



COMMUNICABLE DISEASES INTELLIGENCE

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CONTENTS

ARTICLES

| | Page |
|--|------|
| Salmonella Surveillance, Australia, First Quarter 1991 Report | 2 |
| Hospital-Acquired Infections: A Cross-Sectional Prevalence Survey | 8 |
| Fatal <i>Vibrio vulnificus</i> Infection Without Obvious Source | 10 |
| HIV Surveillance Report, 30 November 1991 | 11 |
| HIV Infections in Australia: Distributions by Age and Sex and by Exposure Category | 12 |

OVERSEAS BRIEFS

13

COMMUNICABLE DISEASES SURVEILLANCE

14

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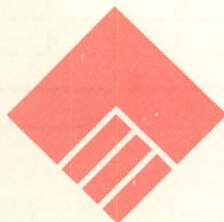
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**DEPARTMENT OF
HEALTH, HOUSING AND
COMMUNITY SERVICES**

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

SALMONELLA SURVEILLANCE, AUSTRALIA, FIRST QUARTER REPORT 1991

(Reproduced with acknowledgement from the National Salmonella Surveillance Scheme Quarterly Report, (Editor Joan Powl-
ing))

Summary

There were 1970 Australian acquired cases of *Salmonella* reported during this quarter which was an eight percent decrease from the total for the same period in 1990 (2145) (Table 1, Figure 1). There were 217 follow-ups and 83 cases acquired overseas.

There were 233 Australian acquired cases of *Shigella* as against 258 for the corresponding period in 1990, a decrease of nine percent.

By comparison to the same period last year there was an increase in the *Salmonella* case rate per 100,000 population in Tasmania (88%), Victoria (25%) and New South Wales (6%) and in all other States the case rate declined (Table 2). The biggest percentage decreases in case rates were recorded in Queensland (35%) and South Australia (27%).

The top ten *Salmonella* serovars accounted for 67 percent of all Australian acquired cases in this quarter. *S* Typhimurium was at the top of the list with 562 cases involving 44 phage types and accounting for 28 percent of the total cases. Phage type 135 was the most common with 112 cases, 80 percent of which were from Victoria and New South Wales. The second most common serovar was *S* Bovismorbificans with 163 cases, reported mostly from New South Wales where two different phage types, 21 and 23, were involved in outbreaks between January and March. Outbreaks of *S* Heidelberg in three States - Victoria, New South Wales and Queensland, accounted for the high numbers (156) of this serovar.

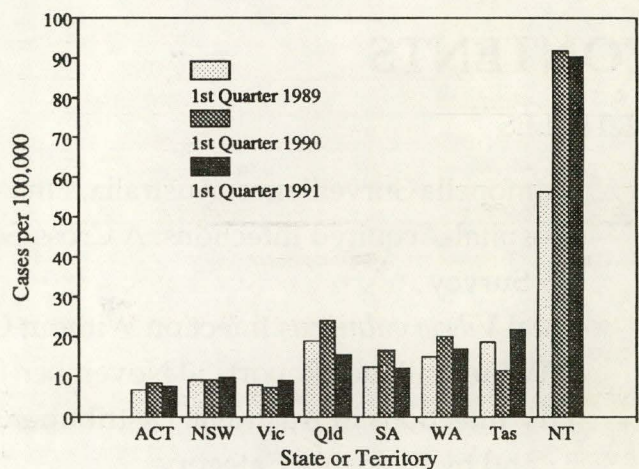
Table 1. Total number of reports received

| Organism | ACT | NSW | Vic | Qld | SA | WA | Tas | NT | TOTAL |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| <i>Salmonella</i> | 22 | 631 | 469 | 462 | 172 | 258 | 104 | 151 | 2270 |
| <i>Shigella</i> | 2 | 26 | 24 | 7 | 7 | 121 | 1 | 75 | 263 |
| <i>Escherichia</i> | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| <i>Vibrio</i> | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 4 |
| <i>Yersinia</i> | 1 | 28 | 11 | 28 | 3 | 0 | 0 | 0 | 71 |
| Total | 25 | 689 | 506 | 498 | 182 | 379 | 105 | 226 | 2611 |

Table 2. Case rates per 100,000 for *Salmonella* infections

| | ACT | NSW | Vic | Qld | SA | WA | Tas | NT | TOTAL |
|-----------|-----|-----|-----|------|------|------|------|------|-------|
| 1st Q '91 | 7.6 | 9.9 | 9.1 | 15.7 | 12.2 | 17.1 | 22.0 | 90.4 | 1970 |
| 4th Q '90 | 2.4 | 5.5 | 4.6 | 12.4 | 5.5 | 8.6 | 6.9 | 43.3 | 1099 |
| 1st Q '90 | 8.4 | 9.3 | 7.3 | 24.2 | 16.6 | 20.2 | 11.7 | 91.7 | 2145 |
| 1st Q '89 | 6.8 | 9.5 | 8.0 | 19.0 | 12.5 | 15.0 | 18.8 | 56.2 | 1902 |

Figure 1. Case rates for *Salmonella* infection, 1st quarters 1989, 1990 and 1991, by State and Territory



Fourteen outbreaks were reported during this quarter, the largest being those of *S* Heidelberg and *S* Typhimurium 135 from Victoria (Table 3). Investigation failed to identify satisfactorily the cause of the *S* Heidelberg outbreak; the *S* Typhimurium 135 outbreak was traced to a batch of gelati.

There were 108 serovars of *Salmonella* isolated from the 1970 cases (104 serovars in the 1st quarter of 1990). Of these 77 were from subspecies 1 (9 phage types of *S* Bovismorbificans and 44 of *S* Typhimurium), 3 from

Table 3. Outbreaks¹

| TYPE | PLACE | NUMBER | DATE | NOTES |
|----------------------------|----------------------|--------|-----------|----------------------|
| <i>Sh sonnei</i> biotype a | Darwin | 26 | Jan-Mar | R Bactr., Amp., Tet. |
| S Anatum | Adelaide | 23 | Feb-Mar | |
| S Bovismorbificans 21 | Sydney | 49 | Jan-Mar | |
| S Bovismorbificans 23 | Sydney | 65 | Jan-Mar | |
| S Brisbane | Alice Springs | 4 | Feb | all under 2 years |
| S Give | Launceston | 20 | Jan-Feb | |
| S Heidelberg | Melbourne and Melton | 64 | March | |
| S Heidelberg | Sydney | 47 | Jan-Mar | |
| S Heidelberg 2 | Rockhampton | 8 | Jan-Feb | ? cont. from 1990 |
| S Typhimurium 135 | Melbourne | 61 | Jan-Mar | |
| S Typhimurium 44 | Coonabarabran | 9 | mid March | FP wedding |
| S Typhimurium RDNC | Launceston | 19 | early Feb | |
| S Typhimurium RDNC | Melbourne | 22 | January | cont. from Dec 1990 |
| S Tennessee | Adelaide | 6 | Feb-Mar | Vietnamese |

1. R antibiotic resistance, FP food poisoning

subspecies 2, 3 from subspecies 3 (*S Arizonae*) and one from subspecies 4.

New and unusual *Salmonella* serovars reported during the quarter included *S Coleypark* (M/1 WA), *S Hindmarsh* (blood M/79 NSW), *S Ibadan* (M/32 WA ex New Caledonia), *S Lagos* (F/ NSW) *S Suberu* (F/ns Vic ex India).

S Coleypark is frequently isolated from fellmongering effluents in WA. The most recent previous isolation of *S Hindmarsh* was from Queensland in 1989 and that of *S Lagos* was from a traveller to Papua New Guinea in 1988.

Uncommon phage types of *S Typhimurium* were 133 (Qld), 153 (NSW), and 73 (Vic). Unusual phage types were 122 (Vic), 168 and 204 (NSW) and 81 (Tas).

Table 4. Typhoid and Paratyphoid cases

| S Typhi: 16 cases, 1 possible carrier | | | |
|---------------------------------------|---------|-------|--|
| VI-PHAGE TYPE | SEX/AGE | STATE | NOTES |
| A | F/9 | Vic | from Pakistan |
| A | M/23 | Vic | travelled in India |
| A | M/41 | NSW | travelled in India |
| A | M/6 | NSW | son of M/41 above |
| A degraded | F/1 | NSW | from Chile |
| B1 var | F/65 | Qld | from the Philippines |
| E1 | F/18 | WA | no details |
| E1 | F/74 | Vic | travelled in Chile |
| E9 | M/43 | Vic | returned from visit to China |
| E var | M/ | NSW | mother in Indian hospital with typhoid |
| O | M/5 | Vic | holiday in India with family |
| degraded | M/ns | NT | Indonesian fisherman |
| degraded | M/27 | Vic | travelled through Indonesia |
| degraded | M/17 | NSW | recent travel in Indonesia |
| untypable | F/19 | NSW | recent return from Indonesia |
| untypable | F/62 | NSW | from Pakistan, possible carrier |
| untypable | M/15 | WA | travelled in Indonesia |

| S Paratyphi A: 13 cases | | | |
|-------------------------|-------------------|-------|---------------------------------|
| PHAGE TYPE | SEX/AGE | STATE | NOTES |
| 1 | M/41 | Qld | returned from India |
| 1 | M/17 | Qld | returned from Indonesia |
| 1 | M/19 | NSW | returned from India and Nepal |
| 1 | F/25 | Vic | travel in south-east Asia |
| 1 | F/30 | WA | from Indonesia |
| 1 | F/23 | NSW | recent travel Thailand, Vietnam |
| 1 | F/11 | WA | travel in India |
| 1 | F/50 | NSW | travel in Indonesia |
| 5 | F/23 | NSW | no details |
| 6 | F/18 | Vic | from Vietnam |
| 6 | F/45 | NSW | overseas travel - unspecified |
| RDNC | M/17 | SA | from Vietnam |
| RDNC | M/30 ¹ | NSW | travel in India and Thailand |

1. mixed with *Sh flexneri* 6

| S Paratyphi B: 5 cases | | | |
|------------------------|---------|-------|-------------------------------------|
| PHAGE TYPE | SEX/AGE | STATE | NOTES |
| 3a1 var | F/13 | Vic | from South America |
| Taunton | F/60 | NSW | post-operative, no other details |
| Taunton | F/52 | Vic | overseas travel, granddaughter also |
| Taunton | F/2 | Vic | granddaughter of F/52 above |
| Taunton | M/10 | NSW | no details |

Table 5. Isolations from blood, urine and unusual sites¹

| Bacteraemias excluding enteric fever: 48 cases | | | | | |
|--|---------|-------|-----------------------------------|---------|-------|
| TYPE | SEX/AGE | STATE | TYPE | SEX/AGE | STATE |
| S Adelaide | M/ | Qld | S Heidelberg 1 | M/10 | NSW |
| S Arizonae 61:l,v:z35 | M/ | Qld | S Heidelberg 2 | M/9 | Qld |
| S Ball | F/1 | NT | S Heidelberg untypableF/ | Qld | |
| S Birkenhead | M/79 | Qld | S Hindmarsh | M/79 | NSW |
| S Birkenhead | M/1 | Qld | S Java RDNC | F/1 | NT |
| S Bovismorbificans | M/9 | Vic | S Mississippi | M/76 | Tas |
| S Bovismorbificans 21 | F/76 | NSW | S Muenchen | F/2 | NT |
| S Bovismorbificans 21 | F/86 | NSW | S Oranienburg | F/6 | NT |
| S Bovismorbificans 21 | F/74 | NSW | S Typhimurium 1 | M/81 | NSW |
| S Bovismorbificans 23 | M/59 | NSW | S Typhimurium 101 | F/1 | NT |
| S Bovismorbificans 24 | M/39 | Tas | S Typhimurium 135 | M/50 | NSW |
| S Chester | M/5 | Vic | S Typhimurium 170 | M/29 | Vic |
| S Eastbourne | M/14 | NSW | S Typhimurium 4 | F/2 | Vic |
| S Give | M/49 | Vic | S Typhimurium 55 | M/86 | NSW |
| S Heidelberg | M/15 | Vic | S Typhimurium 9 | F/70 | Qld |
| S Heidelberg | F/65 | NSW | S Typhimurium 9 | F/34 | Vic |
| S Heidelberg | M/23 | Vic | S Virchow | F/2 | NSW |
| S Heidelberg | M/2 | NSW | S Virchow | M/29 | Qld |
| S Heidelberg | F/ | Vic | S Virchow | M/ | NSW |
| S Heidelberg | M/37 | NSW | S Virchow | M/1 | Vic |
| S Heidelberg | F/20 | Vic | S Virchow | M/46 | Qld |
| S Heidelberg | F/ns | NSW | <i>Sh flexneri</i> 2a | M/1 | NT |
| S Heidelberg | F/18 | Vic | <i>Sh flexneri</i> 2a | F/1 | NT |
| S Heidelberg | M/12 | Vic | <i>Y enterocolitica</i> O:3 Bio 4 | F/16 | Vic |

| Urines: 31 cases | | | | | |
|-----------------------|---------|-------|------------------|---------|-------|
| TYPE | SEX/AGE | STATE | TYPE | SEX/AGE | STATE |
| S Adelaide | F/ns | SA | S Java | M/63 | NSW |
| S Adelaide | F/92 | Vic | S Mbandaka | F/21 | Vic |
| S Anatum | M/69 | SA | S Mississippi | F/32 | Tas |
| S Bovismorbificans 21 | M/46 | NSW | S Muenchen | F/ | SA |
| S Cerro | F/18 | Qld | S Oranienburg | F/ | NSW |
| S Derby | M/65 | NSW | S Potsdam | M/17 | Qld |
| S Enteritidis 26 | F/78 | Qld | S Tennessee | F/37 | SA |
| S Hadar | F/38 | Vic | S Typhimurium | M/64 | Qld |
| S Hadar | F/ns | Vic | S Typhimurium 12 | M/41 | NSW |
| S Havana | M/63 | Vic | S Typhimurium 30 | M/49 | SA |
| S Havana | F/ns | Vic | S Typhimurium 9 | F/60 | Vic |
| S Havana | F/70 | NSW | S Virchow | M/ | Qld |
| S Hvittingfoss | F/17 | SA | S Virchow | F/54 | Vic |
| S Infantis | F/83 | NT | S Zanzibar | F/70 | Qld |
| S Infantis | F/75 | Vic | S Zanzibar | F/13 | Qld |
| S Infantis | F/47 | Qld | | | |

| Unusual Sites: 11 cases | | | |
|-------------------------|---------|-------|-----------------------------------|
| TYPE | SEX/AGE | STATE | SITE |
| S Birkenhead | M/19 | Vic | pus, forearm |
| S Bovismorbificans 21 | F/74 | Vic | back wound and psoriasis abscess |
| S Enteritidis | M/70 | NSW | intra-operative swab |
| S Havana | F/34 | NT | hand wound |
| S Liverpool | M/29 | NSW | perianal abscess |
| S Mgulani | M/76 | Qld | perianal abscess |
| S Paratyphi B Taunton | F/60 | NSW | abdominal drain,, cholecystectomy |
| S Virchow | F/ | Qld | CSF (meningitis) |
| S Waycross | F/33 | Qld | vagina |

1. ns not stated

Shigella infections

There were 263 *Shigella* reports received during this quarter. Of these, 7 were follow-up specimens and 23 were reported from travellers returning from overseas leaving a total of 233 cases assumed to have been acquired in Australia (Table 6). The two cases of *Sh boydii* 13 (Vic) were probably acquired overseas, however.

Sh flexneri 2a, *Sh flexneri* 6 and *Sh sonnei* biotype a accounted for 93% of the total cases of *Shigella* acquired in Australia. The most common serotype was *Sh sonnei* biotype a with 118 cases, 31 of which were from the Northern Territory where there was a further outbreak in Darwin beginning in January. Antibiotic resistance, when determined, showed that several cases had a different resistance (Amp, Bactr, Tet) to those from the outbreak which began in mid-November (Sxt, Tet).

Table 6. *Shigella* infections acquired in Australia

| ORGANISM | ACT | NSW | Vic | Qld | SA | WA | Tas | NT | TOTAL |
|----------------------------|-----|-----|-----|-----|----|-----|-----|----|-------|
| <i>Sh boydii</i> 13 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| <i>Sh flexneri</i> 1b | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| <i>Sh flexneri</i> 2a | 0 | 0 | 2 | 1 | 1 | 47 | 0 | 24 | 75 |
| <i>Sh flexneri</i> 3a | 0 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 6 |
| <i>Sh flexneri</i> 6 | 0 | 0 | 1 | 0 | 2 | 7 | 0 | 13 | 23 |
| <i>Sh flexneri</i> var Y | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 |
| <i>Sh sonnei</i> biotype a | 2 | 12 | 4 | 6 | 2 | 61 | 0 | 31 | 118 |
| <i>Sh sonnei</i> biotype g | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 5 |
| Total | 2 | 17 | 12 | 7 | 5 | 118 | 0 | 72 | 233 |

Table 7. Mixed infections

| ORGANISMS ISOLATED | Sex/Age | State |
|---|-------------------|-------|
| S Arizonae, <i>Sh sonnei</i> biotype a | F/56* | WA |
| S Bovismorbificans 21, S Typhimurium 4 | M/1 | Vic |
| S Bovismorbificans 23, <i>Y frederiksenii</i> | M/ | NSW |
| S Bovismorbificans 23, <i>Aeromonas</i> sp. and <i>Vibrio</i> sp. | M/16 | NSW |
| S Brisbane, <i>C coli</i> | M/2 | NT |
| S Brisbane, <i>C jejuni</i> | F/ | NT |
| S Bukavu, S Chester | F/1 | WA |
| S Bukavu, S Hvittingfoss | F/1 | WA |
| S Chester, S Tennessee | F/25 | WA |
| S Chester, S Saintpaul | F/1 | WA |
| S Chester, <i>Sh sonnei</i> biotype a | M/2 | NT |
| S Chester, <i>Sh flexneri</i> 6, <i>C jejuni</i> | M.2 | NT |
| S Chester, <i>C coli</i> | F/2 | NT |
| S Derby, <i>Entamoeba histolytica</i> | M/38 | Vic |
| S Derby, S Typhimurium 179 | M/ns | SA |
| S Hadar, <i>Campylobacter</i> spp. | M/1 | Tas |
| S Havana, S Saintpaul | F/ | NSW |
| S Havana, S Muenchen | M/ | WA |
| S Havana, S Typhimurium RDNC | M/2 | Tas |
| S Havana, S Typhimurium 81 and RDNC | M/14 | Tas |
| S Havana, <i>Giardia lamblia</i> | M/1 | NT |
| S Heidelberg, <i>Y enterocolitica</i> | M/5 | Vic |
| S Hvittingfoss, <i>Trichuris</i> sp., <i>C jejuni</i> , and <i>Hymenolepis nana</i> | F/5 | Qld |
| S Infantis, <i>C coli</i> | F/6 | NT |
| S Kottbus, <i>Cryptosporidium</i> sp. | M/3 | SA |
| S Kottbus, <i>Plesiomonas shigelloides</i> | F/35 | Vic |
| S Mississippi, <i>Campylobacter</i> spp. | M/1 | Tas |
| S Muenchen, S Rubislaw | F/ | WA |
| S Paratyphi A RDNC, <i>Sh flexneri</i> 6 | M/30 ¹ | NSW |
| S Saintpaul, <i>Strongyloides stecoralis</i> | F/1 | NT |
| S Senftenberg, <i>Sh flexneri</i> 6 | F/1 | WA |
| S Singapore, <i>Cryptosporidium</i> sp. | F/ | NSW |
| S Sofia ssp 2, S Virchow | F/27 | WA |
| S Tennessee, <i>Sh sonnei</i> biotype a | M/1 | WA |
| S Typhimurium 135, <i>C jejuni</i> | M/19 | Vic |
| S Typhimurium 135, <i>C jejuni</i> | M/1 | Vic |
| S Typhimurium 170, <i>Cryptosporidium</i> sp. | M/9 | NSW |
| S Typhimurium 44, <i>Campylobacter</i> spp. | M/ns | SA |
| S Typhimurium RDNC, <i>Aeromonas hydrophila</i> | F/73 | Vic |
| S Waycross, <i>G lamblia</i> and rotavirus | F/2 | Qld |
| <i>Sh flexneri</i> 2a, <i>Aeromonas</i> sp. | M/29 | NT |
| <i>Sh flexneri</i> 2a, <i>C jejuni</i> | F/1 | NT |
| <i>Sh flexneri</i> var Y, <i>C coli</i> | M/1 | NT |
| <i>Sh sonnei</i> biotype a, <i>Cryptosporidium</i> sp. | M/2 | NSW |
| <i>V cholerae</i> non O1, <i>Giardia</i> sp. | M/1 | Qld |

ns not specified

1. acquired overseas (F/56, M/30 Thailand)

Shigella infections acquired overseas include *Sh boydii* 1 and 2, *Sh dysenteriae* 9 (Bali), *Sh flexneri* 2a (Thailand), *Sh flexneri* 3a (South-east Asia, Philippines), *Sh flexneri* 6 (Thailand), *Sh sonnei* biotype a (Indonesia incl. Bali, Thailand, Fiji), and *Sh sonnei* biotype g (India, Indonesia, Thailand).

Infections acquired overseas

(Including migrants and refugees and excluding enteric fever.)

ASIA:- unspecified: S Agona (2), S Hadar (2), *Sh flexneri* 3a. **Indonesia:** S Java RDNC (2), S Mbandaka, *Sh sonnei* biotypes a and g. **Bali:** S Berta (3), S Hadar (4), S Java RDNC, S Typhimurium 104, *Sh dysenteriae* 9, *Sh sonnei* biotype a (2). **India:** S Agona, S Derby, S Richmond, S Suberu, S Typhimurium 135, S Virchow, *Sh sonnei* biotype g. **Nepal:** S Derby, *Sh sonnei* biotype g. **Singapore:** S Agona, S Blockley. **Thailand:** S Anatum, S Arizonae, S Hadar, S Java RDNC, S London (2), S Sofia ssp 2, S Typhimurium 168, *Sh flexneri* 2a and 6, *Sh sonnei* biotypes a and g. **Philippines:** S Typhimurium untypable, *Sh flexneri* 3a. **Vietnam:** S Java 3b var 3 (2), S Anatum, S Chailey, S Lexington, S London and S Weltevreden (mixed), S Typhimurium 135, *Sh flexneri* 2a (2), *Sh flexneri* 4a, *Sh flexneri* 5a, *Sh sonnei* biotype a (5). **Taiwan:** S Derby.

AFRICA:- Sudan: S Infantis.

PACIFIC:- Fiji: S Heidelberg, *Sh sonnei* biotypes a and g. **New Caledonia:** S Ibadan. **Solomon Islands:** S Hesarak var 27.

AMERICAS:- South America: S 6,7:b:-.

Plus from unspecified countries: S Agona, S Berta, S Hadar, S Potsdam, S Saintpaul, S Singapore, S Typhimurium phage types 12a, 135 and untypable, *Sh boydii* 1 and 2, *Sh flexneri* 6, *Sh sonnei* biotypes a and g.

Top Ten Salmonella Serovars

Of the 1970 Australian acquired cases of Salmonella infection, 1322 (67%) were isolates from the top ten Salmonella serovars (Table 8). Their position in the previous quarter (4th Quarter, 1990) is also given where applicable.

In this quarter four of the top ten salmonellas were associated with outbreaks. In the first three months of the year, outbreaks of S Typhimurium 135, 44 and two separate incidents of S Typhimurium RDNC were reported, as well as outbreaks S Bovismorbificans phage types 21 and 23 in Sydney and of S Heidelberg in Victoria, New South Wales and Queensland. The latter was of S Heidelberg phage type 2 in Rockhampton which may have been a continuation of an outbreak with the same Salmonella in October 1990.

S Typhimurium with 562 cases from 44 phage types, was the most common Salmonella serovar and accounted for 29 percent of the total Australian acquired cases of Salmonella. S Typhimurium 135 was the most common phage type with 112 cases, mainly from Victoria and New South Wales. The top five phage types accounted for 49% of Australian acquired cases of S Typhimurium (Table 9).

Table 8. Top ten Salmonella serovars

| SEROVAR | POSITION IN Q4/'90 | NUMBER OF CASES | % OF TOP TEN | ORIGIN /NUMBER OF CASES |
|---------------------------------|--------------------|-----------------|--------------|-------------------------|
| S Typhimurium ¹ | 1 | 562 | 28.5 | Vic 189, NSW 156 |
| S Bovismorbificans ¹ | 2 | 163 | 8.3 | NSW 127 |
| S Heidelberg ¹ | 3 | 156 | 7.9 | Vic 67, NSW 55 |
| S Saintpaul | 6 | 79 | 4.0 | Qld 24, NT 7 |
| S Virchow | 5 | 76 | 3.9 | Qld 55, NSW 11 |
| S Chester | 8 | 67 | 3.4 | NT 18, Qld 14, WA 14 |
| S Birkenhead | 4 | 57 | 2.9 | Qld 32, NSW 17 |
| S Anatum ¹ | 10 | 56 | 2.8 | SA 23, Qld 11 |
| S Infantis | 0 | 53 | 2.7 | Vic 16, NSW 14, NT 11 |
| S Muenchen | 9 | 53 | 2.7 | WA 15, NSW 12 |
| Total | 1322 | 67.1 | | |

In: S Infantis

Out: S Havana

1. Associated with outbreaks

Table 9. Top 5 phage types of *Salmonella typhimurium*

| PHAGE TYPE | POSITION IN Q4/90 | NUMBER OF CASES | % OF TOP FIVE | ORIGIN/NUMBER OF CASES |
|------------------|-------------------|-----------------|---------------|------------------------|
| 135 ¹ | 2 | 112 | 19.9 | Vic 69, NSW 21 |
| 9 ¹ | 1 | 86 | 15.3 | Vic 44, NSW 22 |
| 12a | 4 | 33 | 5.9 | NSW 10, WA 8 |
| 170 | 0 | 23 | 4.1 | Vic 9, NSW 9 |
| 101 | 5 | 22 | 3.9 | WA 7, NSW 6 |
| Total | 276 | 49.1 | | |

1. Associated with outbreaks.

HOSPITAL-ACQUIRED INFECTIONS: A CROSS-SECTIONAL PREVALENCE SURVEY

(Reproduced with acknowledgment from *Monthly Infectious Diseases Report, Royal Alexandra Hospital for Children, No 21, July 1991, Editor D Isaacs*)

In July 1991 we performed the third of our 6-monthly cross-sectional surveys of hospital-acquired infection. The two previous studies were reported in *Monthly Infectious Diseases Reports* No. 10 (August 1990) and No 16 (February 1991) (CDI 15:36-39 and 289-292).

Briefly, a team of 7 members of the hospital staff, intimately linked to infection or quality control, surveyed every inpatient in the hospital on a single day. Data were collected on whether the child had a hospital-acquired infection (HAI) and if so whether it was judged to have been preventable. Data were also collected on risk factors for HAI, on antibiotic use and on community-acquired infections. The same definitions as previously were used.

Number of inpatients on study day: 201

Number with hospital-acquired infection: 14 (7.0%)

Number with community-acquired infection: 64 (31.8%)

Various risk factors known or suspected to be associated with HAI were examined. The results of these examinations are presented in Tables 1-13 below.

Discussion

This sort of cross-sectional survey, which determines the prevalence of infection on a single day every 6 months, is clearly open to bias and to chance variations. Thus in the middle of a winter respiratory syncytial virus epidemic there will be more exposure to potential HAI than in a quiet mid-summer when there are fewer infected patients. For this reason we are recording the number of patients with community-acquired infections, as a measure of exposure, and doing the surveys at the same time each winter and each summer.

Nevertheless, there are some encouraging trends from the surveys to date. In July 1990, 24 of 191 patients (12.6%) developed HAI, of which 10 were definitely or possibly preventable. In February 1991 16 of 174 (9.2%) had HAI, while in July 1991 only 14 of 201 (7.0%) had

HAI. The trend is at least encouraging, if not yet entirely convincing that we have conquered the problem of HAI. For example the number of "preventable" HAI has remained virtually constant each 6-month period at 10, 10 and 11.

Table 1. Duration of hospital stay and risk of HAI¹

| Hospital stay (days) | HAI (%) | Total |
|----------------------|----------|-------|
| 0-7 | 9 (7.5%) | 111 |
| 8-14 | 1 (2.5%) | 40 |
| 15-21 | 1 (10%) | 10 |
| 22+ | 3 (10%) | 30 |

1. $p = 0.18$

Table 2. Age and prevalence of HAI¹

| Age (months) | HAI (%) | Total |
|--------------|-----------|-------|
| <1 | 1 (5.3%) | 19 |
| 1-6 | 2 (5.3%) | 38 |
| 7-12 | 3 (12%) | 25 |
| 13-24 | 1 (4.5%) | 22 |
| 25-36 | 3 (17.6%) | 17 |
| 37-48 | 0 (0%) | 10 |
| 49-60 | 1 (8.3%) | 12 |
| >60 | 3 (5.2%) | 58 |

1. $p = 0.16$

Table 3. Sex and prevalence of HAI¹

| Sex | HAI (%) | No HAI | Total |
|--------|----------|--------|-------|
| Male | 7 (6.3%) | 105 | 112 |
| Female | 7 (7.9%) | 82 | 89 |

1. $p > 0.1$

Table 4. Intensive care and prevalence of HAI¹

| Intensive Care | HAI (%) | No HAI | Total |
|----------------|-----------|--------|-------|
| Yes | 2 (6.7%) | 28 | 30 |
| No | 12 (7.0%) | 159 | 171 |

1. $p > 0.1$

Table 5. Hospital service and prevalence of HAI¹

| Service | HAI | Total |
|-----------------------------|-----------|-------|
| General medical | 3 (7.3%) | 41 |
| Oncology | 3 (20.0%) | 15 |
| Other medical | 1 (3.3%) | 30 |
| ALL MEDICAL ² | 7 (7.7%) | 86 |
| General surgical | 2 (13.3%) | 15 |
| Neurosurgery | 0 (0%) | |
| Other surgery | 4 (6.9%) | 58 |
| ALL SURGICAL ² | 6 (6.9%) | 87 |
| Neonatal medical | 0 (0%) | 14 |
| Neonatal surgical | 0 (0%) | 4 |
| Neonatal surgical + medical | 1 (20%) | 5 |
| ALL NEONATAL | 1 (4.3%) | 23 |

1. $p > 0.1$

2. Excluding neonates

Table 6. Surgery this admission and HAI¹

| Recent surgery | HAI (%) | Total |
|----------------|-----------|-------|
| Yes | 8 (10.1%) | 79 |
| No | 6 (4.9%) | 122 |

1. $p > 0.1$

Table 7. Immunosuppression and HAI¹

| Immuno-suppression | HAI (%) | Total |
|--------------------|-----------|-------|
| Yes | 3 (13%) | 23 |
| No | 11 (6.2%) | 178 |

1. $p > 0.15$

Table 8. Presence of endotracheal tube (ETT) and HAI¹

| ETT | HAI (%) | Total |
|-----|-----------|-------|
| Yes | 1 (12.5%) | 8 |
| No | 13 (6.7%) | 193 |

1. $p > 0.1$

Table 9. Presence of urinary catheter and HAI¹

| Urinary catheter | HAI (%) | Total |
|------------------|-----------|-------|
| Yes | 2 (15.4%) | 13 |
| No | 12 (6.4%) | 188 |

1. $p > 0.1$

Table 10. Intravascular cannula and HAI¹

| Presence of any cannula | HAI (%) | Total |
|-------------------------|-----------|-------|
| Yes | 9 (10.6%) | 85 |
| No | 5 (4.3%) | 116 |

1. $p = 0.052$

Table 11. Nature of hospital-acquired infection

| Nature of infection | Number |
|---|--------|
| Wound infection | 3 |
| Gastroenteritis | 3 |
| Line infection | 2 |
| Bronchiolitis | 2 |
| Pneumonia | 2 |
| Infected venepuncture site (finger-prick) | 1 |
| Paronychia | 1 |
| Total | 14 |

Table 12. Was the HAI preventable?

| Category | Number |
|------------------------|--------|
| Not preventable | 3 |
| Possibly preventable | 2 |
| Definitely preventable | 9 |
| Total | 14 |

Table 13. Antibiotic use in oncology patients

| | Mean number (SD) of antibiotics per patient | Median number of antibiotics per patient |
|-----------|---|--|
| Feb. 1991 | 3.94 (2.28) | 4 |
| Aug. 1991 | 3.07 (1.73) | 3 |

We also looked at antimicrobial use in the oncology patients. We were able to support a clinical impression that fewer antibiotics are being used on each patient.

Surveys will continue as a monitor of our success in limiting spread of infection within the hospital, and to act as a warning should the point prevalence of HAI increase.

FATAL *VIBRIO VULNIFICUS* INFECTION WITHOUT OBVIOUS SOURCE

(Dr B Mayall and Mr S Pearson, Microbiology Department, Heidelberg Repatriation Hospital, Heidelberg West, Victoria)

An 80 year old woman was admitted on 10 January 1991, with a two day history of right leg and foot pain and swelling. On the evening prior to admission, she had felt dizzy, and had noted a fever. She denied oyster ingestion, and sea water contact; in the week prior to admission she had eaten some King Dory caught in Gippsland Lakes. Medications on admission included prednisone 5 mg/day.

On examination, she was unwell and her temperature was 38.3°C. There was a large bulla on the right lateral foot, and a large bulla behind the ankle. A Gram stain of bulla fluid showed Gram negative bacilli. She was treated with ceftazidime penicillin G and hydrocortisone. Later that evening her blood pressure dropped, and she received volume expanders.

The following day the blood pressure was stable and she was afebrile, the bullae had enlarged, and oedema extended to the mid calf. There was a suggestion of skin necrosis over the lateral aspect of the right ankle. Oral doxycycline was added to her treatment.

A Gram negative bacillus was isolated from bulla fluid and blood cultures, and identified as *Vibrio vulnificus* the next day. It was sensitive to ceftazidime and doxycycline, but resistant to gentamicin and tobramycin.

Subsequently, systemic signs of infection resolved, and the skin over the dorsum of the foot and around the ankle proceeded to full thickness necrosis. This was treated with topical silver sulphadiazine cream. Cef-tazidime was continued until 19 January 1991, and steroids were gradually reduced. Doxycycline was continued until 28 January 1991.

Four skin debridement operations were performed between 21 January and 13 February, and skin grafts were applied. Healing was quite slow and the patient remained bed bound for a long time. She developed pneumonia in late February and recovered, but succumbed to a second episode in April.

Comments

Vibrio vulnificus, a normal commensal of seawater, may be found in sediment and is commonly taken up by oysters, from which many patients acquire their infections. The bacteria multiply in warm weather when water temperatures exceed 20°C.

In a large series from Florida¹ three clinical syndromes were described - septicaemia, gastroenteritis and wound infection. The onset of septicaemia was rapid,

and associated with a mortality rate of 55%, and a rate of 90% in those who were hypotensive in the first 24 hours of presentation. Metastatic blistering lesions and cellulitis were common in patients with septicaemia. Liver disease, especially haemochromatosis, and immunosuppression commonly predisposed to infection.

The organism is generally sensitive to tetracycline, chloramphenicol, cefotaxime, ceftazidime, aztreonam and imipenem². Although reported to be sensitive to aminoglycosides, two clinical isolates in our laboratory have been resistant. Clinical responses suggest that tetracycline is efficacious¹. Immediate treatment with appropriate antibiotics is essential to try and prevent further dissemination of the organism and toxins. Once the toxins have lodged in tissue it is unlikely that antibiotic treatment will reverse tissue damage.

In Australia, the organism is likely to occur throughout the year in tropical and warmer temperate waters, and will be more prevalent in lower latitudes, such as Victoria, in summer. To our knowledge, studies on the distribution of *V. vulnificus* have not been performed.

Although few cases have been reported in Australia^{3,4,5} practitioners caring for patients at risk who are exposed to sea water during summer should be aware of this distinctive syndrome.

References

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AUSTRALIAN HIV SURVEILLANCE REPORT, VOLUME 7 NUMBER 11 (30 NOVEMBER 1991)

The National Centre in HIV Epidemiology and Clinical Research reports that as of 31 October 1991, a total of 15,396 diagnoses of HIV infection and 2974 cases of AIDS had been reported in Australia. For the most recent period, 1 October to 31 October 1991, 29 new cases of AIDS and 78 new diagnoses of HIV infection were reported.

The following tables provide more detailed information on a State/Territory basis (Tables 1 and 2).

The cumulative figures are subject to retrospective revision, so there may be discrepancies between the

number of new cases for the reporting month and the increment in the cumulative figure from the previous report.

Correction

Please note that when the *Australian HIV Surveillance Report* was last reproduced in *CDI*(15:468-9), the headings on Table 3 were incorrect. They should have read 'September 1991' instead of 'Cases' and 'Cumulative to 30 September 1991' instead of 'Deaths'.

Table 1. New diagnoses of AIDS and deaths from AIDS occurring during the period 1 October to 31 October 1991, and cumulative to 31 October 1991, by sex and State/Territory in which diagnosis was made*

| State/ Territory | October 1991 | | Cumulative to 31 October 1991 | | | | | |
|---------------------|-----------------------------|------------------------------|-------------------------------|-----------|-------------|-------------|-----------|-------------|
| | Total Cases ¹ | Total Deaths ¹ | Cases | | | Deaths | | |
| | | | Male | Female | Total | Male | Female | Total |
| ACT | 0 | 1 | 36 | 1 | 37 | 23 | 1 | 24 |
| NSW ² | 7 | 14 | 1736 | 52 | 1790 | 1120 | 35 | 1155 |
| NT | 0 | 0 | 9 | 0 | 9 | 3 | 0 | 3 |
| Qld | 2 | 0 | 228 | 9 | 237 | 151 | 7 | 158 |
| SA | 6 | 3 | 116 | 5 | 121 | 59 | 1 | 60 |
| Tas | 0 | 0 | 14 | 1 | 15 | 9 | 1 | 10 |
| Vic ³ | 8 | 8 | 610 | 13 | 624 | 390 | 6 | 396 |
| WA | 6 | 1 | 133 | 8 | 141 | 80 | 3 | 83 |
| Total | 29 | 27 | 2882 | 89 | 2974 | 1835 | 54 | 1889 |

1. All males unless otherwise specified.

2. Cumulative cases of AIDS for NSW includes 2 persons whose sex was reported as transsexual.

3. Cumulative cases of AIDS for Victoria includes 1 person whose sex was reported as transsexual.

Table 2. Number of new diagnoses of HIV infection in the period 1 October to 31 October 1991 and cumulative diagnoses since the introduction of HIV antibody testing to 31 October 1991, by sex and State/Territory

| State/ Territory | October 1991 | Cumulative to 31 October 1991 | | | |
|--------------------------|--------------------|-------------------------------|------------|------------------|--------------|
| | Total ¹ | Male | Female | Sex not reported | Total |
| ACT | 0 | 18 | 0 | 97 | 115 |
| NSW ² | 35 | 7962 | 407 | 1992 | 10361 |
| NT | 0 | 57 | 6 | 0 | 63 |
| Qld | 20 | 1107 | 46 | 0 | 1153 |
| SA ³ | 3 | 338 | 28 | 0 | 366 |
| Tas | 0 | 52 | 3 | 0 | 55 |
| Vic ⁴ | 16 | 2477 | 92 | 73 | 2642 |
| WA | 4 | 609 | 32 | 0 | 641 |
| Total⁵ | 78 | 12620 | 614 | 2162 | 15396 |

1. All males unless otherwise specified.

2. Total for October for NSW includes 8 persons whose sex was not reported and 1 person whose sex was reported as transsexual. Cumulative total for persons whose sex was not reported includes 4 persons whose sex was reported as transsexual.

3. Cumulative total for SA does not include new diagnoses during the period 18 May 1990 - 9 September 1991.

4. Total for October for Victoria includes 1 female.

5. Total for Australia for October includes 1 female, 8 persons whose sex was not reported, and 1 person whose sex was reported as transsexual. Cumulative total for persons whose sex was not reported includes 10 persons whose sex was reported as transsexual.

HIV INFECTIONS IN AUSTRALIA: DISTRIBUTIONS BY AGE AND SEX AND BY EXPOSURE CATEGORY

(Based on data published in *Australian HIV Surveillance Report 1991*;7(S4):14,17)

The National Centre in HIV Epidemiology and Clinical Research has compiled the following data on exposure category and age and sex distribution of persons diagnosed with HIV in Australia.

As at 30 September 1991, in States and Territories other than New South Wales, 72% of cases had male homosexual/bisexual contact, 4% had heterosexual contact and 4.7% had injecting drug use as the recorded exposure category. A total of 5.3% had

'haemophilia/coagulation disorder' or 'receipt of blood transfusion, blood components or tissue': 4.5% of cases in adults/adolescents and 78% of cases in children (Table 1).

Of the total of 15,254 cases diagnosed to the end of September in Australia, 12,507 (82.0%) were known to be in males. Nearly 27% of cases were known to have occurred in persons in the age group 20 to 29 years, and 25.6% in the age group 30 to 39 years (Table 2).

Table 1. Number of new diagnoses of HIV infection (in States and Territories other than NSW), by sex and exposure category, cumulative to 30 September 1991 and for two previous calendar intervals.

| EXPOSURE CATEGORY | 1 Oct 90 - 31 Mar 91 ¹ | | 1 Apr 91 - 30 Sep 91 ² | | Cumulative to 30 September 91 ³ | | | |
|---|--------------------------------------|-----------|--------------------------------------|-----------|--|------------|-------------|-------------|
| | Male | Female | Male | Female | Male | Female | Total | % |
| Adults/adolescents (13 years and older at diagnosis) | | | | | | | | |
| Male homosexual/bisexual contact | 235 | - | 168 | - | 3520 | - | 3520 | 72.0 |
| Male homosexual/bisexual contact and ID use | 9 | - | 3 | - | 148 | - | 148 | 3.0 |
| ID use (female and heterosexual male) | 13 | 3 | 9 | 2 | 169 | 57 | 230 | 4.7 |
| Heterosexual contact: | 8 | 12 | 16 | 7 | 113 | 83 | 197 | 4.0 |
| Sex with ID user | 0 | 0 | 1 | 1 | 5 | 3 | 8 | |
| Sex with bisexual male | - | 2 | - | 1 | - | 10 | 10 | |
| From Pattern-II country | 1 | 0 | 2 | 1 | 11 | 3 | 14 | |
| Sex with person from Pattern-II country | 0 | 2 | 2 | 0 | 2 | 4 | 6 | |
| Sex with person with haemophilia | 0 | 0 | 0 | 0 | 0 | 2 | 2 | |
| Sex with HIV-infected person, exposure not specified | 0 | 1 | 2 | 0 | 4 | 1 | 5 | |
| Not further specified | 7 | 7 | 9 | 4 | 91 | 60 | 152 | |
| Haemophilia/coagulation disorder | 0 | 0 | 1 | 0 | 154 | 4 | 158 | 3.3 |
| Receipt of blood transfusion, blood components, or tissue | 3 | 0 | 3 | 0 | 42 | 18 | 61 | 1.3 |
| Other/undetermined | 36 | 1 | 42 | 5 | 432 | 37 | 529 | 10.8 |
| Total Adults/Adolescents | 304 | 16 | 242 | 14 | 4578 | 199 | 4843 | 99.1 |

| Children (under 13 years at diagnosis of HIV) | | | | | | | | |
|---|-----|----|-----|----|------|-----|------|-----|
| Mother with/at risk for HIV infection | 0 | 1 | 0 | 0 | 3 | 4 | 7 | 0.1 |
| Haemophilia/coagulation disorder | 0 | 0 | 0 | 0 | 23 | 0 | 23 | 0.5 |
| Receipt of blood transfusion, blood components, or tissue | 1 | 0 | 0 | 0 | 10 | 1 | 12 | 0.2 |
| Other/undetermined | 1 | 0 | 0 | 0 | 2 | 1 | 3 | 0.1 |
| Total Children ⁴ | 2 | 1 | 0 | 0 | 38 | 6 | 45 | 0.9 |
| TOTAL ⁵ | 306 | 17 | 242 | 14 | 4616 | 205 | 4985 | 100 |

1. For the calendar period 1 October 1990 - 31 March 1991, sex was not reported for 2 persons. Exposure to HIV was attributed to heterosexual contact (not further specified) in 1 case and to injecting drug use in the other case.
2. For the calendar period 1 April 1991 - 30 September 1991, sex was not reported for 3 persons. Exposure to HIV was attributed to receipt of blood transfusion, blood components, or tissue in 1 case, and other/undetermined in 2 cases.
3. The cumulative total for adults/adolescents includes 66 persons whose sex was not reported. Exposure to HIV was attributed to injecting drug use in 4 cases, heterosexual contact (not further specified) in 1 case, receipt of blood transfusion, blood components or tissue in 1 case and other/undetermined in 60 cases.
4. Cumulative total for children includes 1 person whose sex was not reported. Exposure to HIV was attributed to receipt of blood transfusion, blood components, or tissue.
5. Cumulative total includes 67 persons whose sex was not reported, and 97 persons whose sex and exposure category were not reported.

Table 2. Number of new diagnoses of HIV infection by sex and age group, cumulative to 30 September 1991 and for two previous calendar intervals

| AGE GROUP (YEARS) | 1 Oct 90 - 31 Mar 91 | | 1 Apr 91 - 30 Sep 91 | | Cumulative to 30 Sep 91 | | | |
|--------------------|----------------------|--------|----------------------|--------|-------------------------|--------|--------------------|------|
| | Male | Female | Male | Female | Male | Female | Total ¹ | % |
| 0 - 2 | 3 | 2 | 1 | 2 | 22 | 9 | 33 | 0.2 |
| 3 - 12 | 2 | 0 | 2 | 0 | 56 | 4 | 62 | 0.4 |
| 0 - 12 | 5 | 2 | 3 | 2 | 78 | 13 | 95 | 0.6 |
| 13 - 19 | 9 | 0 | 10 | 1 | 250 | 29 | 288 | 1.9 |
| 20 - 29 | 230 | 18 | 213 | 14 | 3793 | 211 | 4105 | 26.9 |
| 30 - 39 | 208 | 15 | 161 | 6 | 3696 | 115 | 3909 | 25.6 |
| 40 - 49 | 110 | 4 | 101 | 7 | 1626 | 38 | 1697 | 11.1 |
| 50 - 59 | 36 | 1 | 29 | 2 | 459 | 15 | 480 | 3.2 |
| 60 + | 11 | 1 | 5 | 0 | 124 | 31 | 156 | 1.0 |
| Unknown | 47 | 12 | 38 | 2 | 2481 | 158 | 4524 | 29.7 |
| TOTAL ¹ | 656 | 54 | 560 | 34 | 12507 | 610 | 15254 | 100 |

1. Totals include 2040 people whose sex was not reported and 97 persons whose sex and age group were not reported.

OVERSEAS BRIEFS

In the last four weeks, the following information regarding cholera and influenza has been supplied by the World Health Organization and by the Institut Pasteur, Paris.

Cholera Update

In Africa, cases of cholera were reported in November and December from Mozambique, Nigeria and Zambia. No newly infected areas were reported.

In the Americas, cases were reported from Bolivia, Brazil, Colombia, Ecuador, El Salvador, Guatemala, Mexico, Panama and Peru. The Amapa, Rondonia and Para States of Brazil were recently declared infected.

Influenza in the Northern Hemisphere Update

Influenza continues to spread in North America and in Europe. By the end of December in the United States, there had been widespread or regional activity in 28 States (East, Middle, West and Alaska) and influenza A had been laboratory confirmed in 47 States. Influenza A(H3N2) predominates but there is influenza A(H1N1) activity as well.

Influenza activity in Europe is mainly in sporadic cases. Influenza A(H3N2) predominates and has been detected in France, Germany, Greece, Italy, Netherlands, Switzerland and the United Kingdom. There has also

been influenza A activity in Finland, Portugal and Sweden and unspecified influenza in Bulgaria.

Influenza A(H3N2) and influenza B were detected in the Republic of Korea, where there were local outbreaks in Seoul at the end of November.

Influenza A was also detected in Malaysia in October and in Brazil in September-October

COMMUNICABLE DISEASES SURVEILLANCE

The laboratory reports published in this issue of *CDI* (pages 19 to 22) are for a 4 week reporting period (4 December to 31 December, 1991), rather than for the usual 2 week period.

- There was a total of only 24 reports of **influenza**. Among the 15 reports of **influenza B** was a four year old female who had CNS symptoms and had a high complement fixation titre to the virus in a CSF sample. There were 2 reports from children in the Northern Territory: one from Alice Springs in September and the other from Ernabella in October. The **influenza A** reports included 4 males aged 65 years or more.
- There were 54 reports of *Mycoplasma pneumoniae* infection: 20 from Western Australia, 15 from New South Wales, 5 from South Australia and 14 from Victoria. Cardiovascular symptoms were reported for one patient and fitting was reported for another.
- Fifty-three reports of **parainfluenza type 3** were received. Sixteen reports were from Queensland laboratories, 15 from New South Wales, 5 from Western Australia and 5 from South Australia. CNS symptoms were reported for a 19 year old male patient from whose CSF the virus was isolated.
- A further 21 cases of **measles** were reported, bringing the total for the year to 247. One identification was a 12 year old female with SSPE. Her CSF had a high complement fixation titre to the virus. Thirteen of the reports were from South Australia.
- Three reports of **mumps** virus were received, all from a Sydney laboratory.
- There were 35 reports of **rubella**. One report was of a congenitally infected 2 day old male who had IgM to the virus. The infant also had disseminated herpes simplex infection and died at a few days of age. His 31 year old mother was also rubella IgM positive. One other infant, a male aged 1 month, had IgM to rubella (no clinical details supplied) and there were 4 patients who were females of child-bearing age (22 years, 29 years, 31 years and 37 years).
- There were 271 reports of **herpes virus type 1**, 332 of **herpes virus type 2** and 62 of **untyped herpes virus**. Included were 2 cases of encephalitis caused by untyped virus (a 6 year old female and a 13 year old male), 3 cases of congenital herpes (the one mentioned above who also had congenital rubella infection, a two month old male from whose urine type 1 virus was isolated, and another infant who had

type 2 virus), and three cases in pregnant women (33 weeks pregnant, type 1, 34 weeks pregnant, type 2, and 38 weeks pregnant, type 2).

- **Herpes virus type 6** was reported from one patient, a 35 year old male. This was only the second report of this virus for 1991, and only the fourth report ever received by the *CDI* Laboratory Reporting Schemes.
- There were 50 reports of **varicella zoster virus**, which brought the total for 1991 to 486, the highest yearly total ever recorded in the Schemes for this virus. The reports included 17 from New South Wales, and 11 each from Victoria and Western Australia. Ramsay Hunt Syndrome was reported for one patient, a 33 year old female.
- There were 165 reports of **cytomegalovirus** infection. Included were one 29 year old male with encephalitis, 2 patients with cardiovascular symptoms, 8 congenitally infected patients, 2 pregnant women (one 33 weeks pregnant, period not stated for the other) and one 39 year old female who had recently had her pregnancy terminated.
- Few reports of **Ross River virus** have been received so far this season. This period, there were 9 from Western Australia, 2 from New South Wales, and 6 from Queensland: 2 from Rockhampton, and 1 each from Brisbane, Darling Downs, Maryborough and Western Queensland.

In Western Australia, cases notified to the WA Department of Health in October and November all had exposure to mosquitoes in the Mandurah-Bunbury district south of Perth. The above average rainfall which fell on the South West of Western Australia during the winter of 1991 may have led to some vector activity and transmission in the spring and early summer, however, tidal conditions are unlikely to favour the breeding of salt marsh mosquito vectors to the same extent as occurred during the outbreak in 1988-89, so major outbreaks are not expected this year¹.

- A case of **Stratford virus** infection was reported by the State Health Laboratory (SHL), Brisbane. The patient was a grazier/stationhand from Cairns who had specific IgM. The reported syndrome was gastrointestinal disease. A separate code has been allocated for this virus, as it is likely to be identified more often in the future, with the development of new assays for the Australian arboviruses by the SHL.

- **Dengue** was reported for two patients. One had recently travelled to South-east Asia.
- There were five more reports of **echovirus type 17**, 3 from New South Wales and 2 from the Australian Capital Territory. For one female and a 33 year old male, meningitis was the reported syndrome and the virus was isolated from CSF.
- **Hepatitis A** was reported on 33 occasions. Sixteen of the 25 patients with known sex and age were adult males.
- A total of 123 reports of **hepatitis C** were received. One patient was a newborn male whose cord blood contained antibodies to the virus. Haemophilia was recorded as a risk factor for 5 patients, a history of alcohol abuse for 2 patients and a history of injecting drug use for 4 patients.
- **Papovavirus** was identified at Fairfield Hospital, Melbourne, in urine samples of 3 patients. Cell cultures used to test the urine were found to be positive for the virus using DNA hybridisation methods and a probe derived from BK polyoma virus DNA. The patients were HIV-positive and had progressive multifocal leucoencephalopathy, a syndrome which is associated with this virus and occurs in AIDS patients more commonly than in other immunocompromised persons.
- Nine cases of **coxsackievirus type B5** infection were reported. There were 2 from the Australian Capital Territory and 7 from Victoria. Five of the Victorian cases were meningitis (females aged 9 days and 30 years, and males aged 3 months, 30 years and 40 years).
- A report of a congenital infection with **coxsackievirus type B4** was received from a Sydney laboratory. The virus was isolated from a throat swab of the newborn male who had hepatic symptoms.
- One case of **enterovirus type 71** meningitis was reported by a Melbourne laboratory. The patient was a 1 year old male.
- There was one report of **Yersinia enterocolitica** infection. The patient was a male in the age group 25 to 44 years, and the reported symptom was muscle/joint disease. Specific IgM, IgG and IgA were detected by ELISA.
- **Adenovirus type 21** was reported for the first time since 1989, and for only the seventh time since 1982. The virus was isolated from an eye specimen in A549 cells by the Institute of Medical and Veterinary Science, Adelaide. The patient was a male aged 43 years with eye disease.
- Two reports of **adenovirus type 40** were received. One was a 33 year old male with gastrointestinal symptoms, reported from South Australia. The other was a 3 month old female, also with gastrointestinal symptoms, reported from a Sydney laboratory. These are only the third and fourth reports of this virus received by the Schemes. The first two also had gastrointestinal disease as the reported symptom, and were reported in July 1984 and March 1991, respectively.
- One further report of **HTLV-1** was received, bringing the total for 1991 to 8. The patient was a 22 year old female.
- Eight reports of **Haemophilus influenzae type b** were received. The symptoms reported were meningitis and septicaemia (21 month old female), meningitis (a male and 2 females in the age group 1 to 12 months), septicaemia and fever (a male aged 1 to 4 years) and osteomyelitis (a male aged 1 to 12 months).
- There was one report of **Neisseria meningitidis** meningitis reported, from a Queensland laboratory. The organism was isolated from a CSF sample. The patient was a 10 month old male who recovered quickly with antibiotic treatment.
- One case of **Haemophilus ducreyi** (chancroid) was reported. The organism was isolated from a clinical specimen in November and was the first time such an isolation was achieved at the Brisbane Special Clinic. The method of isolation and confirmation was as recommended by the Centers for Disease Control (CDC), Atlanta, USA. The patient was a 35 year old Caucasian male who presented with painful penile ulcers, after recently returning from Myanmar (Burma). His contact had been a casual one with an unknown female.
(Donna Versteeg, Brisbane Special Clinic)
- One case of **Toxoplasma gondii** was reported in a female in the age group 15 to 24 years. IgM was detected during antenatal screening.

Multi-State Outbreak of Q fever

An outbreak of Q fever centred on an abattoir in Naracoorte (in the south-east of South Australia) has involved persons who live in South Australia and Victoria. Seven cases are known to have occurred between October and 6 January, and a report of one unconfirmed case has also been received.

Although such outbreaks are usually associated with a new source of beasts, the slaughtering of animals not usually handled at the abattoir or some major change in the plant itself, no such change is evident in this instance. The plant involved processes cattle, drawn from the west of Victoria and the south-east of South Australia.

Attempts are being made to obtain Q fever vaccine to enable the workforce to be immunised. In South Australia, the use of Q fever vaccine has been extremely effective in reducing the unnecessary occupation-related illness and has reduced workers' compensation premiums payable by employers.
(Scott Cameron, SA Health Commission)

Supplies of Q fever vaccine are limited at the moment. Further information on its availability can be obtained from Izabella Kobylanski at Commonwealth Serum Laboratories (phone 03 389 1388).

There were 13 reports of Q fever during this reporting period: 8 from New South Wales and 5 from Queensland. One patient was described as a meatworker. There have been 226 cases of Q fever reported so far for 1991 in the CDI Laboratory Reporting Schemes, about the same number as those recorded for the last few years.

National Notifiable Diseases Reports

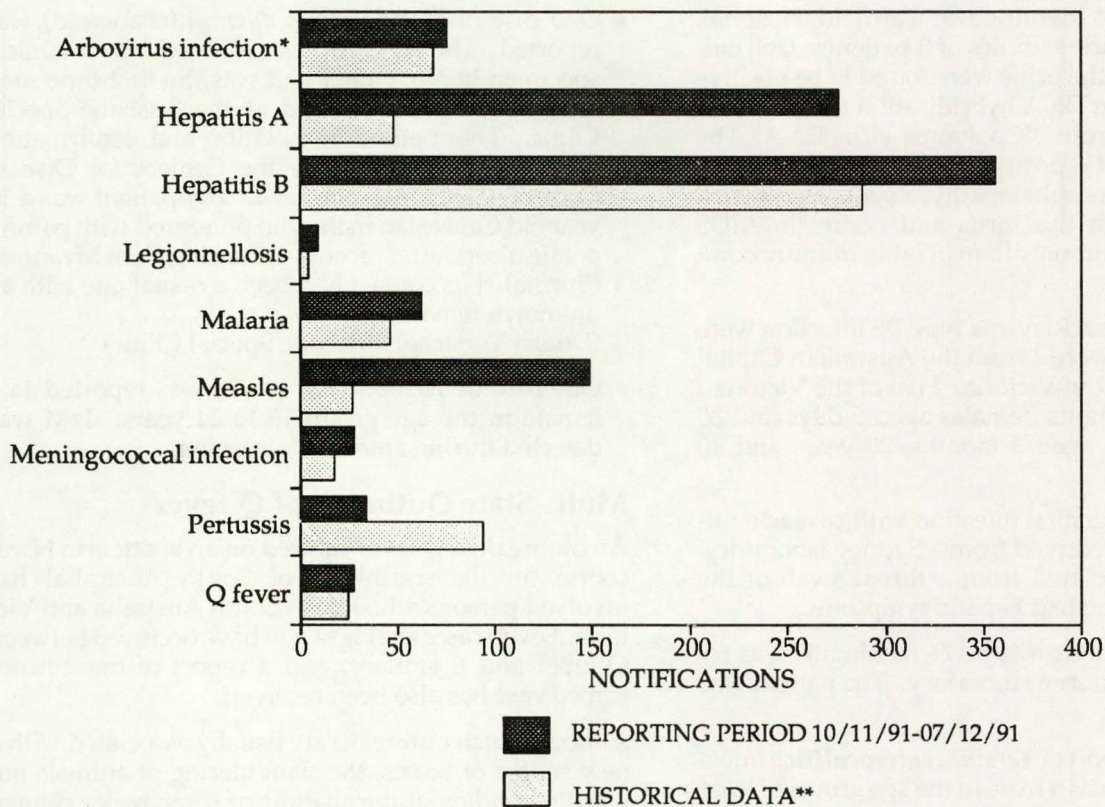
From this issue, the graph of selected National Notifiable Diseases Reports for the current reporting period

and comparable historical data is presented in this section of *CDI* (Figure).

References

1. Ross River virus infection (Epidemic Polyarthriti-
tis). *Western Australian Notifiable Diseases Bulletin*
1991;1(10):5.

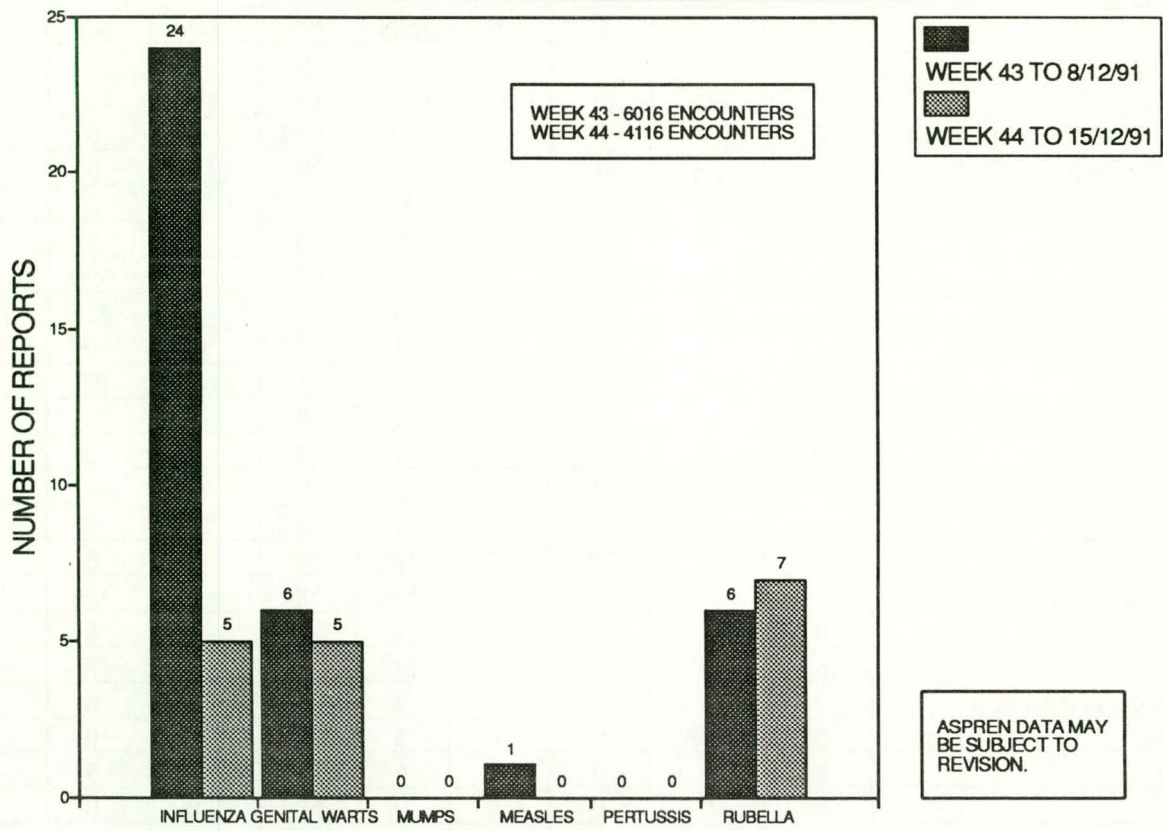
Figure. National Notifiable Diseases Reports, 10 November 1991 to 7 December 1991, and Historical Data



*Includes Ross River virus and Dengue

**The Historical data are the averages of the number of notifications in 6 previous 4-week reporting periods: the corresponding periods of the last 2 years and the periods immediately preceding and following those.

AUSTRALIAN SENTINEL PRACTICE RESEARCH NETWORK 1991



National Notifiable Diseases Reports 10/11/91 - 07/12/91

| DISEASES | ACT | NSW** | NT | QLD | SA | TAS | VIC | WA* | TOTAL |
|-----------------------------------|----------------|------------------|-----------------|-----|------------------|-----------------|------------------|-----------------|-------|
| Arbovirus Infections (NEC) | 0 | 11 ¹² | NN | 2 | 0 ¹² | 0 | 0 | 0 | 13 |
| Ross River Virus Infection | NN | NN | 3 | 20 | NN | NN | 7 | 32 | 62 |
| Dengue | NN | NN | 0 | 0 | NN | NN | NN | NN | 0 |
| Brucellosis | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 4 |
| Campylobacteriosis | 1 | NN ¹³ | 20 | 331 | 135 | 95 | 205 | 146 | 933 |
| Chancroid | 0 | NN | 0 | 0 | NN | NN | 0 | 0 | 0 |
| Chlamydial infection (NEC) | 2 ¹ | NN | 51 | 167 | 0 ¹ | 28 | 0 | 0 ¹ | 248 |
| Cholera | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diphtheria | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Donovanosis | 0 | NN | 3 | 0 | NN | NN | 0 | NN | 3 |
| Gonococcal infection ² | 2 | 42 | 66 | 56 | 0 | 0 | 0 | 83 | 249 |
| Haemophilus influenzae b | 1 | 33 | NN | 8 | 0 ⁵ | 0 ⁸ | 18 ¹⁰ | NN | 60 |
| HIV infection ¹⁴ | 3 ³ | 0 | 0 | 0 | 2 | 1 | 0 | 10 ⁶ | 16 |
| Hydatid infection | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 5 |
| Legionellosis | NN | 0 | 0 | 0 | 3 | 0 | 7 | 0 | 10 |
| Leprosy | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Leptospirosis | 0 | 4 | 0 | 0 | 0 | 0 | 24 | 0 | 28 |
| Listeriosis | NN | 1 | NN | 1 | NN | 0 | 0 | 0 | 2 |
| Lymphogranuloma venereum | 0 | NN | 0 | 0 | NN | NN | 0 | NN | 0 |
| Malaria | 0 | 21 | 7 | 22 | 2 | 0 | 4 | 6 | 62 |
| Measles | 16 | 45 | 0 | 29 | 18 | 0 | 33 | 7 | 148 |
| Meningococcal infection | 0 | 13 | 0 | 0 | 2 | 0 | 7 | 6 | 28 |
| Ornithosis | 0 | NN | 0 | 0 | 3 | 0 | 20 | 0 | 23 |
| Pertussis | 1 | 5 | 0 | 11 | 6 | 0 | 6 | 5 | 34 |
| Plague | 0 | 0 | 0 | 0 | 0 | NN | 0 | 0 | 0 |
| Poliomyelitis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Q fever | 0 | 10 | 0 | 16 | 0 | 0 | 2 | 0 | 28 |
| Rabies | NN | NN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rubella ⁴ | 2 | 8 | 0 ^{4B} | 13 | 12 ^{4A} | 0 ^{4B} | 6 ^{4A} | 0 ^{4B} | 41 |
| Salmonella (NEC) | 5 | 78 | 32 | 115 | 43 | 4 | 71 | 71 | 419 |
| Shigellosis | 0 | NN ¹³ | 29 | 8 | 7 | 0 | 2 | 24 | 70 |
| Syphilis | 0 | 38 | 53 | 55 | 0 | 1 | 0 | 1 | 148 |
| Tetanus | 0 | 0 | 0 | NN | 0 | 0 | 0 | 0 | 0 |
| Tuberculosis | 3 | 60 ¹⁵ | 1 | 16 | 3 | 0 | 0 | 7 | 90 |
| Typhoid | 0 | 4 ¹¹ | 0 | 3 | 1 | 0 | 1 ¹¹ | 0 | 9 |
| Viral haemorrhagic fever | NN | 0 | 0 | 0 | 0 ⁷ | 0 ⁹ | 0 | 0 ⁷ | 0 |
| Viral hepatitis (NEC) | NN | 1 | 0 | 53 | 0 | 0 | 2 | NN | 56 |
| Hepatitis A | 4 | 151 | 6 | 17 | 11 | 1 | 73 | 14 | 277 |
| Hepatitis B | 4 | 97 | 2 | 62 | 1 | 4 | 152 | 39 | 361 |
| Hepatitis C | 9 | 79 | NN | 111 | NN | 2 | 135 | NN | 336 |
| Yellow fever | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Yersiniosis | NN | NN ¹³ | 0 | 31 | 8 | 0 | 0 | 0 | 39 |

1. Trachoma only

2. In NT, Qld, SA and Vic, gonococcal ophthalmia neonatorum is also notifiable; numbers may include both

3. AIDS only 4. Rubella only unless otherwise specified

4A. Rubella and CRS 4B. CRS only

5. Only as 'bacterial meningitis'; meningococcal infection is separately notified

6. AIDS, ARC and LAS only

7. Marburg, Ebola and Lassa fevers only

8. Only as 'non-meningococcal meningitis'

9. Marburg, Ebola, Crimean-Congo and Lassa fevers only

10. Epiglottitis and meningitis only

11. Typhoid and paratyphoid included.

12. Includes Ross River Virus and Dengue

13. Only as 'foodborne disease' or as 'gastroenteritis in an institution'

14. More complete data on new HIV infections are presented in the monthly Australian HIV Surveillance Reports

15. includes mycobacterial, atypical and mycobacterial infections (NEC).

NEC Not Elsewhere Classified

NN Not notifiable

* Data for the period 10/11/91 - 28/12/91

** Data for November 1991

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 4/12/91 TO 31/12/91

NSW: ICPHR; PHH/POW; RACH; ST GEORGE HOSP, KOGARAH; ROYAL NEWCASTLE HOSP; TAMWRTH LAB.

VIC: FAIRFIELD; RCH; MDU, UNI MELB.

QLD: STATE LAB, BRIS; TOOWOOMBA PATH LAB; ROYAL BRIS HOSP; DR TB LYNCH, PATHOLOGIST, ROCKHAMPTON.

WA: STATE LAB, PERTH; PMH.

SA: IMVS.

TAS: ROYAL HOBART HOSP; DIAGNOSTIC SERVICES, LAUNCESTON; LAUNCESTON GEN HOSP; DIAGNOSTIC SERVICES, HOBART; HOBART PATH; MERSEY GEN HOSP, LATROBE.

ACT: WVH.

| | NSW | VIC | QLD | WA | SA | TAS | ACT | TOTAL |
|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-------|
| 0100 ADENOVIRUS NOT TYPED | 21 | 1 | 24 | 18 | 16 | 0 | 0 | 80 |
| 0101 ADENOVIRUS TYPE 1 | 3 | 4 | 0 | 0 | 1 | 0 | 0 | 8 |
| 0102 ADENOVIRUS TYPE 2 | 12 | 1 | 0 | 0 | 1 | 0 | 0 | 14 |
| 0103 ADENOVIRUS TYPE 3 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 5 |
| 0104 ADENOVIRUS TYPE 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0105 ADENOVIRUS TYPE 5 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 4 |
| 0106 ADENOVIRUS TYPE 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0107 ADENOVIRUS TYPE 7 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0108 ADENOVIRUS TYPE 8 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0110 ADENOVIRUS TYPE 10 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0111 ADENOVIRUS TYPE 11 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0121 ADENOVIRUS TYPE 21 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0126 ADENOVIRUS TYPE 26 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0130 ADENOVIRUS TYPE 30 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0131 ADENOVIRUS TYPE 31 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0135 ADENOVIRUS TYPE 35 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0140 ADENOVIRUS TYPE 40 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0199 ADENOVIRUS TYPING PENDING | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 5 |
| 0201 INFLUENZA A VIRUS | 0 | 0 | 1 | 6 | 2 | 0 | 0 | 9 |
| 0203 INFLUENZA B VIRUS | 3 | 0 | 10 | 2 | 0 | 0 | 0 | 15 |
| 0301 PARAINFLUENZA VIRUS TYPE 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 3 |
| 0302 PARAINFLUENZA VIRUS TYPE 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| 0303 PARAINFLUENZA VIRUS TYPE 3 | 17 | 10 | 16 | 5 | 5 | 0 | 0 | 53 |
| 0399 PARAINFLUENZA VIRUS TYPING PEN | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| 0400 RESPIRATORY SYNCYTIAL VIRUS (R | 10 | 10 | 4 | 8 | 4 | 11 | 2 | 49 |
| 0500 RHINOVIRUS (ALL TYPES) | 6 | 36 | 11 | 2 | 4 | 0 | 0 | 59 |
| 0600 MYCOPLASMA PNEUMONIAE | 15 | 14 | 0 | 20 | 5 | 0 | 0 | 54 |
| 0700 ORNITHOSIS-PSITTACOSIS | 3 | 8 | 1 | 0 | 0 | 0 | 1 | 13 |
| 0802 COXSACKIEVIRUS A2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0809 COXSACKIEVIRUS A9 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 3 |
| 0816 COXSACKIEVIRUS A16 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0901 COXSACKIEVIRUS B1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0903 COXSACKIEVIRUS B3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 0904 COXSACKIEVIRUS B4 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 0905 COXSACKIEVIRUS B5 | 0 | 7 | 0 | 0 | 0 | 0 | 2 | 9 |
| 1011 ECHOVIRUS TYPE 11 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1016 ECHOVIRUS TYPE 16 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1017 ECHOVIRUS TYPE 17 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 5 |
| 1021 ECHOVIRUS TYPE 21 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1032 ECHOVIRUS TYPE 32 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1100 POLIOVIRUS NOT TYPED | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 1101 POLIOVIRUS TYPE 1 (UNCHARACTER | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1102 POLIOVIRUS TYPE 2 (UNCHARACTER | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 1103 POLIOVIRUS TYPE 3 (UNCHARACTER | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| 1200 MUMPS VIRUS | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1300 HERPES VIRUS GROUP - NOT TYPED | 0 | 3 | 0 | 3 | 2 | 0 | 0 | 8 |
| 1301 HERPES SIMPLEX VIRUS - NOT TYP | 41 | 1 | 4 | 3 | 0 | 0 | 11 | 60 |
| 1302 EPSTEIN-BARR VIRUS (EB VIRUS) | 33 | 5 | 39 | 3 | 36 | 0 | 1 | 117 |
| 1303 VARICELLA-ZOSTER VIRUS | 17 | 11 | 3 | 11 | 6 | 2 | 0 | 50 |
| 1306 HERPES SIMPLEX TYPE 1 | 15 | 63 | 86 | 54 | 51 | 0 | 2 | 271 |
| 1307 HERPES SIMPLEX TYPE 2 | 70 | 61 | 63 | 82 | 54 | 2 | 0 | 332 |
| 1366 HERPES VIRUS TYPE 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1399 HERPES VIRUS TYPING PENDING | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1401 COXIELLA BURNETII | 8 | 0 | 5 | 0 | 0 | 0 | 0 | 13 |
| 1502 PICORNA VIRUS - NOT TYPED = EN | 5 | 0 | 62 | 6 | 0 | 0 | 0 | 73 |
| 1514 MOLLUSCUM CONTAGIOSUM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 1515 CONTAGIOUS PUSTULAR DERMATITIS | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1521 MEASLES VIRUS | 1 | 5 | 0 | 1 | 13 | 0 | 1 | 21 |
| 1522 RUBELLA VIRUS | 6 | 2 | 5 | 9 | 10 | 3 | 0 | 35 |
| 1532 HEPATITIS B ANTIGEN | 82 | 16 | 31 | 27 | 24 | 0 | 4 | 184 |
| 1533 HEPATITIS B ANTIBODY | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1535 HEPATITIS A ANTIBODY | 22 | 1 | 0 | 8 | 1 | 0 | 1 | 33 |
| 1536 HEPATITIS C VIRUS | 2 | 0 | 1 | 72 | 29 | 2 | 17 | 123 |
| 1541 CHLAMYDIA TRACHOMATIS - UNSPEC | 45 | 25 | 48 | 75 | 57 | 2 | 4 | 256 |
| 1542 CHLAMYDIA TRACHOMATIS - A-K | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 1555 PPAPOVAVIRUS GROUP (PAPILLOMA - | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 5 |
| 1556 CMV - CYTOMEGALOVIRUS | 29 | 56 | 38 | 23 | 12 | 7 | 0 | 165 |
| 1563 CORONAVIRUS | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 1564 ROTAVIRUS | 34 | 15 | 20 | 28 | 38 | 5 | 20 | 160 |
| 1565 CALICI VIRUS | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1571 ENTEROVIRUS TYPE 71 (BCR) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1599 ENTEROVIRUS TYPING PENDING | 3 | 13 | 0 | 0 | 0 | 0 | 0 | 16 |
| 1700 PARVOVIRUS | 1 | 7 | 0 | 0 | 0 | 1 | 0 | 9 |
| 9721 HTLV-1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 9906 BARMAN FOREST VIRUS | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 9908 STRATFORD VIRUS | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 9992 ROSS RIVER VIRUS | 2 | 0 | 6 | 9 | 0 | 0 | 0 | 17 |
| 9993 ASTROVIRUS | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9994 SMALL VIRUS (LIKE) PARTICLE | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 9995 DENGUE NOT TYPED | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| 9598 ARBOVIRUS GROUP B.(UNSPECIFIED) | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 558 | 410 | 484 | 487 | 376 | 37 | 69 | 2421 |

NOTE: DIRECT COMPARISON BETWEEN STATES IS NOT POSSIBLE SINCE:
 - SOME STATES HAVE MORE THAN ONE CONTRIBUTING LABORATORY; AND
 - INTERSTATE REFERRALS OCCUR REGULARLY.

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 222 TO 333

- 018 - MICROBIOLOGICAL DIAGNOSTIC UNIT, UNIVERSITY OF MELBOURNE (VIC)
- 019 - FAIRFIELD HOSPITAL, MELBOURNE (VIC)
- 065 - STATE HEALTH LABORATORY SERVICES, PERTH (WA)
- 066 - PRINCESS MARGARET HOSPITAL, PERTH (WA)
- 110 - INSTITUTE OF MEDICAL & VETERINARY SCIENCE, ADELAIDE (SA)
- 111 - ROYAL CHILDDRENS HOSPITAL, MELBOURNE (VIC)
- 112 - INSTITUTE OF CLINICAL PATHOLOGY & MEDICAL RESEARCH, WESTMEAD (NSW)
- 113 - PRINCE HENRY/PRINCE OF WALES HOSPITALS, SYDNEY (NSW)
- 114 - ROYAL ALEXANDRA HOSPITAL FOR CHILDREN, CAMPERDOWN (NSW)
- 115 - STATE HEALTH LABORATORY, BRISBANE (QLD)
- 116 - WODEN VALLEY HOSPITAL, GARRAN (ACT)
- 270 - TAMWOTH LAB, NEW ENGLAND PATHOLOGY (NSW)
- 400 - DR TB LYNCH, PATHOLOGIST, ROCKHAMPTON (QLD)
- RHH - ROYAL HOBART HOSPITAL (TAS)
- TPL - TOOWOOMBA PATHOLOGY LABORATORY (QLD)

| | 018 | 019 | 065 | 066 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 270 | 400 | RHH | TPL | TOTAL |
|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 0100 ADENOVIRUS NOT TYPED | 0 | 0 | 11 | 7 | 16 | 1 | 18 | 2 | 1 | 24 | 0 | 0 | 0 | 0 | 0 | 80 |
| C101 ADENOVIRUS TYPE 1 | 0 | 4 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 0102 ADENOVIRUS TYPE 2 | 0 | 1 | 0 | 0 | 1 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 0103 ADENOVIRUS TYPE 3 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 0104 ADENOVIRUS TYPE 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0105 ADENOVIRUS TYPE 5 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0106 ADENOVIRUS TYPE 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0107 ADENOVIRUS TYPE 7 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0108 ADENOVIRUS TYPE 8 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0110 ADENOVIRUS TYPE 10 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0111 ADENOVIRUS TYPE 11 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0121 ADENOVIRUS TYPE 21 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0126 ADENOVIRUS TYPE 26 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0130 ADENOVIRUS TYPE 30 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0131 ADENOVIRUS TYPE 31 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0135 ADENOVIRUS TYPE 35 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0140 ADENOVIRUS TYPE 40 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0199 ADENOVIRUS TYPING PENDING | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 0201 INFLUENZA A VIRUS | 0 | 0 | 6 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 9 |
| 0203 INFLUENZA B VIRUS | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 7 | 0 | 0 | 3 | 0 | 0 | 15 |
| 0301 PARAINFLUENZA VIRUS TYPE 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0302 PARAINFLUENZA VIRUS TYPE 2 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0303 PARAINFLUENZA VIRUS TYPE 3 | 0 | 2 | 5 | 0 | 5 | 8 | 12 | 3 | 2 | 16 | 0 | 0 | 0 | 0 | 0 | 53 |
| 0399 PARAINFLUENZA VIRUS TYPING PEN | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0400 RESPIRATORY SYNCYTIAL VIRUS (R | 0 | 7 | 1 | 7 | 4 | 3 | 2 | 2 | 2 | 4 | 2 | 4 | 0 | 11 | 0 | 49 |
| 0500 RHINOVIRUS (ALL TYPES) | 0 | 10 | 2 | 0 | 4 | 26 | 3 | 0 | 3 | 11 | 0 | 0 | 0 | 0 | 0 | 59 |
| 0600 MYCOPLASMA PNEUMONIAE | 0 | 11 | 17 | 3 | 5 | 3 | 10 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54 |
| 0700 ORNITHOSIS-PSITTACOSIS | 0 | 8 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 13 |
| 0802 COXSACKIEVIRUS A2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0809 COXSACKIEVIRUS A9 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0816 COXSACKIEVIRUS A16 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0901 COXSACKIEVIRUS B1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0903 COXSACKIEVIRUS B3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0904 COXSACKIEVIRUS B4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 0905 COXSACKIEVIRUS B5 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 9 |
| 1011 ECHOVIRUS TYPE 11 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1016 ECHOVIRUS TYPE 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1017 ECHOVIRUS TYPE 17 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 5 |
| 1021 ECHOVIRUS TYPE 21 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1032 ECHOVIRUS TYPE 32 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1100 POLIOVIRUS NOT TYPED | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 1101 POLIOVIRUS TYPE 1 (UNCHARACTER | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1102 POLIOVIRUS TYPE 2 (UNCHARACTER | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 1103 POLIOVIRUS TYPE 3 (UNCHARACTER | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 1200 MUMPS VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1300 HERPES VIRUS GROUP - NOT TYPED | 0 | 3 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 1301 HERPES SIMPLEX VIRUS - NOT TYP | 0 | 1 | 2 | 1 | 0 | 0 | 33 | 1 | 7 | 3 | 11 | 0 | 1 | 0 | 0 | 60 |
| 1302 EPSTEIN-BARR VIRUS (EB VIRUS) | 0 | 3 | 3 | 0 | 36 | 2 | 24 | 5 | 4 | 12 | 1 | 0 | 27 | 0 | 0 | 117 |
| 1303 VARICELLA-ZOSTER VIRUS | 0 | 11 | 10 | 1 | 6 | 0 | 16 | 1 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 50 |
| 1306 HERPES SIMPLEX TYPE 1 | 0 | 56 | 53 | 1 | 51 | 7 | 15 | 0 | 0 | 86 | 2 | 0 | 0 | 0 | 0 | 271 |
| 1307 HERPES SIMPLEX TYPE 2 | 0 | 61 | 82 | 0 | 54 | 0 | 70 | 0 | 0 | 63 | 0 | 0 | 2 | 0 | 0 | 332 |
| 1366 HERPES VIRUS TYPE 6 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1399 HERPES VIRUS TYPING PENDING | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1401 COXIELLA BURNETII | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 13 |
| 1502 PICORNA VIRUS - NOT TYPED = EN | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 5 | 0 | 62 | 0 | 0 | 0 | 0 | 0 | 73 |
| 1514 MOLLUSCUM CONTAGIOSUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1515 CONTAGIOUS PUSTULAR DERMATITIS | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1521 MEASLES VIRUS | 0 | 2 | 1 | 0 | 13 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 21 |
| 1522 RUBELLA VIRUS | 0 | 1 | 9 | 0 | 10 | 1 | 0 | 6 | 0 | 4 | 0 | 0 | 1 | 3 | 0 | 35 |
| 1532 HEPATITIS B ANTIGEN | 0 | 16 | 27 | 0 | 24 | 0 | 74 | 8 | 0 | 31 | 4 | 0 | 0 | 0 | 0 | 184 |
| 1533 HEPATITIS B ANTIBODY | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1535 HEPATITIS A ANTIBODY | 0 | 1 | 8 | 0 | 1 | 0 | 20 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 33 |
| 1536 HEPATITIS C VIRUS | 0 | 0 | 72 | 0 | 29 | 0 | 0 | 0 | 2 | 0 | 17 | 0 | 1 | 2 | 0 | 123 |
| 1541 CHLAMYDIA TRACHOMATIS - UNSPEC | 24 | 0 | 75 | 0 | 57 | 1 | 45 | 0 | 0 | 39 | 4 | 0 | 8 | 2 | 1 | 256 |
| 1542 CHLAMYDIA TRACHOMATIS - A-K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1555 PAPOVAVIRUS GROUP (PAPILLOMA - | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 1556 CMV - CYTOMEGALOVIRUS | 0 | 47 | 9 | 14 | 12 | 9 | 15 | 8 | 6 | 30 | 0 | 0 | 8 | 7 | 0 | 165 |
| 1563 CORONAVIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 1564 ROTAVIRUS | 0 | 1 | 2 | 26 | 38 | 14 | 9 | 6 | 3 | 0 | 20 | 16 | 20 | 5 | 0 | 160 |
| 1565 CALICI VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1571 ENTEROVIRUS TYPE 71 (BCR) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1599 ENTEROVIRUS TYPING PENDING | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| 1700 PARVOVIRUS | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9 |
| 9721 HTLV-1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9906 BARMAH FOREST VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9908 STRATFORD VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9992 ROSS RIVER VIRUS | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 0 | 2 | 0 | 0 | 17 |
| 9993 ASTROVIRUS | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9994 SMALL VIRUS (LIKE) PARTICLE | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 9995 DENGUE NOT TYPED | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 9998 ARBOVIRUS GROUP B. (UNSPECIFIED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 24 | 286 | 420 | 67 | 376 | 100 | 433 | 67 | 38 | 409 | 69 | 20 | 74 | 37 | 1 | 2421 |

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1

PERIOD 4/12/91 TO 31/12/91

- 1. CODE 00, 99 - NO ILL OR DATA
- 2. CODE 01, 02, 11, 12 - RESPIRATORY
- 3. CODE E3 - ENCEPHALITIS
- 4. CODE M3 - MENINGITIS
- 5. CODE 04 - PARALYSIS
- 6. CODE 05, 13 - CNS OTHER UNSPEC
- 7. CODE 07, 49 - GASTRO INTESTINAL
- 8. CODE 17, 47 - HEPATIC
- 9. CODE 19 ... - CVS
- 10. CODE 89 ... - URINARY TRACCT
- 11. CODE 06 ... - SKIN MUCOUS

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | TOTAL |
|-------------------------------------|-----|-----|---|----|---|---|-----|-----|---|----|-----|-------|
| 0100 ADENOVIRUS NOT TYPED | 2 | 18 | 0 | 0 | 0 | 0 | 44 | 1 | 0 | 1 | 0 | 66 |
| 0101 ADENOVIRUS TYPE 1 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 |
| 0102 ADENOVIRUS TYPE 2 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 13 |
| 0103 ADENOVIRUS TYPE 3 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 0105 ADENOVIRUS TYPE 5 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0106 ADENOVIRUS TYPE 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0107 ADENOVIRUS TYPE 7 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 0110 ADENOVIRUS TYPE 10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 |
| 0126 ADENOVIRUS TYPE 26 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0130 ADENOVIRUS TYPE 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0140 ADENOVIRUS TYPE 40 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 0199 ADENOVIRUS TYPING PENDING | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| 0201 INFLUENZA A VIRUS | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 0203 INFLUENZA B VIRUS | 4 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 8 |
| 0301 PARAINFLUENZA VIRUS TYPE 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0302 PARAINFLUENZA VIRUS TYPE 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0303 PARAINFLUENZA VIRUS TYPE 3 | 1 | 45 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 49 |
| 0399 PARAINFLUENZA VIRUS TYPING PEN | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0400 RESPIRATORY SYNCYTIAL VIRUS (R | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 |
| 0500 RHINOVIRUS (ALL TYPES) | 0 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 55 |
| 0600 MYCOPLASMA PNEUMONIAE | 4 | 41 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 48 |
| 0700 ORNITHOSIS-PSITTACOSIS | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 0802 COXSACKIEVIRUS A2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0809 COXSACKIEVIRUS A9 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 |
| 0816 COXSACKIEVIRUS A16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 0901 COXSACKIEVIRUS B1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0903 COXSACKIEVIRUS B3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0904 COXSACKIEVIRUS B4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 0905 COXSACKIEVIRUS B5 | 0 | 1 | 0 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 8 |
| 1017 ECHOVIRUS TYPE 17 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 5 |
| 1021 ECHOVIRUS TYPE 21 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 1032 ECHOVIRUS TYPE 32 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1100 POLIOVIRUS NOT TYPED | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 6 |
| 1101 POLIOVIRUS TYPE 1 (UNCHARACTER | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 1102 POLIOVIRUS TYPE 2 (UNCHARACTER | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 6 |
| 1103 POLIOVIRUS TYPE 3 (UNCHARACTER | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 |
| 1300 HERPES VIRUS GROUP - NOT TYPED | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 7 |
| 1301 HERPES SIMPLEX VIRUS - NOT TYP | 12 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 21 | 40 |
| 1302 EPSTEIN-BARR VIRUS (EB VIRUS) | 21 | 11 | 0 | 0 | 0 | 0 | 3 | 7 | 0 | 0 | 0 | 42 |
| 1303 VARICELLA-ZOSTER VIRUS | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 44 | 48 |
| 1306 HERPES SIMPLEX TYPE 1 | 7 | 14 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 142 | 164 |
| 1307 HERPES SIMPLEX TYPE 2 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 130 |
| 1399 HERPES VIRUS TYPING PENDING | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 1501 COXIELLA BURNETII | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 |
| 1502 PICORNA VIRUS - NOT TYPED = EN | 2 | 38 | 1 | 2 | 0 | 2 | 22 | 0 | 0 | 0 | 3 | 70 |
| 1515 CONTAGIOUS PUSTULAR DERMATITIS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 1521 MEASLES VIRUS | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 16 |
| 1522 RUBELLA VIRUS | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 27 |
| 1532 HEPATITIS B ANTIGEN | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 148 |
| 1533 HEPATITIS B ANTIBODY | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1535 HEPATITIS A ANTIBODY | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 30 |
| 1536 HEPATITIS C VIRUS | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 84 |
| 1541 CHLAMYDIA TRACHOMATIS - UNSPEC | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| 1555 PAPOVAVIRUS GROUP (PAPILLOMA - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1556 CMV - CYTOMEGALOVIRUS | 15 | 40 | 1 | 0 | 1 | 0 | 1 | 8 | 2 | 3 | 1 | 72 |
| 1563 CORONAVIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 5 |
| 1564 ROTAVIRUS | 11 | 2 | 0 | 0 | 0 | 0 | 144 | 0 | 0 | 0 | 1 | 158 |
| 1565 CALICI VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 |
| 1571 ENTEROVIRUS TYPE 71 (BCR) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1599 ENTEROVIRUS TYPING PENDING | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 6 |
| 1700 PARVOVIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 |
| 9701 HIV-1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 9721 HTLV-1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9906 BARMAN FOREST VIRUS | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9908 STRATFORD VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 9992 ROSS RIVER VIRUS | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 |
| 9993 ASTROVIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 9994 SMALL VIRUS (LIKE) PARTICLE | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 9995 DENGUE NOT TYPED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 9998 ARBOVIRUS GROUP B.(UNSPECIFIED | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 331 | 364 | 5 | 14 | 1 | 8 | 272 | 100 | 3 | 6 | 394 | 1498 |

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2

PERIOD 4/12/91 TO 31/12/91

12. CODE 10 - EYE
 13. CODE 59 - GENITAL
 14. CODE 39 - ENDOCRINE/SALIVARY GL.
 15. CODE 38 - RETICULO-ENDOTHELIAL
 16. CODE 29 - MUSCLE/JOINT
 17. CODE 69 - CONGENITAL
 18. CODE P8 - PUO
 19. CODE G8 - FEVER/MALAISE
 20. CODE 09 - OTHER
 21. CODE A1 - SIDS

| | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | TOTAL |
|-------------------------------------|----|-----|----|----|----|----|----|----|-----|----|-------|
| 0100 ADENOVIRUS NOT TYPED | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 4 | 2 | 14 |
| 0101 ADENOVIRUS TYPE 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 |
| 0102 ADENOVIRUS TYPE 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 0103 ADENOVIRUS TYPE 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| 0104 ADENOVIRUS TYPE 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0108 ADENOVIRUS TYPE 8 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0111 ADENOVIRUS TYPE 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 0121 ADENOVIRUS TYPE 21 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0131 ADENOVIRUS TYPE 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 0135 ADENOVIRUS TYPE 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 0199 ADENOVIRUS TYPING PENDING | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 0201 INFLUENZA A VIRUS | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 |
| 0203 INFLUENZA B VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 5 |
| 0302 PARAINFLUENZA VIRUS TYPE 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 0303 PARAINFLUENZA VIRUS TYPE 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 |
| 0400 RESPIRATORY SYNCYTIAL VIRUS (R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0500 RHINOVIRUS (ALL TYPES) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 4 |
| 0600 MYCOPLASMA PNEUMONIAE | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 0 | 6 |
| 0700 ORNITHOSIS-PSITTACOSIS | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 7 |
| 0903 COXSACKIEVIRUS B3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 0905 COXSACKIEVIRUS B5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1011 ECHOVIRUS TYPE 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1016 ECHOVIRUS TYPE 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1101 POLIOVIRUS TYPE 1 (UNCHARACTER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 1102 POLIOVIRUS TYPE 2 (UNCHARACTER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 1103 POLIOVIRUS TYPE 3 (UNCHARACTER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1200 MUMPS VIRUS | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 3 |
| 1300 HERPES VIRUS GROUP - NOT TYPED | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1301 HERPES SIMPLEX VIRUS - NOT TYP | 2 | 12 | 0 | 0 | 0 | 1 | 0 | 0 | 5 | 0 | 20 |
| 1302 EPSTEIN-BARR VIRUS (EB VIRUS) | 0 | 0 | 46 | 8 | 1 | 0 | 2 | 14 | 4 | 0 | 75 |
| 1303 VARICELLA-ZOSTER VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 1306 HERPES SIMPLEX TYPE 1 | 15 | 80 | 0 | 0 | 0 | 1 | 0 | 1 | 8 | 0 | 105 |
| 1307 HERPES SIMPLEX TYPE 2 | 0 | 201 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 202 |
| 1366 HERPES VIRUS TYPE 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1401 COXIELLA BURNETII | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 8 |
| 1502 PICORNA VIRUS - NOT TYPED = EN | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1521 MEASLES VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 5 |
| 1522 RUBELLA VIRUS | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 4 | 0 | 8 |
| 1532 HEPATITIS B ANTIGEN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 24 |
| 1535 HEPATITIS A ANTIBODY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1536 HEPATITIS C VIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 0 | 36 |
| 1541 CHLAMYDIA TRACHOMATIS - UNSPEC | 6 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 216 |
| 1542 CHLAMYDIA TRACHOMATIS - A-K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1555 PAPOVAVIRUS GROUP (PAPILLOMA - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| 1556 CMV - CYTOMEGALOVIRUS | 3 | 5 | 1 | 3 | 0 | 8 | 7 | 15 | 47 | 1 | 90 |
| 1564 ROTAVIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1599 ENTEROVIRUS TYPING PENDING | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 1 | 0 | 9 |
| 1700 PARVOVIRUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 9992 ROSS RIVER VIRUS | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 2 | 1 | 0 | 11 |
| 9995 DENGUE NOT TYPED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| TOTAL | 42 | 509 | 48 | 15 | 11 | 12 | 24 | 53 | 172 | 8 | 894 |