

# Antimicrobial resistance in gonococci, WHO Western Pacific Region, 1996

*The WHO Western Pacific Region Gonococcal Antimicrobial Surveillance Programme*<sup>1</sup>

## Abstract

The World Health Organization (WHO) Western Pacific Region Gonococcal Antimicrobial Surveillance Programme is a multicentric long term programme for continuous surveillance of the antimicrobial susceptibility of *Neisseria gonorrhoeae*. In 1996 the programme examined the susceptibility of 8,421 isolates of gonococci to various antimicrobials in 17 focal points. A trend toward increased resistance noted in earlier years continued. The proportion of quinolone resistant gonococci reported from most centres either remained stable or increased. More than 50% of isolates in Hong Kong, China, Korea, Cambodia and the Philippines had altered quinolone susceptibility. Resistance to the penicillins was again widespread, and chromosomal mediated resistance was of increasing importance. Penicillinase producing *Neisseria gonorrhoea* were present in all but one centre. All isolates were sensitive to the third generation cephalosporins and only a very few isolates were spectinomycin resistant. A high proportion of isolates in a number of centres had high level tetracycline resistance, but the proportion of tetracycline resistant *Neisseria gonorrhoea* in most centres was less than 10%. *Comm Dis Intell* 1997;21:349-53

## Introduction

Information on gonococcal susceptibility patterns can be used to introduce, modify or make more appropriate antimicrobial regimens for treatment of gonococcal disease. Proper treatment of gonorrhoea benefits the individual by preventing complications, and the community at large by ultimately decreasing the total disease

burden. Other data suggest that a decrease in the prevalence of gonorrhoea also assists in reducing the transmission of HIV.<sup>1</sup> The World Health Organization (WHO) has sought to establish a global surveillance network to monitor antimicrobial resistance in *Neisseria gonorrhoeae*; the Gonococcal Antimicrobial Surveillance Programme (GASP). The GASP network is

useful not only for the individual contributing countries and Regions, but also has wider application as an indicator of emerging global resistance in the gonococcus.

The WHO Western Pacific Region (WPR) GASP commenced in 1992. Annual reports of WPR GASP findings have been published in a number of publications to disseminate the data as widely

ISSN 0725-3141  
Volume 21  
Number 23  
25 December 1997

1. Corresponding author: John Tapsall, Microbiology Department, The Prince of Wales Hospital, High Street, Randwick, NSW 2031

## Contents

|  |     |
|--|-----|
| Antimicrobial resistance in gonococci, WHO Western Pacific Region, 1996<br><i>The World Health Organization Western Pacific Region Gonococcal Antimicrobial Surveillance Programme</i> | 349 |
| An outbreak of hepatitis A associated with a spa pool<br><i>Graham Tallis and Joy Gregory</i>  | 353 |
| Gastroenteritis outbreak, New South Wales  | 354 |
| CDI Subject Index  | 354 |
| CDI Author index   | 357 |
| CDI Reviewers; A note from the Editor  | 358 |
| Communicable Diseases Surveillance   | 359 |
| Overseas briefs  | 367 |

**Table 1. Penicillin resistance in *Neisseria gonorrhoeae* in the WHO Western Pacific Region, 1996, by country of isolation**

| Country          | Number of strains tested | Penicillinase mediated resistance (PPNG) |    | Chromosomal resistance (CMRNG) |    | All penicillin resistance (PPNG & CMRNG) |    |
|------------------|--------------------------|--|----|--------------------------------|----|--|----|
|                  |                          | Number                                   | %  | Number                         | %  | Number                                   | %  |
| Australia        | 2,753                    | 161                                      | 6  | 271                            | 10 | 432                                      | 16 |
| Brunei           | 23                       | -  | -  | -                              | -  | 18                                       | 78 |
| Cambodia         | 100                      | 79                                       | 79 | -                              | -  | -  | -  |
| China            | 464                      | 39                                       | 8  | 342                            | 74 | 361                                      | 82 |
| Hong Kong        | 1,976                    | 180                                      | 9  | 1,212                          | 61 | 1,392                                    | 70 |
| Fiji             | 845                      | 30                                       | 4  | 9                              | 1  | 39                                       | 5  |
| Japan            | 72                       | 4  | 6  | 0                              | 0  | 4  | 6  |
| Korea            | 199                      | 140                                      | 70 | 40                             | 20 | 180                                      | 90 |
| Malaysia         | 17                       | 8  | 47 | 2                              | 12 | 10                                       | 59 |
| New Caledonia    | 17                       | 1  | 6  | 0                              | 0  | 1  | 6  |
| New Zealand      | 437                      | 21                                       | 5  | 18                             | 4  | 39                                       | 9  |
| Papua New Guinea | 505                      | 47                                       | 9  | 0                              | 0  | 47                                       | 9  |
| Philippines      | 59                       | 45                                       | 76 | 1                              | 2  | 46                                       | 78 |
| Singapore        | 707                      | 381                                      | 54 | 13                             | 2  | 394                                      | 56 |
| Tonga            | 45                       | 13                                       | 29 | 7                              | 16 | 20                                       | 44 |
| Vanuatu          | 116                      | 0  | 0  | -                              | -  | -  | -  |
| Vietnam          | 93                       | 91                                       | 98 | -                              | -  | -  | -  |

as possible.<sup>2-8</sup> This report deals with data generated in the calendar year 1996.

### Methods

Data were generated by participants in focal points in various countries throughout the WHO WPR and collated in the regional reference laboratory. Participating countries included those with a small geographic area, for example Singapore and Hong Kong, where isolates were examined in

a single centre. Data from other centres represents an analysis of strains referred from around a country to a central laboratory, as in Malaysia. Other countries (for example, Australia and China) have a network of contributors supplying data from a national surveillance scheme. A full description of the methods used in the WPR GASP is available.<sup>7</sup> In summary, participants were encouraged to examine the susceptibility of gonococci to a recommended 'core'

list of antimicrobials using one of the standard methods nominated by the programme. A programme-specific quality assurance programme was conducted annually, and a series of reference strains pertinent to the regional patterns of resistance were made available. Because of resource limitations, not all isolates were examined for susceptibility to all antimicrobials by all participants. Most strains examined were from non-selected STD clinic patients, but

**Table 2. Quinolone resistance in *Neisseria gonorrhoeae* in the WHO Western Pacific Region, 1996, by country of isolation**

| Country          | Number of strains tested | Less susceptible |    | Resistant |    |
|------------------|--------------------------|------------------|----|-----------|----|
|                  |                          | Number           | %  | Number    | %  |
| Australia        | 2,753                    | 56               | 2  | 72        | 3  |
| Brunei           | 29                       | -                | -  | 3         | 10 |
| Cambodia         | 100                      | -                | -  | 53        | 53 |
| China            | 340                      | 236              | 69 | 46        | 14 |
| Fiji             | 845                      | 0                | 0  | 0         | -  |
| Hong Kong        | 1,976                    | 1,090            | 55 | 475       | 24 |
| Korea            | 199                      | 76               | 38 | 31        | 16 |
| Malaysia         | 17                       | 0                | 0  | 0         | 0  |
| New Caledonia    | 17                       | 2                | 12 | 0         | 0  |
| New Zealand      | 437                      | 13               | 3  | 3         | 1  |
| Papua New Guinea | 448                      | 0                | 0  | 29        | 7  |
| Philippines      | 59                       | 0                | 0  | 39        | 66 |
| Singapore        | 707                      | 46               | 7  | 25        | 4  |
| Vietnam          | 89                       | 5                | 6  | 5         | 6  |

some were obtained as a result of case finding.

## Results

Approximately 8,400 isolates were examined in 17 focal groupings in 1996. Cambodia joined the programme in 1996, and data were not available from the Solomon Islands in this period. About 35,000 strains have been examined in this programme since 1992. The sensitivity of isolates to selected antimicrobials is shown in Tables 1 - 4.

## Penicillins

The proportion of isolates resistant to the penicillin group by one or more mechanisms ranged between 4.6% (Fiji) and 97.5% (Vietnam) of isolates in the 17 contributing centres. Particularly high levels of penicillin resistance were also recorded (Table 1) in Korea (90%), China (82.1%), Cambodia (79%) and Brunei (78.3%).

The programme seeks to identify separately the extent of penicillin resistance manifest through plasmid-mediated penicillinase production (penicillinase producing *N. gonorrhoea*, PPNG) or through chromosomally controlled intrinsic resistance (chromosomally mediated resistant *N. gonorrhoea*, CMRNG). Both forms of resistance may exist simultaneously in the one isolate, but the latter type may be masked in PPNG.

PPNG were widely distributed throughout the WPR in 1996. Vanuatu was the only centre not recording the presence of any PPNG, but the proportion of PPNG was below 10% in many centres. A steady increase in the proportion of PPNG has been noted in some countries since the inception of this programme. In Vietnam the proportion of PPNG has increased from 55% to 97.5% since 1992. An increasing proportion of CMRNG has also been detected over the life of the programme. In Hong Kong isolates of this type now represent 72.6% of all isolates while the proportion of PPNG has declined to 4.9%.

## Quinolone antibiotics

About 8,000 isolates were examined for quinolone susceptibility in 14 centres in 1996 and quinolone resistant *N. gonorrhoea* (QRNG) were detected in 12 of these. Separate categories of 'less susceptible' and 'resistant' were included in Table 2 because of their epidemiological relevance in long term studies of the evolution of antimicrobial resistance. The pattern of increased quinolone resistance first described in the WPR in 1993 and reinforced in 1994 and 1995 was maintained in 1996.

While the proportion of 'less susceptible' isolates has increased significantly in many centres since 1992, there was little further change in 1996. The proportion of 'less susceptible' strains remained

particularly high in China (69.4%), Hong Kong (55.2%) and Korea (38%) in 1996. However, only Korea showed an increased proportion of less susceptible QRNG, with the proportion in 1996 (38%) being more than double the 15.6% observed in 1995. In a large sample in Fiji and a small sample in Malaysia, no QRNG were detected.

However, many centres either reported an increase in the proportion of resistant isolates in 1996, or maintained the high numbers seen in 1995. The highest proportion of resistant isolates was again seen in the Philippines (66%). Fifty-three per cent of isolates from Cambodia were QRNF. Fully developed resistance appeared in 24% of Hong Kong isolates (up from 7.7% in 1995) and 15.6% of isolates in Korea. In other centres the increase in fully developed QRNG was slower. In Singapore the proportion has increased from 0.3% to 3.5% since 1993 and in Australia from 0.1% to 2.6% since 1992. In Australia however, the more populous centres have much higher rates of QRNG. Sydney, for example, had in excess of 10% of strains exhibiting high level quinolone resistance.

## Ceftriaxone

This third generation cephalosporin was used as the representative agent for this group of antimicrobials in this programme. No resistance to this agent was evident amongst the 5,287 strains tested in 13 centres. As in

**Table 3. Spectinomycin resistance in *Neisseria gonorrhoeae* in the WHO Western Pacific Region, 1996, by country of isolation**

| Country          | Number of strains tested | Resistant |     |
|------------------|--------------------------|-----------|-----|
|                  |                          | Number    | %   |
| Australia        | 2,743                    | 0         | -   |
| Brunei           | 25                       | 0         | -   |
| Cambodia         | 100                      | 0         | -   |
| China            | 353                      | 1         | 0.3 |
| Japan            | 72                       | 0         | -   |
| Korea            | 179                      | 0         | -   |
| Malaysia         | 17                       | 0         | -   |
| New Caledonia    | 16                       | 0         | -   |
| Papua New Guinea | 162                      | 3         | 1.8 |
| Singapore        | 368                      | 0         | -   |
| Vietnam          | 89                       | 0         | -   |

**Table 4. High level tetracycline resistance (TRNG) in *Neisseria gonorrhoeae* in the WHO Western Pacific Region, 1996, by country of isolation**

| Country          | Number of strains tested | Resistant |    |
|------------------|--------------------------|-----------|----|
|                  |                          | Number    | %  |
| Australia        | 2743                     | 136       | 5  |
| Cambodia         | 100                      | 74        | 74 |
| China            | 353                      | 23        | 7  |
| Fiji             | 462                      | 0         | 0  |
| Korea            | 199                      | 2         | 1  |
| Malaysia         | 17                       | 13        | 77 |
| New Caledonia    | 17                       | 1         | 6  |
| New Zealand      | 437                      | 8         | 2  |
| Papua New Guinea | 472                      | 72        | 15 |
| Philippines      | 59                       | 6         | 10 |
| Singapore        | 707                      | 526       | 74 |
| Tonga            | 21                       | 0         | 0  |
| Vietnam          | 93                       | 46        | 49 |

previous years, some evidence of increasing minimum inhibitory concentration (MIC) levels was evident in some centres.

### *Spectinomycin*

Just over 4,000 isolates were examined in 11 centres in 1996 (Table 3). A small number of resistant isolates were seen only in China (1) and Papua New Guinea (3). In particular, all 179 isolates tested in Korea were susceptible to this agent.

### *High level tetracycline resistance*

About 5,700 isolates were examined in 1996 in 13 countries, and high level tetracycline resistant *Neisseria gonorrhoea* (TRNG) were present in 11 of these centres. Particularly high proportions of TRNG were seen in Singapore (74%), Malaysia (76%) and Vietnam (49%) continuing a pattern observed in earlier years. Cambodia, reporting for the first time, noted the presence of 74% TRNG. Fifteen per cent of isolates in Papua New Guinea and 10% in the Philippines were TRNG, but in all other centres the proportion was less than 10%.

### *Discussion*

The WPR GASP consolidated further in 1996. Although there was a slight change in the composition of focal points, with Cambodia joining, and the Solomon Islands not participating in this period, the majority of the focal points have contributed data continuously for a number of years.<sup>7</sup> Data from Brunei was again available this year. This continuous surveillance has facilitated analysis of the trends in gonococcal susceptibility in the region. The number of isolates examined in 1996 (8,421) was the highest number tested since the programme began.

Particular interest is centred on emerging gonococcal resistance to the quinolone group of antibiotics. In 1995 the situation with regard to QRNG in the WPR was summarised as a steady increase in the proportion of resistant isolates since 1992,<sup>5</sup> when very few resistant isolates were observed. The change manifest as an increasing number of centres reporting the presence of these strains, an increasing number of strains showing quinolone resistance in those centres, and increasing MICs in resistant isolates. This was also the pattern in

1996. The widespread dispersal of QRNG in the WPR was also confirmed by the data from Cambodia, where 53% of isolates were QRNG. It should be remembered that quinolone resistance is chromosomally mediated, and levels of resistance increase incrementally due to a number of complementary alterations in the organism. The first clinically manifest resistance observed was at a low MIC level and was accommodated by increasing the recommended dose of antimicrobial administered. These strains, where identified, were those classified as 'less susceptible' in Table 2. Subsequently, strains with higher MICs were detected and these were not amenable to therapy with currently available quinolones, even with higher dose regimens. These isolates are shown in Table 2 as the 'resistant' group. In 1996, one particular feature has been the increase or maintenance of high numbers of strains with fully developed quinolone resistance.

Some interest remains in the extent and type of resistance to the penicillins. The decrease in the previously high levels of PPNG in centres such as Hong Kong has been noted previously,<sup>9</sup> and the continuing increase in PPNG in Vietnam also continued. The clinical usefulness of this group of antimicrobials has decreased significantly in the WPR, but this group of agents was still used effectively in a number of specific settings.

There was no resistance detected to the later generation cephalosporins and little to the injectable agent spectinomycin. Significant levels of spectinomycin resistance were recorded in the region some years ago, but only sporadic resistance is now observed and in very few isolates. The inappropriate use of antimicrobials in the informal health sector has been a contributor to the development of antibiotic resistance in the past. In theory at least, the availability of oral third generation cephalosporins increases the chances of inappropriate use. For these reasons continuing surveillance of these antimicrobials is needed, and is of greater importance now that the usefulness of the quinolones is rapidly declining.

As tetracyclines must be administered as a multiple dose treatment for gonorrhoea, they are not a recommended therapy for compliance reasons. However, a particular form of

high level plasmid mediated tetracycline resistant *Neisseria gonorrhoea*, TRNG, has been recognised for a number of years, and the programme has monitored the spread of TRNG in the region. Considerable regional variation in the distribution of TRNG was again noted. Singapore, Malaysia and Vietnam continue to have high numbers of TRNG and the same pattern was revealed in Cambodia.

The trend towards a decrease in susceptibility of gonococci to various antimicrobials in the WPR has now been observed over a number of years, and 1996 saw a continuation of this shift. This situation poses additional problems for successful treatment of gonococcal disease in the region.

### *Acknowledgements*

Dr.G.Poumerol Regional Adviser STD, WHO Regional Office for the Western Pacific, Manila, Philippines; J.W.Tapsall, Area co-ordinator, Sydney, and members of the Australian Gonococcal Surveillance Programme, Australia; Nora'alia Hj Ab Rahim, Brunei; A.Berlioz, Cambodia; Ye Shunzhang and Chen Ping, Nanjing, China; M.Shah, Suva, Fiji; K.M.Kam, Hong Kong; J. Kumazawa Fukuoka, Toshiro Kuroki, Yokohama, Japan; K.H Shin, K. Lee and Y. Chong, Seoul, Korea; Rohani MD Yasin, Kuala Lumpur, Malaysia; P.Duval, and B. Gentile, Noumea, New Caledonia; M.Brett, Wellington and M.Brokenshire, Auckland, New Zealand; J.Roy, Port Moresby, Papua New Guinea; M.Saniel and C.C.Carlos, Manila, Philippines; A.E.Ling, Singapore; Ane Tone Ika, Nuku'alofa, Tonga; H. Wamle and D.Kalorib, Vanuatu; Le Thi Phuong, Hanoi, Vietnam.

The regional co-ordinating and reference laboratory is supported by a technical services grant from the WHO.

### *References*

1. Grosskurth H, Mosha F, Todd J et al. Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: randomised controlled trial. *Lancet* 1995;346:530-6.
2. The World Health Organization Western Pacific Region Gonococcal Surveillance Programme. 1992 Annual Report. *Comm Dis Intell* 1994;18:61-63.
3. The World Health Organization Western Pacific Region Gonococcal Surveillance Programme. 1993 Annual report. *Comm Dis Intell* 1994;18:307-310.

4. The World Health Organization Western Pacific Region Gonococcal Surveillance Programme. 1994 Annual report. *Comm Dis Intell* 1995;19:495-499.
5. The World Health Organization Western Pacific Region Gonococcal Antimicrobial Surveillance Programme. Antimicrobial resistance in gonococci, Western Pacific Region, 1995. *Comm Dis Intell* 1996;20:425-428.
6. The World Health Organization Western Pacific Region Gonococcal Antimicrobial Surveillance Programme (GASP). Antibiotic susceptibility of *Neisseria gonorrhoeae*, 1992 to 1994, in World Health Organization Western Pacific Region STD HIV AIDS Surveillance report. No 7, July 1996,6-8.
7. The World Health Organization Western Pacific Region Gonococcal Antimicrobial Surveillance Programme. Surveillance of antibiotic susceptibility of *Neisseria gonorrhoea* in the WHO Western Pacific Region 1992 - 1994. *Genitourin Med* 1997;73:355-361.
8. Gonococcal Antimicrobial Surveillance Programme (GASP), WHO Western Pacific Region. *WER* 1996;41:309-311.
9. Kam KM, Lo KK, Ng KYH, Cheung MM. Rapid decline in penicillinase-producing *Neisseria gonorrhoeae* in Hong Kong associated with emerging 4-flouroquinolone resistance. *Genitourin Med* 1995;71:141-4.

# An outbreak of hepatitis A associated with a spa pool

Graham Tallis and Joy Gregory, Infectious Diseases Unit, Department of Human Services Victoria

## Introduction

The Victorian Infectious Diseases Unit received three notifications of hepatitis A between 17 and 20 October 1997 from a general practitioner in the eastern suburbs of Melbourne. The three cases were all young males who attended the same primary school, but were also members of the local junior football club. An earlier case notified was also a member of the football club, but attended a different school. Active surveillance was initiated through the club and the affected schools.

## Methods

Using the National Health and Medical Research Council (NHMRC) case definition (anti-HAV IgM positive or demonstration of a clinical case of hepatitis, and epidemiologically linked to a serologically confirmed case), seven cases in six families were identified. All cases were young males (age range 8 to 15 years) and dates of onset ranged from 31 August to 13 October (Figure 1).

Using a standard questionnaire that elicited data on potential sources of infection including food and water, it was found that all cases had attended a presentation at the football club on 31 August 1997. Families attending the presentation brought their own food, although sausages were cooked on a public barbecue and canned drinks were served.

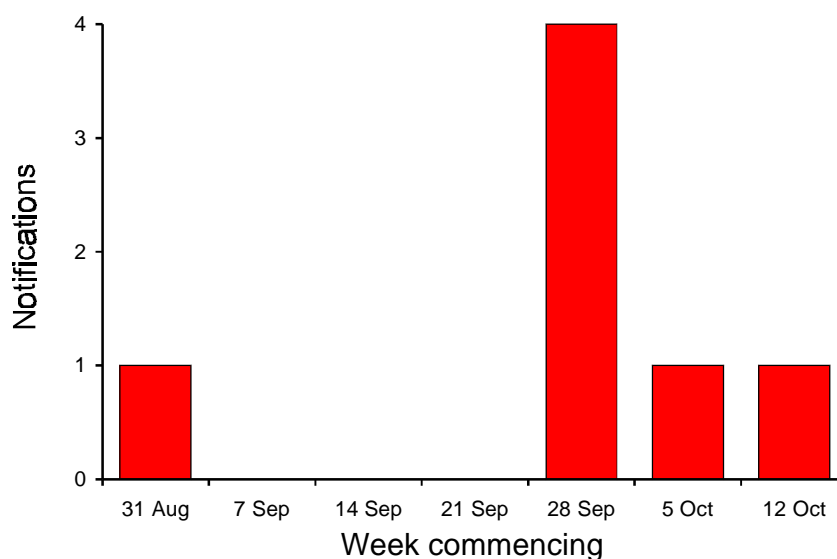
After the presentation, all the cases attended a private function at one of the case's homes. Food and drinks were shared, and all of the cases used

a spa pool. At this private function the index case felt ill and left early; his illness was subsequently confirmed serologically as hepatitis A. Excluding the case and his two siblings, 27 other children and adolescents and an unknown number of adults attended the function. Of these, 17 were males ranging in age from 8 to 16 years, and 10 were females ranging in age from 3 to 17 years. Some males including the index case, but none of the females, used the spa pool. Whilst in the pool, 'whale spitting' was performed, in which mouthfuls of spa water were spat in a projectile fashion.

## Discussion

Six of the 17 young males became ill with hepatitis A. None of the adults or young females became ill. It is believed the gender difference in cases of hepatitis A observed after this private function is best explained by the hypothesis that hepatitis A virus was shed by the index case whilst in the spa pool, and subsequently ingested by other participants, all male, who became secondary cases. The break in notifications observed after the index case on 31 August (Figure 1) is consistent with the known incubation period for hepatitis A. Other modes of transmission such as sharing of food

Figure 1. Notifications of hepatitis A, by week of onset



and drink cannot be excluded, although these would not explain the confinement of cases to young males.

The outdoor spa pool was being treated with hydrogen peroxide solution. Hydrogen peroxide used with ultraviolet (UV) light inhibits microbial growth, but is unlikely to provide adequate disinfection with respect to contamination with the hepatitis A virus. The use of UV-hydrogen peroxide systems is not allowed in

public pools in Victoria due to poor performance in trials.<sup>1</sup> A study of a multistate outbreak of hepatitis A in the United States of America, found it to be linked to a public swimming pool.<sup>2</sup> In this study, cases were found to be more likely than non-cases to have swum in the spa pool than the swimming pool. Cases were also more likely to have swum for more than one hour and to have put their heads under water. Our findings support the conclusion from this study that

recreational pools may serve as a mode of transmission of hepatitis A virus, particularly in children.

## References

1. Broadbent C. Guidance on water quality for heated spas. *National Environmental Health Forum Monographs, Water Series No 2*. Adelaide: South Australian Health Commission; 1996
2. Mahoney FJ, Farley TA, Kelso KY, Wilson SA, Horan JM, McFarland LM. An outbreak of hepatitis A associated with swimming in a public pool. *J Infect Dis* 1992; 165(4):613-8

# Gastroenteritis outbreak, New South Wales

An increase in the number of reports of gastroenteritis cases received by the New South Wales Health Department occurred in mid-December. As of 17 December 45 people, mainly in the Sydney area, had developed

gastroenteritis after consuming pipis. Pipis are a type of small shellfish harvested by commercial fishermen from regional beaches of New South Wales. The Department is investigating the cause of the outbreak. The sale of

pipis in the Sydney area has been suspended, and a recommendation that pipis be thoroughly cooked inside before eating, has been issued.

## CDI Subject Index, 1997

### A

Acquired immune deficiency syndrome  
*See HIV and AIDS*

Adverse Events Following Vaccination Surveillance Scheme

Surveillance data in *CDI*; 8

Surveillance reports; 84, 184, 312, 364

AGSP

*See Gonococcal surveillance*

AIDS

*See HIV and AIDS*

Anthrax, human case, Victoria; 47

Antibiotic resistance

*Mycobacterium tuberculosis*; 245

*Streptococcus pneumoniae*, Queensland; 133

Gonococci; 112, 343, 349

Anthrax

Overseas updates, Ghana; 172

Victoria; 47

ASPREN

*See Australian Sentinel Practice Research Network*

Australian bat lyssavirus

Encephalitis and meningitis, fatal, Gold Coast Hospital, 1980 to 1996; 32

Fruit bat infections and human contacts, north Queensland; 117

Australian Encephalitis

Outbreak, Western Australia; 177

*See Sentinel Chicken Surveillance Programme*

Australian Gonococcal Surveillance Programme

*See Gonococcal surveillance*

Australian Sentinel Practice Research Network

Surveillance data in *CDI*; 6

Surveillance reports; 12, 24, 37, 53, 66, 97, 111, 126, 141, 155, 169, 183, 199, 212, 227, 240, 254, 274, 312, 328, 342, 363

### B

Barmah Forest virus infection

Australia; 107

Bat, Lyssavirus

*See Australian bat lyssavirus*

Bordetella pertussis

*See Pertussis*

### C

*Campylobacter*

Outbreak at training facility, South Australia; 57

Campylobacteriosis; 150

*CDI*

Author Index; 357

Instructions to authors; 9

MEDLINE listing; 106

Reviewers, 1997; 358

Surveillance data in; 5

Chickens, Sentinel

*See Sentinel Chicken Surveillance Programme*

Child care, infection control; 333

Cholera

Overseas updates; 16, 28, 40, 132, 144, 188, 280, 332, 348, 368

*Corynebacterium diphtheriae*

*See Diphtheria*

### D

Dengue

Australia; 63

Overseas updates; 28, 40, 72, 188, 244

Torres Strait outbreak; 33, 63

Diphtheria

Changing epidemiology and clinical manifestations; 161

Editorial - the Australian perspective; 164

NHMRC recommendations on vaccination; 165

**E**

- Ebola haemorrhagic fever  
Overseas updates; 16, 28, 88
- Emerging infectious diseases; 89
- Encephalitis,  
Fatal, Gold Coast Hospital, 1980 to 1996; 32  
Nepal; 280, 332
- Escherichia coli* O157  
Outbreak, England; 232 Outbreak, Scotland; 16

**F**

- Food-borne illness  
Outbreak, New South Wales; 308, 354  
*Salmonella* outbreaks, Victoria, 1997; 120

**G**

- Gastroenteritis  
Norwalk virus in oysters; 317  
Pipi associated; 354
- Gonococcal surveillance  
Annual report, Australian Gonococcal Surveillance Programme; 189  
Infection; 178  
Surveillance data in *CDI*; 8  
Surveillance reports; 112, 343  
WHO Western Pacific Region; 349

**H**

- Haemophilus influenzae* type b  
Disease in Australia, decline of; 94,173
- Hantavirus  
Overseas updates; 332
- Hepatitis A  
Notifications, Australia; 50  
Outbreaks  
Oyster-associated, New South Wales; 46  
Restaurant, New South Wales; 176  
Shoalhaven region, New South Wales; 1  
Spa pool associated; 353
- Hib  
See *Haemophilus influenzae* type b
- HIV and AIDS  
Surveillance data in *CDI*; 5

Surveillance reports; 23, 53, 83, 96, 154, 182, 199, 226, 273, 327, 341, 362

**HIV**

See *HIV and AIDS*

Human immunodeficiency virus  
See *HIV and AIDS*

**I**

- Immunisation  
Adverse events following vaccination  
See *Adverse Events Following Vaccination Surveillance Scheme*  
Australian immunisation guidelines, 1997; 78  
Australian Standard Schedule; 79  
Measles, NHMRC recommendations, 149  
Pneumococcal infection, NHMRC recommendations; 77  
Infection control, child care; 333
- Infectious diseases, emerging; 89
- Influenza  
National Surveillance,  
Annual Report, 1996; 101  
Surveillance data in *CDI*; 8  
Surveillance reports; 126, 140, 153, 169, 181, 197, 211, 225, 240, 253, 271, 310  
NHMRC recommendations on immunisation; 105  
Hong Kong, new strain; 260  
Outbreak on an oil rig, Northern Territory; 106  
Overseas updates; 16, 368  
Vaccine formula for northern winter, 1997-1998; 72  
Vaccine formula for Australian winter; 1998; 332

Instructions to authors, *CDI*; 9, 258

**Internet**

Communicable Diseases; 309  
National Notifiable Diseases Data; 149

**K**

Kunjin virus activity, Western Australia;  
See *Sentinal Chicken Surveillance Programme*

**L**

LabWISE  
See *Virology and Serology Laboratory Reporting Scheme*

Lassa fever

Overseas updates; 100, 144, 160, 348

Legionnaires' Disease

See *Legionellosis*

Legionellosis

Australia; 137

Leptospirosis

India; 348

Queensland notifications, 1985 to 1996; 17

Surveillance; 316

Lyssavirus

See *Australian bat lyssavirus*

**M**

Malaria

Infection, 208

Measles

Australia; 107, 338

Brazil, resurgence; 216

NHMRC recommendations on vaccination; 149

New Zealand; 149, 232

Overseas updates; 28, 40

MEDLINE

*CDI* on; 106

Meningitis

Gold Coast Hospital, fatal, 1980 to 1996; 32

*Haemophilus influenzae* type b; 173

Outbreak, New South Wales; 136, 322

Overseas updates; 40, 56, 88, 100, 116, 216, 280

See also *Meningococcal infection*

Meningococcal infection

Australia; 123

Australian Meningococcal

Epidemiology, Australia, 233

Surveillance Programme, Annual report; 217

Meningococcal isolate surveillance, Australia;

Australian Meningococcal

Surveillance Programme, Annual report; 217

Monkeypox

Overseas updates; 100, 244, 348, 368

Multiple drug resistance

See *Antibiotic resistance*

Murray Valley encephalitis virus activity, Western Australia

See *Sentinel Chicken Surveillance Programme*

Myocarditis

Outbreak, Malaysia; 188, 204

Mycobacterial tuberculosis

See *Tuberculosis*

*Mycoplasma pneumoniae*; 237

## N

National Communicable Diseases Surveillance Strategy; 20

National Health and Medical Research Council

Recommendations on diphtheria vaccination; 165

Recommendations on influenza vaccination; 105

Recommendations on measles vaccination; 149

National Influenza Surveillance

See *Influenza, National Surveillance*

National Neisseria Network

See *Meningococcal isolate surveillance*

National Notifiable Diseases Surveillance System

Annual report, 1996; 281

Surveillance data in *CDI*; 5

Surveillance reports; 10, 21, 34, 50, 64, 81, 94, 108, 123, 138, 150, 166, 178, 194, 208, 222, 237, 251, 270, 310, 323, 339, 360

*Neisseria meningitidis*

See also *Meningococcal infection*

New South Wales

Hepatitis A outbreaks

Oyster-associated; 46

Shoalhaven region; 1

Meningitis outbreak, western Sydney; 136

New Zealand

Measles; 149

NHMRC

see *National Health and Medical Research Council*

Northern Territory

Outbreak on an oil rig; 106

Norwalk virus; 317

Notifiable Diseases

General Practitioners, Western Australia; 205

See *National Notifiable Diseases Surveillance System*

## O

O'nyong-nyong fever

Overseas updates; 88

Oysters;

Hepatitis A outbreak, New South Wales; 46

Norwalk virus gastroenteritis; 317

## P

Pacific Public Health Surveillance Network; 48

Parainfluenza; 270

Pertussis

Epidemic, Australia; 49

Notifications in Australia; 145, 359

Plague, overseas updates; 56, 244, 348, 368

Pneumococcal infection

Epidemiology and prevention; 41

Invasive, Perth, 1990 to 1994; 73

Queensland; 133

Vaccination, NHMRC recommendations; 77

Public Health Laboratory Network; 308

## Q

Q fever

Australia; 323

Queensland; 29

Quarantine, legislation review; 347

Queensland

Australian bat lyssavirus, fruit bat infections and human contacts; 117

Dengue, Torres Strait outbreak; 33

Encephalitis and meningitis, fatal, Gold Coast Hospital, 1980 to 1996; 32

Leptospirosis notifications, 1985 to 1996; 17

Pneumococcal infection, multiple drug-resistant; 133

Q fever vaccination in abattoirs; 29

## R

Resistance, antibiotic

See *Antibiotic resistance*

Respiratory illness, overseas updates; 368

Respiratory syncytial virus; 222

Ross River virus infection

Australia; 34, 107

Military exercise; 193

Rotavirus

Infection; 194

Rubella

Australia; 63

## S

*Salmonella*

Australia; 80

*S. Typhimurium* outbreaks, South Australia; 61

Victorian outbreaks, 1997; 120

Sentinel Chicken Surveillance Programme

Surveillance data in *CDI*; 6

Surveillance reports; 37, 111, 127, 155, 183, 212, 241, 329, 364

Serious adverse events following vaccination

See *Adverse Events Following Vaccination Surveillance Scheme*

Sexually transmissible disease

Australian Gonococcal Surveillance Programme, Annual report; 189

Gonococcal infection; 178

Shigellosis, 166

South Australia

*Campylobacter* outbreak at training facility; 57

*Salmonella Typhimurium* outbreak; 61

*Streptococcus pneumoniae*

See *Pneumococcal infection*

Surveillance

Data in *CDI*; 5

## T

Tuberculosis

Australia; 250, 261

Isolates, Australia 1994 and 1995; 245

Typhoid

Overseas update; 72

Typhus, louse-borne

Overseas update; 144

## V

Vaccination

See *Immunisation*

Victoria

Anthrax, human case; 47

*Salmonella* outbreaks, 1997; 120

Virology and Serology Laboratory Reporting Scheme

Surveillance data in *CDI*; 8

Surveillance reports; 13, 24, 37, 54, 67, 84, 98, 113, 128, 141, 157, 170,



184, 199, 212, 227, 241, 254, 274,  
313, 329, 344, 365

**W**

Western Australia  
Notifications, General Practitioners;  
205  
Perth, 1990 to 1994; 73

Whooping cough

*See Pertussis*

World Health Organization

International Travel and Health  
booklet; 48

Western Pacific Region Gonococcal  
Antimicrobial Surveillance  
Programme 1996; 349

World Health Day 1997; 93

**Y**

Yellow fever

Overseas updates; 88, 244

## *CDI* Author Index, 1997

**A**

Andrews Ross; 61, 145, 281  
Ashurst-Smith Chris; 133

**B**

Barbis Diane; 47  
Barclay Lyn; 106  
Beard John; 317  
Beaton Sheila; 47  
Beers Mary; 61  
Bell Morton; 29  
Benn Richard; 164  
Berger Lee; 117  
Blair David; 117  
Broom Annette; 177

**C**

Cameron Scott; 61  
Carlisle Jane; 133  
Carman Judy; 61  
Carnie John; 47, 120  
Clancy John; 193  
Cooper Sandra; 117  
Cope Stanton; 193  
Creaser Alison; 57  
Crerar Scott; 281  
Curran Margaret; 5, 101, 281

**D**

Dalton Craig; 57, 317  
Dawson David; 245  
Doggett Stephen; 193  
Dohnt Michael; 17  
Donnelly Judy; 205  
D'Souza Rennie; 281  
Dwyer Dominic; 193

**F**

Feldheim Jenny; 61  
Fenton Janine; 133  
Ferreira Catherine; 120  
Ferson Mark; 333  
Foster Robert; 117

**G**

Gerrard John; 32  
Gilbert Lyn; 161  
Givney Rod; 61  
Goulet Mike; 117  
Gratten Mike; 133  
Gregory Joy; 120  
Griffiths Marlene; 33

**H**

Hall Robert; 61  
Haniotis John; 193  
Hansman Dinah; 117  
Harries Bronwen; 120  
Harvey Bronwen; 261, 281  
Heath Timothy; 1  
Herceg Ana; 5, 145, 173  
Heymer Malcolm; 317  
Hooper Peter; 117  
Hueston Linda; 193

**J**

Johnston Fay; 106

**K**

Kelly Heath; 205  
Kelly Robyn; 133  
Kelsall Helen; 120  
Kilham Henry; 164

Kirk Martyn; 57

Krause Vicki; 106

**L**

Lambert Stephen; 120  
Lanser Jan; 61  
Lester Rosemary; 47, 120  
Longbottom Helen; 89  
Love Kevin; 133  
Lovegrove Desolie; 1  
Lunt Ross; 117

**M**

Marchetti Marie; 193  
McIntyre Peter; 41  
McLaughlin Virginia; 73  
McLennan Lyn; 120  
Miller Nan; 106  
Monteville Marshall; 193  
Moser Kim; 101  
Murray Chris; 61  
Myint Htoo; 281

**N**

Nguyen Minh; 61  
Nimmo Graeme; 133  
Norris Michelle; 17  
Norton Rob; 33, 133

**O**

Oliver Graeme; 261, 281

**P**

Parker Gregg; 193  
Patel Mahomed; 29, 233  
Phillips Debra; 33

**R**

Rann Corrine; 281  
 Riley Thomas; 73  
 Ritchie Scott; 33  
 Roberts Christine; 1, 73, 145  
 Rose Nick; 57  
 Rouch Graham; 47, 120  
 Russell Richard; 193

**S**

Schooneveldt Jacqueline; 133  
 Scott John; 17  
 Seneviratne Erangini; 133

Sheridan John; 29  
 Skerratt Lee; 117  
 Smith Cameron; 317  
 Smythe Lee; 17  
 Speare Rick; 117  
 Stafford Russell; 317  
 Strain David; 317  
 Symonds Megan; 17

**T**

Tapsall John; 189, 217  
 Terry Diana; 33  
 Tiley Susan; 133

Trent Marianne; 317

**W**

Waddell Russell; 57  
 Westley-Wise Victoria; 1  
 Wood Gillian; 133

**Y**

Yund Alan; 193

## CDI Reviewers, 1997

We gratefully acknowledge the assistance of the following specialist reviewers for providing valuable comment on *CDI* articles published in 1997:

|                                       |                                       |  |
|---------------------------------------|---------------------------------------|--|
| Anthony Allworth, Mary Beers,         | John Kaldor, Ed Kraa, Lewis Marshall, | Aileen Plant, Greg Sam, Linda Selvey,  |
| Margaret Burgess, Scott Cameron,      | Jeremy McAnulty, Brad McCall,         | John Sheridan, Russell Stafford,       |
| John Carnie, Peter Collignon,         | Louise McDonnell, Peter McIntyre,     | John Tapsall, Susan Tiley, Mark Veitch |
| Stephen Conaty, Craig Dalton,         | Angela Merianos, David Mitchell,      |  |
| Lyn Gilbert, Robert Hall, David Hart, | Rosemary Munro, Keith Murray,         |  |

## A note from the Editor

*Bronwen Harvey*

The editorial team of *Communicable Diseases Intelligence (CDI)* would like to wish all our readers and contributors a very Merry Christmas, and all the best for 1998.

This is the last issue of *CDI* for 1997. We would like to express our thanks to all those who have contributed articles, surveillance reports, correspondence, commentaries, editorials, outbreak reports and data to *CDI* during 1997. We would also like to thank the article reviewers for their valued time and expert comment.

Many changes have occurred in 1997. In January, *CDI* achieved MEDLINE listing and introduced the new cover and content design. The maintenance of the subscription list and mailing

operations was outsourced to the Canberra Mailing Centre. We expanded the existing *CDI* internet site which provides easy on-line access to current and former issues of *CDI*. It now also includes data from the National Notifiable Diseases Surveillance System as well as other information about communicable diseases in Australia and overseas, including a disease outbreak page.

Australian notifiable diseases data continues to be updated fortnightly on the web page, but in October *CDI* moved from a 2-weekly to a 4-weekly production schedule. This longer production cycle will allow us to develop *CDI* into an even better and more informative journal for our readers. The first issue for 1998 will be

published on 22 January, after which we will provide further information about some exciting new developments for *CDI*.



# Communicable Diseases Surveillance

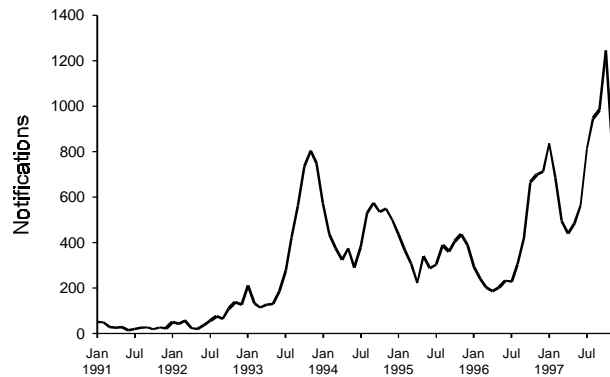
## *Pertussis epidemic continues*

In the 20 years from 1976 to 1995 there were 21 deaths from pertussis (whooping cough) in Australia. In contrast, from October 1996 to November 1997, there have been nine deaths; six in New South Wales, and one each in Queensland, Victoria and Western Australia. All were children aged between two weeks and four months of age (too young to have completed the primary course of vaccination against pertussis), and none had received more than one dose of a pertussis vaccine (personal communication, Communicable Disease Network Australia New Zealand).

Notifications of pertussis for 1997 are the highest recorded since the National Notifiable Diseases Surveillance System (NNDSS) was established in 1991. Up until 25 November, there were 8,368 notifications of pertussis with onset in 1997 (annual rate of 45.7 notifications per 100,000 population); the previous highest was 5,443 for the whole of 1994 (30.5 per 100,000 population) (Figure 1). The epidemic is widespread (Figure 2) and, in comparison to 1996, has increased markedly in all States and Territories except Victoria and the Northern Territory (Figure 3). Further notifications are expected, so it is likely that the notification rate for those cases with onset in 1997 will continue to increase.

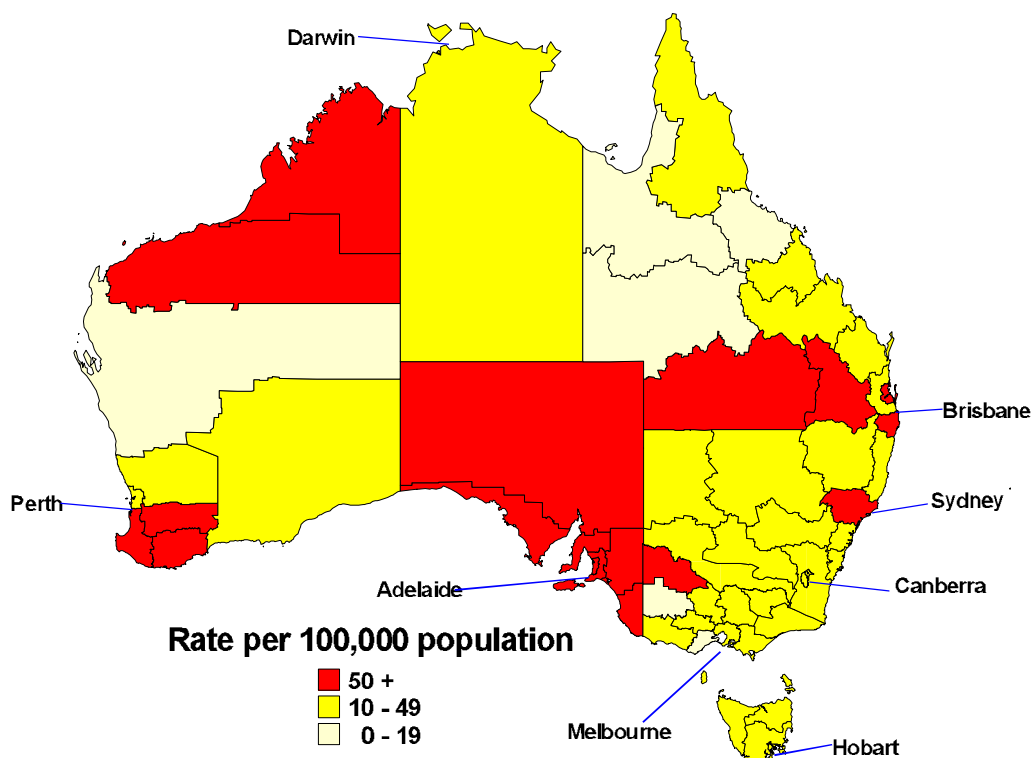
Since 1993, annual age-specific notification rates have been highest for infants (< 1 year of age) and school aged children (5-14 years of age), however, there has been a dramatic increase for both age groups in 1997 (Figure 4).

**Figure 1.** Notifications of pertussis, 1991 to 1997, by month of onset

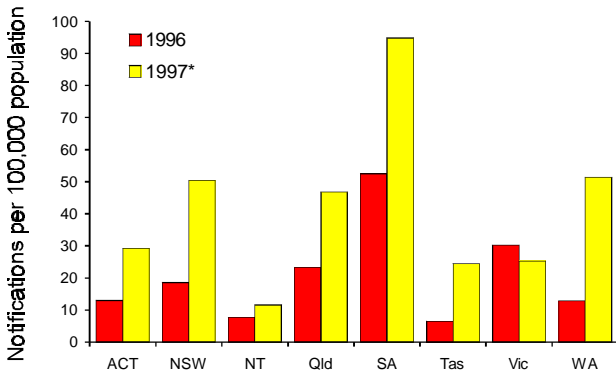


The high notification rates are very concerning because infants, particularly those under six months of age, are at the greatest risk of death from pertussis while the older age groups may be a source of infection.<sup>1</sup> Poor vaccination coverage, waning immunity among those who have been vaccinated, and/or increased testing/reporting have been suggested as possible reasons for the high rates among school aged children.<sup>2</sup> The NNDSS does not currently collect information on vaccination status, however, the lower rate for pre-school aged children is consistent with

**Figure 2.** Notification rate of pertussis by date of onset, 1 January to 30 November 1997, and Statistical Division of residence

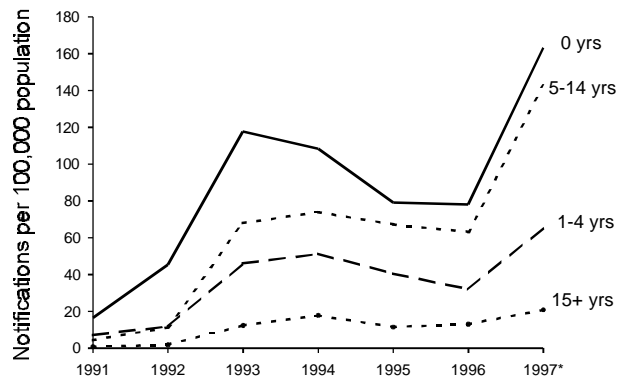


**Figure 3. Notification rate of pertussis, 1996 and 1997, by State or Territory**



\* Data for 1997 is incomplete and may be subject to revision

**Figure 4. Notification rate of pertussis, 1991 to 1997, by age and year of onset**

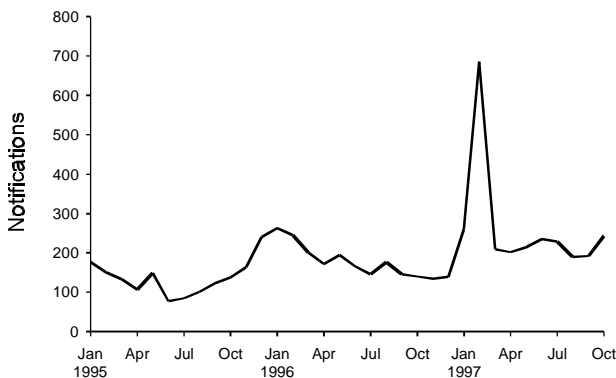


\* Data for 1997 is incomplete and may be subject to revision

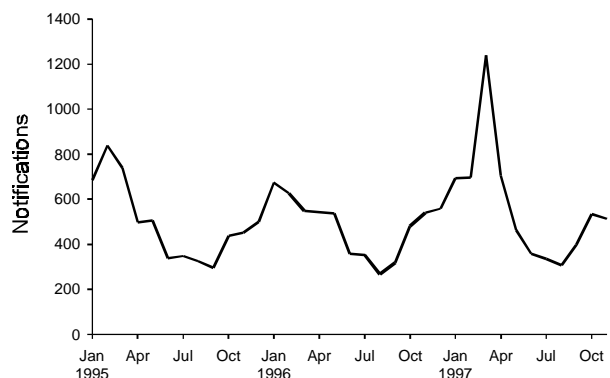
protection provided through the primary vaccination program.<sup>3</sup> The data also show much lower rates for five and six year old children compared to their school aged counterparts, which suggests that the diphtheria-tetanus-pertussis (DTP) booster, recently introduced for four to five year old children,<sup>4</sup> may be having an effect. So far in 1997, the notification rates for five and six year old children have been 81.4 and 105.8 per 100,000 population respectively, while the rates for those aged seven, eight and nine years are 144.1, 218.3 and 205.0 per 100,000 population respectively.

Complete vaccination of children remains the most important measure for the control of pertussis. Vaccination is currently recommended at 2, 4, 6 and 18 months of age with a booster prior to school entry (4-5 years of age).<sup>5</sup> Children who have not been vaccinated against pertussis and those not up to date with the recommended schedule should be vaccinated.

**Figure 5. Notifications of hepatitis A, 1995 to October 1997, by month of onset**



**Figure 6. Notifications of salmonellosis, 1995 to October 1997, by month of onset**



### References

1. Mandell GL, Bennett JE, Dolin R eds. Mandell, Douglas and Bennett's principles and practice of infectious diseases. Fourth edition. Churchill Livingstone, 1995.
2. Andrews R, Herceg A and Roberts C. Pertussis notifications in Australia 1991 to 1997. *Comm Dis Intell* 1997;21:145-148.
3. Black S. Epidemiology of pertussis. *Pediatr Infect Dis J* 1997;16:S85-898.
4. National Health and Medical Research Council. *The Australian immunisation procedures handbook*. Fifth edition. Canberra: NHMRC, 1995.
5. National Health and Medical Research Council. *The Australian immunisation handbook*. Sixth edition. Canberra: Australian Government Publishing Service, 1997.

### National Notifiable Diseases Surveillance System

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia New Zealand.

**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 12 to 25 November 1997**

| Disease <sup>1,2</sup>               | ACT | NSW | NT | Qld | SA | Tas | Vic | WA | This period 1997 | This period 1996 | Year to date 1997 | Year to date 1996 |
|--------------------------------------|-----|-----|----|-----|----|-----|-----|----|------------------|------------------|-------------------|-------------------|
| Diphtheria                           | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0                | 0                | 0                 | 0                 |
| <i>Haemophilus influenzae</i> type b | 0   | 1   | 0  | 0   | 0  | 0   | 1   | 0  | 2                | 0                | 47                | 49                |
| Measles                              | 7   | 27  | 0  | 22  | 0  | 0   | 2   | 3  | 61               | 30               | 785               | 467               |
| Mumps                                | 0   | 0   | 0  | 2   | 0  | 0   | 1   | 0  | 3                | 11               | 178               | 117               |
| Pertussis                            | 6   | 339 | 0  | 156 | 81 | 3   | 2   | 89 | 676              | 365              | 9,016             | 3,183             |
| Rubella                              | 2   | 1   | 0  | 22  | 12 | 0   | 2   | 2  | 41               | 181              | 1,288             | 2,502             |
| Tetanus                              | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0                | 0                | 7                 | 2                 |

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 12 to 25 November 1997**

| Disease <sup>1,2</sup>                  | ACT | NSW | NT | Qld | SA | Tas | Vic | WA | This period 1997 | This period 1996 | Year to date 1997 | Year to date 1996 |
|---|-----|-----|----|-----|----|-----|-----|----|------------------|------------------|-------------------|-------------------|
| Arbovirus infection (NEC) <sup>3</sup>  | 0   | 0   | 1  | 0   | 0  | 0   | 0   | 0  | 1                | 2                | 122               | 49                |
| Barmah Forest virus infection           | 0   | 2   | -  | 12  | 0  | 0   | 0   | -  | 16               | 15               | 624               | 795               |
| Campylobacteriosis <sup>4</sup>         | 6   | -   | 3  | 244 | 85 | 11  | 34  | 52 | 435              | 586              | 10,764            | 10,852            |
| Chlamydial infection (NEC) <sup>5</sup> | 3   | NN  | 0  | 166 | 0  | 8   | 97  | 53 | 327              | 362              | 7,654             | 7,602             |
| Dengue                                  | 0   | 0   | 0  | 0   | 0  | -   | 0   | 1  | 1                | 5                | 203               | 39                |
| Donovanosis                             | 0   | NN  | 0  | 0   | NN | 0   | 0   | 0  | 0                | 0                | 35                | 44                |
| Gonococcal infection <sup>6</sup>       | 0   | 14  | 0  | 23  | 0  | 0   | 8   | 38 | 83               | 166              | 4,061             | 3,774             |
| Hepatitis A                             | 2   | 32  | 0  | 34  | 2  | 0   | 10  | 2  | 82               | 73               | 2,907             | 2,033             |
| Hepatitis B incident                    | 0   | 1   | 0  | 1   | 0  | 0   | 0   | 0  | 2                | 5                | 216               | 209               |
| Hepatitis C incident                    | 0   | 1   | 0  | -   | 0  | 0   | -   | -  | 1                | 5                | 15                | 60                |
| Hepatitis C unspecified                 | 13  | NN  | 10 | 113 | NN | 6   | 5   | 17 | 164              | 385              | 8,528             | 8,756             |
| Hepatitis (NEC)                         | 0   | 0   | 0  | 0   | 0  | 0   | 0   | NN | 0                | 0                | 13                | 15                |
| Legionellosis                           | 0   | 0   | 0  | 1   | 1  | 0   | 1   | 5  | 8                | 7                | 145               | 169               |
| Leptospirosis                           | 0   | 1   | 0  | 5   | 0  | 0   | 0   | 0  | 6                | 6                | 115               | 209               |
| Listeriosis                             | 0   | 0   | 0  | 0   | 1  | 0   | 1   | 0  | 2                | 1                | 69                | 61                |
| Malaria                                 | 1   | 4   | 0  | 1   | 0  | 0   | 0   | 1  | 7                | 35               | 705               | 791               |
| Meningococcal infection                 | 1   | 7   | 0  | 0   | 1  | 0   | 8   | 1  | 18               | 12               | 470               | 389               |
| Ornithosis                              | 0   | NN  | 0  | 0   | 1  | 0   | 1   | 0  | 2                | 10               | 43                | 76                |
| Q Fever                                 | 0   | 9   | 0  | 9   | 0  | 0   | 0   | 0  | 18               | 23               | 546               | 493               |
| Ross River virus infection              | 0   | 11  | 1  | 17  | 1  | 0   | 5   | 3  | 38               | 54               | 6,535             | 7,637             |
| Salmonellosis (NEC)                     | 1   | 54  | 4  | 99  | 15 | 3   | 128 | 10 | 314              | 245              | 6,595             | 5,183             |
| Shigellosis <sup>4</sup>                | 0   | -   | 0  | 5   | 9  | 0   | 0   | 3  | 17               | 40               | 755               | 5,98              |
| Syphilis                                | 0   | 15  | 0  | 10  | 0  | 0   | 0   | 1  | 26               | 66               | 1,172             | 1,383             |
| Tuberculosis                            | 1   | 7   | 3  | 6   | 1  | 0   | 2   | 2  | 22               | 58               | 901               | 988               |
| Typhoid <sup>7</sup>                    | 0   | 0   | 0  | 2   | 0  | 0   | 0   | 0  | 2                | 1                | 65                | 78                |
| Yersiniosis (NEC) <sup>4</sup>          | 0   | -   | 0  | 5   | 0  | 0   | 1   | 0  | 6                | 10               | 236               | 248               |

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. NT: includes Barmah Forest virus.

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

5. WA: genital only.

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

7. NSW, Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified

- Elsewhere Classified.

**Table 3. Notifications of rare<sup>1</sup> diseases received by State and Territory health authorities in the period 12 to 25 November 1997**

| Disease <sup>2</sup> | Total this period | Reporting States or Territories | Total notifications 1997 |
|----------------------|-------------------|---------------------------------|--------------------------|
| Brucellosis          | 3                 | Qld                             | 38                       |
| Chancroid            |                   |                                 | 1                        |
| Cholera              |                   |                                 | 3                        |
| Hydatid infection    | 3                 | Qld, Vic                        | 47                       |
| Leprosy              |                   |                                 | 11                       |

1. Fewer than 60 cases of each of these diseases were notified each year during the period 1988 to 1996.
2. No notifications have been received during 1997 for the following rare diseases: botulism, lymphogranuloma venereum, plague, rabies, yellow fever, or other viral haemorrhagic fevers.

The system coordinates the national surveillance of more than 40 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 legislations. De-identified core unit data are supplied fortnightly for collation, analysis and dissemination. For further information, see CDI 1997;21:5.

#### Reporting period 12 November to 25 November 1997

Due to incomplete data having been received, the reporting period for the current report has been limited to two weeks. These data will be updated and posted on the Internet site when they become available.

There were 2,387 notifications received for this two-week period (Tables 1, 2 and 3).

The number of reports of Barmah Forest virus and Ross River virus infection remain low. This is consistent with

reports for the same period last year. Numbers of reports are expected to rise in the coming months. Most of the reports for this period were received from Queensland.

The number of hepatitis A notifications received this period was higher than for the corresponding period last year. Reports received for 1997 to date have exceeded those for the same period in 1996 by 43%. A peak in 1997 notifications (685) was seen for reports with dates of onset in February, corresponding to the oyster associated hepatitis A outbreak in Wallis Lake, New South Wales. A high number of notifications (243) with date of onset in October, was also received (Figure 5). The majority of the current notifications (81%) were received from New South Wales and Queensland. Sixty-eight of the 82 cases were reported in males, and of these, 47% were in the 20-34 years age range.

Notifications of salmonellosis continued to be reported at levels higher than those of recent months. This is consistent with trends from previous years, where notifications have progressively increased during the Spring months and peaked in January and February of the following year (Figure 6). A peak in the 1997 notifications (1,240) was seen for reports with dates of onset in March. Forty-six per cent of these reports were from Victoria, a reflection of the large outbreaks that occurred during this time. New South Wales, Queensland and Victoria accounted for 89% of the total reports of salmonellosis for the current reporting period. One-hundred and one cases (32%) were in children under 5 years of age.

### 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,

**Table 4. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 to 31 August 1997, by sex and State or Territory of diagnosis**

|                |                    |     |     |    |     |    |     |     |    | Totals for Australia |                  |                   |                   |
|----------------|--------------------|-----|-----|----|-----|----|-----|-----|----|----------------------|------------------|-------------------|-------------------|
|                |                    | ACT | NSW | NT | Qld | SA | Tas | Vic | WA | This period 1997     | This period 1996 | Year to date 1997 | Year to date 1996 |
| HIV diagnoses  | Female             | 0   | 3   | 0  | 2   | 0  | 0   | 1   | 0  | 6                    | 3                | 46                | 50                |
|                | Male               | 1   | 23  | 0  | 6   | 1  | 0   | 15  | 0  | 46                   | 60               | 444               | 528               |
|                | Sex not reported   | 0   | 1   | 0  | 0   | 0  | 0   | 0   | 0  | 1                    | 0                | 16                | 4                 |
|                | Total <sup>1</sup> | 1   | 27  | 0  | 8   | 1  | 0   | 16  | 0  | 53                   | 63               | 506               | 583               |
| AIDS diagnoses | Female             | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0                    | 1                | 16                | 21                |
|                | Male               | 0   | 8   | 1  | 5   | 1  | 0   | 3   | 2  | 20                   | 35               | 151               | 418               |
|                | Total <sup>1</sup> | 0   | 8   | 1  | 5   | 1  | 0   | 3   | 2  | 20                   | 36               | 167               | 439               |
| AIDS deaths    | Female             | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0                    | 1                | 6                 | 15                |
|                | Male               | 0   | 5   | 0  | 2   | 1  | 0   | 6   | 0  | 14                   | 34               | 117               | 332               |
|                | Total <sup>1</sup> | 0   | 5   | 0  | 2   | 1  | 0   | 6   | 0  | 14                   | 35               | 123               | 347               |

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

**Table 5. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 31 August 1997, by sex and State or Territory**

|                |                    | ACT | NSW    | NT | Qld   | SA  | Tas | Vic   | WA  | Australia |
|----------------|--------------------|-----|--------|----|-------|-----|-----|-------|-----|-----------|
| HIV diagnoses  | Female             | 21  | 496    | 6  | 114   | 47  | 4   | 188   | 77  | 953       |
|                | Male               | 181 | 10,576 | 91 | 1,773 | 618 | 78  | 3,617 | 823 | 17,757    |
|                | Sex not reported   | 0   | 2,059  | 0  | 1     | 0   | 0   | 28    | 0   | 2,088     |
|                | Total <sup>1</sup> | 202 | 13,144 | 97 | 1,839 | 665 | 82  | 3,842 | 903 | 20,828    |
| AIDS diagnoses | Female             | 7   | 153    | 0  | 39    | 19  | 2   | 59    | 23  | 302       |
|                | Male               | 80  | 4,188  | 30 | 732   | 313 | 41  | 1,487 | 331 | 7,202     |
|                | Total <sup>1</sup> | 87  | 109    | 30 | 773   | 332 | 43  | 1,553 | 356 | 7,526     |
| AIDS deaths    | Female             | 2   | 2,957  | 0  | 27    | 14  | 2   | 40    | 14  | 208       |
|                | Male               | 52  | 3,072  | 23 | 510   | 212 | 26  | 1,169 | 238 | 5,187     |
|                | Total <sup>1</sup> | 54  | 3,072  | 23 | 539   | 226 | 28  | 1,215 | 253 | 5,410     |

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

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) 9332 4648 Facsimile: (02) 9332 1837.

HIV and AIDS diagnoses and deaths following AIDS reported for August 1997, as reported to 30 November 1997, are included in this issue of *CDI* (Tables 4 and 5).

## Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network (ASPREN) currently comprises 107 general practitioners from throughout the country. Up to 9,000 consultations are reported each week, with special attention to 12 conditions chosen for sentinel surveillance. Of these, *CDI* reports the consultation rates for chickenpox, gastroenteritis, HIV testing (doctor initiated), HIV testing (patient initiated), influenza, measles, pertussis, Ross River virus infection and rubella. For further information, including case definitions, see *CDI* 1997;21:6.

Data for weeks 46 to 49 covering the period 10 November to 7 December are included in this issue of *CDI* (Table 6). During the current reporting period, the consultation rate for pertussis has remained high in comparison to previous years. The consultation rate for chickenpox has been above 2.0 per 100,000 encounters since the week ending 26 October, and has only declined in the last reporting week. For the other conditions, consultation rates have remained low or steady; there has not yet been an increase in consultations for Ross River virus infection.

**Table 6. Australian Sentinel Practice Research Network reports, weeks 46 to 49, 1997**

| Condition                       | Week 46, to 16 November 1997 |                           | Week 47, to 23 November 1997 |                           | Week 48, to 30 November 1997 |                           | Week 49, to 7 December 1997 |                           |
|---------------------------------|------------------------------|---------------------------|------------------------------|---------------------------|------------------------------|---------------------------|-----------------------------|---------------------------|
|                                 | Reports                      | Rate per 1,000 encounters | Reports                      | Rate per 1,000 encounters | Reports                      | Rate per 1,000 encounters | Reports                     | Rate per 1,000 encounters |
| Chickenpox                      | 19                           | 2.5                       | 14                           | 2.0                       | 15                           | 2.0                       | 8                           | 1.3                       |
| Gastroenteritis                 | 102                          | 13.6                      | 94                           | 13.5                      | 66                           | 8.9                       | 76                          | 12.0                      |
| HIV testing (doctor initiated)  | 4                            | 0.5                       | 4                            | 0.6                       | 7                            | 0.9                       | 2                           | 0.3                       |
| HIV testing (patient initiated) | 20                           | 2.7                       | 12                           | 1.7                       | 20                           | 2.7                       | 10                          | 1.6                       |
| Influenza                       | 8                            | 1.1                       | 12                           | 1.7                       | 10                           | 1.3                       | 11                          | 1.7                       |
| Measles                         | 2                            | 0.3                       | 1                            | 0.1                       | 1                            | 0.1                       | 0                           | 0.0                       |
| Pertussis                       | 3                            | 0.4                       | 8                            | 1.2                       | 3                            | 0.4                       | 6                           | 0.9                       |
| Ross River virus infection      | 1                            | 0.1                       | 1                            | 0.1                       | 2                            | 0.3                       | 0                           | 0.0                       |
| Rubella                         | 2                            | 0.3                       | 0                            | 0.0                       | 4                            | 0.5                       | 0                           | 0.0                       |

## Sentinel Chicken Surveillance Programme

Sentinel chicken flocks are used to monitor flavivirus activity in Australia. The main viruses of concern are Murray Valley encephalitis (MVE) and Kunjin which cause the potentially fatal disease Australian encephalitis in humans. Currently 24 flocks are maintained in the north of Western Australia, ten in the Northern Territory, ten in New South Wales and ten in Victoria. The flocks in Western Australia and the Northern Territory are tested year round but those in New South Wales and Victoria are tested only from November to March, during the main risk season.

Results are coordinated by the Arbovirus Laboratory in Perth and reported bimonthly. For more information see CDI 1997;21:6

AK Broom<sup>1</sup>, JS Mackenzie<sup>2</sup>, L Melville<sup>3</sup>, DW Smith<sup>4</sup> and PI Whelan<sup>5</sup>

1. Department of Microbiology, The University of Western Australia
2. Department of Microbiology, The University of Queensland
3. Berrimah Agricultural Research Centre, Darwin
4. PathCentre, Perth
5. Department of Health and Community Services, Darwin

Sentinel chicken serology was carried out for 26 of the 28 flocks in Western Australia in October and November 1997. There was one seroconversion to MVE virus in the Wyndham flock in October, and one possible seroconversion in one of the Derby flocks. These chickens had not been bled since August, so it was not possible to determine when the seroconversion occurred. The Derby result has yet to be confirmed.

Six flocks of sentinel chickens from the Northern Territory were tested in October and November 1997, and there were no seroconversions recorded. The Leanyer

seroconversion that occurred in September was confirmed in subsequent bleeds.

## Serious Adverse Events Following Vaccination Surveillance Scheme

The Serious Adverse Events Following Vaccination Surveillance Scheme is a national surveillance scheme which monitors the serious adverse events that occur rarely following vaccination. More details of the scheme were published in CDI 1997;21:8.

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

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

### Results for the reporting period 17 September to 15 December, 1997

There were 81 reports of serious adverse events following vaccination for this reporting period. Reports were received from the Australian Capital Territory (7), New South Wales (17), the Northern Territory (2), Queensland (33), South Australia (21) and Tasmania (1).

The most frequently reported events following vaccination were persistent screaming (37 cases, 45.7%) and hypotonic/hyporesponsive episodes (13 cases, 16%) (Table 7). One death within 30 days of immunisation was reported from New South Wales. Twenty-two cases were hospitalised. There was incomplete information on the follow-up of four cases. All of the other cases had recovered at the time of reporting.

**Table 7. Adverse events following vaccination for the period 17 September to 15 December 1997**

| Event                            | Vaccines  |          |             |          |          |          |                    | Reporting States or Territories | Total reports for this period |
|----------------------------------|-----------|----------|-------------|----------|----------|----------|--------------------|---------------------------------|-------------------------------|
|                                  | DTP       | DTP/Hib  | DTP/OPV/Hib | DTP/OPV  | MMR      | Hep B    | Other <sup>1</sup> |                                 |                               |
| Persistent screaming             | 16        | -        | 20          | 1        | -        | -        | -                  | ACT, NSW, Qld, SA               | 37                            |
| Hypotonic/hyporesponsive episode | 5         | 1        | 7           | -        | -        | -        | -                  | ACT, NSW, NT, Qld, Tas          | 13                            |
| Temperature of 40.5°C or more    | 6         | -        | 3           | -        | -        | 1        | -                  | ACT, Qld, SA                    | 10                            |
| Convulsions                      | 2         | 1        | 2           | -        | 2        | -        | 2                  | Qld, SA                         | 9                             |
| Death                            | -         | -        | 1           | -        | -        | -        | -                  | NSW                             | 1                             |
| Anaphylaxis                      | -         | -        | 1           | -        | -        | -        | -                  | Qld                             | 1                             |
| Shock                            | -         | -        | -           | -        | -        | -        | -                  |                                 | -                             |
| Other                            | 3         | -        | 4           | -        | -        | -        | 3                  | ACT, NSW, SA                    | 10                            |
| <b>TOTAL</b>                     | <b>32</b> | <b>2</b> | <b>38</b>   | <b>1</b> | <b>2</b> | <b>1</b> | <b>5</b>           |                                 | <b>81</b>                     |

1. Includes influenza vaccination, DTPa, CDT, OPV, pneumococcal vaccination, BCG, ADT and rabies immunoglobulin (HRIG)



Seventy-three reports of adverse events (90% of total) were associated with DTP either alone or in combination with other vaccines. Of these, 37 reports were associated with the first dose and 18 with the second dose.

## LabVISE

The Virology and Serology Laboratory 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 1997;21:8-9*.

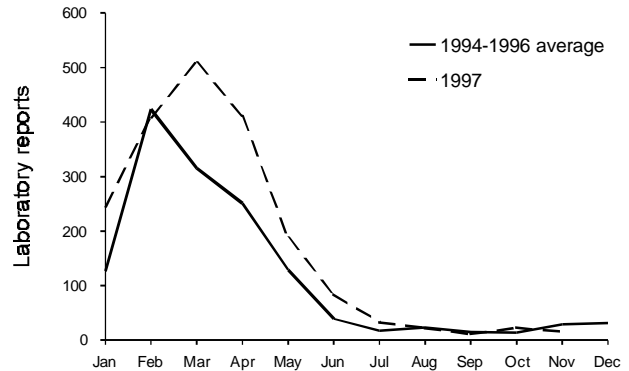
There were 1,370 reports received in the *CDI* Virology and Serology Laboratory Reporting Scheme this 4-week period (Tables 8 and 9).

Ross River virus reporting remains average for this time of year. However, overall there have been a greater number of reports received in 1997 compared to previous years (Figure 7). Sixteen reports were received for this 4-week period with most being received from Western Australia (50%) followed by Queensland (25%). It is expected that the number of Ross River virus reports will increase over the Summer months.

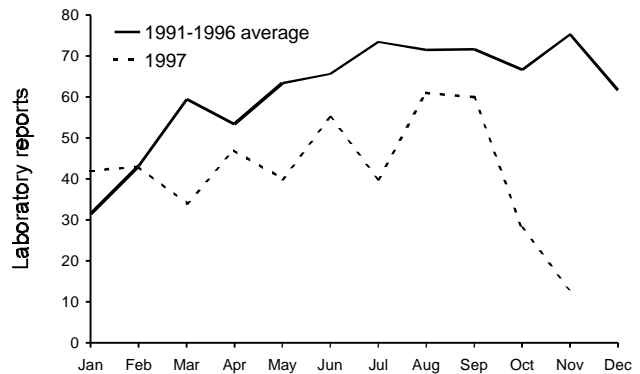
The number of reports of rhinovirus continued to decline after peaking in August. There were 28 reports received this period, which is lower than expected for this time of year. The majority (50%) of reports were from Victoria. Seventy-eight per cent of reports were for children in the 4 years and under age group. Reporting for 1997 to date is significantly lower than for previous years (Figure 8).

There was a decline in respiratory syncytial virus reporting this period with 40 reports being received. This is consistent with the characteristic annual trend although the overall number of reports received was higher than average (Figure 9). Fifty-eight per cent of reports were received for children in the 1 - 4 years age range.

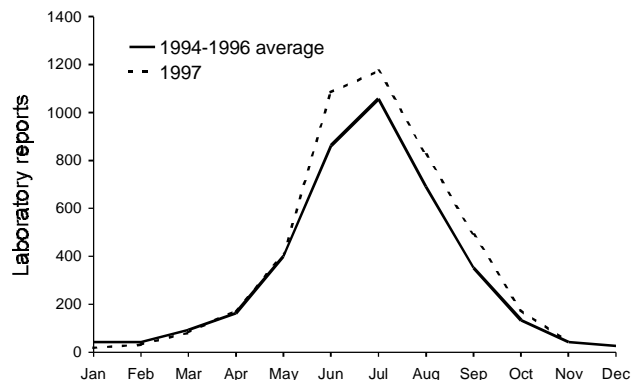
**Figure 7. Ross River virus laboratory reports, 1994 to 1996 average and 1997, by month of specimen collection**



**Figure 8. Rhinovirus laboratory reports, 1991 to 1996 average and 1997, by month of specimen collection**



**Figure 9. Respiratory syncytial virus, laboratory reports, 1994 to 1996 average and 1997, by month of specimen collection**



**Table 8. Virology and serology laboratory reports by State or Territory<sup>1</sup> for the reporting period 6 November to 3 December 1997, and total reports for the year**

|  | State or Territory <sup>1</sup> |     |    |     |    |     |     |    | Total this period | Total reported in <i>CDI</i> in 1997 |
|--|---------------------------------|-----|----|-----|----|-----|-----|----|-------------------|--------------------------------------|
|  | ACT                             | NSW | NT | Qld | SA | Tas | Vic | WA |                   |                                      |
| <b>Measles, mumps, rubella</b>             |                                 |     |    |     |    |     |     |    |                   |                                      |
| Measles virus                              |                                 |     |    |     |    |     | 3   | 2  | 5                 | 63                                   |
| Mumps virus                                |                                 |     |    |     |    |     | 1   |    | 1                 | 43                                   |
| Rubella virus                              |                                 |     |    | 8   | 5  |     | 4   | 4  | 21                | 541                                  |
| <b>Hepatitis viruses</b>                   |                                 |     |    |     |    |     |     |    |                   |                                      |
| Hepatitis A virus                          |                                 |     | 3  | 14  | 1  |     | 2   | 2  | 22                | 680                                  |
| <b>Arboviruses</b>                         |                                 |     |    |     |    |     |     |    |                   |                                      |
| Ross River virus                           |                                 |     | 1  | 4   | 1  |     | 2   | 8  | 16                | 2,085                                |
| Barmah Forest virus                        |                                 | 1   |    | 2   |    |     |     | 3  | 6                 | 233                                  |
| Dengue not typed                           |                                 |     |    |     |    |     |     | 1  | 1                 | 60                                   |
| <b>Adenoviruses</b>                        |                                 |     |    |     |    |     |     |    |                   |                                      |
| Adenovirus type 1                          |                                 |     |    |     |    |     | 4   |    | 4                 | 30                                   |
| Adenovirus type 2                          |                                 |     |    |     |    |     | 5   |    | 5                 | 42                                   |
| Adenovirus type 3                          |                                 |     |    |     |    |     | 4   |    | 4                 | 23                                   |
| Adenovirus type 4                          |                                 |     |    |     |    |     | 1   |    | 1                 | 6                                    |
| Adenovirus type 7                          |                                 |     |    |     |    |     | 2   |    | 2                 | 10                                   |
| Adenovirus type 37                         |                                 |     |    |     |    |     | 1   |    | 1                 | 2                                    |
| Adenovirus not typed/pending               |                                 |     |    |     | 53 |     | 3   | 12 | 68                | 1,001                                |
| <b>Herpes viruses</b>                      |                                 |     |    |     |    |     |     |    |                   |                                      |
| Cytomegalovirus                            |                                 | 11  | 1  | 21  | 11 |     | 15  | 3  | 62                | 1,071                                |
| Varicella-zoster virus                     |                                 | 3   |    | 25  | 20 |     | 22  | 18 | 88                | 1,313                                |
| Epstein-Barr virus                         |                                 | 4   | 1  | 32  | 72 |     | 8   | 28 | 145               | 2,416                                |
| <b>Other DNA viruses</b>                   |                                 |     |    |     |    |     |     |    |                   |                                      |
| Contagious pustular dermatitis (Orf virus) |                                 |     |    |     |    |     |     | 1  | 1                 | 4                                    |
| Parvovirus                                 |                                 | 2   |    | 8   | 1  |     | 10  | 5  | 26                | 341                                  |
| <b>Picornavirus family</b>                 |                                 |     |    |     |    |     |     |    |                   |                                      |
| Coxsackievirus A24 = echovirus type 34     |                                 |     |    |     |    |     | 1   |    | 1                 | 1                                    |
| Poliovirus type 1 (uncharacterised)        |                                 |     |    |     |    | 1   |     |    | 1                 | 8                                    |
| Poliovirus type 3 (uncharacterised)        |                                 |     |    |     |    |     | 1   |    | 1                 | 4                                    |
| Rhinovirus (all types)                     |                                 | 8   | 1  |     | 1  |     | 14  | 4  | 28                | 588                                  |
| Enterovirus not typed/pending              |                                 | 1   | 4  | 1   |    |     |     | 17 | 23                | 576                                  |
| <b>Ortho/paramyxoviruses</b>               |                                 |     |    |     |    |     |     |    |                   |                                      |
| Influenza A virus                          |                                 |     |    |     | 33 |     | 5   | 8  | 46                | 1,379                                |
| Influenza B virus                          |                                 |     |    |     | 9  |     |     | 2  | 11                | 922                                  |
| Parainfluenza virus type 1                 |                                 | 1   |    |     | 1  |     |     | 1  | 3                 | 69                                   |
| Parainfluenza virus type 2                 |                                 |     |    |     |    |     | 1   |    | 1                 | 117                                  |
| Parainfluenza virus type 3                 |                                 | 18  |    | 2   | 11 |     | 7   | 25 | 63                | 1,130                                |
| Respiratory syncytial virus                |                                 | 5   | 1  | 3   | 17 |     | 3   | 11 | 40                | 4,674                                |
| <b>Other RNA Viruses</b>                   |                                 |     |    |     |    |     |     |    |                   |                                      |
| Rotavirus                                  |                                 | 24  |    |     | 10 |     | 1   | 11 | 46                | 1,545                                |
| Norwalk agent                              |                                 |     |    |     |    |     | 15  |    | 15                | 92                                   |
| <b>Other</b>                               |                                 |     |    |     |    |     |     |    |                   |                                      |
| <i>Chlamydia trachomatis</i> not typed     |                                 | 10  | 36 | 57  | 44 |     | 4   | 69 | 220               | 4,411                                |
| <i>Chlamydia psittaci</i>                  |                                 |     |    |     |    |     | 3   |    | 3                 | 57                                   |
| <i>Chlamydia</i> species                   |                                 |     |    | 2   |    |     |     |    | 2                 | 30                                   |
| <i>Mycoplasma pneumoniae</i>               |                                 | 4   |    | 60  | 75 |     | 15  | 9  | 163               | 1,790                                |

**Table 8. Virology and serology laboratory reports by State or Territory<sup>1</sup> for the reporting period 6 November to 3 December 1997, and total reports for the year, continued**

|                                    | State or Territory <sup>1</sup> |     |    |     |     |     |     |     | Total this period | Total reported in <i>CDI</i> in 1997 |
|------------------------------------|---------------------------------|-----|----|-----|-----|-----|-----|-----|-------------------|--------------------------------------|
|                                    | ACT                             | NSW | NT | Qld | SA  | Tas | Vic | WA  |                   |                                      |
| <i>Coxiella burnetii</i> (Q fever) |                                 | 1   |    | 13  |     |     | 3   |     | 17                | 301                                  |
| <i>Rickettsia tsutsugamushi</i>    |                                 |     |    |     |     |     |     | 1   | 1                 | 27                                   |
| <i>Rickettsia</i> spp - other      |                                 |     |    |     |     |     |     | 1   | 1                 | 7                                    |
| <i>Salmonella</i> species          |                                 |     |    |     |     |     |     | 1   | 1                 | 3                                    |
| <i>Bordetella pertussis</i>        |                                 | 6   |    | 95  |     |     | 64  | 34  | 199               | 1,872                                |
| <i>Legionella longbeachae</i>      |                                 |     |    |     | 2   |     |     | 2   | 4                 | 35                                   |
| <i>Legionella</i> species          |                                 |     |    |     |     |     | 1   |     | 1                 | 13                                   |
| TOTAL                              |                                 | 99  | 48 | 347 | 367 | 1   | 225 | 283 | 1,370             | 29,615                               |

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

**Table 9. Virology and serology laboratory reports by contributing laboratories for the reporting period 6 November to 3 December 1997**

| State or Territory | Laboratory  | Reports |
|--------------------|---|---------|
| New South Wales    | Institute of Clinical Pathology & Medical Research, Westmead  | 5       |
|                    | New Children's Hospital, Westmead                             | 48      |
|                    | Royal Prince Alfred Hospital, Camperdown                      | 22      |
| Queensland         | Queensland Medical Laboratory, West End                       | 373     |
| South Australia    | Institute of Medical and Veterinary Science, Adelaide         | 367     |
| Victoria           | Microbiological Diagnostic Unit, University of Melbourne      | 4       |
|                    | Royal Children's Hospital, Melbourne                          | 73      |
|                    | Victorian Infectious Diseases Reference Laboratory, Fairfield | 152     |
| Western Australia  | PathCentre Virology, Perth                                    | 203     |
|                    | Princess Margaret Hospital, Perth                             | 27      |
|                    | Western Diagnostic Pathology                                  | 96      |
| TOTAL              |   | 1,370   |

## Overseas briefs

**Source: World Health Organization (WHO)**

### *Influenza A(H5N1), Hong Kong Special Administrative Region of China*

Six cases of avian influenza strain H5N1 had been reported to 15 December. The first case occurred in May, and the second in early November. An additional suspected human case is under investigation.

So far no case of human-to-human transmission has been identified. Prior to May 1997, the H5N1 virus was known to infect only birds, including chickens and ducks. Human infection with H5N1 is believed to have come through direct contact with infected birds.

The international health community is preparing seed virus for the eventual development of a vaccine for the H5N1 strain. Surveillance has also been enhanced. No travel restrictions have been imposed in Hong Kong or elsewhere.

## Cholera

**Djibouti.** About 100 new cases of cholera are now being registered daily. Twenty-nine deaths had been reported as at 16 November, bringing the total number of cases reported to 827 as at 24 November. No cases have been registered outside the capital. Support for the control of the outbreak is currently being sought.

**Malaysia.** The Ministry of Health confirmed the occurrence of cholera in the State of Selangor. As of 3 December, there were 47 confirmed cases with one death. Laboratory investigations have confirmed that they are biotype El Tor, serotype Ogawa.

**Mozambique.** A total of 4,301 cases and 146 deaths (3.4%) were notified up to 25 November in Maputo City, other areas of Maputo Province and Xai-Xai City in Gaza Province. Maputo City continues to be the most affected area with 92% of all cases reported. Up to 22 November, 63 cases (no deaths) were reported in Xai-Xai City, Gaza Province since the outbreak started on 5 November. Three suspect cases and one death were notified in Chokwe district in the same province on 24 November. Control activities are continuing.

**Uganda.** The Ministry of Health has reported an outbreak of cholera in Kampala City where 70 cases and 3 deaths have occurred since 9 December. An outbreak has also been reported in Bugiri District where the number of cases is not yet known, although 26 deaths have been reported. A task force has been formed under the Ministry of Health to organise control measures.

## Plague

**China.** Nineteen cases of bubonic plague were reported in several villages in Yiliang County, Yunnan Province during October. Control measures were immediately instituted. All 19 cases had recovered by 24 November and no new cases have been reported.

**Mozambique.** The total number of plague cases which have occurred in Mutarara District, Tete Province has increased to 335 since June when the outbreak began. No deaths

have been reported. Cases are limited to this area, where plague reappeared in 1994 for the first time in 15 years. In the epidemic in 1994, which lasted from August to October, 216 cases were recorded, with three deaths.

## Suspected Monkeypox, Democratic Republic of the Congo

Five hundred and eleven cases of suspected monkeypox were identified between February 1996 and October 1997 in the Katako-Kombe and Lodja health zones of the Democratic Republic of the Congo. This constitutes the largest reported outbreak of suspected monkeypox.

There have been two WHO investigations of this outbreak to date. During the most recent investigation, 419 suspect cases were identified in 78 villages in five health zones. Twenty-two per cent of cases were due to primary infection, thought to have arisen from human contact with infected animals, the remainder were due to secondary infection.

Preliminary laboratory results have found monkeypox virus (MPV) in nine cases and varicella zoster virus (chickenpox) in four. Final results of the investigation are not yet available.

## Respiratory illness, Sierra Leone

One hundred and twenty-five active cases of an influenza-like illness have been identified in several towns and villages in the Chiefdoms of Sulima, Sinkunia Dombelia and Folosaba Dombelia in Koinadugu District during the period 21-25 November. The outbreak started in late September. It is believed that there have been around 2,000-3,000 cases altogether, mostly adults. Thirty-six deaths were reported. A follow-up mission is planned for collection of blood samples for laboratory investigation.

WHO's emergency programme will expand the epidemiological surveillance network to cover the Koinadugu District which has poor access to medical services.

**Communicable Diseases - Australia**  
**Internet web site**  
**'<http://www.health.gov.au/hfs/pubs/cdi/cdihtml.htm>'**

**Editor:** Bronwen Harvey

**Deputy Editor:** Corrine Rann

**Assistant Editor:** Margaret Curran

### Editorial Advisory Board

Charles Watson (Chair), Margaret Burgess, Scott Cameron, John Kaldor, Margery Kennett, Cathy Mead, Christine Roberts

### Editorial and Production Staff

Ross Andrews, Scott Crerar, Rennie D'Souza, John Mohoric, Kim Moser, Htoo Myint, Graeme Oliver.

Contributions covering any aspects of communicable diseases are invited. Instructions to authors can be found in *CDI* 1997;21:9.

*CDI* is produced fortnightly by the National Centre for Disease Control, Department of Health and Family Services, GPO Box 9848 Canberra ACT 2601; fax: (02) 6289 7791, phone: (02) 6289 6895. For subscriptions or change of address please fax (02) 6269 1212 or write to PO Box 462, Fyshwick ACT 2609.

Opinions expressed in *CDI* are those of the authors and not necessarily those of the Department of Health and Family Services or the Communicable Diseases Network Australia New Zealand. Data may be subject to revision.

Electronic editions of *CDI* and data from the National Notifiable Diseases Surveillance Scheme (NNDSS) are available on the Department of Health and Family Services Internet web site. The address is '<http://www.health.gov.au/hfs/pubs/cdi/cdihtml.htm>'.

Consent for copying all or part of *CDI* can be obtained from the Manager, Commonwealth Information Services, Australian Government Publishing Service, GPO Box 84 Canberra ACT 2601