000 in these jurisdictions, more than twice the rate for Australia overall.

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 overseas¹².

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

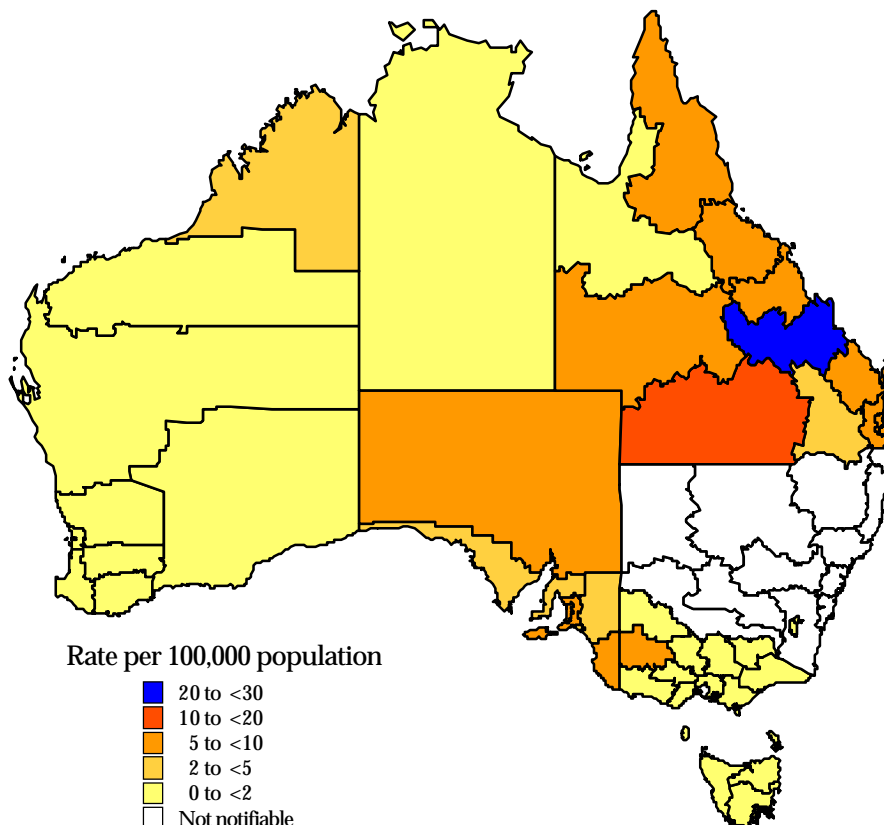


Figure 76. Annual adjusted rate of notification of yersiniosis per 100,000 population, 1994.

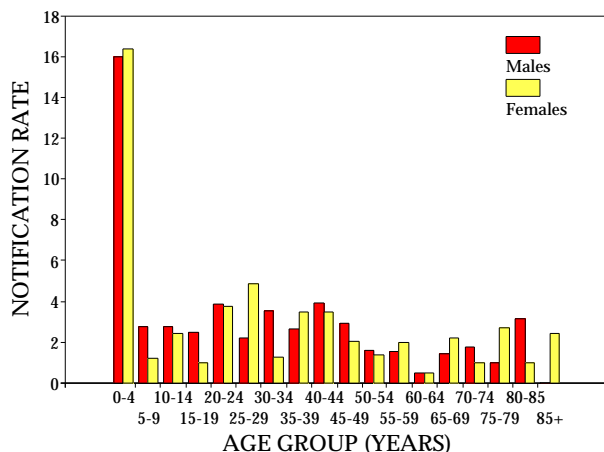


Figure 77. Notifications of yersiniosis with onset dates in 1994, by month of onset

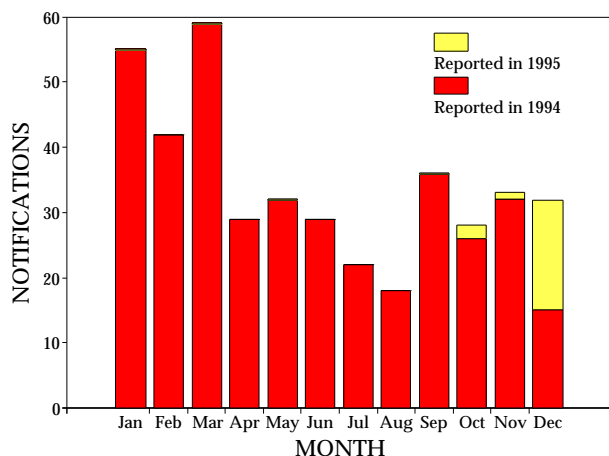
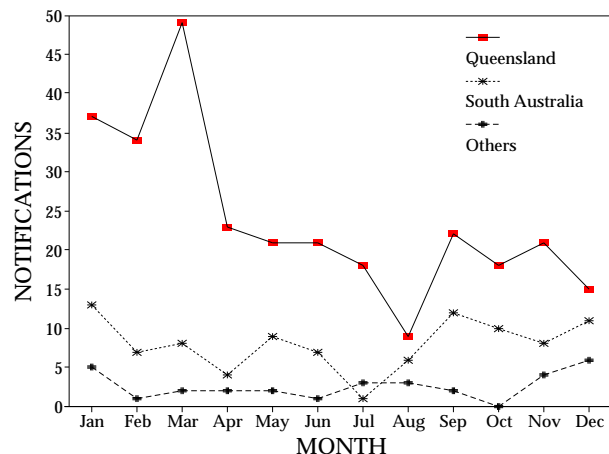


Figure 78. Notifications of yersiniosis with onset dates in 1994, by State or Territory and month of onset



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 Misrahi (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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