COMMUNICABLE DISEASES INTELLIGENCE

ISSN 0725 - 3141 VOLUME 20 NUMBER 21 14 October 1996

CONTENTS

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

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ANNUAL REPORT OF THE NATIONAL NOTIFIABLE DISEASES SURVEILLANCE SYSTEM, 1995

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Summary

There were 58,074 communicable disease notifications for 1995 to the National Notifiable Diseases Surveillance System. Barmah Forest virus was reported separately for the first time with 756 notifications, including an outbreak on the south coast of New South Wales. There were fewer notifications of Ross River virus infection than in previous years. Notifications of ornithosis increased, reflecting an outbreak in Victoria. Measles notifications decreased significantly following the epidemic years of 1993 and 1994. Pertussis notifications remained high and the rubella notification rate was higher than in any recent year. *Haemophilus influenzae* type b infection notifications decreased every year since 1991 and reached a rate of 0.4 cases per 100,000 population in 1995. There were also decreases in notifications of Q fever, syphilis and yersiniosis in 1995. Highest notification rates were for campylobacteriosis, chlamydial infection (not elsewhere classified) and salmonellosis (not elsewhere classified), as was the case in previous years.

Introduction

Notification of communicable diseases is an important public health activity. It prompts investigation and the use of interventions to control the spread of diseases, and enables monitoring of the effectiveness of existing control activities. Many communicable disease control activities are initiated at local government or State / Territory level, necessitating local and State-based surveillance activities. National surveillance combines data from the State and Territory based systems. National surveillance is necessary for control activities in outbreaks which affect more than one jurisdiction, to monitor the need for, or impact of, national control programs and to guide National Health and Medical Research Council (NHMRC) and other national policy development. National surveillance also describes the epidemiology of rare diseases for which there are only a few notifications in each State, assists in quarantine activities and facilitates agreed international collaborations such as reporting to the World Health Organization.

The National Notifiable Diseases Surveillance System (NNDSS) was established in its current form in 1991, under the auspices of what is now the Communicable Diseases Network Australia New Zealand (CDNANZ). The CDNANZ monitors the incidence of an agreed list of communicable diseases in Australia through national collation of notifications of these diseases received by health authorities of the States and Territories. More than forty diseases or disease categories are included, largely as recommended by the NHMRC[1].

This is the fifth annual report of the NNDSS in its current form. Previous annual reports have been published for 1991 to 1994[2,3,4,5].

Methods

Notifications of communicable diseases were collected during 1995 by the States and Territories under their public health legislations. These were combined and analysed fortnightly by the Department of Health and Family services and published in *Communicable Diseases Intelligence*. Final data sets for cases reported in 1995 were provided by the States and Territories between June and September 1996. Missing data and apparent errors were corrected where possible, and duplicate records deleted, in consultation with the States and Territories.

The national data set included fields for a unique record reference number; the disease; age, sex, Aboriginality and postcode of residence of the case; the date of onset of the disease and date of report to the State or Territory health authority; and the confirmation status of the report. An additional field was introduced in 1995 to provide further details for some diseases, such as organism species (for example for malaria and legionellosis) or serogroup (for example for *Neisseria meningitidis)*. Aboriginality was not included in analyses due to incomplete reporting of this field.

Population notification rates were calculated using 1995 mid-year estimates of the resident population supplied by the Australian Bureau of Statistics. In cases where a disease was not notifiable in a State or Territory, the denominators used in calculation of national rates excluded population data from that State or Territory.

Most analyses were based on cases with report dates in 1995. The data included some notifications with onset dates in 1994 and excluded notifications with report dates in 1996 and onset dates in 1995. For analysis of seasonal trends, notifications were presented by month of onset.

Notifications were allocated to the Australian Bureau of Statistics Statistical Divisions for mapping using postcodes of residence of the cases (Figure 1). The two Statistical Divisions which make up the Australian Capital Territory were combined, as the population for one division is very small. Notifications for Darwin and the remainder of the Northern Territory were also combined to calculate rates for the Northern Territory as a whole. For South Australia and Victoria, data for sexually transmis-

sible diseases were combined to provide rates for the State as a whole. In general, notification rates for Statistical Divisions were depicted in maps or discussed in the text only where the number of notifications was sufficiently large for these to be meaningful.

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. Due to under-reporting, notified cases mostly represent only a proportion of the total number of cases which occurred. This proportion may vary between diseases, between States and Territories and with time. Methods of surveillance vary between jurisdictions, with different requirements for notification by medical practitioners, laboratories and hospitals. In addition the list of notifiable diseases and the case definitions may vary between jurisdictions.

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 data sets was not possible so there may be duplicate reports if patients moved from one jurisdiction to another and were notified in both. Some Statistical Divisions have small populations (Figure 1), so small numbers of cases may result in high notification rates in these areas.

The data are limited as they do not include risk factor information other than age, sex, and postcode of residence. Other risk factor information is compiled in data sets supplementary to the NNDSS, for *Haemophilus influenzae* type b infection, tuberculosis, non-tuberculous mycobacterial infection and hepatitis C, and is reported separately.

Some States and Territories reported notifications of HIV infection and non-tuberculous 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, which reports separately[6]. The non-tuberculous mycobacterial infection notifications are included in the National Mycobacterial Surveillance System which also reports separately[7].

Results

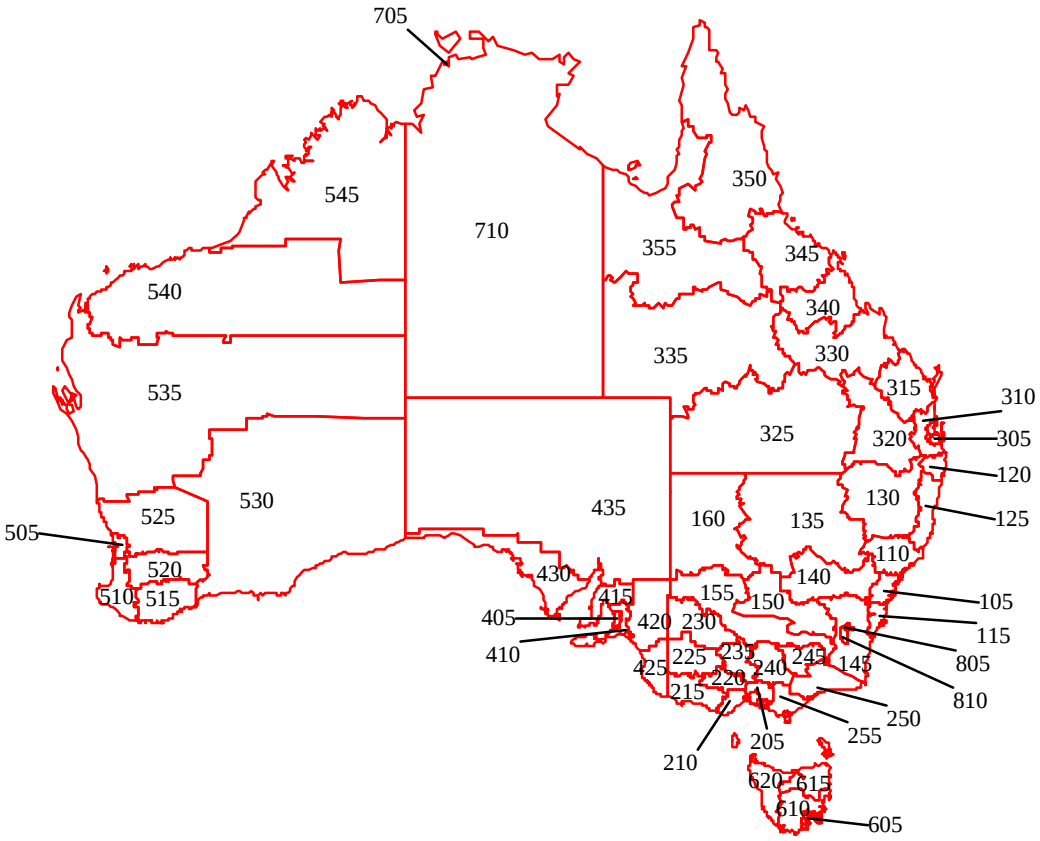
There were 58,074 communicable disease notifications for 1995 (Table 1). Notification rates per 100,000 population for each disease are presented in Table 2. There was a decrease of 6% in total notifications compared with 1994 (Table 3). The total number of notifications has remained fairly stable over the last five years.

Data were missing from some fields in some records. Information was missing in the field for sex for 411 notifications (0.7%), age for 753 (1.3%), and postcode of residence for 2,921 (5.1%). The proportion of reports with missing data in these fields varied by State or Territory, and also by disease. The new field for 'disease details' was also poorly completed.

There were changes in notification totals and rates for several diseases in 1995 compared to previous years. These included decreases in Ross River virus infection, *Haemophilus influenzae* type b infection, measles and syphilis. There were increased notifications of mumps, ornithosis and salmonellosis (not elsewhere classified). In addition Barmah Forest virus infection was reported separately for the first time in 1995.

In the remainder of this report, data on individual notifiable diseases are described and discussed in the order in which they are presented in Table 1.

Figure 1. Australian Bureau of Statistics Statistical Divisions



Statistical Division		Population
Australian Capital Territory		
805	Canberra	303734
810	Australian Capital Territory - balance	391
New South Wales		
105	Sydney	3772678
110	Hunter	558967
115	Illawarra	369263
120	Richmond-Tweed	200097
125	Mid-North Coast	261690
130	Northern	187622
135	North Western	119423
140	Central West	174706
145	South Eastern	180579
150	Murrumbidgee	151282
155	Murray	111337
160	Far West	27499
Northern Territory		
705	Darwin	79080
710	Northern Territory -balance	94625
Queensland		
305	Brisbane	1489069
310	Moreton	584220

Statistical Division		Population
Queensland continued		
315	Wide Bay-Burnett	222521
320	Darling Downs	205400
325	South West	28369
330	Fitzroy	181925
335	Central West	12945
340	Mackay	118733
345	Northern	195314
350	Far North	200920
355	North West	37698
South Australia		
405	Adelaide	1080972
410	Outer Adelaide	104654
415	Yorke and Lower North	44361
420	Murray Lands	66501
425	South East	61550
430	Eyre	32275
435	Northern	83653
Tasmania		
605	Greater Hobart	194668
610	Southern	33600
615	Northern	133434
620	Mersey-Lyell	111320

Statistical Division		Population
Victoria		
205	Melbourne	3218051
210	Barwon	238767
215	Western District	101550
220	Central Highlands	133969
225	Wimmera	53157
230	Mallee	88932
235	Loddon-Campaspe	156081
240	Goulburn	184731
245	Ovens-Murray	88696
250	East Gippsland	82254
255	Gippsland	155812
Western Australia		
505	Perth	1262569
510	South West	163764
515	Lower Great Southern	50533
520	Upper Great Southern	19879
525	Midlands	51063
530	South Eastern	54160
535	Central	61827
540	Pilbara	42960
545	Kimberley	24968

Table 1. National Notifiable Diseases Surveillance System reports, 1995, by State or Territory and disease

DISEASE	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total
Arbovirus infection									
Barmah Forest virus infection	5	285	-	456	3	0	7	-	756
Dengue	0	10	8	13	0	1	0	2	34
Ross River virus infection	2	233	387	1688	23	28	31	210	2602
NEC[1]	0	15	14	11	0	0	19	8	67
Botulism[2]	0	-	0	NN	0	0	0	NN	0
Brucellosis	0	2	0	24	1	0	2	0	29
Campylobacteriosis[2]	296	-	353	2094	3272	475	2938	1505	10933
Chancroid	0	0	0	0	NN	0	2	0	2
Chlamydial infection (NEC)	79	NN	542	2404	757	282	1321	1026	6411
Cholera	1	1	0	2	0	0	0	1	5
Diphtheria	0	0	0	0	0	0	0	0	0
Donovanosis	0	NN	45	18	NN	0	0	22	85
Gonococcal infection[3]	10	420	547	749	251	3	243	1036	3259
Haemophilus influenzae type b infection	1	29	5	9	6	5	14	5	74
Hepatitis A	15	620	53	451	34	9	246	173	1601
Hepatitis B	13	66	14	64	33	7	92	32	321
Hepatitis C - incident	7	41	5	-	15	1	-	-	69
Hepatitis C - unspecified	330		309	2920		268	4506	1268	9601
Hepatitis (NEC)[4]	0	21	1	17	2	0	14	NN	55
Hydatid infection	0	18	0	11	0	3	14	0	46
Legionellosis	1	77	2	20	13	2	22	23	160
Leprosy	0	2	1	1	0	0	0	3	7
Leptospirosis	0	8	1	61	7	5	62	5	149
Listeriosis	3	15	1	8	4	1	23	3	58
Lymphogranuloma venereum	0	NN	0	0	NN	0	1	NN	1
Malaria	22	103	36	282	24	2	116	40	625
Measles	48	649	110	251	5	53	150	58	1324
Meningococcal infection	11	114	8	100	26	7	75	41	382
Mumps	16	14	8	NN	12	9	77	17	153
Ornithosis	1	NN	0	15	6	2	147	5	176
Pertussis	34	1342	174	1416	389	118	376	448	4297
Plague	0	0	0	0	0	NN	0	0	0
Poliomyelitis	0	0	0	0	0	0	0	0	0
Q fever	1	218	0	180	7	0	62	5	473
Rabies	0	NN	0	0	0	0	0	0	0
Rubella	159	1102	11	1188	79	166	1273	402	4380
Salmonellosis (NEC)	83	1395	369	1579	648	139	965	717	5895
Shigellosis[2]	7	-	199	222	76	1	82	147	734
Syphilis	11	935	360	367	32	2	21	126	1854
Tetanus	0	0	0	0	0	0	4	3	7
Tuberculosis	8	454	39	133	59	12	283	85	1073
Typhoid[5]	2	36	1	5	2	1	13	10	70
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)[2]	1	-	2	177	96	2	24	4	306
TOTAL	1167	8225	3605	16936	5882	1604	13225	7430	58074

NN Not notifiable.
NEC Not elsewhere classified.
- Elsewhere Classified.

1. Northern Territory and Western Australia: Includes Barmah Forest virus infection.
2. New South Wales: only as 'foodborne disease' or 'gastroenteritis in an institution'.
3. Northern Territory, Queensland, South Australia and Victoria: includes gonococcal neonatal ophthalmia.
4. Includes Hepatitis D and E.
5. Includes paratyphoid in New South Wales and Victoria.

Table 2. National Notifiable Diseases Surveillance System notification rates per 100,000 population, 1995, by State or Territory and disease

DISEASE	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total
Arbovirus infection									
Barmah Forest virus infection	1.6	4.7	-	13.9	0.2	0	0.2	-	4.7
Dengue	0	0.2	4.6	0.4	0	0.2	0	0.1	0.2
Ross River virus infection	0.7	3.8	222.6	51.5	1.6	5.9	0.7	12.1	14.4
NEC[1]	0	0.2	8.1	0.3	0	0	0.4	0.5	0.4
Botulism[2]	0	-	0	NN	0	0	0	NN	0
Brucellosis	0	0	0	0.7	0.1	0	0	0	0.2
Campylobacteriosis[2]	97.3	-	203.0	63.9	222.0	100.4	65.3	86.9	91.6
Chancroid	0	0	0	0	NN	0	0	0	0
Chlamydial infection (NEC)	26.0	NN	311.7	73.4	51.4	59.6	29.3	59.2	53.7
Cholera	0.3	0	0	0.1	0	0	0	0.1	0
Diphtheria	0	0	0	0	0	0	0	0	0
Donovanosis	0	NN	25.9	0.5	NN	0	0	1.3	0.8
Gonococcal infection[3]	3.3	6.9	314.6	22.9	17.0	0.6	5.4	59.8	18.1
Haemophilus influenzae type b infection	0.3	0.5	2.9	0.3	0.4	1.1	0.3	0.3	0.4
Hepatitis A	4.9	10.1	30.5	13.8	2.3	1.9	5.5	10.0	8.9
Hepatitis B - incident	4.3	1.1	8.1	2.0	2.2	1.5	2.0	1.8	1.8
Hepatitis C - incident	2.3	0.7	2.9	-	1.0	0.2	-	-	0.8
Hepatitis C - unspecified	108.5		177.7	89.1		56.7	100.1	73.2	91.8
Hepatitis (NEC)[4]	0	0.3	0.6	0.5	0.1	0	0.3	NN	0.3
Hydatid infection	0	0.3	0	0.3	0	0.6	0.3	0	0.3
Legionellosis	0.3	1.3	1.2	0.6	0.9	0.4	0.5	1.3	0.9
Leprosy	0	0	0.6	0	0	0	0	0.2	0
Leptospirosis	0	0.1	0.6	1.9	0.5	1.1	1.4	0.3	0.8
Listeriosis	1.0	0.2	0.6	0.2	0.3	0.2	0.5	0.2	0.3
Lymphogranuloma venereum	0	NN	0	0	NN	0	0	NN	0
Malaria	7.2	1.7	20.7	8.6	1.6	0.4	2.6	2.3	3.5
Measles	15.8	10.6	63.3	7.7	0.3	11.2	3.3	3.3	7.3
Meningococcal infection	3.6	1.9	4.6	3.1	1.8	1.5	1.7	2.4	2.1
Mumps	5.3	0.2	4.6	NN	0.8	1.9	1.7	1.0	1.0
Ornithosis	0.3	NN	0	0.5	0.4	0.4	3.3	0.3	1.5
Pertussis	11.2	21.9	100.1	43.2	26.4	24.9	8.4	25.9	23.8
Plague	0	0	0	0	0	NN	0	0	0
Poliomyelitis	0	0	0	0	0	0	0	0	0
Q fever	0.3	3.6	0	5.5	0.5	0	1.4	0.3	2.6
Rabies	0	NN	0	0	0	0	0	0	0
Rubella	52.3	18.0	6.3	36.2	5.4	35.1	28.3	23.2	24.3
Salmonellosis (NEC)	27.3	22.8	212.2	48.2	44.0	29.4	21.4	41.4	32.7
Shigellosis[2]	2.3	-	114.4	6.8	5.2	0.2	1.8	8.5	6.1
Syphilis	3.6	15.3	207.0	11.2	2.2	0.4	0.5	7.3	10.3
Tetanus	0	0	0	0	0	0	0.1	0.2	0
Tuberculosis	2.6	7.4	22.4	4.1	4.0	2.5	6.3	4.9	5.9
Typhoid[5]	0.7	0.6	0.6	0.2	0.1	0.2	0.3	0.6	0.4
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[2]	0.3	-	1.2	5.4	6.5	0.4	0.5	0.2	2.6

NN Not notifiable.
NEC Not elsewhere classified.
- Elsewhere Classified.

1. Northern Territory and Western Australia: includes Barmah Forest virus infection.
2. New South Wales: only as 'foodborne disease' or 'gastroenteritis in an institution'.
3. Northern Territory, Queensland, South Australia and Victoria: includes gonococcal neonatal ophthalmia.
4. Includes Hepatitis D and E.
5. Includes paratyphoid in New South Wales and Victoria.

Table 3. National Notifiable Diseases Surveillance System reports and notification rates per year, 1991 to 1995, by year[1] and disease

DISEASE	Notifications					Rate per 100,000 population				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
Arbovirus infection										
Barmah Forest virus infection	-	-	-	-	756	-	-	-	-	4.7
Dengue	46	366	690	17	34	0.3	2.2	4.5	0.1	0.2
Ross River virus infection	3532	5630	5428	3974	2602	22.9	36.5	31.6	22.9	14.4
NEC	201	303	578	587	67	1.2	1.8	3.3	3.3	0.4
Botulism[2]	NN	0	0	0	0	NN	0	0	0	0
Brucellosis	28	29	20	34	29	0.2	0.2	0.1	0.2	0.2
Campylobacteriosis	8672	9135	8111	10117	10933	75.8	54.2	69.6	85.8	91.6
Chancroid	0	5	1	0	2	0	0.1	0	0	0
Chlamydial infection (NEC)	4044	6293	6500	6159	6411	48.7	56.6	55.8	55.3	53.7
Cholera	0	3	6	3	5	0	0	0	0	0
Diphtheria	8	14	1	0	0	0	0.1	0	0	0
Donovanosis	72	78	67	117	85	0.8	1.0	0.7	1.1	0.8
Gonococcal infection	2530	2908	2811	2971	3259	14.6	17.3	15.9	16.7	18.1
Haemophilus influenzae type b infection	549	501	396	169	74	3.5	3.0	2.2	1.0	0.4
Hepatitis A	2195	2109	2006	1894	1601	12.7	12.5	11.4	10.6	8.9
Hepatitis B	108	133	278	327	321	1.8	2.3	2.2	1.9	1.8
Hepatitis C - incident	-	-	30	43	69	-	-	0.4	0.6	0.8
Hepatitis C - unspecified	4116	8812	7542	8898	9601	29.0	63.6	73.9	86.2	91.8
Hepatitis (NEC)	338	70	72	42	55	2.2	0.5	0.5	0.3	0.3
Hydatid infection	44	38	32	56	46	0.3	0.2	0.2	0.3	0.3
Legionellosis	110	185	178	179	160	0.6	1.1	1.0	1.0	0.9
Leprosy	13	16	15	11	7	0.1	0.1	0.1	0.1	0
Leptospirosis	169	159	178	123	148	1.0	0.9	1.0	0.7	0.8
Listeriosis	44	38	53	34	58	0.3	0.3	0.3	0.2	0.3
Lymphogranuloma venereum	0	3	1	2	1	0	0	0	0	0
Malaria	790	712	688	703	625	4.6	4.2	3.9	3.9	3.5
Measles	1380	1425	4536	4895	1324	8.0	8.5	25.7	27.4	7.3
Meningococcal infection	285	292	378	383	382	1.6	1.7	2.1	2.2	2.1
Mumps[2]	NN	23	28	94	153	NN	0.2	0.2	0.5	1.0
Ornithosis	136	94	98	85	176	1.2	0.9	0.8	0.7	1.5
Pertussis	337	739	3990	5633	4297	1.9	4.4	22.6	31.6	23.8
Plague	0	0	0	0	0	0	0	0	0	0
Poliomyelitis	0	0	0	0	0	0	0	0	0	0
Q fever	595	543	889	667	473	3.4	3.2	5.0	3.7	2.6
Rabies	0	0	0	0	0	0	0	0	0	0
Rubella	620	3810	3812	3315	4380	3.6	22.6	21.6	18.6	24.3
Salmonellosis (NEC)	5440	4614	4731	5283	5895	31.4	27.4	26.8	29.6	32.7
Shigellosis	902	694	708	724	734	7.9	6.2	6.1	6.1	6.1
Syphilis	2053	2695	2305	2324	1854	11.8	16.0	13.1	13.0	10.3
Tetanus	7	14	10	15	7	0	0.1	0.1	0.1	0
Tuberculosis	834[3]	970	1071	1024	1073	4.8	5.8	6.1	5.7	5.9
Typhoid	89	50	72	50	69	0.5	0.3	0.4	0.3	0.4
Viral haemorrhagic fever (NEC)	0	0	0	0	0	0	0	0	0	0
Yellow fever	0	0	0	0	0	0	0	0	0	0
Yersiniosis (NEC)	515	567	459	414	306	4.6	3.4	3.9	3.5	2.6
TOTAL	44155	59156	60745	61726	58074	254.7	351.1	344.0	345.9	321.7

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.

Arbovirus - Barmah Forest virus infection

Separate reporting of Barmah Forest virus infection to the National Notifiable Diseases Surveillance System began in 1995 for all jurisdictions other than Western Australia and the Northern Territory. In previous years cases were notified as arbovirus infection - not elsewhere classified.

There were 756 notifications of Barmah Forest virus infection received in 1995, with an adjusted notification rate of 4.7 cases per 100,000 population.

There was a marked seasonal distribution, with most cases having onset in the months of March, April and May (Figure 2), similar to that for Ross River virus infection.

Similar numbers of males and females were reported, the male:female ratio being 1.1:1. All age groups were represented. The majority of notifications (88%) were for persons in the 30 - 64 years age group (Figure 3).

The highest notification rates were for the Central West, Mackay, Fitzroy and South West Statistical Divisions of Queensland (rates of 77.3, 53.9, 47.3 and 42.3 per 100,000 population respectively) (Figure 4). The outbreak in the South Eastern Statistical Division of New South Wales[8] resulted in a notification rate of 48.2 per 100,000.

Arbovirus infection - dengue

There were 34 notifications of dengue received in 1995. This is more than in 1994 (17 notifications) but markedly less than the 690 notifications in 1993. The annual notifica-

Figure 2. Notifications of Barmah Forest virus infection, 1995, by month of onset

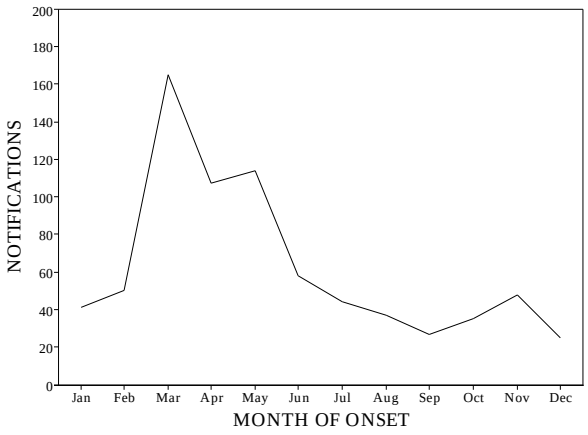


Figure 3. Adjusted notification rate of Barmah Forest virus infection, 1995, by age group and sex

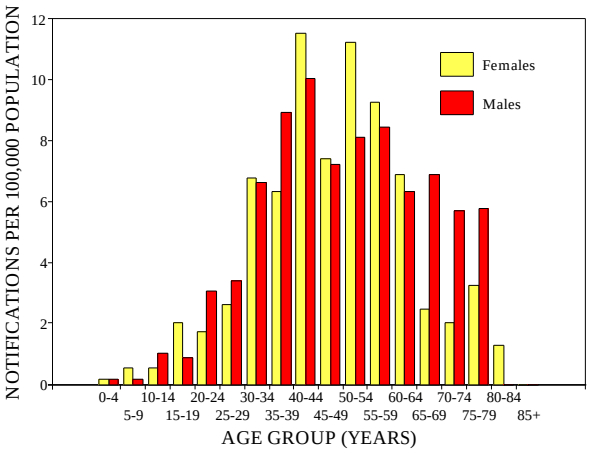


Figure 4. Notification rate of Barmah Forest virus infection, 1995, by Statistical Division of residence

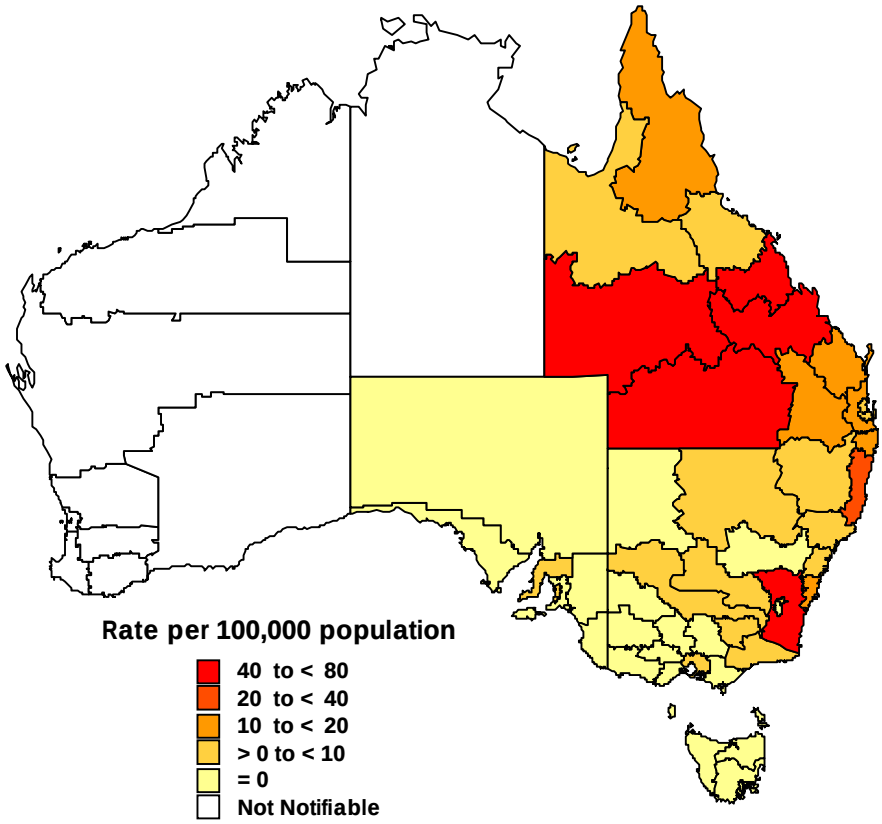
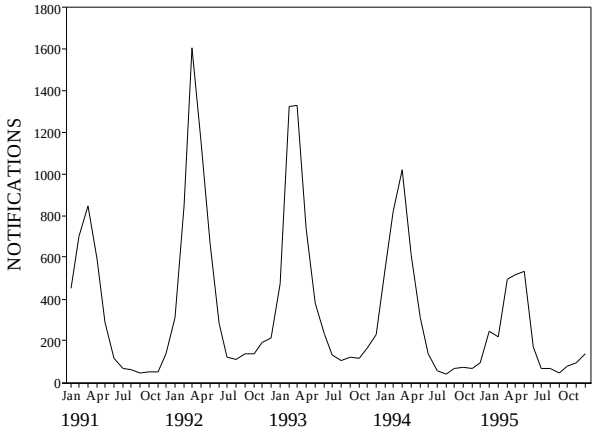


Figure 5. Notifications of Ross River virus infection, 1991 to 1995, by month of onset



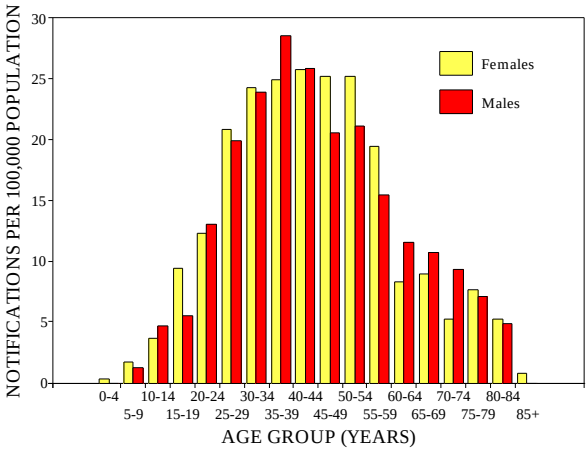
tion rate was 0.2 per 100,000 population. There was no seasonal trend.

The male:female ratio was 1:1. All notifications were for persons in the 10 - 54 years age range, more than half of whom (53%) were aged 25 - 34 years. Cases were reported for residents of New South Wales, the Northern Territory, Queensland, Tasmania and Western Australia.

Arbovirus infection - Ross River virus infection

There were 2,602 notifications of Ross River virus infection in 1995. The notification rate of 14.4 per 100,000 population was markedly lower than any rate recorded since 1991 when the system began in its current form.

Figure 7. Notification rate of Ross River virus infection, 1995, by age group and sex

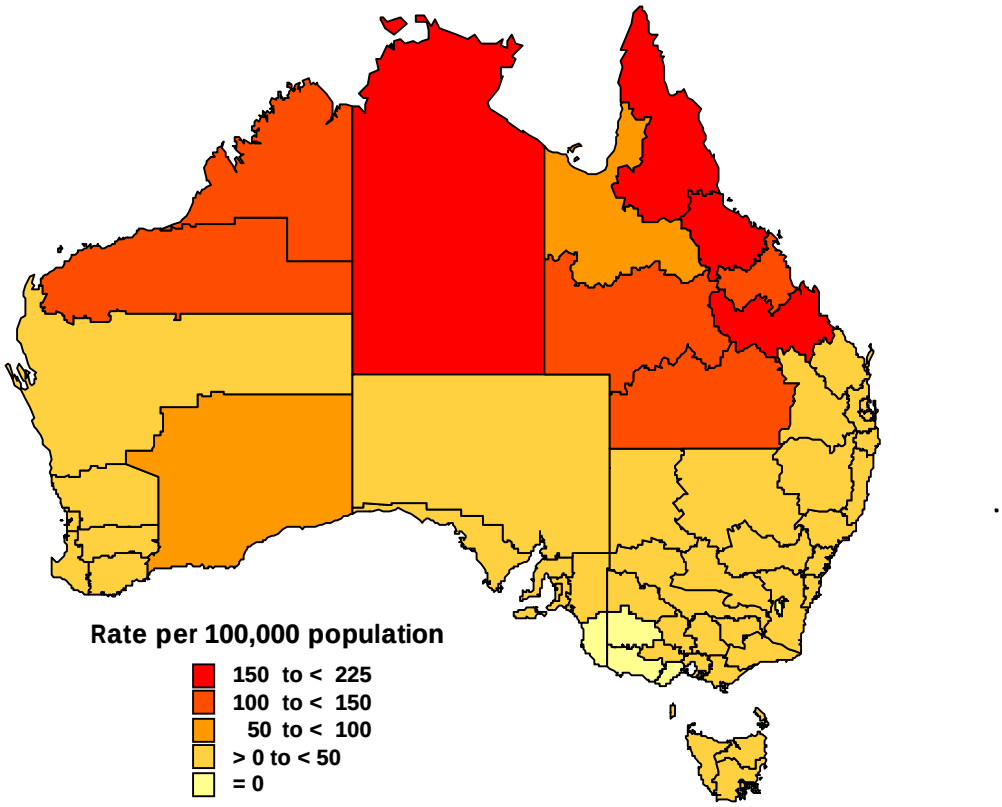


The highest number of notifications was received for cases with onset in April and May (519 and 530 cases respectively). This was later than the peak months of February and March reported in previous years (Figure 5).

The highest rates were recorded for the Statistical Divisions of the Northern Territory (222.6 per 100,000 population) and the Queensland Statistical Divisions of Northern (186.4 per 100,000 population), Far North (150.8 per 100,000 population) and Fitzroy (150.1 per 100,000 population) (Figure 6).

Equal numbers of males and females were reported. As in previous years the peak notification rate was for the 30 - 54 years age range (Figure 7).

Figure 6. Notification rate of Ross River virus infection, 1995, by Statistical Division of residence



Arbovirus infection - not elsewhere classified

This classification may include infections with the alphavirus Sindbis virus, and the flaviviruses, Murray Valley encephalitis, Kunjin, Kokobera and Stratford viruses. It may also include Barmah Forest virus infection in the Northern Territory and Western Australia.

In 1995 the National Notifiable Diseases Surveillance System began collecting notification data on Barmah Forest virus infection separately. These data had previously been included in the arbovirus infection - not elsewhere classified category.

There were 67 reports of arbovirus (not elsewhere classified) received in 1995, fewer than reported in previous years. This reduction is probably due to separate reporting of Barmah Forest virus infection.

Fifty-seven per cent of reports were for persons in the 20 - 45 years age range. The male:female ratio was 1.6:1.

Botulism

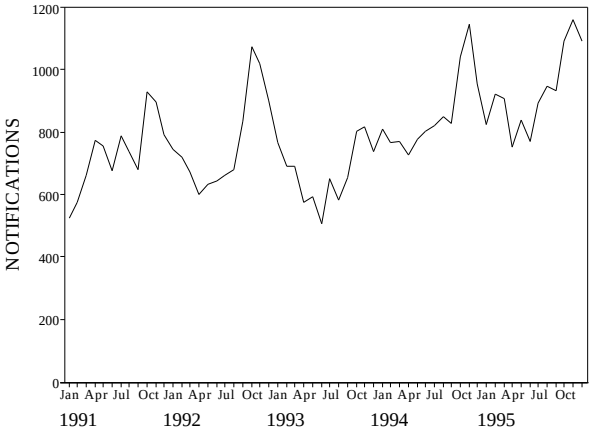
There were no cases of botulism reported in 1995. There have been no notifications of this disease reported nationally since collation began in 1992

Brucellosis

There were 29 reports of brucellosis in 1995. The notification rate of 0.2 per 100,000 population was similar to previous years. Most notifications (24) were from Queensland. Of these, nine were from the Central West Statistical Division.

All notifications were aged between 5 - 69 years, 18 (62%) being 29 - 39 years of age. All notifications were for males.

Figure 8. Notifications of campylobacteriosis, 1991 to 1995, by month of onset



Campylobacteriosis

There were 10,933 cases of campylobacteriosis reported in 1995, with a notification rate of 91.6 per 100,000 population. The notification rate of campylobacteriosis has continued to rise since 1992 (Figure 8). In New South Wales, campylobacteriosis was only notifiable as 'food-borne disease' or 'gastroenteritis in an institution'.

There was a decline in the number of cases through the winter months, followed by a marked rise in the last three months of the year.

Campylobacteriosis was reported from all States and Territories where it was notifiable. The highest rates were seen in South Australia and the Northern Territory (222.0 and 203.0 per 100,000 population respectively) (Figure 9).

Figure 9. Notification rate of campylobacteriosis, 1995, by Statistical Division of residence

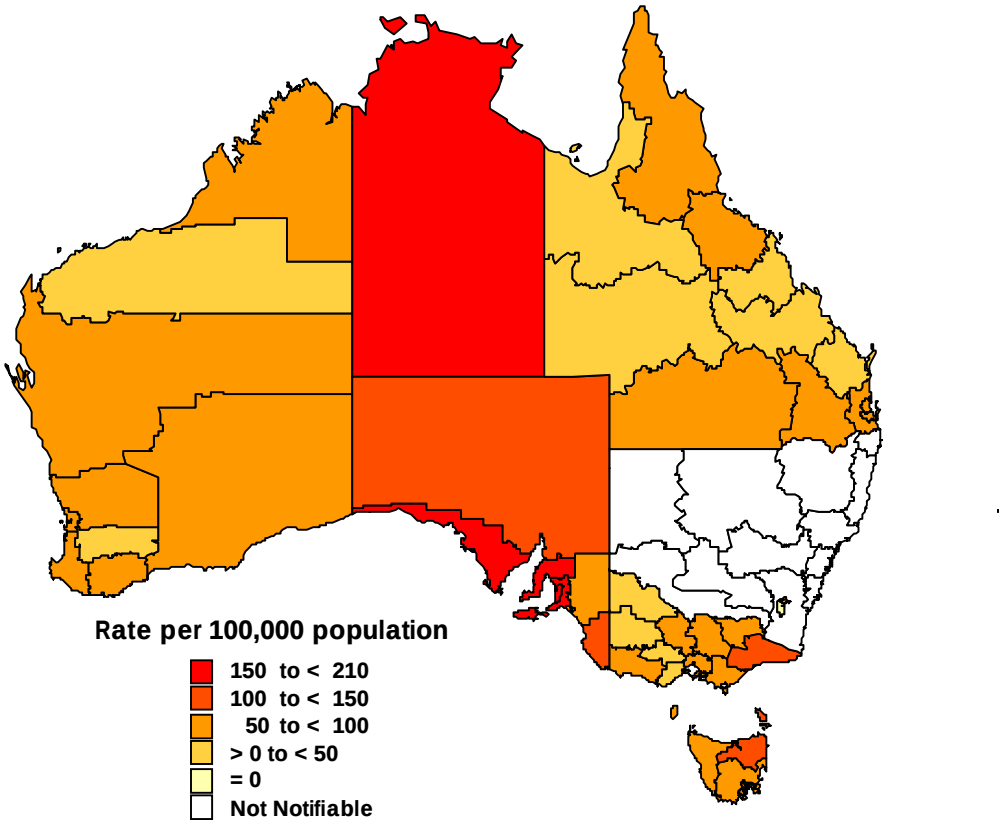
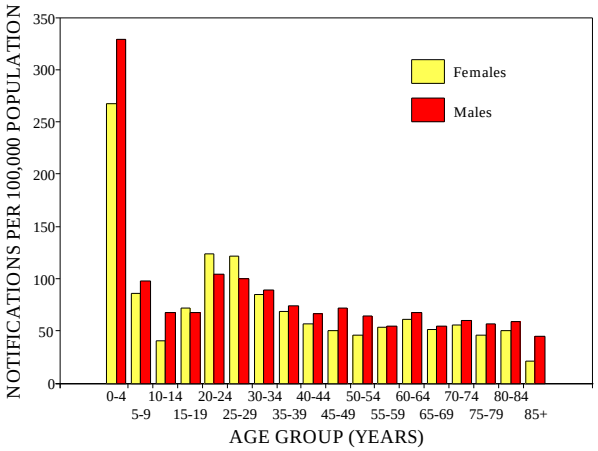


Figure 10. Adjusted notification rate of campylobacteriosis, 1995, by age group and sex



The male:female ratio was 1.1:1. The highest notification rates were in the 0 - 4 years age group (males 327.7 and females 266.3 per 100,000 population respectively) (Figure 10).

Chancroid

Two cases of chancroid were reported in 1995. Both were in females in the age range 40 - 54 years.

Chlamydial infection

There were 6,411 cases of chlamydial infection reported in 1995, but it was not notifiable in New South Wales. The adjusted rate for 1995 was 53.7 per 100,000 population. This rate has not changed substantially over several years. There was no seasonal trend in onset dates.

High notification rates were reported across northern Australia, including the Statistical Divisions of Pilbara and Kimberley in Western Australia, the Northern Territory, and the Statistical Divisions of North West and Far North Queensland (Figure 11).

The male:female ratio was 1:2.2, with 27% of all cases reported in females in the age group 20 - 24 years (Figure 12). There were 53 cases reported in children less than one year of age.

Figure 12. Adjusted notification rate of chlamydial infection, 1995, by age group and sex

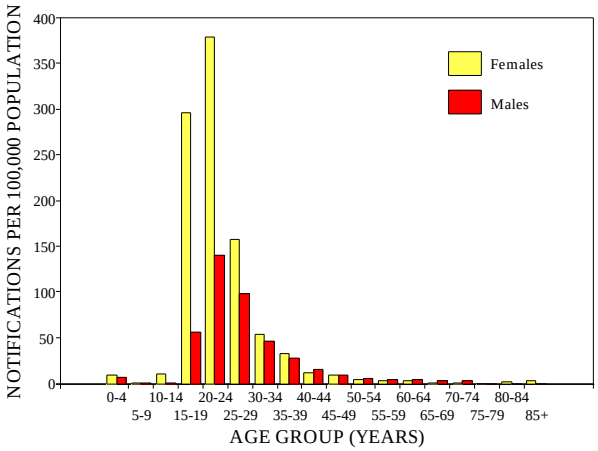
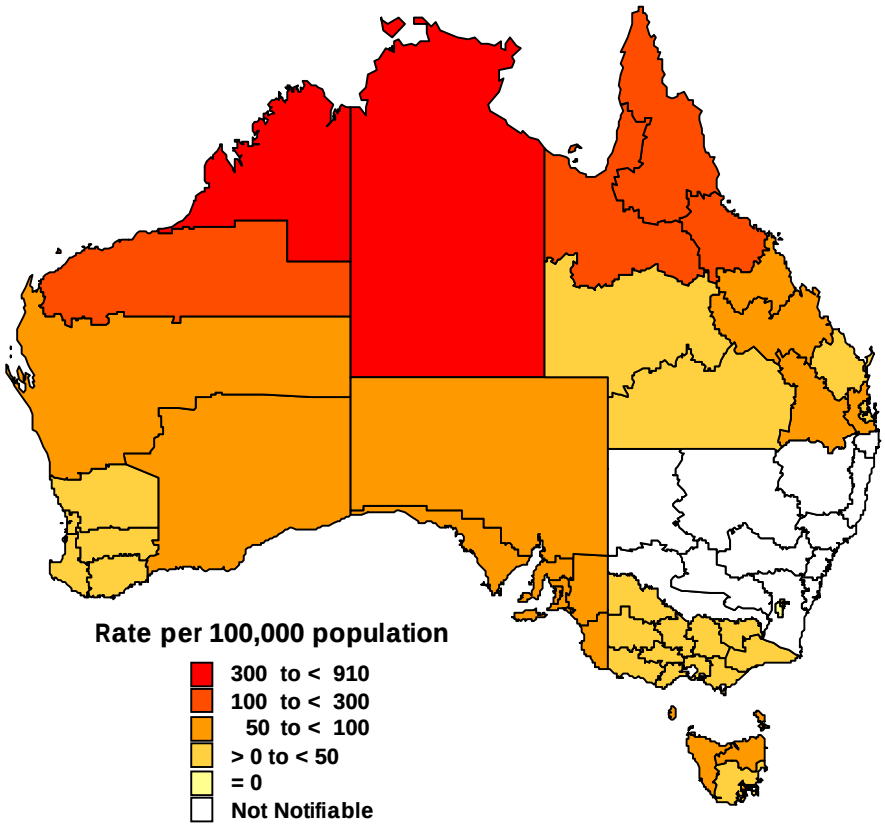


Figure 11. Notification rate of chlamydial infection, 1995, by Statistical Division of residence



Cholera

There were five reports of cholera in 1995, from the Australian Capital Territory, New South Wales, Queensland and Western Australia. Four cases were females aged between 30 - 49 years, and the age and sex of one case was not reported.

Diphtheria

There were no cases of diphtheria reported in 1995. The last notification of this disease in Australia was in 1993.

Donovanosis

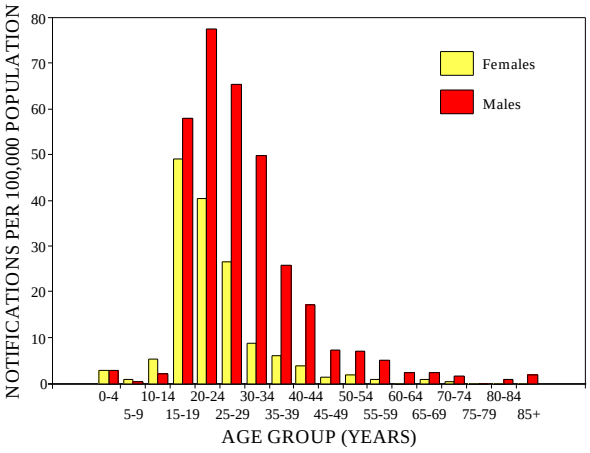
Donovanosis was not a notifiable disease in New South Wales or South Australia in 1995. There were 85 notifications from Queensland, Western Australia and the Northern Territory, but none from the other States and the Australian Capital Territory. Those cases reported from Queensland and Western Australia were from tropical Statistical Divisions.

The male:female ratio was 1:1.5. Seventy per cent of notifications were for persons in the age range 15 - 29 years.

Gonococcal infection

In 1995, there were 3,259 notifications of gonococcal infection received from all States and Territories. The notification rate of 18.1 per 100,000 population was higher than in recent years. However, this rate remains far below the very high rates recorded in the 1970s and early 1980s, which peaked at 84.4 per 100,000 population in 1982. There was no seasonal trend.

Figure 14. Notification rate of gonococcal infection, 1995, by age group and sex



There was wide geographical variation in the notification rate of gonococcal infection (Figure 13). High notification rates (above 150 per 100,000 population) were reported across northern Australia, including the Statistical Divisions of Pilbara and Kimberley in Western Australia, the Northern Territory, and the Statistical Divisions of North West and Far North, Queensland.

The male:female ratio of 2.2:1 was also comparable to previous years. Notification rates were higher for males than for females in all adult age groups (Figure 14).

Figure 13. Notification rate of gonococcal infection, 1995, by Statistical Division of residence

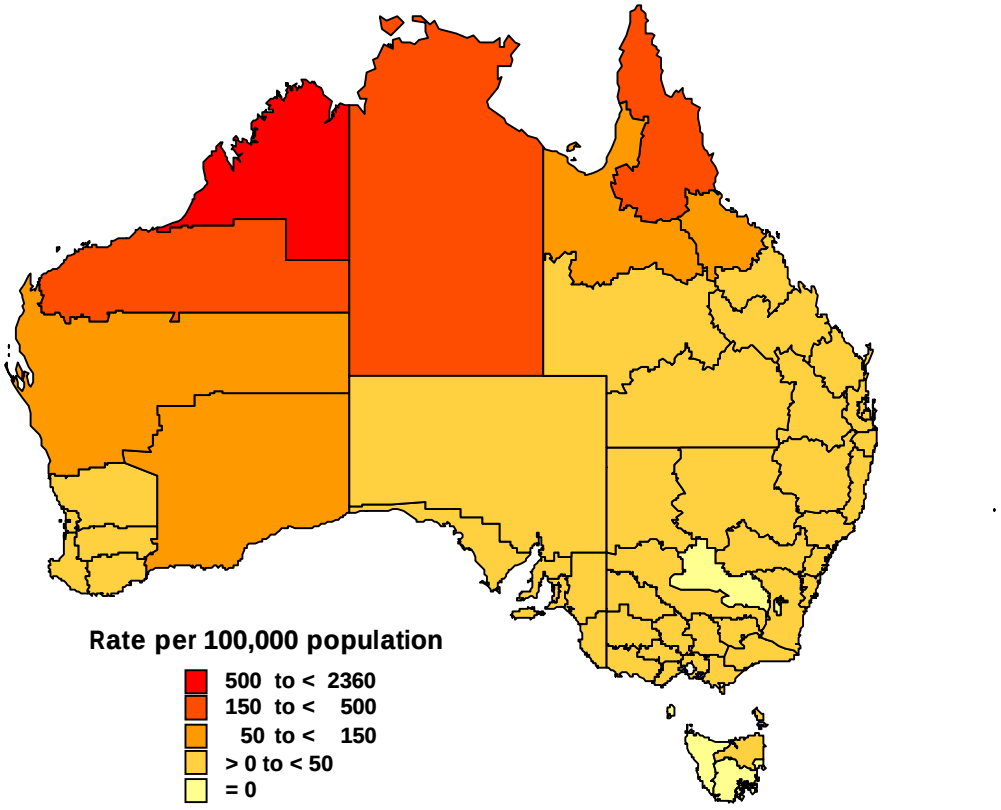
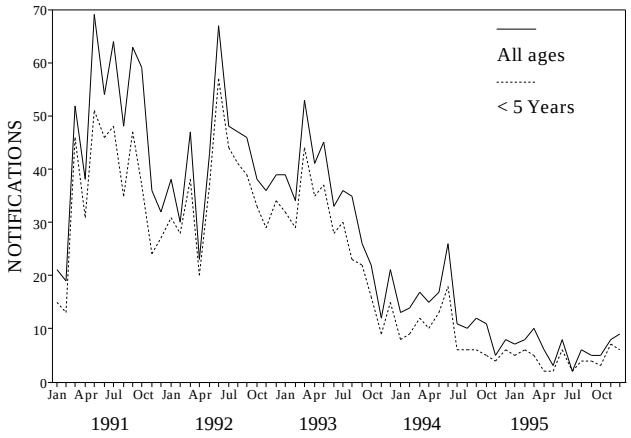


Figure 15. Notifications of *Haemophilus influenzae* type b infection, 1991 to 1995, by month of onset and age group



Haemophilus influenzae type b infection

There were 74 cases of *Haemophilus influenzae* type b infection (Hib) notified in 1995, with an annual rate of 0.4 per 100,000 population. The notification rate declined dramatically following 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 an 88% reduction in the number of notifications between 1992 and 1995 (Figure 15).

The male:female ratio was 1:1.1. Sixty-eight per cent of notifications occurred in the 0 - 4 years age group with a rate of 3.9 per 100,000 population. In 1992 the rate in the same age group was 33.6 per 100,000 population. Twenty-three per cent of cases occurred in children under the age of one year in 1995.

Hepatitis A

There were 1,601 notifications of hepatitis A during 1995. The notification rate was 8.9 per 100,000 population. The rate has continued to fall in recent years.

The number of notifications fell throughout the winter months and rose at the end of the year. The highest number of notifications was for December (Figure 16).

The highest notification rates were reported for the Pilbara and Kimberley Statistical Divisions of Western Australia

Figure 16. Notifications of hepatitis A, 1995, by month of onset

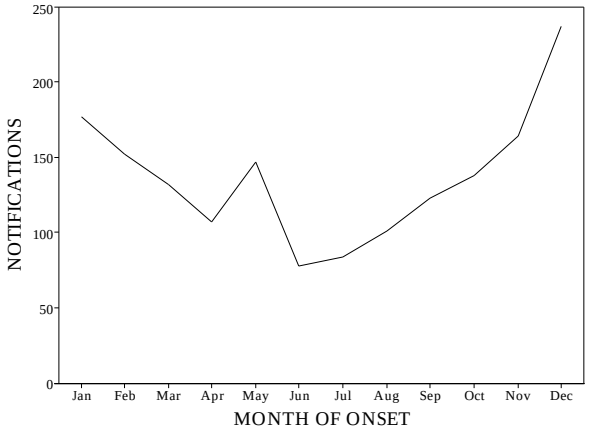


Figure 17. Notification rate of hepatitis A infection, 1995, by Statistical Division of residence

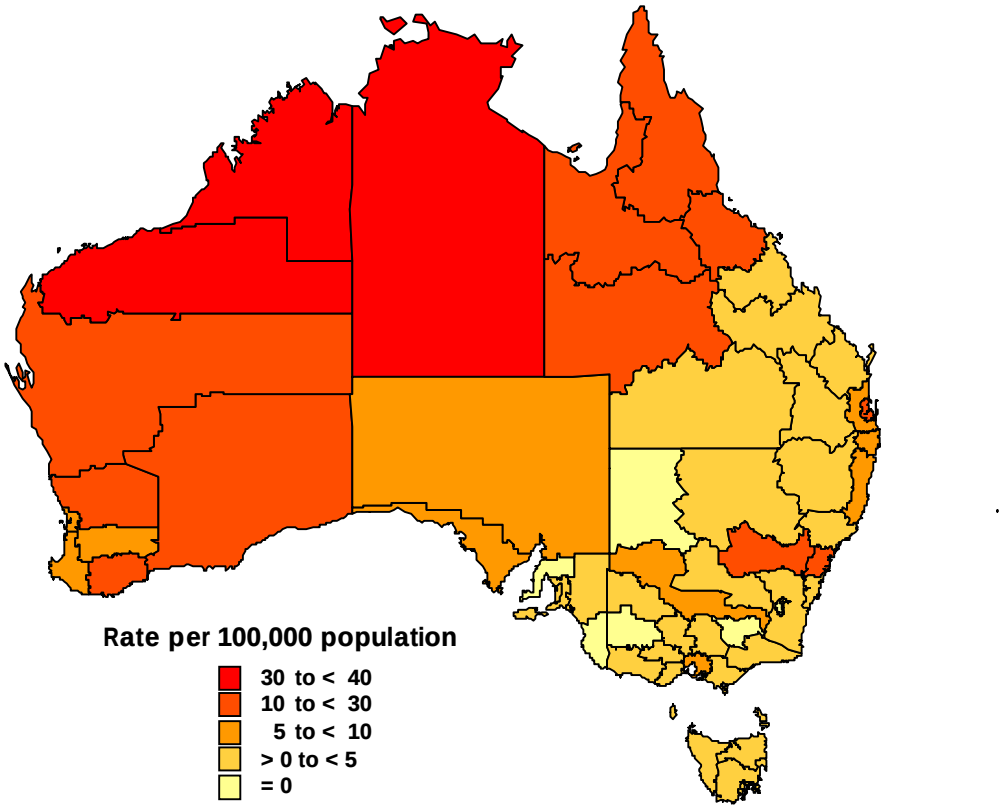
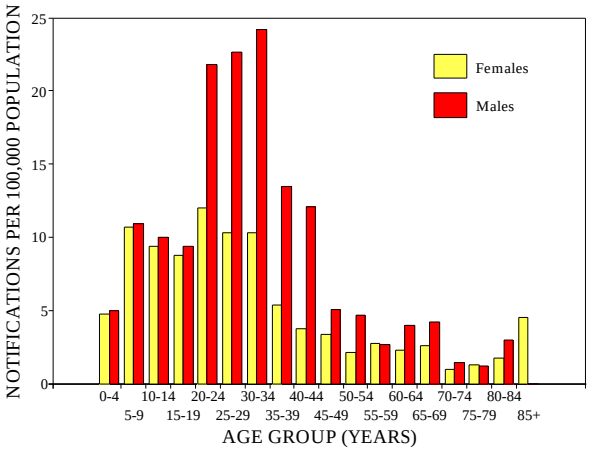


Figure 18. Notification rate of hepatitis A, 1995, by age group and sex



(37.2 and 36.1 per 100,000 population respectively) and the Northern Territory (30.5 per 100,000 population) (Figure 17).

The male:female ratio was 1.7:1. Age group specific notification rates were highest for those aged 20 - 34 years (Figure 18).

Hepatitis B

There were 321 incident cases of hepatitis B reported in 1995. This corresponds to a notification rate of 1.8 per 100,000 population.

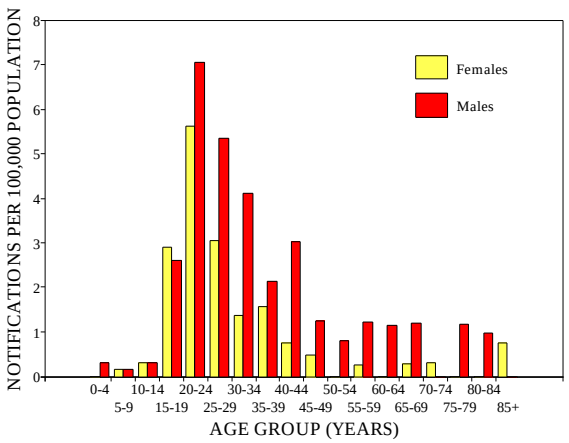
The highest notification rates were reported for the Kimberley Statistical Division of Western Australia (44.0 per 100,000 population) and the North Western Statistical Division of New South Wales (11.7 per 100,000 population).

The male:female ratio was 1.8:1. The highest age group specific notification rates were for the 20 - 24 years age group (6.4 per 100,000 population) (Figure 19).

Hepatitis C

There were 69 reports of incident hepatitis C received from States and Territories other than Queensland, Victoria and Western Australia. The male:female ratio was 1.8:1. There were 56 cases (81%) aged between 20 - 39 years. The male:female ratio in this age group was 2.1:1.

Figure 19. Notification rate of hepatitis B, 1995, by age group and sex



A 12 month pilot program for the enhanced surveillance of incident cases of hepatitis C and associated risk factors was commenced in 1995. There were 138 incident cases of hepatitis C identified[9]. The difference in incident cases in the two surveillance systems indicates better case ascertainment in the enhanced surveillance system than in the NNDSS.

Unspecified hepatitis C was reported by all States and Territories except South Australia and New South Wales. The annual adjusted notification rate was 91.8 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 median age was 34 years (range 0 - 94 years). The male:female ratio was 1.6:1.

Hepatitis (not elsewhere classified)

There were 55 reports of hepatitis (not elsewhere classified) received in 1995. These included 20 reports of hepatitis D and 6 reports of hepatitis E.

Hydatid infection

Hydatid infection was reported for 46 patients in 1995 (0.3 per 100,000 population). The age range was 15 - 84 years. The male:female ratio was 1:1.4. Forty-three per cent of cases were aged over 60 years. Notifications were received from both rural and metropolitan Statistical Divisions, as has been the case in previous years[10].

Legionellosis

This classification includes notifications of infections caused by all *Legionellae* species. There were 160 notifications received in 1995, constituting a rate of 0.9 cases per 100,000 population for the year. Similar numbers of cases were observed in the previous four years (Figure 20).

The male:female ratio was 3.3:1. Sixty-seven per cent of all cases were in males older than 40 years (Figure 21).

The highest numbers of notifications were recorded with onset during January and March. Fifty-three per cent of cases reported for this period were from New South Wales. Species identification was not available for the majority of infections. *L. pneumophila* infections have been

Figure 20. Notifications of legionellosis, 1991 to 1995, by month of onset

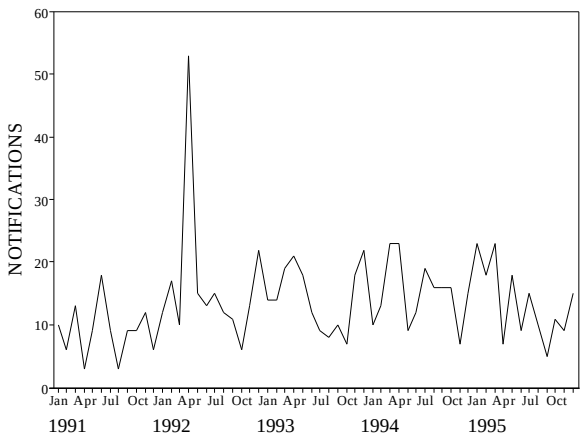
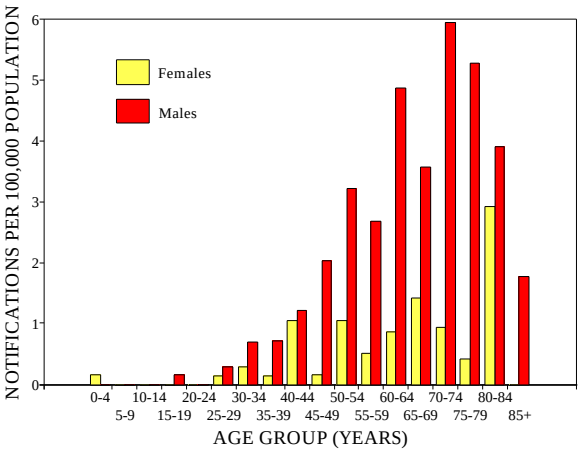


Figure 21. Notification rate of legionellosis, 1995, by age group and sex



reported to peak in the autumn, and *L. longbeachae* infections in the spring[11].

Leprosy

There were seven notifications of leprosy in 1995. Six cases were male. The notification rate of 0.04 per 100,000 population was slightly lower than for recent years. The three youngest persons notified with the disease were in the age group 30 - 34 years.

Leptospirosis

There were 149 notifications of leptospirosis in 1995 (0.8 per 100,000 population). Cases were in the age range 5 - 74 years. The male:female ratio was 7.2:1. The highest notification rate was reported for the 20 - 29 years age group (1.7 per 100,000 population) (Figure 22). More reports were received for November and December than for other months, similar to the seasonal distribution observed in previous years (Figure 23).

The highest numbers of notifications were recorded for Queensland and Victoria. The highest notification rates were reported for the Statistical Divisions of Western District (17.7 per 100,000 population) and Gippsland (10.3 per 100,000 population) in Victoria, and Far North Queensland (15.4 per 100,000 population).

Listeriosis

Listeriosis was notified for 58 cases in 1995, from all States and Territories. The notification rate was 0.3 per 100,000 population, about the same as for previous years.

Twenty-six of the cases (45%) had a recorded onset during the warmer months of January and February (Figure 24). There were 4 cases in the 0 - 4 years age group, and 24 cases (41%) were aged over 64 years.

Lymphogranuloma venereum

Lymphogranuloma venereum was not a notifiable disease in New South Wales, Western Australia or South Australia in 1995. A single case was reported from Victoria in 1995.

Figure 22. Notification rate of leptospirosis, 1995, by age group and sex

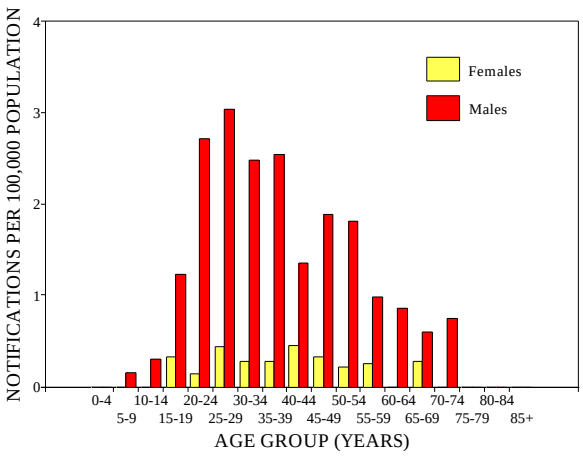


Figure 23. Notifications of leptospirosis, 1991 to 1995, by month of onset

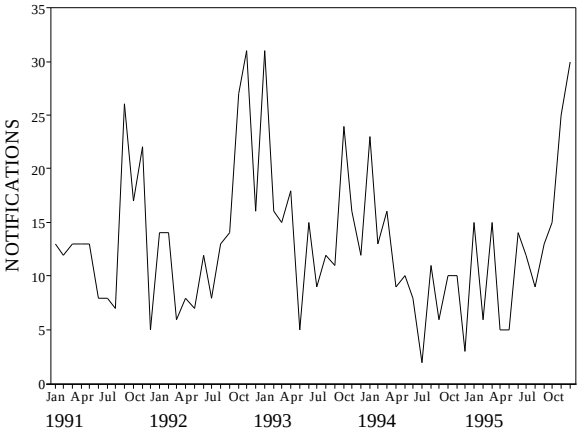
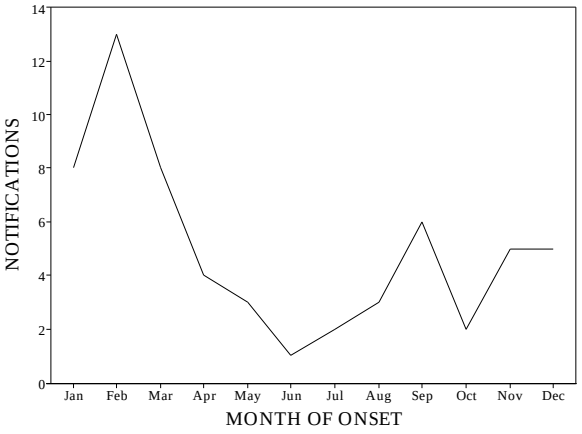


Figure 24. Notifications of listeriosis, 1995, by month of onset



Malaria

There were 625 notifications of malaria during 1995, the notification rate being 3.5 per 100,000 population. This rate is somewhat lower than the rates recorded for the previous four years. There were no reports of locally acquired cases.

There was a marked seasonal variation, with the highest number of notifications having a recorded onset in February (Figure 25). This seasonal distribution follows the pattern of previous years and may reflect travel patterns. This was most marked in the Northern Territory and Queensland where 32% and 16% respectively of the total notifications for the year had onset dates in February.

As seen in previous years, the highest notification rates were recorded for residents of the Queensland Statistical Divisions of Far North (24.9 per 100,000 population), and Northern (15.9 per 100,000 population), and for the Northern Territory (20.7 per 100,000 population) (Figure 26).

The male:female ratio was 2.5:1. Sixty-seven per cent of notifications were seen in persons 20 - 49 years of age (Figure 27).

Figure 25. Notifications of malaria, 1991 to 1995, by month of onset

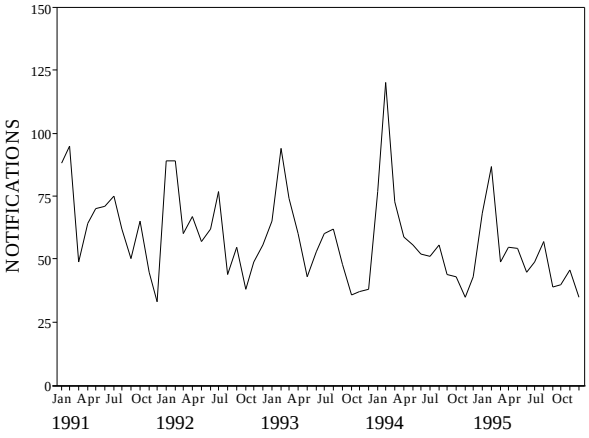


Figure 27. Notification rate of malaria, 1995, by age group and sex

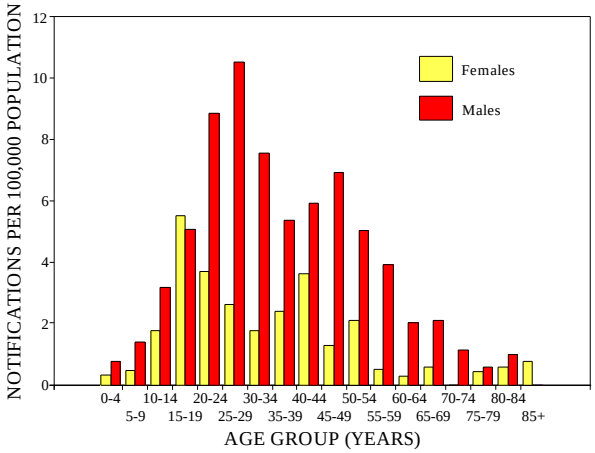
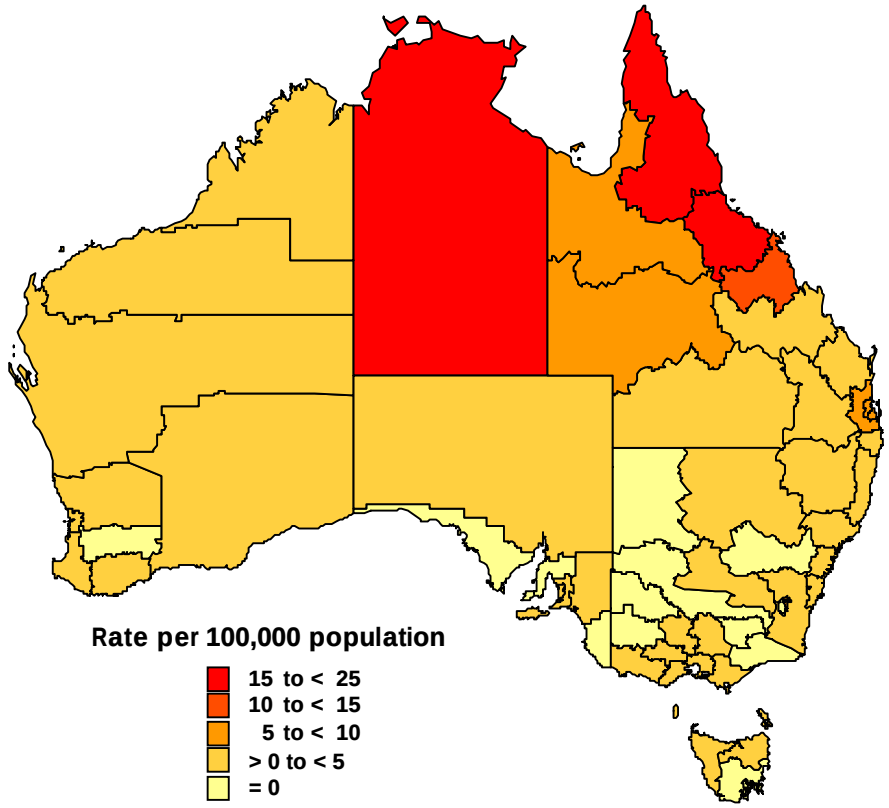


Figure 26. Notification rate of malaria, 1995, by Statistical Division of residence



Measles

Notifications of measles decreased in 1995 after the epidemic years of 1993 and 1994 (Figure 28).

There were 1,324 cases reported in 1995, with an annual notification rate of 7.3 per 100,000 population. This was substantially lower than the rates of 27.4 per 100,000 population in 1994 and 25.7 per 100,000 population in 1993. Notifications were highest from January to March, representing the end of the 1993-94 epidemic.

The male:female ratio was 1.2:1. Eighty-two 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 (35.5 per 100,000 population) (Figure 29). There were 135 cases (10%) reported for children under the age of one year.

Notification rates were highest for the Northern Territory (63.3 per 100,000 population) and the Statistical Divisions of Far North Queensland (32.9 per 100,000 population) and Illawarra and Mid North Coast, New South Wales

Figure 28. Notifications of measles, 1992 to 1995, by month of onset

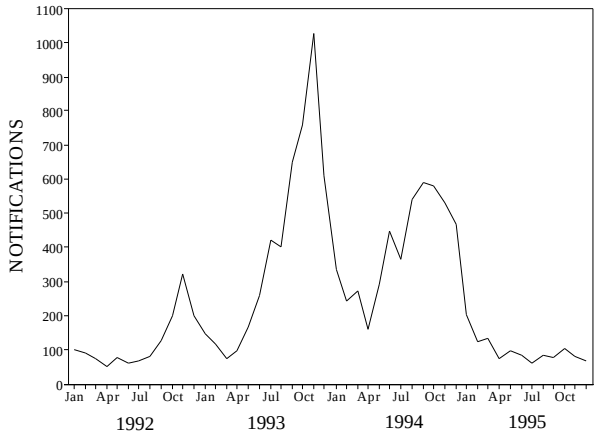


Figure 29. Notification rate of measles, 1995, by age group and sex

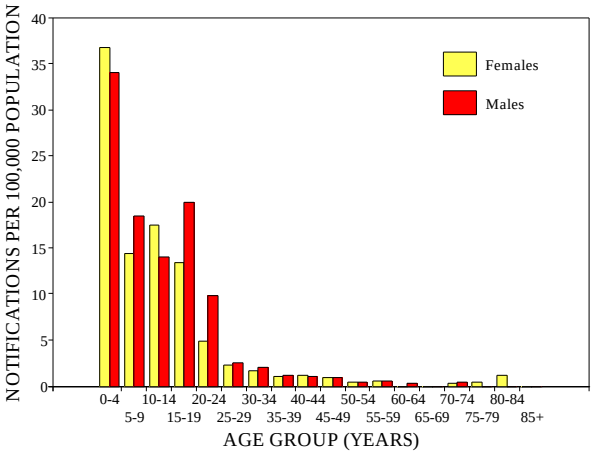


Figure 30. Notification rate of measles, 1995, by Statistical Division of residence

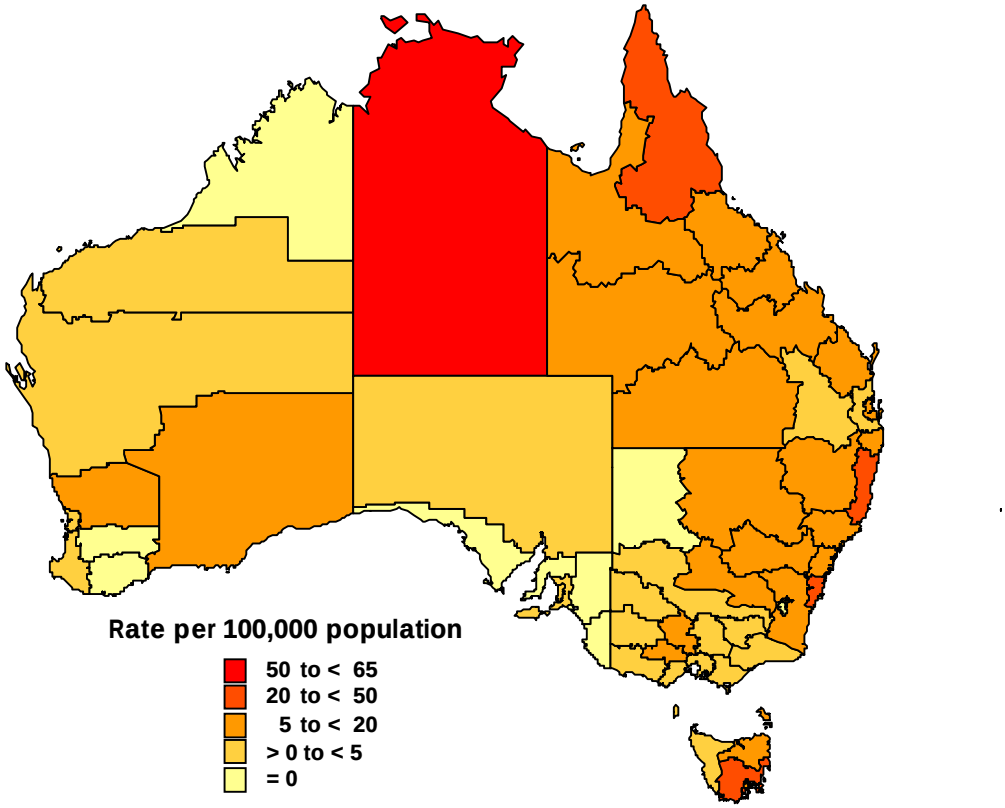
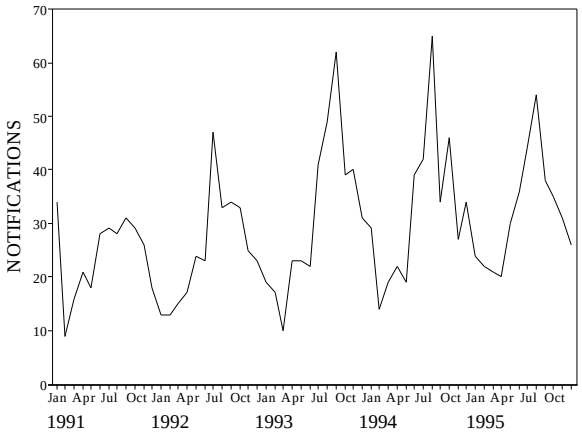


Figure 31. Notifications of meningococcal infection, 1991 to 1995, by month of onset



(24.9 and 20.3 per 100,000 population respectively) (Figure 30).

Meningococcal infection

There were 382 notifications of meningococcal infection in 1995 with a rate of 2.1 per 100,000 population. This is similar to the rates of 2.2 and 2.1 per 100,000 population recorded in 1994 and 1993 respectively.

There was a marked seasonal pattern, with 45% of cases having onset from July to October (Figure 31). The seasonal pattern varied slightly between jurisdictions, with New South Wales having an earlier peak than Victoria.

The male:female ratio was 1.2:1. The highest rates were for the 0 - 4 and the 15 - 19 years age groups (11.7 and 4.5 per 100,000 population respectively) (Figure 32).

The National Neisseria Network reported 250 *Neisseria meningitidis* isolates in 1995[12]; 166 (66%) were serogroup B and 69 (28%) were serogroup C. The remainder were for other serogroups.

Mumps

Mumps was notifiable in all States and Territories except Queensland in 1995. There were 153 cases reported, with an annual adjusted rate of 1.0 per 100,000 population. Fifty per cent of cases were reported from Victoria. There was no seasonal pattern.

The male:female ratio was 1.3:1. The notification rate was highest in the 5 - 9 years age group (4.4 cases per 100,000 population) and the 0 - 4 years age group (4.1 cases per 100,000 population) (Figure 33).

Sixty per cent of cases occurred in children under the age of 10 years. A small peak in notifications occurred in males in the 15 - 19 years age group (14 cases, rate 2.6 per 100,000 male population).

Figure 32. Notification rate of meningococcal infection, 1995, by age group and sex

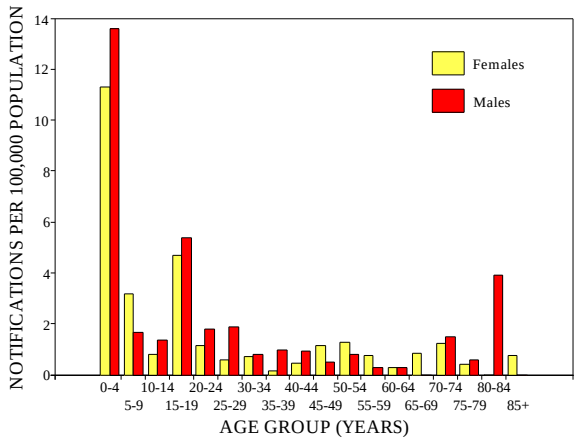
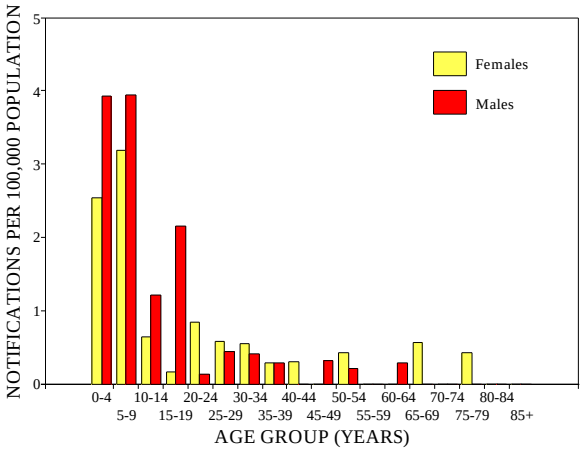


Figure 33. Adjusted notification rate of mumps, 1995, by age group and sex



Ornithosis

Ornithosis was notifiable in all States and Territories except New South Wales in 1995. There were 176 cases reported, of which 147 were from Victoria. The annual adjusted notification rate was 1.5 per 100,000 population. This is the highest rate observed since 1991. The highest notification rate of 31.6 per 100,000 population was reported from the Ovens-Murray Statistical Division of Victoria where an outbreak was reported[13].

Figure 34. Notifications of ornithosis, 1995, by month of onset

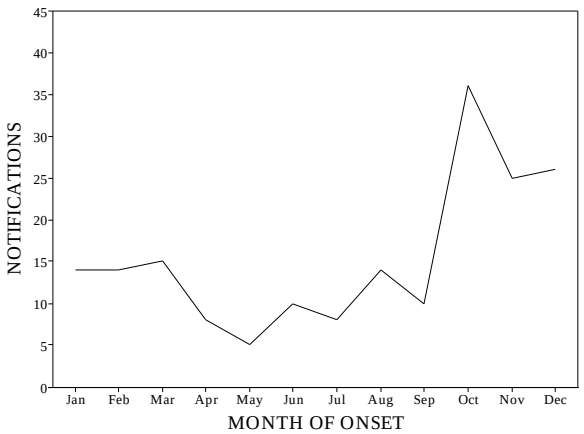


Figure 35. Adjusted notification rate of ornithosis, 1995, by age group and sex

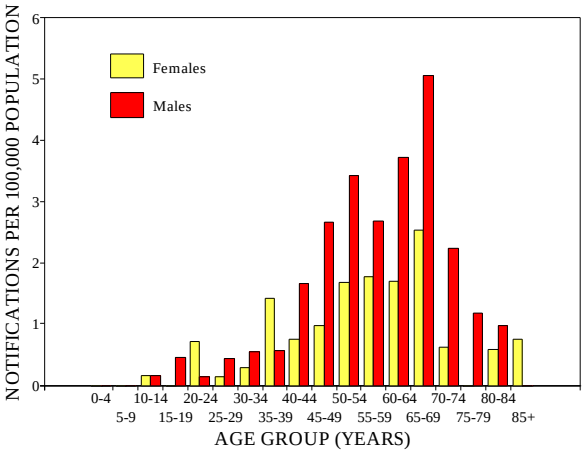
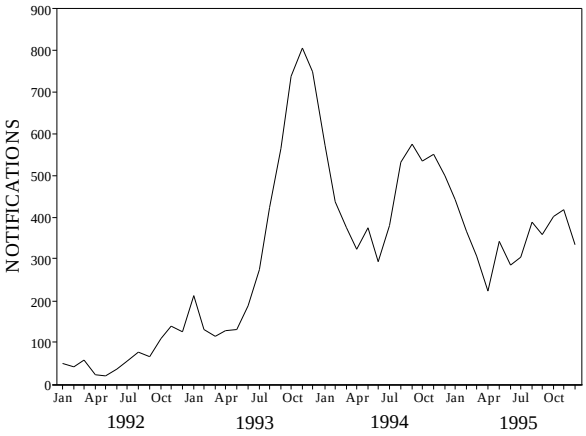


Figure 36. Notifications of pertussis, 1992 to 1995, by month of onset



There were more notifications in the spring and summer months, reflecting the outbreak in Victoria (Figure 34).

More males were reported than females, with a male:female ratio of 1.8:1. The highest age group specific notification rate was reported for the 60 - 69 years age group (Figure 35).

Pertussis

Large numbers of notifications of pertussis continued in 1995, with 4,297 cases reported and an annual notification rate of 23.8 per 100,000 population. Notifications have remained high since 1993 (Figure 36).

Notification rates for the year varied across the country. Rates were highest in the Statistical Divisions of South West, Queensland (239.7 per 100,000 population), Richmond-Tweed, New South Wales (143.9 per 100,000 population), and the Northern Territory (100.1 per 100,000 population) (Figure 37).

The male:female ratio was 1:1.2. The highest notification rate was in those aged 5 - 9 years (82.7 per 100,000 popu-

Figure 37. Notification rate of pertussis, 1995, by Statistical Division of residence

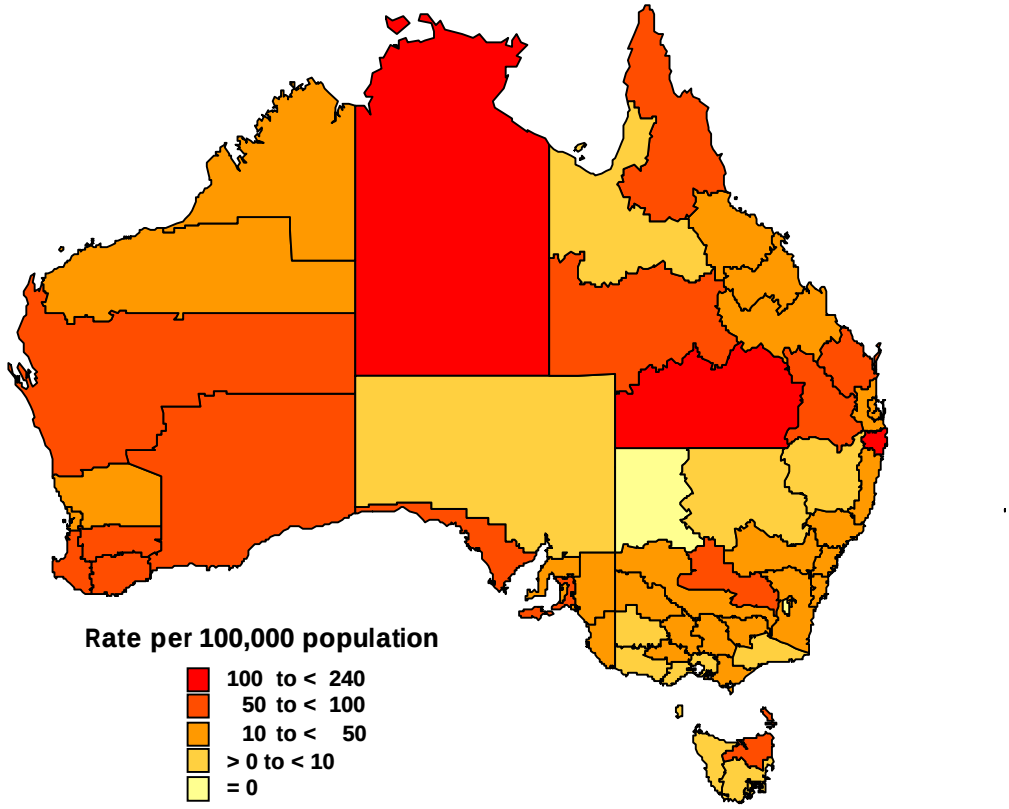
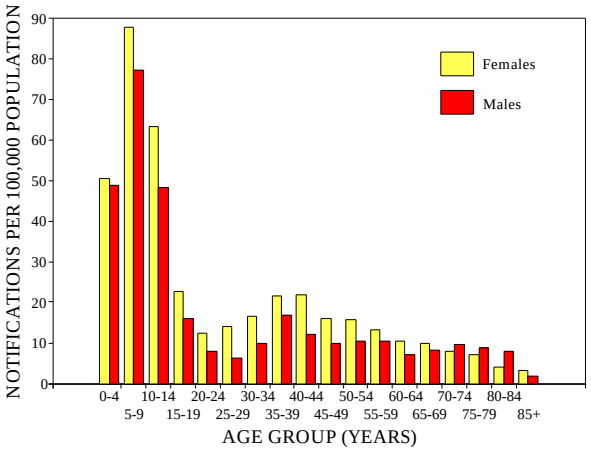


Figure 38. Notification rate of pertussis, 1995, by age group and sex



lation), but the rate was also high in children aged less than five years (49.8 per 100,000 population) and 10 - 14 years (56.0 per 100,000 population) (Figure 38). There were 195 cases (5%) in children aged less than one year.

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 1995. The last case of this disease reported to the NNDSS was in 1986.

Q fever

There were 473 cases of Q fever reported in 1995 at a notification rate of 2.6 per 100,000 population. This is the lowest rate observed since 1991. There was no seasonal pattern.

As in previous years, most notifications were from New South Wales (218) and Queensland (180). No cases were reported from the Northern Territory or Tasmania. The highest rates occurred in the Statistical Divisions of South

Figure 39. Notification rate of Q fever, 1995, by age group and sex

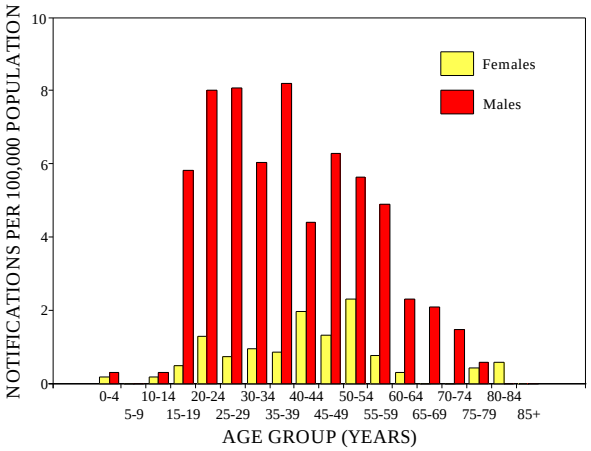
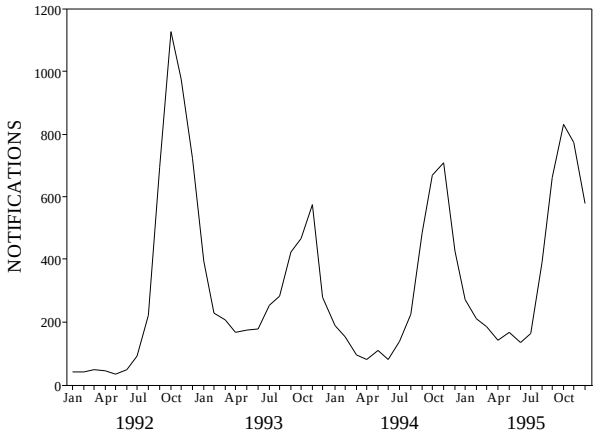


Figure 40. Notifications of rubella, 1992 to 1995, by month of onset



West and Central West, Queensland (70.5 and 30.9 per 100,000 population respectively) and North West, New South Wales (38.5 per 100,000 population).

There was a marked predominance of males, with a male:female ratio of 5.7:1. The highest notification rates were reported for the 20 - 39 years age range (Figure 39).

Rabies

There were no notifications of rabies in 1995.

Rubella

Large numbers of cases of rubella were notified in 1995. There were 4,380 cases reported, including one report of congenital rubella syndrome. The annual notification rate was 24.3 per 100,000 population. This was higher than the rate for any recent year (Figure 40).

The male:female ratio was 2.5:1. The highest notification rate occurred in the 15 - 19 years age group (94.8 per 100,000 population), with the rate in males 159.3 per 100,000 population and the rate in females 25.9 per 100,000 population (Figure 41). There were 529 cases reported in women aged between 15 - 44 years.

Figure 41. Notification rate of rubella, 1995, by age group and sex

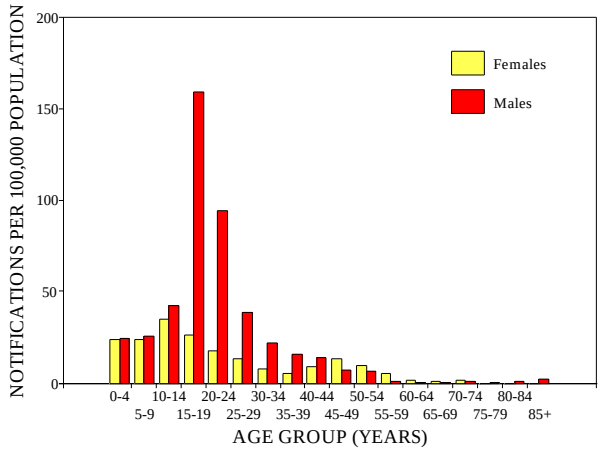
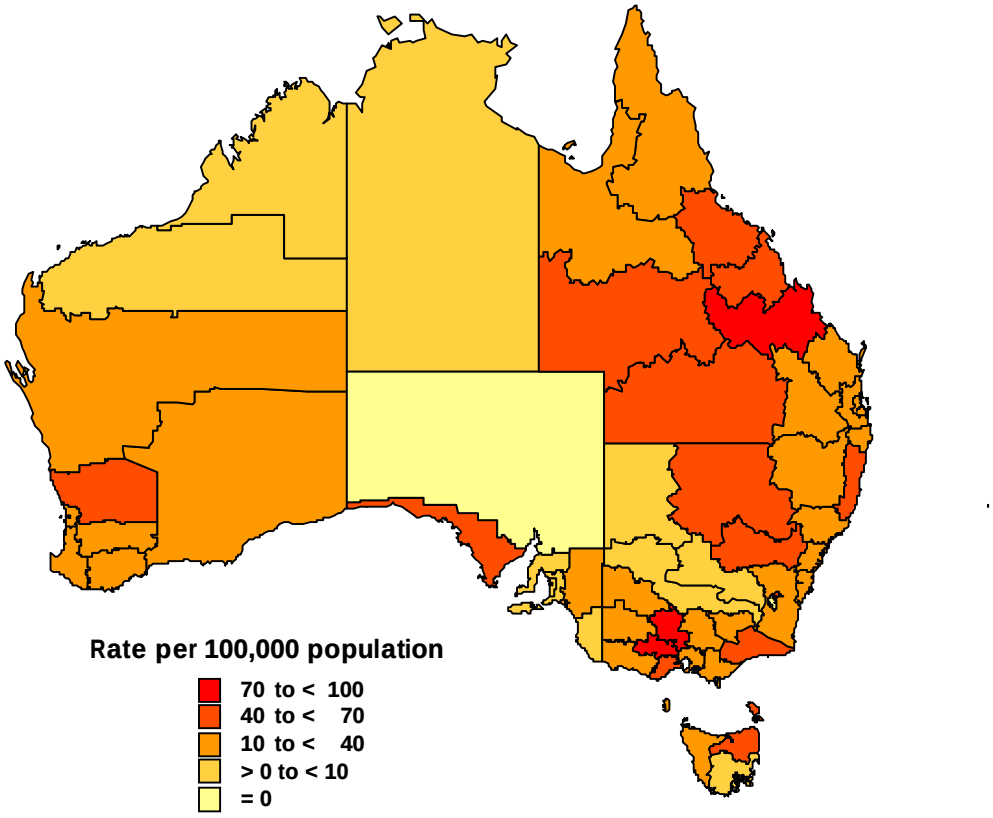


Figure 42. Notification rate of rubella, 1995, by Statistical Division of residence



Notifications peaked in October and November, consistent with the seasonal pattern of previous years.

Rates were highest in the Statistical Divisions of Fitzroy, Queensland (92.9 per 100,000 population) and Central Highlands, Victoria (92.6 per 100,000 population) (Figure 42).

Salmonellosis (not elsewhere classified)

There were 5,895 cases of salmonellosis (not elsewhere classified) reported in 1995, the annual notification rate of 32.7 per 100,000 population being higher than for any of the previous four years.

As in previous years, a seasonal trend was noted with more notifications having onset in the warmer months (Figure 43).

By far the highest age specific notification rate was in the 0 - 4 years age group (196.7 per 100,000 population) (Figure 44).

Figure 43. Notifications of salmonellosis, 1991 to 1995, by month of onset

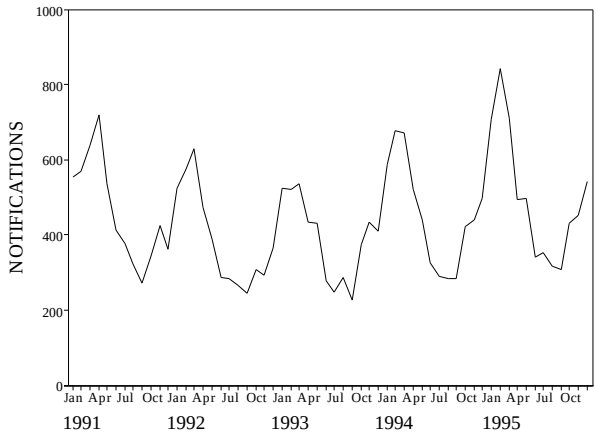


Figure 44. Notification rate of salmonellosis, 1995, by age group and sex

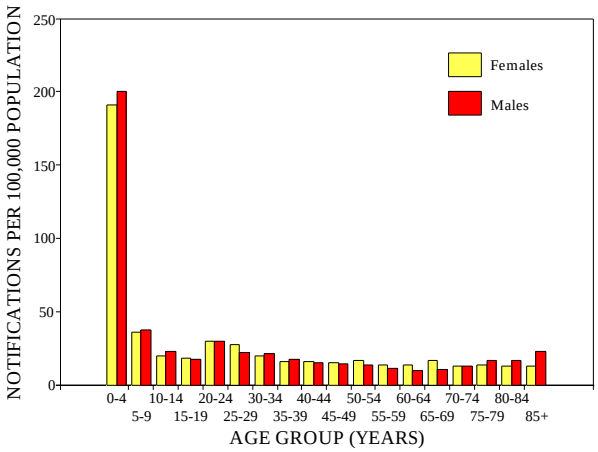
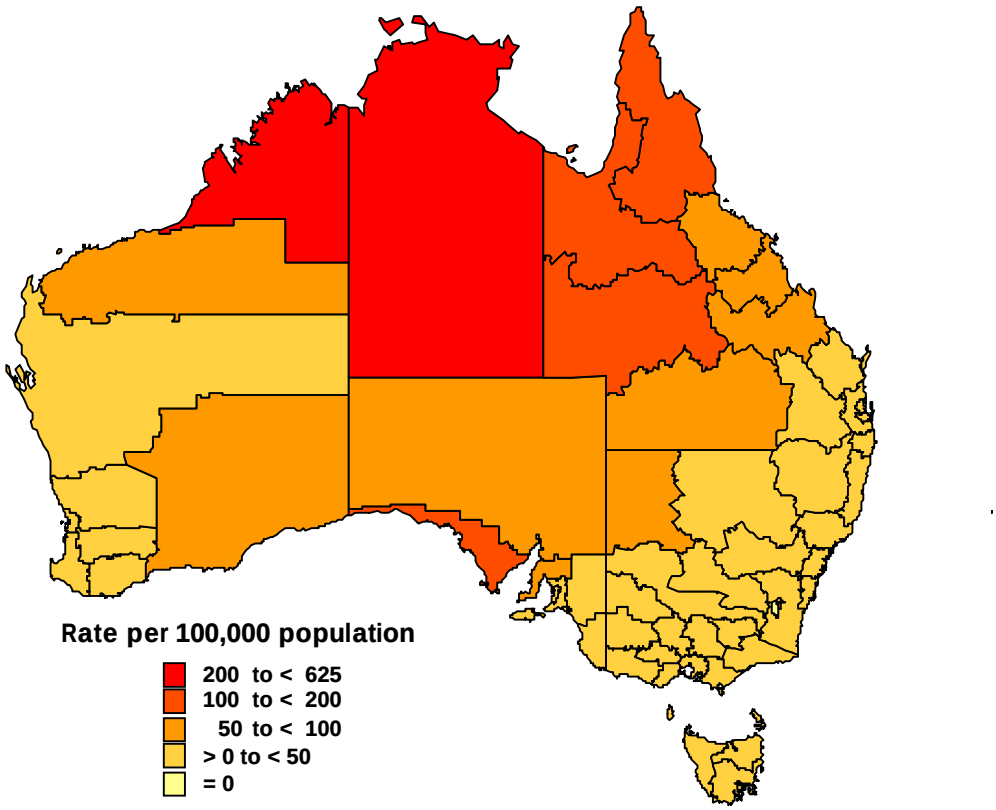


Figure 45. Notification rate of salmonellosis, 1995, by Statistical Division of residence



Notification rates were highest in the Statistical Division of Kimberley in Western Australia (620.8 per 100,000 population) and the Northern Territory (212.2 per 100,000 population) (Figure 45).

Shigellosis

There were 734 notifications of shigellosis in 1995, from all States and Territories except New South Wales, where it was only notifiable as 'food-borne disease' or 'gastroenteritis in an institution'. The adjusted notification rate, 6.1 per 100,000 population, was similar to previous years.

Most cases were reported in the first half of the year, with a peak of 106 reports with onset dates in March (Figure 46).

The male:female ratio was 1:1.2. The highest age group specific rates occurred in the 0 - 4 years age group for both males and females (Figure 47).

Figure 46. Notifications of shigellosis, 1995, by month of onset

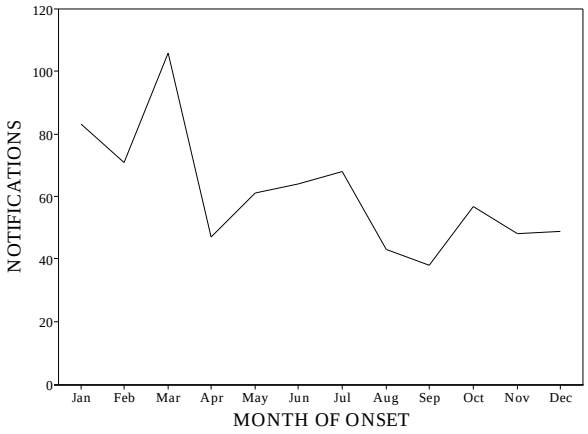


Figure 47. Adjusted notification rate of shigellosis, 1995, by age group and sex

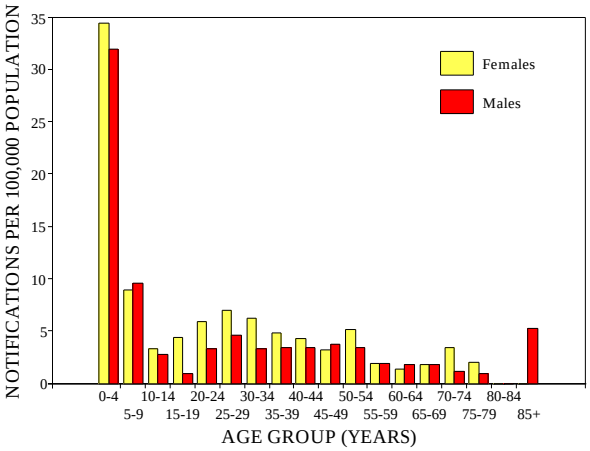
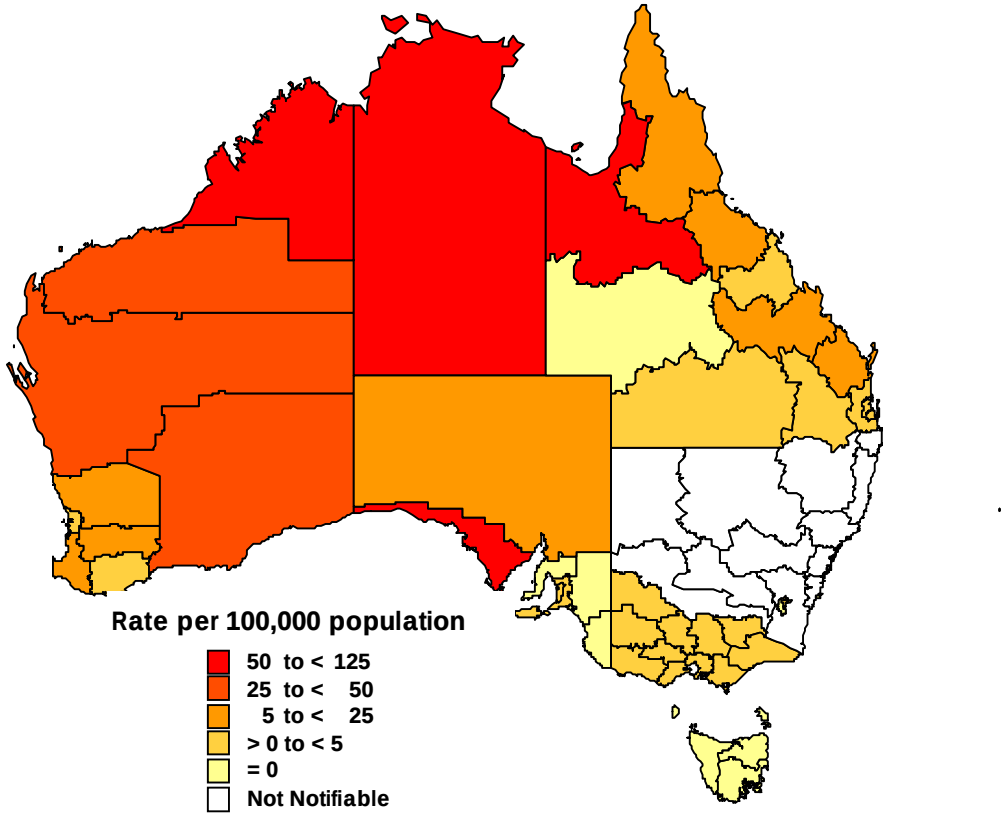


Figure 48. Notification rate of shigellosis, 1995, by Statistical Division of residence



Notification rates were highest in the Northern Territory (114.4 per 100,000 population) and the Statistical Divisions of North West, Queensland (76.9 per 100,000 population), Kimberley, Western Australia (76.1 per 100,000 population) and Eyre, South Australia (80.6 per 100,000 population) (Figure 48).

Syphilis

There were 1,854 notifications of syphilis in 1995. The rate of 10.3 per 100,000 population was the lowest reported in Australia for over 20 years except for 1990, when the rate was 9.6 per 100,000 population (Figure 49). Caution should be taken in interpreting the data, including the secular trend and age-specific rates in older age groups, as notifications from some jurisdictions might include reports of cases other than of recent infection.

The male:female ratio was 1.1:1. Among younger persons, notification rates were higher in females, and among older persons, in males (Figure 50).

Of the 1,854 notifications, 25 cases were identified as congenital syphilis, including 20 in infants under one year of age, three in older children, and two in persons over 65 years of age. There were a further 20 cases reported as syphilis in children under 10 years, of which 16 were under one year of age.

Figure 49. Notification rate of syphilis, 1970 to 1995, by year of report

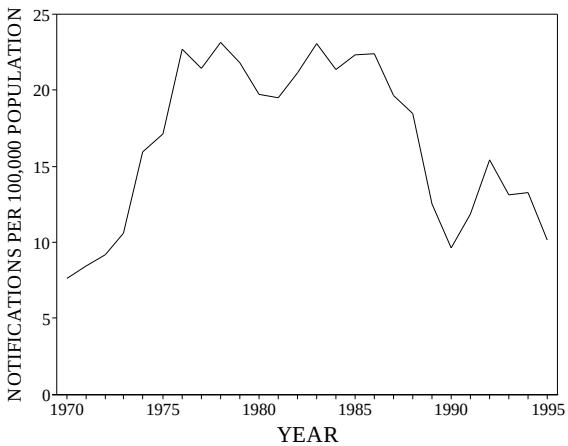


Figure 50. Notification rate of syphilis, 1995, by age group and sex

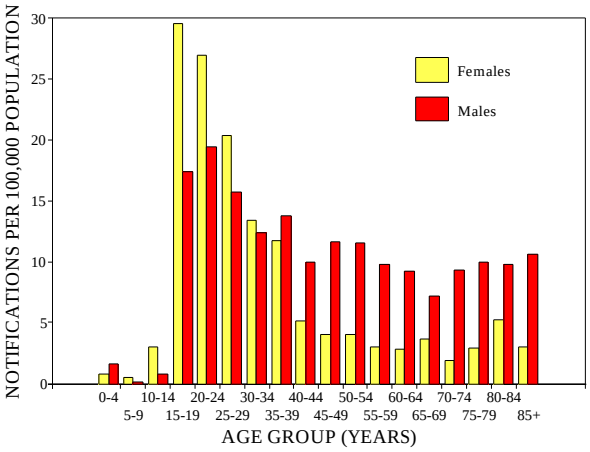
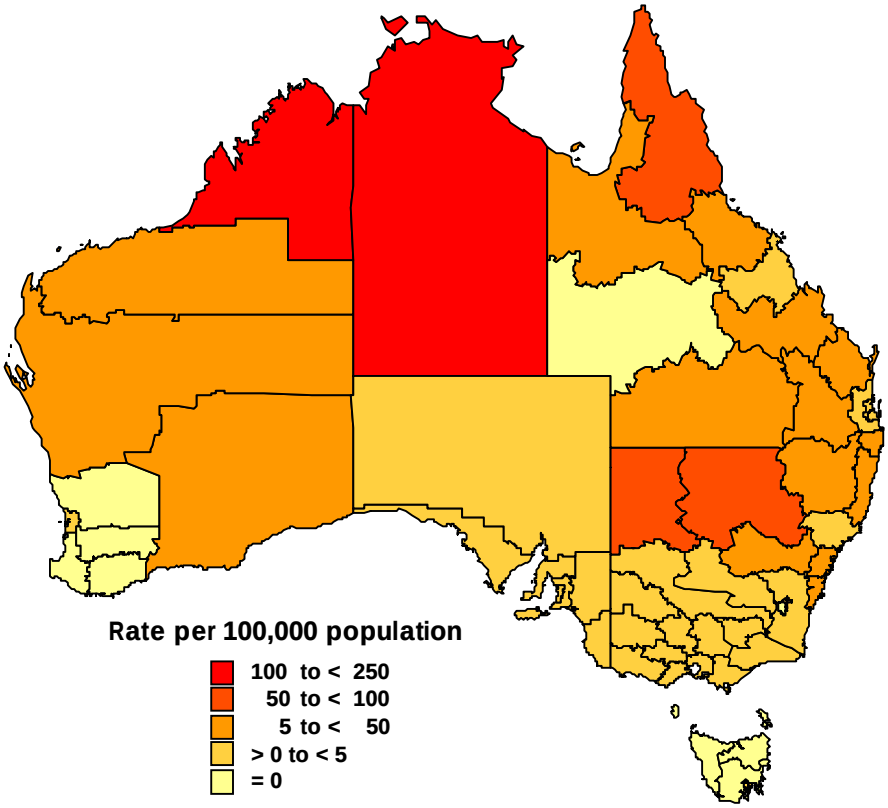


Figure 51. Notification rate of syphilis, 1995, by Statistical Division of residence



There was wide geographical variation in the notification rate of syphilis (Figure 51). High notification rates were reported for the Northern Territory and the Statistical Divisions of Kimberley, Western Australia, Far West and North Western, New South Wales, and Far North, Queensland. There was no seasonal trend.

Tetanus

There were 7 notifications of tetanus in 1995, from Victoria and Western Australia. All cases were aged over 49 years and 4 cases were 70 years or older. The male:female ratio was 1:1.3.

Tuberculosis

There were 1,073 notifications of tuberculosis in 1995. The notification rate of 5.9 per 100,000 population was similar to recent years (Figure 52). There was no seasonal trend in onset dates.

The male:female ratio was 1.1:1; age-specific rates were similar for males and females in younger age groups, but were higher in older men than older women (Figure 53).

The highest notification rates were reported for the Northern Territory (23.0 per 100,000 population), the Queensland Statistical Division of North West (15.9 per 100,000), the Western Australian Statistical Divisions of

Figure 52. Notification rate of tuberculosis, 1986 to 1995, by year of report

Figure 53. Notification rate of tuberculosis, 1995, by age group and sex

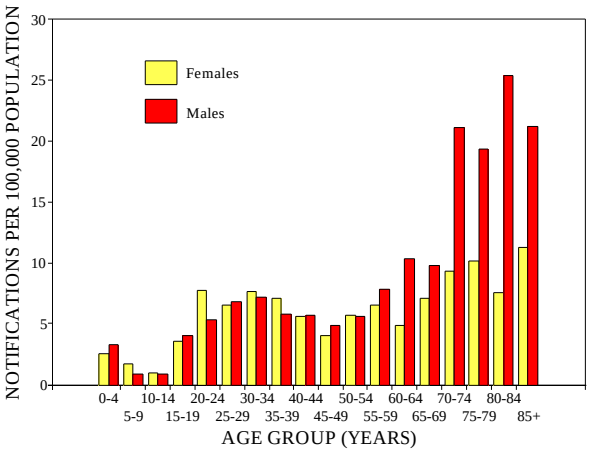
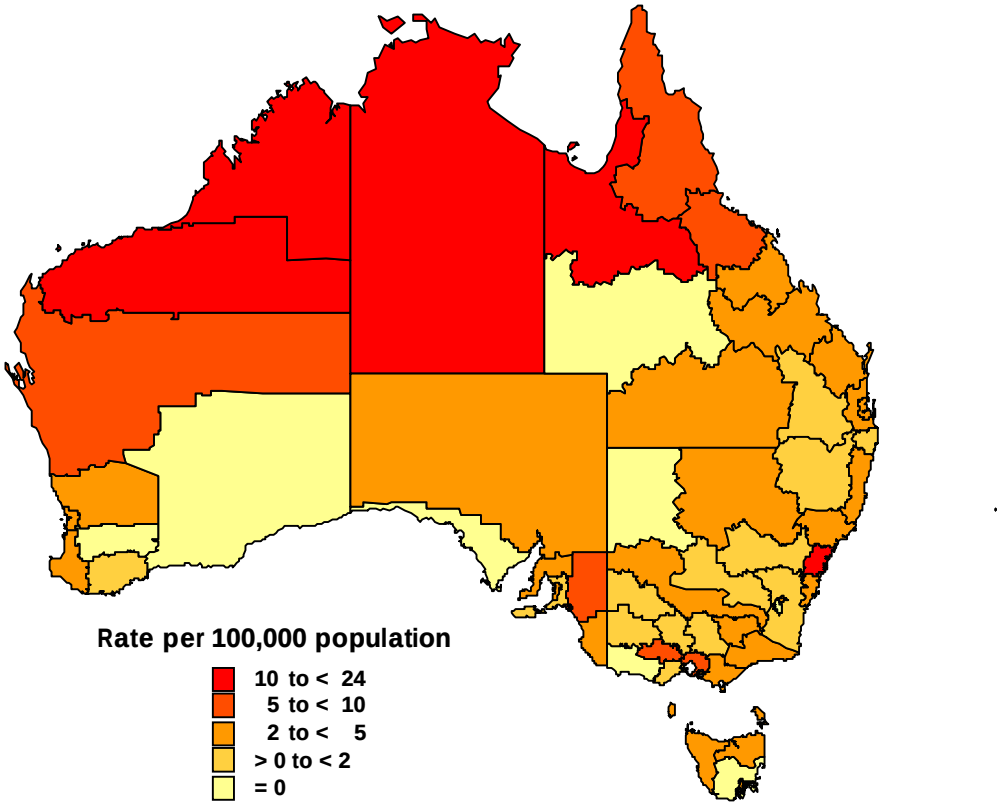


Figure 54. Notification rate of tuberculosis, 1995, by Statistical Division of residence



Kimberley and Pilbara (12.0 and 11.6 per 100,000 population respectively) and the New South Wales metropolitan Statistical Division of Sydney (10.7 per 100,000 population) (Figure 54).

A more detailed analysis of enhanced surveillance of tuberculosis and non-tuberculous mycobacterial infections, collated in the National Mycobacterial Surveillance System, is published separately[7].

Typhoid and paratyphoid

There were 70 cases of typhoid and paratyphoid notified in 1995, the notification rate being 0.4 per 100,000 population. The male:female ratio was 1.3:1, with 19 cases in the 15 - 29 years age range. There was no seasonal trend.

Yellow fever and other viral haemorrhagic fevers

There were no notifications of these diseases in 1995.

Yersiniosis

There were 306 cases of yersiniosis notified in 1995, from all States and Territories except New South Wales, where it was only notifiable as 'food-borne disease' or 'gastroenteritis in an institution'. The majority of reports were received from Queensland and South Australia.

The male:female ratio was 1.1:1. The highest age group specific rate of 12.8 per 100,000 population occurred in the 0-4 years age group (Figure 55); 35% of all cases notified were in this age group.

Figure 55. Adjusted notification rate of yersiniosis, 1995, by age group and sex

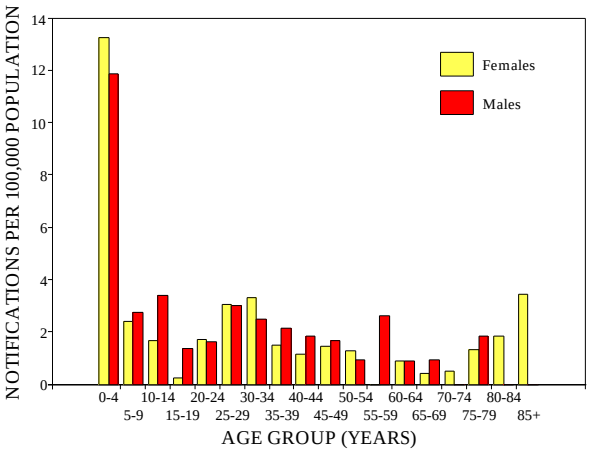
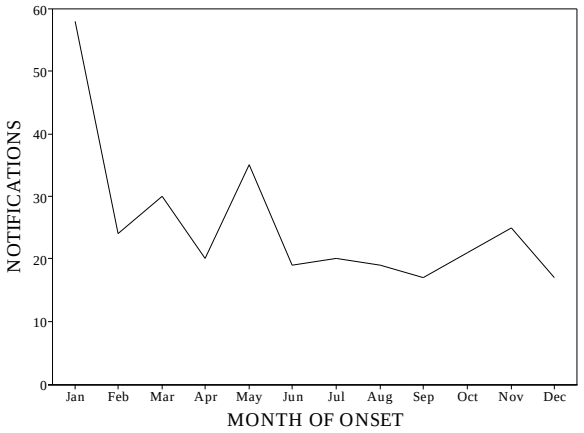


Figure 56. Notifications of yersiniosis, 1995, by month of onset



More cases had a recorded onset in January than for any other month (Figure 56).

Acknowledgments

The Communicable Diseases Network Australia New Zealand appreciates the contributions of clinicians, laboratory and hospital staff, and the staff in State and Territory health departments who have submitted or processed the notifications which are the basis of this report.

The members of the Network participating in the NNDSS are Irene Passaris (Australian Capital Territory Department of Health and Community Care), Jeremy McAnulty (New South Wales Department of Health), Vicki Krause (Northern Territory Department of Health and Community Services), John Sheridan (Queensland Department of Health), Scott Cameron and Robert Hall (South Australian Health Commission), Avner Misrachi (Tasmanian Department of Community and Health Services), John Carnie (Victorian Department of Human Services) and Jag Gill (Health Department of Western Australia). Helen Longbottom was the secretary of the CDNANZ in 1995.

The contribution of Michelle Charlton in the desktop publishing of this report is also gratefully acknowledged.

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OUTBREAK

A cluster of listeriosis cases in South Australia

Robert Hall[1], *David Shaw*[2], *Irene Lim*[2], *Fiona Murphy*[2], *Dianne Davos*[1], *Jan Lanser*[2], *Brian Delroy*[3], *Ingrid Tribe*[1], *Ros Holland*[1] *and Judy Carman*[1]

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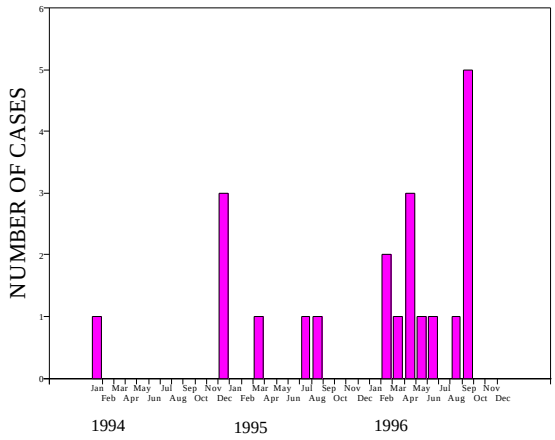
2. Adelaide Infectious Diseases Centre, Royal Adelaide Hospital and Institute for Medical and Veterinary Sciences, Adelaide.
3. Food Section, South Australian Health Commission, Adelaide.

A case of listeriosis was notified on 20 September 1996 for a patient with a haematological disease. Over the following 48 hours four further cases were reported, all in patients with immunosuppression associated with chronic disease. *Listeria monocytogenes* O1 was isolated from the blood of all cases. One case died.

Three of the five cases were inpatients at an Adelaide hospital. A fourth attended the outpatients department of the same hospital. Dietary histories showed that the three inpatients had consumed chicken sandwiches in the hospital, and all patients had eaten chicken, prior to their illness. The sandwiches were prepared in the hospital with diced chicken obtained from a commercial supplier.

Low counts of *Listeria monocytogenes* O1 were obtained from samples of the diced chicken. An investigation of the premises where the chicken was prepared was conducted. Swabs of the deboning area and samples of the chicken product also yielded *Listeria monocytogenes* O1 on culture. Further typing of the organisms from the patients and the samples of chicken by pulsed field gel electrophoresis confirmed the epidemiological link.

Figure. Listeriosis cases, South Australia, 1994 to 1996



Chicken products manufactured in the plant were withdrawn from sale and recalled on 27 September. Investigations are continuing.

Listeriosis has been a notifiable disease in South Australia since 1993. Between three and four cases were notified each year from 1993 to 1995. Fourteen cases have been notified in 1996, including the five notifications in this cluster (Figure). Cases reported earlier in the year were apparently sporadic with the possible exception of two cases associated with a medical centre. Investigations at the time did not identify a common source of infection for the two cases.

NOTICES TO READERS

Composition of Australian influenza vaccine for the 1997 winter

A meeting of members of the Australian Influenza Vaccine Committee (AIVC) held on 25 September 1996 agreed that the composition of the Australian influenza vaccine for the 1997 winter would be:

Influenza A

H_1N_1 A / Texas / 36 / 91 (H_1N_1)-like strain, 15 micrograms haemagglutinin per dose. The type strain is suitable for vaccine manufacture.

H_3N_2 A / Wuhan / 359 / 95 (H_3N_2)-like strain, 15 micrograms haemagglutinin per dose.

The following viruses were endorsed as suitable vaccine strains:

- RESVIR-9 (a reassortant of A / Nanchang / 933 / 95);
- X125, also a reassortant of A / Nanchang / 933 / 95;
- A / Auckland / 5 / 96. This strain is endorsed subject to the production of a reassortant satisfying manufacturing and regulatory criteria.

Influenza B

B / Beijing / 184 / 93-like, 15 micrograms haemagglutinin per dose. The strain B / Harbin / 07 / 94 currently used by vaccine manufacturers is a suitable vaccine strain.

Labelling

The committee provided advice on labelling which the Therapeutic Goods Administration will adopt. The primary pack should include the -like strain names only (for example B / Beijing / 184 / 93-like). The product information should include the actual strain used for vaccine manufacture, and in brackets, the strain recommended by the AIVC, such as

B / Harbin / 7 / 94 (B / Beijing / 184 / 93-like)

The product information should also include a statement to the effect that the strain chosen for vaccine manufacture was endorsed by the AIVC as being antigenically equivalent to the reference virus. These additional labelling requirements are in general conformity with the European Committee for Propriety Medicinal Products Notes for Guidance on Harmonisation of Requirements for Influenza Vaccines.

OVERSEAS BRIEFS

Source: World Health Organization (WHO)

Yellow fever, Benin

An outbreak of yellow fever has been reported in the Department of Atakora in the north-east region of Benin. The area affected is Kerou Sous Préfecture (population 44,000) where 48 cases and 37 deaths have been recorded. The cases occurred between July and September 1996. Urgent control measures have been put into place, including an immediate epidemiological investigation, strengthening of surveillance, immediate vaccination of the exposed population, advice on the use of impregnated mosquito nets, and informing countries with common borders of the situation.

Travellers are reminded that yellow fever vaccination is obligatory for entry into Benin.

Japanese encephalitis, Nepal

There were 697 cases of suspected Japanese encephalitis (JE) reported in Nepal up to 27 September 1996. There were 118 deaths. During 1995 the total number of JE cases reported was 772 with 126 deaths. Teams from the Ministry of Health with an entomologist from the WHO Office for the South East Asian Region have been sent to the affected areas in eastern and mid-western regions where most cases have been reported.

COMMUNICABLE DISEASES SURVEILLANCE

National Notifiable Diseases Surveillance System

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia-New Zealand. The system coordinates the national surveillance of 41 communicable diseases or disease groups endorsed by the National Health and Medical Research Council (NHMRC). Notifications of these diseases are made to State and Territory health authorities under the provisions of their respective public health legislation. De-identified core unit data are supplied fortnightly for collation, analysis and dissemination. For further information, see CDI 1996;20:9-10.

Reporting period 15 to 28 September 1996

There were 1,334 notifications received for this two-week period (Tables 1, 2 and 3). The numbers of reports for selected diseases have been compared with average data for this period in the previous three years (Figure 1).

Figure 2. *Haemophilus influenzae* type b infection notifications, 1991 to 1996, by month of onset

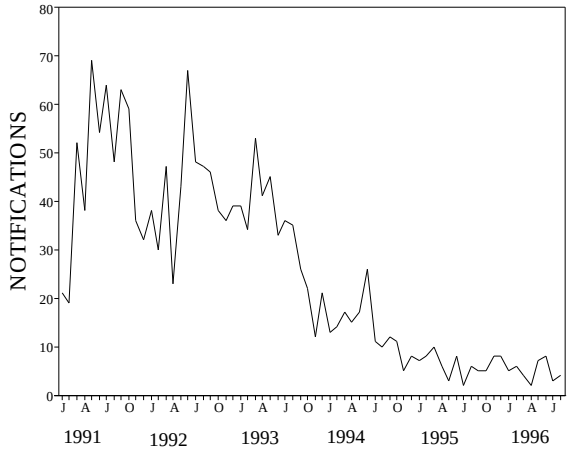


Figure 3. Ross River virus notifications, 1994 to 1996, by month of onset

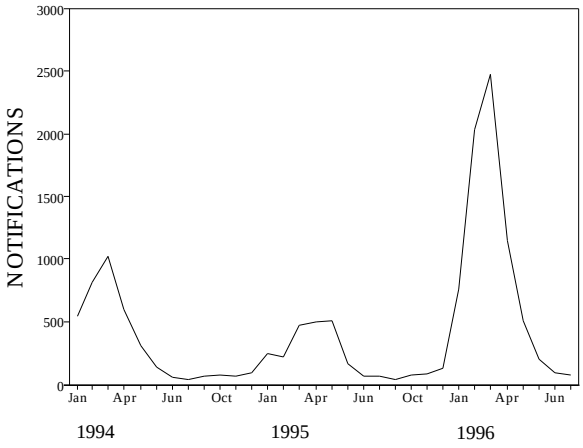
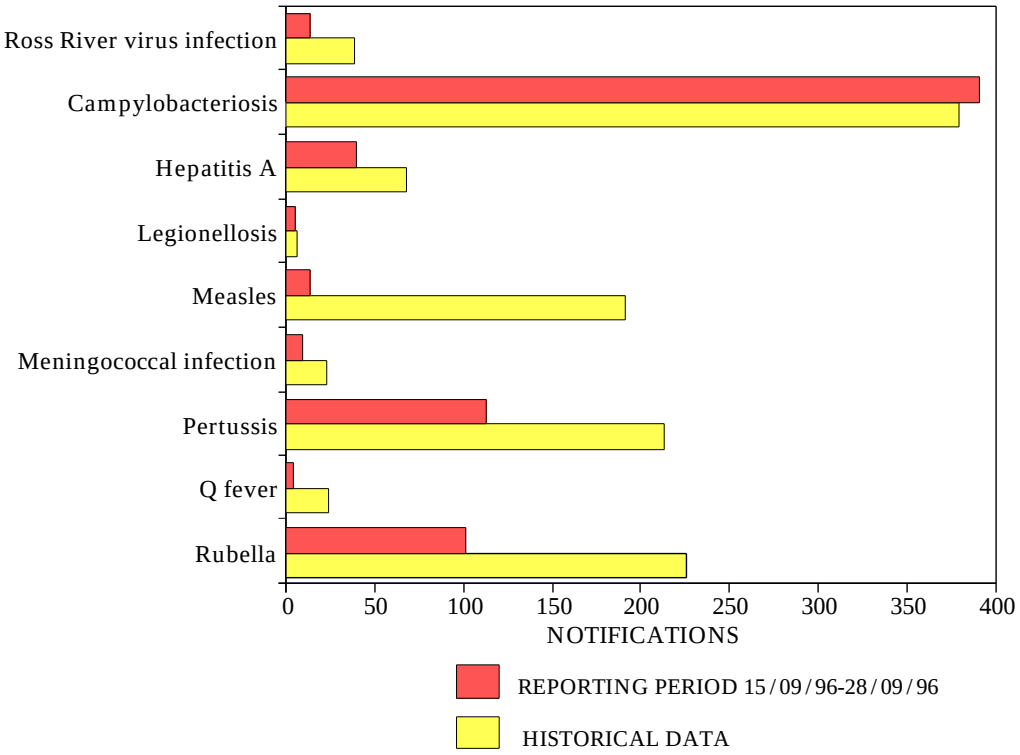


Figure 1. Selected National Notifiable Diseases Surveillance System reports, and historical data[1]



1. The historical data are the averages of the number of notifications in 9 previous 2-week reporting periods: the corresponding periods of the last 3 years and the periods immediately preceding and following those.

A total of 45 notifications of *Haemophilus influenzae* type b with onset in 1996 has been received. Of these 23 (54%) were for children under the age of 5 years. The number of reports has remained low since 1995 (Figure 2).

Fourteen notifications of Ross River virus infection were received this period. This low number is usual for the time of year. The peak number of reports received for the month of March is higher than for any year recorded (Figure 3).

The number of cases of meningococcal disease reported continues to decline after peaking in July (Figure 4). The male:female ratio was 1.3:1 and 109 cases (36%) were for the under 5 year age group (Figure 5).

Figure 4. Meningococcal disease notifications, 1993 to 1996, by month of onset

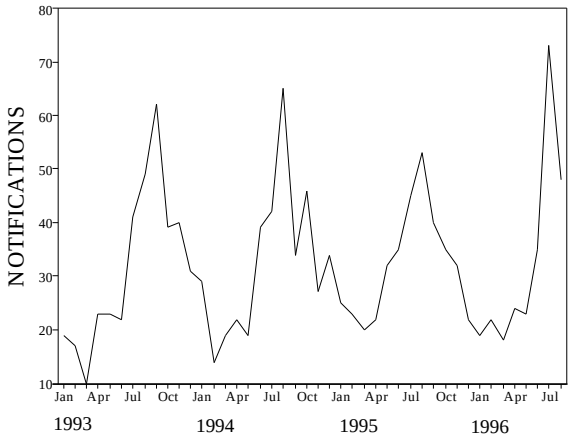


Figure 5. Meningococcal disease notifications, 1996, by age group and sex

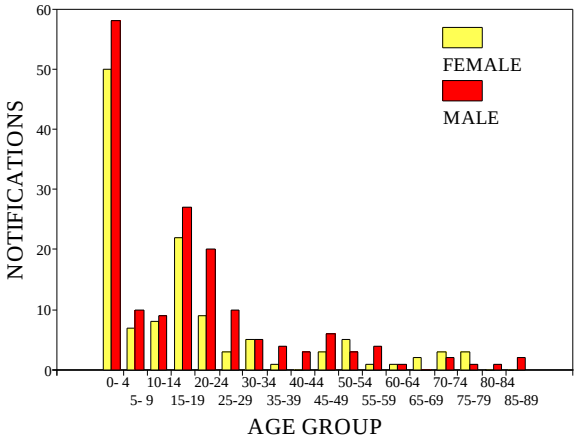


Table 1. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by State and Territory health authorities in the period 15 to 28 September 1996

DISEASE[1]	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2]			
									This period 1996	This period 1995	Year to date 1996	Year to date 1995
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae B infection	0	0	0	1	0	1	0	0	2	2	45	53
Measles	0	3	0	4	1	2	1	2	13	40	346	1077
Mumps	0	2	1	NN	0	0	0	0	3	8	89	112
Pertussis	1	3	0	32	35	3	31	8	113	167	2300	3122
Rubella	0	0	0	56	18	0	19	8	101	333	1783	2216
Tetanus	0	0	0	0	0	0	0	0	0	0	1	3

NN Not Notifiable.

1. No notifications of poliomyelitis have been reported since 1986.

2. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision, so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.

Table 2. Notifications of other diseases received by State and Territory health authorities in the period 15 to 28 September 1996

DISEASE[1]	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2]			
									This period 1996	This period 1995	Year to date 1996	Year to date 1995
Arbovirus Infection (NEC)[3,4]	0	0	1	0	0	0	0	0	1	2	84	56
Barmah Forest virus infection	0	2	-	12	0	0	0	-	14	20	692	648
Ross River virus infection	0	0	1	10	0	0	0	3	14	29	7466	2391
Dengue	0	0	0	0	0	-	0	0	0	1	29	23
Campylobacteriosis[5]	10	-	5	78	85	26	116	71	391	461	8672	7699
Chlamydial infection (NEC)[6]	2	NN	14	109	0	10	63	41	239	242	5537	4583
Donovanosis	0	NN	0	0	NN	0	0	1	1	1	36	58
Gonococcal infection[7]	2	0	17	46	0	0	13	24	102	97	2828	2328
Hepatitis A	1	3	3	25	2	0	4	2	40	54	1712	1134
Hepatitis B incident	0	0	0	0	0	0	3	0	3	13	153	251
Hepatitis C incident	0	0	0	-	0	-	-	-	0	1	22	62
Hepatitis C unspecified	10	NN	2	101	NN	23	118	20	274	429	6941	7117
Hepatitis (NEC)	0	0	0	0	0	0	1	NN	1	0	17	10
Legionellosis	0	0	2	0	1	0	1	1	5	4	135	133
Leptospirosis	0	0	0	1	0	0	0	0	1	1	170	91
Listeriosis	0	0	0	0	6	1	0	0	7	1	48	48
Malaria	2	1	0	4	0	0	1	1	9	15	647	502
Meningococcal infection	0	0	1	1	2	2	5	2	13	22	300	292
Ornithosis	0	NN	0	0	0	0	0	0	0	5	53	89
Q fever	0	1	0	3	0	0	0	0	4	17	387	347
Salmonellosis (NEC)	1	4	7	31	5	7	20	14	89	142	4307	4625
Shigellosis[5]	0	-	5	6	3	0	3	1	18	22	500	597
Syphilis	0	2	2	5	0	1	1	1	12	64	1085	1421
Tuberculosis	0	2	1	6	9	1	11	3	33	34	770	754
Typhoid[8]	0	0	0	0	0	0	1	0	1	1	67	57
Yersiniosis (NEC)[5]	0	-	0	6	2	0	1	0	9	8	189	246

1. For HIV and AIDS, see Tables 4 and 5. For rarely notified diseases, see Table 3 .

2. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.

3. Tas: includes Ross River virus and dengue.

4. NT, Vic and WA: includes Barmah Forest virus.

5. NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.

6. WA: genital only.

7. NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.

8. NSW, Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 3. Notifications of rare[1] diseases received by State and Territory health authorities in the period 15 to 28 September 1996

DISEASES[2]	Total this period	Reporting States or Territories	Year to date 1996
Brucellosis	1	Qld	25
Chancroid	0		1
Cholera	0		3
Hydatid infection	1	Tas	31
Leprosy	0		8

1. Fewer than 60 cases of each of these diseases were notified each year during the period 1988 to 1995.
2. No notifications have been received during 1996 for the following rare diseases: botulism; lymphogranuloma venereum; plague; rabies; yellow fever; or other viral haemorrhagic fevers.

Table 4. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 to 30 April 1996, by sex and State or Territory of diagnosis

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA			
										This period 1996	This period 1995	Year to date 1996	Year to date 1995
HIV diagnoses	Female	1	3	0	1	0	0	3	0	8	3	33	26
	Male	0	25	0	8	0	0	14	1	48	62	243	275
	Sex not reported	0	1	0	0	0	0	0	0	1	2	3	6
	Total[1]	1	29	0	9	0	0	17	1	57	67	279	309
AIDS diagnoses	Female	0	1	0	0	0	0	0	0	1	2	1	13
	Male	3	10	0	2	2	0	4	0	21	59	133	244
	Total[1]	3	11	0	2	2	0	4	0	22	61	134	258
AIDS deaths	Female	0	0	0	0	0	0	0	0	0	4	6	15
	Male	0	10	0	5	1	0	6	1	23	44	127	221
	Total[1]	0	10	0	5	1	0	6	1	23	48	133	236

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

Table 5. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 30 April 1996, by sex and State or Territory

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	AUSTRALIA
HIV diagnoses	Female	16	561	4	98	44	4	167	73	967
	Male	168	10026	82	1589	568	70	3382	760	16645
	Sex not reported	0	2049	0	0	0	0	42	0	2091
	Total[1]	184	12643	86	1692	612	74	3600	835	19726
AIDS diagnoses	Female	5	131	0	28	18	2	47	17	248
	Male	75	3804	26	649	274	32	1340	287	6487
	Total[1]	80	3945	26	679	292	34	1394	306	6756
AIDS deaths	Female	2	100	0	22	13	2	36	11	186
	Male	50	2693	20	454	189	21	1059	214	4700
	Total[1]	52	2799	20	478	202	23	1101	226	4901

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

HIV and AIDS Surveillance

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

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

HIV and AIDS diagnoses and deaths following AIDS reported for April 1996, as reported to 31 July 1996, are included in this issue of *CDI* (Tables 4 and 5).

National Influenza Surveillance

Australian Sentinel Practice Research Network; Communicable Diseases Intelligence Virology and Serology Reporting Scheme Contributing Laboratories, New South Wales Department of Health; Victorian Department of Health; World Health Organisation Collaborating Centre for Influenza Reference and Research.

National Influenza Surveillance is conducted from May to September each year. Data are combined from a number of sources to provide an indication of influenza activity. Included are sentinel general practitioner surveillance, absenteeism data from a national employer, and laboratory data from LabVISE and the World Health Organization Collaborating Centre for Influenza Reference and Research. For further information, see CDI 1996;20:9-12.

This is the final report of the National Influenza Surveillance for 1996.

The absenteeism rate recorded by Australia Post has dropped marginally (Figure 6). Australia Post reports for August and the first week of September have been excluded due to an error in the data. Consultation rates for influenza-like illness in Victoria, the Northern Territory and those recorded by ASPREN have all dropped markedly (Figure 7). No data were received this fortnight from New South Wales.

Laboratory reports of influenza A are now at low levels after peaking at the end of July (Figure 8). In the last fortnight, 39 laboratory reports of influenza A were received. Diagnosis was by virus isolation (21), antigen detection (5), single high titre (11) and four-fold rise in titre (2). There were three reports of influenza A (H_3N_2). There have been 1,441 reports of influenza A for the year to date, 68 of which have been further identified as being of the H_3N_2 subtype. Of the total, 50% (716) were for patients under five years of age and 10% (147) were 65 years of age or older.

Figure 6. Australia Post absenteeism, 1996, by week

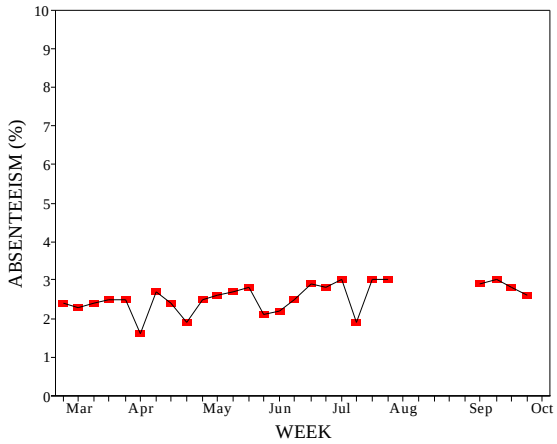


Figure 7. Sentinel general practitioner influenza-like illness consultation rates, 1996, by week

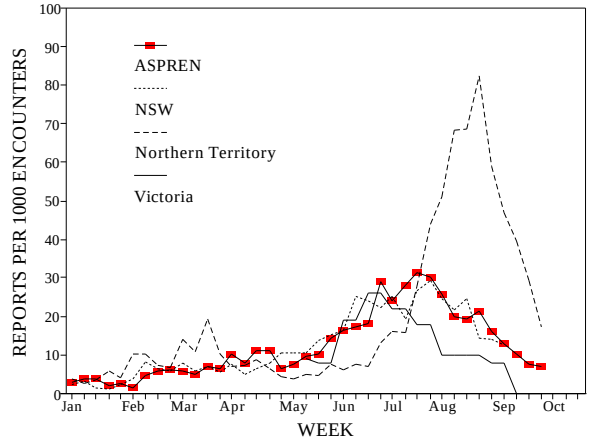


Figure 8. Influenza A laboratory reports, 1996, by method of diagnosis and week of specimen collection

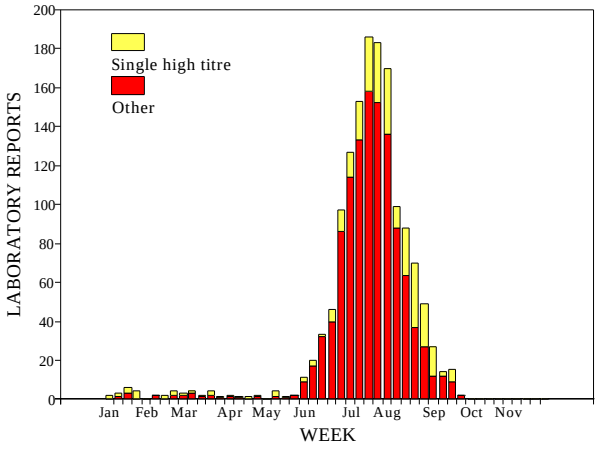
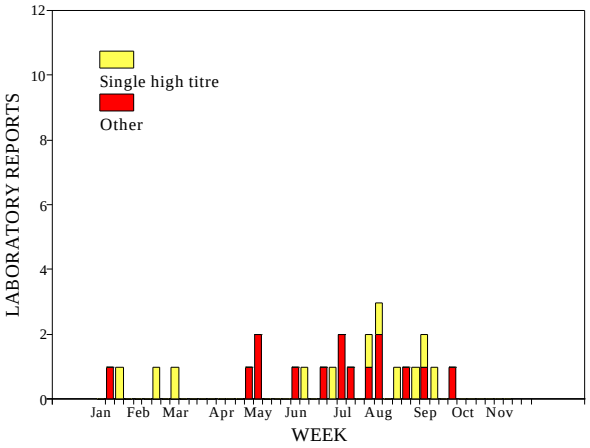


Figure 9. Influenza B laboratory reports, 1996, by method of diagnosis and week of specimen collection



Two reports of influenza B were received this fortnight. Activity has remained low this season (Figure 9). There have been only 26 reports of influenza B for the year to date.

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network (ASPREN) comprises 99 sentinel general practitioners from throughout the country. A total of approximately 9,000 consultations are recorded each week for 12 conditions. Of these, CDI reports the consultation rate for influenza, rubella, measles, chickenpox, pertussis and gastroenteritis. For further information including case definitions see CDI 1996;20:98-99.

Data for weeks 38 and 39 ending 22 and 29 September respectively are included in this issue of *CDI* (Table 6). The consultation rate for gastroenteritis has remained stable since mid-July. Consultation rates for chickenpox in recent weeks have been two to three times the rates recorded over the previous three months. Cases of rubella, measles and pertussis continue to be reported in low numbers.

Table 6. Australian Sentinel Practice Research Network reports, weeks 38 and 39, 1996

	Week 38, to 22 September 1996		Week 39, to 29 September 1996	
Condition	Reports	Rate per 1,000 encounters	Reports	Rate per 1,000 encounters
Influenza	58	7.6	48	6.8
Rubella	2	0.3	1	0.1
Measles	0	0	1	0.1
Chickenpox	17	2.2	13	1.9
Pertussis	1	0.1	3	0.4
Gastroenteritis	114	14.8	117	16.7

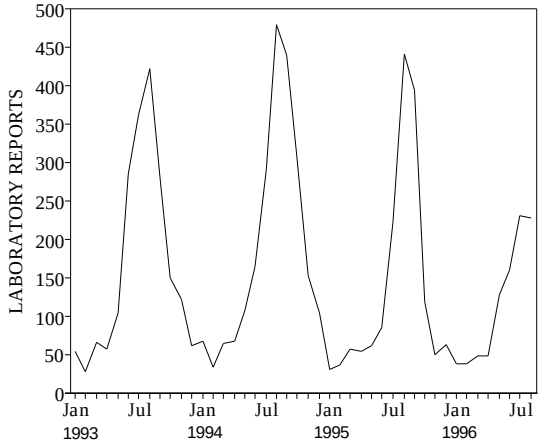
LabVISE

The Virology and Serology Reporting Scheme, LabVISE, is a sentinel reporting scheme. Twenty-one laboratories contribute data on the laboratory identification of viruses and other organisms. Data are collated and published in Communicable Diseases Intelligence each fortnight. These data should be interpreted with caution as the number and type of reports received is subject to a number of biases. For further information, see CDI 1996;20:9-12.

There were 854 reports received in the *CDI* Virology and Serology Reporting Scheme this period (Tables 7 and 8).

Rotavirus reports are well below the peak levels of previous years and appear to be declining (Figure 10). In the last fortnight, 126 reports were received. Most (120) were in patients under five years of age, 40 of these were under one year of age.

Figure 10. Rotavirus laboratory reports, 1993 to 1996, by month of specimen collection



Reports of ***Mycoplasma pneumoniae*** increased in July and August but remain moderate compared with peaks in 1992 and 1993 (Figure 11). In the last fortnight, 30 reports were received. Diagnosis was by IgM detection (19), single high titre (10) and four-fold rise in titre (1).

Figure 11. *Mycoplasma pneumoniae* **laboratory reports, 1992 to 1996, by month of specimen collection**

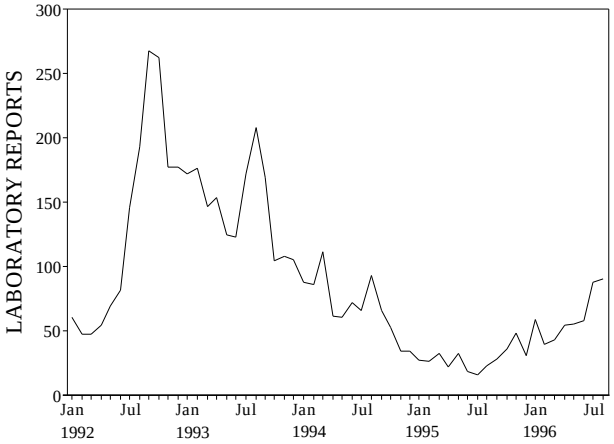


Table 7. Virology and serology laboratory reports by State or Territory[1] for the reporting period 19 September to 2 October 1996, historical data[2], and total reports for the year

	State or Territory[1]							Total this fortnight	Historical data[2]	Total reported this year
	NSW	NT	Qld	SA	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA										
Measles virus			1					1	30.3	42
Rubella virus			38			1		39	56.8	467
HEPATITIS VIRUSES										
Hepatitis A virus	2	1	1	1				5	15.2	344
Hepatitis D virus			1	1				2	.8	13
ARBOVIRUSES										
Ross River virus		2	6					8	11.5	3,091
Barmah Forest virus			4					4	5.3	184
ADENOVIRUSES										
Adenovirus type 1				1				1	1.8	16
Adenovirus type 2						1		1	1.0	23
Adenovirus type 3						1		1	1.5	64
Adenovirus type 5						1		1	.5	5
Adenovirus type 7						1		1	.2	21
Adenovirus type 19						1		1	.0	7
Adenovirus not typed / pending	9		16	4		1	10	40	40.3	1,122
HERPES VIRUSES										
Cytomegalovirus	3		19	2	1	15	10	50	58.2	1,303
Varicella-zoster virus	2	1	11	6	1	10		31	34.3	972
Epstein-Barr virus	10		33			3		46	52.0	1,580
OTHER DNA VIRUSES										
Parvovirus			1			6		7	3.2	154

Table 7. Virology and serology laboratory reports by State or Territory[1] for the reporting period 19 September to 2 October 1996, historical data[2], and total reports for the year, continued

	State or Territory[1]							Total this fortnight	Historical data[2]	Total reported this year
	NSW	NT	Qld	SA	Tas	Vic	WA			
PICORNA VIRUS FAMILY										
Coxsackievirus B2	1							1	.2	3
Coxsackievirus B4				1				1	.3	3
Coxsackievirus B5						2		2	.2	7
Echovirus type 6				1				1	1.0	2
Echovirus type 7	1							1	.0	12
Echovirus type 14						1		1	.3	27
Echovirus type 33						1		1	.0	2
Poliovirus type 2 (uncharacterised)					1			1	.7	15
Rhinovirus (all types)			14	18		1		33	33.2	591
Enterovirus not typed / pending			26			1		27	38.3	720
ORTHO / PARAMYXOVIRUSES										
Influenza A virus	7		11	13		6	2	39	40.2	1,412
Influenza A virus H3N2						3		3	.8	68
Influenza B virus	1						1	2	13.8	46
Parainfluenza virus type 1	1			1		1	2	5	1.3	297
Parainfluenza virus type 2				2				2	1.3	65
Parainfluenza virus type 3	6		9	2		7	8	32	42.8	474
Respiratory syncytial virus	39		12	54	21	15	19	160	161.7	3,858
OTHER RNA VIRUSES										
HIV-1			6		1			7	4.0	72
Rotavirus	82		1	12	12	3	16	126	146.0	1,283
Small virus (like) particle						1		1	2.7	13
OTHER										
Chlamydia trachomatis not typed	9	3	17	27	5	7		68	85.8	3,018
Chlamydia psittaci						4		4	2.0	77
Chlamydia species	2							2	1.2	68
Mycoplasma pneumoniae	9		6	1	2	12		30	20.3	587
Coxiella burnetii (Q fever)	5		3			2		10	5.5	151
Rickettsia tsutsugamushi						1		1	.0	11
Streptococcus group A			7			1		8	18.3	211
Bordetella pertussis						22		22	22.2	456
Bordetella species			7					7	10.3	235
Leptospira species			1					1	.3	53
Treponema pallidum	12	1	2					15	13.5	149
Schistosoma species						1		1	3.0	225
TOTAL	201	8	253	147	44	133	68	854	984.4	23619

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 contributing laboratories for the reporting period 19 September to 2 October 1996

STATE OR TERRITORY	LABORATORY	REPORTS
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	56
	Royal Alexandra Hospital for Children, Camperdown	46
	Royal Prince Alfred Hospital, Camperdown	22
	South West Area Pathology Service, Liverpool	105
Queensland	Queensland Medical Laboratory, West End	166
	State Health Laboratory, Brisbane	130
South Australia	Institute of Medical and Veterinary Science, Adelaide	104
Tasmania	Northern Tasmanian Pathology Service, Launceston	16
	Royal Hobart Hospital, Hobart	25
Victoria	Microbiological Diagnostic Unit, University of Melbourne	6
	Monash Medical Centre, Melbourne	23
	Royal Children's Hospital, Melbourne	23
	Victorian Infectious Diseases Reference Laboratory, Fairfield Hospital	60
Western Australia	Princess Margaret Hospital, Perth	72
TOTAL		854

Contributions covering any aspects of communicable disease are invited. Instructions to authors can be found in *CDI* 1996;20:13.

CDI is produced fortnightly by the National Centre for Disease Control, Department of Health and Family Services, GPO Box 9848 Canberra ACT 2601; fax: (06) 289 7791, telephone: (06) 289 1555.

CDI is available on the *CDI* Bulletin Board System on (06) 281 6695, and via Internet on 'ftp://ftp.health.gov.au' in directory /pub/CDI and on 'http://www.health.gov.au' in /hfs/pubs/cdi/cdihtml.htm.